

BTT & BTS Tilt Bucket Installation and Operation manual

SERIAL NUMBER: _____



Release 1, August 2018
Reference SA465055

IMPORTANT:

The booklet should be kept with the machine at all times during and after tilt bucket installation. Machine operators must read and fully understand the operations manual before use.

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

INTRODUCTION

Thank you for choosing to purchase the Ultra Compact Tilt Bucket for Excavators from Doherty Engineered.

The Doherty Engineered tilt bucket is designed to attach as per the dimensions noted on the ID Tag

The Doherty Engineered Ultra Compact Tilt Bucket is designed to tilt 45 degrees in each direction and is designed for light to moderate work such as land clearing, grading, slope work, backfilling and bulk handling. The short tip radius and compact design gives a stronger unit with less machine loading.

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

Immediately upon receipt of your Doherty Engineered Tilt Bucket, 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: | |
| Tilt Bucket Serial # | |
| End user name: | |
| End user phone number: | |
| End user email address: | |

| | |
|---|-----|
| Tilt pressure checked at: | PSI |
| Hose routings checked and abrasion free throughout full crowd movement: | |
| Mounting dimensions checked to ensure they comply with coupler if fitted: | |
| All hydraulic connections, clean, tight and leak free: | |
| Please specify type and brand of crossline relief valve fitted | |

This form must be returned to Doherty Engineered 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 operations manual in the machine cabin? | | | | |
| Has the operator been correctly trained for use with this particular coupler and verified? | | | | |
| Is the operator aware they should not operate this machine unless they are satisfied that the coupler is in a safe condition? | | | | |
| Are all personnel aware that they must not remain near attachments during attachment changes? | | | | |
| Falling objects | | | | |
| Are all personnel aware that they must not position themselves under attachments or suspended loads? | | | | |
| Lifting equipment | | | | |
| Is the SWL rating of the equipment clearly displayed? | | | | |
| Does all lifting equipment carry a current SWL certification? | | | | |
| Warning devices and Decals | | | | |
| Are all safety and operations decals clearly displayed? | | | | |
| | | | | |
| Equipment malfunction | | | | |
| Is there a checklist of daily, weekly, monthly 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 |

RISK ASSESSMENT

Daily pre start check list

| | |
|-----------------|-------|
| Operators Name: | Date: |
|-----------------|-------|

| Tilt Bucket serial number: | S | M | T | W | T | F | S |
|--|---|---|---|---|---|---|---|
| Check all attachment pin retainer bolts and nuts for tightness. | | | | | | | |
| Check attachments for pin wear | | | | | | | |
| Check all hydraulic hoses and fittings for any leaks or wear | | | | | | | |
| Clean away any material build up around and beneath the cylinder(s). | | | | | | | |

Weekly pre start check list

| | |
|--|--------------|
| Thoroughly clean tilt bucket | Week ending: |
| Check tilt bucket for evidence of fatigue, weld failure or stress. Do not operate with a cracked weldment. | |
| Repeat daily checks above. | |

| | |
|--|---------------------------------------|
| Operators Name & Signature: | Managers Name & Signature: |
| | |

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 Engineered Attachments Limited 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 manual must be **READ** and **UNDERSTOOD** before any installation and operation work begins. A copy must be kept in the operator's cabin for ongoing use.
2. Operators should note that the use of a tilt bucket may affect the machine's breakout force and balance and may result in attachments being able to come into contact with the boom set and or operators cabin.
3. Operators should note that the weight of the tilt bucket is stamped on the ID Plate and this must be taken into account when calculating the machine's lifting capacity.
4. All Doherty tilt buckets must be connected and installed in full compliance with this manual. Any variations may cause the tilt bucket to operate in an unsafe manner and/or void the warranty. Doherty is available to advise on particular issues as required.
5. Never use the tilt bucket as a 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 tilt bucket. Inspect the tilt bucket and all tilt bucket components before starting operation. Perform any necessary repairs before operating the tilt bucket.
- Make sure the tilt bucket is resting on the ground and properly supported before performing any work on the tilt bucket.
- Unauthorised modification to the tilt bucket or any of the tilt bucket components may impair function, affect performance and affect the life of the tilt bucket 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.

