
1 Introduction

1.1 Disclaimer

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1.2 About this manual

The original instructions in this manual are written in English. Other language versions of this manual are a translation of the original instructions.

1.3 Definitions

System:	the assembly of pump, hose(s) and tool(s).
Pump:	device that supplies hydraulic flow and pressure.
Hose:	an assembly of flexible hydraulic line and couplers.
Tool:	hydraulic device such as a cutter, spreader, combi tool, ram or cylinder.
Equipment:	tool(s), hose(s), pump or accessories.

1.4 General

Congratulations on your purchase of this Holmatro product. This user manual provides instructions on the operation, maintenance, malfunctions and safety of the equipment concerned. Safety regulations for the use of a complete Holmatro system are also described in this user manual. Illustrations in this user manual can differ slightly, depending on the model.

Everyone involved in putting the equipment into operation, using it, maintaining it and solving malfunctions must have read and understood this user manual, particularly the safety regulations.

To prevent errors of operation and ensure that the equipment works trouble-free, the user manuals must always be available to the operator.

1.5 Application

This product is part of the equipment intended for use by emergency services, for cutting, spreading or forcing aside structural parts of vehicles or structures.

CORE™ is a patented system and may only be used in CORE™ systems. Use only Holmatro adapters.

1.5.1 System requirements

Because of the diversity in control, operating pressure and required oil volume per tool, not all combinations of Holmatro pumps, hoses and tools can be applied. In case of doubt about the compatibility of the system, always consult the Holmatro dealer.

1.6 Qualified personnel

The system may only be operated by people trained in its use. Always obey local legislation, safety and environmental regulations. Repair work may only be performed by a Holmatro Certified Technician.

1.7 Guarantee

Refer to the general terms and conditions of sale for the guarantee conditions, available from your Holmatro dealer on request.

Holmatro draws your attention to the fact that every guarantee on your piece of equipment or system will lapse and that you must indemnify Holmatro against any possible product liability and responsibility if:

- service and maintenance are not carried out strictly in accordance with the instructions, repairs are not performed by a Holmatro Certified Technician or are performed without prior written consent;
- self-made changes, structural changes, deactivation of safety devices, injudicious adjustment of hydraulic valves and faulty repairs have been carried out;
- non-genuine Holmatro parts or lubricants other than the types prescribed are used;
- the piece of equipment or the system is used injudiciously, through errors of operation, improperly, negligently or not in accordance with its nature and/or purpose.

1.8 Declaration of Conformity

The equipment is CE certified. It means that the equipment complies with the essential requirements concerning safety. The original Declaration of Conformity is supplied with the equipment.

The standards and directives that have been taken into consideration in the design are listed in the section Technical Specifications in this document.

2 Safety regulations

2.1 Explanation of the symbols used in this manual

In this manual the symbols below are used to indicate possible dangers.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



NOTICE

Is used to address practices not related to physical injury which, if not avoided, may result in property damage.



NOTE

Emphasizes important information for optimal product use. This symbol is displayed in the user manual with all regulations related to product use or maintenance.

EN

Always adhere to these regulations and to the locally prevailing safety regulations, and proceed very carefully.

Inform all people involved in the activities of the operation about these safety regulations.

2.2 Model plate and CE marking on the equipment

2.2.1 General

Refer to Fig. 1.


All pictograms attached to the equipment pertaining to safety and danger must be complied with and remain clearly legible.









WARNING

Not following these instructions can result in serious personal injury, fatal accident, damage to the system or consequential loss.

2.2.2 Markings

Pos.	Type of mark	Description	Part no.
A	Model plate	Model plate with: <ul style="list-style-type: none">• Model indication• Serial number• Date of construction• CE marking	Please contact Holmatro.
B		DANGER Danger of cutting or pinching parts of the body.	Please contact Holmatro.

Pos.	Type of mark	Description	Part no.
B		WARNING Wear safety goggles (or full face shield).	Please contact Holmatro.
		WARNING Wear safety shoes with good ankle support and toe protection.	
		NOTE Read the user manual before use.	
		WARNING Wear safety gloves.	
		WARNING Wear safety clothing for the entire body with reflective material.	
		WARNING Wear a helmet.	

2.3 General safety regulations

- Use this equipment solely for the activities for which it was designed. If you are in doubt or uncertain, always consult your Holmatro dealer.
- Replace illegible safety symbols, pictograms and information labels with identical ones, available from your Holmatro dealer.
- Varnished, plastic and rubber parts are not resistant to corrosive acid or liquid. Except for electrical parts, rinse parts that have come into contact with corrosive acid or liquid with a lot of water. Consult your Holmatro dealer for a resistance list.
- Prevent dirt in and on the couplers.
- Protect equipment against sparks during welding or grinding activities.
- Avoid an unhealthy posture while working. It can result in physical complaints.
- Follow the inspection and maintenance instructions.

