

Bucket Clamp

Installation and Operation Manual

SERIAL NUMBER: _____



Release 1.2, May 2020
Reference SA464055

IMPORTANT:

This Installation and Operation Manual should be kept with the machine at all times during and after the Clamp installation. Machine operators must read and fully understand the Installation and Operation Manual before use.

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If at any time in the future, you require additional information on the Doherty range of Bucket Clamps or any aspects of its use, please do not hesitate to contact:

Revision History

Date	Revision	Notes
May 2020	Reference SA4610055-1	Page 4, 15, 16 Text added
May 2020	SA464055 R1.2	Page 15 - Flow chart changed, Page 16 – Updated wording, Page 17 - new schematic

INTRODUCTION

Thank you for choosing to purchase the Bucket Clamp from Doherty Engineered Attachments Limited ("Doherty").

The Clamp is designed to fit to a Doherty Hitch in conjunction with a Doherty or OEM dig bucket. The Bucket Clamp is designed to hold a load against the bucket but **MUST NOT** be used for digging or prying.

Doherty reserve the right to update this manual in regard to information and images contained within as a result of technical updates.

Immediately upon receipt of your Doherty Bucket Clamp, inspect it for possible damage resulting from shipment. Give special attention to the following:

1. Check all bolts, nuts and hydraulic fittings for tightness.
2. Check for misalignment of components.
3. Check the parts list for missing parts.

PRE DELIVERY CHECK

Installation completed by:

Company:	
Name:	
Date:	
Excavator make and model:	
Clamp Serial #	
End user name:	
End user phone number:	
End user email address:	

Supply pressure checked at:	PSI
Relief valve pressure set at: <i>Important: Test and adjust clamp relief pressure to ensure bucket can push clamp back.</i>	
Hose routings checked and abrasion free throughout full Clamp movement:	
All hydraulic connections, clean, tight and leak free:	
Cylinder Mount Bracket and anti-rotation Peg fully welded in position	
Full range of Bucket Clamp movement checked ensuring the hoses freely move without interference	
Please specify type and brand of relief valve fitted	

This form must be returned to Doherty upon completion of Installation to validate warranty.

NOTES:

RISK ASSESSMENT

This risk assessment form is supplied as a guide only. It is the responsibility of the owner / operator to ensure that this equipment is operated in a safe manner and complies with all relevant compliance regulations.

Location of risk assessment:	Date:
------------------------------	-------

Typical hazards associated with this equipment	Personnel affected			
	Indicate in table below			
Type	Operator	Site personnel	Service personnel	General public
Changing Attachments				
Is there a copy of the Installation and Operation Manual in the machine cabin?				
Has the operator been correctly trained for use with this particular Clamp and verified?				
Is the operator aware they should not operate this machine unless they are satisfied that the Clamp is in a safe condition?				
Are all personnel aware that they must not remain near attachments during activation of the attachment?				
Falling objects				
Are all personnel aware that they must not position themselves under attachments or suspended loads?				
Warning devices and Decals				
Are all safety and operations decals clearly displayed?				
Equipment malfunction				
Is there a checklist of daily, weekly, annually inspections?				
Is there a record of all service / repair work?				

Other hazards identified:	
Plant & machinery movement Warning devices on plant and equipment Noise Environment	

Assessed by:	Reported to:
Name	Name
Date	Date

IMPORTANT SAFETY INFORMATION

Remember that on any job, **YOU** are the key to safety. Good safe practices not only protect the people around you; they are also your own best protection. Study this section and any relevant manufacturer's operation manuals covering your equipment. Read all warning and caution instructions.

Read, understand and follow all safety precautions and procedures found in the machine's operator's manual before attempting any operation, inspection or maintenance of this machine, its attachments and/or systems. Doherty Engineered Attachments Limited cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this document and on the product are therefore not all inclusive. If a tool, procedure, work method operating technique not specifically recommended by Doherty is used, you must satisfy yourself that it is safe for you and others. You should also ensure that the product will not be damaged or made unsafe by the operation, lubrication, maintenance and/or repair procedures you choose.

1. This Installation and Operation booklet must be **READ** and **UNDERSTOOD** before any installation and operation work begins.
2. A copy of the Installation and Operation Manual must be kept in the operator's cabin for ongoing use.
3. Operators should note that the use of a Bucket Clamp may affect the machine's balance.
4. Operators should note that the weight of the Bucket Clamp is stamped on the ID Plate and this must be taken into account when calculating the machine's lifting capacity.
5. All Doherty Bucket Clamps must be connected and installed in full compliance with this manual. Any variations may cause the Bucket Clamp to operate in an unsafe manner and/or void the warranty. Doherty is available to advise on particular issues as required.
6. Never use the Bucket Clamp as a digging or prying tool.



DANGER Improper operation and maintenance of this equipment could result in serious injury or death. Read the operator's manual and this book thoroughly before operating and/or maintaining this equipment.

- Always wear protective equipment when performing maintenance.
- Do not operate the machine with a defective Bucket Clamp. Inspect the Bucket Clamp and all components before starting operation. Perform any necessary repairs before operating the Bucket Clamp.
- Make sure the Bucket Clamp is properly supported before performing any work on the Bucket Clamp.
- Unauthorised modification to the Bucket Clamp or any of the Bucket Clamp components may impair function, affect performance and affect the life of the Bucket Clamp and the excavator. Unauthorised modification may impair personnel safety. Unauthorised modification will void your warranty.
- Under normal conditions, all machines hydraulic circuits are under extreme pressure. When inspecting for leaks, use a small piece of cardboard, wood or metal to locate leakages. Small (pinhole) leaks can be dangerous if contact with skin or eyes is made. Wear approved safety glasses and/or face shield, gloves, hard hat, safety shoes, and work clothes during all inspection and maintenance procedures.
- Your Bucket Clamp should be checked for possible interference before use. Ensure that your Bucket Clamp contacts the leading edge of the bucket without interference to any other equipment.

IMPORTANT SAFETY INFORMATION

- All excavator operators should familiarise themselves with the Bucket Clamp before attempting to operate the excavator. This should include, but not be limited to, practicing clamping against the bucket. Furthermore, if this Bucket Clamp is fitted to a different excavator, all operators should proceed with the same “familiarisation” process before it is used on the job site



DANGER

- TEST ALL CONNECTIONS AWAY FROM ALL PERSONNEL.
- Never use the Bucket Clamp as a prying or digging tool
- Avoid clamping with one tyne only. This may cause the clamp to twist and deform.
- Inspect the Bucket Clamp every day. Make any necessary repairs before operating.
- Do not use Bucket Clamp if it is severely worn. Make sure to repair wear before resuming operation.



CAUTION The operator may experience slow or unexpected movement of functions when operating with cold hydraulic oil. Likewise, damage to the hydraulic components may result due to the cold oil. Make sure to warm up hydraulic system before operation.

NOTE A good understanding of safety precautions helps prevent serious injury and damage to property.
STOP ACCIDENTS BEFORE THEY STOP YOU.



WARNING Avoid oil spills. Use containers, rags, and/or absorbent towels to contain any oil leakage. Dispose all waste oils, fluids, lubricants and other hazardous waste properly.



CAUTION Never allow a hydraulic line or component to become contaminated. This could cause server system damage. Contact an authorised machine distributor to obtain proper caps and plugs to be used on this machine.

NOTE Practice safe operation. Insist that your fellow workers do too. Be alert to possible hazards before they cause trouble, and remember...

SAFETY IS UP TO YOU!!!

IMPORTANT SAFETY INFORMATION



WARNING Use safety protection such as: hard hats, working gloves, safety boots and safety glasses when needed to perform this job.



