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TIMBERWOLF
TW PTO 100G

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INTRODUCTION

Thank you for choosing Timberwolf. Timberwolf chippers are designed to give safe and dependable service if operated according to the instructions.

IMPORTANT HEALTH AND SAFETY INFORMATION

Before using your new chipper, please take time to read this manual. Failure to do so could result in:

- PERSONAL INJURY
- EQUIPMENT DAMAGE
- DAMAGE TO PROPERTY
- 3RD PARTY INJURIES

This manual covers the operation and maintenance of the Timberwolf TW PTO/100G. All information in this manual is based on the latest product information available at the time of purchase.

All the information you need to operate the machine safely and effectively is contained within pages 2 to 10. Ensure that all operators are **properly trained** for operating this machine, especially **safe working practices**.

Timberwolf's policy of regularly reviewing and improving their products may involve major or minor changes to the chippers or their accessories. Timberwolf reserves the right to make changes at any time without notice and without incurring any obligation.

Due to improvements in design and performance during production there may be, in some cases, minor discrepancies between the actual chipper and the text in this manual.

The manual should be considered an important part of the machine and should remain with it if the machine is resold.

ALWAYS FOLLOW SAFE OPERATING AND MAINTENANCE PRACTICES

CAUTION or WARNING

BE AWARE OF THIS SYMBOL AND WHERE SHOWN, CAREFULLY FOLLOW THE INSTRUCTIONS.

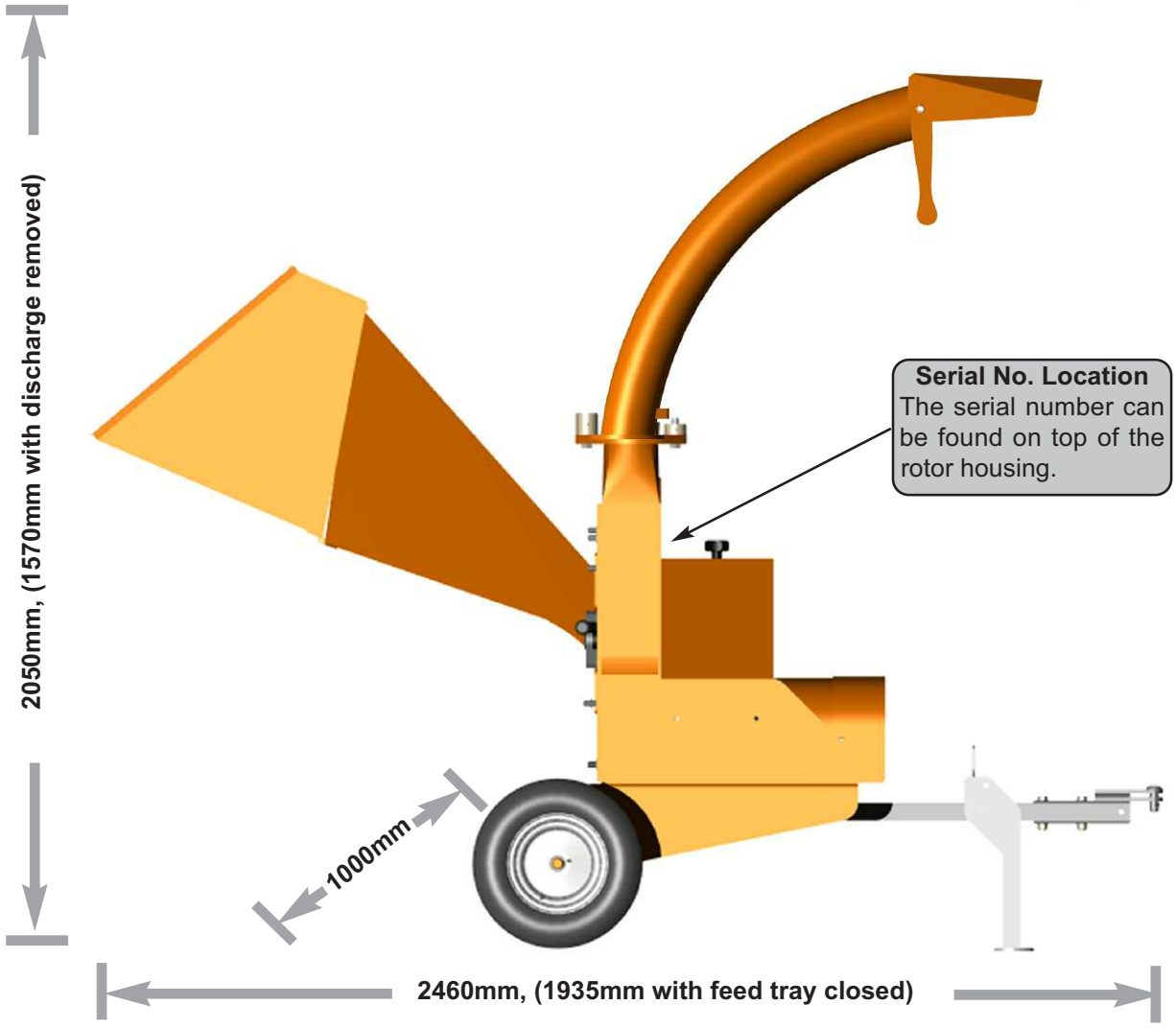
This caution symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury to yourself or others and carefully read the message that follows.

The Timberwolf TW PTO/100G

The Timberwolf PTO/100G brushwood chipper is designed to chip solid wood material including timber branches, saplings and brushwood up to 100mm in diameter.

The Timberwolf PTO/100G brushwood chipper is required to be securely coupled to the pin hitch of an 18 - 40hp compact tractor unit with 540rpm PTO when in use. Power from the attached compact tractor unit is to be supplied to the chipper via PTO drive shaft.

