

Instruction & Parts Manual No 695

WGC No: 93.002.03
BT LOPPER 350



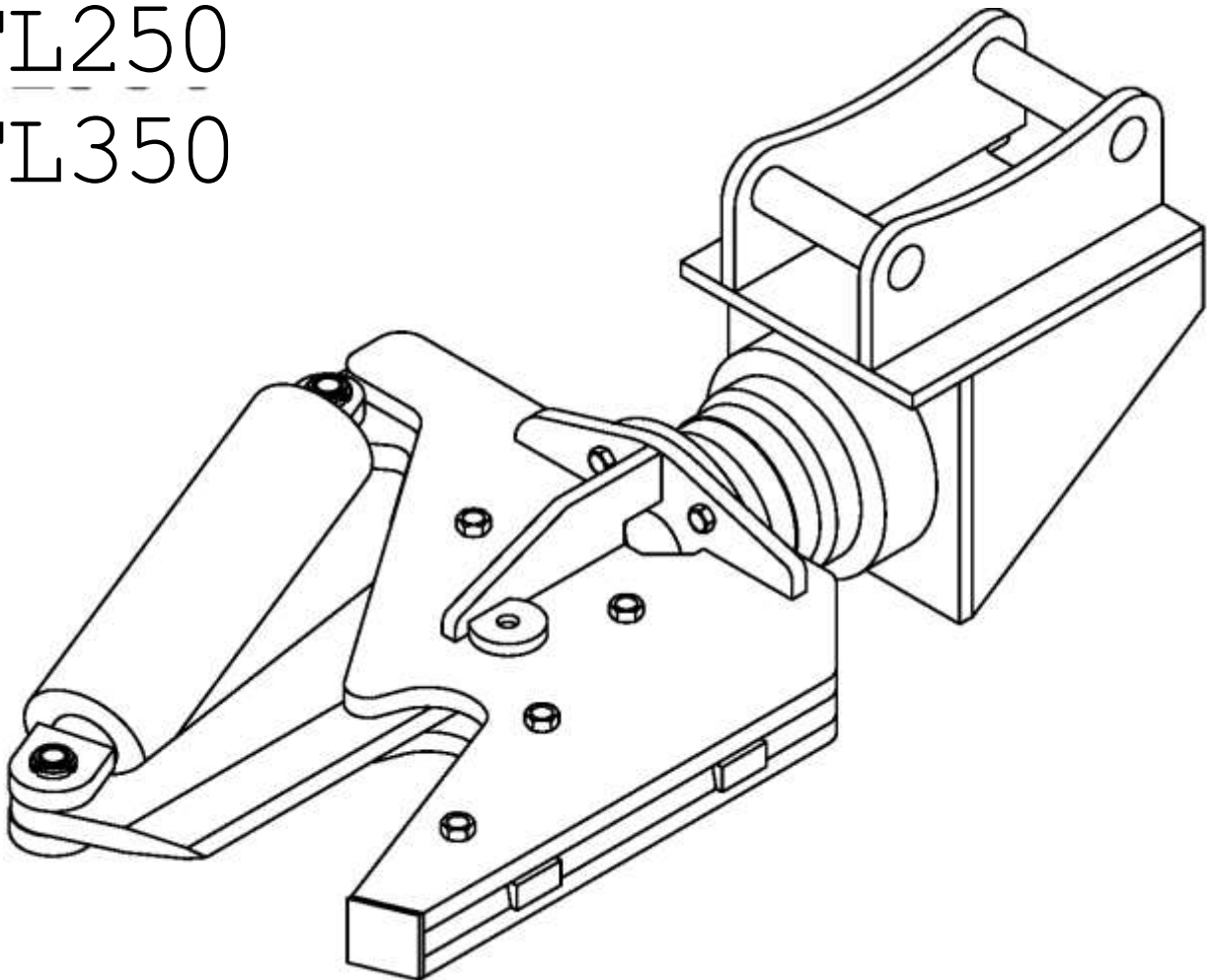
Tree-lopper

Instruction & parts manual

TL150

TL250

TL350



*For your safety:
Always read this instruction manual
before use*

IMPORTANT

NOTE HERE THE SERIAL NUMBER OF YOUR MACHINE AND ALWAYS QUOTE IT IN ANY COMMUNICATION WITH US OR YOUR DEALER. THIS IS PARTICULARLY IMPORTANT WHEN ORDERING SPARES. REMEMBER TO INCLUDE ALL NUMBERS AND LETTERS.

MACHINE SERIAL NUMBERS _____

THE INFORMATION GIVEN THROUGHOUT THIS MANUAL IS CORRECT AT THE TIME OF PUBLICATION. HOWEVER, IN THE COURSE OF CONSTANT DEVELOPMENT OF BOMFORD TURNER MACHINES, CHANGES IN SPECIFICATION ARE INEVITABLE. SHOULD YOU FIND THE INFORMATION GIVEN IN THIS BOOK TO BE AT VARIANCE WITH THE MACHINE IN YOUR POSSESSION, YOU ARE ADVISED TO CONTACT THE BOMFORD TURNER SERVICE DEPARTMENT WHERE UP-TO-DATE INFORMATION WILL BE PROVIDED.

