

## **TW PTO/S426 SHREDDER**



## **INSTRUCTION MANUAL**

**[timberwolf-uk.com](http://timberwolf-uk.com)**

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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

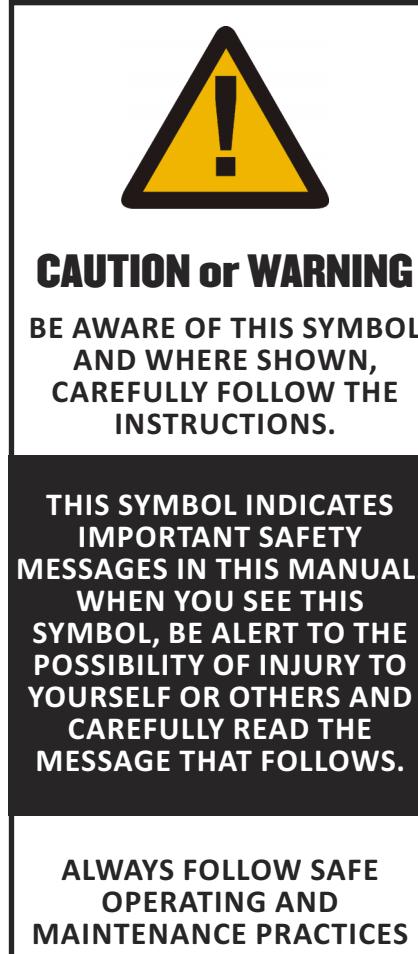
This manual covers the operation and maintenance of the Timberwolf TW PTO S426. All information in this manual is based on the latest product information available at the time of purchase.

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



## 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 (brash, prunings, hedge trimmings, Leylandii, Christmas trees, rootballs, etc.), brushwood up to 100mm (4"), 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.

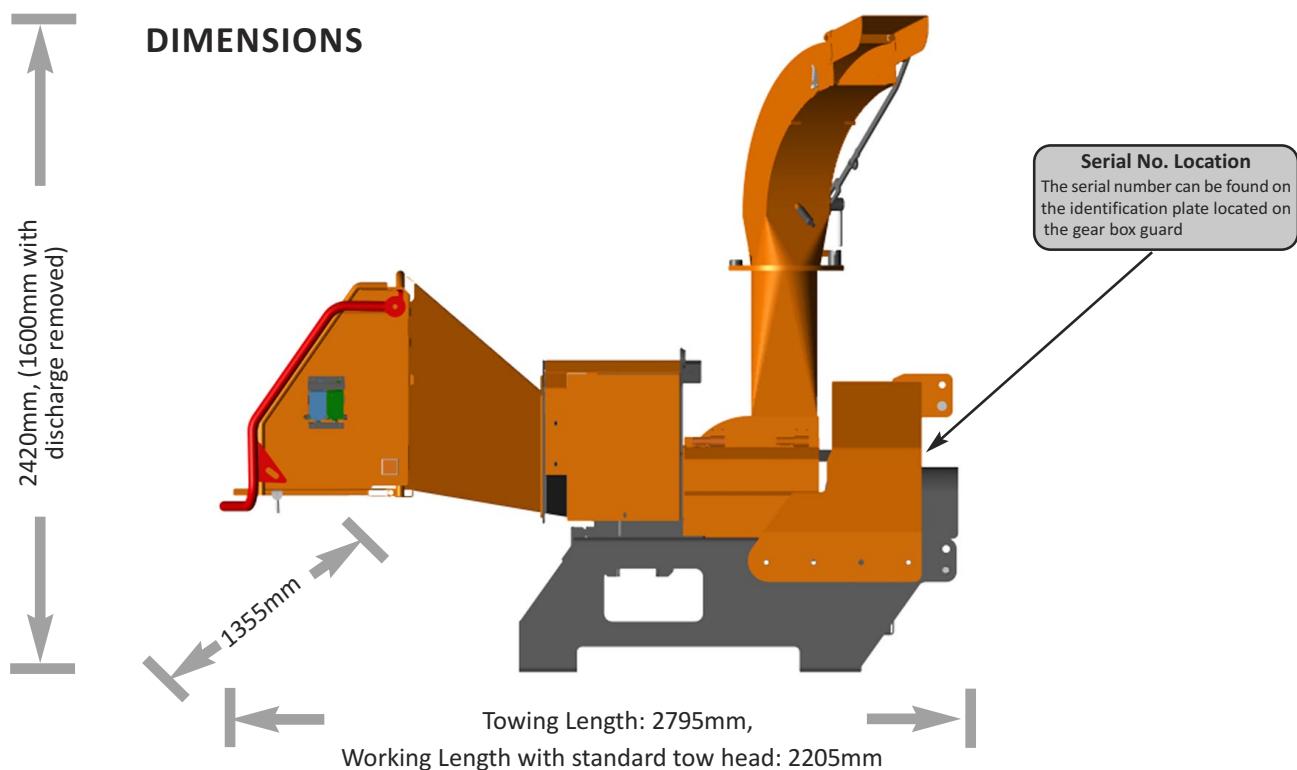


## WARNING LIMITATIONS ON MATERIALS

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.

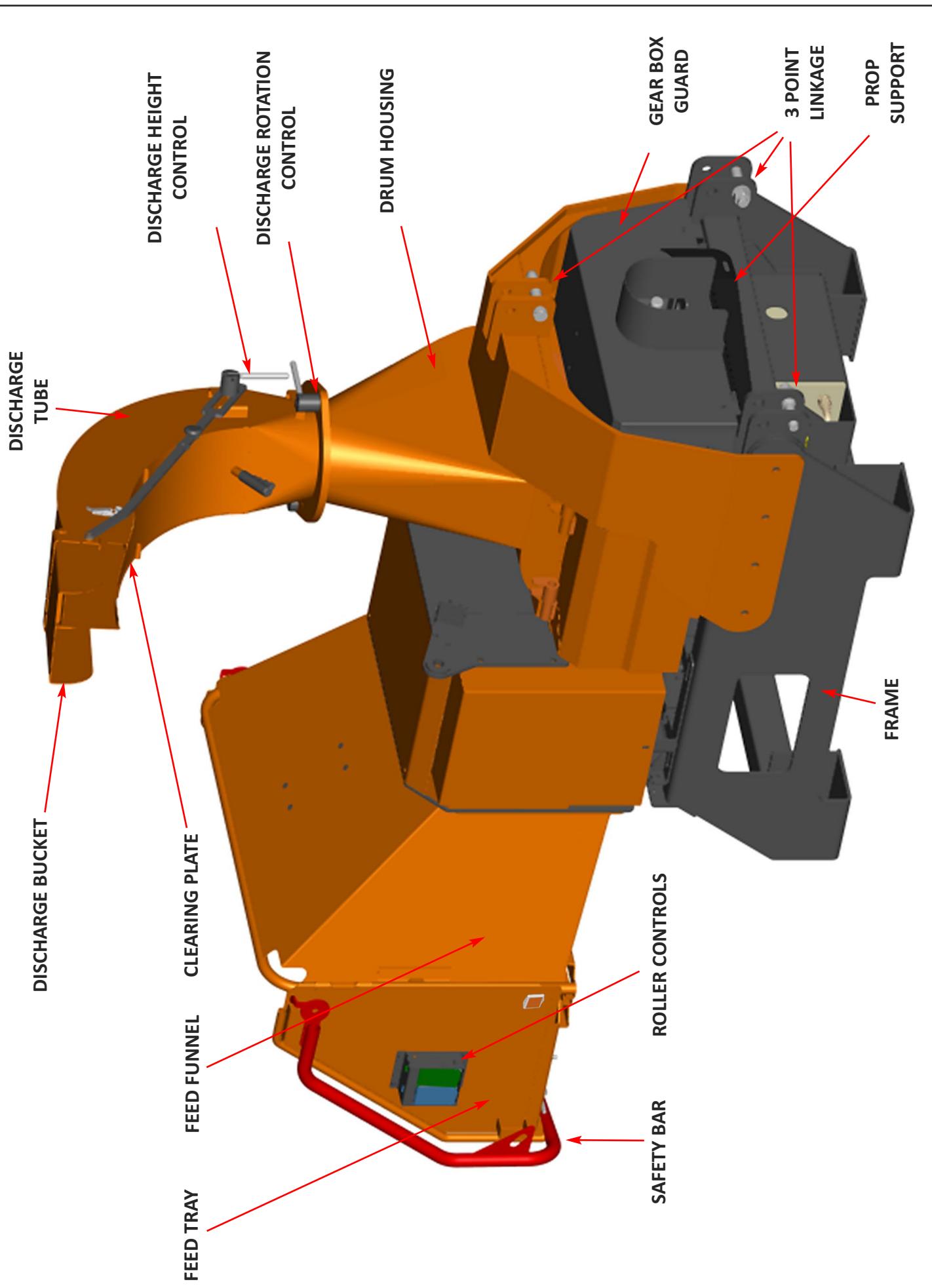
NOTE: When materials are corrosive they may attack and degrade the individual components. It is essential that the unit be thoroughly cleaned down after shredding anything that may contain materials of an aggressive nature.

