

# TRENCHER OPERATORS MANUAL



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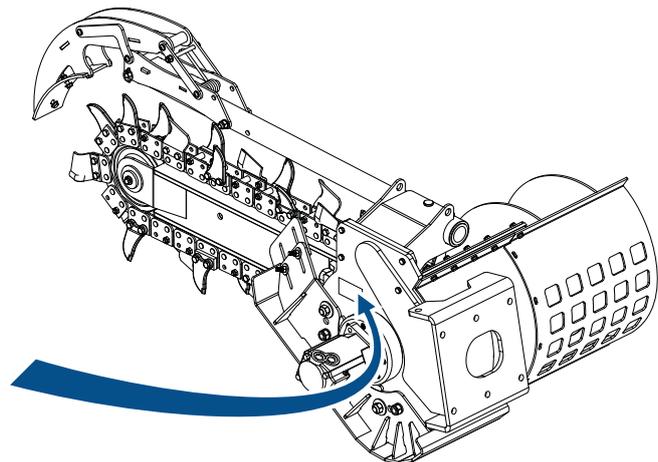
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## FOREWORD

### Enquiries

Please state the model type and serial number when making enquiries or orders and all written correspondence. The serial number is recorded on a plate located on the side of the trencher.

99-5206			2314 East Bakerview Road - Suite 102, Bellingham, WA 98226
Model:	Serial No:	Weight:	
<input type="text"/>	<input type="text"/>	<input type="text"/>	Lbs
Flow Range:	From <input type="text"/>	To <input type="text"/>	U.S. GPM
Pressure Range:	From <input type="text"/>	To <input type="text"/>	PSI
Max. Back Pressure:	<input type="text"/> PSI	Date of Manufacture	<input type="text"/>



### Operating Limits

This equipment must be operated within the parameters stated on the serial plate. Failure to do so may cause damage to the equipment and invalidate the warranty. If in doubt, contact your nearest Eterra dealer.

## REGISTRATION

Complete this form and keep it with the manual



Eterra.  
2316 East Bakerview Rd.  
Bellingham,  
Washington 98226,  
USA  
Tel: 360-203-7730  
sales@eterraattachments.com

MODEL NUMBER:

SERIAL NUMBER:

DATE OF MANUFACTURE:

SUPPLIER / DEALER:

DATE SOLD TO SUPPLIER / DEALER:

DATE SOLD TO ORIGINAL END USER:

OWNER OR OPERATOR:

PARENT MACHINE MAKE & MODEL:

Note; Always quote the serial number in any communication with your supplier / dealer

## REGISTRATION

For warranty purposes this form **MUST** be completed and returned to Eterra within 14 days of purchase by the end user.



Eterra.  
2316 East Bakerview Rd.  
Bellingham,  
Washington 98226,  
USA  
Tel: 360-203-7730  
sales@eterraattachments.com

MODEL NUMBER:

SERIAL NUMBER:

DATE OF MANUFACTURE:

SUPPLIER / DEALER:

DATE SOLD TO SUPPLIER / DEALER:

DATE SOLD TO ORIGINAL END USER:

OWNER OR OPERATOR:

PARENT MACHINE MAKE & MODEL:

Note; Always quote the serial number in any communication with your supplier / dealer

**For warranty purposes the form on the reverse of this page should be completed and returned to the appropriate address.**

**Eterra.  
2316 East Bakerview Rd.  
Bellingham,  
Washington 98226,  
USA**

## INTRODUCTION

Eterra thank you for purchasing your new product. This operating manual has been prepared to enable you to operate the equipment in a safe manner.

Eterra Trenchers have been designed for use with specific parent machines along with the Eterra range of mounting frames. Provided these are used and maintained correctly, they will provide a safe and reliable method of trenching in the earth.

***For information on lubrication and maintenance intervals, see page 24***

***Before operating the drive unit, please note:***

Your drive unit comes complete, filled with the correct amount of oil. There is no need to check the oil level.

Hydraulic hoses must be fitted and tightened to the correct torque (see page 15).

The unit must be run in following the recommended procedure (see page 16).

### **NOTE:**

This operating manual should be used in conjunction with the parent machine's operating instructions.

Instruction books should be regarded as part of the machine. They should always be kept safe with the machine for easy and quick reference.

New or extra copies can be obtained from your Eterra dealer or direct from Eterra.

Eterra continually strives to improve and increase its range of products and therefore reserves the right to alter its specifications at any time without notice or obligation. The company accepts no responsibility for discrepancies, which occur between specifications of its machines and descriptions thereof contained in its publications.

## SAFETY NOTES

### Protect Yourself

Make sure you wear protective clothing and personal safety items.

### You May Need

- A Hard Hat
- Safety Goggles
- Hearing Protection
- Foul Weather Clothing
- Reflective Clothing
- Protective Gloves
- Safety Boots

**DO NOT** wear items of loose clothing, jewellery or other items and tie up any long hair which could entangle in the controls or other parts of the machine.

### Know Your Equipment

Get to know all you how to operate all controls on the machine and the attachments

IF THERE IS SOMETHING IN THE MANUAL WHICH YOU DO NOT UNDERSTAND, CONTACT THE MACHINE AGENT OR MANUFACTURER AND ASK THEM TO EXPLAIN IT TO YOU.

### Danger, Warning And Caution

This symbol below has 3 important meanings when used with the following captions.



**DANGER:** An IMMEDIATELY HAZARDOUS situation that WILL result in DEATH or VERY SERIOUS INJURY



**WARNING:** A POTENTIALLY HAZARDOUS situation that COULD result in DEATH or VERY SERIOUS INJURY



**CAUTION:** A POTENTIALLY HAZARDOUS situation that MAY result in MINOR INJURY

## Protective And Safety Devices

Keep all protective devices in place and securely fastened. Make sure all guards, shields and safety signs are properly installed and are in good condition.

## Check The Equipment

Before you operate the equipment, take time to check your machine and ensure that all systems are in good operational order.

- Never operate the equipment with worn, damaged or missing parts. Use only genuine replacement parts.
- Always ensure that the parent machine is secure and stable with its engine switched off and hydraulic pipes disconnected before carrying out any maintenance work.
- Check for loose, broken, missing or damaged parts. Have everything put into good repair and make sure all safety devices are in place.
- Perform all maintenance procedures outlined for the equipment.
- Always protect hands. Select appropriate gloves when handling the equipment during fitting, removing or adjusting
- Always protect feet with safety boots.



**WARNING:** Hydraulic fluid under pressure can penetrate the skin or eyes and cause serious PERSONAL INJURY, BLINDNESS OR DEATH.  
Fluid leaks under pressure may not be visible. Use a piece of wood or thick cardboard to find leaks. DO NOT USE YOUR BARE HANDS.  
Wear safety goggles for eye protection.  
If any fluid is injected into the skin, it MUST be surgically removed.  
SEE A DOCTOR IMMEDIATELY

Make sure all hydraulic lines are correctly installed

Before applying pressure to the hydraulic system be sure all connections are tight and that lines, pipes and hoses are not damaged. Before disconnecting hydraulic lines, be sure to relieve all pressure.

## Hazard Classification (Only applicable to ANSI Safety Labels)



**DANGER:** IMMEDIATE HAZARD! - Failure to understand or obey this information is likely to result in personal injury or death.



**WARNING:** Failure to follow these instructions may result in personal injury or death.



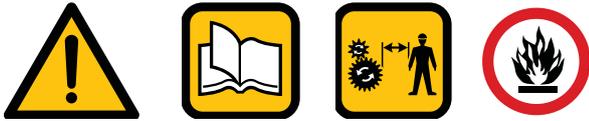
**CAUTION:** Failure to follow these instructions may result in minor personal injury or damage to the machine or the vehicle.



**NOTICE:** This is important information for the proper use of this equipment. Failure to comply may lead to premature equipment failure.

**CLEAN OR REPLACE THE SAFETY LABELS IF THEY CANNOT BE CLEARLY READ OR UNDERSTOOD**

## Safety Precautions



**NEVER** operate or assemble the equipment without **fully** understanding the operating instructions of both the equipment unit and the parent machine.

**Eterra recommend you receive dealer instruction** before operating the unit.

**NEVER** operate the equipment unless you are in good physical condition and mental health.

**NEVER** operate the equipment under the influence of any substance (including drugs & alcohol) which might impair vision.

**NEVER** operate the equipment with worn, damaged or missing parts. Use only genuine replacement parts.

**NEVER** proceed with works before completing a site risks assessment immediately before commencing work. Nominating the safe work exclusion zone radius for persons and animals as part of identifying risks and implementing controls.

**NEVER** allow minors to operate the equipment.



**ALWAYS** survey the work area before commencing operations. Check for potential hazards,  
eg. Electricity or communication cables etc.

**ALWAYS** ensure that the parent machine is secure and stable with it's engine switched off before carrying out any maintenance work.