IMPORTANT SAFETY INFORMATION

- Your tilt bucket should be checked for possible interference before use. Ensure that your tilt bucket tilts 45 degrees in each direction and maximum and minimum crowd is achieved without interference.
- All excavator operators should familiarise themselves with the tilt bucket before attempting to operate the excavator. This should include, but not limited to, practicing tilting the bucket in both directions. Furthermore if this tilt bucket 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 SWING AN ATTACHMENT OVER WORKERS HEAD WHEN CONNECTED VIA A QUICK COUPLER.
- Never use the tilt bucket as a prying tool
- Inspect the tilt bucket every day. Make any necessary repairs before operating.
- Do not use tilt bucket 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 property.



CAUTION Never allow a hydraulic line or component to become contaminated. This could cause severe 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!!!



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

IMPORTANT SAFETY INFORMATION



CAUTION DO NOT CONNECT THE DOHERTY ENGINEERED ULTRA COMPACT TILT BUCKET TO HYDRAULIC PRESSURE HIGHER THAN 3000psi.

The safest machine must still be operated with care and with knowledge of its performance capabilities. The most comprehensive safety program must still be followed. 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 manufacturers operation manuals covering your equipment. Read all warning and caution instructions.



IMPORTANT CAUTION – WELDING

Do not weld directly to the Tilt Bucket without Doherty Engineered approval.

Do not weld any attachment while it is connected to the coupler.



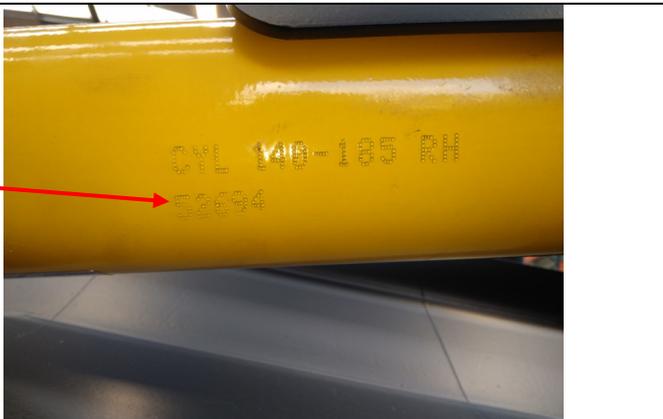
CAUTION

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

PRODUCT IDENTIFICATION AND DECALS

Operator maintenance is restricted to daily greasing of all grease nipples and cleaning of the tilt bucket to ensure no excessive build up of material on or underneath the cylinders and guards occur.

All Tilt buckets are supplied with an ID plate attached as shown below. In addition, a serial # is stamped into the top edge of the Left Hand mounting plate. (Note, location of id badge on some models may differ).

| | | | | | | | | | | | | | | | |
|--|---|----------------|------------------|---------------|-----------------------|-------------|----------|-----------------|--|----------|---------|----------------|--|--|--|
|  | <div style="text-align: right;">  <p>Manufactured By Doherty Engineered Attachments Ltd Made in New Zealand</p> </div> <table border="1" style="width: 100%;"> <tr> <td>Host Machine</td> <td>Manufacture Date</td> </tr> <tr> <td>Serial Number</td> <td>Capacity SAE (CuM)</td> </tr> <tr> <td>Weight (KG)</td> <td>WP (BAR)</td> </tr> <tr> <td colspan="2">Attachment Type</td> </tr> <tr> <td>Pin Ctrs</td> <td>Pin Dia</td> <td>Internal Width</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table> <p style="font-size: small; text-align: center;"> NZ Ph +64 7 574 3000 Aus Ph 1800 057 021 E sales @dohertydirect.net W www.dohertydirect.net </p> | Host Machine | Manufacture Date | Serial Number | Capacity SAE (CuM) | Weight (KG) | WP (BAR) | Attachment Type | | Pin Ctrs | Pin Dia | Internal Width | | | |
| Host Machine | Manufacture Date | | | | | | | | | | | | | | |
| Serial Number | Capacity SAE (CuM) | | | | | | | | | | | | | | |
| Weight (KG) | WP (BAR) | | | | | | | | | | | | | | |
| Attachment Type | | | | | | | | | | | | | | | |
| Pin Ctrs | Pin Dia | Internal Width | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | |

PRODUCT IDENTIFICATION AND DECALS

It is recommended that a copy of these details be kept in the office for future reference.

| | | | |
|---|-----------------------|--|-----------------------|
|  DOHERTY <small>COUPLERS AND ATTACHMENTS</small> | | Manufactured By Doherty Engineered Attachments Ltd Made in New Zealand | |
| Host Machine | Manufacture Date | | www.dohertydirect.net |
| 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 | | | |

Always quote these details when contacting Doherty Engineered Attachments for Service or Parts.