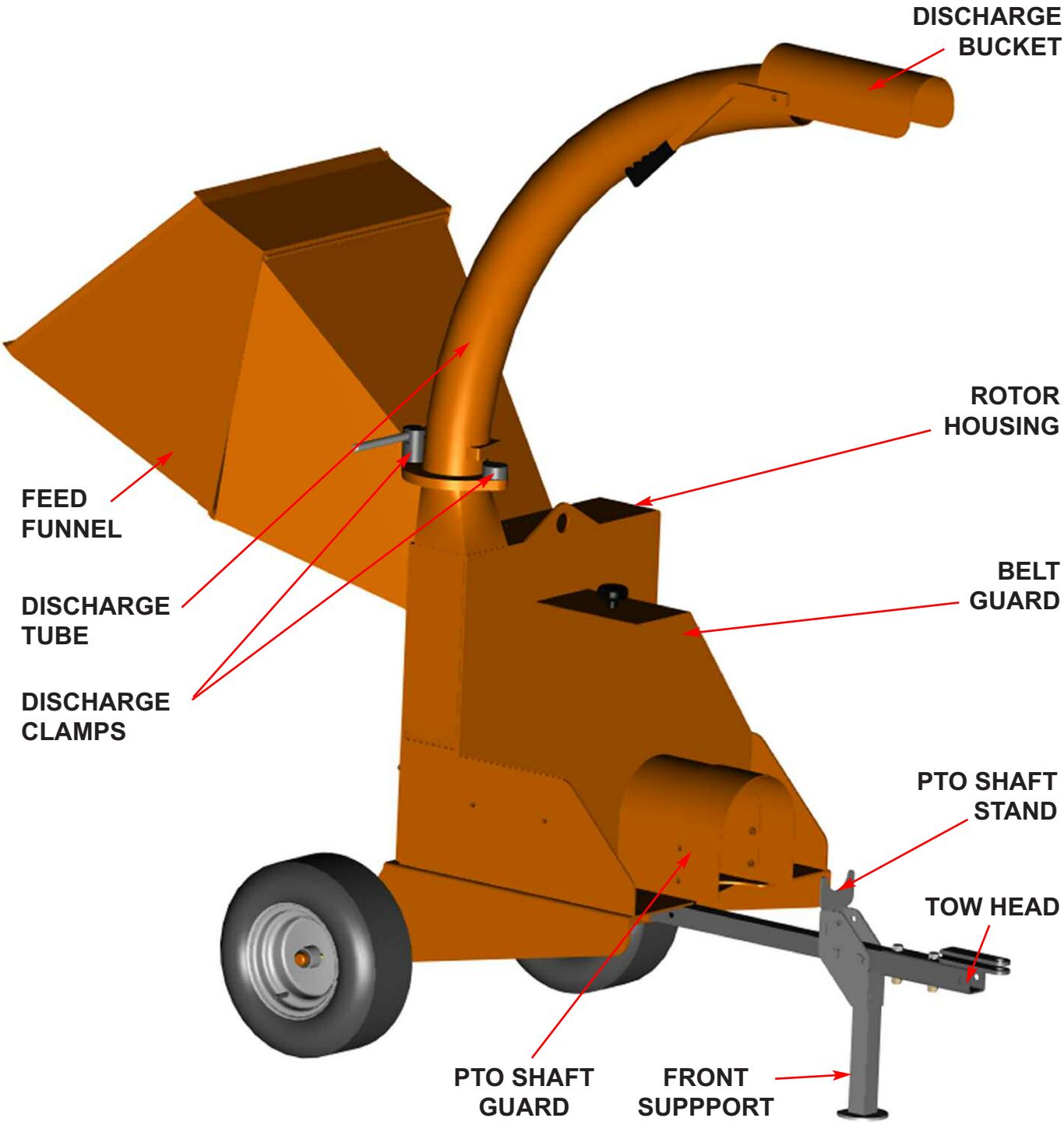
DIMENSIONS



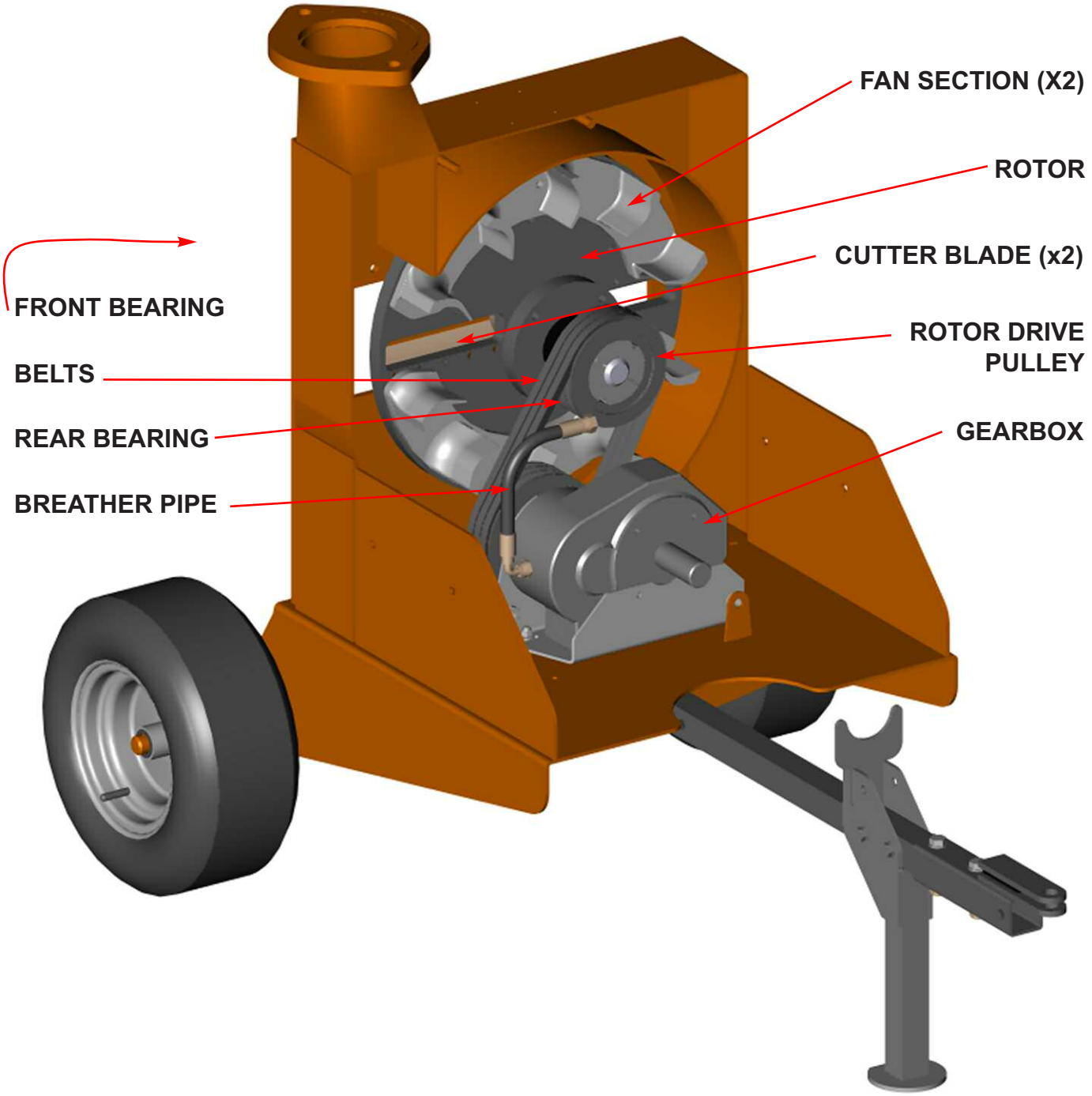
TIMBERWOLF TW PTO/100G SPECIFICATION

Power source	*Tractor PTO drive*	Maximum diameter material	*100 mm (4")*
PTO speed	*540rpm*	Material processing capacity	*1 tonne/hr*
Overall weight	*270kg*	Required engine power	*18 - 40hp*
Type of feed	*Gravity*		

PARTS LOCATOR



PARTS LOCATOR



WARNING

The chipper will feed material through on its own. To do this, it relies on sharp blades both on the feed rollers and the chipper rotor. To keep the blades sharp, only feed the machine with clean brushwood. DO NOT put muddy/dirty wood, roots, potted plants, bricks, stones or metal into the chipper.

OPERATOR'S PERSONAL PROTECTIVE EQUIPMENT REQUIRED

Chainsaw safety helmet fitted with mesh visor and recommended ear defenders to the appropriate specifications.

Close fitting heavy-duty non-snag clothing.

Work gloves with elasticated wrist.

Face mask if appropriate.

Steel toe cap safety boots.

DO NOT
wear rings, bracelets, watches, jewellery or any other items that could be caught in the material and draw you into the chipper.

BASIC WOODCHIPPING SAFETY

The operator should be aware of the following points:

- MAINTAIN A SAFETY EXCLUSION ZONE around the chipper of at least 10 metres for the general public or employees without adequate protection. Use hazard tape to identify this working area and keep it clear from debris build up. Chips should be ejected away from any area the general public have access to.

- HAZARDOUS MATERIAL - Some species of trees and bushes are poisonous. The chipping action can produce vapour, spray and dust that can irritate the skin. This may lead to respiratory problems or even cause serious poisoning. Check the material to be chipped before you start. Avoid confined spaces and use a facemask if necessary.

- BE AWARE when the chipper is processing material that is an awkward shape. The material can move from side to side in the funnel with great force. If the material extends beyond the funnel, the brash may push you to one side causing danger. Badly twisted brash should be trimmed before being chipped to avoid thrashing in the feed funnel.

- BE AWARE that the chipper can eject chips out of the feed funnel with considerable force. Always wear full head and face protection.

- ALWAYS work on the side of the machine furthest from any local danger, e.g. not road side.

GENERAL SAFETY MATTERS

DO'S AND DON'TS

ALWAYS stop the tractor engine, remove ignition key and disconnect the PTO shaft before making any adjustments.

ALWAYS check machine has stopped rotating and remove tractor ignition key before maintenance of any kind, or whenever the machine is to be left unattended.

ALWAYS check machine is securely coupled to tractor pin hitch and on firm level ground.

ALWAYS run tractor engine at required speed to acheive correct PTO speed.

ALWAYS check (visually) for fluid leaks.

ALWAYS take regular breaks. Wearing personal protective equipment for long periods can be tiring and hot.

ALWAYS keep hands, feet and clothing out of feed opening, discharge and moving parts.

ALWAYS use the next piece of material or a push stick to push in short pieces. Under no circumstances should you reach into the funnel.

ALWAYS keep the operating area clear of people, animals and children.

ALWAYS keep the operating area clear from debris build up.

ALWAYS keep clear of the chip discharge tube. Foreign objects may be ejected with great force.

ALWAYS ensure protective guarding is in place before commencing work. Failure to do so may result in personal injury or loss of life.

ALWAYS operate the chipper in a well ventilated area - exhaust fumes are dangerous.

DO NOT operate chipper unless available light is sufficient to see clearly.

DO NOT attempt to engage PTO without the feed funnel, belt guard, guards and discharge unit securely in place.

DO NOT stand directly in front of the feed funnel when using the chipper. Stand to one side.

DO NOT allow -

- to enter the machine, as damage is likely.

DO NOT smoke when refuelling.

DO NOT let anyone who has not received instruction operate the machine.

DO NOT climb on the machine at any time.

DO NOT handle material that is partially engaged in the machine.

DO NOT touch any exposed wiring while machine is running.

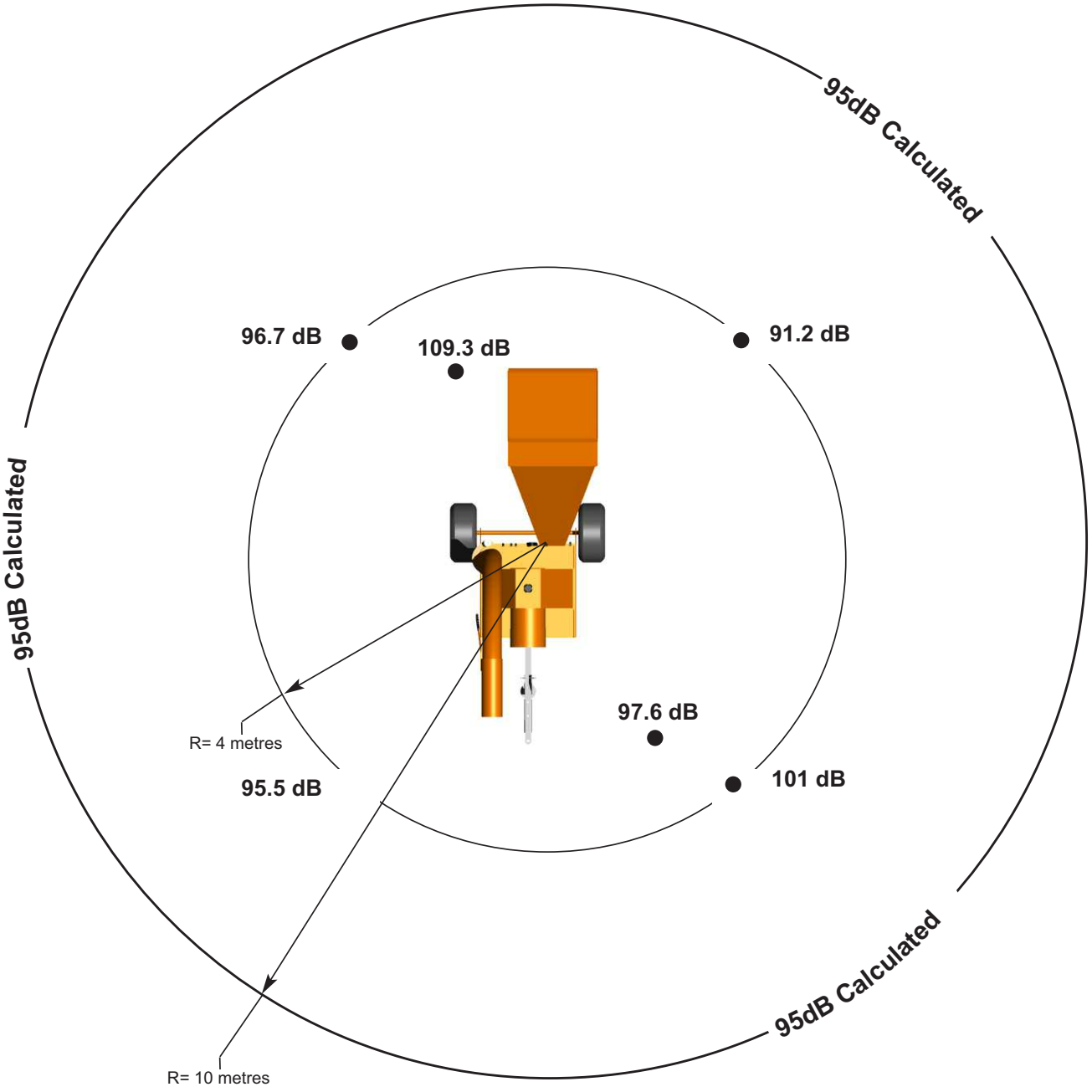
DO NOT use the chipper inside buildings.