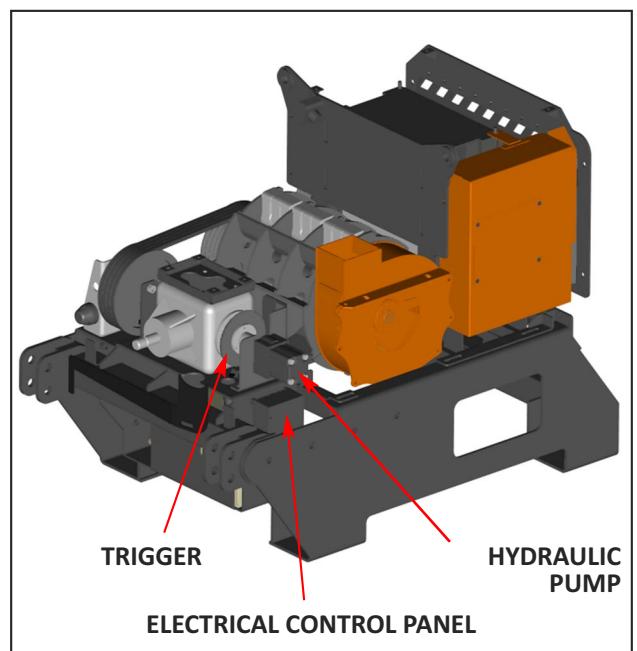
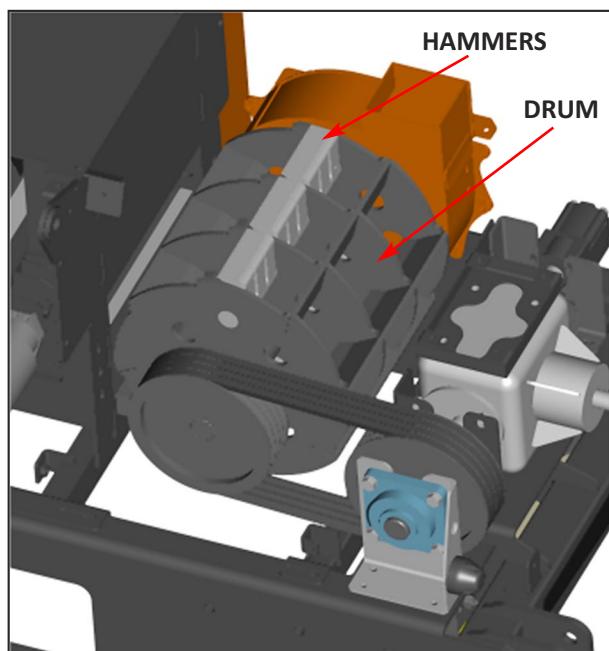
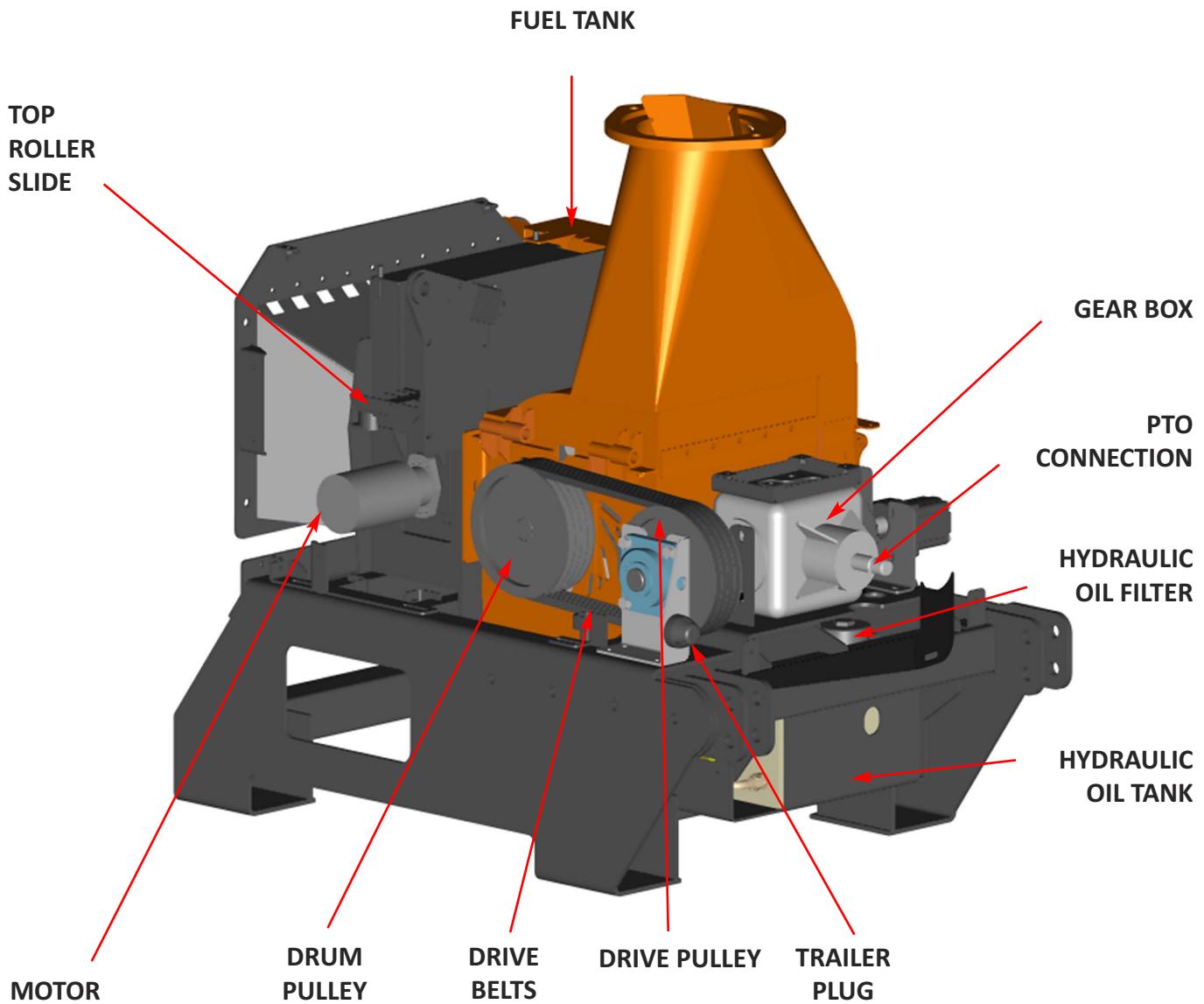
Ejection of material – **Warning!** The PTO S426 shredder ejects material at high speed. Ensure there is an adequate safety zone and that ejected material is aimed away from operators into a safe area, i.e. an enclosure or container with a back stop (i.e. wall) behind it to prevent ejected material from 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
Feed roller opening	426mm (17") x 230mm (9")		





## 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 face mask 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.
- In the event of an accident, stop the machine and call the emergency services immediately.

## 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 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 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.



STONES



METAL



GLASS



RUBBER



BRICKS



STRING



ROOTS



BEDDING PLANTS

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.

