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INTRODUCTION

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

IMPORTANT HEALTH AND SAFETY INFORMATION

Before using your new shredder, please take time to read this manual which contains and explains the shredder controls. Failure to do so could result in:

- PERSONAL INJURY
- EQUIPMENT DAMAGE
- DAMAGE TO PROPERTY
- A MEMBER OF THE GENERAL PUBLIC BECOMING INJURED

This manual covers the operation and maintenance of the Timberwolf PTO S426. All information in this manual is based on the latest product information available at the time.

NOTE - Also supplied with this manual - 1 x Prop shaft instruction sheet.

All the information you need to operate the machine safely and effectively is contained within pages 2 to 11. Ensure that all operators are **properly trained** for operating this machine, especially with regard to **safe working practices**.

Timberwolf's policy of constantly improving their products may involve major or minor changes to the shredders 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 shredder and the text in this manual.

The manual should be considered a permanent 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 S426

The Timberwolf PTO S426 is a high speed, heavy duty professional shredder. It is designed to shred general green waste (brush, prunings, hedge trimmings, Leylandii, Christmas trees, rootballs, etc.), brushwood up to 150mm (6"), pallets, domestic doors, wooden and plastic window frames (all pre-cut to fit feed aperture), contaminated timber, chipboard, MDF, packaging materials, uPVC plastic, cardboard, wooden furniture, fence posts and similar items. The machine will tolerate drinks cans, plastic bottles, stones, rocks and concrete (up to fist size), nails, metal door furniture, glass bottles and similar items.

WARNING

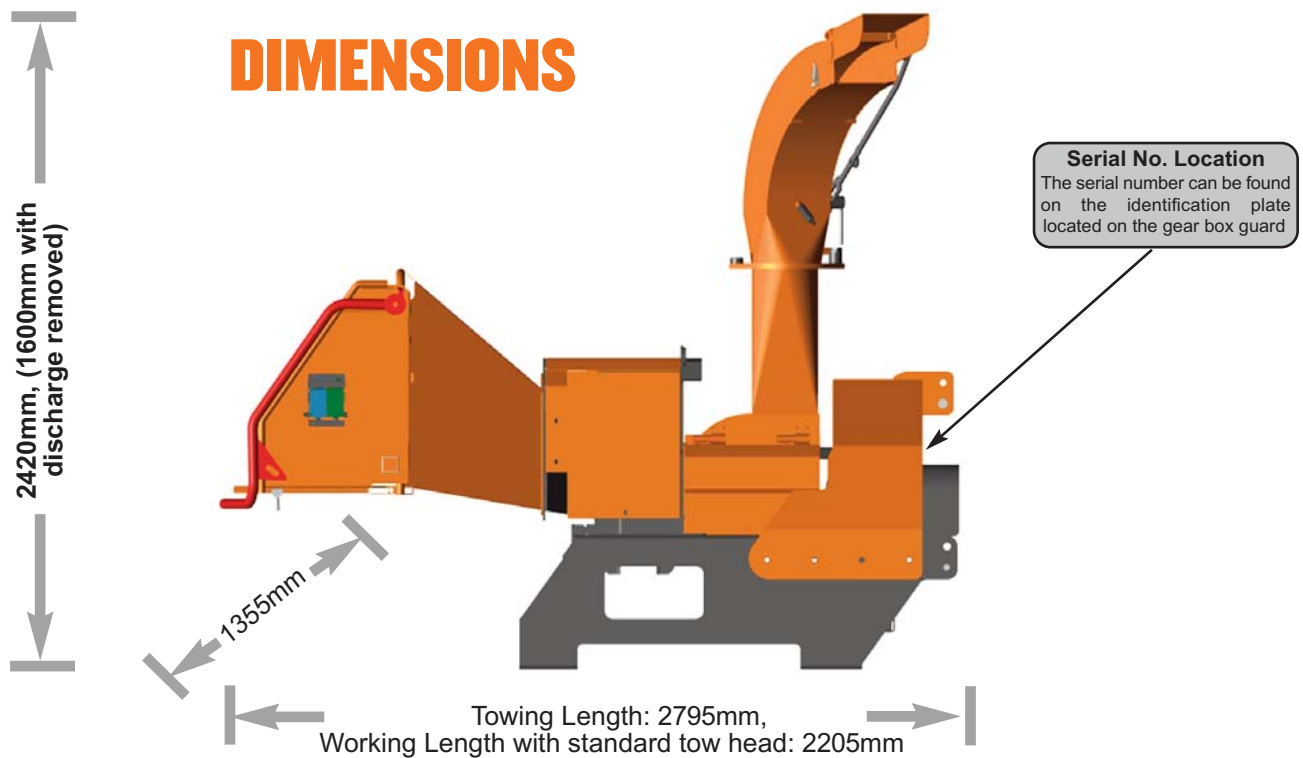
LIMITATIONS ON MATERIALS



To properly control the speed of material entering the shredder chamber, the machine relies on the large feed roller to grip the material. The feed roller can grip material down to 15mm in diameter. The machine will not tolerate or process items such as tyres, mattresses, heavy duty plastic containers (used for oils, chemicals, etc.), carpets, reinforced concrete, metallic items exceeding lightweight domestic door furniture, commercial plastic gas pipe, alkathene water pipe, metal reinforced drainage/irrigation pipe, baler twine, rope, metal banding, computer hard drives (which contain magnets) and any similar objects to the above.

NOTE: When materials are corrosive they may attack and degrade the individual components. It is essential that the unit be thoroughly cleaned down after shredding anything that may contain materials of an aggressive nature.

Ejection of material – **Warning!** The PTO S426 shredder ejects material at high speed. Ensure there is an adequate safety zone and that ejected material is aimed away from operators into a safe area, i.e. an enclosure or container with a back stop (i.e. wall) behind it to prevent ejected material from leaving the work area and causing injury and damage. If loading into a truck or trailer, ensure the structure is strong enough to cope with the impact from ejected material.

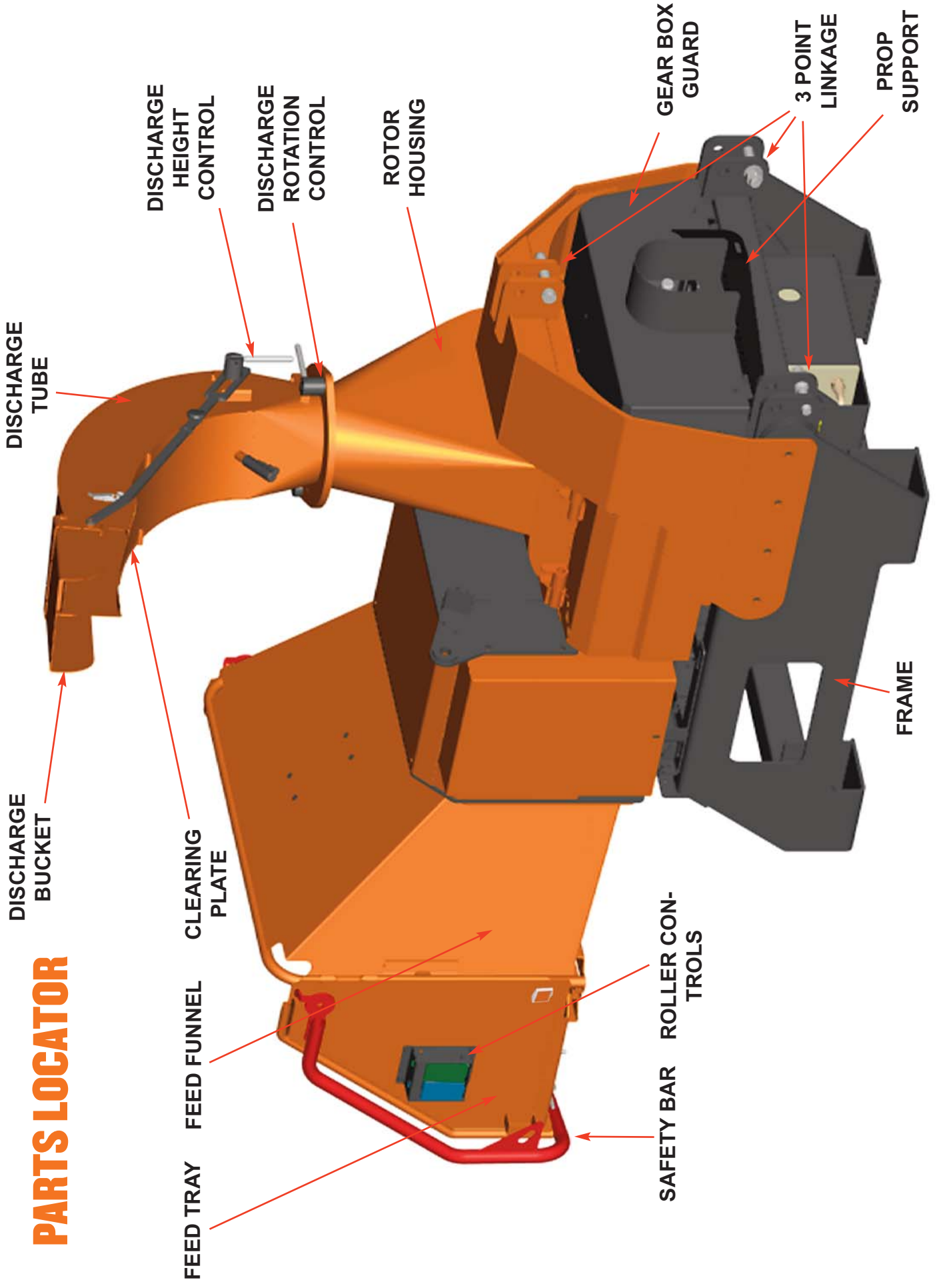


TIMBERWOLF TW PTO S426 SPECIFICATION

Power source	Tractor PTO drive	Material processing capacity	3 tonnes/hr
Overall weight	1260kg (without prop shaft)	Required engine power	80 - 115hp
Type of feed	Hydraulic	PTO speed	1000rpm
Maximum diameter material	225mm (9")		

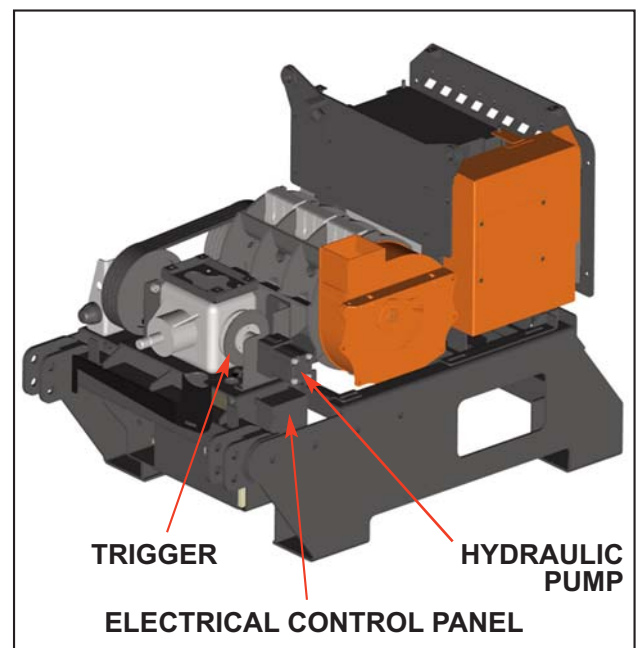
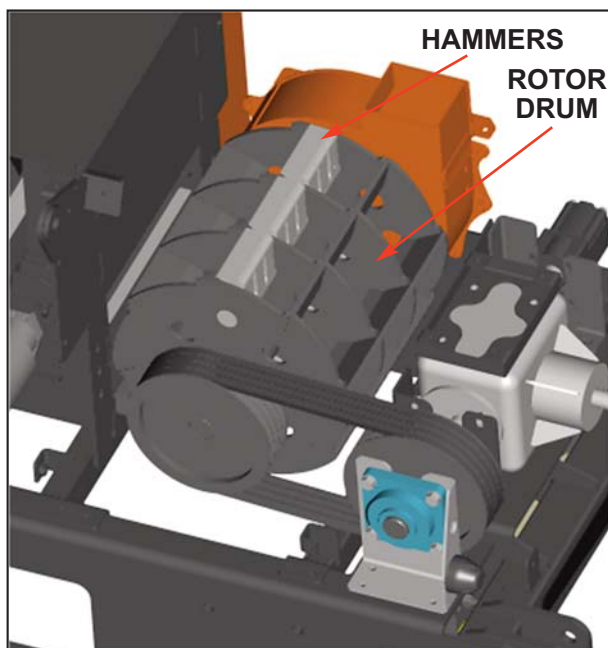
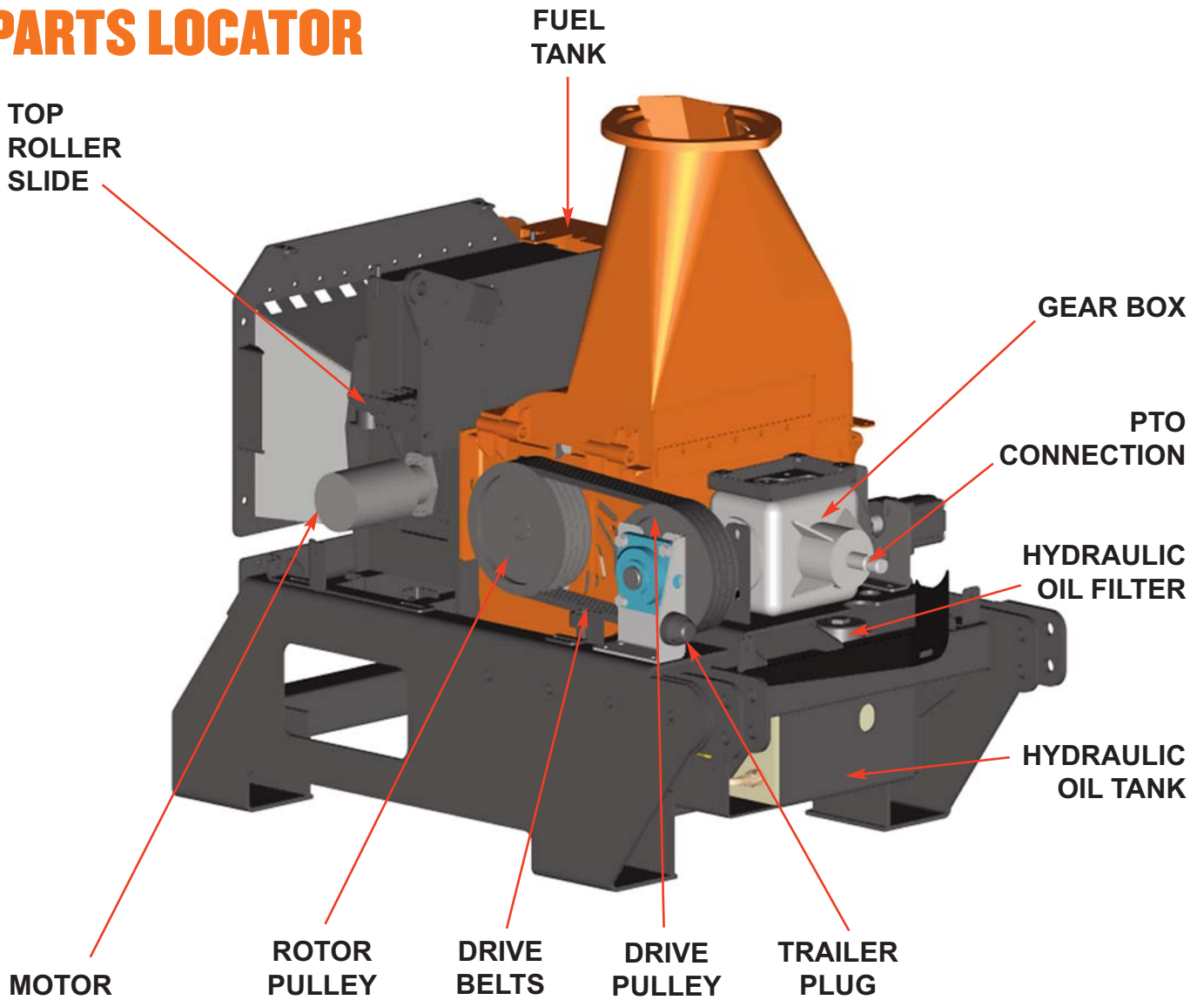


PARTS LOCATOR





PARTS LOCATOR





WARNING

The shredder will feed material through on its own. To do this, it relies on the hammers to be free to swing. **DO NOT** put bricks, large stones, string, carpet, tyres or metal into the shredder.