THE MANUAL CAN CONTAIN STANDARD AND OPTIONAL FEATURES AND IS NOT TO BE USED AS A MACHINE SPECIFICATION.

THE MACHINE HAS BEEN TESTED AND IS CONSIDERED SAFE IF CAREFULLY USED. ENSURE YOUR OPERATOR IS PROPERLY TRAINED IN ITS USE AND MAINTENANCE.

IMPORTANT

NOTEZ ICI LES NUMEROS DE SERIE DE VOTRE MACHINE QUI SONT A MENTIONNER DANS TOUTE COMMUNICATION AVEC NOS SERVICES OU VOTRE REVENDEUR. CES NUMEROS SONT PARTICULIEREMENT IMPORTANTS POUR COMMANDER DES PIECES DETACHEES. N'OMETTEZ AUCUN CHIFFRE, NI AUCUNE LETTRE.

NUMEROS DE SERIE DE LA
MACHINE _____.

LES INFORMATIONS DONNEES DANS CE MANUEL SONT CORRECTES. CEPENDANT, DU FAIT DU DEVELOPPEMENT CONSTANT DES MACHINES BOMFORD TURNER, DES CHANGEMENTS DANS LES CARACTERISTIQUES SONT INEVITABLES. EN CAS DE DIFFERENCES IMPORTANTES ENTRE LES INFORMATIONS DE CE MANUEL ET VOTRE MACHINE, VEUILLEZ CONTACTER LE SERVICE DES REPARATIONS QUI SERA EN MESURE DE VOUS DONNER DES INFORMATIONS PLUS RECENTES.

CE MANUEL PRESENTE DES CARACTERISTIQUES STANDARDS ET EN OPTION, ET NE CONSTITUE DONC PAS LES SPECIFICATIONS DE VOTRE MACHINE. CELLE-CI, QUI A FAIT L'OBJET D'ESSAIS RIGOUREUX, EST CONSIDEREE SANS DANGER SOUS RESERVE D'UNE UTILISATION CORRECTE. VOTRE OPERATEUR DEVRA AVOIR RECU LA FORMATION NECESSAIRE A SON UTILISATION ET A SON ENTRETIEN.

WICHTIG

TRAGEN SIE HIER DIE SERIENNUMMERN IHRER MASCHINE EIN UND GEBEN SIE DIESE IMMER AN, WENN SIE SICH AN UNS ODER IHREN HÄNDLER WENDEN. DAS IST BESONDERS BEI ERSATZTEILBESTELLUNGEN WICHTIG. VERGESSEN SIE NICHT, ALLE ZAHLEN UND BUCHSTABEN ZU NOTIEREN.

SERIENNUMMERN DER MASCHINE _____

DIE ANGABEN IN DIESEM HANDBUCH SIND BEI VERÖFFENTLICHUNG KORREKT. AUFGRUND DER KONSTANTEN WEITERENTWICKLUNG VON BOMFORD TURNER MASCHINEN SIND JEDOCHÄNDERUGDEN IN DER SPEZIFIKATION UNVERMEIDLICH. WENN DIE INFORMATION IN DIESEM HANDBUCH NICHT MIT IHRER MASCHINE ÜBEREINSTIMMEN, NEHMEN SIE BITTE KONTAKT MIT DER BOMFORD TURNER KUNDENDIENSTABTEILUNG AUF, DIE IHNEN GERNE DIE AKTUELLEN INFORMATION ZUKOMMEN LÄSST.

DAS HANDBUCH KANN SOWOHL BESCHREIBUNGEN FÜR DIE STANDARD AUSFÜHRUNG ALS AUCH FÜR ZUBEHÖR ENTHALTEN UND IST NICHT ALS MASCHINENSPEZIFIKATION ZU VERWENDET.

DIE MASCHINE IST GETESTET UND BEI SACHGEMÄSSEM BETRIEB ALS SICHER BEFUNDEN WORDEN. SORGEN SIE DAFÜR, DASS IHR BEDIENPERSONAL IN ANWENDUNG UND WARTUNG RICHTIG GESCHULT WIRD.

Foreword

Thank you for purchasing this Tree-Lopper.

This manual explains the correct handling methods, inspection, repair, operation, assembly and disassembly in order to use your Tree-Lopper safely and efficiently.

This manual also fully illustrates all of the information that you need to achieve the best performance from your Tree-Lopper and minimize your down time.

Before using this Tree-Lopper, ensure that you read and fully understand this manual. If you do not adhere to the instructions contained in this manual, a serious accident may occur.

WARNING

The operator should read and fully understand this manual before installing, operating or repairing this attachment.