**ALWAYS** ensure the hydraulic oil supply to the attachment is disconnected by uncoupling the hydraulic hose connectors before fitting, removing or adjusting the equipment

**ALWAYS** wear head protection and eye protection when working on the unit.

**ALWAYS** protect hands. Select appropriate when handling the equipment during fitting, removing or adjusting the unit.

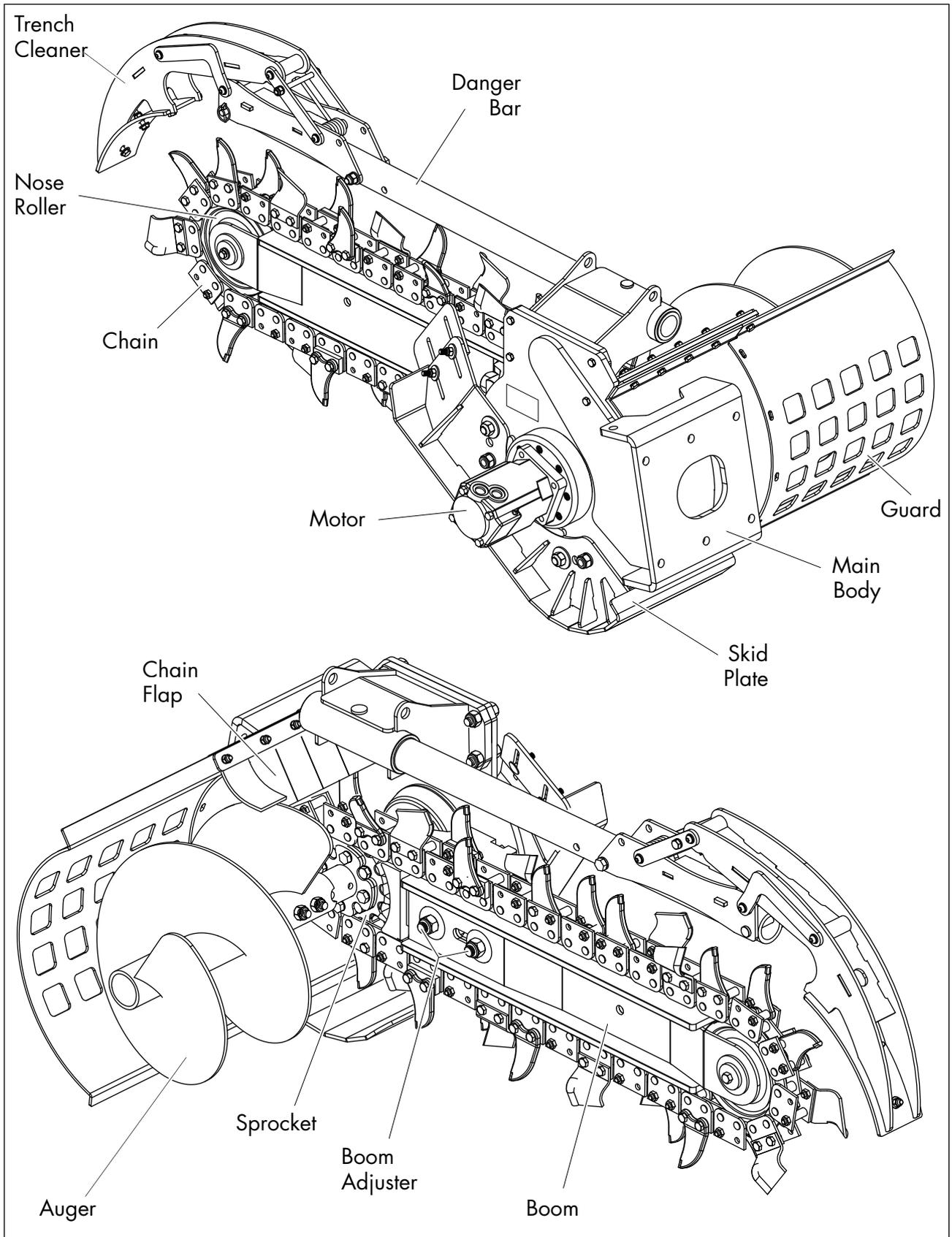
**ALWAYS** protect feet. Wear approved safety boots.

**ALWAYS** follow the parent machine instructions regarding noise protection.

**STAY ALERT.** Should something break, come loose or fail to operate on your equipment, STOP WORK, lower equipment to the ground, shut off the engine and lock out hydraulic supply, inspect the machine and have repairs or adjustments made before resuming operation.

# IDENTIFICATION

## Typical Setup



# FITTING THE TRENCHER UNIT

## Excavators - Double Pin Hitch

### SAFETY FIRST



**Always** work in pairs (2 skilled operatives) whenever Trencher Unit components are being assembled or disassembled from the parent machine. Always check the weight of the attachment and ensure you have the correct equipment for handling it.



**ALWAYS** check parent machine:

- Is in correct working order
- Is parked correctly on flat ground
- Has its hand brake **ON**, its hydraulic circuit locked out and its engine switched **OFF**.

Check that the mounting frame is of the correct model and type to fit the parent machine. Ensure mounting frame and attachment points are clean before fitting. Use suitably rated lifting equipment if required (see data plate for weight).



**FITTING** Ensure all components are greased on assembly:

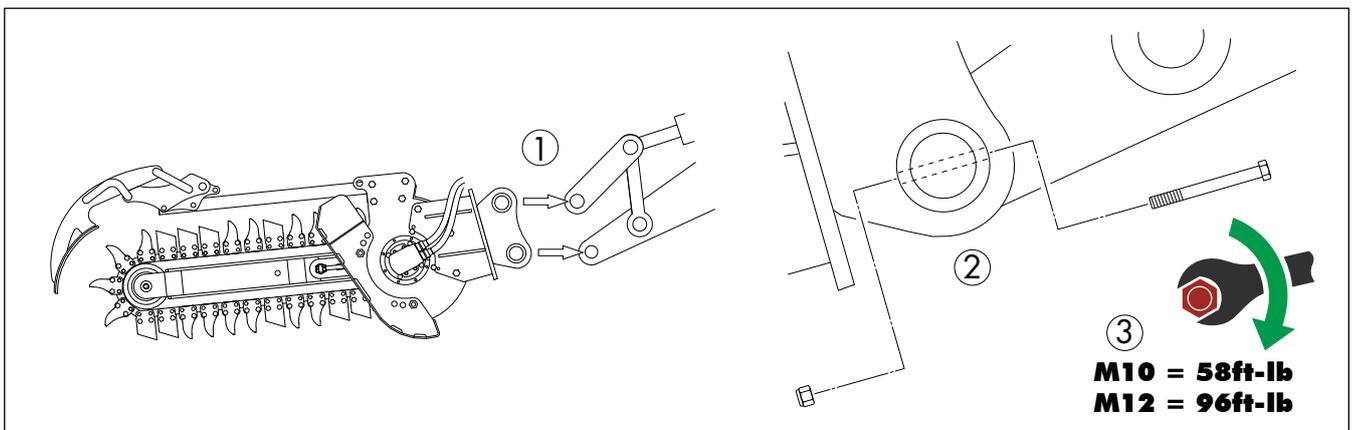
Refer to the parent machines operators manual for attaching accessories

- 1). Fit mounting frame to parent machine arms with the correct pins.
- 2). Align bolt location holes and fit location bolts and nyloc nuts.
- 3). Tighten all Nylon Insert nuts to 17 ft-lb.

Locate the flow and return hydraulic pipes onto the Trencher Unit (see page 15).

Connect quick release couplers.

Check that the hydraulic pipes are of sufficient length to allow the trencher to articulate during work.



## Excavators - Quick Hitch

### SAFETY FIRST



**Always** work in pairs (2 skilled operatives) whenever Trencher Unit components are being assembled or disassembled from the parent machine. Always check the weight of the attachment and ensure you have the correct equipment for handling it.



**ALWAYS** check parent machine:

- Is in correct working order
- Is parked correctly on flat ground
- Has its hand brake **ON**, its hydraulic circuit locked out and its engine switched **OFF**.

Check that the mounting frame is of the correct model and type to fit the parent machine. Ensure mounting frame and attachment points are clean before fitting. Use suitably rated lifting equipment if required (see data plate for weight).



**FITTING** Ensure all components are greased on assembly:

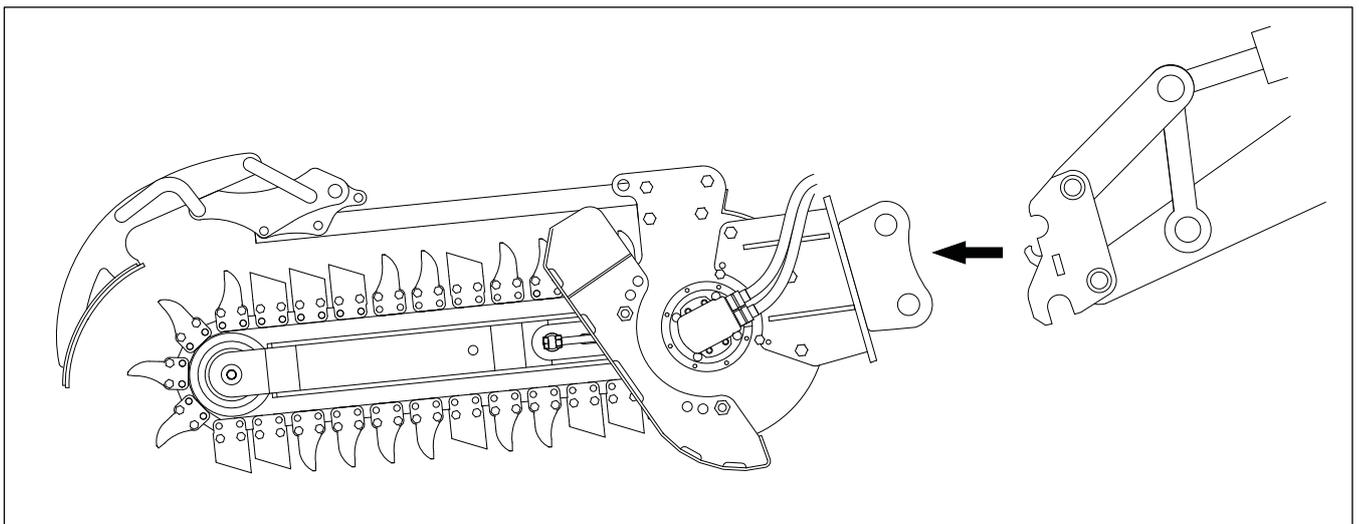
Refer to the parent machines operators manual for attaching accessories

Fit the mounting frame to the quick hitch coupling and ensure that it is securely locked in position.

Locate the flow and return hydraulic pipes onto the Trencher Unit (see page 15).

Connect quick release couplers.

Check that hydraulic pipes are of sufficient length to allow the Trencher to articulate during work.



## Skid Steer Loaders

### SAFETY FIRST



**Always** work in pairs (2 skilled operatives) whenever Trencher Unit components are being assembled or disassembled from the parent machine. Always check the weight of the attachment and ensure you have the correct equipment for handling it.