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 shredder.

BASIC SHREDDING SAFETY

The operator should be aware of the following points:

- **MAINTAIN A SAFETY EXCLUSION ZONE** around the shredder of at least 10 metres for the general public or employees without adequate protection. Due to the nature of material being shredded and the distance/velocity of discharge, the exclusion zone must be extended to 20 metres in front of the discharge tube exit. Use hazard tape to identify this working area and keep it clear from debris build up. Shredded material should be ejected away from any area the general public have access to.
- **HAZARDOUS MATERIAL** - Some species of trees and bushes are poisonous. The shredding 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 shredded before you start. Avoid confined spaces and use a facemask if necessary.
- **BE AWARE** when the shredder 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 brush may push you to one side causing danger.
- **BE AWARE** that the shredder can eject material 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 and disconnect the PTO shaft before making any adjustments, refuelling or cleaning..

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 well supported and cannot move.

ALWAYS run tractor engine at required speed to achieve 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 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 use shredder in a well ventilated area - exhaust fumes are dangerous.

DO NOT use shredder 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 operate the shredder unless properly guarded.

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

DO NOT allow -



BRICKS



STRING



METAL



CLOTH OR CAR-
PET



RUBBER



LARGE
STONES

- 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 shredder inside buildings.

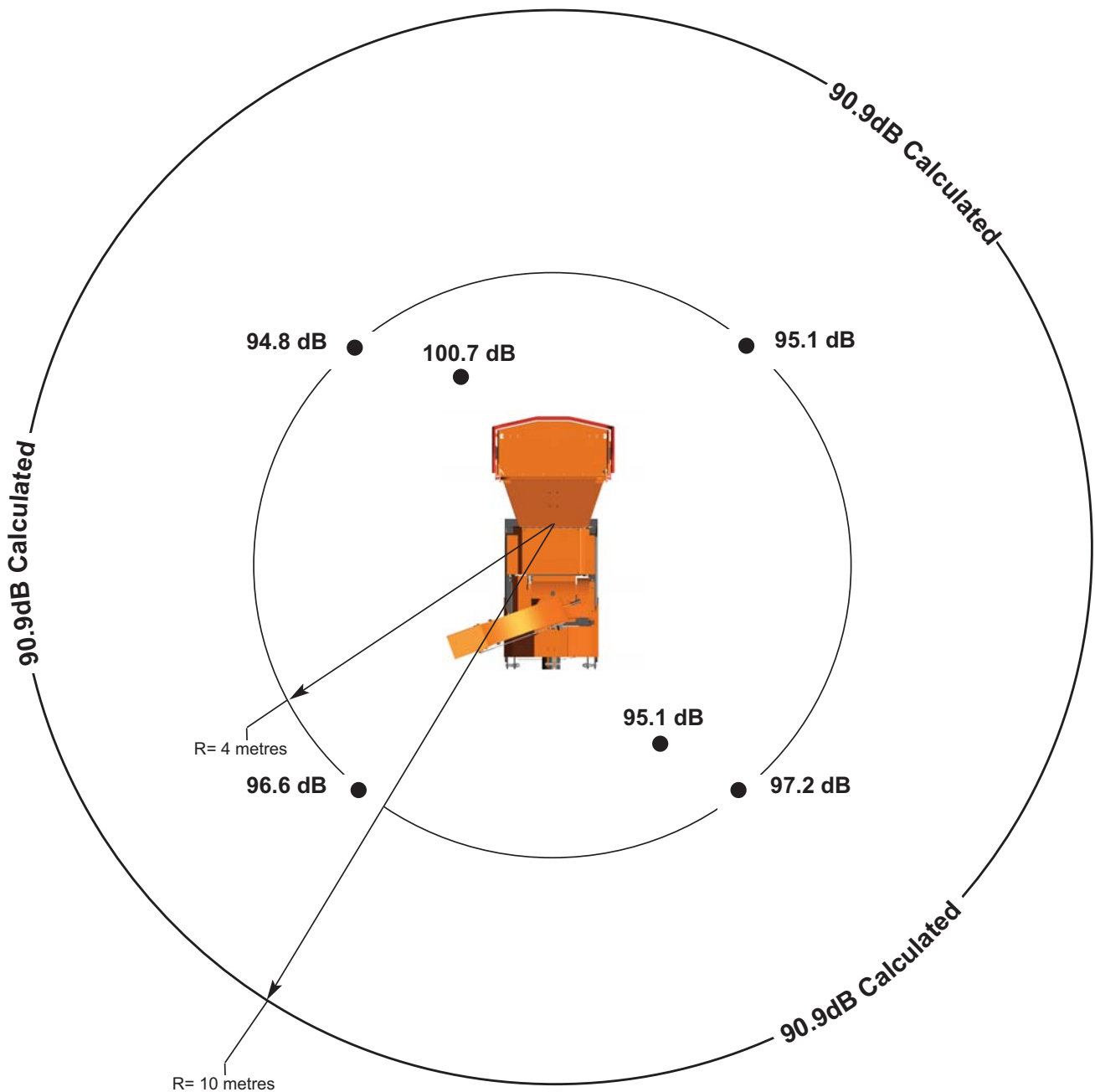


NOISE TEST

MACHINE: TW PTO S426

NOTES: Tested shredding 120mm x 120mm corsican pine 1.5m in length

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.





DELIVERY

All Timberwolf PTO S426 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 shredder. In particular, read pages 6-8 which contain important health and safety information and advice.

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.

DAILY CHECKS BEFORE STARTING TRACTOR

- ENSURE drive shaft ends are securely fitted to PTO shaft and implement input shaft.
- CHECK for properly guarded PTO shaft, implement input and drive shaft.
- CHECK that guard chains are securely attached to stationary frame to prevent rotation of guard.
- CONNECT power cable from tractor to shredder and turn on tractor side lights.
- LOCATE the machine on firm level ground.
- CHECK the discharge unit is in place and fastened securely.
- CHECK discharge tube is pointing in a safe direction.
- CHECK the feed funnel to ensure no objects are inside.
- CHECK controls as described on page 9.

For parts location see diagrams on pages 3 & 4.

CONNECTING TO TRACTOR

WARNING

Ensure the tractor is turned off and the ignition key removed before connecting the PTO. PTO shafts are the major cause of incidents on agricultural machinery.



PTO SHAFT

- CHECK the angle of the prop shaft when connected to the tractor, which should not exceed 16°.
- CHECK that when the machine is lifted for transport the prop shaft does not reach an angle that causes damage.

IF the prop shaft is supplied with a torque limiter or clutch, this must be fitted to the shredder end of the drive shaft.

MOVING THE SHREDDER

- DO NOT move the shredder with the drum running.



BEFORE USING THE SHREDDER

- ENSURE feed funnel, feed roller guard, prop shaft guards and access covers are fitted and secure, and that discharge unit is fitted and pointing in a safe direction.
- WHEN ready to start shredding, increase PTO speed slowly until 1000 rpm is achieved.
- IT IS ESSENTIAL TO CARRY OUT THE FOLLOWING TESTS to check safety equipment - this sequence of tests will only take a few seconds to carry out. We recommend that these tests are carried out daily. Observing the function as described will confirm that the safety circuits are working correctly. This is also a good opportunity to remind all operators of the control and emergency stop systems.



MANUAL CONTROLS

Roller control boxes- two control boxes are located on either side of the feed tray. Their function is to control the feed roller that draw material into the machine. **They do not control the main rotor.**

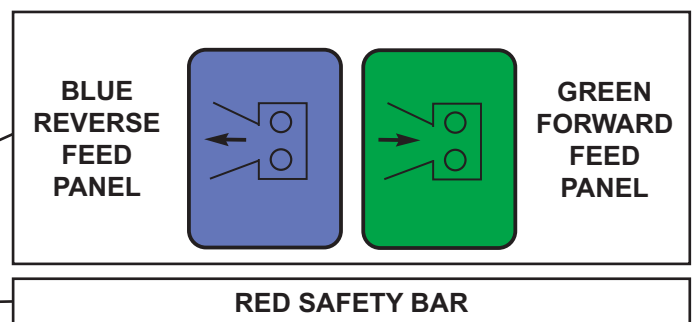
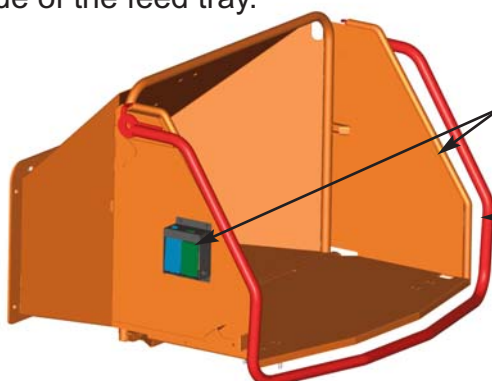
RED SAFETY BAR = This is the large red bar that surrounds the feed tray and side of the feed funnel. The bar is spring loaded and connected to a switch that will interrupt the power to the roller. The switch is designed so that it only activates if the bar is pushed to the limit of its travel. The roller will stop instantly, but can be made to turn again by pressing either the **GREEN FEED** or **BLUE REVERSE** control buttons.

GREEN BUTTON = Forward feed - Push the button once - this activates the roller and will allow you to start shredding (if the rotor speed is high enough).

BLUE BUTTON = Reverse feed - allows you to back material out of the roller. The roller will only turn in reverse as long as you keep pressing the button.

Control Box Diagram

There are two control boxes, located on either side of the feed tray.



Do not rely on the red bar to keep the roller stationary if it is necessary to clear or touch the roller. Always switch off the machine and remove ignition key before approaching the roller.



AUTO CONTROLS

The no stress unit controls the feed rate of the material going into the shredding chamber. If the engine speed is below the predetermined level, the no stress unit will not allow the feed roller to work in the forward "infeed" direction, until the rotor speed rises above the predetermined level. At this point, the feed roller will start turning without warning. The reverse function will work at any engine speed.

STOPPING THE SHREDDER

- PUSH the RED safety bar (see control panel diagram on page 9).
- KEEPING PTO engaged set tractor speed to idle.
- WHEN idle speed steady stop tractor engine.
- WHEN engine stationary disengage PTO clutch.
DO NOT disengage the PTO clutch while engine is running as the shredder cutting disc may continue to free wheel for a long time.

EMERGENCY STOPPING

Push the **RED SAFETY BAR**

Turn off tractor ignition key or operate tractor stop lever.

The emergency stop will prevent any more material being fed into the shredder. The rotor will still be turning. The tractor must be disengaged or powered down to stop the rotor.

STARTING THE SHREDDER

WARNING

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



- CONNECT the tractor power cable.
- START tractor.
- TURN ON side lights to allow 12 volts to the shredder - the socket and side lights must work.
- GENTLY engage PTO clutch.
- INCREASE tractor revs until tractor PTO speed = 1000 rpm.
- **DO NOT RUN ON ANY OTHER PTO SPEED SETTING.**
- CHECK that shredder is running smoothly.
- PRESS the green control button. The roller will commence turning.
- STAND to one side of the feed funnel.
- PROCEED to feed material into the feed funnel.

STARTING TO SHRED

WARNING

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

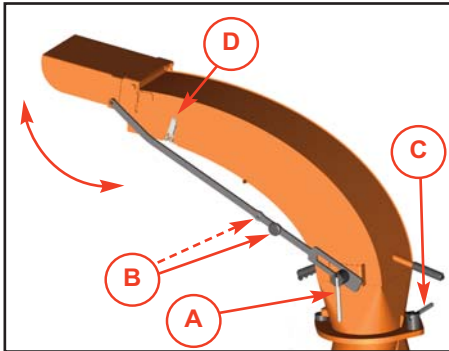


- CHECK that shredder is running smoothly.
- RELEASE the catches on the feed tray and lower.
- PRESS the green control button. The roller will commence turning.
- STAND to one side of the feed funnel.
- PROCEED to feed material into the feed funnel.
- AT the end of operations allow sufficient time for all shredded material to be ejected from the discharge before switching off.



DISCHARGE CONTROLS

Controlling the discharge is an essential part of safe working.



ROTATION

- Slacken nut 'C' using integral handle, rotate tube, retighten nut.

BUCKET ANGLE

- Adjust the bucket to the desired angle by loosening clamp 'A' and pushing/pulling handle 'B'. When angle achieved retighten clamp 'A'. **NOTE: Handle 'B' can be positioned in either upper or lower holes according to operator preference.**

CLEARING PLATE

- Unclip catches 'D' on both sides to open the clearing plate.

HYDRAULIC OIL LEVEL INDICATOR

This can be viewed through the wall of the tank. Maximum and minimum marks are provided.

SHREDDING

WARNING

LIMITATIONS ON MATERIALS



To properly control the speed of material entering the shredder chamber, the machine relies on the large feed roller to grip the material. The feed roller can grip material down to 15mm in diameter. The machine will not tolerate or process items such as tyres, mattresses, heavy duty plastic containers (used for oils, chemicals, etc.), carpets, reinforced concrete, metallic items exceeding lightweight domestic door furniture, commercial plastic gas pipe, alkathene water pipe, metal reinforced drainage/irrigation pipe, baler twine, rope, metal banding, computer hard drives (which contain magnets) and any similar objects to the above.

NOTE: When materials are corrosive they may attack and degrade the individual components. It is essential that the unit be thoroughly cleaned down after shredding anything that may contain materials of an aggressive nature.

Ejection of material – **Warning!** The TW PTO S426 shredder ejects material at high speed. Ensure there is an adequate safety zone and that ejected material is aimed away from operators into a safe area, i.e. an enclosure or container with a back stop (i.e. wall) behind it to prevent ejected material from leaving the work area and causing injury and damage. If loading into a truck or trailer, ensure the structure is strong enough to cope with the impact from ejected material.

BLOCKAGES



Always be aware that what you are putting into the shredder must come out. If the material stops coming out of the discharge tube but the shredder is taking material in - STOP IMMEDIATELY. Continuing to feed material into a blocked machine may cause damage and will make it difficult to clear. Two areas of the machine can become blocked - the discharge tube and the rotor housing. To clear a blockage proceed as follows:

- STOP the tractor engine and remove the ignition keys. Ensure rotor has stopped turning by observation of the drive shaft.
- REMOVE the two rotor housing securing nuts and open the rotor housing until it rests against the rubber stop. **WARNING!** Ensure the weight of the discharge tube is fully supported whilst opening the rotor housing, to avoid injury and damage.
- REMOVE any blockage from the discharge tube, ensuring that it is clear along its entire length.
- WEARING gloves, reach into the rotor housing and remove the material causing the blockage, including any material that may have also entered the side fan casing. **WARNING!** Beware of turning the rotor whilst clearing a blockage, as this could lead to injury.
- CLOSE the rotor housing and replace and tighten the two securing nuts. **WARNING!** Ensure the weight of the discharge tube is fully supported whilst lowering the rotor housing, to avoid injury and damage.
- RESTART the tractor, engage the PTO and run at working speed. Allow sufficient time for the machine to clear any residual material before recommencing work.

Continuing to feed the shredder with material once it has become blocked will cause the shredder to compact material in the rotor housing and discharge chute 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 SHREDDER.** 



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 SHREDDERS. YOU ARE STRONGLY ADVISED TO TAKE YOUR SHREDDER 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 SHREDDERS 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



SERVICE SCHEDULE	Daily Check	50 Hours	100 Hours	500 Hours	1 Year
Check feed funnel, feed roller cover, access covers, and discharge unit are securely fitted.	✓				
Check for free rotation of rotor drum and hammers.	✓				
Check air intake is clear.	✓				
Clean air filter element	DEPENDING ON WORKING ENVIRONMENT				
Check (and lubricate if necessary) PTO shaft coupling grease nipples.	✓				
Check hoses for signs of chafing or leakage.		✓			
Grease the drum bearings.	GREASE DAILY OR AS REQUIRED WITH INFREQUENT USE - SEE PAGE 19				
Grease the roller box slides.		✓	OR AS REQUIRED - SEE PAGE 20		
Grease the roller spline and bearing.		✓	OR AS REQUIRED - SEE PAGE 20		
Check for tightness all nuts, bolts and fastenings making sure nothing has worked loose.		✓			
Check tension of main drive belts (and tension if necessary).		✓			
Grease discharge flange.		✓			
Check for anvil wear.		✓			
Check for loose electrical wiring.			✓		
Replace hydraulic oil filter - every year or 100 hours after service or repair work to the hydraulic system.			✓	OR	✓
Replace hydraulic oil.			✓	OR	✓
Replace anvil when worn.	RETURN TO DEALER FOR ANVIL CHANGE				

NOTE: Your Timberwolf shredder 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.