CAUTION Do not connect the Doherty Bucket Clamp to hydraulic pressure higher than stated in Table 2.



IMPORTANT CAUTION – WELDING

Do not weld directly to the Bucket Clamp without Doherty approval.

PRODUCT IDENTIFICATION AND DECALS

All Bucket Clamps are supplied with a serial plate attached as shown in Figure 1. In addition, a serial # is stamped into the top edge of the Clamp side plate.

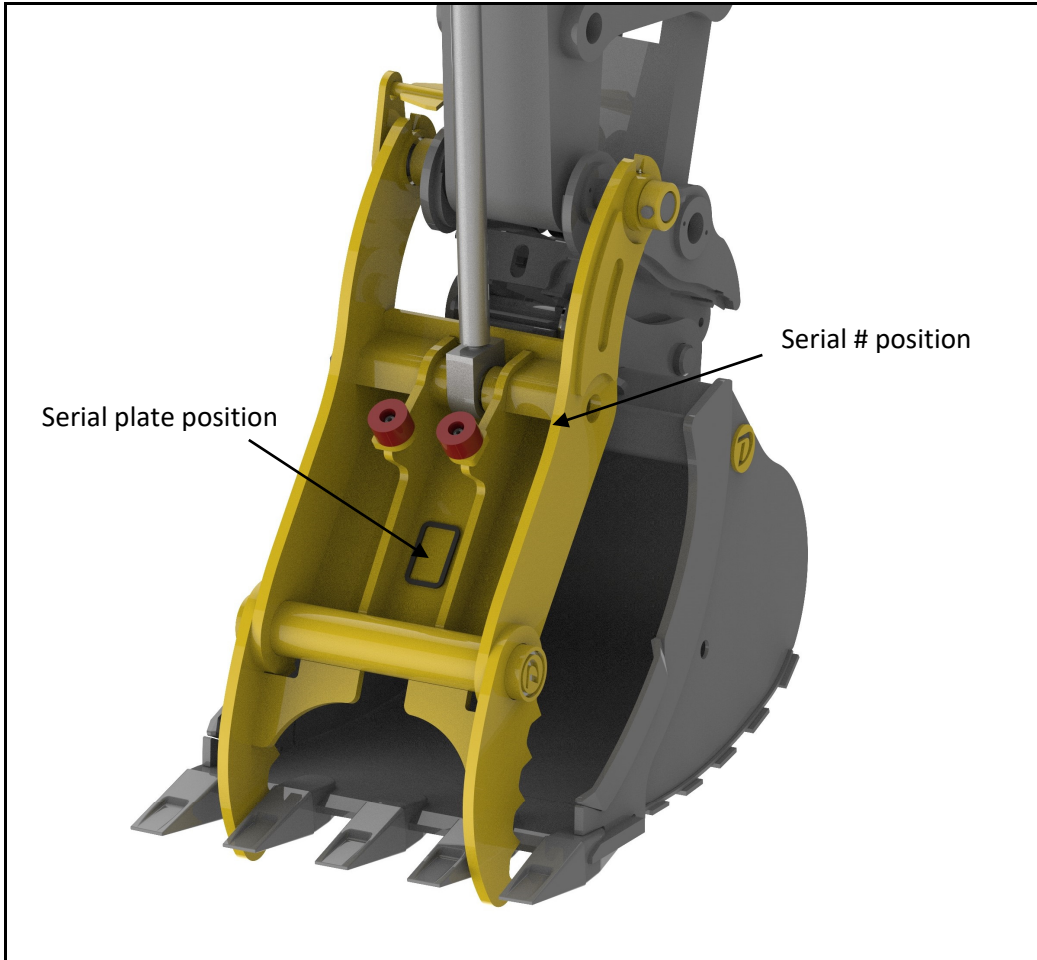


Figure 1 SERIAL PLATE LOCATION


 DOHERTY <small>COUPLERS AND ATTACHMENTS</small>		Manufactured By Doherty Engineered Attachments Ltd Made in New Zealand	
Host Machine	Manufacture Date		
Serial Number	Capacity SAE (CuM)		
Weight (KG)	WP (BAR)		
Attachment Type			
Pin Ctrs	Pin Dia	Internal Width	
NZ Ph +64 7 574 3000 Aus Ph 1800 057 021 E sales @dohertydirect.net W www.dohertydirect.net			

Figure 2 SERIAL PLATE

It is recommended that a copy of the identification details be kept in the office for future reference. Always quote these details when contacting Doherty for Service or Parts.

INSTALLATION



CAUTION The Bucket Clamp and associated equipment should only be installed by skilled and suitably experienced persons. The following instructions are a broad outline on the procedures and practices that should be employed during installation of the Bucket Clamp.

1. Where appropriate, hydraulic hoses should follow the paths of existing hydraulic lines on the machine.
2. Hydraulic hoses should only be long enough to accomplish their intended function whilst ensuring that under any operating position, they are not required to take up a radius of less than 200mm.

IMPORTANT INSTALLATION NOTES

- Due to the large number of Excavator Makes and Models available, it is not possible to provide a rigid set of installation instructions that will cover every situation. Modern Excavator control systems are complex and sophisticated. Auxiliary connections must be carried out with care to ensure the manufacturer's warranty is not voided. It is therefore extremely important that only appropriately qualified and experienced persons carry out the installation. It is **STRONGLY RECCOMENDED** that the excavator dealer be consulted to ensure the auxiliary connections are correctly made.
- Installation personnel must be competent and experienced in this type of work.
- Best hydraulic practice must be used to ensure that all components remain clean and free of contamination and that all hoses are suitably routed and armoured to prevent, crushing, pinching or chaffing damage.
- The requirements detailed in this publication must be fully understood and complied with.
- No changes to the host machine's control systems should be made without express agreement by the manufacturer and or dealer.
- All current Health and Safety Regulations pertaining to this installation and subsequent operation must be complied with.
- The Pre Delivery Check sheets (including pressure readings) must be fully completed, signed and returned to Doherty.
- Contact Doherty for additional assistance, if required.
- Failure to comply with these guidelines may cause equipment damage and/or void any applicable warranty.

IMPORTANT - PRE-FITTING PREPARATION

1. Some machines have wear plates welded to the inside of the dipper arm. See Figure 3
2. Before fitting the Doherty Bucket Clamp the wear plates may have to be modified or removed.
3. To confirm this is the case it is strongly recommended that the Clamp, Mount Bracket and Cylinder be temporarily mounted and fully rotated to ensure correct operation.