This manual should be kept with the attachment to which it relates at all times and those who use or manage the attachment should read it periodically.

Improper use of this attachment may result in serious injury or death.

If this manual is lost or damaged, please contact Bomford Turner Ltd immediately to obtain a replacement.

Symbols

The Following is a list of the symbols and the respective meanings used throughout this manual:-

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in serious injury or death.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or machinery damage. It may also be used to alert against unsafe practices

NOTICE

NOTICE indicates a useful hint or tip from the manufacturer.

Introduction

The manufacturing company guarantees its products to be free from defective material or faulty manufacture for a period of twelve months from the date of purchase.

This warranty covers for labour costs and repair or replacement of any parts which, under normal use & service within the twelve month period stated above, and which, after subsequent examination by the manufacturer's technical staff, disclose defective material or faulty manufacture.

This warranty does not cover for any transport costs whatsoever.

Any products which are subject to this warranty shall be returned to the manufacturing company or its authorised agent, carriage paid for by the purchaser, for repair. Warranty repairs are only to be performed at the authorised agents or manufacturers premises. Any defective components may be held at the authorised agents premises for further inspection by the manufacturer.

In no event will the manufacturer or its authorised agent be liable for any incidental or consequential damages or claims including but not limited to: the application in which the product was placed, downtime, freight or recovery charges, damage to other equipment, loss of production or income etc. whether directly or indirectly caused.

This warranty is limited solely to the defects in materials and/or manufacture of the product to which this manual relates.

This warranty becomes void if, in the opinion of the manufacturer or their representative, the defective items are deemed to have been dismantled, tampered with, or repaired by unauthorised persons, or have been subject to misuse, miss application, negligence, lack of lubrication or maintenance, accident, overload, unauthorised alteration, removal of any safety or emergency items with which the product is fitted, or any use for which the product has not been designed.

This warranty will become invalid if the product is found to have been the subject of non compliance with the information, maintenance & conditions of use contained within this manual.

In any event, any subsequent repairs or replacement of parts under the terms of this warranty will not extend the terms of such warranty, nor will the manufacturer's or its authorised agent's liability extend beyond the original price paid to purchase this equipment.

This warranty is not transferable in cases where the product is sold on to a new owner.

The warranty for this product will become immediately invalid if any parts used for its repair, service or maintenance are not of the manufacturer's origin.

The terms of this warranty does not cover for general fair wear and tear or the repair/ replacement of any wearing parts i.e. cutting blades, belts etc.

In the event of the product failing within the warranty period, the product must be presented, to the authorised dealer or manufacturer, together with a full description of the fault, for inspection & repair. The purchaser is advised that, for the guarantee to be effective, a valid certificate of guarantee or purchase invoice showing the original date of manufacture, serial number & date of purchase may be requested.

The manufacturer reserves the right to make changes or alterations to the design or construction of any of its products at any time without notice, and without incurring any obligations to make such changes or alterations to products previously sold

Your statutory rights are not affected.

Warranty

General Safety Guidelines

⚠ CAUTION

The warning texts explain potential risks and how to avoid them. If in any doubt, contact your employer or supplier. Carefully read all warning texts before assembling or using this attachment and any accompanying equipment.

⚠ CAUTION

Sound judgment and thorough knowledge of your machinery reduces risk. Operators should take the time to learn and understand how to correctly use this attachment before starting operation.

⚠ CAUTION

Do not attempt to install, use or perform maintenance on this attachment and its accompanying equipment before carefully reading all the information contained in this manual and the manual of the carrier machine. Observe all safety information carefully.

⚠ WARNING

Incorrect installation can be dangerous for the operator and may cause serious damage to the attachment and the carrier machine. If you are unsure about the correct method of installation, contact your dealer or Bomford Turner Ltd.

⚠ WARNING

Before any installation, maintenance or repair work is carried out on this attachment ensure that the carrier machine is switched off at the ignition and the key removed, and that the hydraulic system is fully decompressed.

⚠ CAUTION

The maximum hydraulic input pressure and maximum input flow should be observed at all times.

⚠ WARNING

Never use your hands to check for leaks in the hydraulic system. Hot hydraulic oil can cause serious burns and when under pressure can penetrate the skin causing serious injury.

⚠ WARNING

Before installing this attachment ensure that the maximum lifting capacity of the carrier machine will not be exceeded

⚠ WARNING

This attachment must be serviced and maintained in accordance with the schedule described in this manual. Failure to observe the maintenance schedule can result in injury to the operator and may cause serious damage to the attachment and the carrier machine.

⚠ WARNING

Operating this attachment outside of its stated capacities can result in injury to the operator and may cause serious damage to the attachment and the carrier machine.

⚠ WARNING

This attachment must not be modified in any way.

⚠ CAUTION

Replace damaged or illegible decals and warning signs before using the attachment.