NOISE TEST

MACHINE: TW PTO/100G

NOTES: Tested chipping green conifer 25 mm-40 mm

Noise levels above 80dB (A) will be experienced at the working position. Wear ear protection at all times to prevent possible damage to hearing. All persons within a 4 metre radius must also wear good quality ear protection.



Guaranteed Sound Power: 125dB (A)

As required by Annex III of Directive 2000/14/EC "Noise Emission in the environment by equipment for use outdoors".

DELIVERY

All Timberwolf TW PTO/100G machines have a full pre - delivery inspection before leaving the factory and are ready to use. Read and understand this instruction manual before attempting to operate the chipper. In particular, read pages 5-7 which contain important health and safety information and advice.

SAFE TRANSPORTATION

- THE PTO/100G chipper may be transported as a unit or with the feed funnel removed.
- TAKE care when loading the PTO/100G as it is 268kg in weight.
- STRAP the chipper down firmly before beginning a journey.

OPERATOR'S PERSONAL PROTECTIVE EQUIPMENT REQUIRED

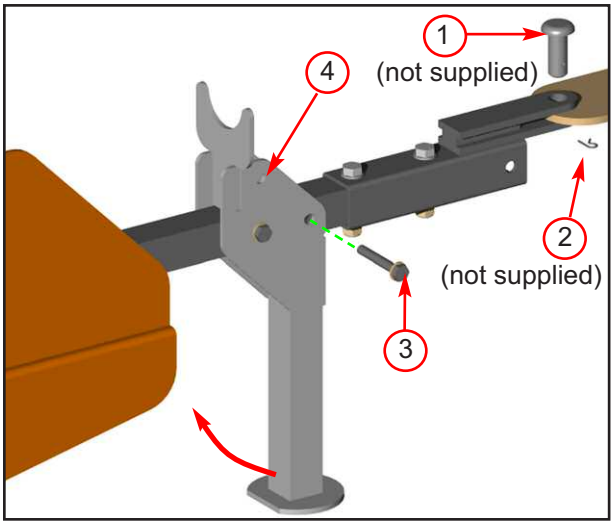
- CHAINSAW safety helmet fitted with visor and recommended ear defenders to an appropriate specification.
- HEAVY-DUTY gloves with elasticated wrist area.
- CLOSE - FITTING heavy-duty non-snag clothing.
- SAFETY footwear.
- FACE MASK (if appropriate).

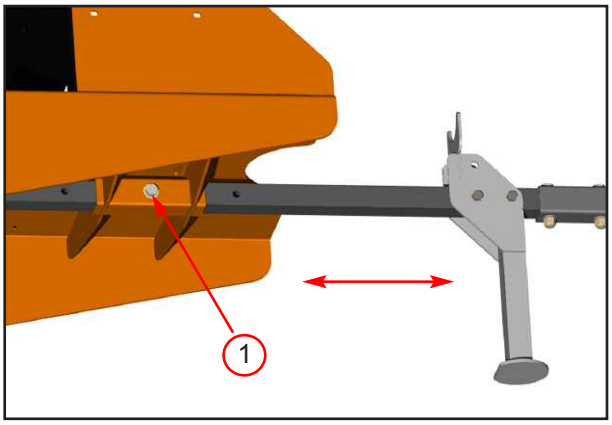
See page 5 for more detailed information.

HITCHING UP

The PTO/100G is fitted with a pin type hitch. It is suitable for use with a range of compact tractor with a 540rpm PTO output. The chipper tow head is fitted onto the tractor coupling for use with a steel pin (1) which is dropped through the hole. This should be retained with an R clip (2) for security.

The front leg that keeps the chipper level and provides support for the propeller shaft is movable. After hitching to a tractor and fitting the prop shaft the bolt (3) can be removed and the leg swung horizontal. The bolt is then refitted in hole shown (4).





The first time a tractor is fitted to the chipper the correct length of tow beam needs to be set. The length corresponds to the exact propeller shaft that is to be used. Adjustment is made underneath the chipper. Remove the M12 bolt from underneath the chassis (1) and slide the bar until the desired length is reached. Replace the bolt and tighten.

WARNING **ALWAYS ENSURE THE TRACTOR ENGINE IS TURNED OFF AND KEY REMOVED FROM IGNITION BEFORE PERMORMING ANY ADJUSTMENTS TO CHIPPER**

CONNECTING PTO SHAFT

ALWAYS ENSURE THE TRACTOR IS TURNED OFF BEFORE FITTING OR REMOVING PROP SHAFT.

When fitting a PTO shaft it should always be remembered that 100 mm of overlap is required between the two sections of the shaft. This is the minimum needed to ensure the shaft does not fail.

To connect the PTO shaft follow the instructions supplied with the shaft. The shaft should remain fitted to the chipper at all times. It can be placed on the prop shaft support when the tractor is removed.

DAILY CHECKS BEFORE STARTING

- LOCATE the machine on firm level ground and correctly coupled to a tractor.
- CHECK all guards are in place and PTO guard anti rotation chain is secured.
- CHECK the discharge unit is pointing in a safe direction.
- CHECK the feed funnel to ensure no objects are inside.

For parts location see diagrams on pages 3 & 4.

STARTING TO CHIP

WARNING **Do not use or attempt to start the chipper without the protective guarding and discharge unit securely in place. Failure to do so may result in personal injury or loss of life.**

- CHECK that the chipper is running smoothly at correct PTO speed.
- STAND to one side of the feed funnel when loading material.
- PROCEED to feed material into the feed funnel (note do's and dont's).

CHIPPING

Wood up to 100 mm in diameter can be fed into the feed funnel. Enter it into the funnel butt end first. Release the material before it engages the rotor. Some pieces of wood may move around significantly while being chipped.

The wood will be drawn into the cutting blade quite quickly, be ready for this to happen. Stand well clear.

A piece of wood which is too tough or too large for the chipper will slow the engine down. When this happens it is possible to hold back the branches that are being chipped and allow the engine to regain its speed again.

If a piece of wood gets stuck in the funnel and it cannot be chipped due to its size or shape, it will need to be removed. Trim the branch until it is a suitable shape for the chipper to accept.

BLADE WEAR

The most important part of using a wood chipper is keeping the cutter blades sharp. Timberwolf chipper blades are hollow ground to an angle of 40 degrees. When performing daily blade checks ensure blade edge is sharp and free from chips, if there is any evidence of damage, or the edge is “dull” change the blade(s). The TW 13/75G is fitted with two blades 177 mm (7") long. They are 43 mm wide when new. A new blade should chip for up to 25 hours before it requires sharpening. This figure will be drastically reduced by feeding the machine with stony, sandy or muddy material.

As the blade becomes blunt performance is reduced, with increased stress and load on the machine the chips will become more irregula rand stringy. At this point the blade should be sent to a reputable blade sharpening company. The blade can be sharpened several times in its life. A wear mark on the reverse side indicates the safe limit of blade wear. Replace when this line is exceeded.

The machine is also fitted with a static blade (anvil). It is important that the anvil is in good condition to allow the cutting blades to function efficiently. Performance will be poor, even with sharp cutter blades, if the anvil is worn.

BLOCKAGES

WARNING **Do not rev engine and increase PTO speed above 540rpm in an attempt to clear blockages. Always follow procedure as outlined below to protect operator and bystanders from ejected material.**

Always be aware that what you are putting into the chipper must come out. If the chips stop coming out of the discharge tube but the chipper is taking material in - STOP IMMEDIATELY. Continuing to feed material into a blocked machine may cause damage and will make it difficult to clear.

If the chipper becomes blocked proceed as follows:

- STOP the tractor engine and remove the ignition keys.
- ENSURE tractor engine has come to a complete stop.
- REMOVE the discharge tube. Check that it is clear.
- WEARING gloves, reach into the rotor housing and scoop out the majority of the debris causing the blockage.

WARNING **Do not reach into the rotor housing with unprotected hands. There are sharp blades and any small movement of the rotor may cause serious injury.**

- REPLACE the discharge tube.
- RESTART the tractor engine and increase revs to achieve PTO speed of 540 rpm.
- ALLOW machine time to clear excess chips still remaining in rotor housing before you continue feeding brushwood. Feed in a small piece of wood while watching to make sure that it comes out of the discharge. If this does not clear it, repeat the process and carefully inspect the discharge tube to find any obstruction.

NOTE

Continuing to feed the chipper with brushwood once it has become blocked will cause the chipper to compact the chips in the rotor housing and it will be difficult and time consuming to clear.

AVOID THIS SITUATION - WATCH THE DISCHARGE TUBE AT ALL TIMES.

THE FOLLOWING PAGES DETAIL ONLY *BASIC* MAINTENANCE GUIDELINES SPECIFIC TO YOUR CHIPPER.

THIS IS NOT A WORKSHOP MANUAL.

THE FOLLOWING GUIDELINES ARE NOT EXHAUSTIVE AND DO NOT EXTEND TO GENERALLY ACCEPTED STANDARDS OF ENGINEERING/MECHANICAL MAINTENANCE THAT SHOULD BE APPLIED TO ANY PIECE OF MECHANICAL EQUIPMENT AND THE CHASSIS TO WHICH IT IS MOUNTED.

AUTHORISED TIMBERWOLF SERVICE AGENTS ARE FULLY TRAINED IN ALL ASPECTS OF TOTAL SERVICE AND MAINTENANCE OF TIMBERWOLF WOOD CHIPPERS. YOU ARE STRONGLY ADVISED TO TAKE YOUR CHIPPER TO AN AUTHORISED AGENT FOR ALL BUT THE MOST ROUTINE MAINTENANCE AND CHECKS.

TIMBERWOLF ACCEPTS NO RESPONSIBILITY FOR THE FAILURE OF THE OWNER/USER OF TIMBERWOLF CHIPPERS TO RECOGNISE GENERALLY ACCEPTED STANDARDS OF ENGINEERING/MECHANICAL MAINTENANCE AND APPLY THEM THROUGHOUT THE MACHINE.

THE FAILURE TO APPLY GENERALLY ACCEPTED STANDARDS OF MAINTENANCE, OR THE PERFORMANCE OF INAPPROPRIATE MAINTENANCE, MAY INVALIDATE WARRANTY IN WHOLE OR IN PART.