INSTALLATION

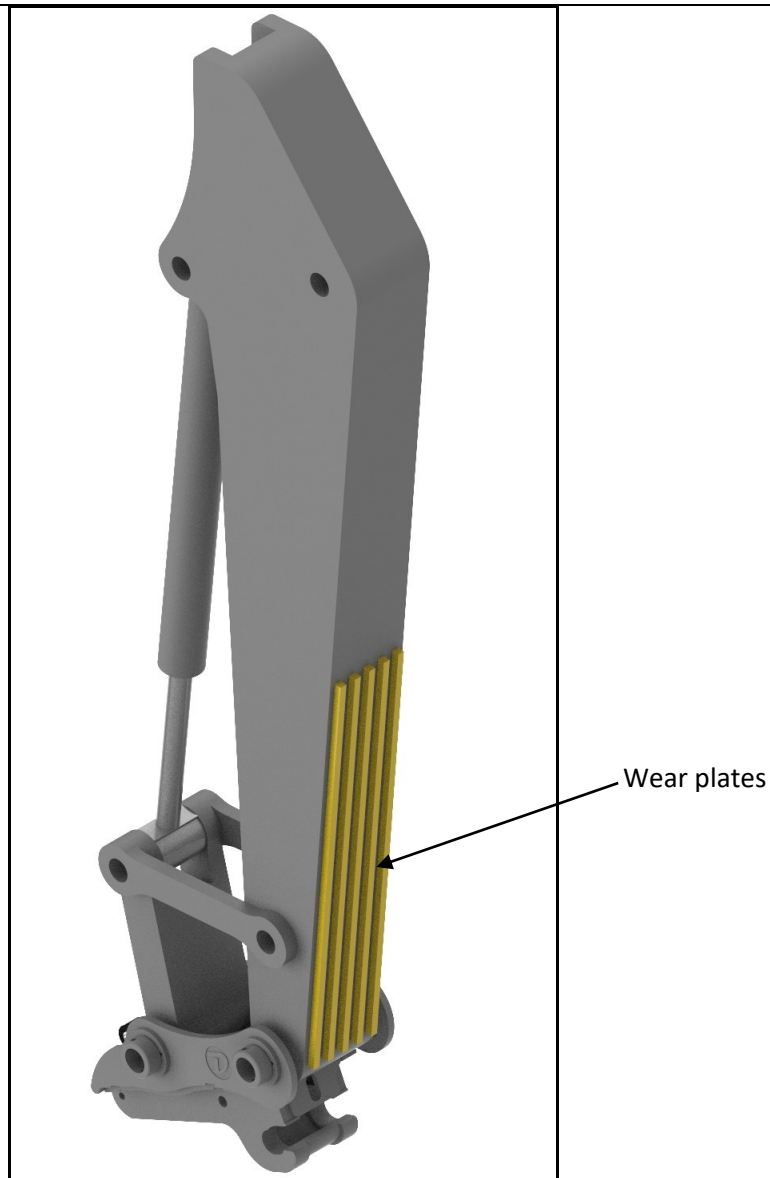


Figure 3 WEAR PLATES

FITTING THE BUCKET CLAMP

1. Detach the bucket and fold the dipper arm towards the cab until the bottom side of the dipper arm is as level as possible.
2. Support the Hitch and then remove the front pin in the end of the dipper arm/hitch.
3. Clean and lubricate the bores in the hitch and end of the dipper arm.
4. The Bucket Clamp is installed using the longer Pivot Pin supplied with the Bucket Clamp. Ensure this Pivot Pin is pre-lubricated prior to fitting.
5. Using the supplied Shims ensure the Bucket Clamp is centrally located onto dipper arm.
6. Fit the Anchor Boss to the end of the Pivot Pin and retain using the bolt with the two nuts. See Figure 4

INSTALLATION

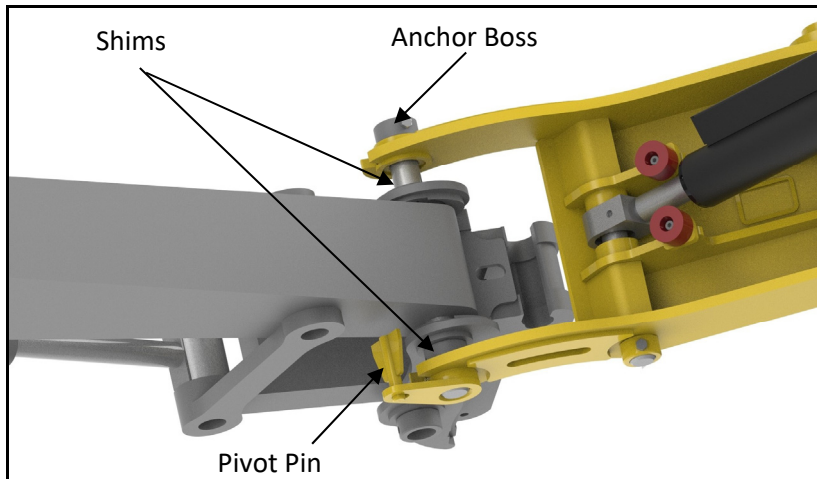


Figure 4 PIVOT PIN INSTALLATION

7. Manipulate the excavator to allow the Clamp assembly to lie horizontally along the dipper arm with the Clamp tyres facing away from the bucket end of the dipper arm. See Figure 5.

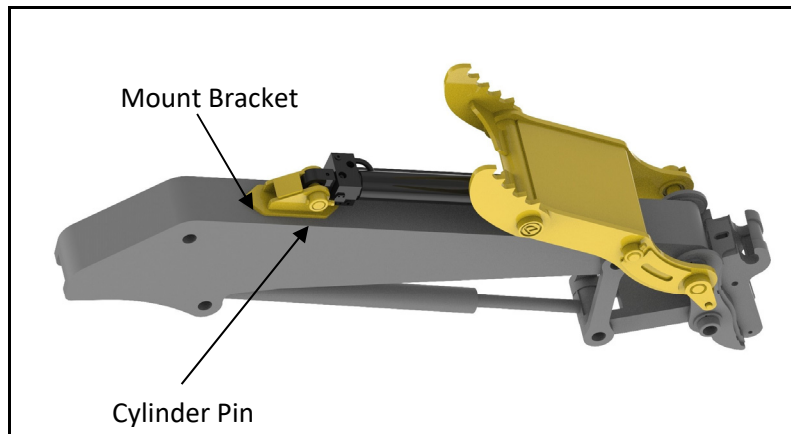


Figure 5 MOUNT BRACKET INSTALLATION

8. Ensure the hydraulic connections are fitted and tested in accordance with the hydraulic details see **Error! Reference source not found.**
9. If the Bucket Clamp is designed with Buffer Pads go to step 0. If the Clamp is designed without Buffer Pads go to step 14.

INSTALLATION

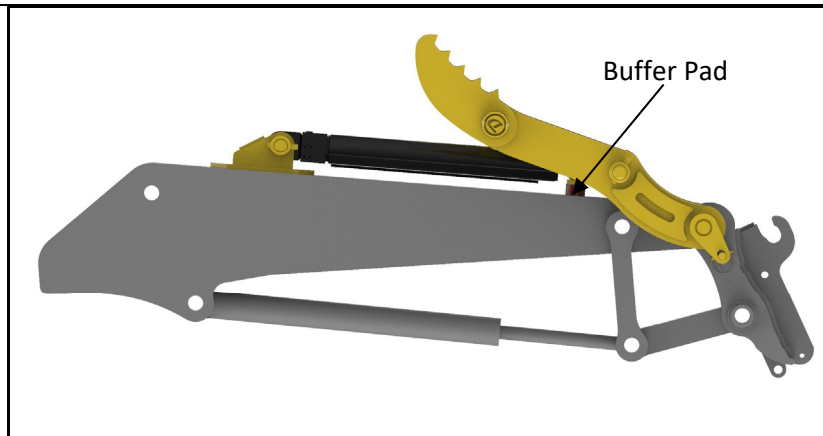


Figure 6 BUFFER INSTALLATION

10. If Buffer Pads are fitted, ensure they are in full contact with the dipper arm. See Figure 6. Note that it may be necessary to fit an additional wider doubler plate to the dipper arm to achieve this.
11. Ensure the cylinder is fully retracted, double check that the Mount Bracket is centred and sitting hard down on the dipper arm. Mark the location of the Mount Bracket. See Figure 5.
12. Remove the Cylinder Pin from the Mount Bracket, move the Mount Bracket back 3-5mm along the dipper arm (away from the bucket end of the dipper arm) and then TACK WELD the Mount Bracket to the dipper arm of the excavator. Ensure all areas where welding is to occur is cleaned of all paint and other coatings.
13. Refit the Cylinder Pin through the cylinder and Mount Bracket. Go to step 16
14. If the Clamp is designed without Buffer Pads place a temporary 25mm thick packer between the Clamp cross tube and the cylinder.
15. Ensure the cylinder is completely closed, double check that the Mount Bracket is sitting hard down on the dipper arm. Mark the location of the Mount Bracket. TACK WELD the Mount Bracket to the dipper arm of the excavator. Ensure all areas where welding is to occur are cleaned of all paint and other coatings.