⚠ WARNING

This attachment must never be approached whilst in operation and the working exclusion zone must be observed at all times. Failure to observe the working exclusion zone may result in serious injury or death.

Installation

WARNING

All installation operations must be carried out by competent, professionally qualified personnel, with a working knowledge of hydraulic excavator operating systems.

Before commissioning this equipment, the engineer should read and fully understand this manual.

Installation of this equipment should be carried out in an uncluttered, clean and level workshop environment.

All installation personnel should be equipped with suitable safety wear and personal protection equipment as deemed to be necessary as a result of conducting the required risk assessment.

The Tree-Lopper is designed as an attachment for tracked or wheeled excavators or back hoe loaders to enable the safe and efficient cutting and pruning of trees. The capacity & weight of the various models is shown in Table A. These figures must not be exceeded.

Before attaching the Tree-Lopper to the carrier excavator, it is important to verify that the excavator to be used is of the correct weight class with sufficient carrying capacity to safely support the additional weight of the Tree-Lopper and any imposed loads in all positions, particularly when at full reach. Consult the operator's/workshop manual for your excavator.

Table A

Model	Weight	Hydraulic pressure	Cutting capacity (Softwood)
TL150	190Kgs	210 Bar	200mm
TL250	325Kgs	210 Bar	300mm
TL350	575Kgs	210 Bar	400mm

Installation (contd.)

Fitting the Tree-Lopper to the excavator

Carry out a visual inspection of the Tree-Lopper and all the components. Check the packaging for any damage which may have occurred in transit. If you discover anything is missing or damaged please contact Bomford Turner Ltd. before you proceed any further.

The Tree-Lopper is supplied with a custom mounting bracket – as requested at time of ordering to suit the excavator for which it is to be fitted.

Place the Tree-Lopper on level ground and with the cutting jaw facing away from the excavator, move the excavator's arm over the Tree-Lopper and lower it into position. Align the mounting bosses in the excavator arm & links with those of the Tree-Lopper (as in fitting a bucket to the arm). Grease the pins and bushings prior to fitting and secure the pins in place with the pin retainers.

Alternatively, the Tree-Lopper may have been supplied with a "fixed pin" bracket for picking up with a hydraulic coupler. In this case, connect to the Tree-Lopper in the usual way with the coupler - make sure that all necessary locking pins & security devices are fitted.

WARNING

Make sure all pin retainers & locking devices are installed correctly

Check the Tree-Lopper is fitted correctly by starting the excavator & raising the Tree-Lopper clear of the ground. Operate the bucket crowd control slowly whilst checking that there is no resistance or interference to movement. If there is any sign of a problem with the smooth functioning of the Tree-Lopper contact Bomford Turner Ltd. DO NOT attempt to carry out any modifications to the Tree-Lopper.

WARNING

In some instances, operation of the Tree-Lopper in certain positions may result in damaging contact between the Tree-Lopper & the excavator's boom, dipper and/or the operator's area. Extra care is required when operating this implement, particularly when used in conjunction with a hydraulic coupler.

Hydraulic Installation

The Tree-Lopper requires one double acting hydraulic circuit to operate with 200 Bar pressure available.

If your Tree-Lopper has been supplied with a rotator this will normally be operated via an electric diverter valve which is attached to the mounting bracket, thus enabling operation of both shear & rotate functions from one double acting circuit. The diverter valve is operated via a momentary switch which is mounted on the joystick in the cab of the excavator; simultaneous operation of both the switch & the auxiliary function will enable rotation. The cable for the switch can be tie-

Installation (contd.)

wrapped to the existing hoses along the boom of the excavator to the cab. The switch can then be fitted to the joystick using tie-wraps for convenient operation. The fitted plug should be inserted in the excavator's cigar lighter socket to provide a power supply.

CAUTION

Always ensure there is enough slack in the cable so as to allow the full range of movement of the excavator's arm.

CAUTION

Check that the diverter valve's voltage is correct for the excavator's power supply (either 12volt or 24 volt). This will be marked on the coil located on the valve and should have been specified at point of order.

Connect the hydraulic hoses to the excavator's double acting auxiliary hydraulic circuit either directly or by using suitable quick release couplings. Ensure the hoses are routed so as not to interfere with Tree-Lopper operation in all positions.

The Tree-Lopper is now ready for a dry run. Start the excavator and allow it to reach operating temperature. Raise the Tree-Lopper clear of the ground and operate the auxiliary function to cycle the blade of the Tree-Lopper. Operate the rotation by engaging the diverter valve with the momentary switch at the same time as operating the auxiliary function. Perform these operations a few times to ensure that all air has been expelled from the hydraulic circuit then stop the excavator, check all hydraulic connections for leaks & top up the oil in the hydraulic tank of the excavator. Apply grease to all grease points with the blade both open and closed before commissioning the Tree-Lopper for work.

DANGER

Make sure all personnel are clear of the Tree-Lopper whilst operating.

