

Mini Excavator Hydraulic Thumb

User Manual



Read Carefully Before Use
Keep for Future Reference

Contact Us

Thank you for choosing our products! If you have any questions or comments, contact us at help@cs-supportpro.com and we'll resolve your issue ASAP!

For a .pdf copy of the latest version of these instructions, use the appropriate app on your smartphone to scan the QR code to the right.



Safety Information

Symbol Guide

The following symbols and safety signal words are used in this manual. **DO** obey the accompanying messages to avoid possible injury or death.



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



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



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.



Indicates practices or situations which may result in the malfunction of, or damage to equipment.

General Safety

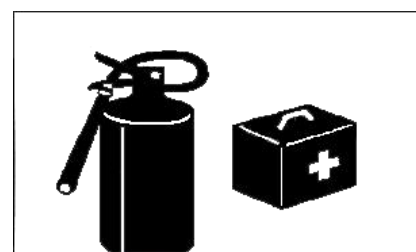


- **ALWAYS** follow federal, state, and local laws, codes, and regulations concerning the use of construction machinery.
- Follow all other applicable instructions and precautions as stated in your excavator's manual.
- Read this manual before actually attaching this hydraulic thumb to your compatible excavator. Familiarize yourself with the instructions that provide crucial information on the installation, operation, and maintenance.
- **ONLY** use with compatible excavator models. Though this hydraulic thumb has a wide fitment, **DO** research compatibility before actually mounting this hydraulic thumb. For details, see **Specifications**.
- **DO NOT** operate, inspect, or maintain the excavator when your faculties or judgment are impaired by alcohol, drugs, medicines, fatigue, or lack of sleep. **NEVER** allow any persons under such conditions to operate, inspect, or maintain this heavy machinery.
- Operating heavy equipment requires your full attention. Avoid distractions and remain focused on the task at hand.
- **IMMEDIATELY** cease to use and contact Customer Service if the hydraulic thumb shows any sign of anomalies or malfunctions, say noise, vibration, breakage, etc. **NEVER** attempt to resume use if the issues remain unsolved.

Personal Safety

Warning

- **DO NOT** wear loose clothes or accessories that may get caught into the moving parts of your excavator in operation. Wear clothes that are oil-repellent. Replace them if grim or grease has started to build up. Fabrics coated or soaked with grim can burn in proximity to heated machinery.
- **ALWAYS** use personal protective equipment (PPE) suitable to your task. Always wear ANSI and OSHA-approved eye, breathing, and hand protection while using this product. Nonslip and steel-toe footwear is also highly recommended. Other equipment such as ear, head, and body protection may also be necessary depending on your work, work environment, and other equipment.
- **ALWAYS** keep a fire extinguisher and first-aid kit in an easily accessible place. Familiarize yourself with the protocols for using the first-aid kit and operating the fire extinguisher. Ensure that you provide training to other individuals who will be operating the excavator. This ensures that everyone is prepared to handle potential emergencies effectively.
- Display the contact details of the nearest Emergency Room (ER) prominently in the operator's area. Make sure that all personnel operating the excavator are well-informed about this information.
- Keep your hands and feet away from the moving components and attachment.



Operation Safety

Danger

- **FLYING DEBRIS CAN CAUSE SERIOUS OR FATAL INJURY.** Never operate the hydraulic thumb with bystanders or any personnel unprotected from potential flying debris. Guard the perimeter with steel mesh and reinforce the excavator with equivalent material as well. **NEVER** operate the hydraulic thumb with the excavator cabin unprotected.
- **ONLY** operate the hydraulic thumb from the excavator's cabin.
- **NEVER** haul or grab objects over the driver's cabin with even the excavator well-protected.
- **DO NOT USE THE GRAB AS A HOIST.** The hydraulic thumb is not intended to lift an object. To do so may damage the grab's hydraulic cylinder.
- Use two or more persons to attach the hydraulic thumb to the excavator's arm.

Caution

- **DO NOT** use the hydraulic thumb to move or nudge large objects, as they can cause excess wear around the hinge pin and grab cylinder.

- **DO NOT** use the hydraulic thumb as a rake, as used this way **WILL** impose huge horizontal force on the grab cylinder, causing structural damage to the cylinder.
- **DO NOT** use the hydraulic thumb as a pry bar. Doing so risks damaging the grab cylinder.
- Avoid operating the hydraulic thumb with its cylinder fully extended or depressed. Prolonged time of over-extension or depression incurs excess wear and tear, thus shortening the service life of the cylinder.
- **DO NOT** operate underwater. Do not allow the cylinder to go underwater. Otherwise, the cylinder **WILL** be damaged from chronic rust.
- Maneuver the thumb tines clear of the excavator boom, especially when tucking the thumb into the boom for transportation.