SAFE MAINTENANCE

ALWAYS IMMOBILISE THE TRACTOR BEFORE UNDERTAKING ANY MAINTENANCE WORK ON THE SHREDDER .

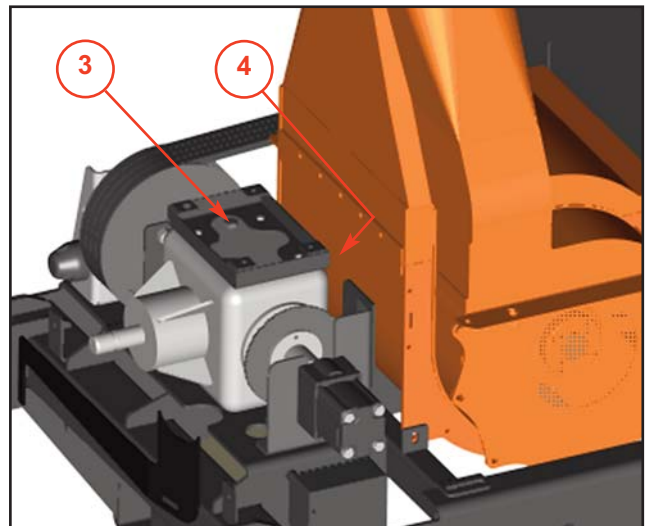
- ALWAYS stop the tractor engine before installing or removing the prop shaft.
- HANDLE hammers with extreme caution to avoid injury. Gloves should always be worn when handling the hammers.
- THE drive belts should be connected while changing hammers, as this will restrict sudden movement of the drum.
- THE major components of this machine are heavy. Lifting equipment must be used for disassembly.
- CLEAN machines are safer and easier to service.
- AVOID contact with hydraulic oil.

CHECKING/TOP UP GEARBOX OIL LEVEL AND OIL CHANGE PROCEDURE

Always remove the Shredder from the tractor before performing maintenance.

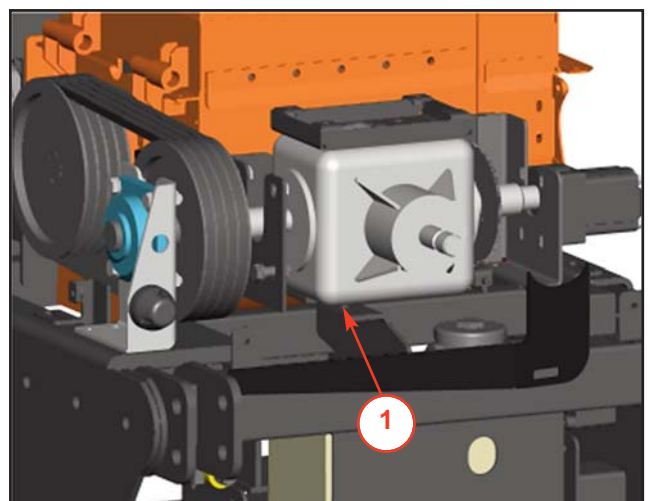
To top up the gearbox oil (EP80 or EP90).

1. Remove the prop shaft.
2. Remove the gearbox guard
3. Locate the filler cap shown and remove.
4. Locate the level bolt and remove; this will indicate the appropriate oil level.
NOTE: If oil runs out, topping up is NOT required. Jump to step 6
5. Slowly pour the oil into the gearbox via the filler hole, when the oil appears at the top oil level hole stop.
6. Replace the level bolt and filler plug.



To change the gearbox oil (3.3 litres EP80 or EP90).

1. Locate the drain plug, place a suitable contain to catch the 3.3 Litres of oil under the drain point.
2. Remove the drain plug. Leave to stand for 10 minutes.
3. Replace drain plug.
Follow steps 1 to 6 to fill the gearbox with new oil. You will need 3.3 litres of EP80 or EP90 gear oil.
4. Dispose of the waste oil responsibly according to local legislation.

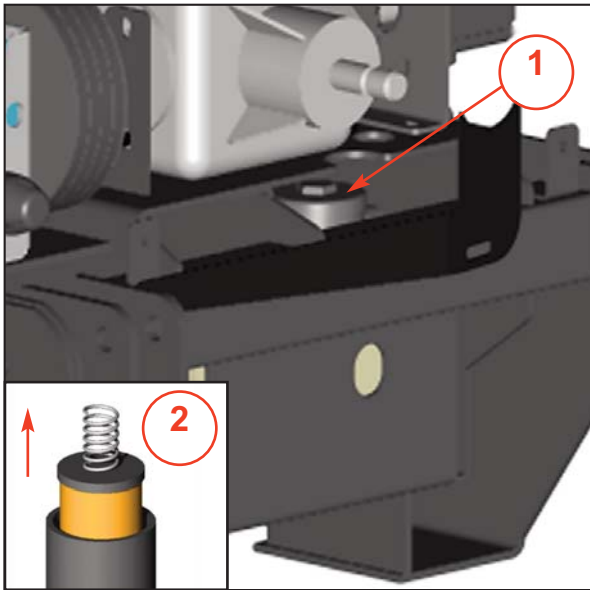




CHANGE HYDRAULIC OIL AND FILTER

WARNING

Use plastic gloves to keep oil off skin and dispose of the used oil and filter in an ecologically sound way. The oil and filter should be changed once a year or at any time it becomes contaminated. Before starting check that the shredder is standing level.



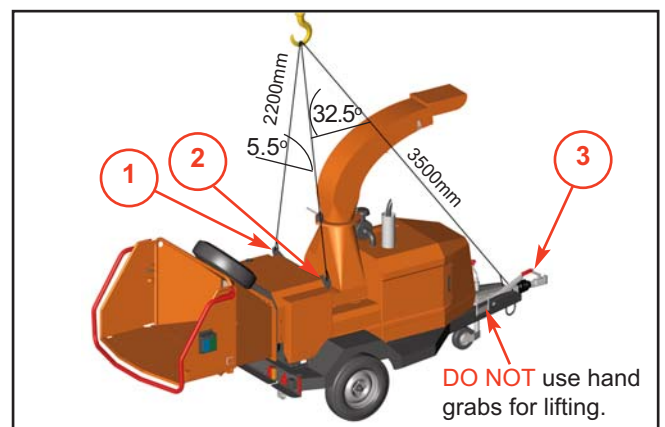
1. Remove the black screw cap from the top of the filter housing.
2. Partially remove filter element from inner cup. Leave filter to drain for 15 minutes.
3. Remove filter element from cup when clear of hydraulic oil.
4. Remove drain plug and drain oil into a suitable container.
5. Replace drain plug.
6. Refill with VG 32 hydraulic oil until the level is between the min and max lines marked on the tank (about 15 litres).
7. Refit the filter cup, install a new filter element and refit the black screw cap to the filter housing, ensuring o-ring remains in place.

SAFE LIFTING OF THE SHREDDER

Use slings rated at 2000kg each for the lifting procedure.

Feed two slings through cutouts in the roller box to use tube as a lifting medium (1&2). The length of each rigged sling should be approx. 2200mm. The ideal lifting angle of these slings are (side view) 5.5°.

Pass a third sling under chassis beams around the towhead (3). The length of this rigged sling should be approx. 7200mm. The ideal lifting angle of this sling (side view) is 37.8°.





SPARES

Only fit genuine Timberwolf replacement screws and shredder spares. Failure to do so will result in the invalidation of the warranty and may result in damage to the shredder, 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 safety 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 industrial waste (be aware of the possible existence 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.

CHECK FITTINGS

The TW PTO S426 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 settings listed 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.**

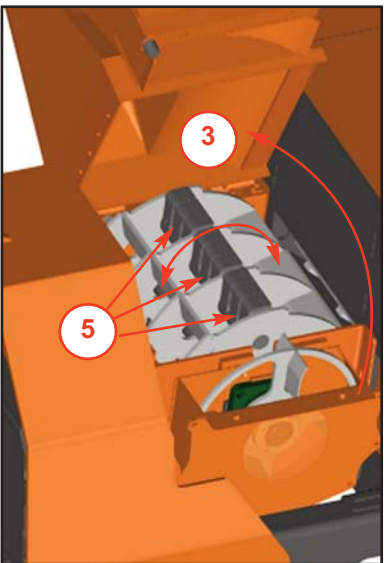
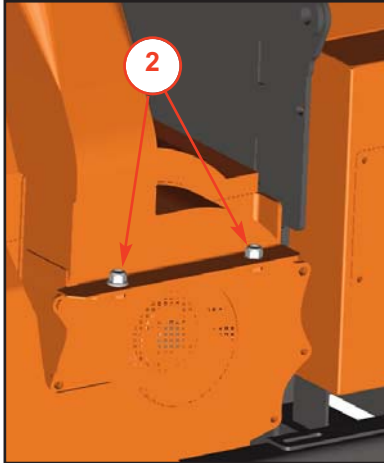
	Size	Pitch	Head	Torque lbft	Torque Nm
Rotor Housing Clamp Nuts	M16	Standard	24 mm Hex	40	54
Hyd Motor Retaining Cap Screws	M12	Standard	10 mm Allen Key	60	81
Roller Box Retaining Bolts	M16	Standard	24 mm Hex	105	140
Rotor Shaft Retaining Screws	M12	Standard	10 mm Allen Key	105	140
Funnel Retaining Nuts	M12	Standard	19 mm Hex	60	80
General	M8	Standard	13 mm Hex	17	23
General	M10	Standard	17 mm Hex	34	46
General	M12	Standard	19 mm Hex	60	80



CHECK FREE ROTATION OF ROTOR DRUM AND HAMMERS

WARNING

Wear heavy gloves for the rotor drum/hammer checking operation.

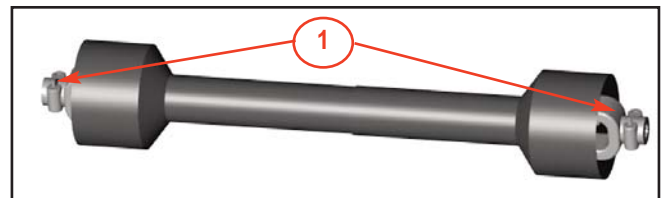


1. Turn off tractor and remove key.
2. Using a 24 mm spanner remove the two M16 nuts clamping the drum housing shut.
3. Carefully lift the drum housing until it rests on its stop.
4. Using the paddles to turn the drum, set a bank of hammers at 12 o'clock.
5. Check that each of the 9 hammers in this bank all rotate freely through 360°.
6. Turn the drum to check the second bank of hammers.
7. Check all 9 hammers in second bank also rotate freely through 360°.
8. Lower the top of the drum housing and reinstall the two M16 nuts.
9. Torque these to 65lbft.

PTO DRIVE SHAFT MAINTENANCE

1. Lubricate regularly. At least every 16 hours on coupling grease nipples and 8 hours on all other lubricated points.

Replace prop shaft shear bolts only with correct grade of bolt available from the shaft supplier.



SEE SEPARATE PROP SHAFT INSTRUCTION SHEET FOR FULL DETAILS.

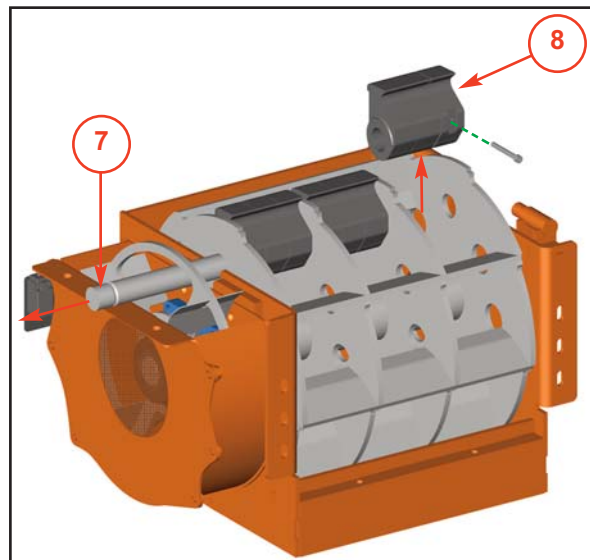
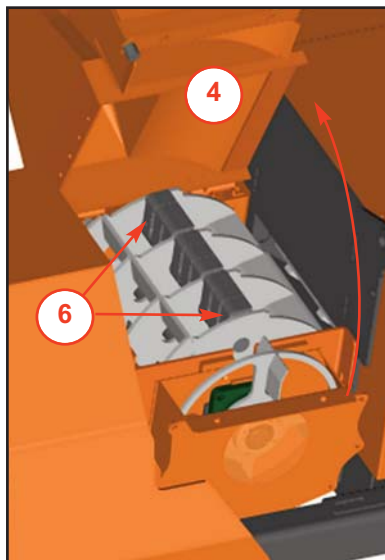
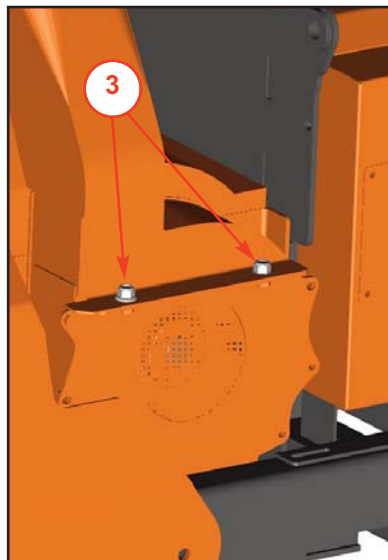
Further information on the safe use of PTO shafts can be found in HSE leaflet AS 24



CHANGE HAMMERS

WARNING

Wear heavy gloves for the blade changing operation.



1. Turn off tractor and remove key.
2. Disconnect PTO shaft from the shredder.
3. Using a 24 mm spanner remove the two M16 nuts clamping the drum housing shut.
4. Carefully lift the drum housing until it rests on its stop.
5. Using the paddles to turn the drum, set a bank of hammers at 12 o'clock.
6. With a 6mm hex key undo and remove the bolt in the hammer at each end of the bank of hammers.
7. The shaft can now be withdrawn. The shaft will need to be tapped away from the main drive pulley side.
8. As the shaft is removed the hammers will be released off the shaft. These need to be held and removed as the shaft is withdrawn.
9. The hammer replacement is the reverse of the above with the addition of some copper slip on the hammer retainer bolts. Note the hammer bushes should not be greased or lubricated in any way. Any build up of debris should be removed from both the shaft and the hammer bushes so the hammer can swing freely.
10. Turn the drum to change the second bank of hammers.
11. Lower the top of the drum housing and reinstall the two M16 nuts.
12. Torque these to 65lbft.

CHECK HOSES

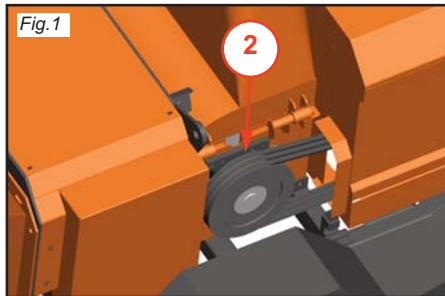
All the hydraulic hoses should be regularly inspected for chafing and leaks. The hydraulic system is pressurized to over 200 Bar and thus the equipment containing it must be kept in good condition.

Identify the hoses that run to the top motor. These have the highest chance of damage as they are constantly moving. If any hydraulic components are changed new seals should be installed during re-assembly. Fittings should then be retightened correctly.