-
- Conversion of the piece of equipment or the system may only be performed by a Holmatro Certified Technician. In case of a conversion, retain the original manual and the conversion manual.
 - Use only genuine Holmatro parts and maintenance products prescribed by Holmatro.

2.4 Personal safety

Rescue personnel must wear all personal means of protection as prescribed in the standard work procedure. Negligent use of personal means of protection can result in serious injury. During use wear at least the following personal means of protection:

- Helmet;
- Safety goggles or full face shield;
- Safety gloves;
- Safety clothing for the entire body with reflective material;
- Safety shoes with good ankle support and toe protection;
- Mask with filter for use when cutting glass or certain plastics.

2.5 Safety regulations with respect to the equipment

- Store the combi tool with the blades slightly open.
- Make sure a protective flexible shield is inserted between the place where the cut will be made and the victim(s).
- Make sure the material to be cut is placed as deeply as possible in the blade opening.
- Avoid contact with the tips and cutting edges of the blades so you do not injure yourself.
- Never cut sections that are under hydraulic, pneumatic, electrical or mechanical pressure.
- If the blades are not perpendicular to the material to be cut, the blades may separate. This is a dangerous situation that can result in serious damage to the equipment and serious injury. Stop immediately if the blades separate.
- Load only the spreading tips.
- Always try to utilize the entire surface of the spreading tips.
- Stop if the spreading tips lose grip and find a new push-off point.
- When using accessories, make sure that they are properly attached to the blades.

2.6 Safety regulations with respect to the operation of the system

- Make a risk assessment of the procedure before you start work (EN-ISO 12100).
- Keep bystanders at a distance and be extra careful in the vicinity of people and animals.
- Make sure the work area is clearly laid out and has good lighting.
- Avoid stress and work in a structured way. This reduces the risk of errors, combinations of dangers and accidents.
- Before use, check the equipment for damage. Do not use the equipment if it is not in good condition and consult your Holmatro dealer.
- Stand on a stable base and use both hands to hold the equipment.
- Hold the equipment only by its carrying handle. Never use any part of the hose as carrying handle.
- During operation, never get between the object and the equipment.
- Monitor the situation of the equipment and the structure continuously while using the equipment.
- Parts of an object that could fly off must be secured.
- Never couple or uncouple couplers while the system is under pressure.
- Use only genuine Holmatro accessories and ensure that they have been attached correctly.
- Make sure that parts of the body never come between moving parts. There is a risk that parts of the body may be crushed or cut.
- Make sure that the deadman's handle does not become jammed.
- Stop immediately if the system makes strange noises or displays aberrant behavior.

- Stop immediately if the equipment leaks oil. Oil escaping under pressure can penetrate the skin and cause serious injury. Go immediately to a hospital with a person who is injected with oil for medical help. Give a specification of the oil to the medical staff.
- Return inactive equipment immediately to the tool station.
- Always adhere to the safety regulations that apply to other equipment that is used in the operation.

2.7 Safety regulations with respect to maintenance

- Wear personal means of protection when performing maintenance tasks.
- Never work in a way that could jeopardize safety.
- Make sure that the equipment cannot roll away or tip over. The control and drive must be switched off and safeguarded against unexpected activation.
- Make sure that moving parts do not move unexpectedly.
- Used or leaked fluids, and any other products consumed during the activities, must be collected and disposed of in an environmentally responsible way.

3 Description

3.1 Equipment

The combi tool is one of the pieces of rescue equipment that makes it possible to reach victims. It is a versatile combination tool with the function of a cutter and spreader in one tool. This tool is used during rescue operations to cut, spread, squeeze or pull structural elements. It can squeeze material tightly or squash it and thus create weak pivots or places that are easier to cut later. It can also force parts apart or be used to notch at particular places in order to weaken the construction. By placing accessories at the points, materials can be pulled together. The combi tool is produced as a hand tool that can be operated by one person. One or more hoses connect the tool to a pump. On the front of the tool there are two blades with spreading tips that make a scissor or spreading movement. The high hydraulic pressure that is used means these tools can apply large forces.

3.1.1 Type designation

Example: CT 5111 ST

Digit	Example	Description
1-2	CT	CT = Combi tool
3-6	5111	Type indication
7-8	ST	ST = Special Tactics RH = Rotatable Handle

3.2 Product identification (Fig. 2)

1	Spreading tips	7	Core coupler
2	Blade	8	Switch (light)
3	Carrying handle	9	Light
4	Carrying handle locking knob	10	Cover
5	Deadman's handle	11	Carrying handle locking bar
6	Overpressure relief valve	12	Blade cutting edge