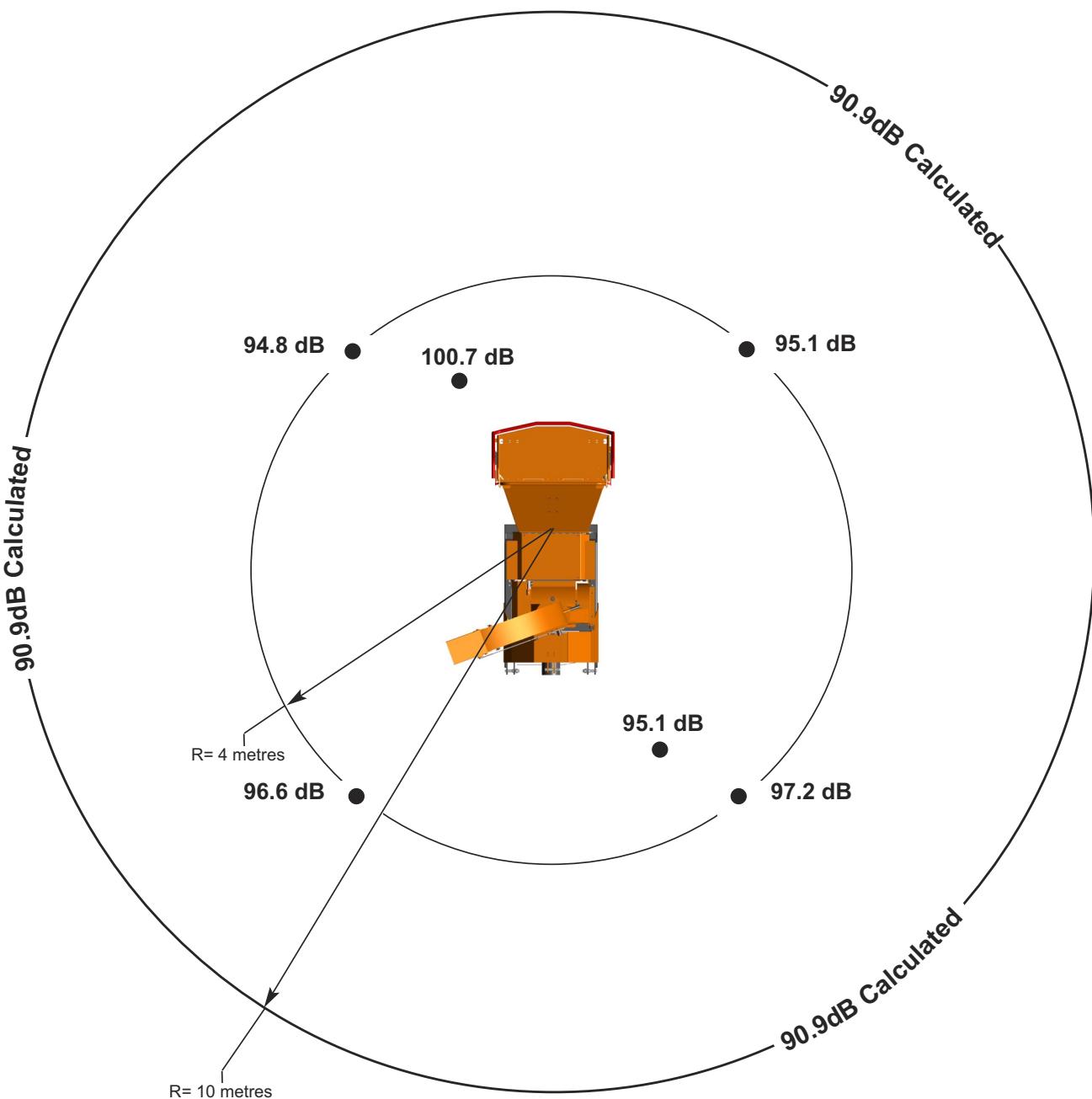
Do not use the chipper inside buildings.

## NOISE TEST

**Machine: TW PTO/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. Prolonged exposure to loud noise may cause permanent hearing loss. All persons within a 4 metre radius must also wear good quality ear protection (EN 352) at all times to prevent possible damage to hearing.



**Guaranteed Sound Power: 120dB (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 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 chipper. 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: a control box is located on either side of the feed funnel. Their function is to control the feed roller whilst processing material. They do not control the main drum.

**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 rollers. The switch is designed so that it only activates if the bar is pushed to the limit of its travel. The rollers stop instantly, but can be made to turn again by pressing either the **green feed** or **blue reverse** feed control.

### Red Safety Bar Test

To ensure the safety bar is always operational it must be activated once before each work session.

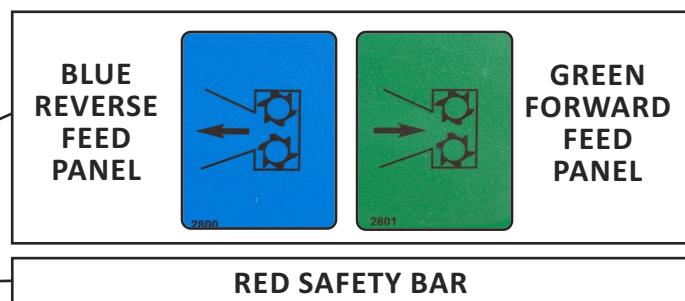
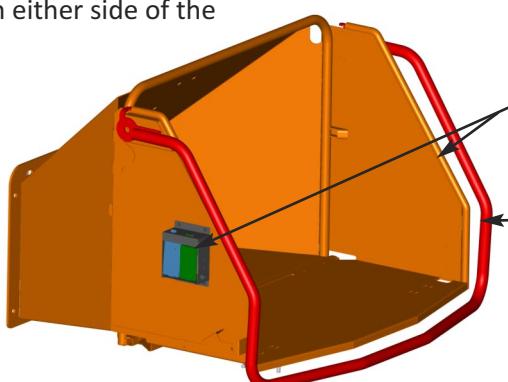
**GREEN FEED CONTROL:** forward feed - push the feed control once - this activates the rollers and will allow you to start shredding (if the drum speed is high enough).

**BLUE FEED CONTROL:** reverse feed - allows you to back material out of the rollers. The rollers will only turn in reverse as long as you keep pressing the feed control.



## 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 drum 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 drum will still be turning. The tractor must be disengaged or powered down to stop the drum.

## 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

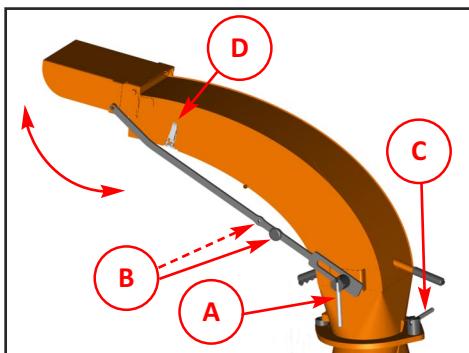
DO NOT USE OR ATTEMPT TO START THE SHREDDER  
WITHOUT THE PROTECTIVE GUARDING AND DISCHARGE  
UNIT SECURELY IN PLACE. FAILURE TO DO SO MAY RESULT IN  
PERSONAL INJURY OR LOSS OF LIFE.