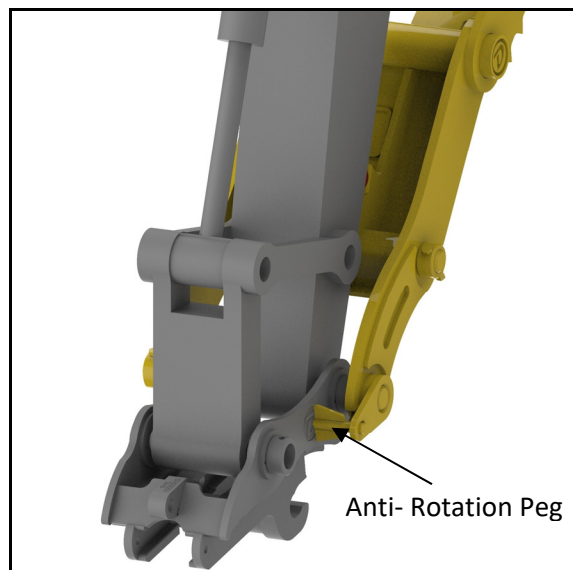


Figure 7 ANTI ROTATION PEG INSTALLATION

INSTALLATION

16. Ensure the bucket cylinder is fully retracted. Place the anti-rotation Peg inside the slotted hole in the end cap of the Pivot Pin. Position the end of the Peg against the side of the hitch. With the Peg centrally located in the slotted hole TACK WELD the end of the Peg to the side of the hitch. Ensure the pin is parallel to the Pivot Pin. See Figure 7
17. Slowly extend the cylinder to rotate the Bucket Clamp to the maximum position. Check that the Bucket Clamp and hoses freely move without interference.
18. Retract the cylinder and confirm that all the clearances are maintained between all the Bucket Clamp, cylinder and dipper arm. The Mount Bracket and Peg can now be fully welded to the dipper arm. Use low hydrogen MIG or E-7016 or E7018 Welding electrodes or equivalent. Use weld sizes as recommended in Table 1.

Weight class	Mount Bracket Weld Size (mm)
035	9 to 10
055	9 to 10
080	9 to 10
140	12 to 16
240	12 to 16
350	16 to 20

Table 1 WELD SIZE

19. Fasten all bolts, nuts, hydraulic hose and fittings securely.
20. To avoid damage, ensure hydraulic hoses are secure and protected for the full movement of the Bucket Clamp rotation.
21. Grease and lubricate all pivot points on the Doherty Bucket Clamp as shown in Figure 10.

INSTALLATION

BUCKET CLAMP HYDRAULICS



IMPORTANT

The Doherty Bucket Clamp is designed to operate at 240 bar (3500 PSI). Maximum operating pressure must not be exceeded, and this must be checked and adjusted before connecting to the cylinder. See Table 2

The Bucket Clamp relief valve(s) must be tested and adjusted to allow the bucket hydraulic auxiliary circuit to over power the clamp hydraulic auxiliary circuit.

The cylinder ports are as listed in Table 2



It is the installer/dealers' responsibility to ensure that any factory fitted controls fully comply with all current Health and Safety Regulations.



The Bucket Clamp relief valve(s) must be tested and adjusted to allow the bucket hydraulic auxiliary circuit to over power the clamp hydraulic auxiliary circuit. The relief valve(s) MUST stay available to the clamp cylinder if and when the operating flow is selected to any other function.

NOTE: Hoses and hydraulic kits do not form part of the scope of supply of the Bucket Clamp.

Weight class	Suggested oil flow (L/min)	Operating pressure (bar)	Relief pressure setting (bar)	Hose / Tube size min	Cylinder Ports
035	10	240	240	1/4"	2 x SAE #8 (3/4" UN)
055	10	240	240	1/4"	2 x SAE #8 (3/4" UN)
080	25	240	240	1/4"	2 x SAE #8 (3/4" UN)
140	45	240	240	3/8"	2 x 3/4" Code 61 (Flange)
240	70	240	240	3/8"	2 x 3/4" Code 61 (Flange)
350	70	240	240	3/8"	2 x 3/4" Code 61 (Flange)