PLEASE REFER TO YOUR AUTHORISED TIMBERWOLF SERVICE AGENT FOR SERVICE AND MAINTENANCE.

SERVICE SCHEDULE

WARNING **Always immobilise the machine by stopping the tractor and removing the ignition key before undertaking any maintenance work. When the tractor is stopped it will be necessary to disengage the PTO so that the rotor can be turned.**

SERVICE SCHEDULE	Daily Check	25 Hours	50 Hours (once a month)	400 Hours (once a year)
Check feed funnel and belt guard, and PTO guard are securely fitted.	✓			
Check blade condition.	✓			
Check and lubricate PTO shaft.		✓	*Refer to PTO leaflet provided.*	
Check for tightness all nuts, bolts and fastenings making sure nothing has worked loose.			✓	
Check belt tension, adjust if necessary.			✓	
Check cutting anvil for wear.			✓	
Check wheel grease points.			✓	
Change gear box oil.				✓
Replace anvils when worn.	RETURN TO DEALER FOR ANVIL CHANGE			

NOTE: Your Timberwolf wood chipper is covered by a full 12 months parts and labour warranty. Subject to correct maintenance and proper machine usage, the bearings are guaranteed for 12 months regardless of hours worked by the machine. In conditions of 'heavy usage' - i.e. in excess of 500 hours per year - it is recommended that the bearings are changed annually to ensure that the machine retains optimum working performance.

SPARES

Only fit genuine Timberwolf replacement blades, screws and chipper spares. Failure to do so will result in the invalidation of the warranty and may result in damage to the chipper, personal injury or even loss of life.

COPPER EASE SAFETY INFORMATION

Product name: Copper Ease.

Copper Ease contains no hazardous ingredients at or above regulatory disclosure limits, however, safety precautions should be taken when handling (use of oil-resistant gloves and saftey glasses are recommended - respiratory protection is not required). Avoid direct contact with the substance and store in a cool, well ventilated area avoiding sources of ignition, strong oxidising agents and strong acids. Dispose of as normal industial waste (be aware of the possible existance of regional or national regulations regarding disposal), do not discharge into drains or rivers.

In case of fire: in combustion the product emits toxic fumes, extinguish with alcohol or polymer foam, carbon dioxide or dry chemical powder. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

FIRST AID

Skin contact: there may be mild irritation at the site of contact, wash immediately with plenty of soap and water.
Eye contact: there may be irritation and redness, bathe the eye with running water for 15 minutes.
Ingestion: there may be irritation of the throat, do not induce vomiting, wash out mouth with water

A safety data sheet for this product can be obtained by writing to the manufacturer at the following address: Comma Oil and Chemicals Ltd., Deering Way, Gravesend, Kent DA12 2QX. Tel: 01474 564311, Fax: 01474 333000.

SAFE MAINTENANCE

- HANDLE blades with extreme caution to avoid injury. Gloves should always be worn when handling the cutter blades.
- THE drive belts should be connected while changing blades, as this will restrict sudden movement of the rotor.
- THE major components of this machine are heavy. Lifting equipment must be used for disassembly.
- CLEAN machines are safer and easier to service.

CHECK FITTINGS

The Timberwolf PTO/100G is subject to large vibrations during the normal course of operation. Consequently there is always a possibility that nuts and bolts will work themselves loose. It is important that periodic checks are made to ensure the security of all fasteners. Fasteners should be tightened using a torque wrench to the required torque (see below). ***Uncalibrated torque wrenches can be inaccurate by as much as 25%. It is therefore essential that a calibrated torque wrench is used to achieve the tightening torques listed below.***

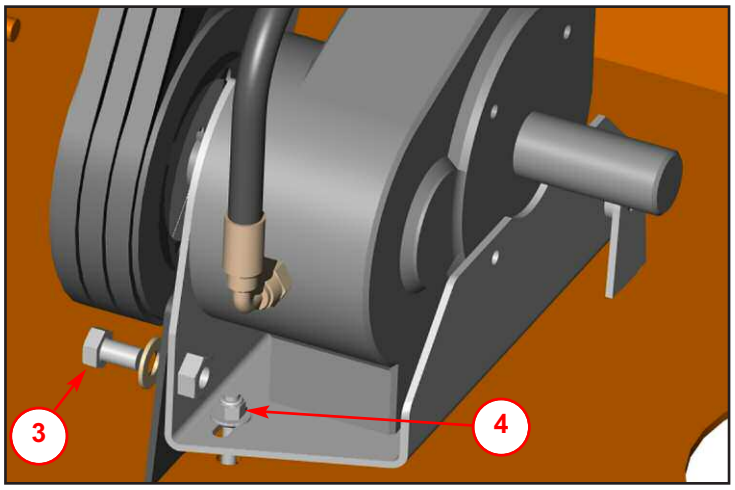
	Size	Pitch	Head	Torque lbft
Blade Bolts	M8	Standard	T40 Torq	22
General	M8	Standard	13 mm Hex	20
General	M10	Standard	17 mm Hex	45
General	M12	Standard	19 mm Hex	65

TENSION BELTS

NOTE: There will normally be a rapid drop in tension during run-in period for new belts. When new belts are fitted, check the tension every 2 - 3 hours and adjust until the tension remains constant.

Belt failures due to lack of correct tensioning will not be covered under your Timberwolf warranty.

1. Remove the belt guard.
2. Check the belt tension. For instructions on checking belt tension & correct belt tension values, please refer to the Timberwolf V-Belt Tensioning Data Table (this information can be obtained from your dealer).
3. Loosen the M12 Bolt.
4. Adjust the belt tension by tightening the nut clamping the bracket to the base.
5. Re-tighten the M12 Bolt.
6. Refit belt guard.



N.B. *Early models were fitted with a gearbox on a slider. The belt tensioner for these models is located on the slide plate.*

ANVIL CHANGING

The anvil is an important component in maintaining a consistent machine performance. Inspect it with the feed funnel removed. A measure of the wear is how sharp the edge is. If it has become seriously rounded then it is appropriate to change it.

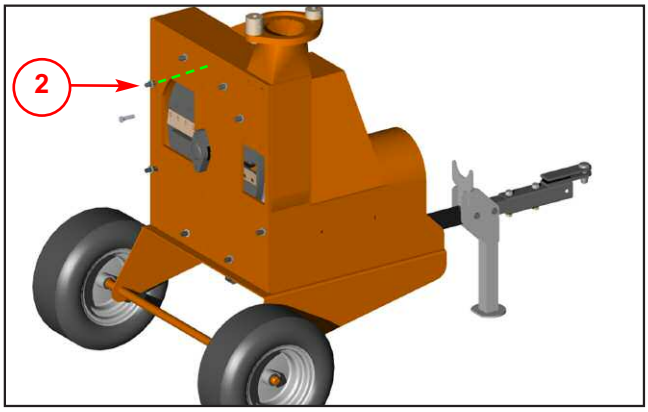
Turning or replacing the anvil should be carried out by a Timberwolf dealer.

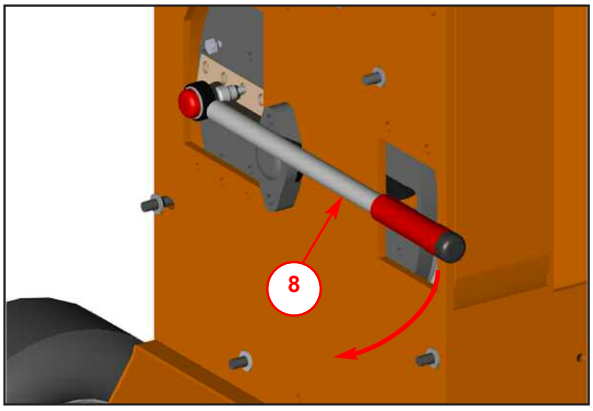
CHANGE ROTOR BEARINGS

Return the chipper to your dealer.

CHANGE BLADES

WARNING **Wear riggers gloves for the blade changing operation.**

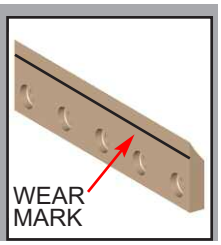




1. Remove the feed funnel.
2. Insert M10 screw into rotor to stop it turning.
3. Use a small screwdriver to remove sap and debris from Torx socket in screw - be particularly careful to ensure every last piece has been removed.
4. Using the Torx fitting provided loosen the blade screws.
5. Remove the blade carefully.
6. **Before fitting a new blade ensure the seating surface on the rotor is spotlessly clean. This is necessary to ensure the blade is always held firm. Damage to the rotor may be caused if this is not checked.**
7. Apply a small amount of copper grease to the blade screws.
8. **Using a torque wrench tighten the blade screws to 29Nm (22 lb/ft).**

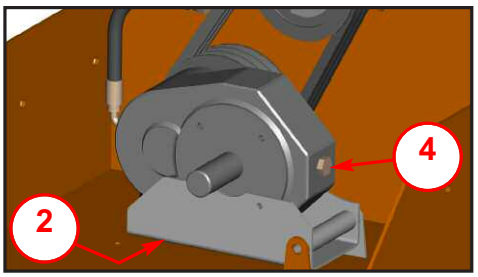
WARNING

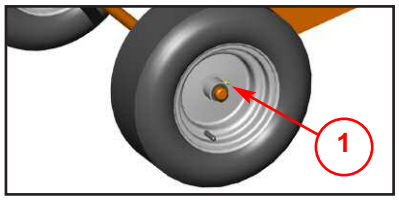
Always sharpen blades on a regular basis. Failure to do so will cause the machine to under perform and will overload engine and bearings causing machine breakdown. Blades must not be sharpened beyond the wear mark (see diagram). Failure to comply with this could result in machine damage, injury or loss of life.



CHANGE GEAR BOX OIL

1. Remove the belt guard.
2. Locate the drain plug underneath the gear box.
3. Drain out oil and replace plug.
4. Add 560ml oil (EP80/90) via top filler/breather plug.



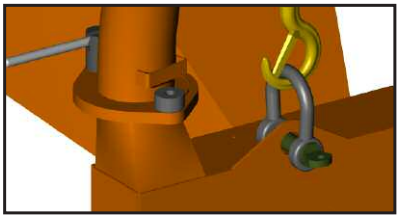


CHECK WHEEL GREASE POINTS

1. Locate grease nipples attached to wheel hubs.
2. Apply 5 shots of general purpose grease.

SAFE LIFTING OF THE CHIPPER

The lifting eye is designed to lift the machine's weight only. Do not use hoist hook directly on the lifting eye, use a correctly rated safety shackle. Inspect the lifting eye prior to each use - DO NOT USE LIFTING EYE IF DAMAGED.