**ALWAYS** check parent machine:

- Is in correct working order
- Is parked correctly on flat ground
- Has its hand brake **ON**, its hydraulic circuit locked out and its engine switched **OFF**.

Check that the mounting frame is of the correct model and type to fit the parent machine. Ensure mounting frame and attachment points are clean before fitting. Use suitably rated lifting equipment if required (see data plate for weight).



**FITTING** Ensure all components are greased on assembly:

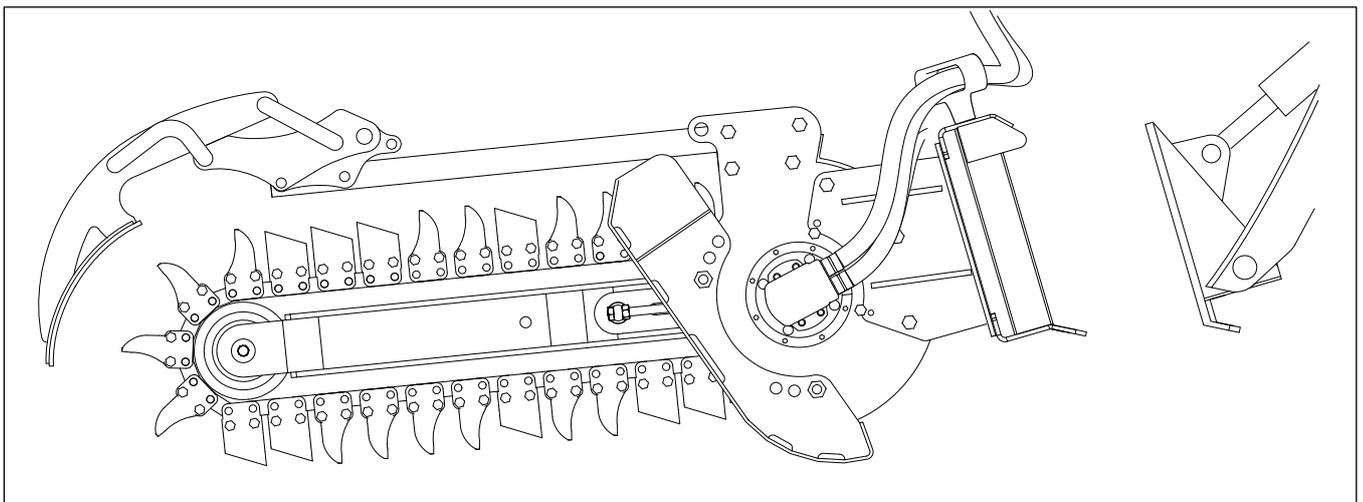
Refer to the parent machines operators manual for attaching accessories

- 1). Fit mounting frame to parent machine arms.
- 2). Ensure that the unit is securely locked in place using the levers.

Locate the flow and return hydraulic pipes onto the Trencher Unit (see page 15)

Connect quick release couplers.

Check that hydraulic pipes are of sufficient length to allow the Trencher to articulate during work.



## HYDRAULIC CONNECTIONS

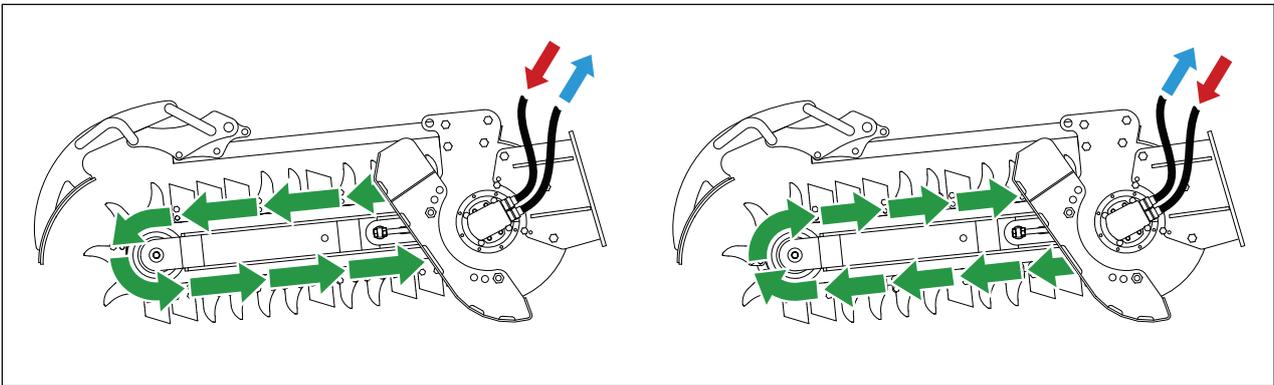


### WARNING:

Hydraulic fluid under pressure can penetrate the skin or eyes and cause serious personal injury, blindness or death. Fluid leaks under pressure may not be visible. Use a piece of card or wood to find leaks. **DO NOT** use your bare hands. Wear safety goggles to protect your eyes. If any fluid is injected into the skin, it **MUST** be surgically removed. Seek immediate medical attention.

Eterra Trencher Units have been designed for use with specific Eterra mounting frames and Trencher wear parts. Provided these are used and maintained correctly, they will provide a safe and reliable method of trenching in the earth.

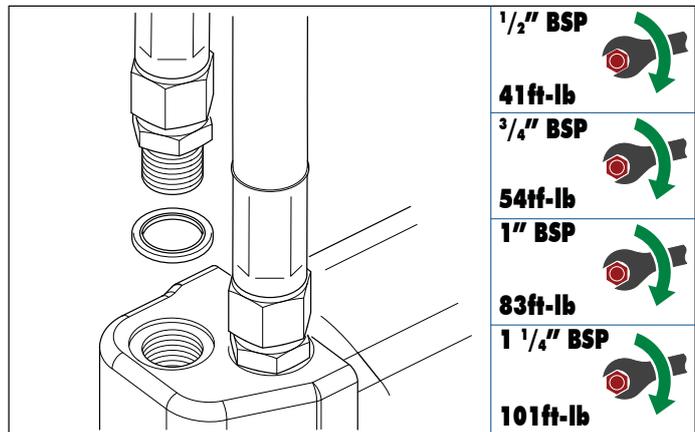
All Eterra Trenching Units require a 'flow' and 'return' of hydraulic fluid from the parent machine's auxiliary hydraulic power supply to operate. All Trenchers are reversible and require the host machine to be fitted with a two way flow auxiliary circuit. Check with the parent machine dealer for advice.



When fitting hydraulic hoses, ensure that they are tightened to the correct torque for the hose fittings.

Some models of Trencher are supplied with hydraulic hoses, but less hydraulic quick release couplers, which are required for connection to parent machine.

These should be sourced locally and be compatible with the auxiliary hydraulic quick release couplers on the parent machine.



The parent machine auxiliary hydraulic connections are normally located near the end of the loader arms or excavator dipper.

It is critical that the supply of oil is within the stated limits for the particular Trenching Unit;

Check that the rated flow (gal/min) & pressure (PSI) of your machine does not exceed the limits shown on the serial plate.

## RUNNING-IN

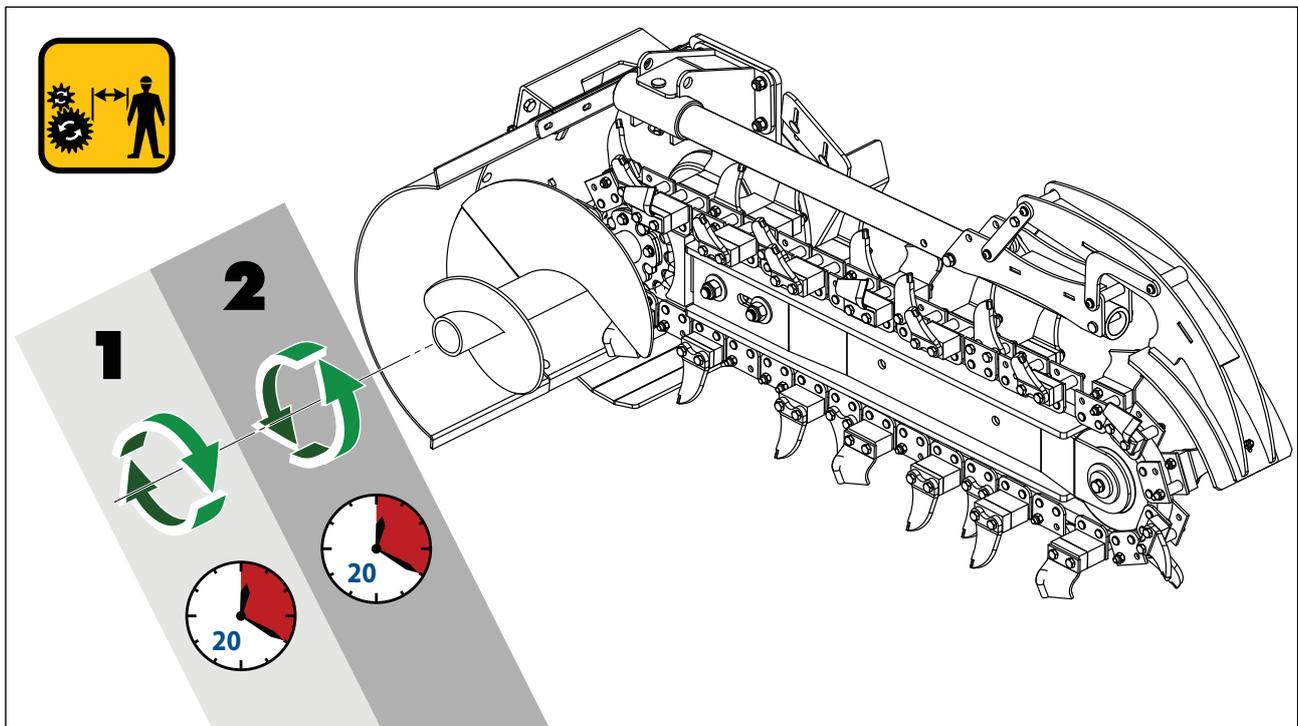
To maximise the life of the motor, it must be run in for a period.