Maintenance Safety

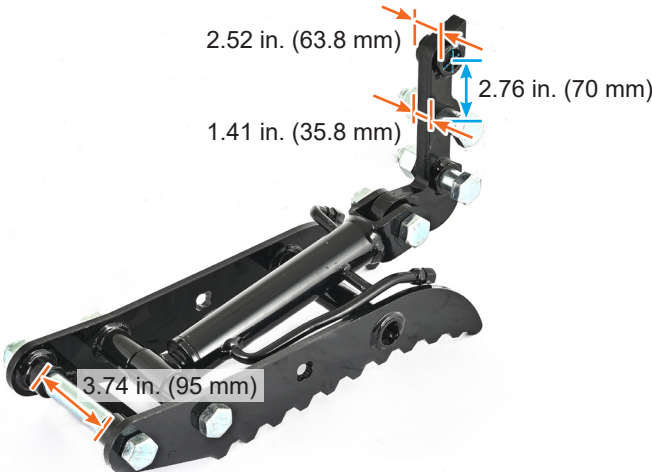
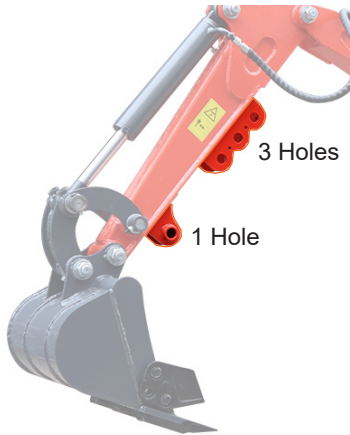
Warning

- **ALWAYS** lower the attachment to the ground and shut off the engine before any maintenance.

Caution

- Wear personal protective equipment (PPE) appropriate and adequate for the work at all times.
- **ONLY** use the recommended lubricant for the thumb. For the specific type, see **Maintenance**.
- **DO NOT** hardface or sharpen the thumb tine with a cutting torch. Excessive heat from torching or welding can cause embrittlement, breakage, and flying pieces.

Specifications

Hydraulic Hose	Length	31.89 in. (810 mm)
	Port Size	M14×1.5 (to Thumb), M16×1.5 (to Excavator)
Thumb Tines Spacing	Length (without Nut)	6 in. (152 mm)
Hinge Pin	Length (with Thread)	8.2 in. (208 mm)
	Length (without Thread)	6.7 in. (170 mm)
	Diameter	0.98 in. (25 mm)
	Quantity	2
Cylinder Pin	Length (with Thread)	3.3 in. (83 mm)
	Length (without Thread)	1.8 in. (45 mm)
	Diameter	0.98 in. (25 mm)
	Quantity	1
Locking Pin	Length (with Thread)	3.7 in. (93 mm)
	Length (without Thread)	2.2 in. (55 mm)
	Diameter	0.98 in. (25 mm)
	Quantity	2
Pin Holes Spacing		 <p>2.52 in. (63.8 mm) 1.41 in. (35.8 mm) 2.76 in. (70 mm) 3.74 in. (95 mm)</p>
Compatible Excavator Specs.	Arm Pin I.D.	0.98 in. (25 mm)
	Arm Pin Hole No.	 <p>3 Holes 1 Hole</p>
	Hydraulic Hose Port Size	M14×1.5, M16×1.5
Length		19.7 in. (500 mm)
Width		7 in. (179 mm)
Height		5.9 in. (150 mm)
Net Weight		34.4 lb. (15.6 kg)

Package List



No.	Item	Qty.
A	Hydraulic Thumb	1
B	Hydraulic Hoses	2
C	M14×1.5 Male to M16×1.5 Male Thread Adapters	2
D	M14×1.5 Male to M14×1.5 Male Thread Adapters (These adapters can be used for other attachments as needed)	2

Installation

Installation

Attach the hinge pin first, then the locking pins, and finally the hydraulic hoses. Doing it alternatively could cause serious personal injuries or machinery damage.

Warning

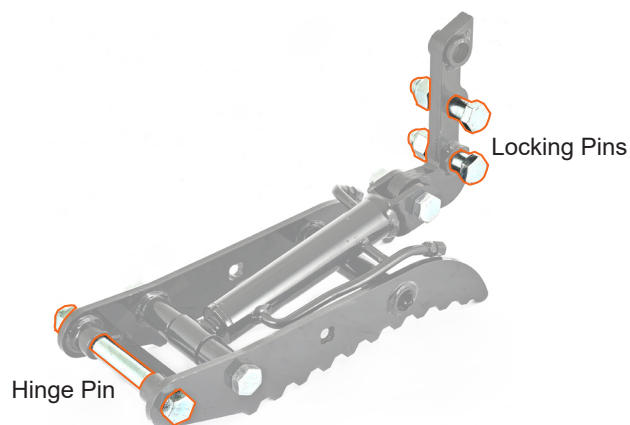
- **ALWAYS** use personal protective equipment (PPE) suitable to your task. Always wear ANSI and OSHA-approved eye, breathing, and hand protection, such as goggles and work gloves. Nonslip and steel-toe footwear is also highly recommended. Other equipment such as ear, head, and body protection may also be necessary depending on your work, work environment, and other equipment.
- **ONLY** mount the hydraulic thumb with the help of more than 2 persons or with the assistance of a working, easily controllable, and reliable hoist. Doing it alone risks serious personal injuries.
- Keep your fingers clear of possible pinching points while mounting the hydraulic thumb.
- Cover the excavator hydraulic ports once their plugs are removed, preventing foreign matter from entering the hydraulic system.
- **ALWAYS** follow the protocols for using a hoist.