- 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

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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 drum housing. To clear a blockage proceed as follows:

- Stop the tractor engine and remove the ignition keys. Ensure drum has stopped turning by observation of the drive shaft.
- Remove the two drum housing securing nuts and open the drum housing until it rests against the rubber stop. **WARNING!** Ensure the weight of the discharge tube is fully supported whilst opening the drum 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 drum 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 drum whilst clearing a blockage, as this could lead to injury.
- Close the drum housing and replace and tighten the two securing nuts. **WARNING!** Ensure the weight of the discharge tube is fully supported whilst lowering the drum 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 drum 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 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 or modifications, may invalidate warranty and/or regulatory compliance, 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	50 Hours	100 Hours	500 Hours	1 Year
Check feed funnel, feed roller cover, access covers, engine covers and discharge unit are securely fitted.	✓				
Check for free rotation of drum and hammers.	✓				
Check air intake is clear.	✓				
Clean air filter element.	<b>DEPENDING ON WORKING ENVIRONMENT</b>				
Check (and lubricate if necessary) PTO shaft coupling grease nipples.	✓				
Check hoses for signs of chafing or leakage.		✓			
Grease the drum bearings.	<b>GREASE DAILY OR AS REQUIRED WITH INFREQUENT USE - SEE PAGE 21</b>				
Check safety bar mechanism.	✓				
Check for tightness all nuts, bolts and fastenings making sure nothing has worked loose.		✓			
Grease discharge flange.		✓			
Check tension of main drive belts (and tension if necessary).		✓			
Grease the roller box slides.		✓	<b>OR AS REQUIRED - SEE PAGE 20</b>		
Grease the roller spline and bearing.		✓	<b>OR AS REQUIRED - SEE PAGE 20</b>		
Check anvils for wear.		✓			
Check for loose electrical wiring.			✓		
Replace hydraulic oil filter - every year or 100 hours after service or repair work to the hydraulic system.			✓	<b>OR</b>	✓
Replace hydraulic oil.			✓	<b>OR</b>	✓
Replace anvils when worn.	<b>RETURN TO DEALER FOR ANVIL CHANGE</b>				

## SAFE MAINTENANCE

### ALWAYS IMMOBILISE THE TRACTOR BEFORE UNDERTAKING ANY MAINTENANCE WORK ON THE CHIPPER.

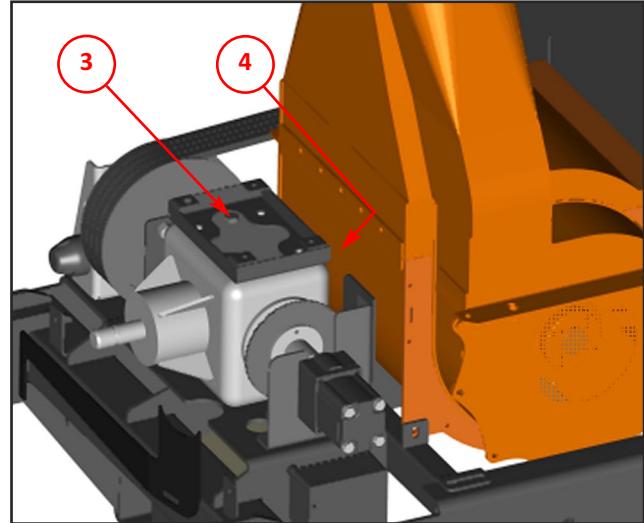
- Always stop the tractor engine before installing or removing the prop shaft.
- Handle hammers with extreme caution to avoid injury. Gloves should always be worn when handling the hammers.
- The drive belts should be connected while changing hammers, as this will restrict sudden movement of the drum.
- 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.

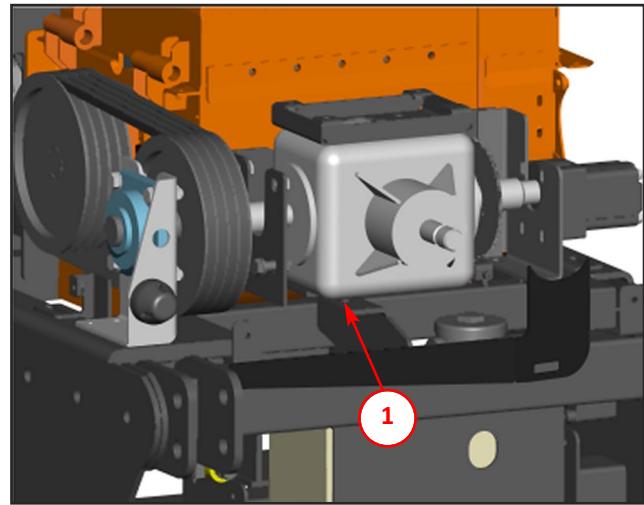
To top up the gearbox oil (EP80 or EP90):

- 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, continue 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.
- 4 Follow steps 1 to 6 to fill the gearbox with new oil. You will need 3.3 litres of EP80 or EP90 gear oil.
- 5 Dispose of the waste oil responsibly according to local legislation.

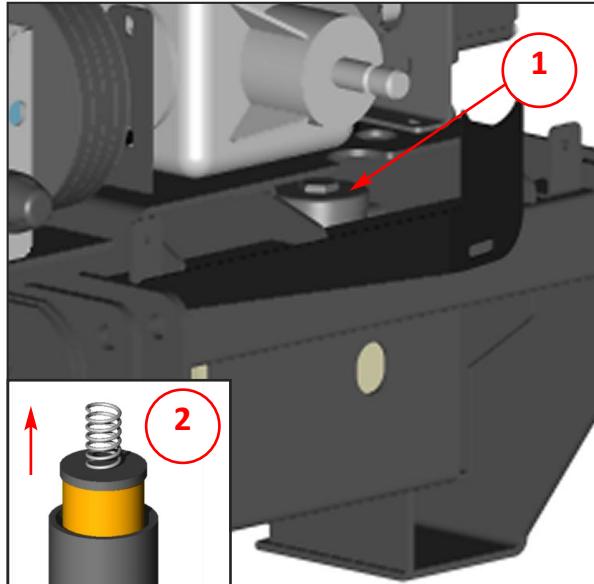


## CHANGE HYDRAULIC OIL AND FILTER



## 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.



- Remove the black screw cap from the top of the filter housing.
- Partially remove filter element from inner cup. Leave filter to drain for 15 minutes.
- Remove filter element from cup when clear of hydraulic oil.
- Remove drain plug and drain oil into a suitable container.
- Replace drain plug.
- Refill with VG 32 hydraulic oil until the level is between the min and max lines marked on the tank (about 15 litres).
- 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.

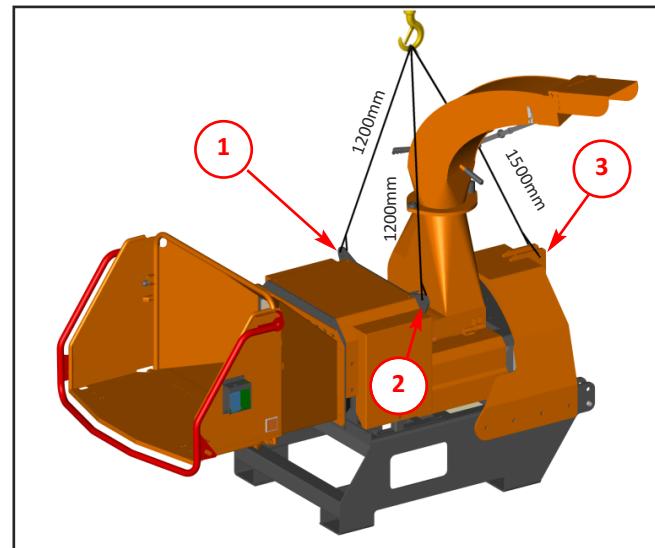
## SAFE LIFTING OF THE SHREDDER

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

Feed a sling through each lifting point in the roller box marked with 1000kg (1&2). The length of each rigged sling should be approximately 1200mm.

Use the top PTO link as the third lifting point (3). The length of this rigged sling should be approximately 1500mm.

Ensure area is clear of bystanders when lifting and do not walk/crawl under shredder when raised from floor.