In addition your Doherty Engineered Attachments may be fitted with a number of SAFETY and MAINTENANCE DECALS. These decals must be kept clean, in good condition and be visible from a distance of 3 meters. Replacements for damaged decals may be obtained from the DEA parts department.

INSTALLATION



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

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 100mm.
3. When the bucket crowd ram is at full stroke and bucket fully tilted, the hoses from the tilt bucket to the hoses on the dipper arm should be long enough so that the hoses are not under any tension due to the crowd ram action.



IMPORTANT

Fitting of Hydraulic Hoses:

The Doherty Engineered Tilt Bucket is supplied with the two double acting cylinders pre-plumbed.

The left and right hand cylinders will have one only spare 3/8 BSP port, the main control hoses are to be connected to these two ports.

The recommended operation pressure of the Doherty Engineered Tilt Bucket is 140 – 176 Bar (2000 – 2500 PSI).

The tilt bucket **MUST** be fitted with a cross line relief valve.

All control lines **MUST** be flow regulated to obtain the desired tilt speed.

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 will 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 distributor.

INSTALLATION

- 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.

FITTING THE Tilt Bucket

1. **CLEAN** all bores and pin surfaces, pre-lubricate pins with grease and set aside on a clean surface.
2. Ensure the pin retaining bolts are fitted and tightened. Use Nyloc, lock nuts or supplied bolts for Doherty supplied pins.
3. Grease up all pivot points as required.

CONNECTING THE TILT BUCKET CIRCUIT

A. HYDRAULICS

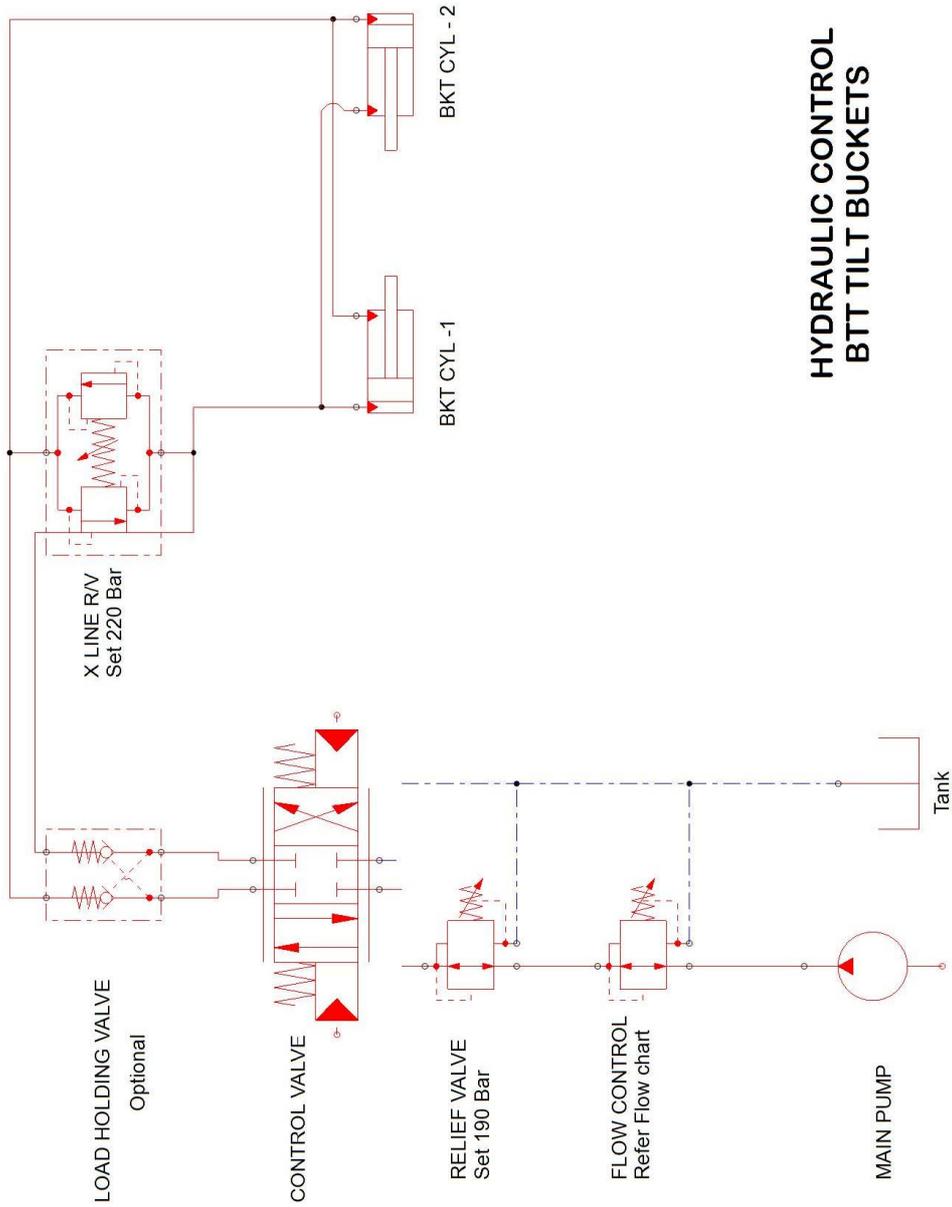
The Doherty Tilt Bucket is designed to operate between 180 and 250 bar (2600-3600 psi)