To carry out the running in procedure, suspend the trencher unit clear of the ground, with the boom horizontal.

For the duration of the running in procedure, ensure there are no bystanders within the nominated radius as defined in the risk assessment completed prior to commencing any works.

Operate the motor at 30% of rated pressure for 20 minutes in each direction before application of full operating load.

To further ensure best motor life and maintain warranty, refer to page 23 for lubrication instructions.



## PREPARATION



**CONSIDER** the topography (e.g. risk of subsidence, slope angle, position to embankments and any previous excavation).



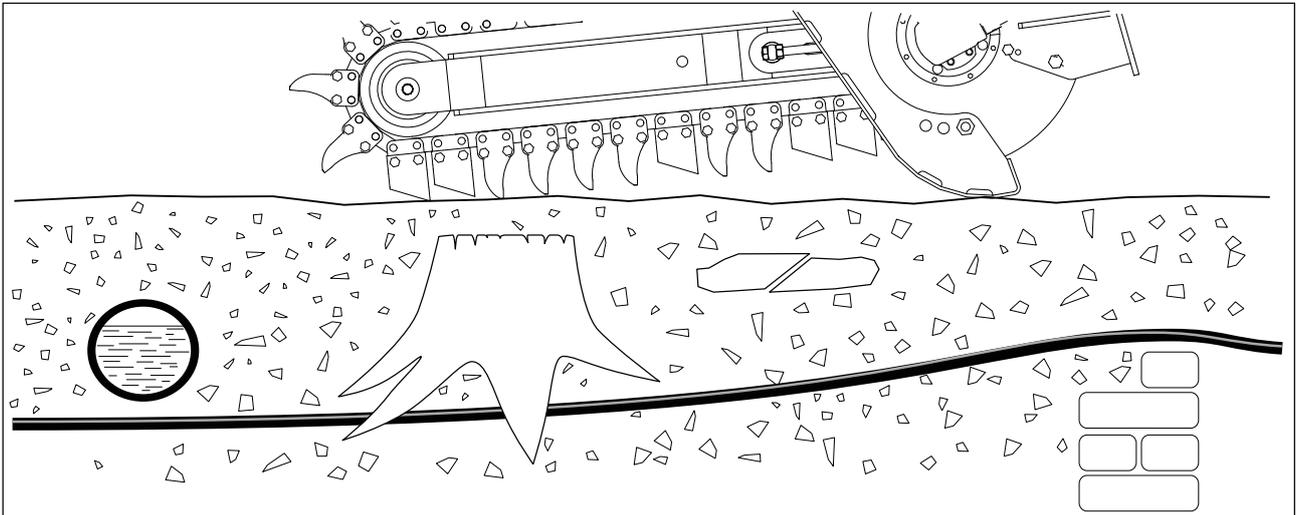
**NOTE** the type of soil and its condition to enable selection of suitable teeth.

**ALWAYS** carry out a site survey and risk assessment **BEFORE** starting work.



**AVOID** underground hazards, such as water / gas / electricity / communication lines etc.

If in doubt detection equipment and professional advice should always be considered before carrying out any work.



## TRENCH DEPTH SETTING

The trenching depth is controlled by the skid plate, which runs with its flat surface on the ground. By changing the angle of the skid plate, the trencher can operate at one of three depth settings.

The skid plate is secured by 2 nuts to studs on the main body as indicated by the arrows. 3 pairs of mounting holes in the skid plate allow the trenching depth to be set as shown in the diagrams below.

Once the trench depth is set, torque the nuts to 102ft-lb.

<b>Depth Setting Chart</b> (Dimensions in inches)		<b>MT TRENCHER</b>		
		<b>24</b>	<b>36</b>	<b>48</b>
		<b>12</b>	<b>24</b>	<b>32</b>
		<b>18</b>	<b>30</b>	<b>40</b>
		<b>24</b>	<b>36</b>	<b>48</b>



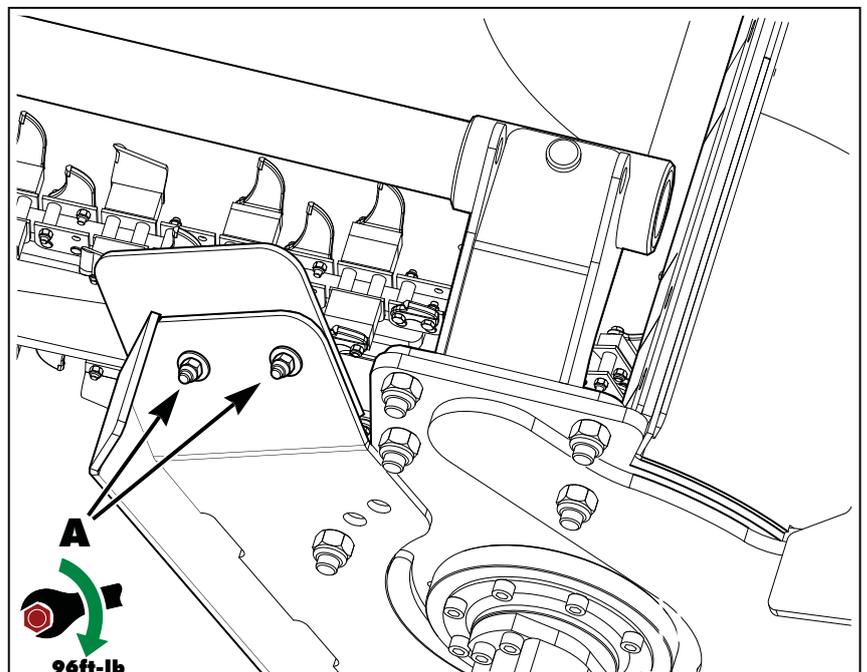
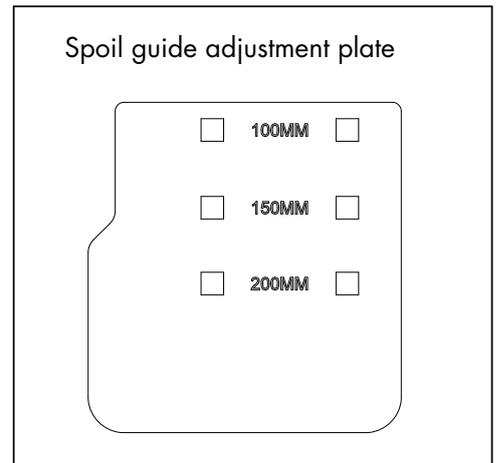
## SKID SIDE PLATE ADJUSTMENT

To ensure that the left hand side of the trench is free from spoil, the skid is fitted with a side plate to deflect spoil back on to the chain. This ensures that the maximum amount of spoil is removed on the right-hand side by the auger.

Trenchers have an adjustable side plate. This must be adjusted to suit chain width to provide the optimum spoil removal without causing damage to the chain.

Loosen the nuts (A) and adjust the side plate to the correct hole position to for chain fitted to achieve the right clearance between the plate and the widest teeth.

Tighten the nuts.



## WORKING PROCEDURE

### Before commencing work, ensure that ;

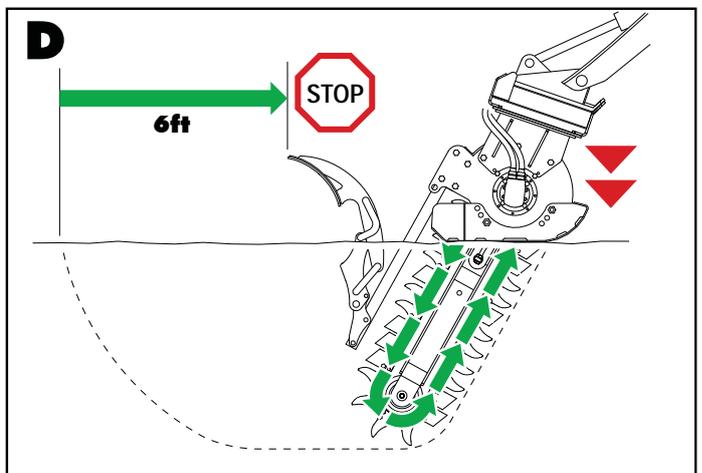
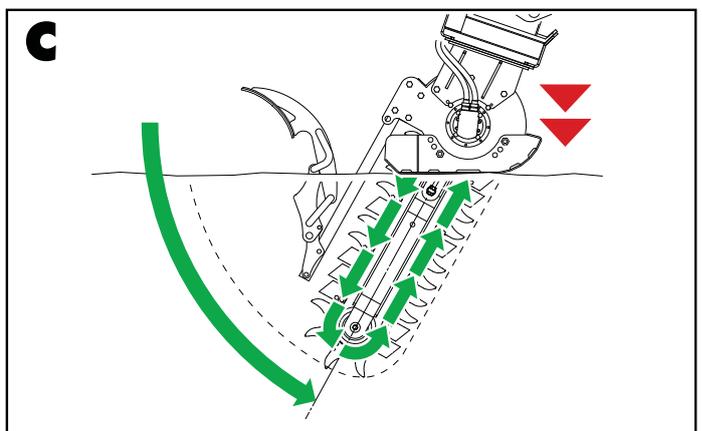
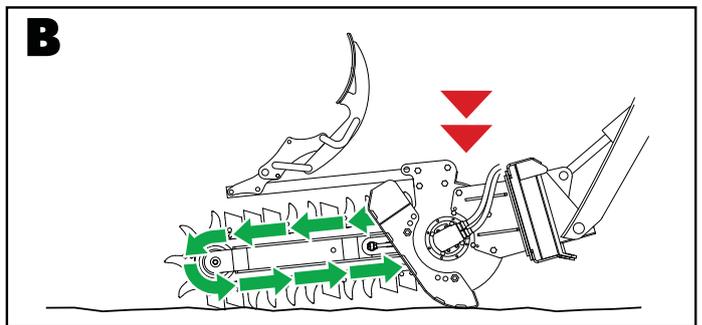
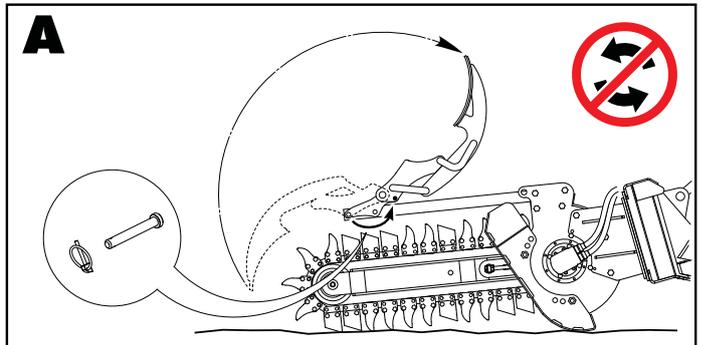


The correct hoses are fitted and tightened correctly (See page 15).  
The unit has been properly run in (See page 16).