## 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.

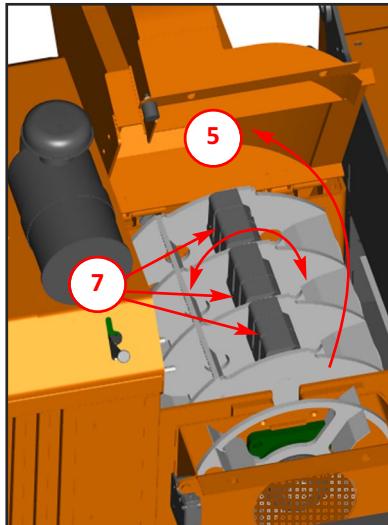
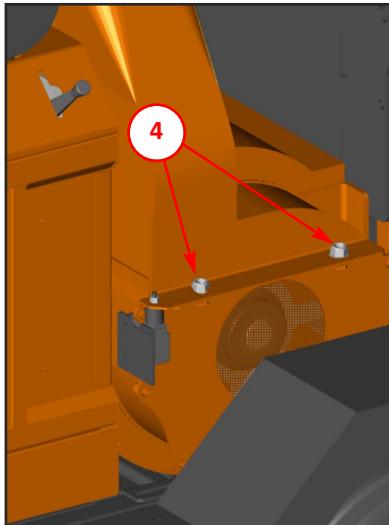
**Uncalibrated torque wrenches can be inaccurate by as much as 25%. It is therefore essential that a calibrated torque wrench is used to achieve the tightening torques listed below.**

	Size	Pitch	Head	Torque Ibft	Torque Nm
Hammer Locating Bolts	M8	Standard	6 mm Allen Key	31	42
Anvil Bolts	M16	Standard	14 mm Allen Key	175	237
Drum Shaft Retaining Bolts	M16	Standard	24 mm Hex	90	122
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 DRUM AND HAMMERS



**WARNING**  
WEAR HEAVY GLOVES FOR THE DRUM DRUM/HAMMER CHECKING OPERATION.

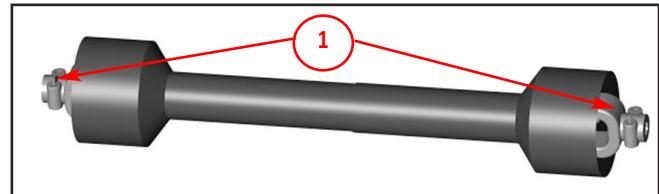


- 1 Turn off tractor and remove key.
- 2 Using a 24 mm spanner remove the two M16 nuts clamping the drum housing shut.
- 3 Carefully lift the drum housing until it rests on its stop.
- 4 Using the paddles to turn the drum, set a bank of hammers at 12 o'clock.
- 5 Check that each of the 9 hammers in this 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

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.

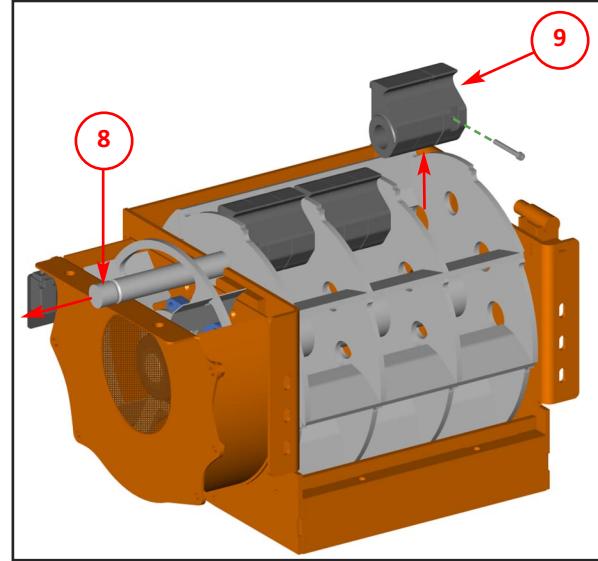
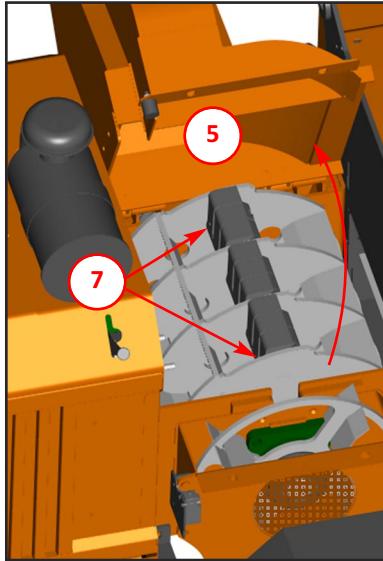
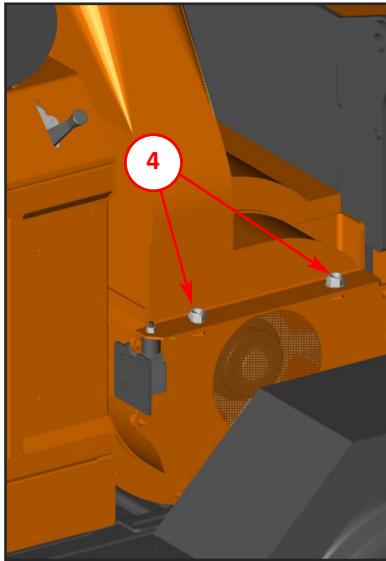


SEE SEPARATE PROP SHAFT INSTRUCTION SHEET FOR FULL DETAILS.

FURTHER INFORMATION ON THE SAFE USE OF PTO SHAFTS CAN BE FOUND IN HSE LEAFLET AS 24

**CHANGE HAMMERS****WARNING**

**WEAR RIGGERS GLOVES FOR THE HAMMER  
CHANGING OPERATION.**



- 1 Turn off tractor and remove key.
- 2 Disconnect PTO shaft from the shredder
- 3 Turn the discharge tube to point forward of the machine.
- 4 Using a 24 mm spanner remove the two M16 nuts clamping the drum housing shut.
- 5 Carefully lift the drum housing until it rests on its stop.
- 6 Using the paddles to turn the drum, set a bank of hammers at 12 o'clock.
- 7 With a 6mm hex key undo and remove the bolt in the hammer at each end of the bank of hammers.
- 8 The shaft can now be withdrawn. The shaft will need to be tapped away from the main drive pulley side.
- 9 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.
- 10 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.
- 11 Turn the drum to change the second bank of hammers.
- 12 Lower the top of the drum housing and reinstall the two M16 nuts.
- 13 Torque these to 65lbf.

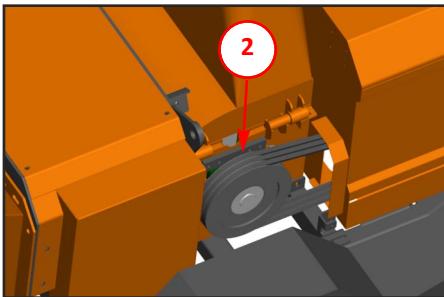
**CHECK HOSES**

All the hydraulic hoses should be regularly inspected for chafing and leaks. The hydraulic system is pressurized to 150 Bar (2175 PSI) and thus the equipment containing it must be kept in good condition.

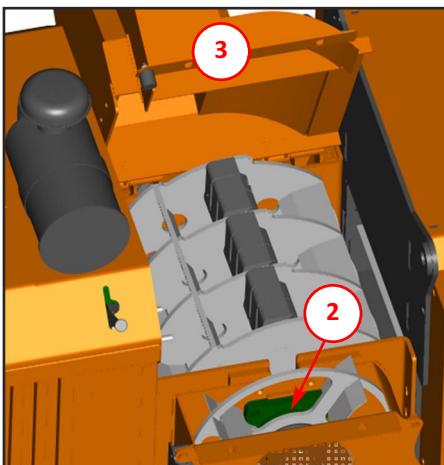
Identify the hoses that run to the top motor. These have the highest chance of damage as they are constantly moving. If any hydraulic components are changed new seals should be installed during reassembly. Fittings should then be retightened.

## GREASE THE DRUM BEARINGS

BOTH BEARINGS NEED REGULARLY GREASING.



- 1 Remove the drum 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.

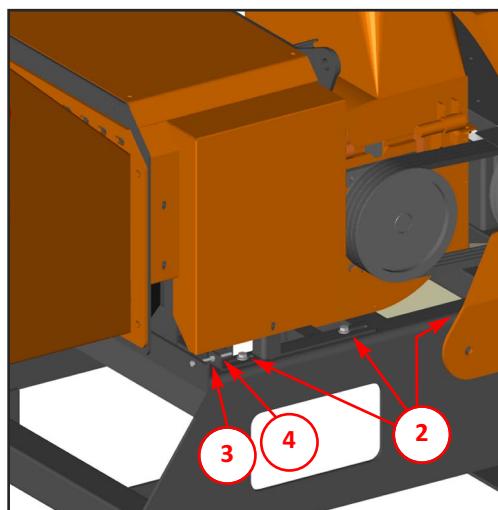


- 1 Turn the discharge tube to point forward of the machine.
- 2 Using a 24 mm spanner remove the two M16 nuts clamping the drum housing shut.
- 3 Carefully lift the drum housing until it rests on its stop.
- 4 Apply two pumps of grease to the bearing taking care not to over grease.
- 5 Lower the top of the drum housing and reinstall the two M16 nuts.
- 6 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.*

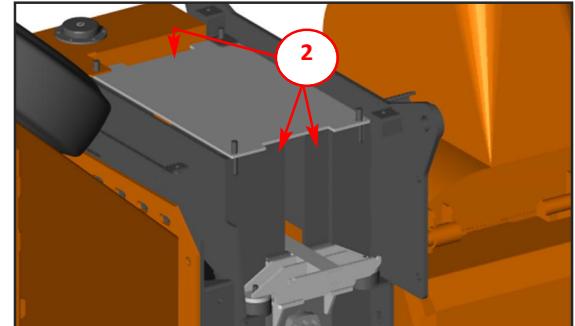


- 1 Remove the drum housing guards, (as shown in diagram above).
- 2 Slacken the six M12 bolts but do not remove (there are three located on each side of the machine).
- 3 Slacken the M8 tension nut from the adjuster bracket about 5mm on both sides of roller box.
- 4 Tension each of the M8 adjuster nuts drawing the drum housing, roller box and funnel away from the engine bay. For instructions on checking belt tension & correct belt tension values, please refer to the Timberwolf V-Belt Tensioning Data (page 31).
- 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.