ENTEC INDUSTRIES LTD 12 MONTH CHIPPER WARRANTY

WARRANTY PERIOD

The warranty period for the woodchipper commences on the date of sale to the first end user and continues for a period of 12 months. This guarantee is to the first end user only and is not transferable except when an authorised Timberwolf Dealer has a woodchipper registered with Entec Industries Ltd as a hire chipper or long term demonstrator – in these situations they are duly authorised to transfer any remaining warranty period to their first end user. Any warranty offered by the Timberwolf Dealer beyond the original 12 month period will be wholly covered by said Dealer.

LIABILITY

Our obligation under this warranty is limited to repair at Entec Industries Ltd premises or at our option an Entec Industries Ltd approved Timberwolf dealer. No liability will be accepted for special, indirect, incidental, or consequential loss or damages of any kind.

WARRANTY STATEMENT

Entec Industries Ltd warrants to the first end user that;

- Your woodchipper shall be designed, built and equipped, at the point of sale, to meet all current applicable regulations.
- Your chipper shall be free from manufacturing defects both in materials and workmanship in normal service for the period mentioned above.

Warranty will not apply to a failure where normal use has exhausted the life of a component.

Engine units are covered independently by their respective manufacturer warranties.

OWNERS WARRANTY RESPONSIBILITIES

As the owner of an Entec Industries Ltd woodchipper you are responsible for the following;

- Operation of the woodchipper in accordance with the Entec Industries Ltd instruction manual.
- Performance of the required maintenance listed in your Entec Industries Ltd instruction manual.
- In the event of a failure the Entec Industries Ltd authorised Timberwolf dealer is to be notified within 10 days of failure and the equipment is to be made available for unmolested inspection by the dealer technician.

WARRANTY RESTRICTIONS

The Entec Industries Ltd warranty is restricted to the first end user only and is not transferable except when an authorised Timberwolf Dealer has a woodchipper registered with Entec Industries Ltd as a hire chipper or long term demonstrator – in these situations they are duly authorised to transfer any remaining warranty period to their first end user.

The Entec Industries Ltd warranty may be invalidated if any of the following apply;

- The failed parts or assembly is interfered with in any way.
- Normal maintenance has not been performed.
- Incorrect reassembly of components.
- The machine has undergone modifications not approved in writing by Entec Industries Ltd.
- In the case of tractor driven equipment, use has been on an unapproved tractor.
- Conditions of use can be deemed abnormal.
- The machine has been used to perform tasks contrary to those stated in the Entec Industries Ltd instruction manual.

WARRANTY SERVICE

To obtain warranty service please contact your nearest Entec Industries Ltd approved Timberwolf dealer. To obtain details of the nearest facility please contact Entec Industries Ltd at the address on the back of this manual. These warranty terms are in addition to and not in substitution for and do not affect any right and remedies which an owner might have under statute or at common law against the seller of the goods under the contract by which the owner acquired the goods.

CERTIFICATE OF CONFORMITY

Environmental Manufacturing LLP

Entec House,
Tomo Industrial Estate,
Stowmarket,
Suffolk IP14 5AY
Tel: 01449 765800 Fax: 01449 765801

E C Declaration of Incorporation

Environmental Manufacturing LLP as the designer and manufacturer, certifies that the machine stipulated below complies with all the relevant provisions of the:

Machinery Directive; 2006/42/EC
(& other relevant directives)

and the National Laws and Regulations adopting these directives.

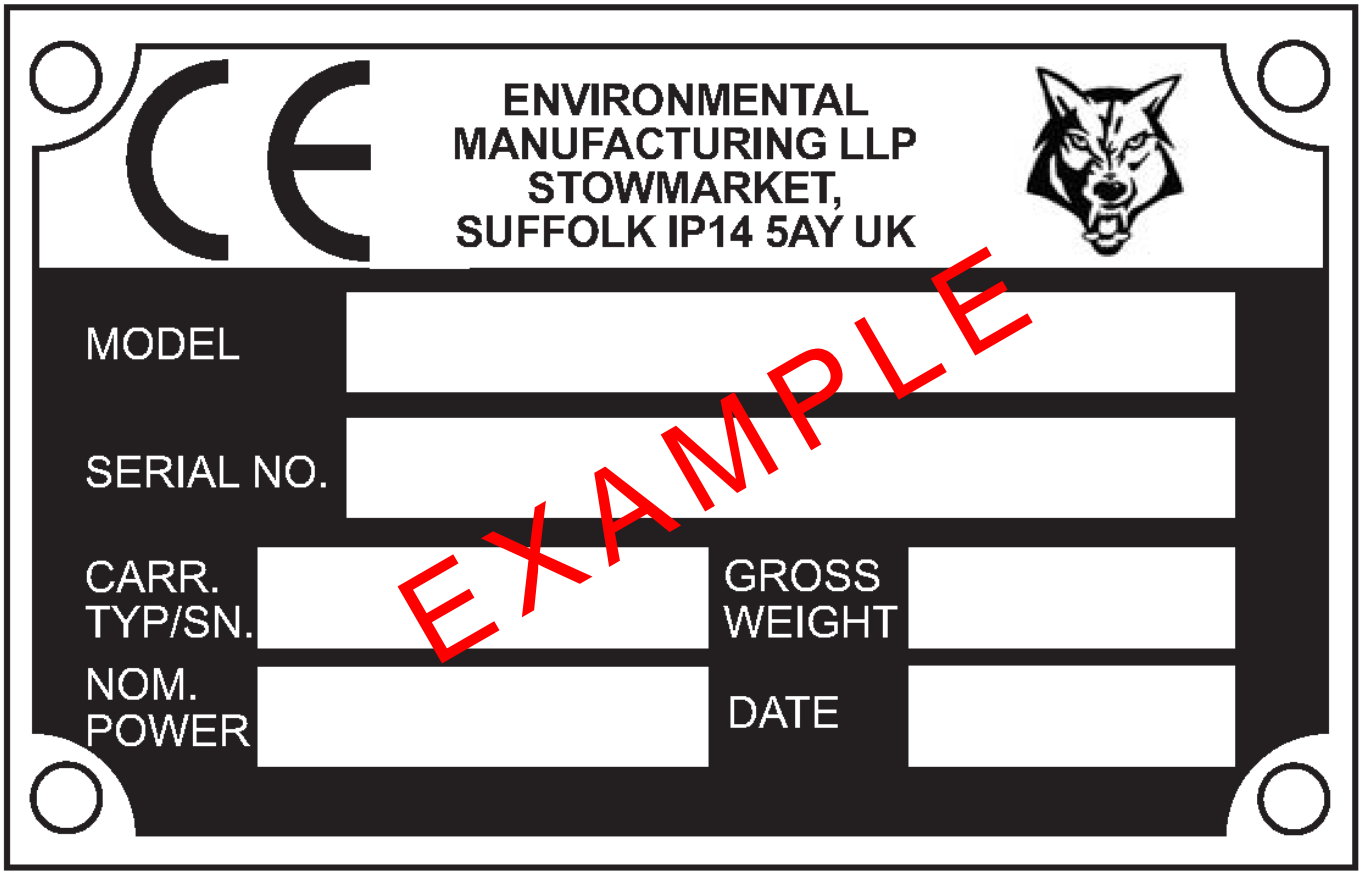
Designer/Manufacturer	**:**	Environmental Manufacturing LLP
Description of Machinery	**:**	Unpowered portable machinery designed to be incorporated into a suitable PTO power source, and chip up tree waste prior to disposal.
Model	**:**	TW PTO 100G
Serial No.		*Serial Manufacture*

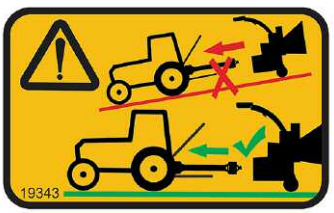
BSI Transposed Harmonised Standards applied: (including parts/clauses of):
BS EN 12100-1: 2010 Safety of Machinery- Basic concepts, BS EN 13857-1: 2008 Safety of Machinery-Safety distances to danger zones, BS EN 60204-1: 2006 +A1 2009 Safe electrical practices, BS EN 13732-1:2008 Safety of Machinery – Temperatures of touchable surfaces, BS EN 13849-1: 2008 – Safety of Machinery – Safety related parts of control systems, BS13850:2008 safety of Machinery Emergency stop BS EN 982: 1996 + A1 2005 – Safety of Machinery – Hydraulics, BS EN 1088: 1995 + A2 2008 – Safety of Machinery – Interlocking devices, BS EN 13525: 2005 + A2 2009 – Forestry Machinery – Wood chippers – Safety. BS EN 953:1997+A1:2009

"Responsible" Person empowered to sign: _____ _____Mr. Jeff Haines
Position in Company: Technical Director

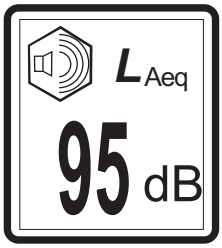
Date: 31 July 2014

IDENTIFICATION PLATE



Decal	Description	Decal	Description
617 	High velocity discharge - keep clear	2949 	**Lifting eye is designed to lift the machine's weight only.** Do not use hoist hook directly on lifting eye. Use correctly rated safety shackle only through lifting eye.Lifting eye to be inspected every 6 months or before each use. Always visually inspect lifting eye prior to each use. Do not use lifting eye if damaged.
670 	Personal Protective Equipment required	3022 	Clean under blades before refitting or turning. Failure to do so may result in blade(s) coming loose and damage being caused to the rotor housing.
1662 	The instruction manual with this machine contains important operating, maintenance and health and safety information. Failure to follow the information contained in the instruction manual may lead to death or serious injury.	19330 	540rpm Exceeding the nominal rotational speed of the machine will place both operator and bystanders in danger from ejected material.
4099 	Danger. Rotating blades. Keep hands and feet out.	18393 	New drive belts need re-tensioning. When new belts are fitted check tension every 2-3 hours & adjust until tension remains constant.
19331 	Disconnect the pto drive shaft before servicing and maintenance. Stop tractor and remove ignition key before making any adjustments.	19343 x 2 	Ensure machine is on level surface before detaching from the tractor PTO shaft and 3-point linkage.

