



# ROBUR

## ATTACHMENTS

## Chubb thumb fitting and operating instructions

Please read these instructions before fitting and operating a Chubb thumb

Before you fit a Chubb thumb, please note the following;

- The Chubb thumb has some fine clearances which can be cause to foul if incorrectly set up
- As drawn, the main boss No1, and ram mount No5 must be on the same plane on the dipper arm
- When welding, make sure the current doesn't run through the ram, as damage may occur

Some dipper arms have a strengthen plate weld on where the No1 boss is to be mounted. If this is so, then a plate of equal thickness must be welded under the No5 ram mount and also where the ram mount lugs on the thumb touch the dipper arm

When the thumb is tack welded in place, please check the follow clearances,

- Between the ram head (No.6) and the dipper arm, when the thumb is folded against the dipper arm
- Between the ram pipes and the Thumb
- Between the ram spear and the thumb boss (No.1) when the ram is full extended

More clearance can be provided for the first two points by welding a packer to the dipper arm where the ram mounting lugs touch the dipper arm

The other point can be corrected by moving the ram mount away from the main thumb boss

### Instructions for fitting of Chubb thumb attachment

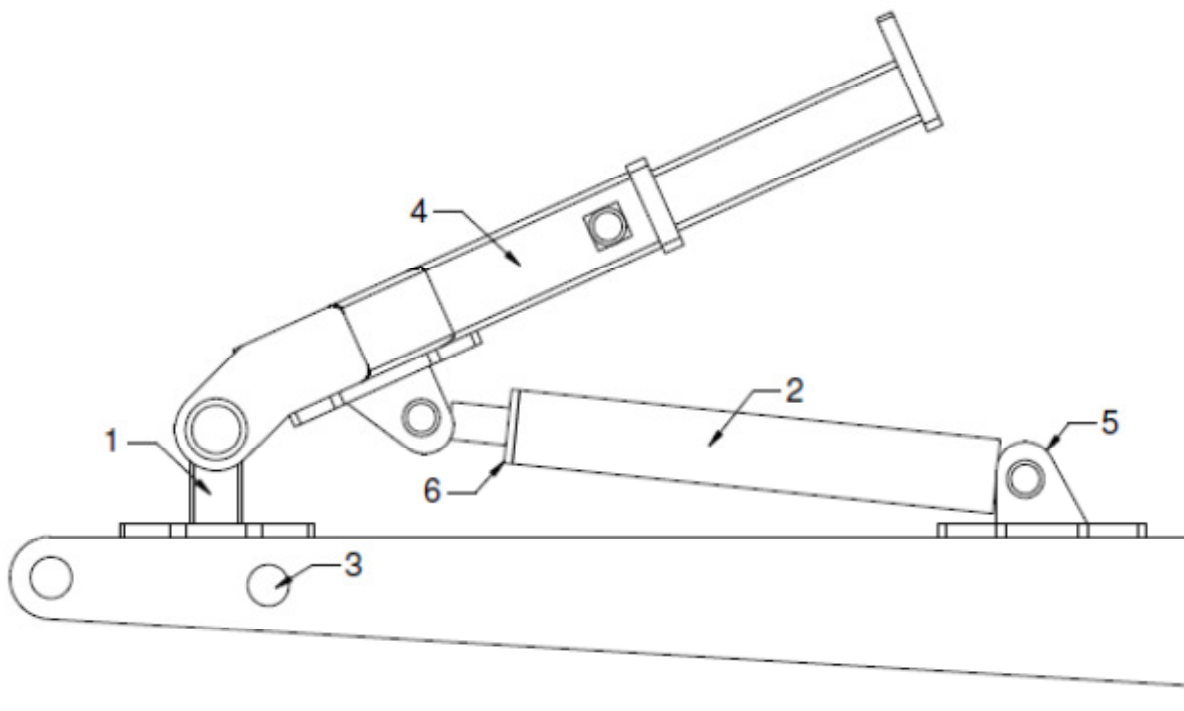
Assemble the Thumb as shown below, (the grease nipple on No. 1 boss points away from the bucket.) assemble the unit on the dipper with the thumb boss (No.1) opposite the crowd boss (No.5). This is the usual position for the Thumb which suit most jobs. If using a quick hitch, mount boss No1 about 12-20 mm back from touching the quick hitch and bucket when fully crowded. Moving the thumb closer to the bucket gives the advantage of having the thumb and bucket pivots nearer to one another. This reduces the variation in alignment between the thumb and the bucket teeth in different crowd positions.

Moving the thumb away from the bucket would only be recommended if say the machine was required solely for lifting large objects where a wider bite is required.

Tack weld No1 boss in position, ensuring that the thumb is parallel to the dipper arm.

To find the position for the ram boss No5, the ram must be full retracted, and then extended 4-5mm. Then rock the thumb up and down and you will see the ram mount No5 slide up and down the dipper arm. The ram boss must be welded when all three pins are in line. This is so that the thumb can be locked against the dipper arm when not in use.

When you tack weld boss No5 to the dipper arm, rock the thumb through the point where all three pins are in line to check it doesn't jamb. Also check clearances as described on page one. Bosses No1 and No5 can now be fully welded to the dipper arm. It is recommended that both mounting plates are welded all the way round with three passes of 4mm low hydrogen electrodes.



#### Other fitting instructions

It is recommended that a minimum of ½ inch oil lines are used to the thumb ram. The ram must be fitted with the correct type of relief valve, as explained below.

Using a spare spool valve in the existing control bank.

If the main control bank has individual relief valves for each spool, the one controlling the thumb can be backed off to around 1500psi and will be all that's required. If the main control bank has only one relief valve for each of the spools, a separate relief valve will be required for the thumb. A 5 port cross line

relief valve can be used or two inline relief valves with drain lines back to the tank. The max pressure for the thumb is 1500psi so that the thumb can be over powered by the crowd ram.

### Operating instruction

To lock the thumb against the dipper arm, fully retract the thumb ram until the three pins are in line, then bring the dipper arm right in so that the thumb is on top of the dipper arm. Then slowly extend the thumb ram, and gravity will over centre the thumb and lock the thumb against the dipper arm.

To unlock the thumb, extend the dipper arm, then retract the ram until the thumb falls past where the three pins are in line, then extend the thumb ram and it is in the working position.

### Attention all operators using Chubb thumb

Damage can be caused if the machine is not operated in the correct way when the thumb is attached. Even if you have a relief valve fitted, this does not eliminate damage if the correct procedure is not followed.

Damage is caused when the bucket is used to push the thumb up. This practice causes a sudden pressure in the barrel of the ram and the oil is not able to escape through the ½ inch lines quickly enough, thus putting great pressure on the spear.

The correct method is to bring the bucket up to the object , then bring the thumb down to clamp. Always lift the thumb by ram application. The relief valves fitted are to control the applied hydraulic, and may not give protection against abnormal external forces.

Do not use the Chubb thumb as a post driver or a battering ram as you will surly damage the ram.

Do not crowd the bucket when the thumb is fully extended as you will push the bottom out of the bucket.

Always lift material free of the ground with the bucket before you swing to eliminate side pressure in the thumb.

Stick to these rules and your thumb will serve you for many years. For any enquiries, please contact Robur Attachments.

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From the team at Robur Attachments