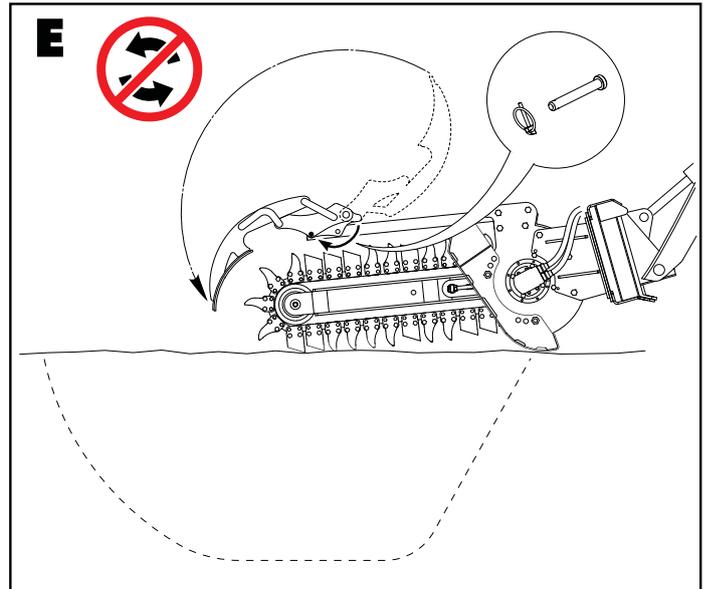


There are no bystanders within the nominated radius as defined in the risk assessment completed prior to commencing any works.

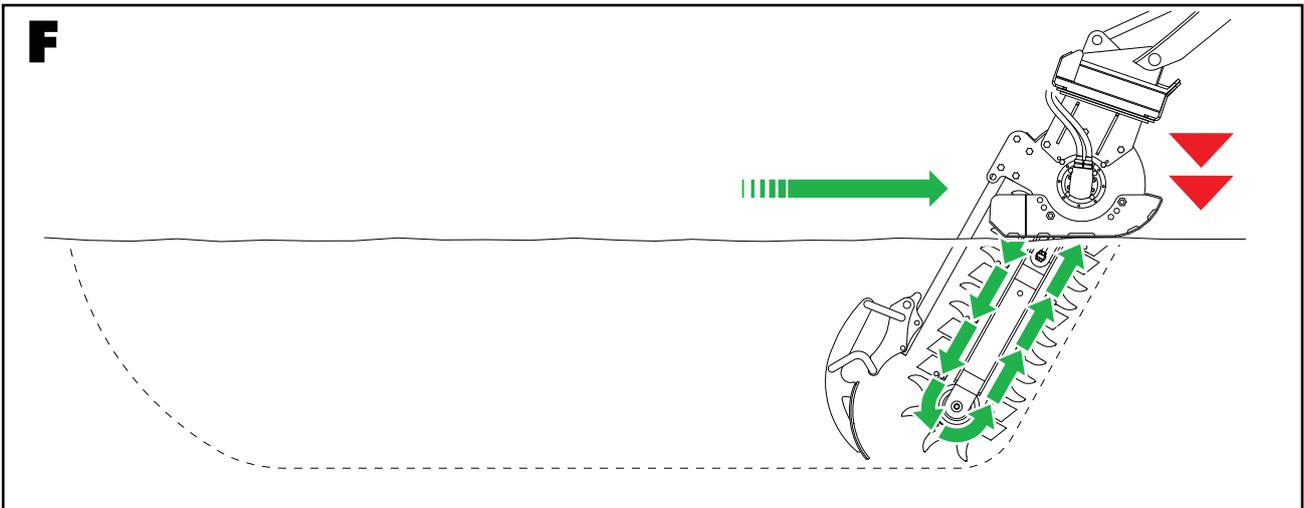
- A** Switch off parent machine and ensure the hydraulic system is locked out. Set the Trench Cleaner in it's OPEN position and secure it with linch pin.
- B** Start the parent machine, engage the hydraulic system and ensure that the chain is moving in the correct direction. Set the trencher with the rear of the skid firmly on the ground.
- C** With trencher chain operating and weight applied to the skid plate, GRADUALLY rotate the trencher on so that it penetrates the ground. Always keep the weight on the skid plate while cutting.
- D** When the flat face of the skid plate is firmly in contact with the ground, STEADILY reverse the parent machine. Avoid stalling the chain. After at least 6 foot of trenching, STOP the parent machine.



- E** Raise the trencher above ground level Fig E.  
Switch off parent machine and ensure the hydraulic system is locked out.  
Set the Trench Cleaner in it's CLOSED position and secure it with linch pin.



- F** Start the parent machine, engage the hydraulic system and lower the trencher into the trench until the flat face of the skid plate is firmly on the ground with weight applied and continue trenching Fig F



# TRANSPORTATION

## Transportation On Public Highways



**ALWAYS** remove the Trencher Unit before driving or transporting the parent machine on public highways.

**ALWAYS** store the Trencher Unit securely and safely when removed from the parent machine taking special care of the hydraulic hoses and connections.

## Transportation Within The Job Site

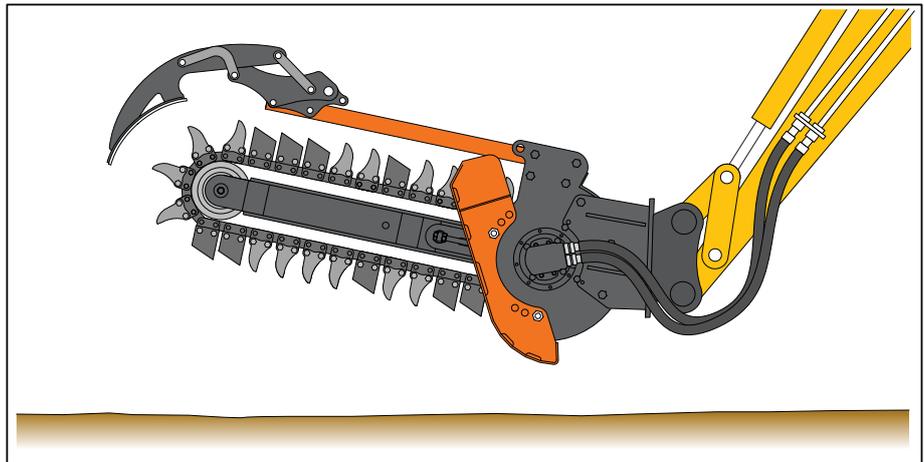


**ALWAYS** disengage the rotation of the Trencher chain, whenever operating the parent machine, whilst the Trencher Unit is not trenching.

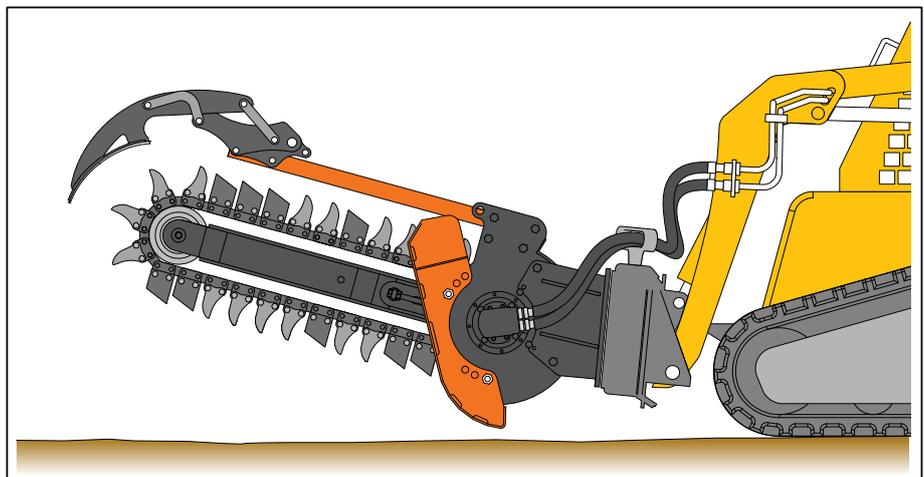
**ALWAYS** operate the parent machine slowly when on site, keeping the Trencher Unit as close to the parent machine and as low as possible.  
The best travelling positions for Excavator and Skid Steer loader are shown below.

## Recommended Travel Position

Excavator



Skid Steer Loader



## MAINTENANCE & LUBRICATION

### SAFETY



**Safety at all times**



**Ensure environmentally safe disposal of waste oil:**

Do not pour down drain!



**Avoid Fire or Explosion:**

Do not smoke near, or expose lubricants to, any possible sources of ignition (e.g. fire, electrical sparks or heat sources.)



**All lubricants are toxic and potentially carcinogenic (cancer causing).**



**Avoid contact with skin and eyes:**

Wear suitable protective clothing and gloves.



Always use a suitable barrier cream in case of skin contact.



**Always wear eye protection:**

In the event of skin contact wash with soap and water.

In the event of eye contact wash with water and seek medical advice.



**Do not ingest:**

If swallowed seek medical advice immediately.

### **Routine Maintenance:**

After your first 160 foot of trenching, raise the Trencher unit and check the chain tension.