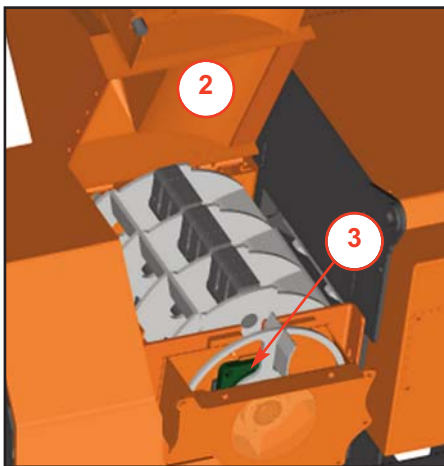


GREASE THE DRUM BEARINGS

Both bearings need regularly greasing.



1. Remove the rotor housing guard, situated on the offside of the machine.
2. Apply two pumps of grease to the bearing taking care not to over grease.
3. Refit guard.

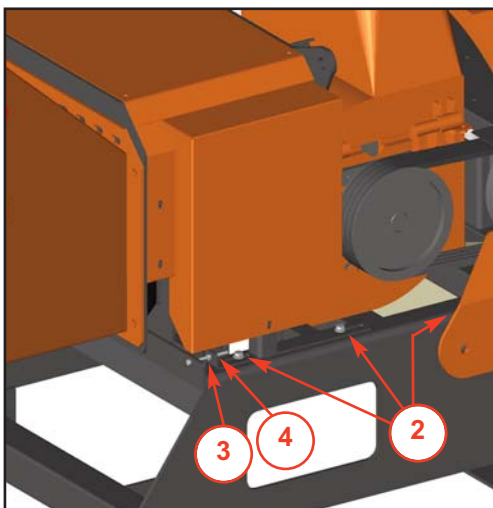


1. Using a 24 mm spanner remove the two M16 nuts clamping the drum housing shut.
2. Carefully lift the drum housing until it rests on its stop.
3. Apply two pumps of grease to the bearing taking care not to over grease.
4. Lower the top of the drum housing and reinstall the two M16 nuts.
5. Torque these to 65lbft.

TENSION DRIVE 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.



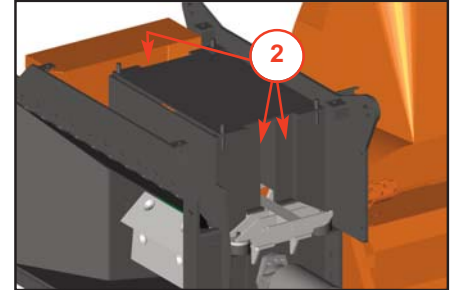
1. Remove the rotor housing guards, (as shown in Fig.1 above).
2. Slacken the six M12 bolts but do not remove (there are three located on each side of the machine).
3. Slacken the M8 tension nut from the adjuster bracket about 5mm on **both sides** of roller box.
4. Tension each of the M8 adjuster nuts drawing the drum housing, roller box and funnel away from the PTO gearbox. For instructions on checking belt tension & correct belt tension values, please refer to the Timberwolf V-Belt Tensioning Data Table (page 40).
5. Check the belt tension and repeat as necessary.
6. Once belt tension is correct lock off the M8 nut against the tension bracket.
7. Retighten the six M12 bolts.
8. Refit the belt guard when finished.



GREASE THE ROLLER BOX SLIDES

NOTE: This should be done every 50 hours. In dirty or dusty conditions or during periods of hard work it should be done more frequently. If the slides become dry the top roller will tend to hang up and the pulling-in power of the roller will be much reduced. Excessive wear will ensue.

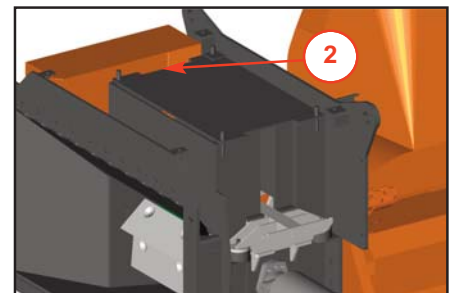
1. Remove the top roller box guard.
2. Remove the roller box guard.
3. Apply multipurpose grease directly to the slide surfaces indicated. **DO NOT USE GRAPHITE BASED GREASE.**
4. Refit the roller box guards.



GREASE THE ROLLER SPLINE AND BEARING

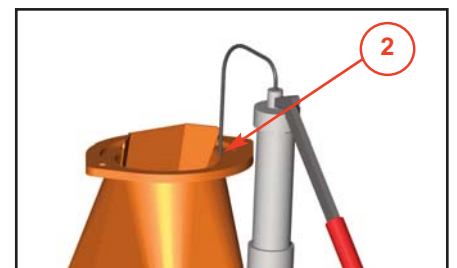
NOTE: This should be done regularly. In dirty and dusty conditions or during periods of hard work it should be weekly. If the bearings and splines are allowed to run dry premature wear will occur resulting in a breakdown and the need for replacement parts. This failure is not warranty. Early signs of insufficient grease includes squeaking or knocking rollers.

1. Remove the top roller box guard.
2. Locate the grease nipple indicated.
3. Use a pump action grease gun to apply a generous amount of grease to each roller drive. **DO NOT USE GRAPHITE BASED GREASE.**
4. Refit the top roller box guard.



GREASE THE DISCHARGE FLANGE

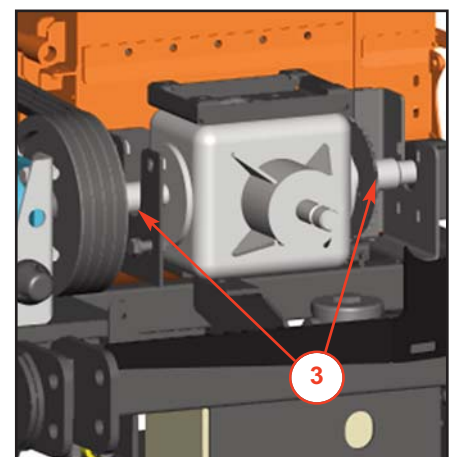
1. Remove the discharge tube.
2. Apply multipurpose grease to surface shown.
3. Refit discharge tube.



GREASING THE MAIN DRIVE AND PUMP DRIVE

Always remove the Shredder from the tractor before performing maintenance.

1. Remove the prop shaft.
2. Remove the gearbox guard
3. Locate the grease nipple on the main drive indicated.
4. Use a pump action grease gun to apply two pumps of general-purpose grease. **DO NOT USE GRAPHITE BASED GREASE.**
5. Locate the grease nipple on the pump drive adapter indicated.
6. Use a pump action grease gun to apply two pumps of general-purpose grease. **DO NOT USE GRAPHITE BASED GREASE**
7. Refit the gearbox guard.
8. Refit the prop shaft.





ENVIRONMENTAL MANUFACTURING LLP 12 MONTH SHREDDER WARRANTY

WARRANTY PERIOD

The warranty period for the shredder 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 shredder registered with Environmental Manufacturing LLP as a hire shredder 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 Environmental Manufacturing LLP premises or at our option an Environmental Manufacturing LLP approved Timberwolf dealer. No liability will be accepted for special, indirect, incidental, or consequential loss or damages of any kind.

WARRANTY STATEMENT

Environmental Manufacturing LLP warrants to the first end user that;

- Your shredder shall be designed, built and equipped, at the point of sale, to meet all current applicable regulations.
- Your shredder 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 Environmental Manufacturing LLP shredder you are responsible for the following;

- Operation of the shredder in accordance with the Environmental Manufacturing LLP instruction manual.
- Performance of the required maintenance listed in your Environmental Manufacturing LLP instruction manual.
- In the event of a failure the Environmental Manufacturing LLP 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 Environmental Manufacturing LLP warranty is restricted to the first end user only and is not transferable except when an authorised Timberwolf Dealer has a shredder registered with Environmental Manufacturing LLP as a hire shredder or long term demonstrator – in these situations they are duly authorised to transfer any remaining warranty period to their first end user.

The Environmental Manufacturing LLP 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 Environmental Manufacturing LLP.
- 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 Environmental Manufacturing LLP instruction manual.

WARRANTY SERVICE

To obtain warranty service please contact your nearest Environmental Manufacturing LLP approved Timberwolf dealer. To obtain details of the nearest facility please contact Environmental Manufacturing LLP at the address on the front 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

EC Declaration of Conformity



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 : Un-powered, inter-changeable machine designed to be incorporated into a suitable PTO power source for the intention of shredding general green waste, contaminated brushwood, pallets, domestic doors, plastic and wooden window frames, wooden furniture, metal furniture and door fastenings, and other similar items.

Model : TW PTO S426 Shredder

Serial No. : Serial Manufacture

BSI Transposed Harmonised Standards applied: (including parts/clauses of):

BS EN 12100-1: 2003 Safety of Machinery- Basic concepts, BS EN 13857-1: 2008 Safety of Machinery-Safety distances to danger zones, BS EN 60204-1: 1998 Safe electrical practices, BS EN 13732-1:2006 Safety of Machinery – Temperatures of touchable surfaces, BS EN 13849-1: 2008 – Safety of Machinery – Safety related parts of control systems, BS EN 982: 1996 – Safety of Machinery – Hydraulics, BS EN 1088: 1995 – Safety of Machinery – Interlocking devices, BS EN 13525: 2005 – Forestry Machinery – Wood chippers – Safety.


"Responsible" Person empowered to sign:  Mr. Jeff Haines

Position in Company: Technical Director

Date: 1st January 2010



IDENTIFICATION PLATE

	ENVIRONMENTAL MANUFACTURING LLP STOWMARKET, SUFFOLK IP14 5AY UK		
MODEL	<input type="text"/>		
SERIAL NO.	<input type="text"/>		
CARR. TYP/SN.	<input type="text"/>	GROSS WEIGHT	<input type="text"/>
NOM. POWER	<input type="text"/>	DATE	<input type="text"/>

EXAMPLE

DECALS



**TIMBERWOLF
TW PTO S426**

24



TIMBERWOLF



616

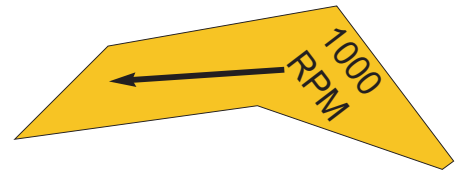
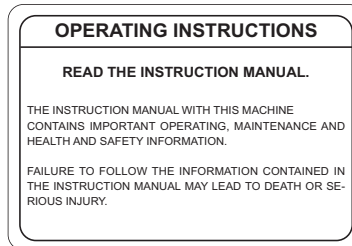
670

671

1136 x 2

1363 x 3

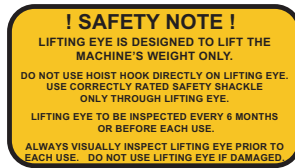
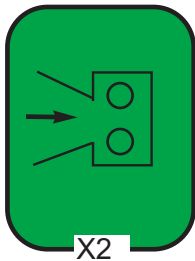
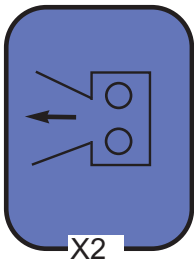
1399



1661

1662

2438



Forward Latch
Engine Safety



2800

2801

2949

2995

4099 x 2



4134

18393

18483 x 2

18713



**PTO S426
SHREDDER**



18714

18795

19331










19332

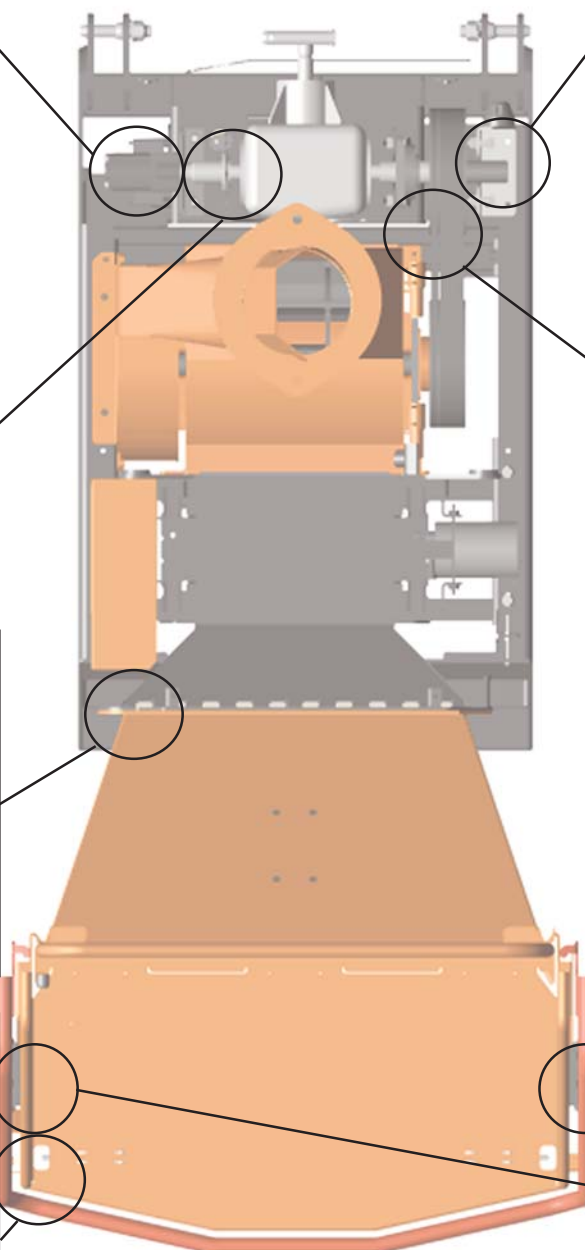
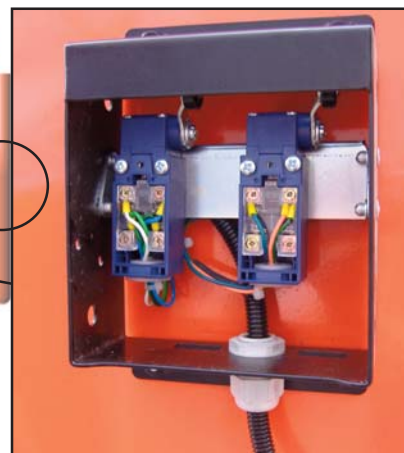
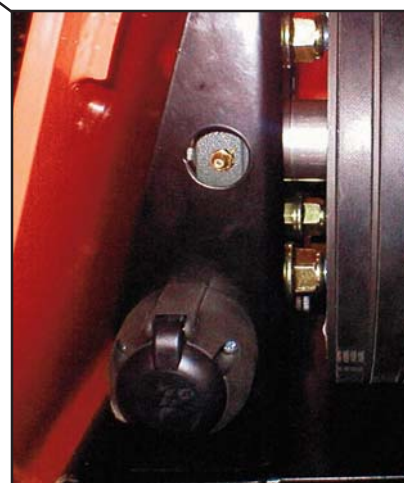
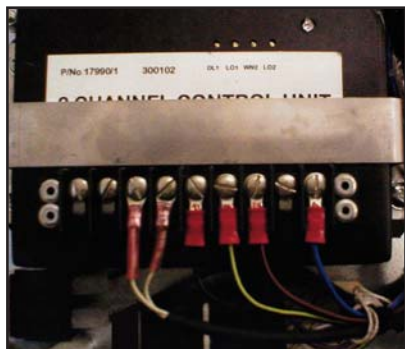
19333

19334



671 - these individual decals are supplied as a set, they may not all apply to your machine.