3.3 Technical specifications

Description	Unit	General
max. working pressure	(bar/Mpa)	720 / 72
	psi	10443
hydraulic oil type	-	ISO-L HV VG 15/22
battery type for light	-	AA 1.5V
vibration level	m/s ²	<2.5
protection rate	-	IP68
temperature range	°C	-20 + 55
	°F	-4 + 131
directives / standards	-	2006/42/EC

Description	Unit	CT 5111	CT 5111 RH	CT 5111 ST
maximum spreader opening	mm	281	281	281
	in	11.1	11.1	11.1
max. spreading force	kN/t	457 / 46.6	457 / 46.6	457 / 46.6
	lbf	102738	102738	102738
spreading force (EN13204) ¹	kN/t	48 / 4.9	48 / 4.9	48 / 4.9
	lbf	10791	10791	10791
max. spreading force (NFPA 1936, HSF)	kN/t	52 / 5.3	52 / 5.3	52 / 5.3
	lbf	11690	11690	11690
min. spreading force (NFPA 1936, LSF)	kN/t	40 / 4.1	40 / 4.1	40 / 4.1
	lbf	8992	8992	8992
max. cutting opening	mm	196	196	196
	in	7.7	7.7	7.7
max. cutting force	kN/t	268 / 27.3	268 / 27.3	268 / 27.3
	lbf	60249	60249	60249
max. squeezing force	kN/t	44 / 4.5	44 / 4.5	44 / 4.5
	lbf	9892	9892	9892
max. pulling distance	mm	-	-	-
	in	-	-	-
max. pulling force (NFPA 1936, HPF)	kN/t	-	-	-
	lbf	-	-	-
min. pulling force (NFPA 1936, LPF)	kN/t	-	-	-
	lbf	-	-	-
required oil content (effective)	cc	55	55	55
	oz	1.9	1.9	1.9
weight, ready for use	kg	8	7.9	7.9
	lb	17.6	17.4	17.4
dimensions (AxBxC) Refer to Fig. 3	mm	545 x 275 x 192	545 x 217 x 115	540 x 217 x 115
	in	21.5 x 10.8 x 7.6	21.5 x 8.5 x 4.5	21.3 x 8.5 x 4.5
EN 13204 classification	-	BK48/281-E-8.0	BK48/281-E-7.9	BK48/281-E-7.9

Description	Unit	CT 5111	CT 5111 RH	CT 5111 ST
EN 13204 cutting capacity	-	1E 2E 3E 4E 5E Refer to Fig. 15	1E 2E 3E 4E 5E Refer to Fig. 15	1E 2E 3E 4E 5E Refer to Fig. 15
NFPA 1936 cutting capacity	-	A5/B5/C5/D6/E4 Refer to Fig. 18	A5/B5/C5/D6/E4 Refer to Fig. 18	A5/B5/C5/D6/E4 Refer to Fig. 18

1. Spreader closed and 25 mm from the tips and over the entire spreading path in accordance with standard EN 13204.

Description	Unit	CT 5114	CT 5114 RH	CT 5114 ST
maximum spreader opening	mm	362	362	362
	in	14.3	14.3	14.3
max. spreading force	kN/t	131 / 13.4	131 / 13.4	131 / 13.4
	lbf	29450	29450	29450
spreading force (EN13204) ¹	kN/t	33 / 3.4	33 / 3.4	33 / 3.4
	lbf	7419	7419	7419
max. spreading force (NFPA 1936, HSF)	kN/t	40 / 4.1	40 / 4.1	40 / 4.1
	lbf	8992	8992	8992
min. spreading force (NFPA 1936, LSF)	kN/t	30 / 3.1	30 / 3.1	30 / 3.1
	lbf	6744	6744	6744
max. cutting opening	mm	277	277	277
	in	10.9	10.9	10.9
max. cutting force	kN/t	268 / 27.3	268 / 27.3	268 / 27.3
	lbf	60249	60249	60249
max. squeezing force	kN/t	34 / 3.5	34 / 3.5	34 / 3.5
	lbf	7644	7644	7644
max. pulling distance	mm	-	-	-
	in	-	-	-
max. pulling force (NFPA 1936, HPF)	kN/t	-	-	-
	lbf	-	-	-
min. pulling force (NFPA 1936, LPF)	kN/t	-	-	-
	lbf	-	-	-
required oil content (effective)	cc	55	55	55
	oz	1.9	1.9	1.9
weight, ready for use	kg	8.5	8.4	8.4
	lb	18.7	18.5	18.5
dimensions (AxBxC) Refer to Fig. 3	mm	596 x 276 x 193	598 x 217 x 115	598 x 217 x 115
	in	23.5 x 10.9 x 7.6	23.5 x 8.5 x 4.5	23.5 x 8.5 x 4.5
EN 13204 classification	-	BK33/362-E-8.5	BK33/362-E-8.4	BK33/362-E-8.4
EN 13204 cutting capacity	-	1E 2E 3E 4E 5E Refer to Fig. 15	1E 2E 3E 4E 5E Refer to Fig. 15	1E 2E 3E 4E 5E Refer to Fig. 15
NFPA 1936 cutting capacity	-	A5/B5/C5/D6/E4 Refer to Fig. 18	A5/B5/C5/D6/E4 Refer to Fig. 18	A5/B5/C5/D6/E4 Refer to Fig. 18