Refer to page 26 for chain adjustment instructions. Chain tension should be checked after every 550 yards of trenching.

Your Eterra Trencher Unit features a sealed gear housing filled with gear oil to lubricate the planetary gear set components and bearings within the housing.

Eterra Trencher Units are low maintenance, however regular checks for oil leaks and following the service schedules are recommended to ensure a trouble free product.

### **Daily checks:**

Check Chain adjustment (see page 26).

Check Tooth wear.

Check Condition of nose roller assembly.

Check for oil leaks.

### **Weekly checks (in addition to daily checks):**

Check overall condition of the Trencher unit and Mounting frame.

Check drive sprocket for wear (see page 29 & 30 for correct replacement details).

Check hydraulic hoses for any damage.

### **After first 100 hours of operation or six (6) months:**

To maximise life and maintain warranty the Trencher Unit gear oil requires draining and replacing with Mobil Gear 600XP (or equivalent) after the first 100 hours of operation or six (6) months from date of purchase – whichever occurs first (see page 25 for oil change details).

**Important:** To maintain product warranty your Eterra dealer must record proof of this first oil change.

### **Yearly or after every 500 hours of use (whichever is sooner):**

The Trencher Unit gear oil requires draining and replacing with Mobil Gear 600XP (or equivalent) every twelve (12) months or 500 hours – whichever occurs first.

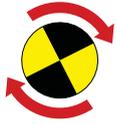
### **Oil capacity**

Refer to page 25 for the correct volume of oil for your trencher.  
If in doubt contact Eterra or your nearest dealer.

## Oil Change Procedure



Before starting any maintenance work on this unit read the instructions carefully and ensure you have the correct tools, materials and safety equipment to hand.



Pre-heat the oil by running the unit for 15 minutes.

Ensure that the unit is securely supported so that you have safe access to the underside of the drive unit.

Locate the fill plug in the top of the output housing and the drain plug in the bottom of the housing (Fig. A).

To ensure that the unit drains completely, make sure that the boom is horizontal (Fig. B).

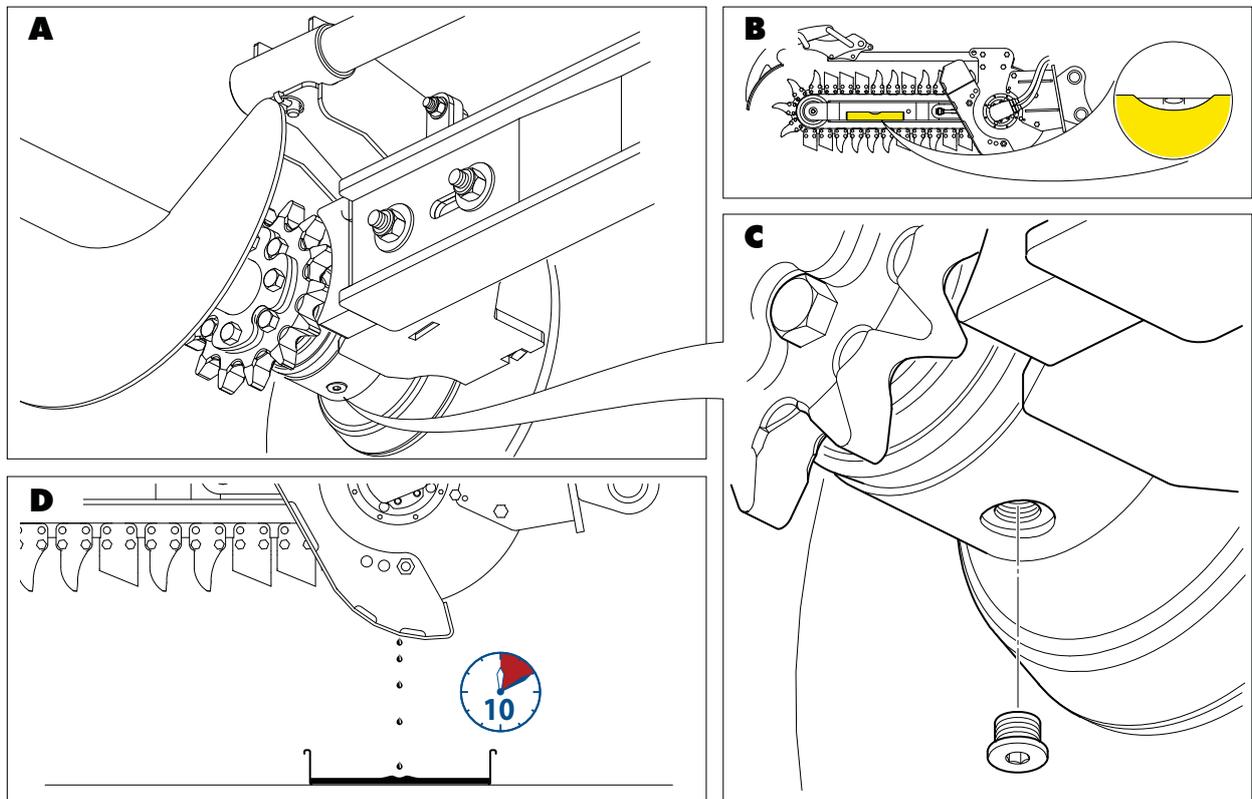
Place a tray beneath the unit to catch the oil. Remove the fill plug, then the drain plug (Fig. C).

Allow the oil to drain for 10 minutes (Fig. D).

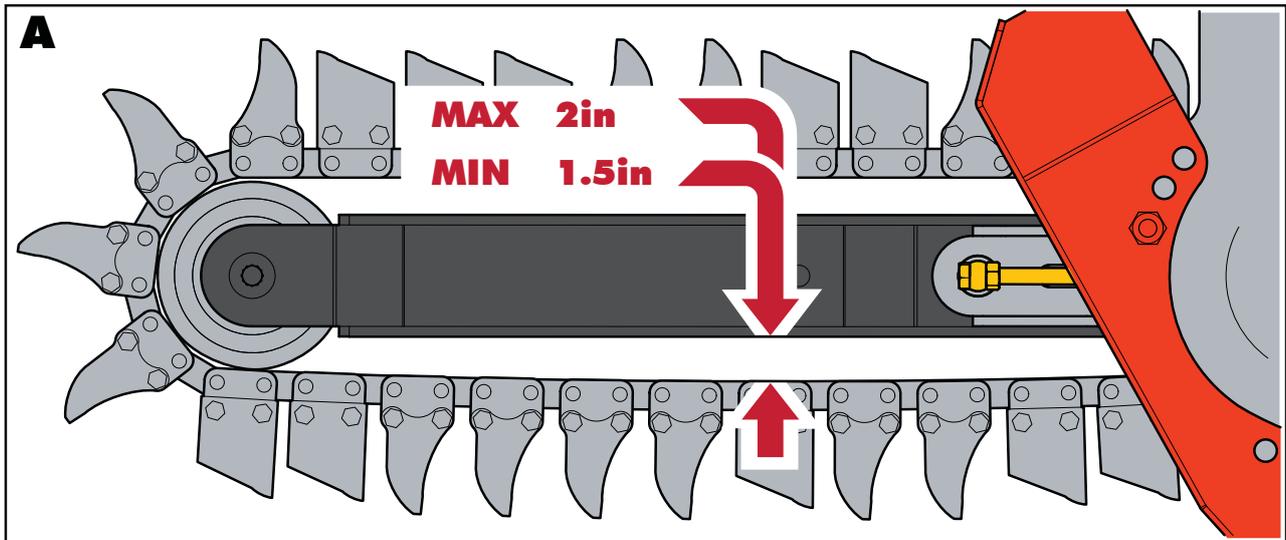
Replace the drain plug and add the correct quantity of Mobil Gear 600XP gear oil;

**MT:** 1.7 US pints

Replace the fill plug and ensure both plugs are tightened securely.



## Chain Adjustment



Check the chain tension by measuring the clearance between the chain and the boom as shown in Fig A.

### Step 1

The correct clearance should be between a minimum of 1.5in and a maximum of 2in.

If adjustment is necessary, loosen the two nuts (1) on the auger side of the boom Fig B.

### Step 2

Loosen the tensioner locknut (2) Fig C and adjust the tension by turning the screw (3) as shown in the diagram.

### Step 3

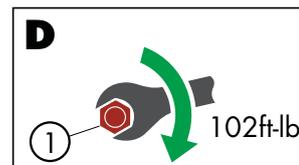
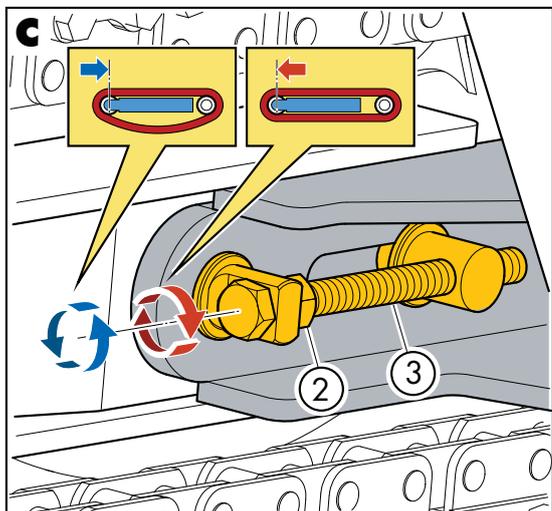
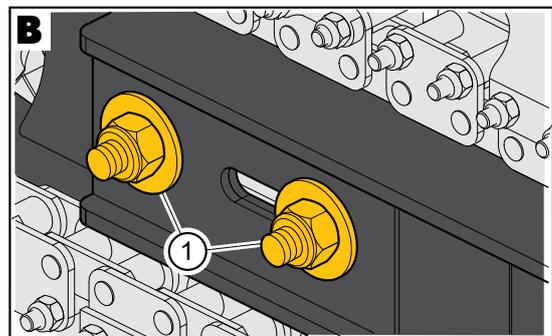
Check the chain tension as shown in Fig A and re-adjust as necessary until the correct clearance is achieved.