<p>DANGER</p> <p>DO NOT OPERATE WITHOUT THIS COVER IN PLACE</p> 	<p>DANGER</p> <p>AUTOFEED SYSTEM FITTED. ROLLERS MAY TURN WITHOUT WARNING! WHEN ENGINE IS SWITCHED OFF THE ROLLERS WILL TURN DURING THE RUN DOWN PERIOD</p> 	<p>CAUTION</p> <p>WHEN TRANSPORTING DISCHARGE CLAMPS MAY WORK LOOSE. CHECK FREQUENTLY</p>
<p>DANGER</p> <p>DO NOT OPERATE WITHOUT THIS COVER IN PLACE</p> 	<p>FUEL HERE </p> <p>RISK OF FIRE</p> <p>ALLOW ENGINE TO COOL FOR 1 MINUTE BEFORE REFUELING. USE UNLEADED PETROL</p>	<p>CAUTION</p> <p>AVOID STANDING DIRECTLY IN FRONT OF FEED FUNNEL TO REDUCE EXPOSURE TO NOISE, DUST AND RISK FROM EJECTED PARTICLES</p>
<p>DANGER</p> <p>DO NOT OPERATE WITHOUT THIS COVER IN PLACE</p> 	<p>CAUTION</p> <p>DO NOT PUT ROAD SWEEPINGS IN MACHINE AS GRIT WILL DAMAGE BLADES</p>	<p>DANGER</p> <p>ROTATING BLADES</p> 
<p>DANGER</p> <p>DO NOT OPERATE WITHOUT THIS COVER IN PLACE</p> 	<p>DANGER</p> <p>STOP ENGINE AND REMOVE KEY BEFORE REMOVING DISCHARGE UNIT. ROTATING BLADES INSIDE.</p> 	<p>DANGER</p> <p>DO NOT USE THIS MACHINE WITHOUT THE DISCHARGE UNIT FITTED FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY OR DAMAGE</p> 

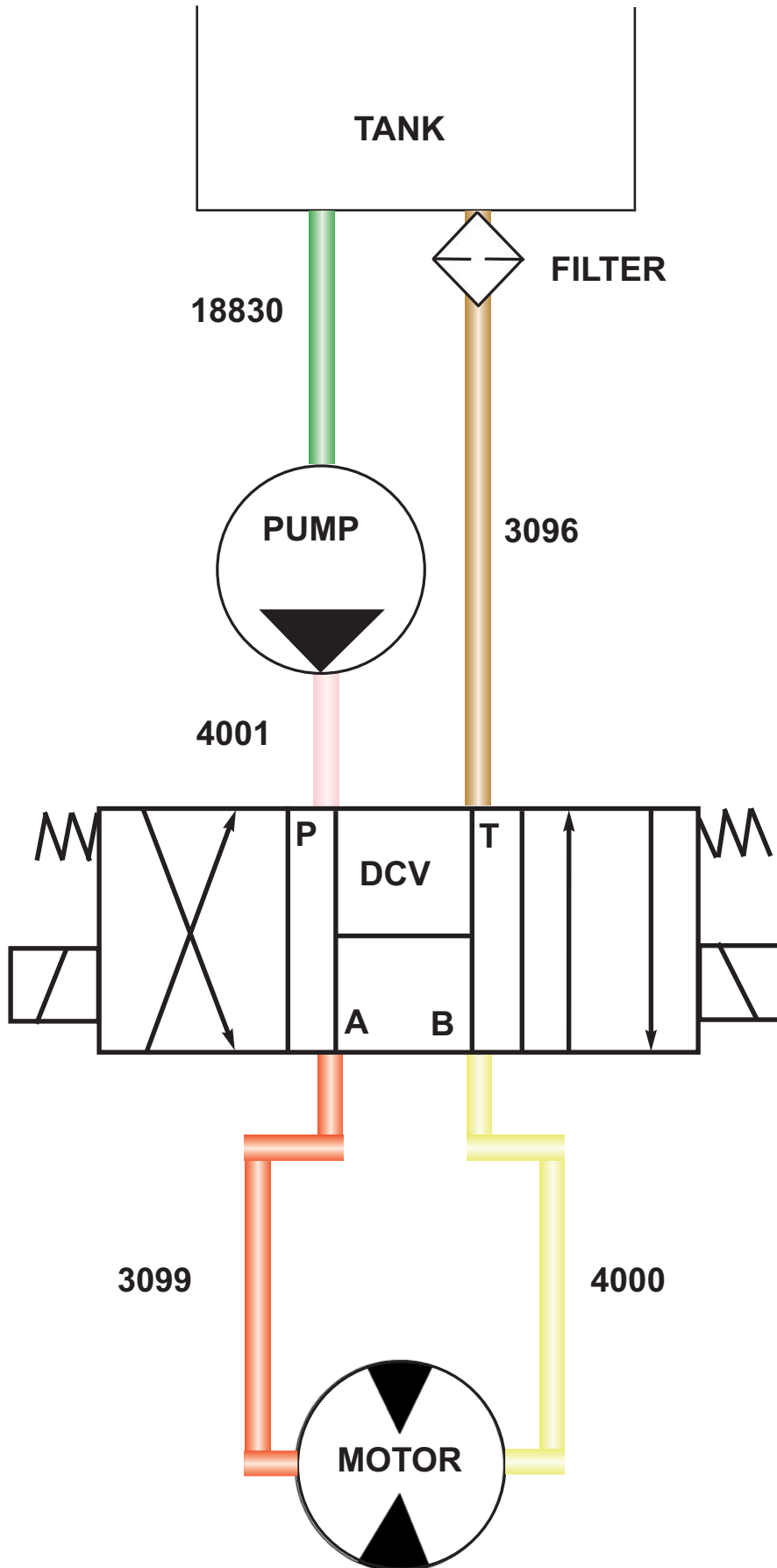


27 HYDRAULIC LAYOUT

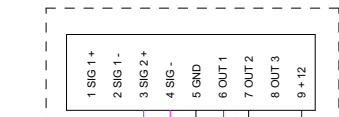


TIMBERWOLF
TW PTO S426

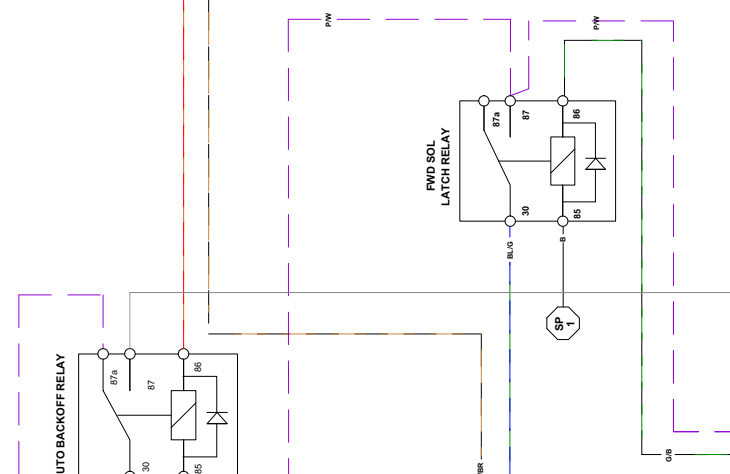
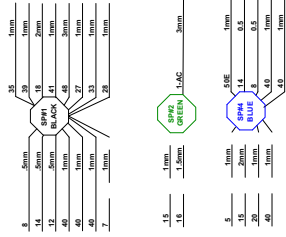
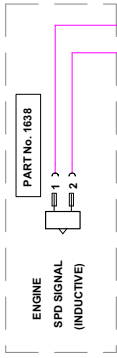
KIT NO: 18831



Date Last Modified: 10th March 09



SPEED SWITCH
DUEL CHANNEL
AUTO BACKOFF



PART No. 17809
SPLIT TO FUNNEL LOOM

TRACTOR SIDE LIGHTS ON TO SUPPLY POWER (12V)

MAIN LOOM 18832

KEY TO WIRING	
B	BLACK
BL/G	BLUE WITH GREEN TRACER
BL/W	BLUE WITH WHITE TRACER
BR	BROWN
R	RED
P/W	PURPLE WITH WHITE TRACER
B/B	BLACK WITH BROWN TRACER
G	GREEN
BL/B	BLUE WITH BLACK TRACER
W/R	WHITE WITH RED TRACER
W	WHITE
O	ORANGE
B/G	BLACK WITH GREEN TRACER
BL/R	BLUE WITH RED TRACER

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PARTS LISTS

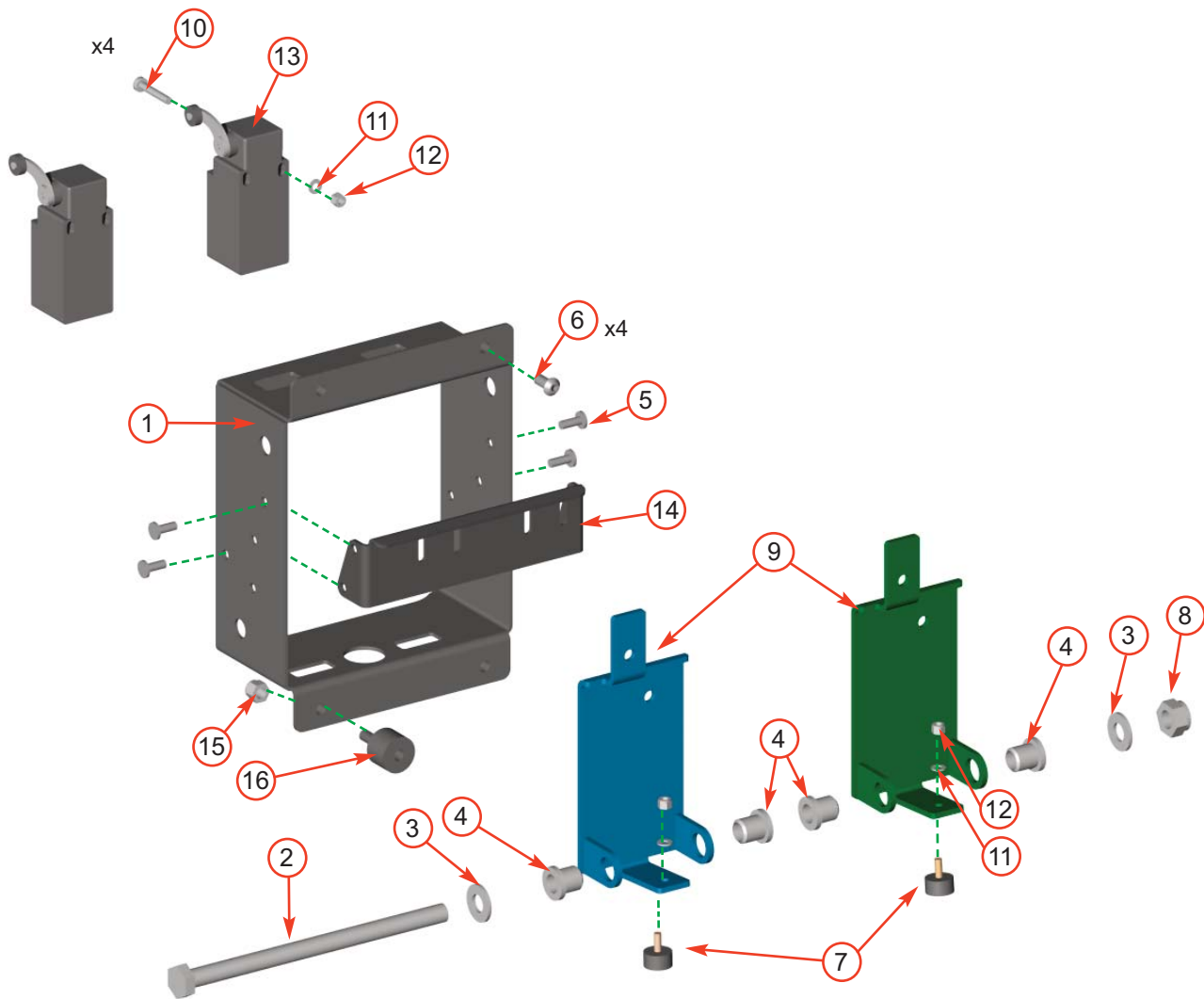
The following illustrations are for parts identification only. The removal or fitting of these parts may cause a hazard and should only be carried out by trained personnel.

	<i>Page No.</i>
CONTROL BOX	31
CONTROL PANEL	32
DECALS	SEE PAGES 24 - 25
DISCHARGE	33
DRIVE TRAIN	34
ELECTRICAL LAYOUT	35
FRAME	36
FUNNEL	37
HYDRAULICS	38
ROLLER BOX	39
ROTOR DRUM	40
ROTOR HOUSING	41
V- BELT TENSIONING TABLE	42

31 CONTROL PANEL

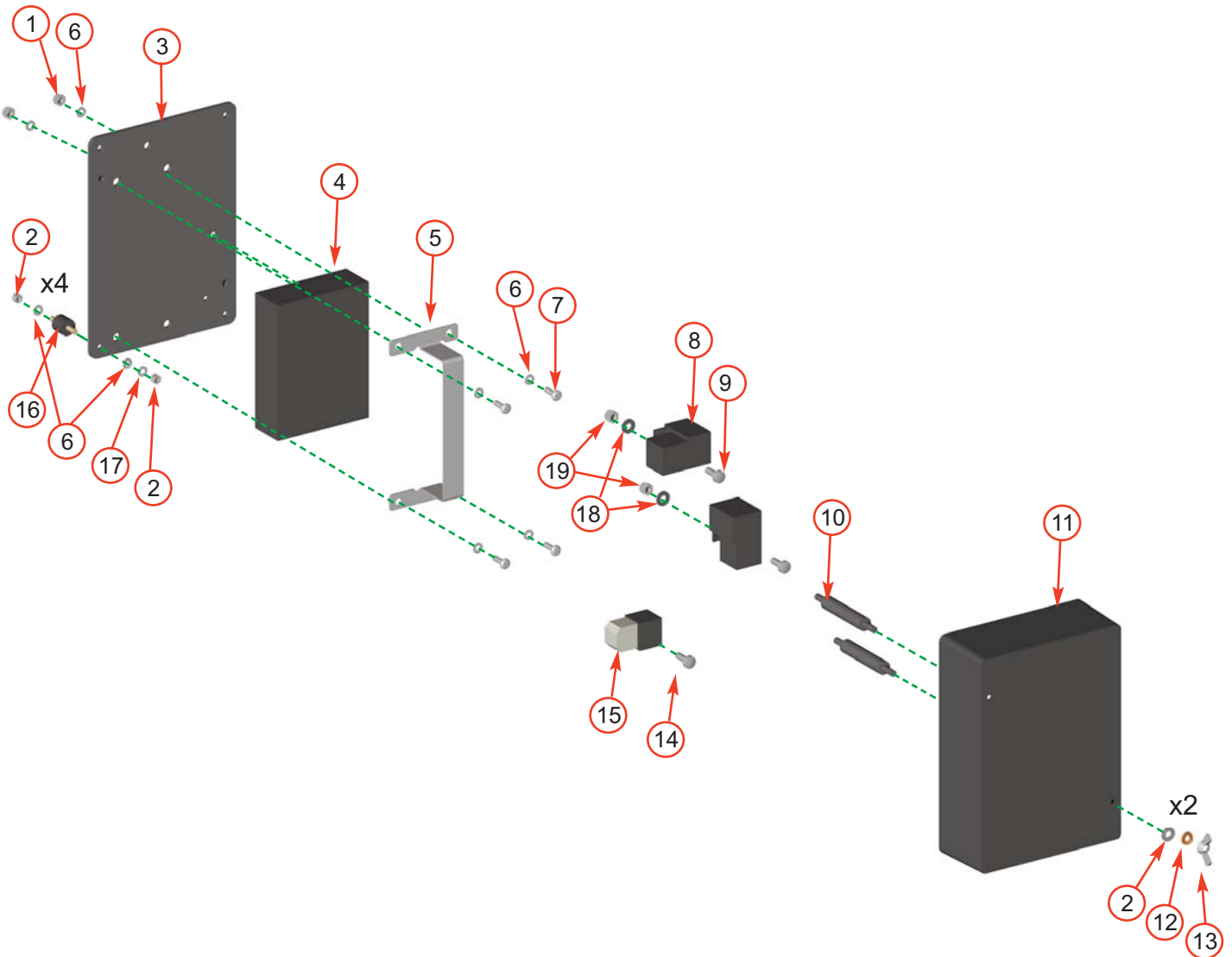


TIMBERWOLF
TW PTO S426



Date Last Modified: 31st March 11

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	17802FB	Control Box Cover	1	9	17803FS	Finger Plate	2
2	17963	M10/160 Bolt	1	10	18168	M4/35 Pan Pozi	4
3	0839	M10 C Washer	2	11	18100	M4 Washer	4
4	2804	Bush M10 Top Hat	4	12	18235	M4 P Nyloc Nut	4
5	0067	Pop Rivet M5/12	4	13	17927	Limit Switch	2
6	18108	M6/8 Pan Pozi	4	14	17805FS	Switch Mounting Plate	1
7	2834	AV Mount VE Type	2	15	0142	M6 P Nyloc Nut	4
8	4345	M10 P Nyloc Nut	1	16	18000	AV Mount	3