EN

1. Spreader closed and 25 mm from the tips and over the entire spreading path in accordance with standard EN 13204.

Description	Unit	CT 5117	CT 5117 RH	CT 5117 ST	CT 5160 (ST)
maximum spreader opening	mm	431	431	431	468
	in	17	17	17	18.4
max. spreading force	kN/t	54 / 5.5	54 / 5.5	54 / 5.5	1367 / 139.4
	lbf	12140	12140	12140	307314
spreading force (EN13204) ¹	kN/t	28 / 2.9	28 / 2.9	28 / 2.9	44.5 / 4.5
	lbf	6295	6295	6295	10004
max. spreading force (NFPA 1936, HSF)	kN/t	32 / 3.3	32 / 3.3	32 / 3.3	47.1 / 4.8
	lbf	7194	7194	7194	10589
min. spreading force (NFPA 1936, LSF)	kN/t	25 / 2.5	25 / 2.5	25 / 2.5	39.2 / 4
	lbf	5620	5620	5620	8813
max. cutting opening	mm	352	352	352	394
	in	13.9	13.9	13.9	15.5
max. cutting force	kN/t	263 / 26.8	263 / 26.8	263 / 26.8	929 / 94.7
	lbf	59125	59125	59125	208848
max. squeezing force	kN/t	27 / 2.8	27 / 2.8	27 / 2.8	87.9 / 9
	lbf	6070	6070	6070	19761
max. pulling distance	mm	426	426	426	342
	in	16.8	16.8	16.8	13.5
max. pulling force (NFPA 1936, HPF)	kN/t	27 / 2.8	27 / 2.8	27 / 2.8	105 / 10.7
	lbf	6070	6070	6070	23605
min. pulling force (NFPA 1936, LPF)	kN/t	18 / 1.8	18 / 1.8	18 / 1.8	86.4 / 8.8
	lbf	4047	4047	4047	19423
required oil content (effective)	cc	55	55	55	186
	oz	1.9	1.9	1.9	6.3
weight, ready for use	kg	8.6	8.6	8.6	17.6
	lb	19	19	19	38.8
dimensions (AxBxC) Refer to Fig. 3	mm	641 x 275 x 192	641 x 217 x 115	637 x 217 x 115	885 x 279 x 201
	in	25.2 x 10.8 x 7.6	25.2 x 8.5 x 4.5	25.1 x 8.5 x 4.5	34.8 x 11 x 7.9
EN 13204 classification	-	BK28/431-E-8.6	BK28/431-E-8.6	BK28/431-E-8.6	CK45/468J-17.6
EN 13204 cutting capacity	-	1E 2E 3E 4E 5E Refer to Fig. 15	1E 2E 3E 4E 5E Refer to Fig. 15	1E 2E 3E 4E 5E Refer to Fig. 15	1J 2K 3K 4K 5K Refer to Fig. 17
NFPA 1936 cutting capacity	-	A5/B5/C4/D6/E4 Refer to Fig. 18	A5/B5/C4/D6/E4 Refer to Fig. 18	A5/B5/C4/D6/E4 Refer to Fig. 18	A8 B9 C8 D9 E9 Refer to Fig. 18

1. Spreader closed and 25 mm from the tips and over the entire spreading path in accordance with standard EN 13204.

3.4 Accessories

Description	CT 5111 (RH) CT 5114 (RH)	CT 5111 ST CT 5114 ST	CT 5117 (RH)	CT 5117 ST	CT 5160 (ST)
Pulling Attachments Set	-	-	150.182.241	150.182.241	150.182.078
Pulling Chains Set	-	-	150.582.548	150.582.548	150.582.261
Carrying Harness	-	150.553.115	-	150.553.115	-
Carrying/Storage bag	-	150.182.227	-	150.182.227	-
Set pulling attachments + spreading tips	-	-	-	-	150.182.365

4 First use

4.1 General

- Check the equipment for completeness and damage. Do not use the equipment if it is damaged; in that case contact the Holmatro dealer.
- Check the operation of the deadman's handle. The handle must return to the neutral position when you release it.

4.2 Installing the battery for the LED light

See Fig. 13.

The battery for the LED light is placed in the carrying handle. This battery has a working life of ± 6 hours.

- Remove the cover (C) by unscrewing both screws (B).
- Install the battery (A) in the battery holder of the carrying handle.
- Re-install the cover and fasten the screws.

5 Operation

5.1 System operation

5.1.1 General

A system is an assembly of a hydraulic pump, hose(s), and one or more tools.