Tools Needed:

- Adjustable Wrench
- Hammer
- Plastic Wrap

Attaching the Thumb

1. Start the engine of the excavator following the normal protocols.
2. Park the excavator on level ground, lower the arm to a height that is easily accessible for attaching the thumb.
3. Shut the engine and wait until the engine and hydraulic oil have cooled to ambient temperature.
4. Remove one hinge pin and two locking pins with their nuts on the thumb.



5. Use 2 or more people or a hoist to stand the thumb up on a level surface.
6. Align the hinge pin hole on the thumb with the one on the bottom of the excavator's arm, and insert the removed hinge pin using a hammer (not included).
7. Secure the hinge pin with its removed nut using an adjustable wrench (not included).
8. Align the three locking pin holes on the thumb with the ones on the excavator's arm, and insert the two removed locking pins into the top and bottom holes of the three using a hammer (not included).
9. Secure the locking pins with their removed nuts using an adjustable wrench (not included).



Connecting the Hydraulic Hoses

Check if your excavator has hydraulic valves, choose either of the following methods that suits you to connect the hydraulic hoses.

Warning

ALWAYS wait till the hydraulic oil has cooled to ambient temperature.

The hydraulic ports and hoses are interchangeable but **DO** cover their ends with plastic wrap (not included) when the cap is removed, preventing introducing contamination to the excavator's hydraulic system.

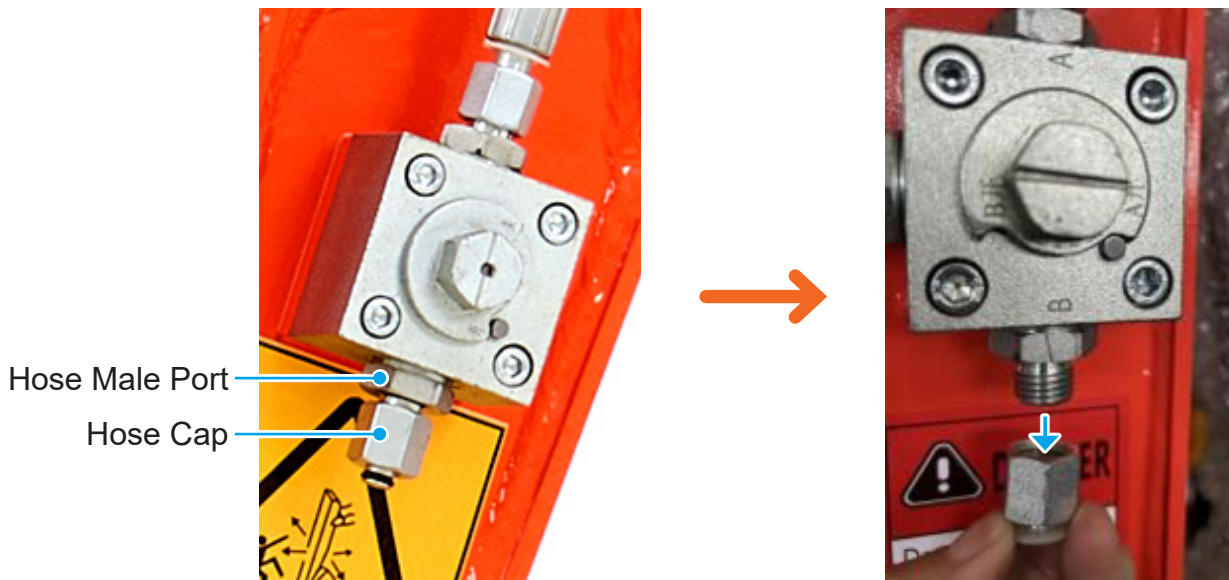
For Excavators with Hydraulic Valves



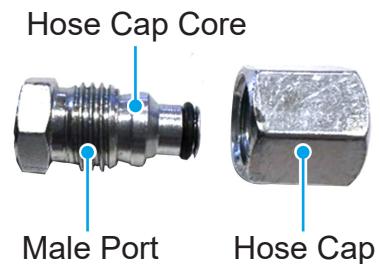
1. Ensure the engine is shut off.
2. Wait until the engine and hydraulic oil have cooled to ambient temperature.
3. Close the valves by turning them clockwise by 90° until its debossing is perpendicular to the arm.