WARNING

Always stop the excavator's engine & remove the starter key from the cab when performing any maintenance or lubrication on the shear.

WARNING

Always depressurize the hydraulic circuit before carrying out any maintenance work.

Operation

WARNING

The operation of this equipment must be carried out by competent, suitably trained personnel, experienced in the use of hydraulic excavators.

Before using this equipment, the operator should read and fully understand this manual.

Operators should be equipped with suitable safety wear and personal protection equipment as deemed to be necessary as a result of conducting the required risk assessment.

Before using this equipment, check the general condition of the Tree-Lopper. Make sure all guards are present & in good condition, check that all nuts & bolts are tight. Inspect hydraulic fittings & hoses for damage & leaks and check that all emergency stop controls operate effectively.

Prior to commencing operation, a full appraisal and risk assessment of the area to be worked should be carried out, taking into consideration the proximity of any buildings, pylons, overhead lines, footpaths or areas where members of the public and other site operatives may be. A suitable exclusion zone should be established & signage displayed to prevent unauthorized entry. Consider any steep inclines, ground conditions and the stability of ground which is to support the excavator. At all times keep a regular lookout for obstructions within the operating area as well as persons entering the exclusion zone and be watchful of any wildlife. Be aware of any change in ground conditions & inclines and avoid sharp turns.

Cutting Recommendations:

Trees should always be sheared at right angles to the grain. Cutting the tree at an oblique angle to the grain can cause the frame to twist and put undo strain on the cylinder, pins and blade.