Table 2 HYDRAULIC SPECIFICATIONS

INSTALLATION

BUCKET CLAMP HYDRAULIC SCHEMATICS

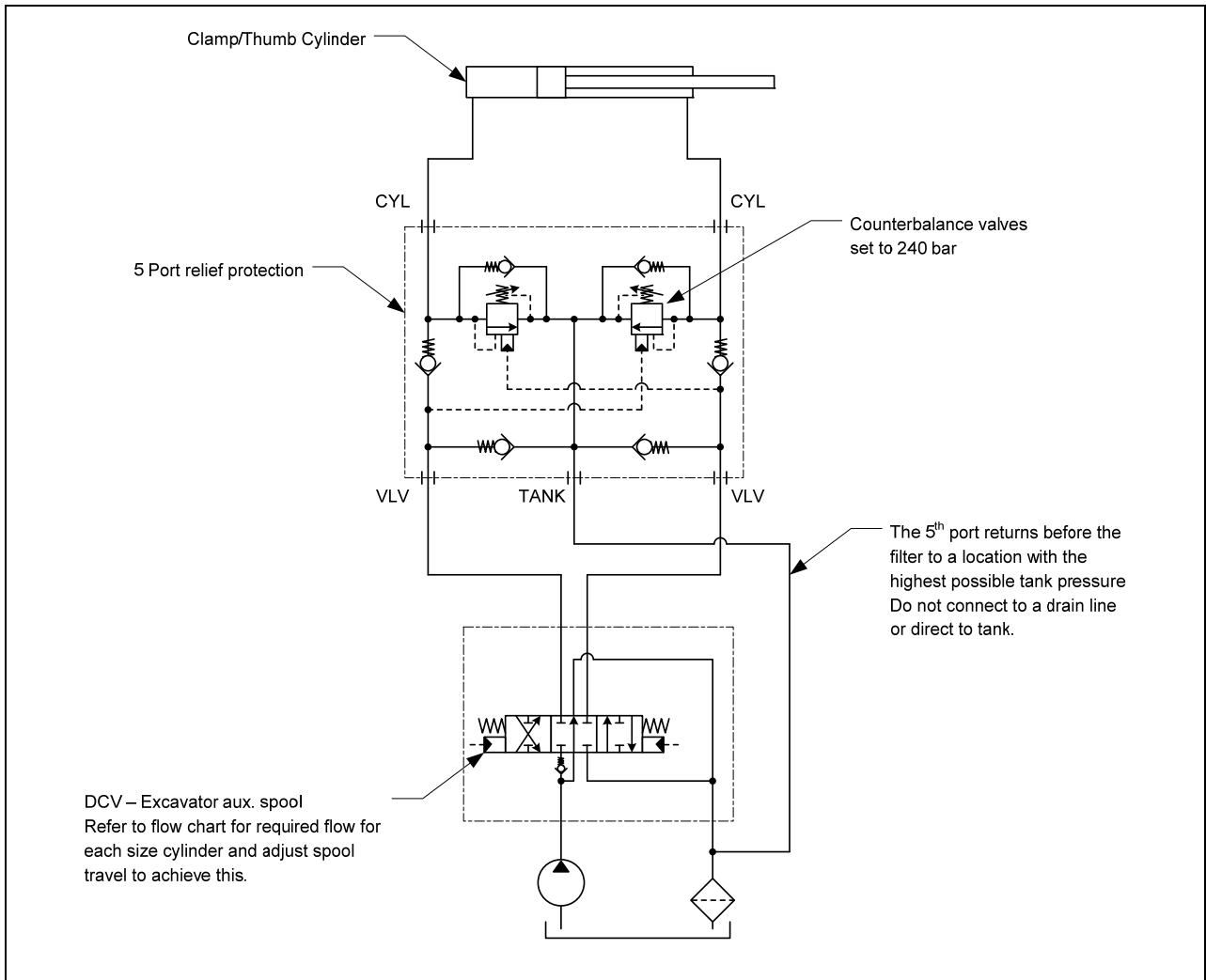


IMPORTANT

1. The Clamp/thumb is hydraulically operated through a 3 position control valve. The centre position blocks the cylinder ports. This maintains clamp force when the control valve is not actuated.
2. To prevent damage to the clamp cylinder, both working ports must be protected by pressure relief valves and make-up check valves.
3. The relief valves should be set at a value low enough to allow the bucket crowd to overpower the clamp.
4. Make-up (anti cavitation) check valves should allow the bucket to displace the clamp without causing cavitation on the rod side of the clamp cylinder.
5. Please check that the excavator auxiliary circuit is fitted with pressure and flow control. If this is not the case additional valves must be fitted to ensure flow and pressure meet the values stated in Table 2.
6. Test and adjust bucket clamp relief pressure to allow the bucket hydraulic auxiliary circuit to over power the clamp hydraulic auxiliary circuit.

INSTALLATION

Figure 8 DOHERTY BUCKET CLAMP –Schematic



INSTALLATION



FINAL CHECK

1	Verify all fittings and fasteners are tight and secure.	
2	Check the entire system for leaks.	
3	Move the Bucket Clamp through its entire motion slowly checking for: <ul style="list-style-type: none">• Hose chaffing• Proper hose lengths• Any type of mechanical interference.	
4	Ensure that all product and cab decals are correctly fitted and visible.	
5	Complete Pre Delivery Check sheet and return to Doherty to activate warranty.	
6	Ensure this Installation and Operation Manual (or a copy) is kept in the operator's cab Additional copies of this Installation and Operation booklet are available in hard copy or electronic form from Doherty Engineered Attachments Limited.	

OPERATION



PRECAUTIONS

- The Doherty Bucket Clamp must only be used for the purpose for which it has been designed.
- The Bucket Clamp is designed to work with a standard bucket and should only experience forces exerted by the opposing bucket as shown in Figure 9
- When the Bucket Clamp cylinder is fully extended the Bucket Clamp should not experience any loading that tries to extend the cylinder as shown Figure 9
- Failure to adhere to these precautions will result in damage to the cylinder and **VOID ANY WARRANTIES**

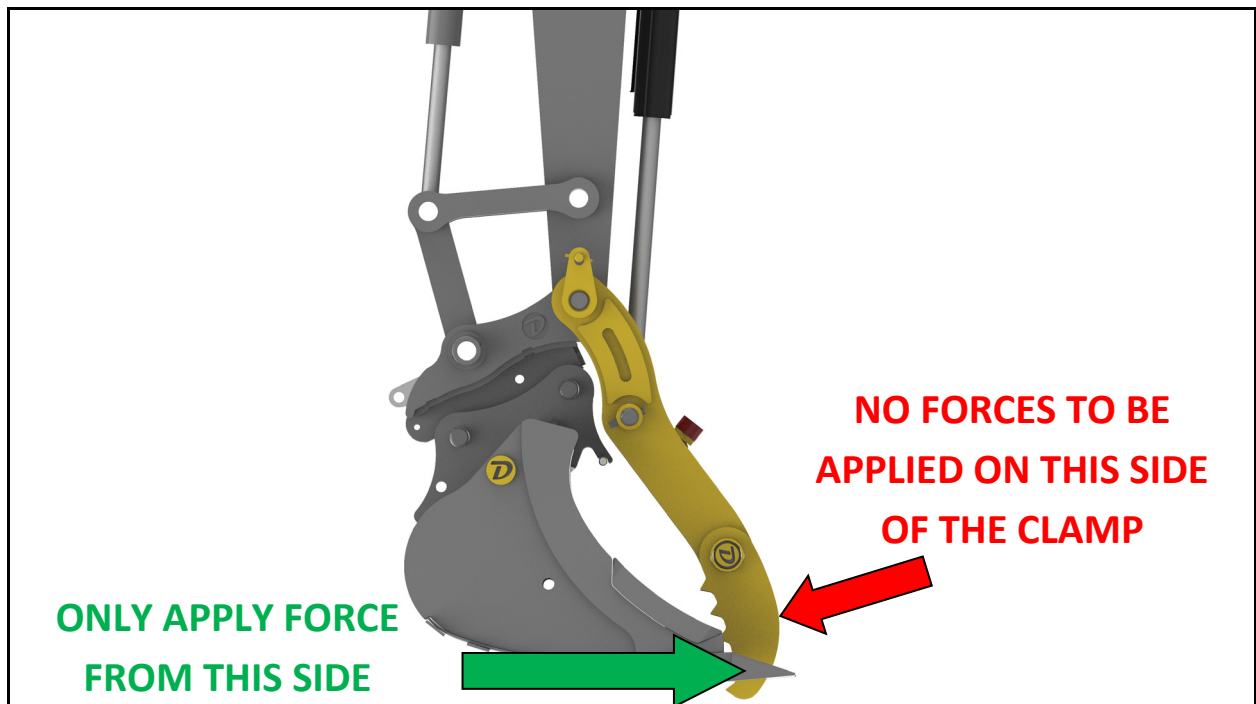


Figure 9 CLAMP FORCES

MAINTENANCE



Daily Prestart Check

1. Check all Clamp pin retainer bolts and nuts for tightness.
2. Check Clamp Pins for wear.
3. Grease all pivot pins. See Figure 10
4. Check all hydraulic hoses and fittings for any leaks or wear.
5. Clean away any material build up around the cylinder.
6. Clean away any material build up between the Bucket Clamp and the dipper arm.