### Step 4

Tighten the locknut (2) Fig C.

### Step 5

Tighten the two nuts (1) Fig B using the torque values in Fig D.



**CHECK THAT ALL NUTS ARE RE-TIGHTENED BEFORE OPERATING THE TRENCHER**

## Chain Removal/Replacement



The chain ends are joined with a pin, which is secured with a split cotter pin. Ensure that the chain is slackened off completely, following the 'Chain Adjustment' instructions on page 26.

Locate the joining pin and rotate the chain so that you have easy access to both ends of the pin.

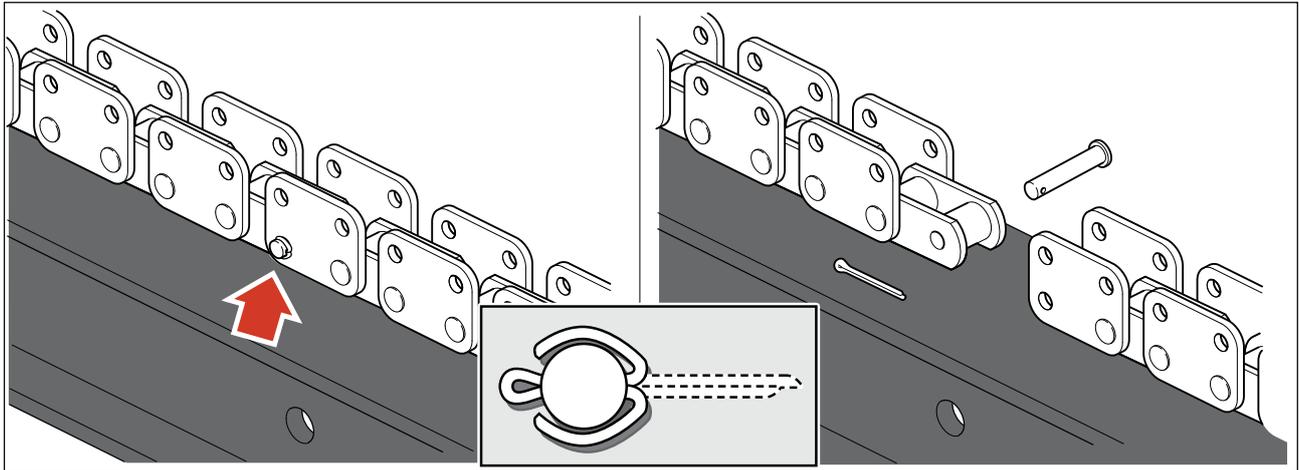


**CAUTION:** Once the joining pin is removed, the weight of the chain will cause it to swing or fall, take care to either secure the chain or make sure that it will not cause any damage when released.

Remove the split pin and press out the joining pin.

Replacement is the reverse of removal, apply grease to the holes and pin before fitting.

Fit a new split pin and ensure that the ends of the split pin are securely bent over before running.



**CAUTION;** Before operating the trencher, set the chain tension following the 'Chain Adjustment' instructions on page 26.

## Cutting Tooth Maintenance

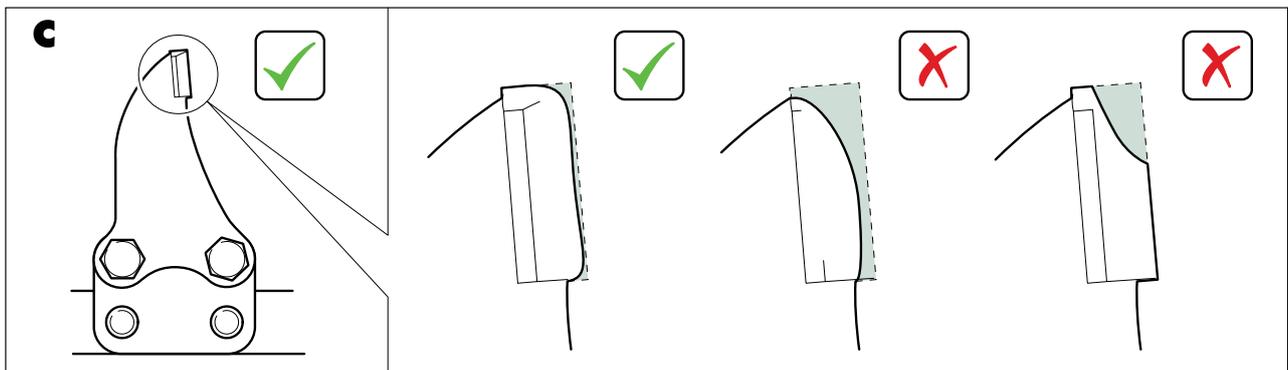
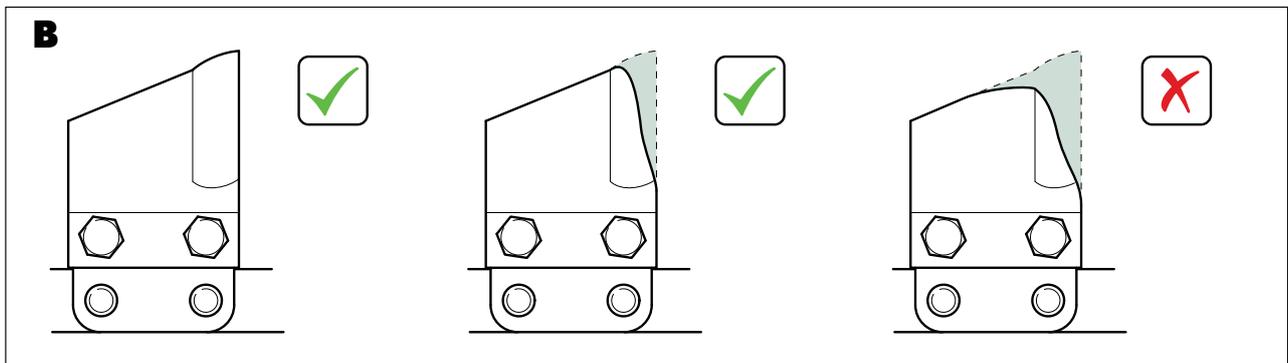
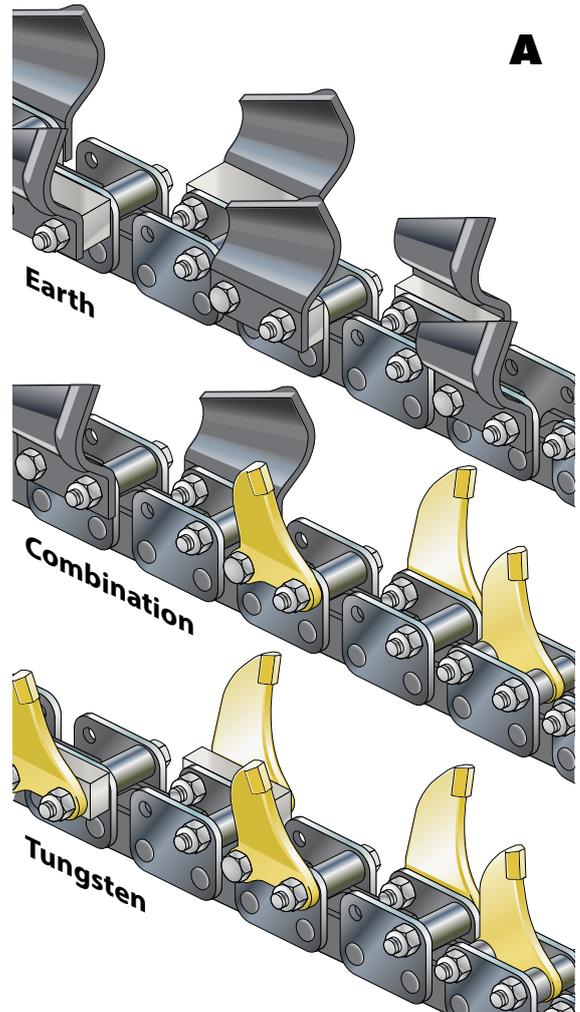
To cope with different types of trenching conditions, Eterra trenching chains are supplied fitted with interchangeable 'Earth' or 'Tungsten' teeth, or a combination of both types (Fig A).

The teeth are bolted directly to the chain, or with spacers to provide a range of trench widths.

After prolonged use, the cutting teeth will show signs of wear and eventually become inefficient.

Fig B shows acceptable levels of wear for the earth teeth.

Tungsten tooth wear limits are shown in Fig C.



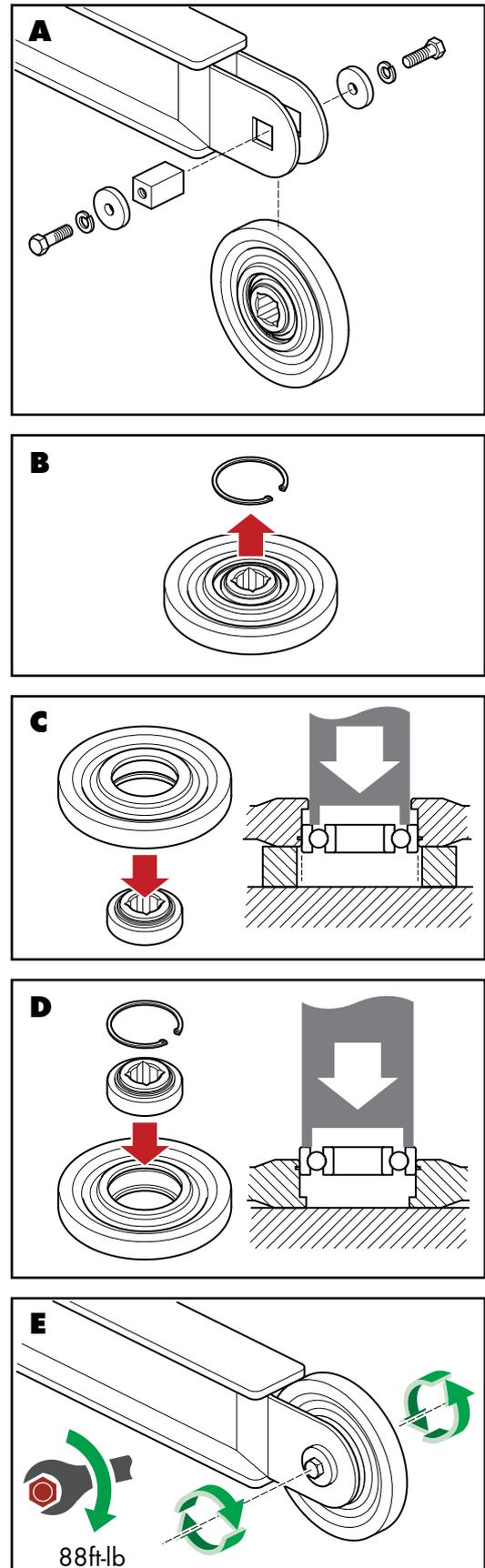
## Nose Roller Bearing Replacement

To remove the Nose Roller, first remove the chain as described in 'Chain Removal/Replacement' on page 27.