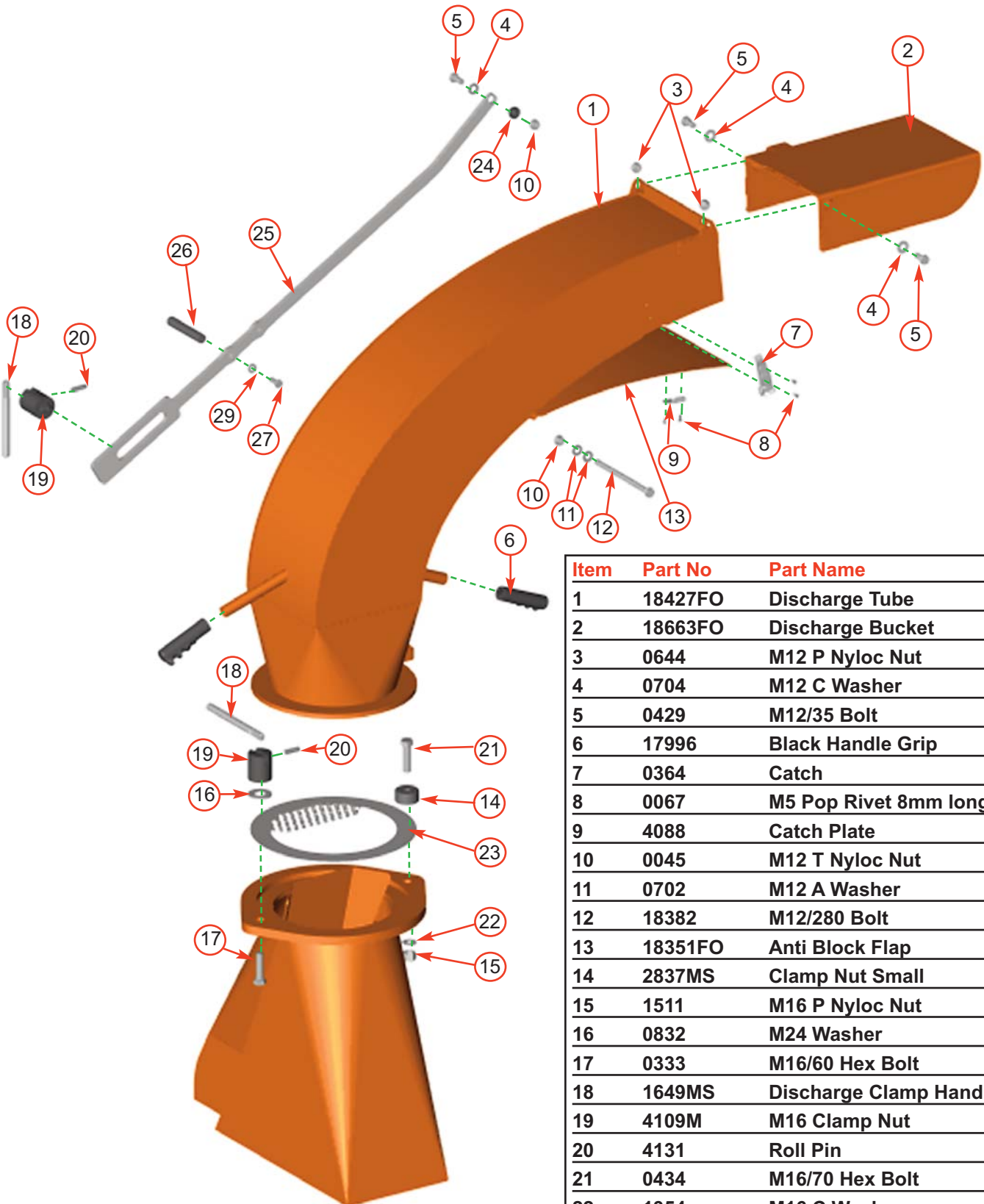
Date Last Modified: 21st April 011

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	0236	M5 P Nyloc Nut	4	11	1930	Electrical Cover	1
2	18291	M5 Plain Nut	8	12	18106	M6 Spring Washer	2
3	18834	Electrical Panel	1	13	18107	M6 Wing Nut	2
4	17990	Duel Speed Box	1	14	1151	Countersunk Pop Rivet	1
5	18002	Bracket	1	15	Supp'd with loom	Fuse	1
6	0857	M5 A Washer	12	16	4033	M5 AV Mount	4
7	0435	M5/16 Pan Pozi	4	17	3024	M5 Spring Washer	4
8	Supp'd with loom	Relay	2	18	0709	M6 C Washer	4
9	0438	M6/16 Pan Pozi	1	19	0391	M6 T Nyloc Nut	2
10	2725	Electrical Cover Stand Off	2				

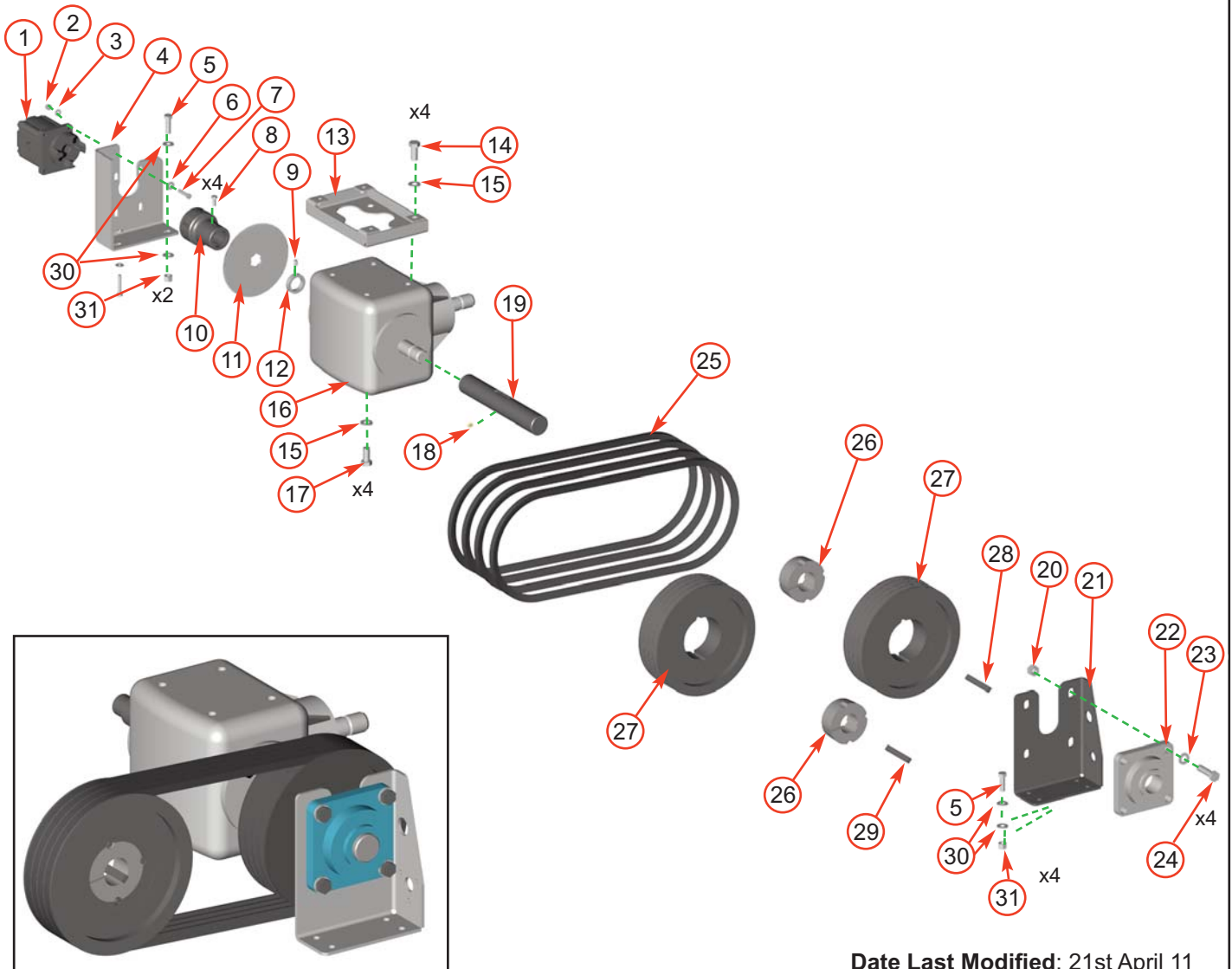
33 DISCHARGE



**TIMBERWOLF
TW PTO S426**



Item	Part No	Part Name	Q'ty
1	18427FO	Discharge Tube	1
2	18663FO	Discharge Bucket	1
3	0644	M12 P Nyloc Nut	2
4	0704	M12 C Washer	2
5	0429	M12/35 Bolt	3
6	17996	Black Handle Grip	2
7	0364	Catch	2
8	0067	M5 Pop Rivet 8mm long	8
9	4088	Catch Plate	2
10	0045	M12 T Nyloc Nut	1
11	0702	M12 A Washer	2
12	18382	M12/280 Bolt	1
13	18351FO	Anti Block Flap	1
14	2837MS	Clamp Nut Small	1
15	1511	M16 P Nyloc Nut	1
16	0832	M24 Washer	1
17	0333	M16/60 Hex Bolt	1
18	1649MS	Discharge Clamp Handle	2
19	4109M	M16 Clamp Nut	2
20	4131	Roll Pin	2
21	0434	M16/70 Hex Bolt	1
22	1354	M16 C Washer	1
23	18643	Discharge Grill Washer	1
24	18671	Bush Top Hat	1
25	18664FS	Stay Arm	1
26	18710MS	Stay Handle	1
27	0360	M10/25 Bolt	1
28	0701	M10 A Washer	1
29	0839	M10 C Washer	1



Date Last Modified: 21st April 11

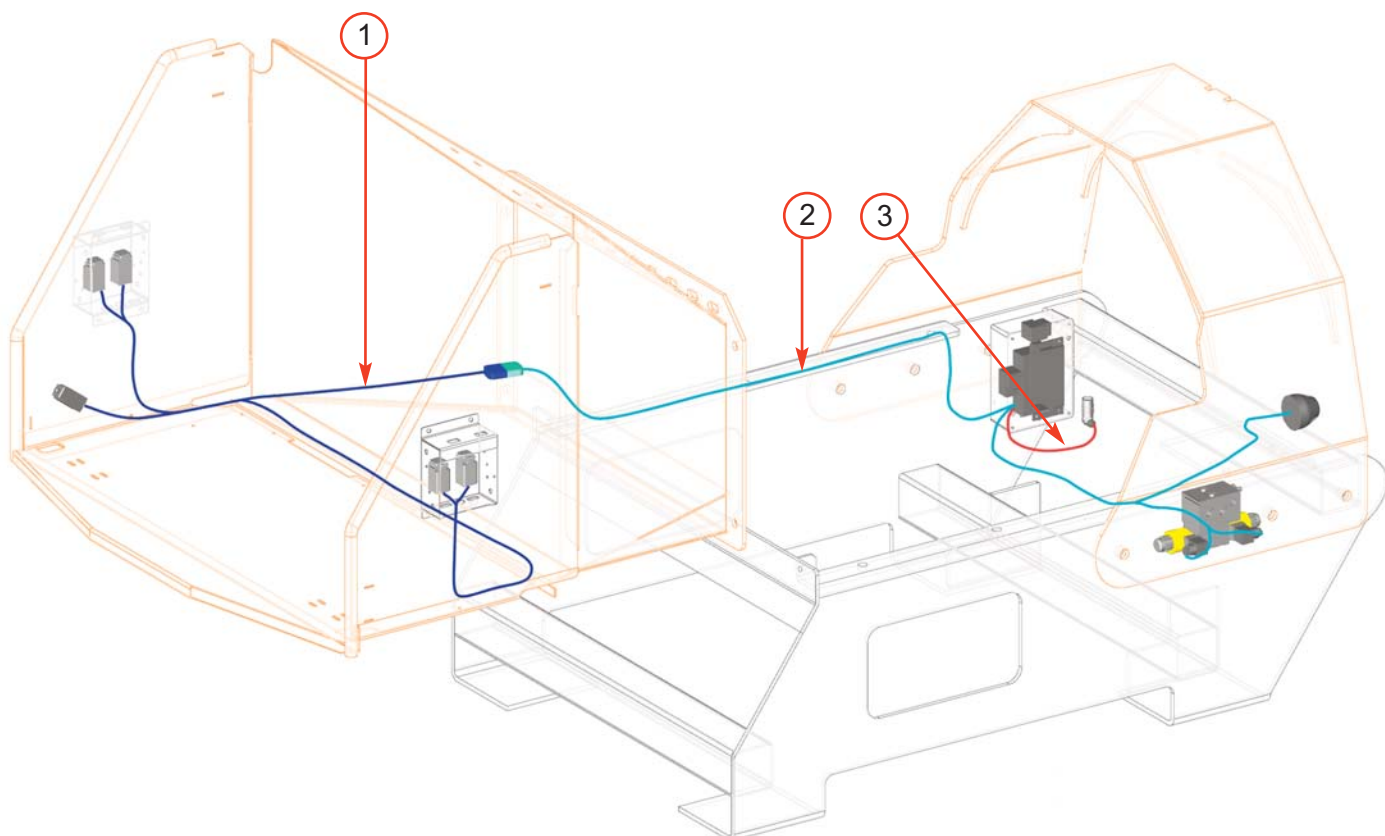
Item	Part No	Part Name	Q'ty
1	18791	Pump	1
2	0479	M8 P Nyloc Nut	4
3	0711	M8 A Washer	4
4	18792F	Pump Bracket	1
5	0431	M12/40 Bolt	6
6	0712	M8 C Washer	4
7	18117	M8/35 Bolt	4
8	0346	M8/20 Bolt	1
9	18037	M8/12 Grub Screw	1
10	18783	Adapter Pump	1
11	18866S	Trigger	1
12	18867	Retaining Collar	1
13	18790FS	Gear Box Bracket	1
14	18183	M16/25 Bolt	4
15	1354	M16 C Washer	8
16	18782	Gear Box	1

Item	Part No	Part Name	Q'ty
17	1628	M16/35 Bolt	4
18	0985	Grease Nipple M6 Straight	1
19	18785	Main Drive Adapter	1
20	2978S	M16 Flange Nut	4
21	18786	Main Drive Bracket	1
22	17793	Bearings	1
23	1218	M16 Hardened Washer	4
24	0333	M16/60 Bolt	4
25	18781	SPB Quad Belt XPB1700	4
26	17921	Taper Lock Bush	2
27	18780	Pulley 280 x 4	2
28	19145M	Key 52 x 14 x 9	1
29	18328	Key 37 x 14 x 9	1
30	0704	M12 C Washer	10
31	0644	M12 P Nyloc Nut	6