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

INSTALLATION

HYDRAULIC SCHEMATIC



HYDRAULIC CONTROL BTT TILT BUCKETS

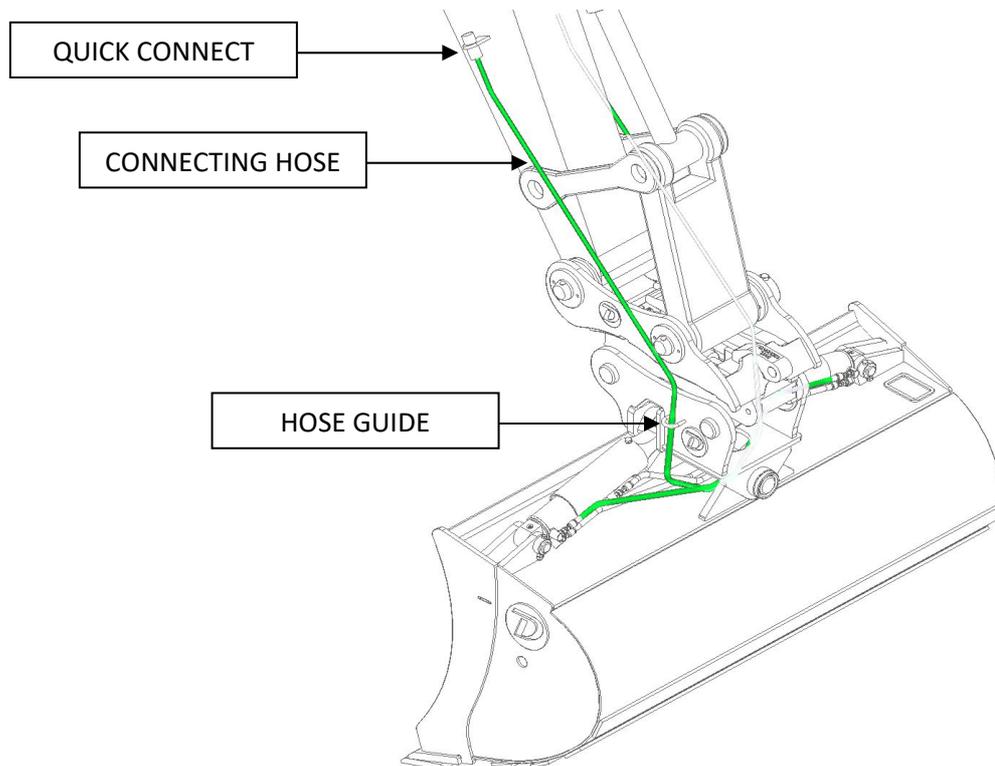
INSTALLATION

HYDRAULIC FLOW

| Weight class | Suggested oil flow (L/min) | Operating pressure (PSI) | Relief pressure setting (PSI) | Hose / Tube size min | Port size & type | Full rotation time (sec) |
|--------------|----------------------------|--------------------------|-------------------------------|----------------------|------------------|--------------------------|
| 035 | 3.5 | 3200 | 2700 | 1/4" | 1/4" BSP | 6 |
| 055 | 5.8 | 3200 | 2700 | 1/4" | 1/4" BSP | 6 |
| 080 | 9.5 | 3200 | 2700 | 1/4" | 1/4" BSP | 6 |
| 140 | 14.8 | 3200 | 2700 | 1/4" | 1/4" BSP | 6 |
| 240 | 23.9 | 3200 | 2700 | 1/4" | 1/4" BSP | 6 |
| 350 | 33.3 | 3200 | 2700 | 1/4" | 1/4" BSP | 6 |

HOSE ROUTING.

Recommended hose routing shown below:



To establish the correct hose lengths, crowd the tilt bucket to each extreme and fully tilt each way to establish maximum hose length required. Take care when crowding back and tilting the opposite direction to ensure excess hose rolls up and does not foul on anything. The use of kevlar sleeves or "spaghetti" armoring is strongly recommended.

INSTALLATION



FINAL CHECK

| | | |
|---|---|--|
| 1 | Verify all fittings and fasteners are tight and secure. | |
| 2 | Check the entire system for leaks. | |
| 3 | Move the tilt bucket through its entire motion slowly checking for: 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 form and return to Doherty Engineered Attachments to activate warranty. | |
| 6 | Ensure the this manual (or a copy) is kept in the operator's cab Additional copies of this manual are available in hard copy or electronic form from Doherty Engineered Attachments. | |
| 7 | Check the tilt bucket mounting dimensions are suitable for use with your Host Machine and or fitted Quick Coupler. | |

MAINTENANCE



Daily Prestart Check

1. Check all pin retainer bolts and nuts for tightness on bucket.
2. Grease all pivot pins.
3. Clean away any material build up around tilt bucket tilt cylinders and hydraulic fittings.



Weekly

1. Check all hydraulic hoses and fittings for any leaks or wear.
2. Check bucket for evidence of fatigue, weld failure, cracks or stress. Do not operate with a cracked bucket.



Annually or 2000 hrs (whichever occurs first)

1. Check all pivot pins and bushes for wear and replace as required.
2. Repeat daily and weekly checks above.



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



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



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 tilt bucket. Inspect the tilt bucket and all components before starting operation. Perform any necessary repairs before operating the tilt bucket.

Unauthorised modification to the tilt bucket or any of the tilt bucket components may impair function, affect performance and affect the life of the tilt bucket 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