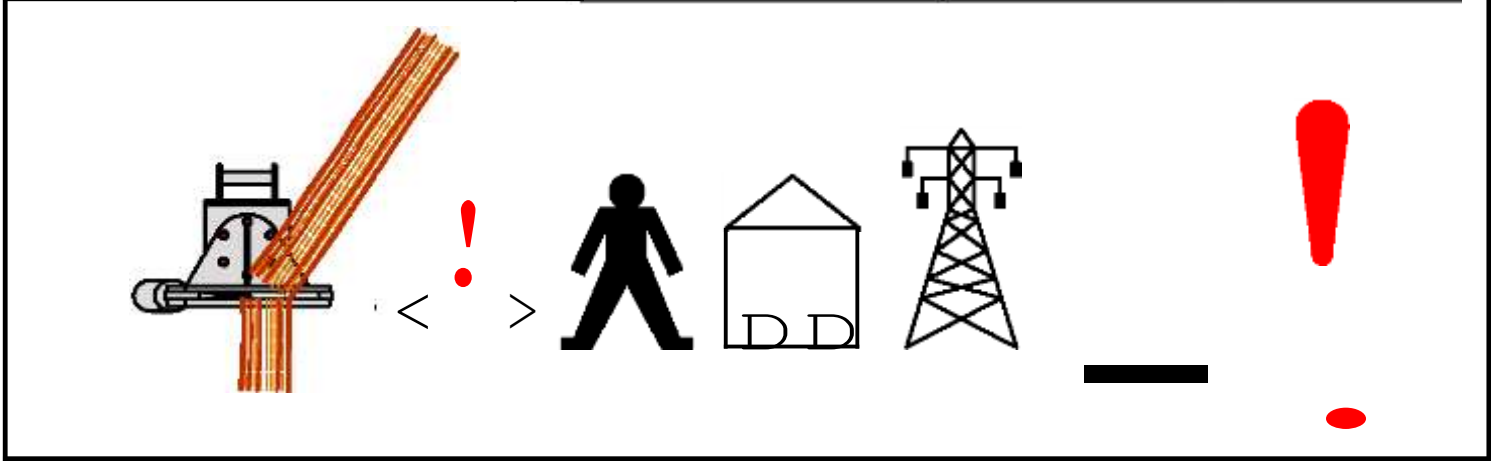
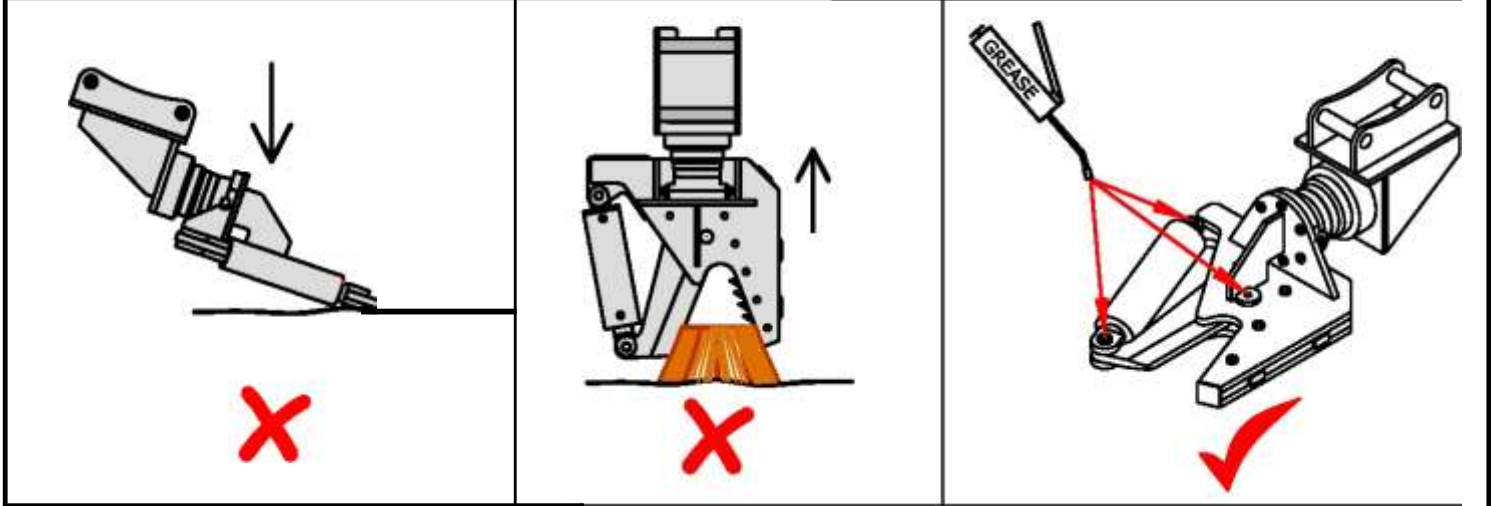
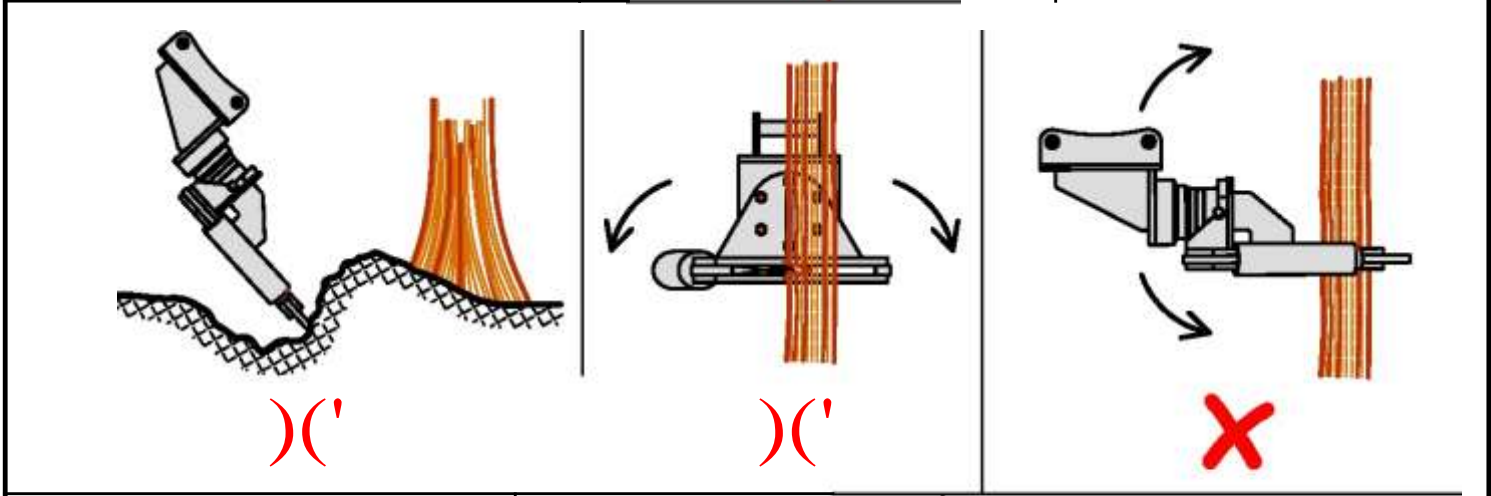
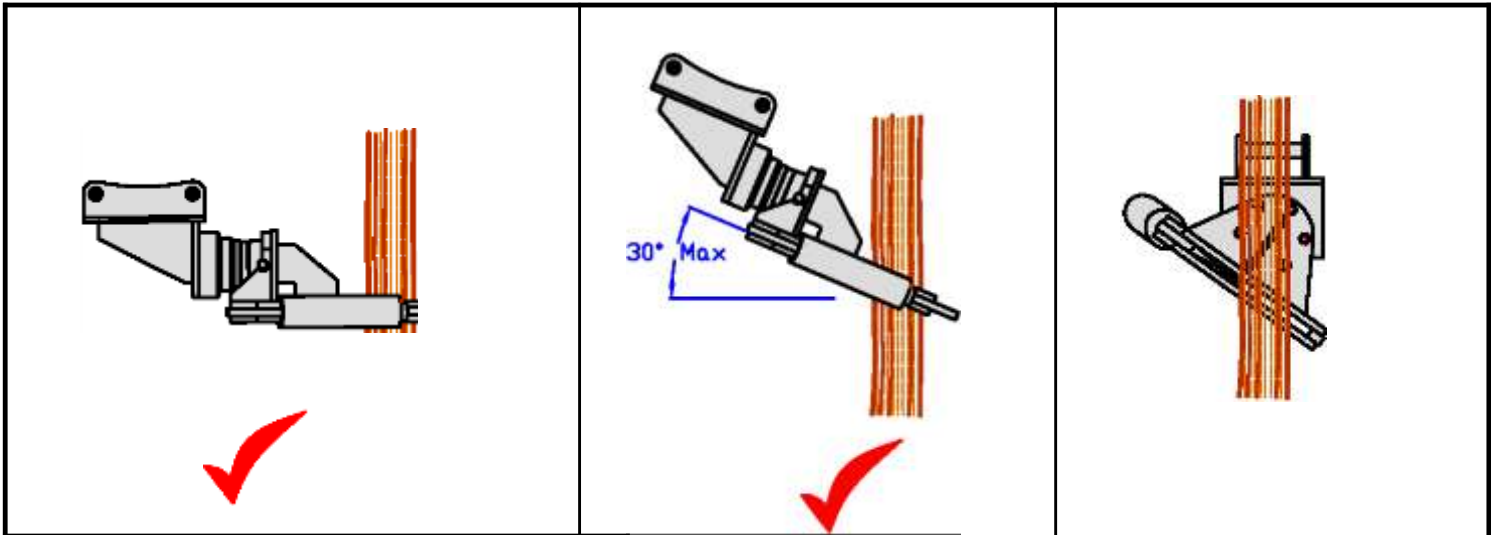
When cutting small branches & saplings, the blade can be opened just enough to cut in the front portion of the frame, reducing cycle time. For cutting larger sections up to the Tree-Lopper's rated capacity, open the blade completely and position the tree as far into the throat of the frame as possible for maximum shear power. When trimming branches etc., rotate the blade vertically and cut from the side.