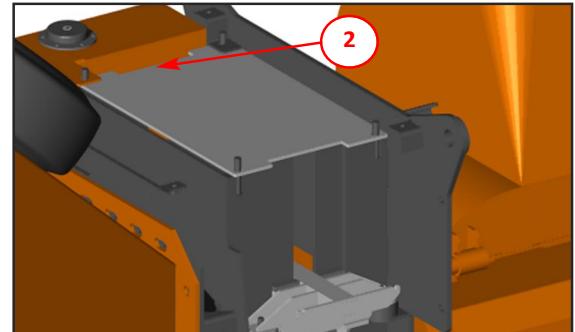
- 1 Remove the top roller box guard.
- 2 Remove the nearside roller box guard.
- 3 Apply multipurpose grease directly to the slide surfaces indicated. **DO NOT USE GRAPHITE BASED GREASE.**
- 4 Refit both the roller box guards.



## GREASE THE ROLLER SPLINE AND BEARING

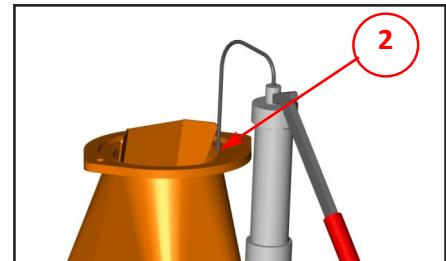
**NOTE:** This should be done regularly. In dirty and dusty conditions or during periods of hard work it should be weekly. If the bearings and splines are allowed to run dry premature wear will occur resulting in a breakdown and the need for replacement parts. This failure is not warranty. Early signs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

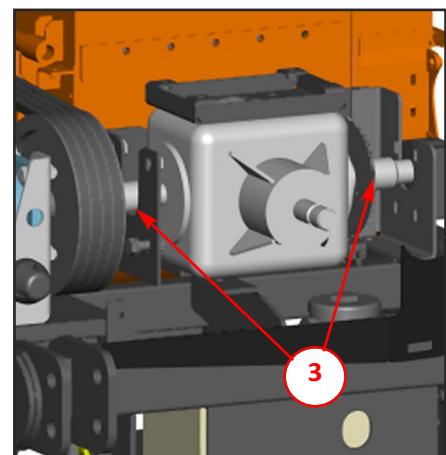
- 1 Remove the discharge tube.
- 2 Apply multipurpose grease to surface shown.
- 3 Refit discharge tube.



## 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.



## TIMBERWOLF NO-NONSENSE WARRANTY

All new Timberwolf machines come with peace of mind built in. Our no-nonsense warranty is your guarantee of your Timberwolf wood chipper not letting you down.

Your warranty statement is included in your manual pack. Please ensure you register your machine with your dealer to ensure you are eligible for the full Timberwolf warranty period.



# 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

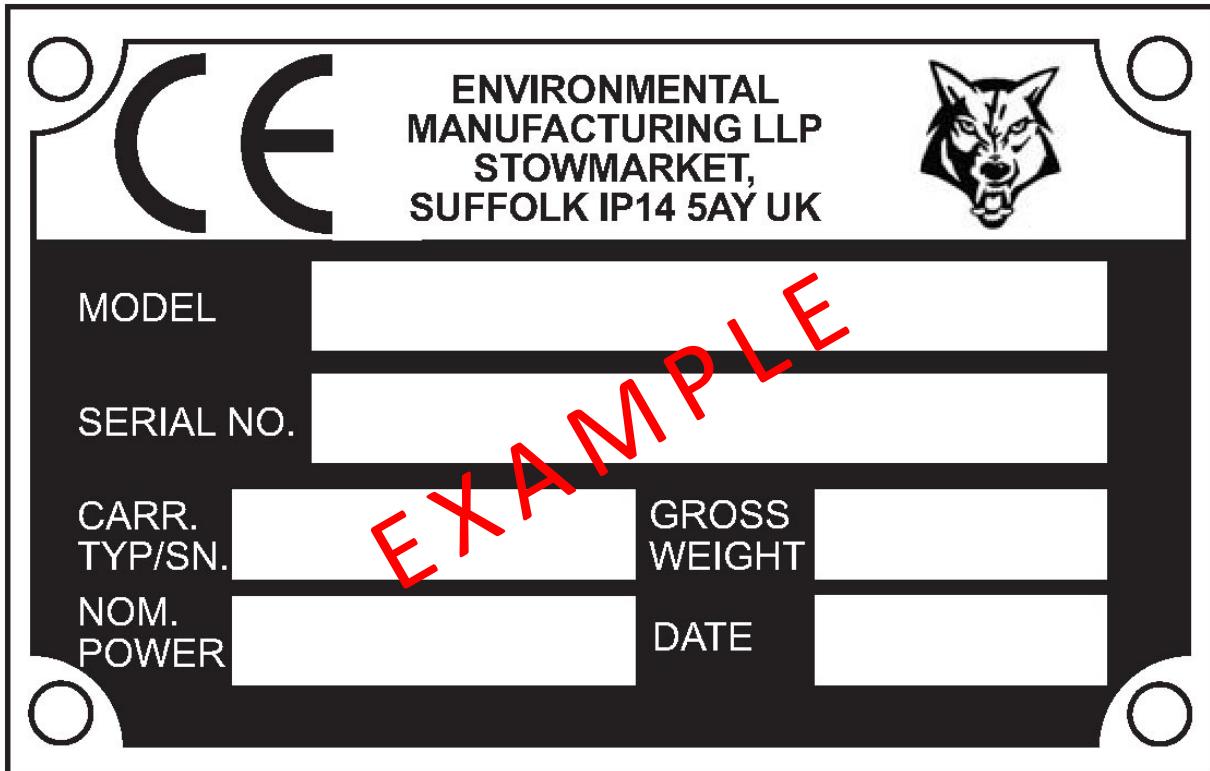
#### BSI Transposed Harmonised Standards applied: (including parts/clauses of):

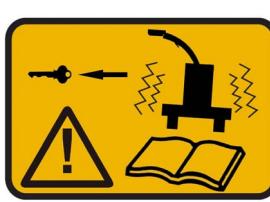
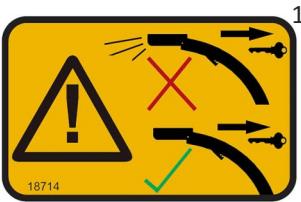
BS EN 12100-1: 2010 Safety of Machinery- Basic concepts, BS EN 13857-1: 2008 Safety of Machinery-Safety distances to danger zones, BS EN 60204-1: 2006 +A1 2009 Safe electrical practices, BS EN 13732-1:2008 Safety of Machinery – Temperatures of touchable surfaces, BS EN 13849-1: 2008 – Safety of Machinery – 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

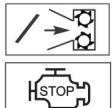
“Responsible” Person empowered to sign:  
Position in Company:

Mr. Chris Perry  
Managing Director

Date: 5<sup>th</sup> July 2018



Decal	Description	Decal	Description
 1661	Read the instruction manual for greasing and maintenance information	 4099	Danger. Rotating blades. Keep hands and feet out.
 617	High velocity discharge - keep clear	2800 2801	Reverse feed  Forward feed
 670	Personal Protective Equipment required	1399  P691	Push to stop,  Do not pull here
 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.	 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.
 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.
 18713	If excessive vibration is noted whilst using this shredder switch off immediately, check for free rotation of rotor drum & hammers. Refer to instruction manual	 18714	Allow time for all shredded material to be ejected from the discharge before switching off.