The hydraulic pump is driven by an internal combustion engine, electric motor, pneumatically or by hand or foot power. This pump displaces hydraulic oil and is capable of building up pressure. The hose is for transporting the hydraulic oil between the pump and the tool.

The tool has a hydraulic cylinder containing a piston that can move axially. If the cylinder is pumped full from the bottom, pressure builds up beneath the piston so that it is pushed to the outside. If the cylinder is pumped full from the top, the piston is forced back into the cylinder.

The direction of the movement of the cylinder is determined by a control valve, the so-called deadman's handle. This deadman's handle can be turned to the left or the right, thus determining the direction the piston moves. In the neutral position no pressure is built up in the cylinder and the oil flows back to the pump without pressure. If the deadman's handle is released, it returns automatically to the neutral position and the piston immediately stops moving.

In tools like cutters, spreaders and combi tools the axial movement of the piston starts a mechanism that makes a cutting or spreading movement.
The hose is the piece of equipment that connects the pump to the tool, thus creating a closed system.

5.1.2 **CORE™ couplers**

The hydraulic hose of the CORE™ system is a single hose, that combines a high pressure supply hose inside a low pressure return hose. The female coupler has a unique function: after disconnection it connects the supply and the return lines internally. This means you can connect and disconnect tools without interrupting the oil supply to the hose.

5.2 **Connect the hydraulic hose(s)**

5.2.1 **General**



CAUTION

Never use damaged couplers.
Never use pliers or similar tools to connect the hydraulic couplers.

5.2.2 **Hose with CORE™ couplers**

See Fig. 5.

- Remove the dust caps from the couplers.
- Check the couplers for dirt and damage and clean them if necessary.
- Insert the couplers by holding them against each other and pushing the male coupler with one action into the female coupler. The external ring of the female coupler must move in the opposite direction to the arrows.
- Pull both couplers to check whether the couplers cannot be pulled apart with a normal manual effort.
- Put the dust caps into each other to avoid dirt.



NOTICE

Do not store the hose with the ends coupled together.

5.3 **Disconnect the hydraulic hose(s)**

5.3.1 **General**



CAUTION

Never use pliers or similar tools to disconnect the hydraulic couplers.

5.3.2 **Hose with CORE™ couplers**

See Fig. 6.

- Disconnect the dust caps from each other.
- Disconnect the couplers by turning the external ring on the female coupler and then sliding it in the direction of the arrows. The male coupler will slip out.
- Remove dirt and oil from the couplers and dust caps.
- Replace the dust caps on the female and male couplers.

5.4 Relief the pressure in unconnected hoses and tools

5.4.1 General

Temperature differences can cause overpressure in unconnected hoses and tools. This overpressure can make it impossible to connect the parts. You can use the pressure relief tool to remove this overpressure. This accessory is available for all Holmatro hose systems and is supplied by default with every pump.



NOTICE

We recommend you keep more than one of these tools on hand.

5.4.2 Hose with CORE™ couplers

Refer to Fig. 7.

- Hook the pressure relief tool over the male coupler (1).
- Turn the knob clockwise (2) to release the pressure. Some oil will be released.
- Turn the knob counterclockwise (3).
- Remove the pressure relief tool from the coupler (4).

5.5 Operate the deadman's handle

The deadman's handle is used to determine the movement of the plunger(s). In the neutral position no pressure is built up and the oil flows back to the pump without pressure. If the deadman's handle is released, it returns automatically to the neutral position and stops the movement of the plunger(s).

	<p>Hold the deadman's handle in this position to open the tool/blades. Pressure is built up in the tool. Return oil from the tool flows back to the pump without pressure.</p>
	<p>Hold the deadman's handle in this position to close the tool/blades. Pressure is built up in the tool. Return oil from the tool flows back to the pump without pressure.</p>

5.6 Light switch

Refer to Fig. 2.

On the carrying handle there is a switch for the integrated LED lights (not for ST or RH model).

- Press the switch to turn the light on and off.
- The battery should be replaced when the lights no longer turn on if the switch is pressed.

5.7 Attaching accessories

5.7.1 Chain connecting pieces sets and pull chain sets

Chain connecting pieces make it possible to use a combi tool for pulling. The chain connecting pieces must be placed on the blades. The chain connecting pieces may only be used in combination with the corresponding pull chain set. These pull chain consist of two parts, each with a shortening hook that only grabs the chain. The chains are 1.5 m and 3 m long respectively.



WARNING

Hoisting is not permitted with these accessories.

The pulling accessories are intended solely for the horizontal movement of loads.

**CAUTION**

Check what the load is doing and make sure that it is always supported.
Make sure that the tool can move freely during pulling and always remains in a straight line between both pulling attachments.