Decal	Description	Decal	Description
	P637 x 3 Danger. Do not operate without this cover in place.		P653 Danger. Rotating blades inside. Stop engine and remove key before removing discharge unit.
	P652 Caution. Do not put road sweepings in machine as grit will damage blades.		P654 Caution. When transporting, discharge clamps may work loose.Check frequently.
	P655 Caution. Avoid standing directly in front of feed funnel to reduce exposure to noise, dust and risk from ejected particles.		P656 Danger. Do not use this machine without the discharge unit fitted. failure to comply may result in serious inury or damage.



TIMBERWOLF
TW PTO/100G

1363	1849	3012	3013	P*161

PARTS LISTS

The following illustrations are for parts identification only. The removal or fitting of these parts may cause a hazard and should only be carried out by trained personnel.

	Page No.
CHASSIS / ROTOR HOUSING	**21**
DECALS	**See pages 18 & 19**
DISCHARGE	**22**
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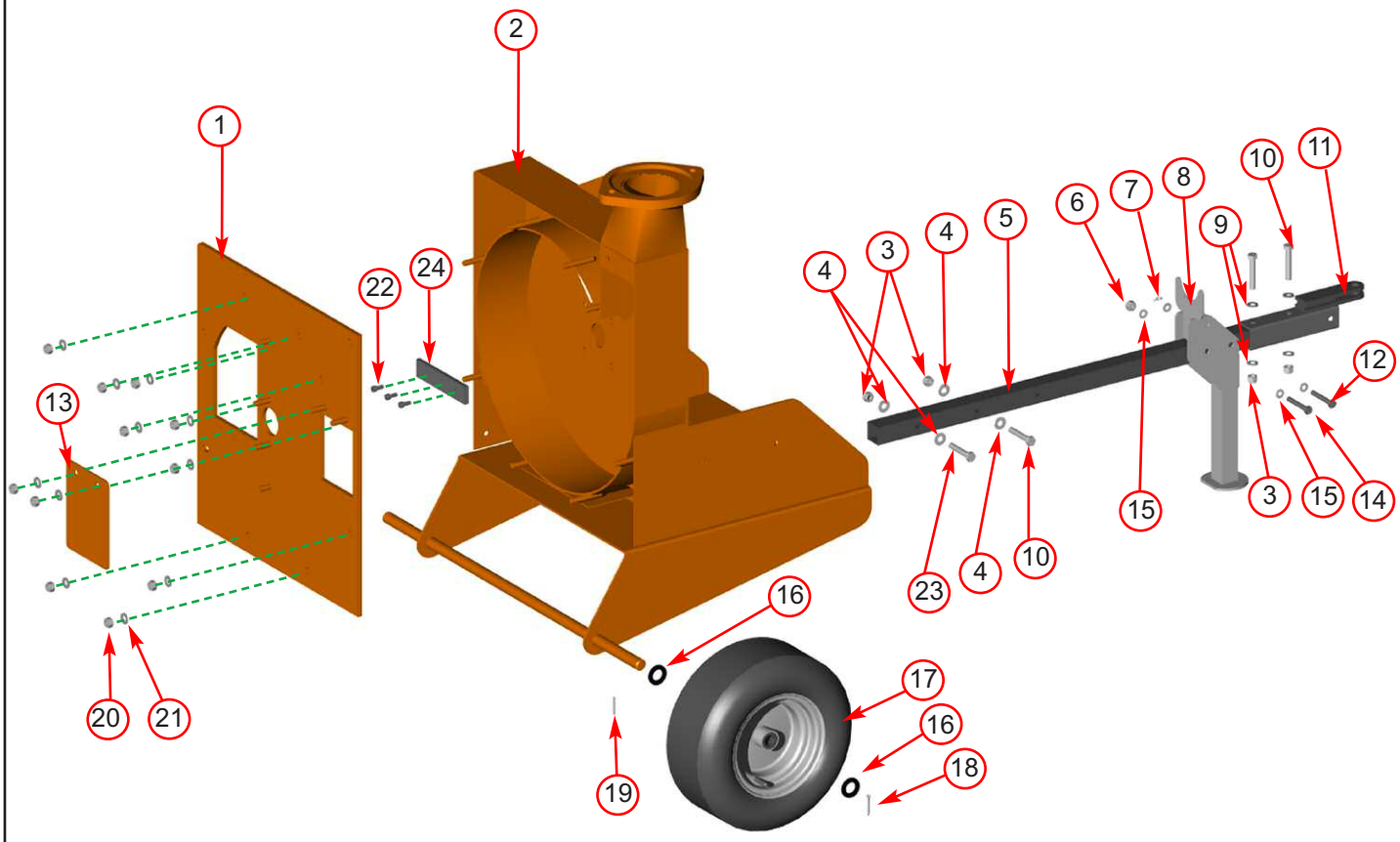
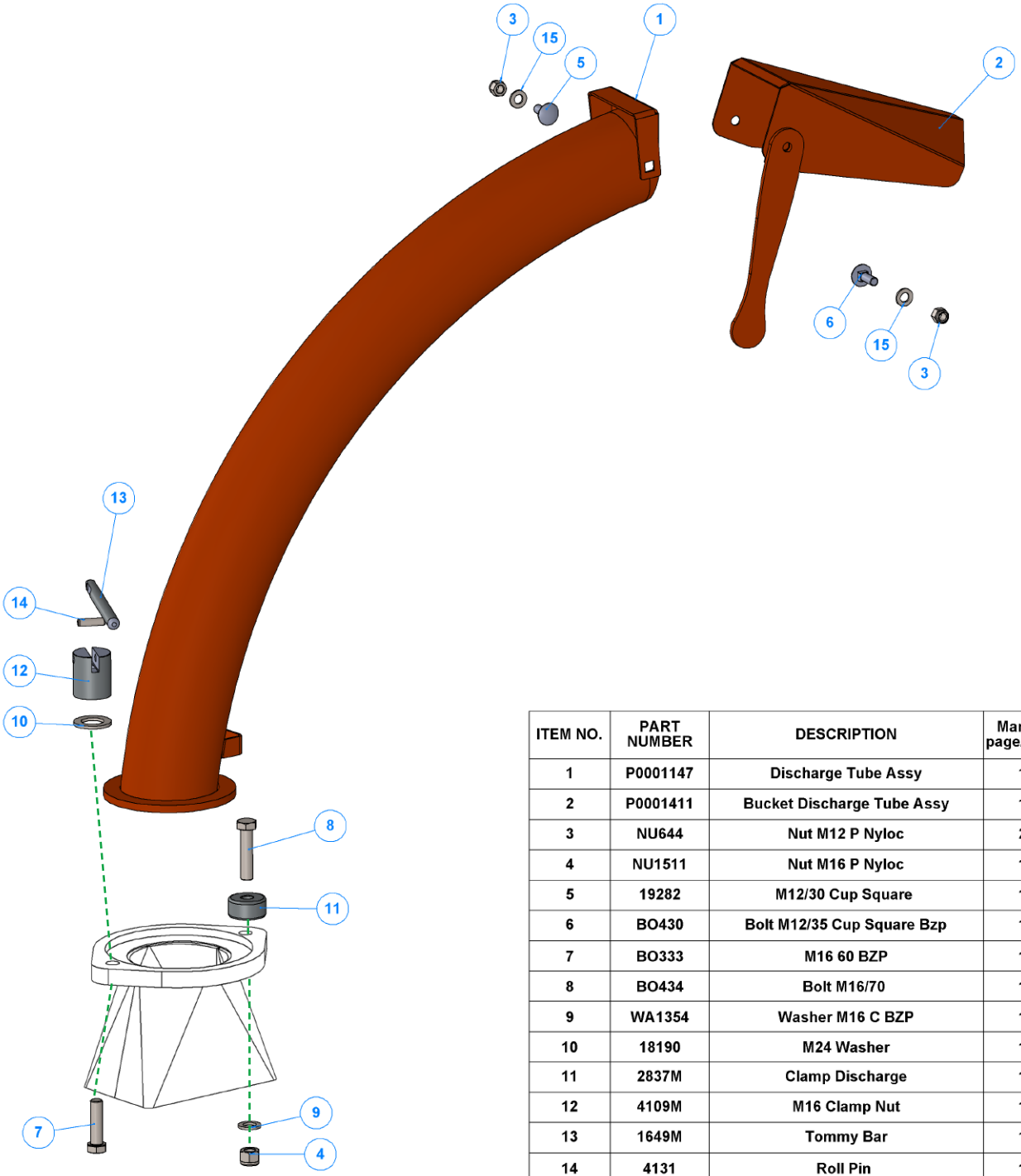
ROTOR	**25**
V- BELT TENSIONING TABLE	**26**