Decal	Description	Decal	Description
	P637  Danger. Do not operate without this cover in place.		P653  Danger. Rotating blades inside. Stop engine and remove key before removing discharge unit.
	P1810  Relays - Forward latch, Engine safety  P1811		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 injury or damage.
	19343  Danger. Ensure machine is on level surface before detaching from the tractor PTO shaft and 3-point linkage.		P650  Danger. Autofeed system fitted. Rollers may turn without warning! When the engine is switched off the rollers will turn during the run down period.
	2438  Do not exceed 1000RPM.		19332  Danger. Ensure machine is secure to 3-point linkage of the tractor before operation.



675KG MAX

**PTO S426**  
**SHREDDER**

**TIMBERWOLF**

3004

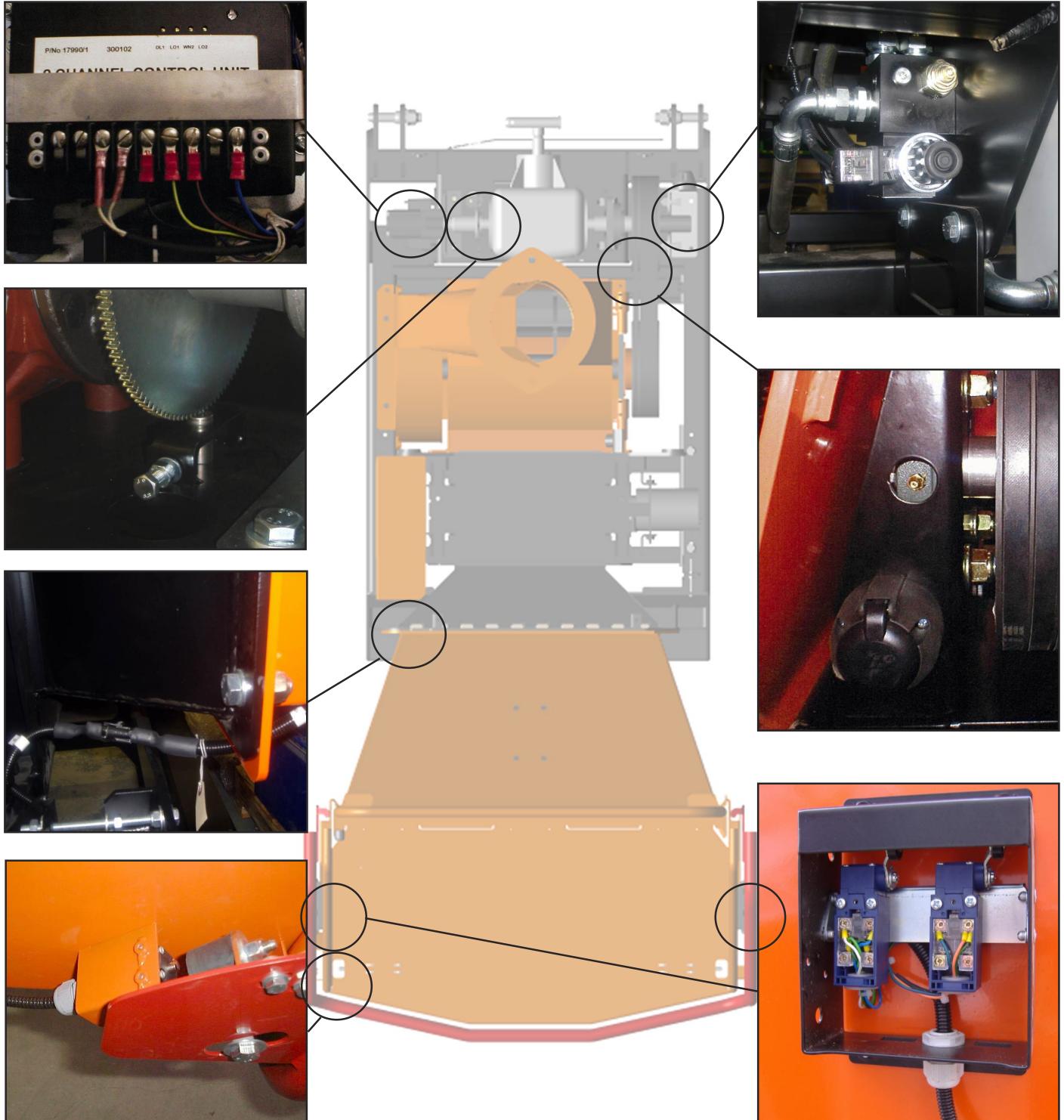
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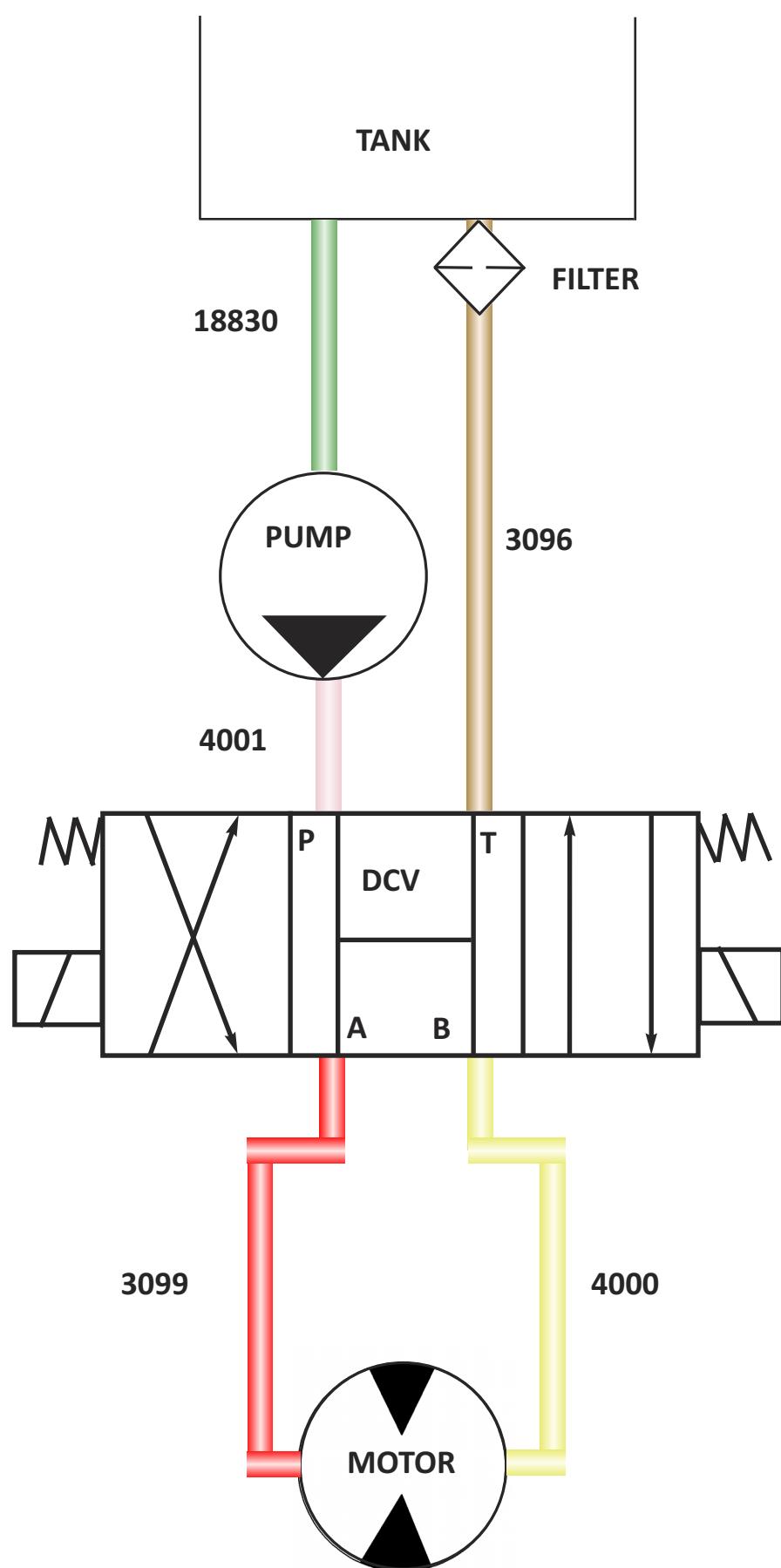
18795