5.7.2 CT 5117

Refer to Fig. 11

- Make sure that the blades are slightly open.
- Slide the latch (A) towards the end of the pulling tip.
- Place the pulling adapter (B) over the spreading tip (C).
- Release the latch (A) so that the pulling tip is locked on the spreading tip.

5.7.3 CT 5160

Refer to Fig. 10

- Make sure that the blades are slightly open.
- Push (A) and pull (B) the pin out until it locks.
- Remove the spreading tips from the blades (C).

Refer to Fig. 4

- Place the pulling adapters over the blades.
- Push pins in completely until they lock into the position as shown.

5.8 Folding the carrying handle (Fig. 14)

- Move the carrying handle locking bar (11) upwards (2).
- Fold the carrying handle close to a preferred position, release the locking bar (11) and rotate the carrying handle until it locks.

5.9 Rotating the carrying handle (Fig. 14)

- Push the carrying handle locking knob (4) inwards.
- Rotate the carrying handle close to a preferred position, release the locking knob (4) and rotate the carrying handle until it locks.

6 Use**6.1 General**

The equipment of a rescue system must always be ready for use. That means the equipment must be checked and inspected directly after use, before it is put away.

**WARNING**

Make sure you are up to date on all safety regulations and that you have mastered the use of all equipment of the system you are going to work with.
Never try to connect or disconnect hydraulic couplers if the equipment is being used or if the system is under pressure.

**CAUTION**

Prevent kinking: Do not use the hose with damaged bend restrictors and do not bend the hose beyond the minimum bending radius of 75 mm.
Do not pull the hose to move a tool or a pump.

6.2 Connecting the hydraulic hose(s)

The actions for connecting the hydraulic hose(s) are described in chapter 5.

- Connect the hydraulic hose(s) to the tool and the pump.
- Start the pump.

The system is now ready for use.

6.3 Tool movement

The cutting blades open and close relatively quickly until they encounter resistance. Then the pump will build up the required pressure for spreading, cutting, pulling or squeezing.



WARNING

Take extreme care during tool movement. Because of the enormous power of the tool parts of the body can easily be crushed or pinched.

6.4 Cutting

Refer to Fig. 8 and Fig. 9.



CAUTION

Do not cut hardened fastenings, bolts, etc. because this can damage the blades.

- Open the blades.
- Place the tool with opened blades perpendicular to the object to be cut.
- Place the object to be cut as deeply as possible in the cutting opening.
- Close the blades.



WARNING

Stop immediately if the blades are out of line. Danger of serious injury and of serious damage to the equipment.

6.4.1 Cutting with CT 5160

To enable better cutting in specific situations the spreading tips can be removed.



WARNING

Prevent operation of the tool when you remove or connect of accessories.
Avoid cutting with the blade tips only. (Fig. 16)

Refer to Fig. 10

- Push (A) and pull (B) the pin out until it locks.
- Remove the spreading tips from the blades (C).

6.5 Squeezing

- Open the blades of the tool.
- Place the blade tips over the object to be squeezed.
- Position the load 25 mm from the end of the tips. Use full width of the tips.
- Close the blades of the tool.



CAUTION

When using tool model (G)CT 5160, always use the spreading tips. Make sure the lock pins stay locked.

6.6 Spreading



CAUTION

When using tool model (G)CT 5160, always use the spreading tips. Make sure the lock pins stay locked.

6.6.1 Initial opening is sufficient

- Close the blades completely.
- Place both blade tips between the parts to be spread.
- Position the load 25 mm from the end of the tips. Use full width of the tips.
- Force the parts apart by opening the blades.

6.6.2 Initial opening is insufficient

- Open the blades.
- Place one blade tip in the opening. Use full width of the tip.
- Close the blades until the material is clamped.
- Bend the clamped material out of the way.
- Repeat this procedure until there is sufficient space to place both blade tips.
- Force the parts apart by opening the blades.

6.6.3 No initial opening

- Use a different tool or accessory to make an opening.
- Continue with the steps above, depending on the opening created.

6.7 Pulling



NOTICE

Not all tools have been designed for pulling. See section 3.3 for the tools that can be used for pulling.



WARNING

The pulling accessories are intended solely for the horizontal movement of loads. Make sure the lock pins stay locked. Hoisting is not permitted with these accessories.



WARNING

Make sure that the load is always supported from underneath. Continuously check the behaviour of the load. Make sure that the tool can move freely during pulling and always remains in a straight line between both pulling attachments.

- Fully open the blades.
- Make sure the openings of the shortening hooks do not point down.
- Attach the pulling chains to the objects so that they cannot slip off.
- Pull the chains tight and hook them to the pulling attachments.
- Close the blades.

6.8 During use

6.8.1 Switching tools and/or hoses

The actions for switching tools or hoses during use are described chapter 5.