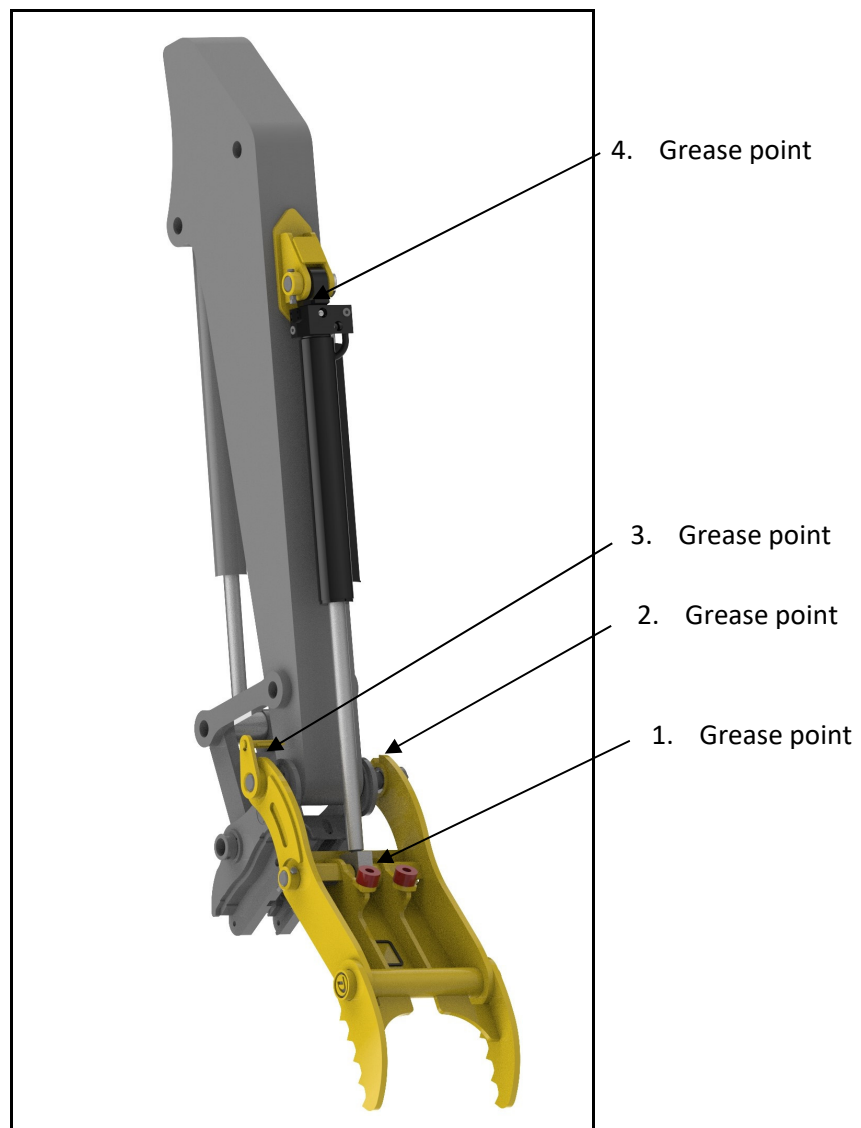


Figure 10 GREASING POINTS

MAINTENANCE



Weekly Check

1. Thoroughly clean Bucket Clamp.
2. Check Bucket Clamp for evidence of fatigue, cracking, weld failure, bending or stress. Do not operate with cracked or deformed hardware.
3. If installed, check condition of buffer pads for damage or missing portions. Do not operate if buffer is missing.



Annually or 2000 hrs Check (whichever occurs first)

1. Check all pivot pins and bushes for wear and replace as required.



WARNING Any damage to the Bucket Clamp should be reported immediately to either your site manager or directly to Doherty Engineered Attachments Limited



INSPECTION SAFETY NOTES

Report Necessary Repairs. If your daily check uncovers any item that needs attention, repair, replacement or adjustment; REPORT IT NOW! The most minor defects could result in more serious trouble. If the machine is operated, only perform the work you are authorised to do. Do not attempt repairs you do not understand.

Check for broken, defective or missing parts and replace them. Keep equipment clean and free of dirt and oil so you can spot loose or defective parts.

Any damage to the bucket should be reported immediately to either your site manager or directly to Doherty Engineered Attachments Ltd.



MAINTENANCE SAFETY NOTES

- Improper operation and maintenance of this equipment could result in serious injury or death. Read the operator's manual and this book thoroughly before operating and/or maintaining this equipment.
- Maintenance should only be performed by experienced and qualified personnel
- Always wear protective clothing when performing maintenance.
- Avoid oil spills. Use containers, rags, and/or absorbent towels to contain any oil leakage. Dispose of all waste oils, fluids, lubricants and other hazardous waste properly
- Do not operate the machine with a defective Bucket Clamp. Inspect the Bucket Clamp and all components before starting operation. Perform any necessary repairs before operating the Bucket Clamp.

MAINTENANCE

- Unauthorised modification to the Bucket Clamp or any of the Bucket Clamp components may impair function, affect performance and affect the life of the Bucket Clamp and the excavator. Unauthorised modification may impair personnel safety. Unauthorised modification will void your warranty.
- Under normal conditions, all machine hydraulic circuits are under extreme pressure. When inspecting for leaks, use a small piece of cardboard, wood or metal to locate leakages. Small (pinhole) leaks can be dangerous if contact with skin or eyes is made. Wear approved safety glasses and/or face shield, gloves, hard hat, safety shoes, and work clothes during all inspection and maintenance procedures.
- All coupler/attachment combinations should be checked for possible interference before using.
- Always relieve hydraulic pressure before removing hydraulic fittings.

TORQUE SETTINGS AND PORT SIZES

Recommended Bolt Torque

Thread Size	Cap Screw (Gr 12.9)	Bolt (Gr 8.8)
	Nm (ft-lb)	Nm (ft-lb)
M6	18 (13)	12.1 (8.9)
M8	43 (32)	29 (21)
M10	85 (63)	57 (42)
M12	146 (108)	98 (72)
M14	233 (172)	157 (116)
M16	355 (262)	240 (177)
M20	696 (513)	470 (347)
M24	1199 (884)	809 (597)
M27	1749 (1290)	1183 (872)
M30	2385 (1759)	1613 (1190)