Trees sheared will generally fall to the left or in the direction of blade travel; plan the progress of work accordingly.

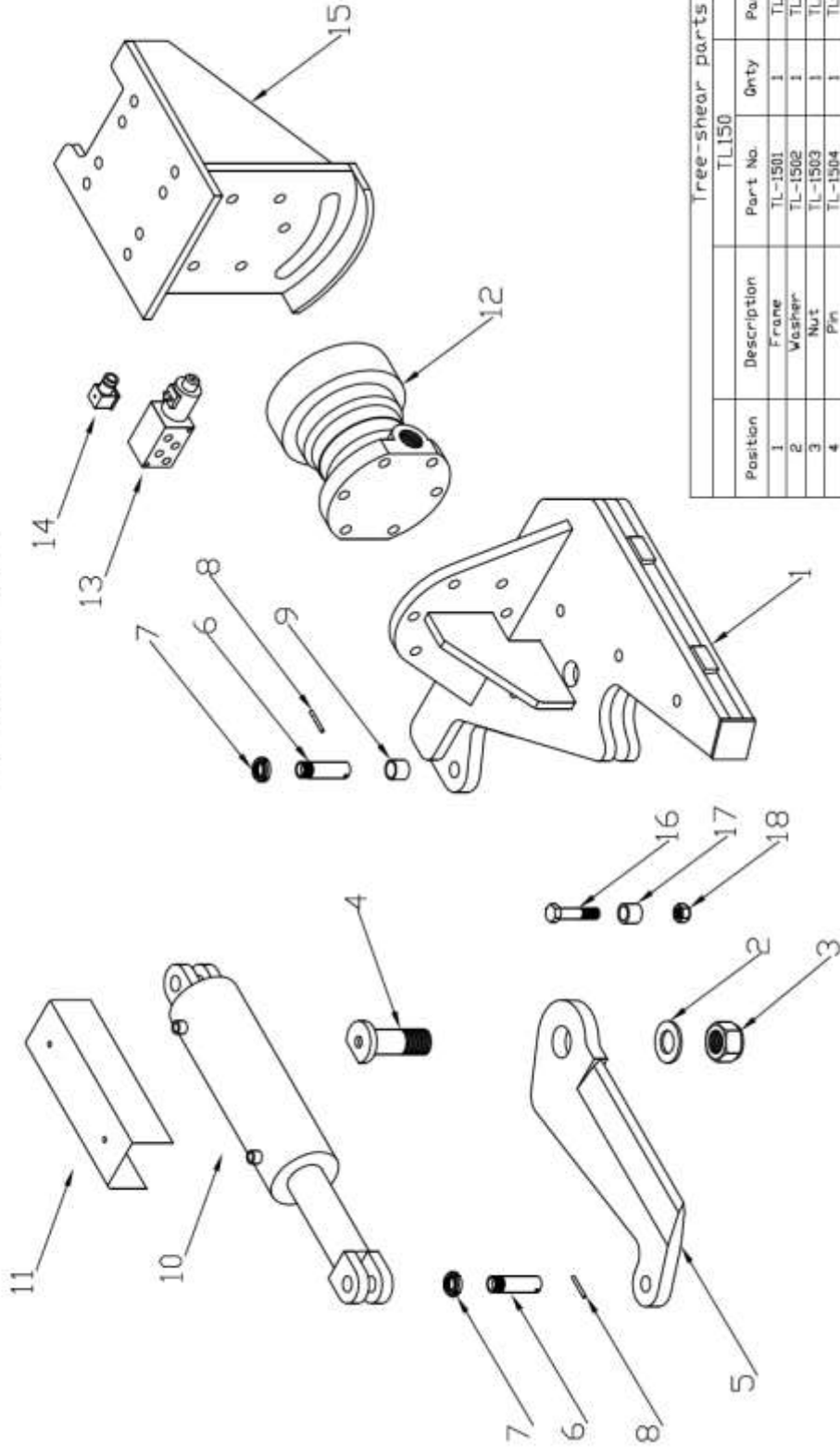
Cutting capacity will vary according to hydraulic pressure, cutting conditions, and species of tree. Seasoned wood cuts much harder than live, green wood, therefore cutting capacity and performance will vary accordingly.