6.9 After use

6.9.1 Shut down

- Close the spreading arms with the spreading tips slightly opened so that the tool can be stored without pressure.
- Switch the pump off.
- Disconnect the hydraulic hose(s) from the tool and the pump. See section 5.3.1.

6.9.2 Inspection

- Check the system for completeness, leaks and damage. Do not use the system if it leaks or is damaged and contact the Holmatro dealer.
- Check the accessories for completeness and damage. Replace the accessory if the damage is considerable.
- Check the operation of the deadman's handle; it must return to the neutral position.
- Check the attachment of the carrying handle; it must be firmly fastened.

6.9.3 Cleaning and storage

- Clean the tool and any accessories before storage.
- Clean the couplers and the dust caps. Make sure that the dust caps are installed.
- Dry the tool if it was used in wet conditions. Apply a thin coat of preservative oil to the external steel parts.
- Store the tool in a dry and well-ventilated area.

7 Troubleshooting

7.1 General

Consult the Holmatro dealer if the listed solutions do not give the desired result, or in case of other problems. For malfunctions or repair, always specify the model and serial number of the equipment.

7.2 The couplers do not connect or disconnect

Possible cause	Solution
The couplers are dirty on the front.	Clean the couplers.
The tool and/or hose are under pressure. This can happen due to temperature fluctuations during storage and transport.	Use the pressure relief tool to release the pressure.
The female coupler is faulty.	Have it repaired by a Holmatro Certified Technician.
The couplers are not placed properly in line with each other for connecting.	Position both couplers properly in line with each other and press them together in one smooth action and fasten.
The couplers are not properly placed in line with each other for disconnecting.	Support and guide the male coupler when disconnecting.
The snap ring of the female coupler is blocked by dirt.	Check the snap ring of the female coupler and clean it.

7.3 The couplers do not stay connected

Possible cause	Solution
The external ring jams during connecting.	Hold the hose at the bending restriction during connecting.
The locking mechanism in the female coupler does not work.	<ul style="list-style-type: none"> • Clean the female coupler with clean running water. • Dry it and treat the inside of the external ring with preservative oil. • Place and remove the dust cap or male coupler repeatedly until the external ring springs back.
The female coupler is faulty.	Have it repaired by a Holmatro Certified Technician.

7.4 The tool does not work or does not work properly

Possible cause	Solution
One or more couplers are not connected properly.	Disconnect and reconnect the coupler(s).
There is no oil left in the pump.	Replenish the oil.
There is air in the system.	<ul style="list-style-type: none"> • Replenish the oil. • Connect the hydraulic hose(s). • Connect the tool. • Open and close (entirely) the tool once.
The pressure relief valve on the pump is open. (Core)	Turn the pressure relief valve screw counterclockwise as far as the stop, to the "operation" position.
The pressure relief valve or the selector valve is in the "neutral" position. (Dual)	Set the pressure relief valve or the selector valve in the "operating 1" or "operating 2" position.
The pump does not build up any pressure.	See the user manual of the pump.
The oil is foaming.	Stop the pump. Start the pump again after a few minutes.

7.5 The cutting is poor

Possible cause	Solution
The blades are damaged.	Have them replaced by a Holmatro Certified Technician.

7.6 The deadman's handle is jammed or doesn't return automatically to the neutral position

Possible cause	Solution
The deadman's handle is damaged externally.	Have it repaired by a Holmatro Certified Technician.
The deadman's handle is faulty.	Have it repaired by a Holmatro Certified Technician.

7.7 The light is weak or gives no light at all

Possible cause	Solution
The battery is (almost) empty.	Replace the battery.

8 Maintenance

8.1 General

Proper preventive maintenance of the equipment preserves the operational safety and extends the life of the equipment. For malfunctions or repair, always specify the model and serial number of the equipment.



CAUTION

When performing maintenance activities, always comply with the relevant safety regulations. Wear the prescribed personal protection equipment.

8.2 Dangerous substances



CAUTION

Used or leaked fluids, and any other products consumed during the activities, must be collected and disposed of in an environmentally responsible way.

8.3 Maintenance materials

Application	Type of maintenance material	Amount
Steel parts	WD-40 preservative oil	As required
	Tectyl ML from Valvoline (long term preservation)	As required
Hydraulic couplers	WD-40 preservative oil	As required
Hinge pins	Teflon lubricating oil	As required

Contact the Holmatro dealer for information on spare parts.

8.4 Maintenance schedule

This schedule is an average. Depending on the intensity of use of your equipment, Holmatro can provide a specific maintenance schedule for you.