Note: Use copper/graphite thread lubricant and Nordlock Washer

PARTS LIST & TERMINOLOGY

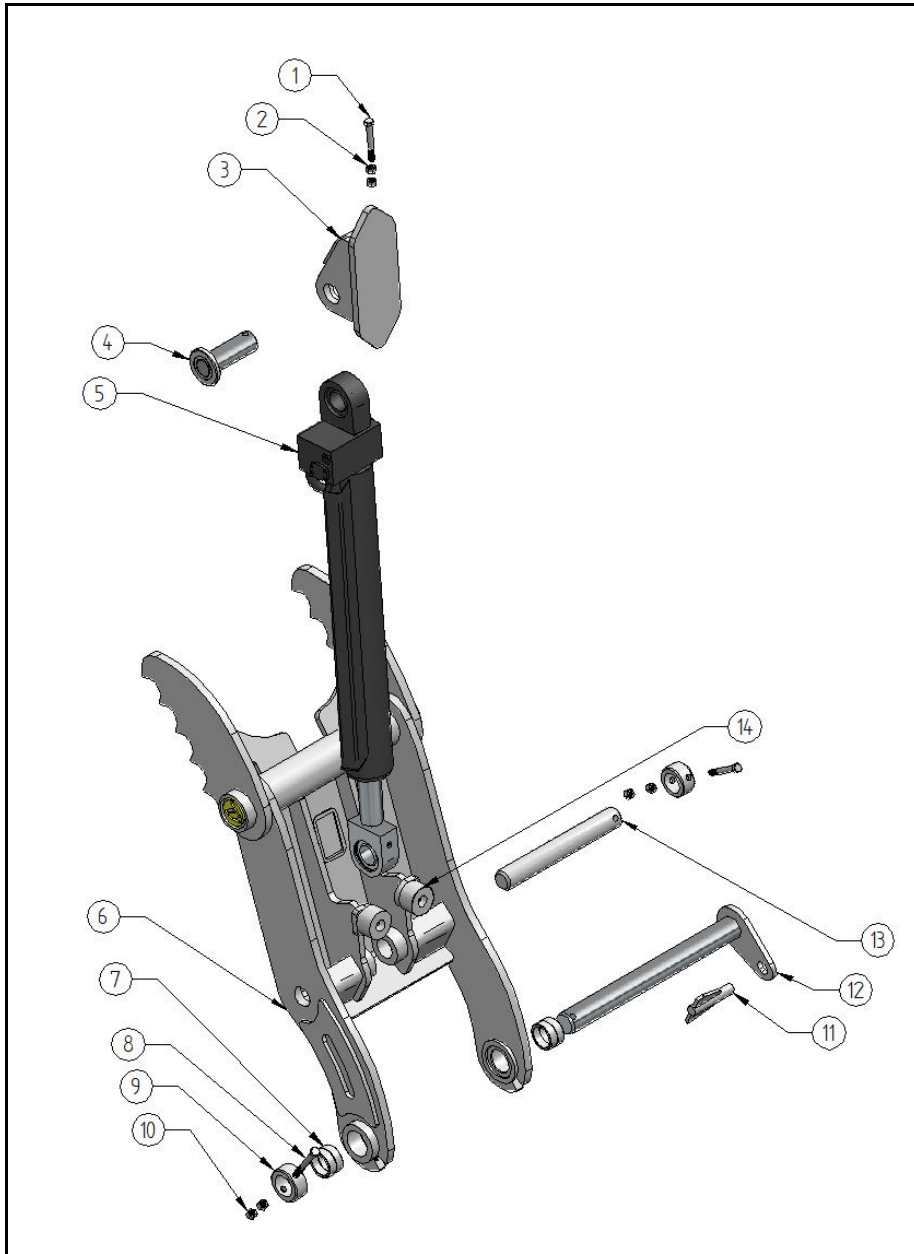


Figure 11 CLAMP PARTS

ITEM	PART NAME	QTY
1	BOLT CYLINDER	2
2	NUT CYLINDER	4
3	CYLINDER MOUNT	1
4	CYLINDER PIN	1
5	CYLINDER	1
6	FRAME	1
7	ACTI BUSH	2

ITEM	PART NAME	QTY
8	BOLT HITCH	1
9	ANCHOR BOSS	1
10	NUT HITCH	2
11	PEG	1
12	PIVOT PIN	1
13	CYLINDER ROD PIN	1
14	BUFFER	2



Always quote make and model of excavator and serial number of Bucket Clamp when ordering parts, this is a reference guide only.

PARTS LIST & TERMINOLOGY

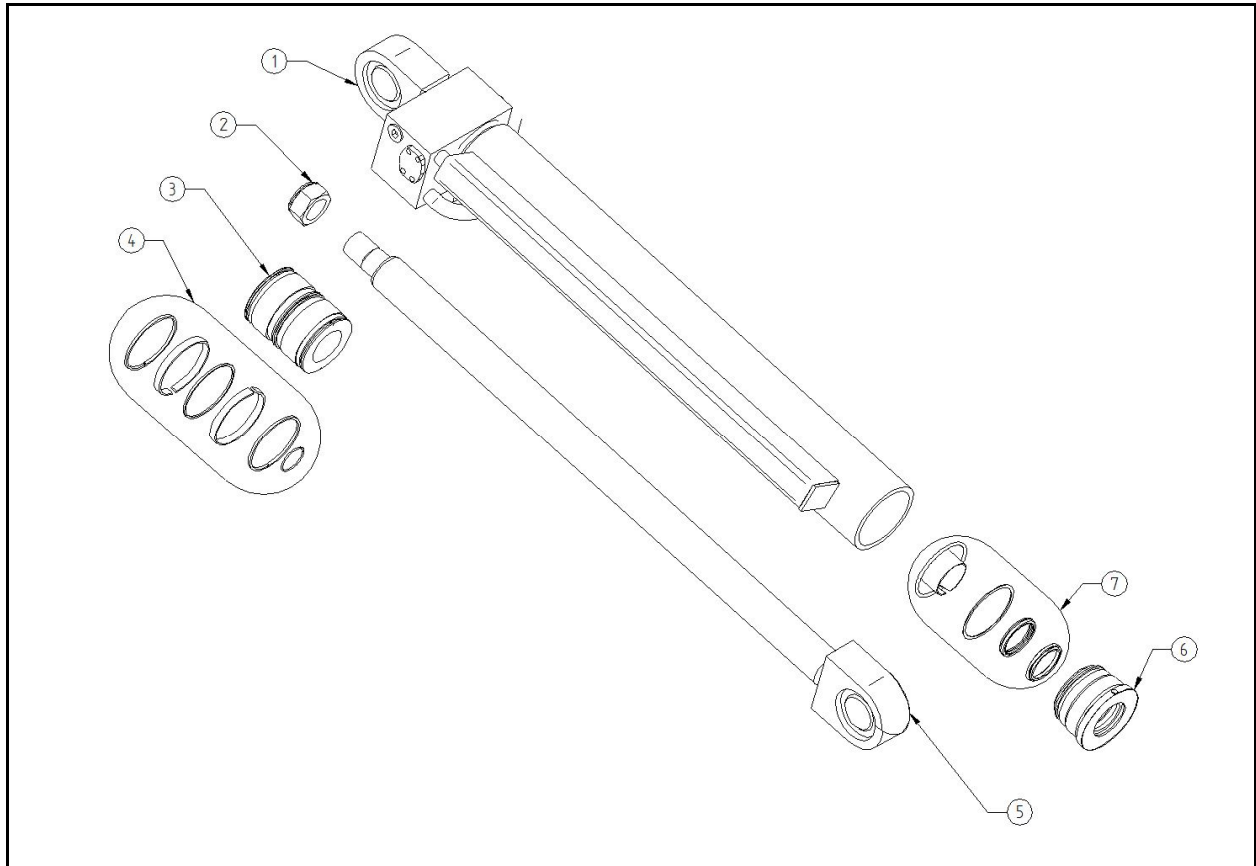


Figure 12 CYLINDER PARTS

ITEM	PART NAME	QTY
1	CYLINDER BODY	1
2	ROD NUT	1
3	PISTON	1
4	SEAL KIT 1	1
5	SPEAR	1
6	GLAND	1
7	SEAL KIT 2	1

WARRANTY POLICY

Standard Limited Warranty Policy

Warranty Period

Doherty Engineered Attachments Limited ("Doherty") standard warranty is for a **period of twenty four (24) months from date of sale or three thousand (3000) machine hours, whichever occurs first** from date of commissioning but not longer than thirty (30) months from the date of purchase.

Any repair or replacement shall not result in an extension of the original warranty period. Doherty's sole and exclusive liability for defects in materials and workmanship shall be limited to repair or replacement of the unit. Replacement will be like for like unless decided by Doherty's to replace with new product. Doherty's shall not be liable for incidental, contingent or consequential damages.

If examination by DOHERTY or its Contracting Partner results in a determination that the Product is defective in workmanship or material, subject to the warranty scope and limitations, the Product will be repaired or replaced (or credited) at no charge. If the Product upon such examination is found to not be defective in workmanship or material (for example, if the Product is not functioning properly due to abnormal use, improper service, or alteration, modification or parts usage), then such repair or replacement, if any, will be performed by DOHERTY or an Contracting Partner at normal servicing charges to the purchaser plus shipping costs.

Warranty Inclusions

This warranty covers defects in material and workmanship and is subject to receipt of supporting evidence and/or inspection by Doherty and confirmation that said attachment or part was installed and operated in accordance with Doherty's currently published instructions. Upon acceptance, Doherty shall repair or arrange for the repair and/or full or partial replacement of such attachment.

Any attachment or part repaired or replaced under the terms of this warranty policy shall retain the warranty period pertaining to the product's original date of purchase.

Transport

The cost and risk of transporting the allegedly defective Product to DOHERTY or its Contracting Partner will be borne by the purchaser, and the cost of transporting the corrected Product back to the purchaser will be borne by DOHERTY or the Contracting Partner. (If the allegedly defective Product that purchaser sends to DOHERTY or a Contracting Partner is not defective, the purchaser will also bear the cost of the transport of the product back to the purchaser.)