4. On one side, remove the hose cap on the excavator hose end to expose the male port by turning the cap and holding the male port still.



Note: If the core of the hose cap remains stuck inside the male port, remove it with a pair of pliers. Store it with the removed hose cap.



5. If the male port on your excavator is M14, convert the port to an M16 male port by replacing it with the provided M14×1.5 male to M16×1.5 male thread adapter.



6. Cover the hose end with plastic wrap (not included).
7. Repeat steps 4–6 for the other side.
8. Remove the caps of the thumb as shown, covering the exposed ports with plastic wrap.

Note: Keep the caps in place. If the hydraulic thumb is to be detached for storage, they will do a better job protecting the cylinder than plastic wrap.

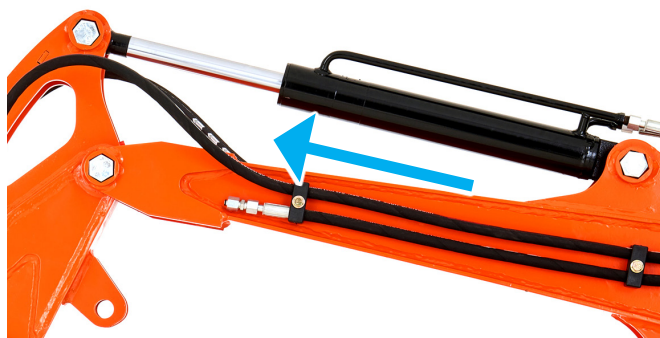


9. Having removed the plastic wrap around the **LEFT** hydraulic port on the hydraulic thumb and the plastic plug on either end of one hydraulic hose, connect the hose to the thumb by hand turning.
10. Repeat similar steps for the **RIGHT** side.
11. Fasten each connection on both ends of the provided hoses with an adjustable wrench.
12. Open the valves by turning them counterclockwise by 90° until their debossing is parallel to the arm.
13. Test the excavator and make sure:
 - You can open and close the thumb smoothly.
 - No hydraulic oil is leaking from connections, if not, reconnect as needed.

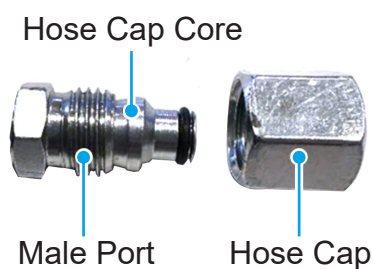
For Excavators without Hydraulic Valves



1. Raise the boom so that it's slanted upward but still within reach.
2. Shut off the engine.
3. Wait until the engine and hydraulic oil have cooled to ambient temperature.
4. On one side, remove the hose cap on the excavator hose end to expose the male port by turning the cap and holding the male port still.



Note: If the core of the hose cap remains stuck inside the male port, remove it with a pair of pliers. Store it with the removed hose cap.



5. If the male port on your excavator is M14, convert the port to an M16 male port by replacing it with the provided M14×1.5 male to M16×1.5 male thread adapter.



6. Cover the hose end with plastic wrap (not included).
7. Repeat steps 4–6 for the other side.

- Remove the caps of the thumb as shown, covering the exposed ports with plastic wrap.

Note: *Keep the caps in place. If the hydraulic thumb is to be detached for storage, they will do a better job protecting the cylinder than plastic wrap.*



- Having removed the plastic wrap around the **LEFT** hydraulic port on the hydraulic thumb and the plastic plug on either end of one hydraulic hose, connect the hose to the thumb by hand turning.
- Repeat similar steps for the **RIGHT** side.
- Fasten each connection on both ends of the provided hoses with an adjustable wrench.
- Test the excavator and make sure:
 - You can open and close the thumb smoothly.
 - No hydraulic oil is leaking from connections, if not, reconnect as needed.

Maintenance

Maintenance

- Periodically clean the hydraulic thumb, removing all mud, dirt, and grease.
- Lubricate the hinge, cylinder, and locking pins with lithium grease every 10 hours of continuous operation. Shorten the schedule if the pins become unusually squeaky.
- Apply a light coating of oil to all exposed metal parts to prohibit corrosion.
- Periodically check the fasteners, retightening as needed.
- Repaint parts where paint is worn or scratched to prevent rust.
- Inspect for visible signs of wear, breakage, or damage. Replace or repair damaged components.
- Dispose of the used material and waste products from the replacement appropriately.
- Store in a dry and protected place, inaccessible to unauthorized personnel, and away from direct sunlight. In particular, protect from precipitation, which can significantly shorten the service life of the cylinder and cause rust.