Object	Action	Time interval					Yearly
		After every use	Monthly or after every 10 working hours	Every 3 months or after every 25 working hours	Every 6 months or after every 50 working hours	Every 100 working hours	
Hydraulic couplers	Check, clean, lubricate	x					Holmatro dealer maintenance.
Dust caps	Check, clean, lubricate	x					
Hydraulic hoses	Check	x					
Light	Check	x					
Blades	Check, clean, lubricate	x					
Snap ring of hinge pin	Check	x					
Centre bolt	Lubricate	x					
	Check						
Hinge pins	Lubricate	x	x				
Accessories and lock pins	Check	x	x				
Carrying handle	Check		x				
Deadman's handle	Check		x				

8.5 Maintenance activities

8.5.1 General

- After every use:
 1. Check the operation of the tool.
 2. Check the tool for damage and leaks. If the tool does not work properly and/or leaks, have it repaired by a Holmatro Certified Technician.

8.5.2 Hydraulic hoses



WARNING

Check that the hose bend restrictors are in place and in good condition.

- Check the hose for damage and leaks. Replace the hose if it leaks, has kinks, the reinforced cover is visible or it has blisters or bulges higher than 1 mm. In case of doubt always contact the Holmatro dealer who can assess the seriousness of the damage.
- Replace the hose no later than 10 years after the date of manufacture, regardless of its use and external appearance. The date of manufacture is part of the test code, the first 4 digits of the test code specify the date of manufacture of the hose (yyymm*****).

8.5.3 Hydraulic couplers

- Check the couplers for damage. Have a Holmatro Certified Technician replace damaged couplers.

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- Clean the coupler with lukewarm water and a mild soap solution.
 - Dry the couplers.
 - Lubricate the end of the coupler with hydraulic oil or inject WD-40.
 - Lubricate the locking ring by injecting WD-40 into the space between the back section and the locking ring.
 - Connect the couplers and check whether the coupler locks automatically. Check the locking by pulling the hoses apart with a normal manual effort. The couplers must not slip.
 - Disconnect the couplers by turning the locking ring and pulling it backwards.
 - Connect and disconnect the couplers a few times to improve the internal lubrication of the locking system.

8.5.4 Dust caps

- Check the dust caps for damage. Replace damaged dust caps.
- Clean the dust caps with running water. Dry the dust cap and treat it with preservative oil.

8.5.5 Light

- Check the light.
- Replace the battery if it gives little or no light.
- Have a Holmatro Certified Technician repair the light if a new battery does not solve the problem.

8.5.6 Carrying handle

- Check the carrying handle for damage. Replace a damaged carrying handle.
- Check the attachment of the carrying handle. If necessary, fasten it firmly by tightening the bolts or by re-tightening the knob.

8.5.7 Deadman's handle

- Check whether the deadman's handle returns to the neutral position.
- Check the operation of the deadman's handle. Have the Holmatro dealer repair the deadman's handle if it does not function properly.

8.5.8 Blades

See Fig. 12.

- Check the blades for damage. Have a Holmatro Certified Technician replace the blades when they are damaged or the blade tips are damaged or worn.
- Check whether the blades are straight. Have a Holmatro Certified Technician replace the blades if there is more than 0.6 mm (C) separation.

8.5.9 Centre bolt

See Fig. 12

- Check that the tightening torque of the centre bolt (B) is 50 Nm.
- Spray Teflon lubricating oil on and between the moving parts of the centre bolt (B) while the tool is opening and closing.



CAUTION

The centre bolt may not be removed. Contact a Holmatro Certified Technician.

8.5.10 Hinge pins

See Fig. 12.

- Spray Teflon lubricating oil on and between the moving parts of the hinge pins (A) while the tool is opening and closing.

**WARNING**

The hinge pins may not be removed.

8.5.11 Snap rings of hinge pins

See Fig. 12.

- Check that the snap rings of the hinge pins (A) are present and are not damaged. Have a Holmatro Certified Technician mount a new snap ring if it is missing or damaged.

8.5.12 Spreading tips

- Check the spreading tips for damage. Have the Holmatro dealer replace damaged parts.
- Check that detachable tips fit good.
- Check that the pin locks when fully engaged. (as shown in Fig. 10)

8.5.13 Accessories

- Check the accessories for damage, dirt and completeness. Replace damaged accessories and make sure that the accessories are complete.
- Remove dirt with clean running water. Dry the accessories and apply preservative oil to the untreated steel surfaces.

8.6 Yearly dealer maintenance

We recommend having the equipment inspected, checked, set and tested once a year by a Holmatro Certified Technician who has the appropriate knowledge and the necessary tools (see also section 1.7). The Holmatro dealer can organize the yearly maintenance for you on a contract basis.

9 Decommissioning/Recycling

At the end of its service life the equipment can be scrapped and recycled.

- Make sure that the equipment is put out of order to avoid any use.
- Check that the equipment does not contain any pressurized components.
- Recycle the various materials used in the equipment such as steel, aluminum, NBR (Nitrile Butadiene Rubber) and plastic.
- Collect all dangerous substances separately and dispose of them in an environmentally responsible way.
- Consult the Holmatro dealer about recycling.