- A** The Nose Roller is attached by 2 bolts, 2 spring washers and 2 special washers, which secure a square pin between the ears of the boom. Removing either of the bolts with its washers will enable the square pin to be withdrawn and free the nose roller. The bearing is retained by a shoulder on one side and circlip on the other.
- B** Remove the circlip with a pair of internal circlip pliers.
- C** Press out the bearing, ensuring that the roller is supported close to the opening, leaving enough space below for the bearing to clear the hole.
- D** To fit a new bearing, invert the roller on a flat surface. Check the mating surfaces and the circlip groove to ensure they are clear of obstructions. Press in the new bearing with an adaptor that applies pressure only to the outer journal of the bearing. Ensure that the bearing clears the circlip groove and sits against the shoulder at the bottom of the hole. Refit the circlip.

Refit the nose roller (refer to Fig A for correct sequence of components).

- E** Tighten both bolts to 88ft-lb.



## Sprocket Removal & Replacement

To remove the sprocket, first remove the chain as described in 'Chain Removal/Replacement' on page 27.

### Step 1

Spoil auger removal. Ensure hydraulic oil supply has been disconnected. Secure the trencher in a stable position. Remove fasteners assembly (1) from the spoil auger (2). Retract the spoil auger (2) from the output shaft (3).

Refitting is the reverse of removal; ensure the fastener assembly is tightened to a torque of 96ft-lb.

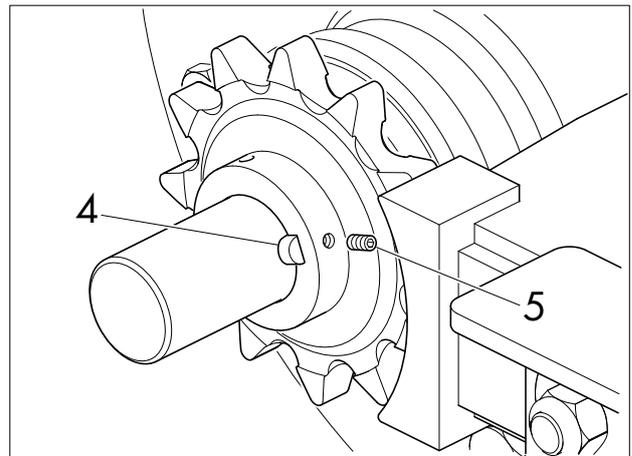
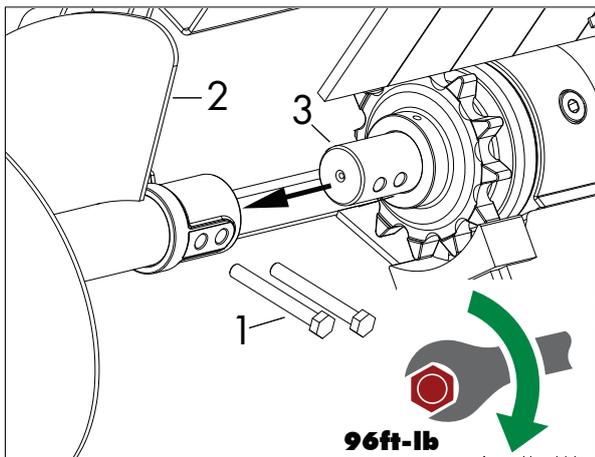
### Step 2

Sprocket removal. Rotate the sprocket until the locating key (4) and setscrew (5) are visible.

Loosen the setscrew and slide the sprocket from the output shaft.

Prior to fitting a new sprocket, ensure that the shaft is free from dirt and debris and apply grease to the mating surfaces.

Slide the sprocket on to the shaft ensuring that the key aligns with the slot and the sprocket is tight against the seal protector before tightening the setscrew.



## TROUBLESHOOTING

**IF IN DOUBT ASK!** - Seek Eterra / parent machine dealer for advice & repair.

**BE SAFE** - only use genuine Eterra / parent machine spare parts.

<b>MOUNTING FRAME - ASSEMBLY</b>		
<b>FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Mounting frame does not fit parent machine	<p>Incorrect or non-genuine mounting frame being used</p> <p>Damaged / worn parts</p>	<p>Refer to both this manual and parent machine's operating assembly instructions</p> <p>Repair or replace with genuine mounting frame</p>
<b>MOUNTING FRAME - OPERATION</b>		
<b>FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Excessive movement in locating pins	<p>Incorrect or worn locating pins</p> <p>Parent machine pin location / linkage frame pin location worn</p> <p>Damaged parts</p>	<p>Replace with correct new parts</p> <p>Seek advice from parent machine dealer</p> <p>Seek advice from Eterra / parent machine dealer. Only use genuine spare parts</p>
<b>TRENCHER UNIT - ASSEMBLY</b>		
<b>FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Trencher Unit will not fit mounting frame	<p>Incorrect / incompatible or non genuine mounting frame / Trencher Unit</p> <p>Damaged parts</p>	<p>Obtain &amp; fit correct and compatible genuine parts</p> <p>Seek advice from Eterra dealer. Only use genuine spare parts</p>
Excessive movement in locating pins	<p>Incorrect or worn pins</p>	<p>Replace with correct new genuine parts</p>
<b>TRENCHER UNIT - OPERATION</b>		
<b>FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Trencher drive output shaft does not rotate	<p>No oil flow</p>	<p>Check that quick release coupler(s) are correctly engaged to parent machine</p> <p>Check that parent machine hydraulic system is operating correctly and has sufficient oil of the correct grade (refer to parent machine operating instructions)</p>

## TRENCHER UNIT - OPERATION

FAULT	POSSIBLE CAUSE	ACTION
Trencher drive output shaft does not rotate	Parent machine pressure relief valve faulty or set too low  Trencher unit seized  Trencher jammed in ground	Test, reset or replace to parent machine's specification  Seek advice from Eterra dealer  Reverse Trencher Chain
Slow Trenching speed / slow rotation of Trencher Unit output shaft	Insufficient oil flow from parent machine  Incompatible Trencher Unit to parent machine combination  Worn Trencher Unit hydraulic motor possibly due to incorrect or dirty oil supply	Check that parent machine hydraulic two way flow system is operating correctly and has sufficient oil of the correct grade  Check specification. Seek advice from Eterra dealer  Seek advice from Eterra dealer. Only use genuine spare parts.
Trencher stalls during work	Parent machine pressure relief valve faulty or set too low  Restricted oil flow  Blocked hydraulic filter  Excessive parent machine pull on Trencher  Insufficient parent machine hydraulic pressure  Incompatible Trencher / parent machine combination	Change parent machine hydraulic oil and filter <b>before</b> fitting replacement drive unit  Reset/replace pressure release valve to parent machine's specification  Check for damaged or incorrect hydraulic hoses and connections Change parent machine filter and oil  Reduce machine pull on Trencher  Check that parent machine oil pressure meets with Trencher Unit requirements  Check specification. Seek advice from Eterra dealer

# **ETERRA WARRANTY STATEMENT**

## **LIMITED PRODUCT WARRANTY**

If you find physical defects in the materials or the workmanship used in making the product described in this document; Eterra will repair, or at its option, replace, the product at no charge to you, provided it is returned (freight prepaid, with proof of your purchase from the original reseller) within 1 year of the date of original purchase. Some Eterra products may have longer, partial, or more specific additional warranties, please contact your dealer for more information.

## **RMA REPLACEMENT PRODUCT WARRANTY**

If you find physical defects in the materials or the workmanship used in the refurbishment of an RMA (Return Merchandise Authorization) product replacement; Eterra will repair, or at our option replace the product at no charge to you for a period of 90-days from the date the RMA was created, or until the end of your original warranty period (whichever is greater).

## **REFURBISHED PRODUCT WARRANTY**

If you find physical defects in the materials or the workmanship used in a product sold as a refurbished unit; Eterra will repair, or at our option replace, the product at no charge to you for a period of 90-days from the original date of purchase.

## **LEGAL TERMS**

Eterra warrants that the equipment delivered by seller will be of the kind and quality described in the order or contract and will be free from defects in workmanship or material. Should any failure to conform with this warranty occur, and the buyer having given written notice to seller within 180 days from the date of purchase, the manufacturer shall correct such nonconformity at its option by either repairing the defective part(s) or making available F.O.B. at sellers locations.

This warranty is in lieu of all warranties of merchantability, fitness for particular purpose or any other warranties, express or implied. Correction and nonconformities in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of seller to buyer, whether based on contract, negligence or otherwise respect to or arising out of such goods.

Neither party shall be liable for special, indirect, or consequential damages. The remedy set forth in this instrument are exclusive, and the liability of seller with respect to any contract or sale of anything done in connection with the same, whether in contract, in tort, under warranty, or otherwise, shall not exceed the price of the goods or part upon which such liability is allegedly based.

All exclusions and limitations of this warranty are made only to the extent permitted by applicable law and shall be of no effect to the extent of conflict with the express requirements of applicable Washington State law.



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