Warranty Exclusions

This policy does not cover machinery, parts or accessories that are warranted directly to the end user by third party manufacturers, for example hydraulic cylinders, hoses, valves, or any other portions of hydraulic kits used in Doherty products but not manufactured directly by it. Failure to follow Doherty's or the third-party manufacturer's recommendations for oil pressure and flow ratings on hydraulic components will invalidate all warranty claims relating to both the attachment and the hydraulic components of the attachment.

Doherty shall not be responsible for any problems associated with hose fittings, damage or malfunction after installation regardless of cause. If in doubt, contact Doherty for assistance and advice. The tightening of loose fittings or hoses is to be considered a maintenance issue, therefore any hydraulic leaks due to loose fittings is not covered under warranty.

WARRANTY POLICY

This policy does not apply to parts which have been repaired by the owner or a third party without prior formal written authorisation from Doherty.

This policy does not apply to parts which in Doherty's opinion, have been subjected to or adversely affected by operator misuse, accident, negligence, improper installation, maintenance, or storage.

Normal wear parts and parts requiring regular lubrication are not covered by this warranty.

This policy is restricted to the direct repair and/or replacement cost of the said part. It does not apply to any incidental or consequential costs such as travel, injury, accident downtime, consumables and any other indirect expenses.

Doherty accepts no responsibility whatsoever for the suitability or otherwise of the carrier machine or other equipment to which a Doherty attachment may be mounted upon or fitted to.

Doherty shall not be held liable for injury or damage caused to any persons, place or machine by reason of the installation, use or mechanical failure of any Doherty attachment.

Doherty shall be under no liability in respect of any defect in the goods arising from any drawing, design or specification supplied by the buyer.

In relation to the supply of buckets by the seller the above warranty shall only apply to cracking and bending of the buckets during correct and normal usage and shall not extend to the breakage of or failure of bucket teeth, cutting edges, bucket sides or base or to any other failure in performance due to a bucket being used in applications outside of its intended specified applications, including for example where a general purpose bucket or heavy duty bucket is used for rock and concrete excavations.

Doherty shall be under no liability under the above warranty (or any other warranty, condition or guarantee) if;

- A. The total price of the goods has not been paid by the due date for payment.
- B. The warranty or repaired part expires at the same time as the original warranty of the supplied equipment.
- C. Excessive diagnostic costs are involved in determining the validity of the warranty. This includes Labour, Travel and mileage.
- D. Deteriorated or failed components such as: Electrical wiring and connections, Hydraulic hoses, fittings, seals and cylinders where the cause has originated from chemicals, falling objects, dirt, salt and sand, rust, corrosion, moisture or extreme environmental temperatures and/or conditions.

Doherty Obligations

At its option, Doherty will repair or replace the said part. Any repair work may be carried out at Doherty's own premises, at the workshop of an authorized Service Agent/Dealer, on the site at which the part or attachment is being used, or at any other location that Doherty considers appropriate under the circumstances.

Under the terms of this warranty, Doherty's obligations are limited to the repair or full or partial replacement of the defective item(s) and do not include any costs, direct or indirect, associated with the removal or reinstallation of the attachment or part on the carry machine. This is the responsibility of the Customer.

Doherty warrants that any repair work carried out by it directly shall be conducted in a timely and professional manner. Where a third party is engaged to carry out repair work in connection with a Doherty warranty claim,

WARRANTY POLICY

Doherty's obligation and liability shall be limited to a refund of the authorized reimbursable costs charged in connection with the provision of such work.

Customer Obligations

The Customer is responsible for the correct and proper installation of the part or attachment as detailed in the Operation and Maintenance documentation supplied by Doherty, including hydraulic and electrical connections.

The Customer is responsible for the completion of the formal Pre-delivery check and the Warranty Registration forms (which form part of the above documentation) and their return to Doherty within seven days of initial commissioning.

The Customer is responsible for ensuring that the part or attachment, including any hydraulic components and fittings, is operated and maintained using best industry practice and in accordance with the Operation and Maintenance documentation supplied by Doherty. (a copy of which is available on request.)

The Customer is also responsible for notifying Doherty as soon as it identifies a defect or problem that may potentially be subject to a claim under this policy and for following Doherty's published Warranty Claim Procedure.

Schedule of Rates

Unless a separate schedule of warranty rates is agreed prior, the rates below will be applicable to claims where the warranty procedure has been adhered to completely:

Parts	Free issue
Labour	\$75.00 per hour flat rate. Penal rates will not be covered
Travel	\$1.00/ km. To a maximum of 300 km AND a maximum travel time of four (4) hours per warranty claim
Freight	Use of Doherty freight account by negotiation

WARRANTY PROCEDURE

Warranty Claim Procedures

To ensure your warranty claim is processed in the fastest possible manner, please ensure the following procedures are followed:

1. Upon identification of problem/failure immediately report/notify Doherty before any work is completed on the attachment or component.
2. Complete the Doherty product issue assessment form and provide all information requested and email to Doherty before any work is carried out. If the product issue assessment form cannot be completed, Doherty is to be provided with the end-user details to obtain the required information.
3. Upon receipt of the product issue assessment form Doherty will assess the claim, in some cases Doherty may require the parts to complete assessment. Doherty will then provide in writing what action is to be taken and issue a warranty claim number if deemed warranty.
4. Any repair work may be carried out at Doherty's own premises, at the workshop of an authorized Service Agent/Dealer, on the site at which the part or attachment is being used, or at any other location that Doherty considers appropriate under the circumstances.
5. An estimate of costs must be provided in writing before any repair work commences by a third party who is not an authorised service agent/dealer and an order number MUST be provided by Doherty before any work commences.
6. If Product issue form has not been provided, Doherty will require a Purchase Order for any parts before dispatch. Once all information is received and warranty approved Doherty will invoice out at \$0.00
7. Where Doherty has opted to replace a product in part or in full, the defective components to be replaced will be dispatched as quickly as possible. Please ensure part numbers are quoted from parts manual if applicable.
8. It is the responsibility of the Customer to arrange for the delivery of the failed components.

All warranty claims are subject to Doherty's standard warranty policy.

Any repair work carried out by a third party prior to a warranty claim number and or purchase order number been issued by Doherty will invalidate the claim. All Invoices for repair work completed by a third party must include warranty claim & purchase order number, component serial number, description of work completed, and date work completed.

Contacts:

New Zealand: Phone +64 7 574 3000, email nzsupport@dohertydirect.net and cc your local Doherty contact.

Australia: Phone 1800 057 021, email support@dohertydirect.net and cc your local Doherty contact.

WARRANTY CLAIM FORM

Date	PIR # (Internal use)

Contact Information

Company	Contact	Phone
	Email	Mobile

Site address & delivery details

Provide full details

Product details

Serial number	Model	Description	Purchase date & PO #
Excavator Make	Excavator Model	Hour Metre reading	Failure Date

Reported Issue

Description of problem, please provide all details, photo's, video and any other information to support claim, add additional pages if required.	
Action Required	Date Required

WARRANTY CLAIM FORM

Estimated repair costs

Only required if work is getting carried out by a third party which is not an authorised service agent/dealer. Please ensure estimated hours and rate is shown.

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Important Notes: Please ensure photos are of complete item, if a component please supply photo of both component and complete product, if zoomed in for a shot, please ensure overall shot is also supplied. In regard to a Quick hitch coupler failure, please also supply photos of the implements it is used with. Photo required of metre reading and serial plate of product.

Doherty Internal use only

Problem Code:	Warranty Approved
Warranty Confirmation Number <i>(ERP produced)</i>	