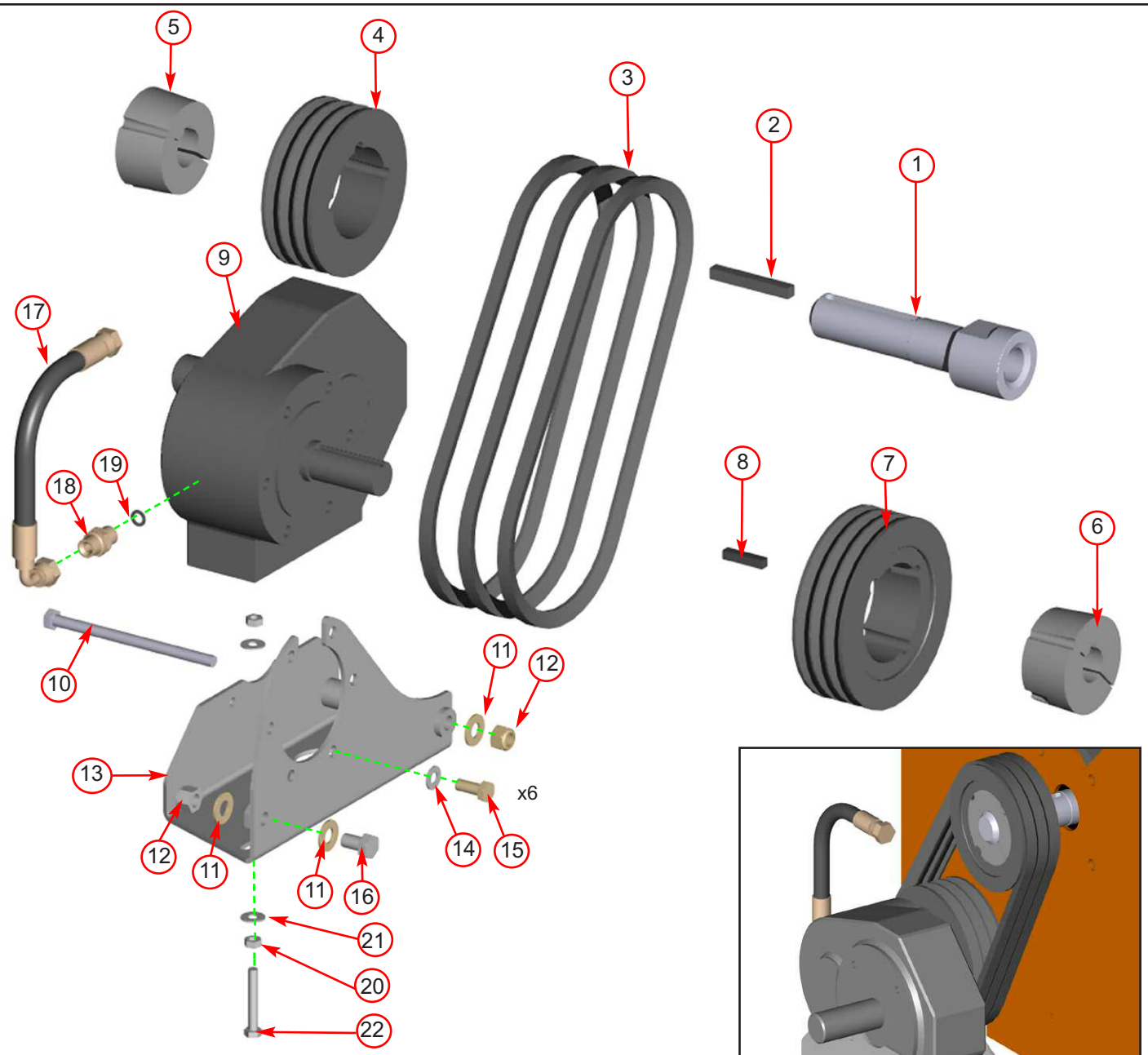


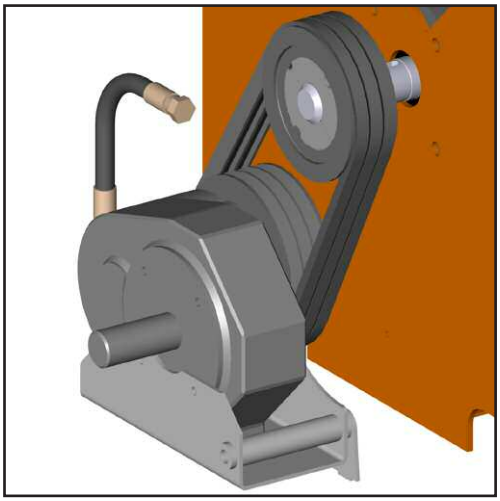
Item	Part No	Part Name	Q'ty
1	1096FO	Front Plate	1
2	18454FO	Rotor Housing	1
3	0644	M12 P Nyloc Nut	4
4	0704	M12 C Washer	4
5	1021MB	Tow Beam	1
6	0052	M10 T Nyloc Nut	1
7	4094	R Clip	1
8	1020FB	Prop Leg	1
9	0702	M12 A Washers	4
10	0334	M12/70 Bolt	3
11	1022FB	Tow Hitch	1
12	*made in production*	Prop Leg Pin	1

Item	Part No	Part Name	Q'ty
13	0524P	Access Cover	1
14	0371	M10/70 Bolt	2
15	0701	M10 A Washer	4
16	0707	M24 A Washer	4
17	1025	Wheel	2
18	0528	Split Pin	2
19	0068	Roll Pin	2
20	0045	M12 T Nut	11
21	0702	M12 A Washers	11
22	0345	M8/18 Socket Caps	3
23	0987	M12/60 Bolt	1
24	0105MH	Anvil	1



ITEM NO.	PART NUMBER	DESCRIPTION	Manual page/QTY.
1	P0001147	Discharge Tube Assy	1
2	P0001411	Bucket Discharge Tube Assy	1
3	NU644	Nut M12 P Nyloc	2
4	NU1511	Nut M16 P Nyloc	1
5	19282	M12/30 Cup Square	1
6	BO430	Bolt M12/35 Cup Square Bzp	1
7	BO333	M16 60 BZP	1
8	BO434	Bolt M16/70	1
9	WA1354	Washer M16 C BZP	1
10	18190	M24 Washer	1
11	2837M	Clamp Discharge	1
12	4109M	M16 Clamp Nut	1
13	1649M	Tommy Bar	1
14	4131	Roll Pin	1
15	WA702	Washer M12 A BZP	2

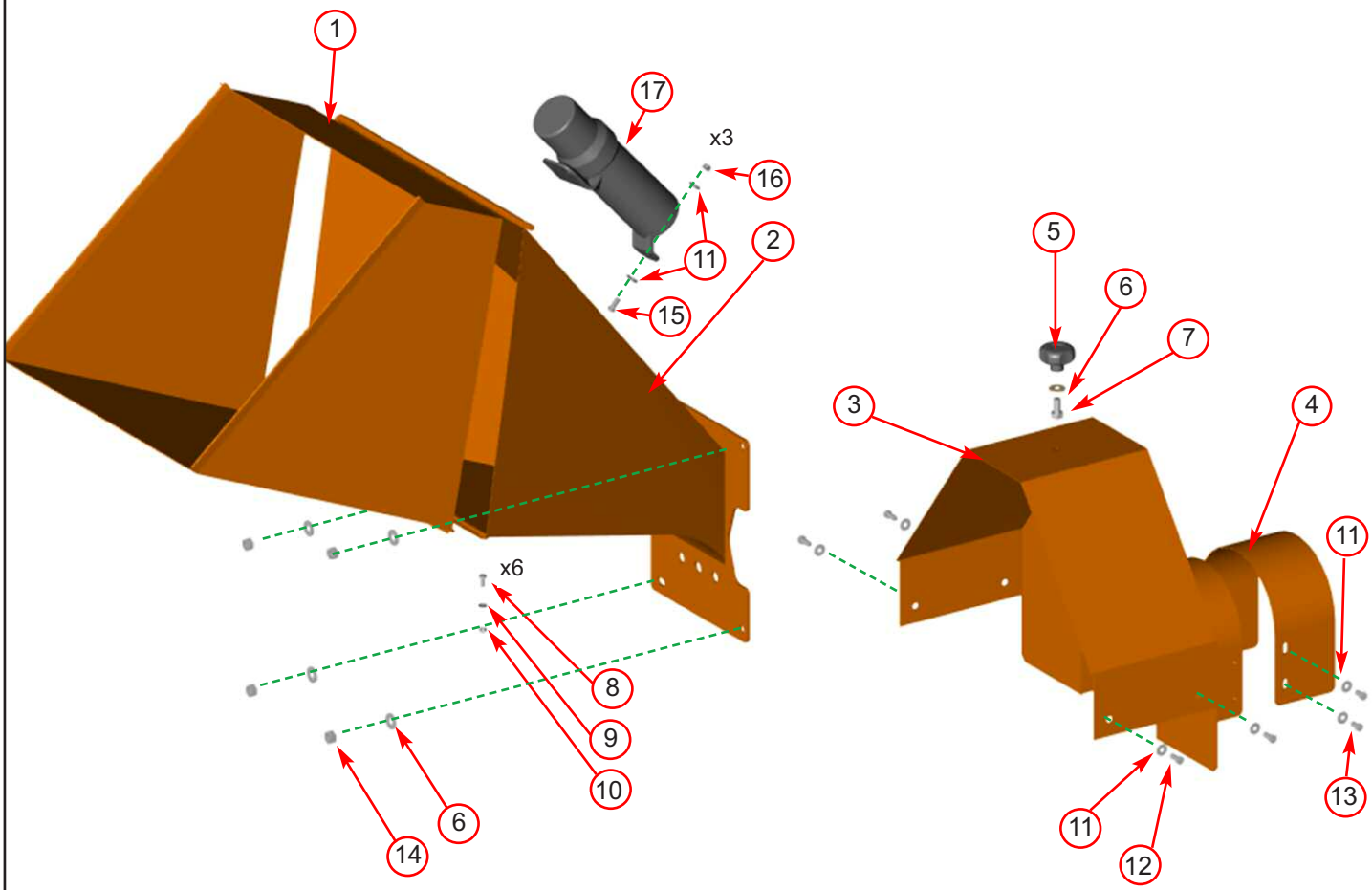




Item	Part No	Part Name	Q'ty
1	18947M	Rear Shaft	1
2	18961M	Key 10x8x80	1
3	1533	Belt 900 SPA	3
4	1471	Pulley 140x3 SPA	1
5	0410	Bush 2517 38 mm	1
6	1616	Bush 2517 30 mm	1
7	1175	Pulley 160x3 SPA	1
8	0073	Key 8x8x40	1
9	1617	Gear Box	1
10	0316	M12/150 Bolt	1
11	0704	M12 C Washer	3

Item	Part No	Part Name	Q'ty
12	0644	M12 P Nyloc Nut	2
13	1531FS	Gear Box Bracket	1
14	0701	M10 A Washer	6
15	0360	M10/25 Bolt	6
16	0318	M12/30 Bolt	1
17	4239	3/8" Breather Hose	1
18	0161	3/8" M/M Adapter	1
19	0396	3/8" Dowty Washer	1
20	0476	M8 Plain Nut	2
21	0712	M8 C Washer	2
22	0354	M8/60 Bolt	1