35 ELECTRICAL LAYOUT

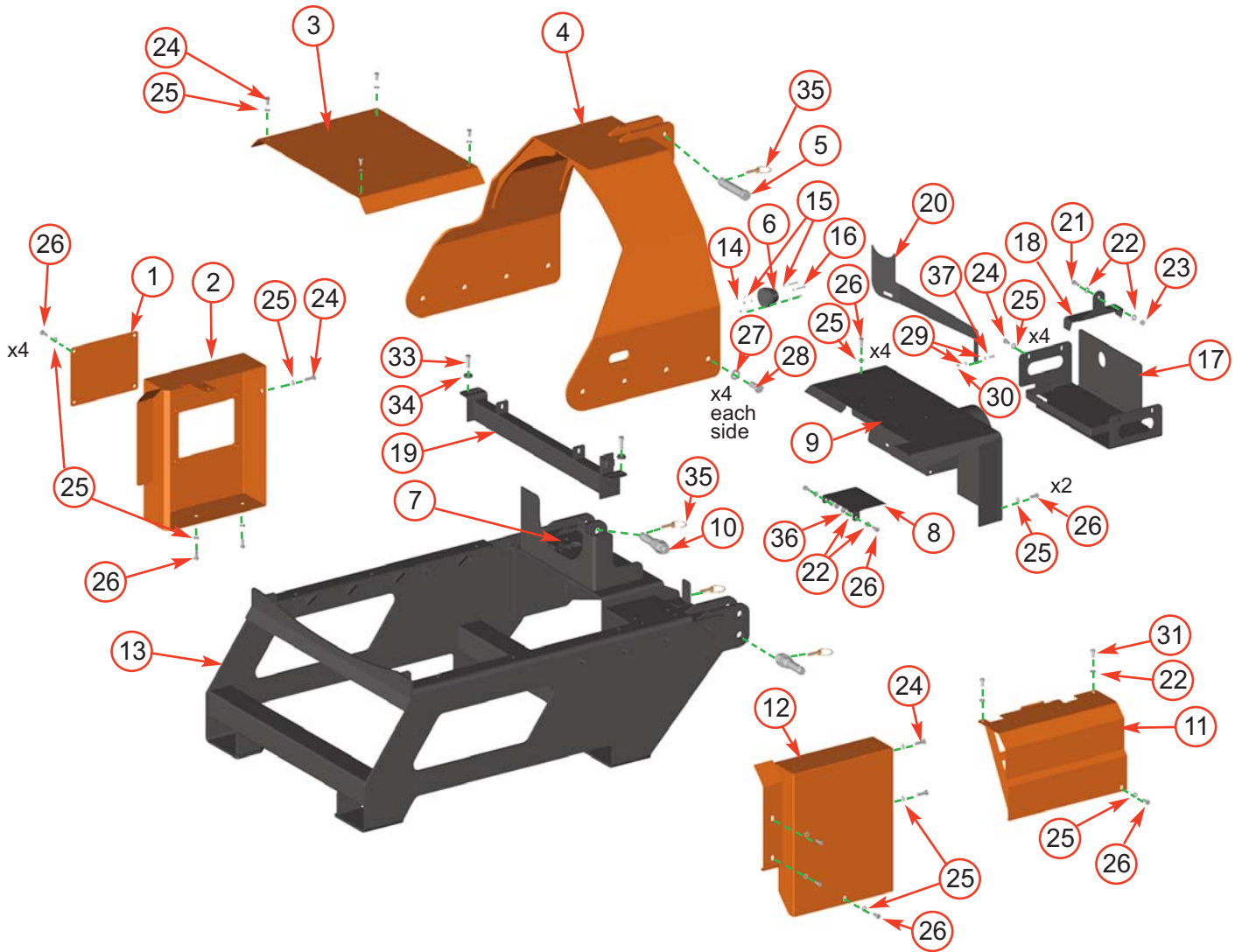


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Date Last Modified: 3rd July 09

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	17809	Control Box/Safety Switch Loom	1	3	1638	Wabco Sensor	1
2	18805	Main Loom	1				



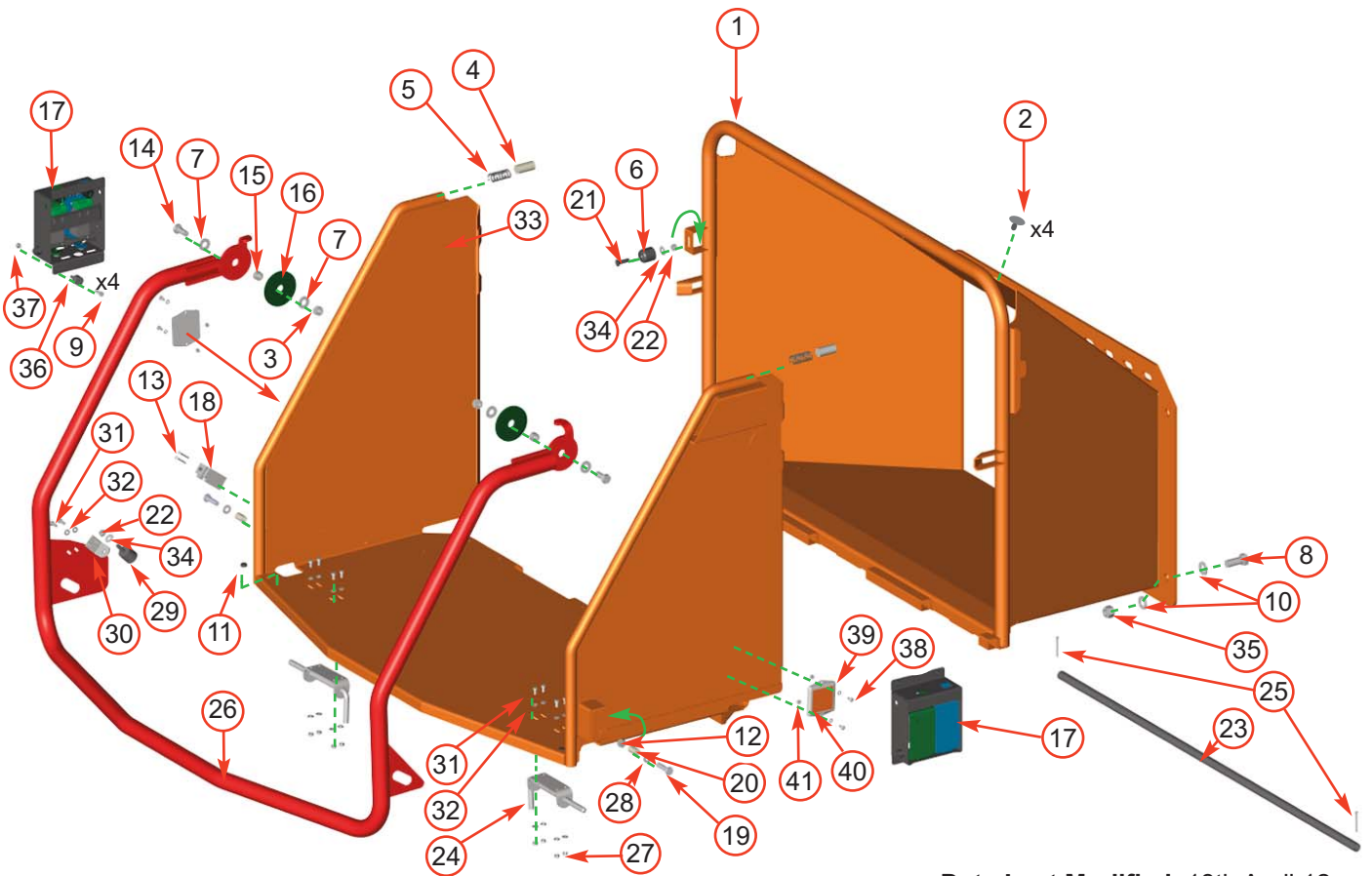
Date Last Modified: 24th March 11

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	18828	Roller Box Hatch	1	20	18808FB	Prop Support	1
2	18788	Tank Guard	1	21	0382	M10/30 Bolt	1
3	18310FO	Roller Box Lid	1	22	0701	M10 A Washer	8
4	18777FO	A Frame	1	23	4345	M10 P Nyloc Nut	1
5	18778	Upper Pin	3	24	0360	M10/25 Bolt	11
6	0483	Trailer Socket	1	25	0839	M10 C Washer	24
7	18790	Gearbox Guard Bracket	1	26	0878	M10/20 Bolt	15
8	18829	Lower Prop Guard	1	27	1514	M20 A Washer	8
9	18789	Gearbox Guard	1	28	1512	M20/50 Bolt	8
10	18779	Lower Pin	2	29	0709	M6 C Washer	2
11	18311FO	Offside Rotor Housing Guard	1	30	0142	M6 P Nyloc Nut	1
12	18309FO	Offside Roller Box Guard	1	31	0373	M10/20 Caphead	2
13	18776	Main Chassis	1	32	18829	Propshaft Guard	1
14	0236	M5 T Nyloc Nut	3	33	0431	M12/40 Bolt	2
15	0857	M5 A Washer	6	34	18131	M12 Heavy Washer	2
16	1589	M5/35 Pan Pozi	3	35	0942	Linch Pin	4
17	18787	Oil Tank Bracket	1	36	0052	M10 T Nyloc Nut	2
18	18833FS	Tank Retainer	1	37	1236	M6/20 Bolt	1
19	18352FB	Cross Beam	1				

37 FUNNEL



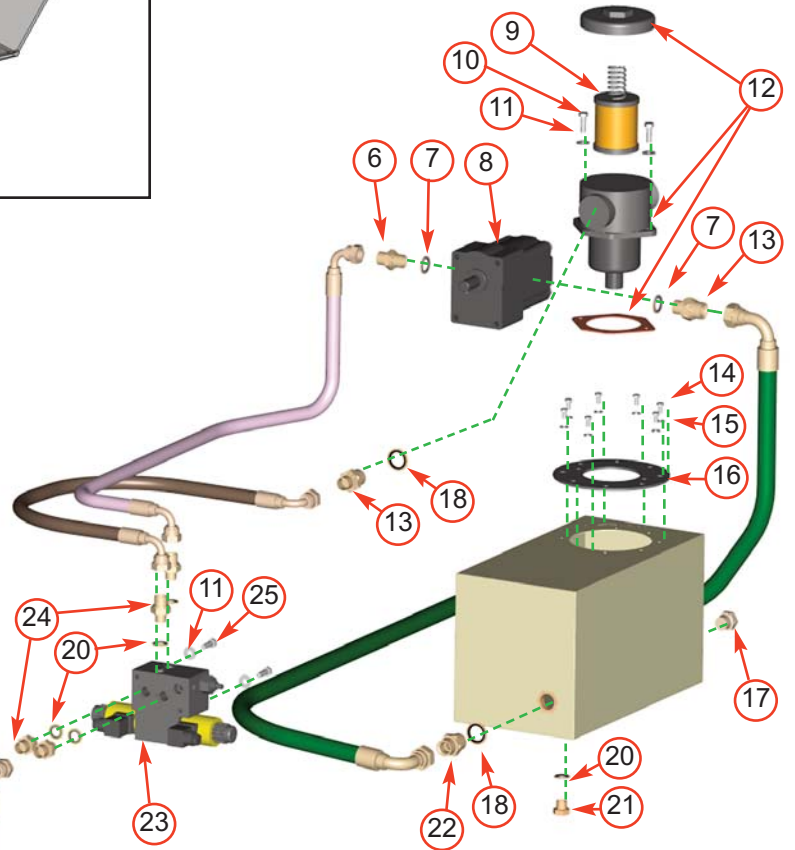
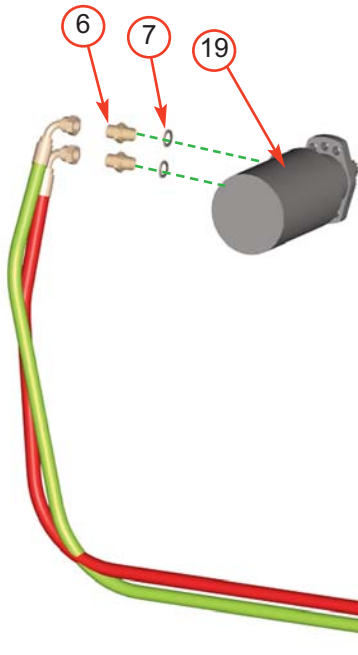
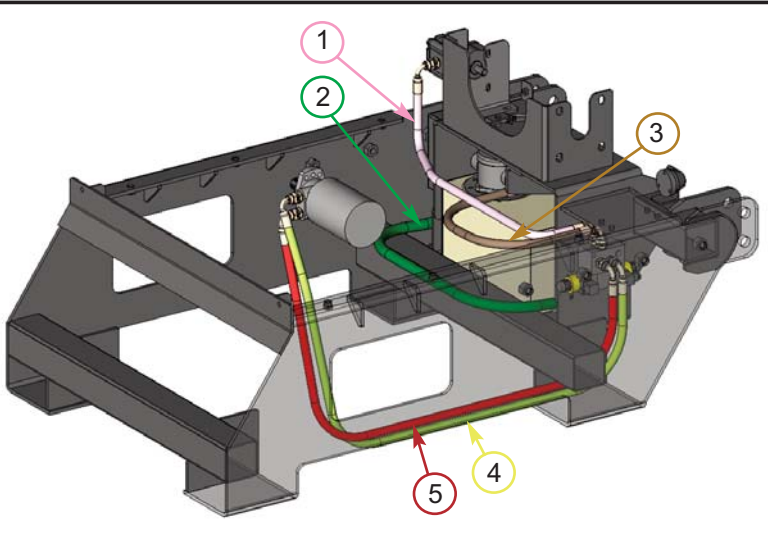
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Date Last Modified: 18th April 12

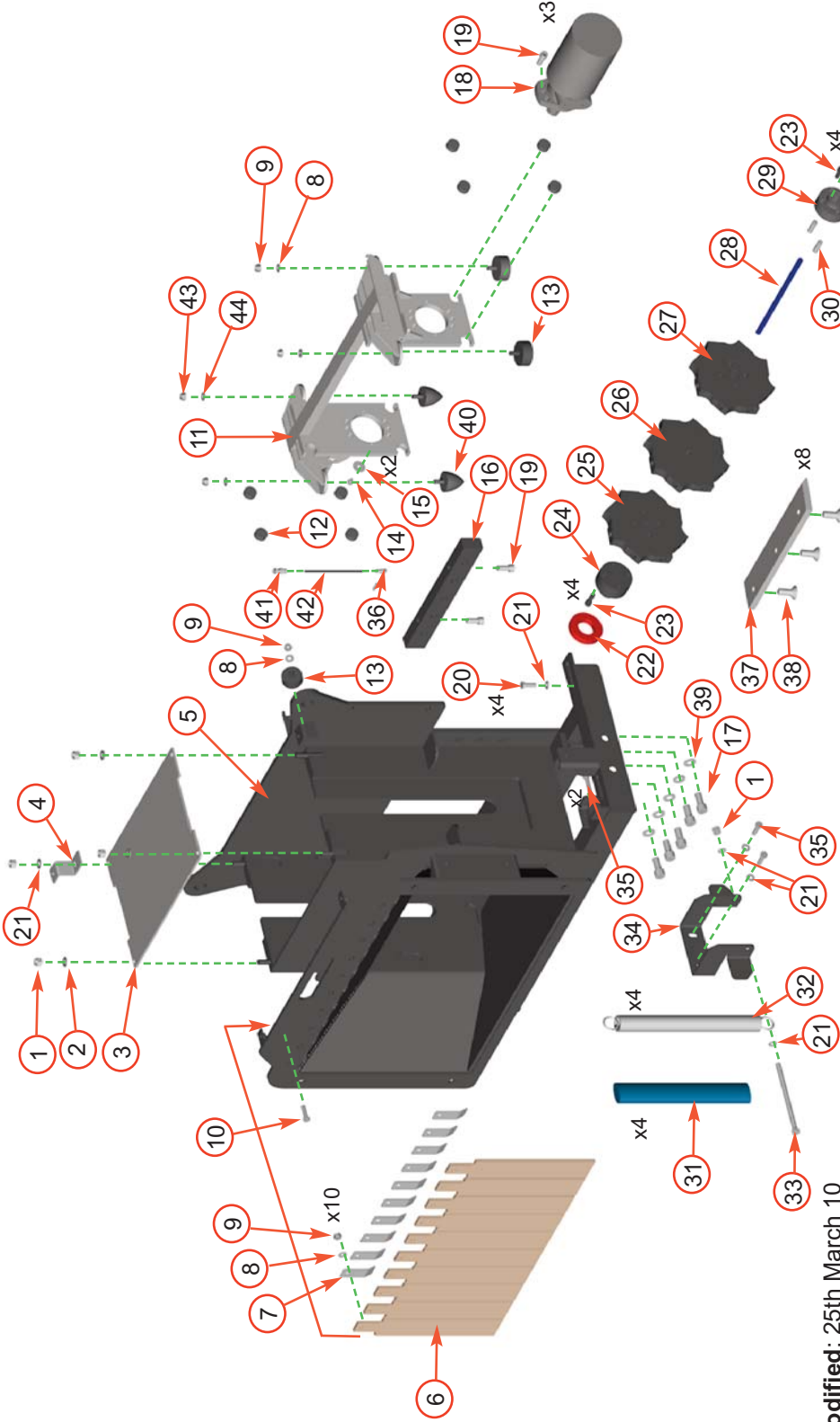
Item	Part No	Part Name	Q'ty
1	18321FO	Funnel	1
2	0654	Grommet	4
3	0045	M12 T Nyloc Nut	2
4	1601	Nylon Piston	2
5	1603	Die Spring	2
6	4206	Nylon Bush	1
7	0704	M12 C Washer	4
8	18381	M16/45 Bolt	4
9	18108	M6/8 Pan Pozi	8
10	1143	M16 A Washer	8
11	2493	Rubber Cap	2
12	4345	M10 P Nyloc Nut	1
13	1006	M4/30 Pan Pozi	2
14	0429	M12/35 Bolt	2
15	1605M	Stainless Spacer	2
16	1599	Bearing Washer	2
17	(see page 37)	Control Box	2
18	1348	Limit Switch	1
19	1520	M10/45 Bolt	2
20	1591	Nylon Spacer	2
21	18115	M8/50 Csk Soc.	1