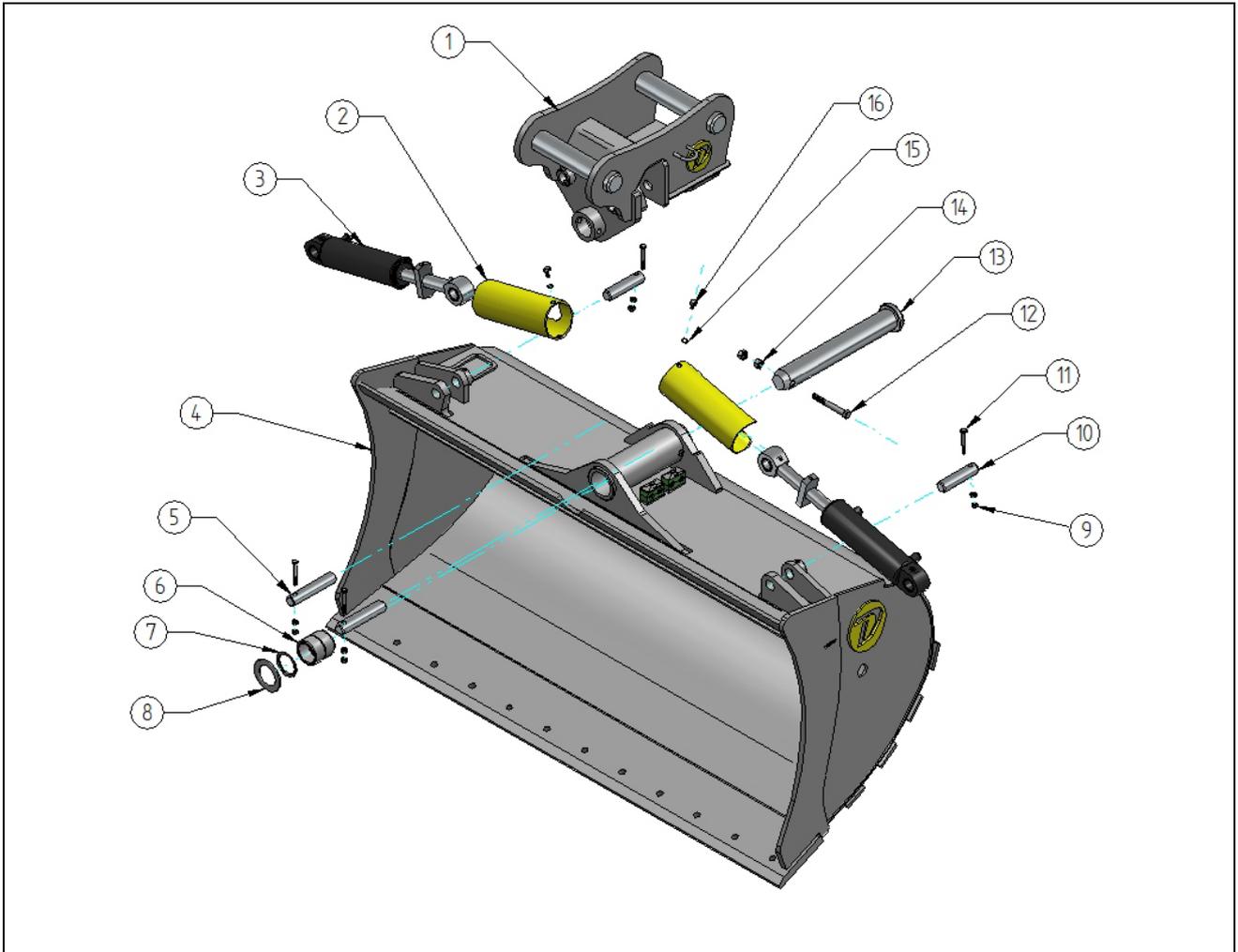
Recommended Bolt Torque

| 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: Using copper/graphite thread lubricant and Nordlock Washer