Operation (contd.)

- The Tree-lopper is manufactured to cut trees and wood only.
- Do not use the Tree-lopper to pull stumps out.
- Do not use the Tree-lopper for bulldozing or rooting.
- Do not bear the weight of the excavator on the Tree-lopper.
- Do not use the excavator's arm functions, or attempt to rotate the Tree-lopper during the cutting cycle.
- Do not exceed the rated capacity of the Tree-lopper.
- Never operate the Tree-lopper when people are within the felling area.
- Never operate the Tree-lopper with people near the blade.
- Always stop the excavator's engine & remove the starter key from the cab when performing any maintenance or lubrication on the shear. Always depressurize the hydraulic circuit before carrying out any maintenance work.
- Be aware of any stumps, branches, rocks or other debris getting caught in the Tree-lopper – particularly between the cylinder and the frame. Serious damage will occur to the blade cylinder if it is cycled with material trapped between the cylinder and frame.
- Do not operate on steep inclines, or where the excavator is on unstable terrain.
- Always be aware of the stability of the machine and the safe load handling limits of the excavator. Always check the stability of the ground on which the excavator is to be operated.
- Hoses and fittings should be inspected regularly for damage and wear, and should be replaced as needed.
- Regular cleaning of dirt and chips from between frames is recommended.
- Always follow the safety procedures for the excavator as recommended by the manufacturer.
- The Tree-lopper is capable of felling a larger tree than may be safely carried by the excavator; extra care is required when felling large trees. Additional cutting can be performed after the tree is felled by rotating the shear to a vertical position.
- Grease the pivot points regularly through the grease nipples provided. If the Tree-lopper is being used continuously, greasing should be performed at least every hour.
- If the blade becomes chipped or worn it is permissible to re-dress it with a grinder to maintain performance.
- Check the tightness of all bolts periodically.



Spare Parts



Free-shear parts list

Position	Description	TL150		TL250		TL350	
		Part No.	Qty	Part No.	Qty	Part No.	Qty
1	Frame	TL-1501	1	TL-2501	1	TL-3501	1
2	Washer	TL-1502	1	TL-2502	1	TL-3502	1
3	Nut	TL-1503	1	TL-2503	1	TL-3503	1
4	Pin	TL-1504	1	TL-2504	1	TL-3504	1
5	Blade	TL-1505	1	TL-2505	1	TL-3505	1
6	Pin	TL-1506	2	TL-2506	2	TL-3506	2
7	Nut	TL-1507	2	TL-2507	2	TL-3507	2
8	Roll pin	TL-1508	2	TL-2508	2	TL-3508	2
9	Bush	TL-1509	1	TL-2509	1	TL-3509	1
10	Cylinder	TL-15010	1	TL-25010	1	TL-35010	1
11	Guard	TL-15011	1	TL-25011	1	TL-35011	1
12	Rotator	TL-15012	1	TL-25012	1	TL-35012	1
13	Valve	TL-VAL6	1	TL-VAL6	1	TL-VAL6	1
14	Plug	TL-PLU1	1	TL-PLU1	1	TL-PLU1	1
15	Headstock	TL-15015	1	TL-25015	1	TL-35015	1
16	Bolt	TL-15016	4	TL-25016	5	TL-35016	6
17	Spacer	TL-15017	4	TL-25017	5	TL-35017	6
18	Nut	TL-15018	4	TL-25018	5	TL-35018	6

Please quote model & serial no. when ordering part



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