Item	Part No	Part Name	Q'ty
22	0479	M8 P Nyloc Nut	2
23	2923FS	Hinge Pin	1
24	2986	1/2" Spring Bolt	2
25	1276	Split Pin	2
26	1598FR	Safety Bar	1
27	0391	M6 T Nyloc Nut	8
28	4344	M10 C Repair Washer	2
29	0178	Rubber End Stop	1
30	2727FS	Actuator Bracket	1
31	0437	M6/16 Bolt	10
32	0709	M6 C Washer	10
33	2914FO	Feed Tray	1
34	0712	M8 C Washer	2
35	1511	M16 P Nyloc Nut	4
36	1800	AV Mount	8
37	0142	M6 P Nyloc Nut	8
38	18104	M5/12 Pan Pozi	4
39	0857	M5 A Washer	4
40	18924	Square Reflector	2
41	18102	M5 T Nyloc Nut	2



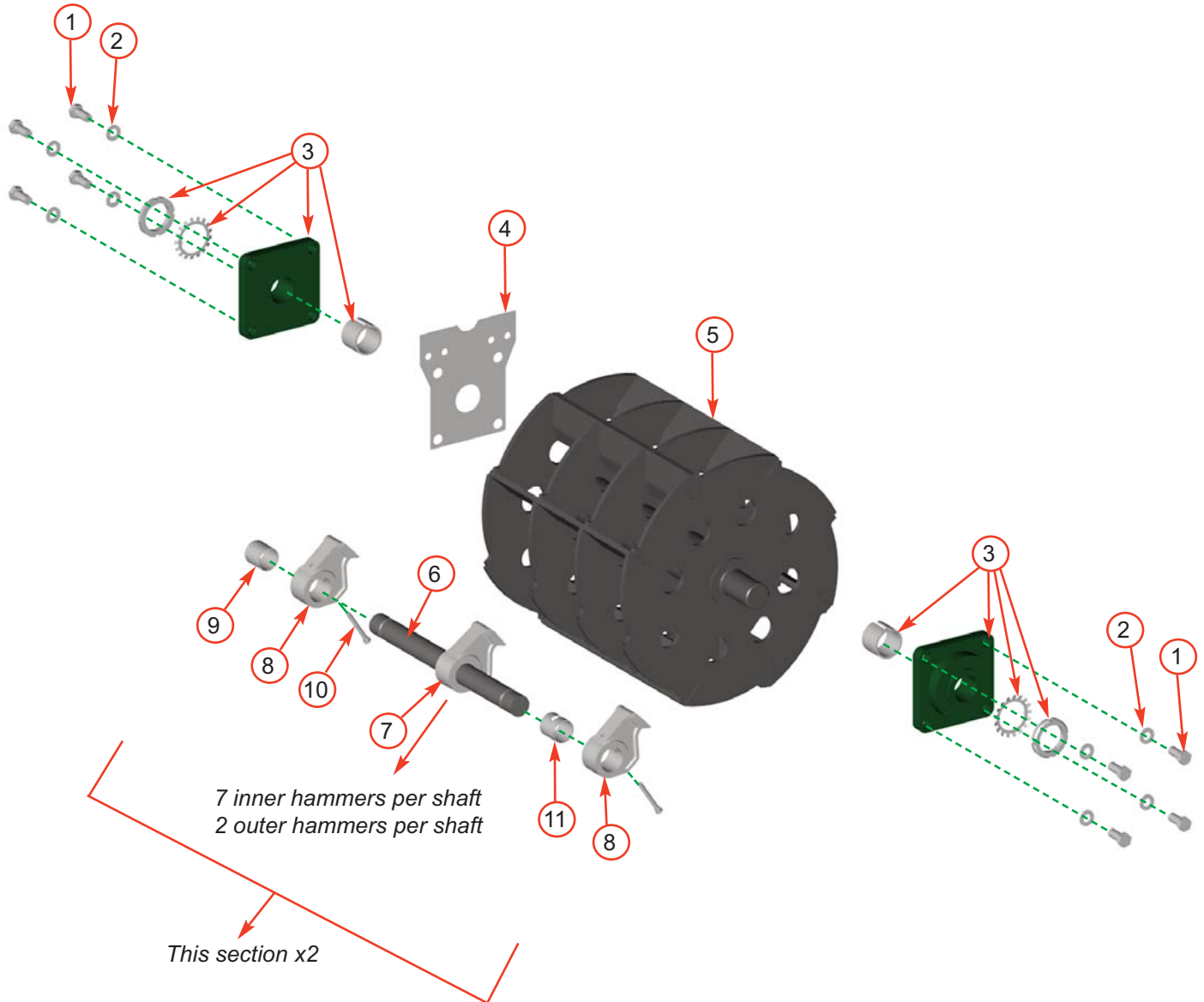
Date Last Modified: 7th April 11

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	18944	Hose 1/2"	1	14	1658	M6/12 Bolt	8
2	18830	Hose 3/4"	1	15	0709	M6 C Washer	8
3	18945	Hose 1/2"	1	16	1702FS	Tank Top Plate	1
4	18943	Hose 1/2"	1	17	4219	3/4" Tapered Blanking Plug	1
5	18942	Hose 1/2"	1	18	0152	Washer Dowty 3/4"	2
6	0027	Adaptor mm 1/2"- 1/2" BSP	3	19	2982	Hydraulic Motor	1
7	0398	1/2 Dowty Seal	4	20	0396	Washer Dowty 3/8"	5
8	18791	Hydraulic Pump	1	21	0211	3/8" BSP Plug	1
9	0100	Filter	1	22	0766	Adapter mm 3/4" - 3/4" BSP	1
10	0350	M8/25 Bolt	2	23	4252	DCV Valve	1
11	0711	M8 A Washer	4	24	0026	Adaptor mm 1/2" - 3/8" BSP	4
12	1413	Tank Top Filter	1	25	0346	M8/20 Bolt	2
13	1583	Adaptor 1/2" - 3/4" BSP	2				



Date Last Modified: 25th March 10

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	0644	M12 P Nyloc Nut	5	16	17553	Anvil	1	31	0839	Layflat Spring Protector	4
2	0702	M12 A Washer	4	17	18181	M16/35 Caphead	5	32	2116	Spring	4
3	17556S	Top Plate	1	18	17810	Motor	1	33	4333	M12/170 Bolt	1
4	17775FS	Top Guard Bracket	1	19	1985	M12/30 Caphead	8	34	17774FS	Spring Hanger Bracket	1
5	18571FB	Roller Box	1	20	0321	M12/30 Bolt	4	35	0429	M12/35 Bolt	4
6	17609	Flap	10	21	0704	M12 C Washer	9	36	18474	Rotating Fitting	1
7	17608FS	Flap Holder	10	22	17662M	Nylube Bush	1	37	17568	Roller Blades	8
8	0701	M10 A Washer	13	23	0386	M10/30 Caphead	8	38	18059	M16/35 Csk Screw	24
9	4345	M10 P Nyloc Nut	13	24	18628M	Non-Motor Drive Boss	1	39	18285	M16 Nordlock Washer	5
10	1812	M10/35 Bolt	10	25	17615	Spacer Plate Stub	1	40	18475	Buffer Cone	2
11	17557	Top Roller Slide Assembly	1	26	17571	Centre Plate Roller	1	41	18192	Remote Greaser	1
12	3009	Slide Plug	8	27	17570	Spline Drive End Plate	1	42	—	150mm x 5mm Pipe	1
13	17808	AV Mount	3	28	18379	315mm Tube	1	43	0479	M8 P Nyloc Nut	2
14	1721	M8/10 Bolt	2	29	18016M	14T Spline Drive	1	44	0712	M8 C Washer	2
15	0714	M8 Penny Washer	2	30	18017	12mm x 40mm Dowels	2				



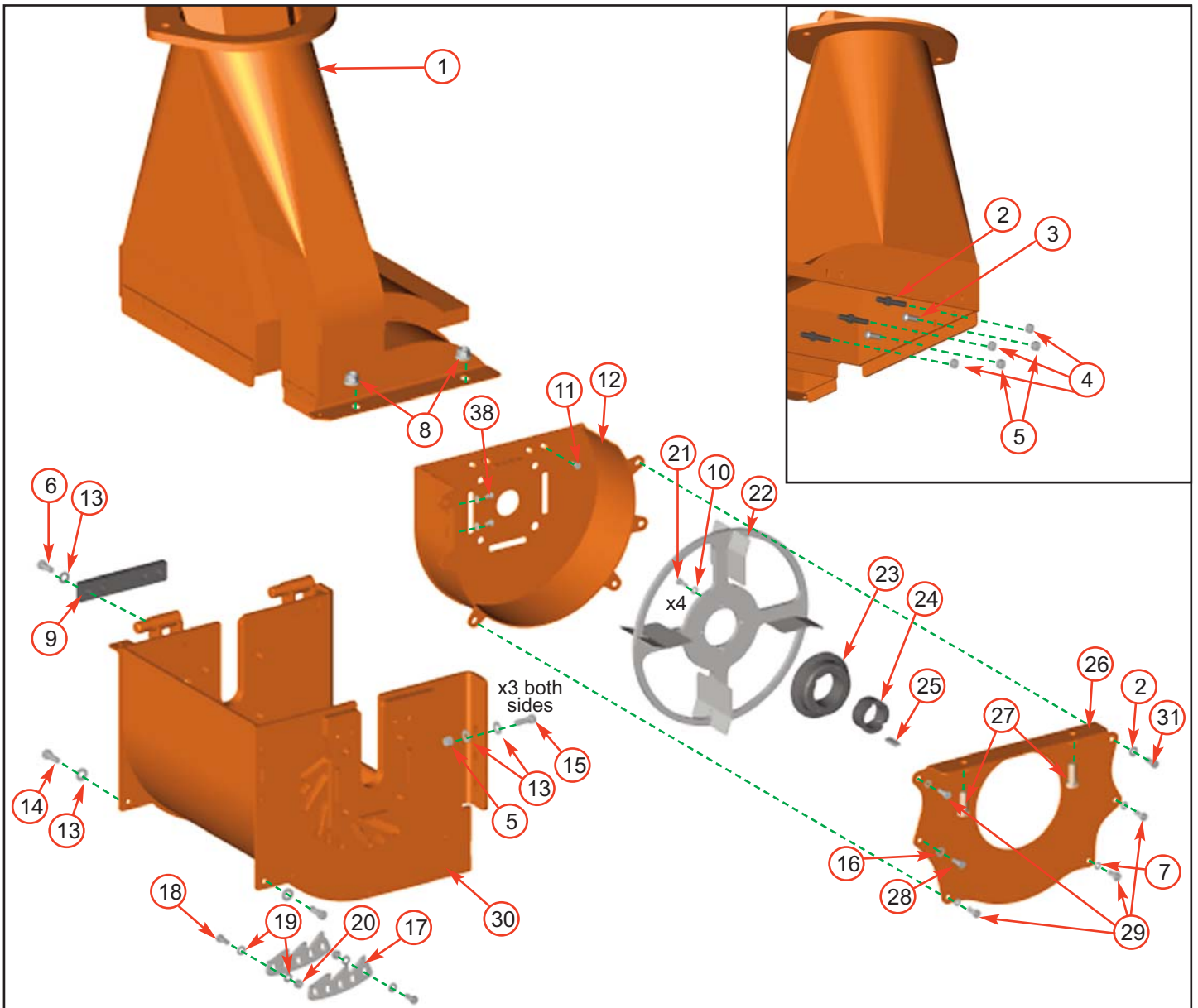
Date Last Modified: 11th June 12

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	18381	M16/45 Bolt	8	7	18072MH	Hammer Plain - Forging	14
2	1218	M16 Hardened Washer	8	8	18073MH	Hammer with Cross Drill - Forging	4
3	17793	Bearings	2	9	18354	Hammer Bush 40 x 40	14
4	18350PS	Bearing Shield	1	10	P0000022	M8/80 Caphead	4
5	18141F	Rotor Drum	1	11	18355M	Hammer Bush 40 x 40 Cross for Drill	4
6	17616	Hammer Shaft	2				

41 ROTOR HOUSING



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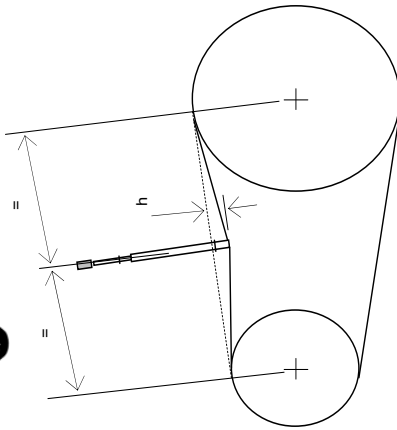


Date Last Modified: 22nd May 08

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	18425FO	Top Section Rotor Housing	1	17	18331PS	Catcher Plate	2
2	18485	Catcher Finger	3	18	4068	M10/40 Caphead	10
3	18484	M12/30 Button Head	2	19	0701	M10 A Washer	20
4	0045	M12 T Nyloc Nut	3	20	0052	M10 T Nyloc Nut	10
5	0644	M12 P Nyloc Nut	8	21	0350	M8/25 Bolt	4
6	1321	M12/30 Bolt	4	22	18143FS	Fan Assembly	1
7	0712	M8 C Washer	4	23	18144M	Fan Hub	1
8	2978S	M16 Flange Nuts	2	24	2850	Taper Lock 2012 50	1
9	18330MS	Side Brace	1	25	18329	Key 22 x 14 x 9	1
10	0711	M8 A Washer	4	26	18150FO	Fan Cover	1
11	0355	M8/16 Csk	4	27	18381	M16/45 Bolt	2
12	18149FO	Lower Fan Housing	1	28	0277	M12/25 Bolt	2
13	0704	M12 C Washer	18	29	0350	M8/25 Bolt	4
14	0429	M12/35 Bolt	2	30	18167FO	Base Section Rotor Housing	1
15	0431	M12/40 Bolt	6	31	18576	M8/8 Csk Screw	2
16	0702	M12 A Washer	2				



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	150DHB	150VTR	190TDHB	190TFTIR 190TVGTR	350DHB(f)	PTO100	PTO150	S426 SHREDDER	S426TFTIR SHREDDER	PTO S426 SHREDDER	SX200PHB(c)
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- MN	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	SPB	SPA	SPA	SPB	SPB	SPB	SPA
	Belt Length	900.0	1060.0	1060.0	1060.0	1060.0	1232.0	1232.0	2530.0	900.0	900.0	2120.0	2120.0	1700.0	1272.0
PUMP BELT	Belt deflection	= h	4.0	3.5	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	3.3 - 3.6	4.3 - 4.5	4.3 - 4.5	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	3.7 - 4.0	3.7 - 4.0	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
Belt Mfr / Type	N/A	N/A	Gates Super HC- MN	N/A	Gates Super HC- MN	N/A	Gates Super HC- MN	N/A	N/A	N/A	Gates Super HC- MN	N/A	Gates Super HC-MN	N/A	Gates Super HC-MN
Belt Pitch Designation			SPA		SPA		SPA				SPA		SPA		SPA
Belt Length			925.0		900.0		925.0				925.0		1060.0		950.0
Belt deflection	= h	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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			2.0 - 2.2	2.0 - 2.2		2.7 - 2.9		3.1 - 3.3
	Used belt		1.7 - 1.8		2.0 - 2.1		2.0 - 2.2			1.8 - 2.0	1.8 - 2.0		2.3 - 2.5		2.7 - 2.9