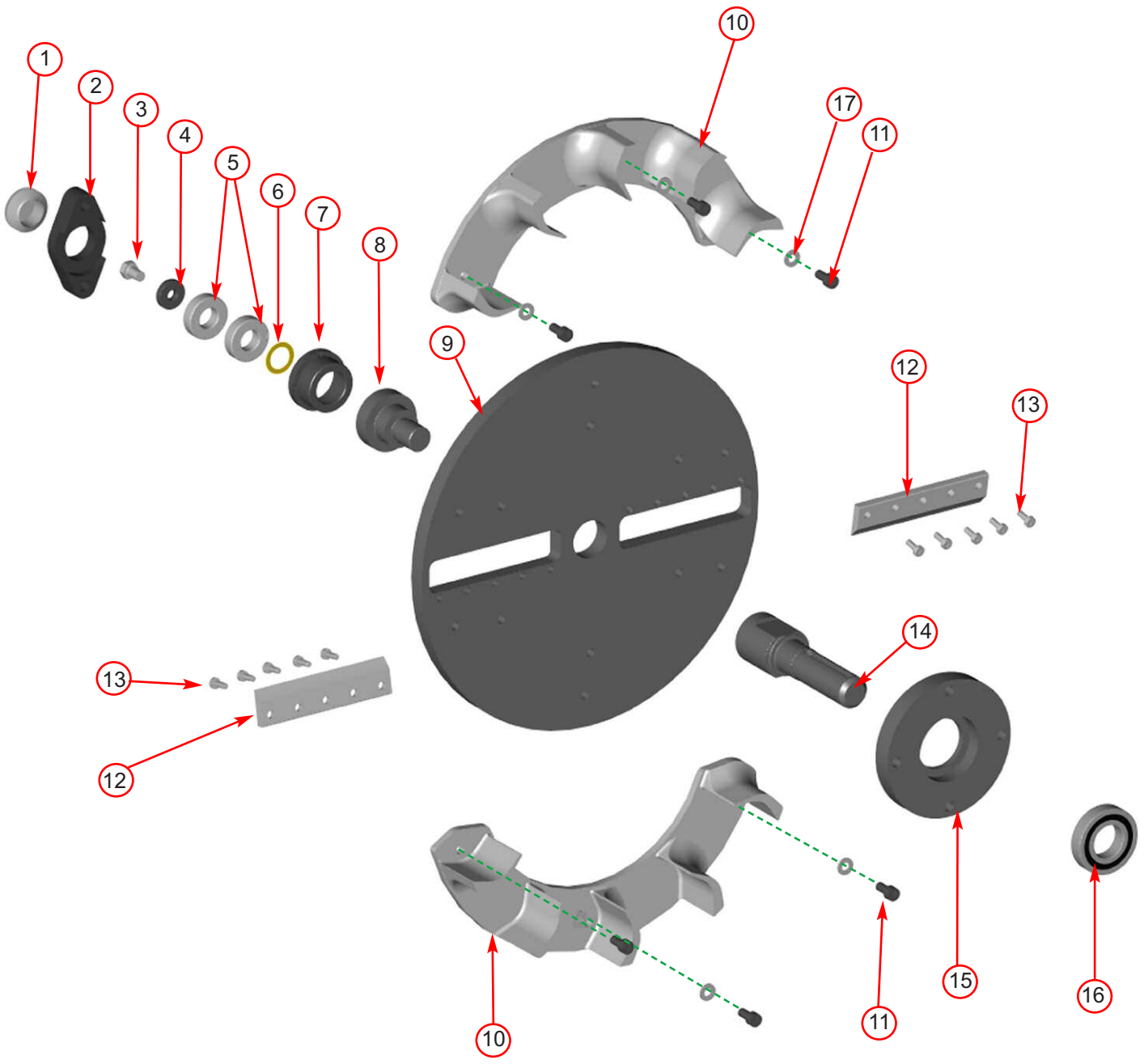
FUNNEL/BELT GUARD



Date Last Modified: 24th Oct 14

Item	Part No	Part Name	Q'ty
1	0693	Feed Tray	1
2	0691O	Funnel	1
3	1013FO	Belt Guard	1
4	1077FO	Funnel Extension	1
5	0361	Knob	1
6	0704	M12 C Washer	4
7	0318	M12/20 Bolt	1
8	1415	M6/16 Pan Posi	6
9	0709	M6 A Washer	6

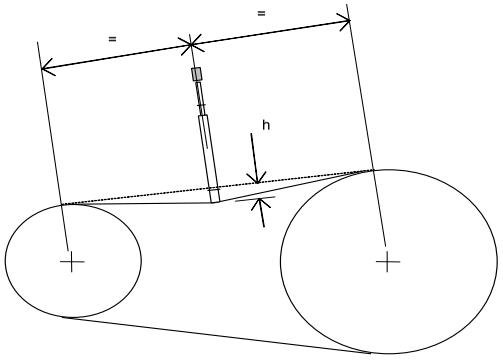
Item	Part No	Part Name	Q'ty
10	0391	M6 T Nyloc Nut	6
11	0712	M8 C Washer	14
12	0346	M8/20 Bolt	4
13	0344	M8/16 Bolt	4
14	0046	M12 Plain Nut	4
15	0347	M8/20 Button Head	3
16	0481	M8 T Nyloc Nut	3
17	P*144	Operator's Manual Cannister	1



Item	Part No	Part Name	Q'ty
1	0959	Plastic Cap	1
2	0884MS	Front Bearing Housing	1
3	0318	M12/20 Hex Set	1
4	0415	Heavy Washer	1
5	0491	Bearing 6205	2
6	0796	20 Thou Shim	As Req'd
7	0883MCB	Bearing Cup	1
8	1611M	Nose Shaft	1
9	1083M	Rotor	1

Item	Part No	Part Name	Q'ty
10	1571	Fan Section	2
11	0386	M10/30 Caphead	6
12	0071H	Blade	2
13	0065	Blade Bolts	10
14	0881M	Rear Shaft	1
15	4063MCB	Rear Bearing Housing	1
16	0495	Bearing 6208	1
17	0781	M10 A Washer	6

TIMBERWOLF V-BELT TENSIONING DATA TABLE



METHOD:

1. SET THE DEFLECTION DISTANCE ON THE LOWER SCALE OF THE TENSION GAUGE SO THAT THE UNDERSIDE OF THE 'O'-RING EQUALS THE 'h' VALUE GIVEN IN THE TABLE BELOW

2. ENSURE THAT THE DEFLECTION FORCE SCALE IS ZERO'D BY PUSHING THE UPPER 'O'-RING ALL THE WAY DOWN

3. PLACE THE TENSION GAUGE IN THE CENTRE OF THE BELT SPAN AS SHOWN IN THE DIAGRAM LEFT

4. PRESS DOWNWARDS ON THE RUBBER BUFFER, DEFLECTING THE BELT UNTIL THE UNDERSIDE OF THE LOWER O'-RING IS LEVEL WITH THE BELT BEHIND (USE A STRAIGHT EDGE IF THERE IS ONLY 1 BELT)

5. TAKE THE READING FROM THE DEFLECTION SCALE OF THE TENSION METER (READ AT THE LOWER EDGE OF THE 'O'-RING) & COMPARE THIS VALUE WITH THAT GIVEN IN THE TABLE BELOW

6. TIGHTEN OR LOOSEN BELTS AS REQUIRED FOLLOWING PROCEDURE GIVEN IN THE OPERATOR'S MANUAL

TENSION GAUGES ARE AVAILABLE FROM TIMBERWOLF SPARES, QUOTING PART No. 18091

TIPS ON BELT TIGHTENING:

A) THERE WILL NORMALLY BE A RAPID DROP IN TENSION DURING THE RUN-IN PERIOD FOR NEW BELTS. WHEN NEW BELTS ARE FITTED, CHECK THE TENSION EVERY 2-3 HOURS & ADJUST UNTIL THE TENSION REMAINS CONSTANT

B) THE BEST TENSION FOR V-BELT DRIVES IS THE LOWEST TENSION AT WHICH THE BELTS DO NOT SLIP OR RATCHET UNDER THE HIGHEST LOAD CONDITION

C) TOO MUCH TENSION SHORTENS BELT & BEARING LIFE

D) TOO LITTLE TENSION WILL AFFECT THE PERFORMANCE OF YOUR MACHINE ESPECIALLY IN RESPECT OF NO-STRESS DEVICES

E) ENSURE THAT BELT DRIVES ARE KEPT FREE OF ANY FOREIGN MATERIALS

F) IF A BELT SLIPS - TIGHTEN IT!

	TW MODEL No.:			13/75G	18/100G	125PH	230DHB	190TDHB	230VTR	190TFTR	190TVGTR	350DHB(t)	PTO100	PTO150	S426 SHREDDER	S426TFTR SHREDDER	PTO S426 SHREDDER	SX200 - ALL MODELS
ROTOR BELTS	Belt Mfr / Type			Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-	Gates Super HC-	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN
	Belt Pitch Designation			SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPB	SPA	SPA	SPB	SPB	SPB	SPA
	Belt Length			900.0	1060.0	1060.0	1232.0	1232.0	1232.0	1232.0	1232.0	2530.0	900.0	900.0	2120.0	2120.0	1700.0	1272.0
	Belt deflection	**=**	**h**	**4.0**	**4.0**	**3.5**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**8.0**	**4.0**	**4.0**	**8.0**	**8.0**	**6.0**	**5.0**
	Force reading (Kgf)	**New belt**		**3.4 - 3.6**	**3.1 - 3.3**	**3.3 - 3.6**	**3.9 - 4.1**	**3.9 - 4.1**	**3.9 - 4.1**	**3.9 - 4.1**	**3.9 - 4.1**	**3.3 - 3.6**	**3.3 - 3.5**	**3.8 - 4.0**	**3.3 - 3.5***	**3.3 - 3.5**	**6.5 - 6.9**	**1.9 - 2.1**
		Used belt		3.0 - 3.2	2.8 - 3.0	2.8 - 3.1	3.4 - 3.6	3.4 - 3.6	3.4 - 3.6	3.4 - 3.6	3.4 - 3.6	2.9 - 3.1	2.9 - 3.0	3.3 - 3.5	2.9 - 3.1*	2.9 - 3.1	5.6 - 6.0	1.7 - 1.8
PUMP BELT	Belt Mfr / Type			N/A	N/A	Gates Super HC-MN	N/A	N/A	Gates Super HC-MN	Gates Super HC-MN	Gates Super HC-MN	N/A	N/A	Gates Super HC-MN	N/A	Gates Super HC-MN	N/A	N/A
	Belt Pitch Designation					SPA			SPA	SPA	SPA			SPA		SPA		
	Belt Length					950.0			850.0	925.0	950.0			925.0		1060.0		
	Belt deflection	**=**	**h**			**4.0**			**4.0**	**4.0**	**4.0**			**4.0**		**4.0**		
	Force reading (Kgf)	**New belt**				**1.9 - 2.0**			**2.3 - 2.4**	**2.3 - 2.4**	**2.3 - 2.4**			**2.0 - 2.2**		**2.7 - 2.9**		
		Used belt				1.7 - 1.8			2.0 - 2.1	2.0 - 2.2	2.0 - 2.2			1.8 - 2.0		2.3 - 2.5		