PARTS LIST & TERMINOLOGY



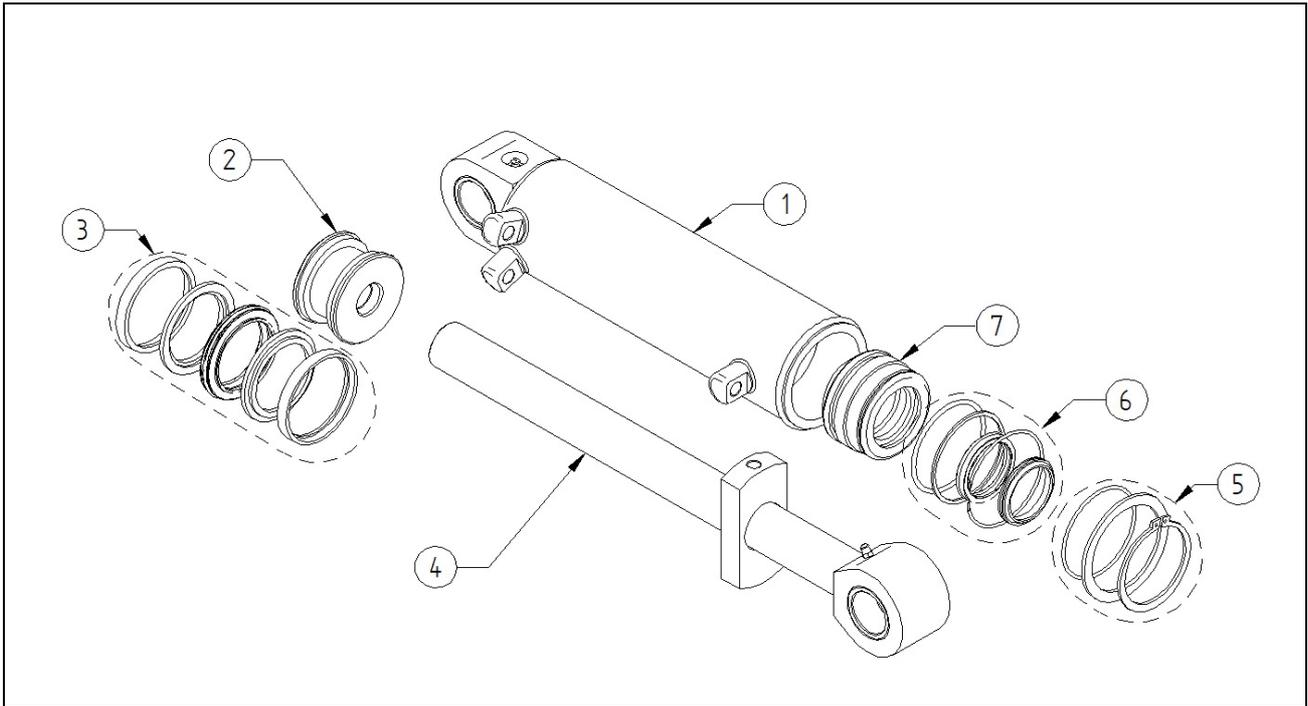
| ITEM | PART NAME | QTY |
|------|----------------|-----|
| 1 | TOP MOUNT | 1 |
| 2 | CYLINDER GUARD | 2 |
| 3 | CYLINDER | 2 |
| 4 | BASE BUCKET | 1 |
| 5 | ROD PIN | 2 |
| 6 | ACTIBUSH | 2 |
| 7 | GREASE SEAL | 2 |
| 8 | THRUST WASHER | 2 |

| ITEM | PART NAME | QTY |
|------|-----------------|-----|
| 9 | CYLINDER NUT | 8 |
| 10 | CYLINDER PIN | 2 |
| 11 | CYLINDER BOLT | 4 |
| 12 | PIVOT BOLT | 1 |
| 13 | PIVOT PIN | 1 |
| 14 | PIVOT NUT | 2 |
| 15 | GUARD NORDLOCK® | 4 |
| 16 | GUARD BOLT | 4 |



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

PARTS LIST & TERMINOLOGY



| ITEM | PART NAME | NOTES | QTY |
|------|-----------------|-------|-----|
| 1 | CYLINDER BODY | | 1 |
| 2 | PISTON | | 1 |
| 3 | SEAL KIT 1 | | 1 |
| 4 | SPEAR | | 1 |
| 5 | KEEPER RING KIT | | 1 |
| 6 | SEAL KIT 2 | | 1 |
| 7 | GLAND | | 1 |

WARRANTY POLICY

Warranty Period

Doherty Engineered Attachments Limited ("Doherty") standard warranty is for a **period of twelve (12) months from date of sale or one thousand (1000) machine hours, whichever occurs first**. The Rotary actuator used on Doherty BTA range of tilt buckets and Snaplock+ Tilt couplers is warranted for 2 years or 3000 hours (whichever occurs first).

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.

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.

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.

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 transport, 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.

WARRANTY POLICY

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, 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.

WARRANTY POLICY

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 |
| 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 support@dohertydirect.net 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 and 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. Where Doherty has opted to replace in part or 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.
7. 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

Australia: Phone 1800 057 021

All emails to be sent to support@dohertydirect.net and cc'ed to your point of contact.

ASSESSMENT 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 |
| | |

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. |
| |

Important Notes: Please ensure Photo's 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 regards to a Quick hitch coupler failure, please also supply photo's of the implements it is used with. Photo required of metre reading and serial plate of product.

ASSESSMENT FORM

Internal use only

| | |
|-------------------------------|-------------------|
| Problem Code: | Warranty Approved |
| Reason for Warranty decision: | |
| Comments: | |