1136

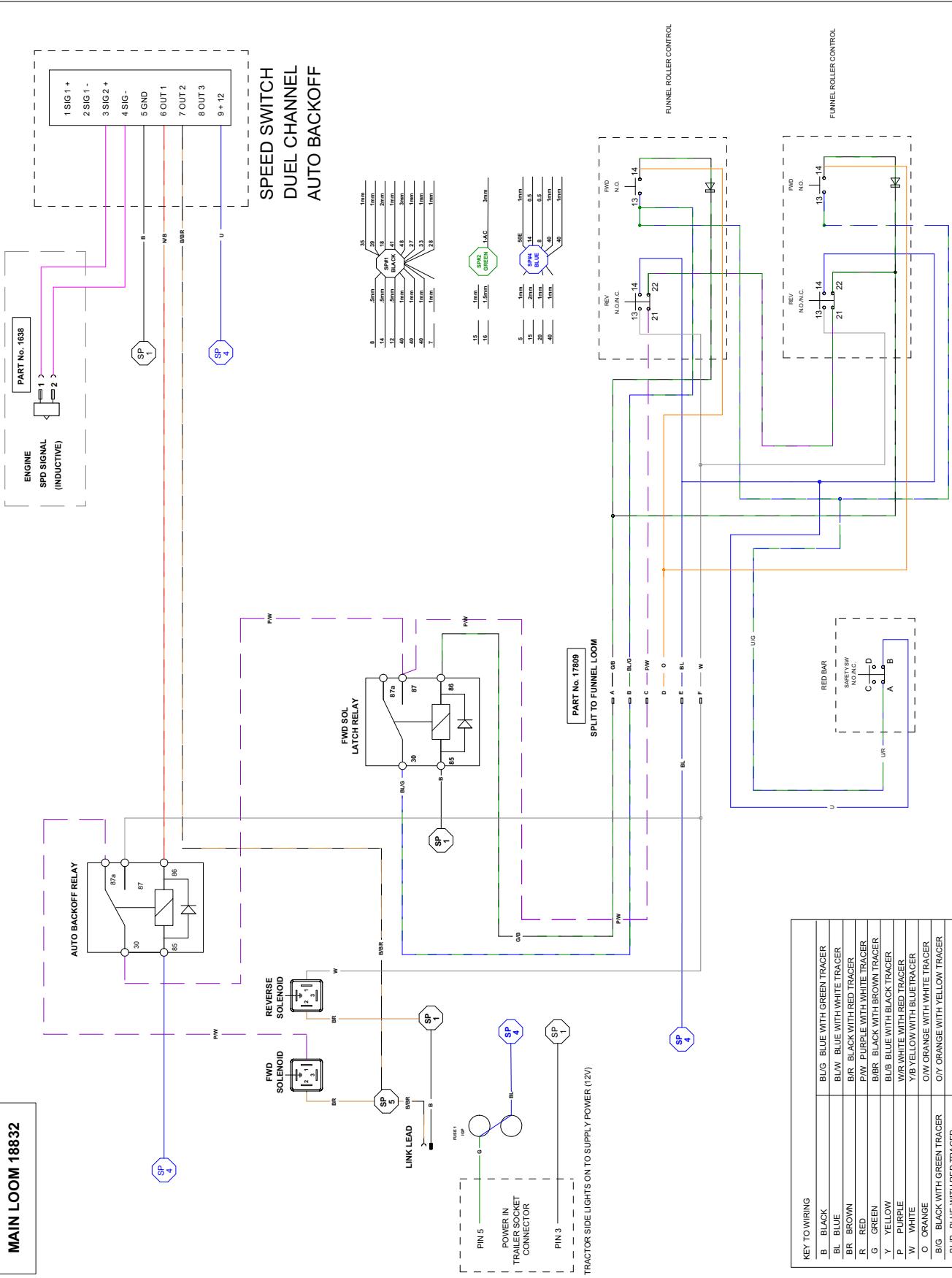


Date Last Modified: 27th July 09

KIT NO: 18831



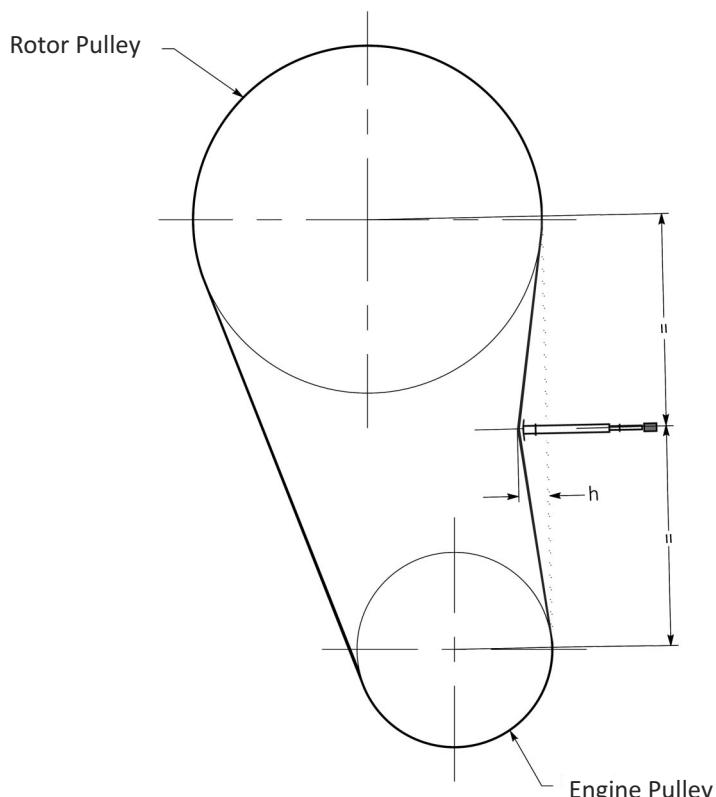
Date Last Modified: 10th March 09



**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.
- 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.
- 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.
- 6 Tighten or loosen belts as required following procedure given in this operator's manual.

*Tension gauges are available from Timberwolf spares, quoting part no. 18091*



TW Model No.:		13/75G	190TDHB	190TFTR	190TVGTR	350DHB(t)	PTO100	PTO150	S426 Shredder	S426 TFTR Shredder	PTOS426 Shredder
Rotor Belts	Belt Mfr / Type	Gates Super HC-MN	Gates Super HC-MN								
	Belt Pitch Designation	SPA	SPA	SPA	SPA	SPB	SPA	SPA	SPB	SPB	SPB
	Belt Length in mm	900	1232	1232	1232	2530	900	900	2120	2120	1700
	Belt Deflection = h	2	3	3	3	8	2	2	7	7	6
	Force Reading	New belt	3.26 - 3.50	5.69 - 6.1	5.68 - 6.08	5.54 - 5.94	8.32 - 8.91	4.36 - 4.69	4.36 - 4.67	7.95 - 8.52	7.96 - 8.53
		Used Belt	2.80 - 3.03	4.88 - 5.28	4.87 - 5.28	4.75 - 5.14	7.13 - 7.72	3.74 - 4.04	3.74 - 4.04	6.81 - 7.38	6.82 - 7.39

**TIPS ON BELT TIGHTENING:**

- 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.
- 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.
- Too much tension shortens belt & bearing life.
- Too little tension will affect the performance of your machine especially in respect of no-stress devices.
- Ensure that belt drives are kept free of any foreign materials.
- If a belt slips - tighten it!

Model number:		Serial number:	
Date of delivery/ handover:		Options/extras:	
Dealer pre delivery check:			
Inspected by:			

**50 HOUR WARRANTY SERVICE CHECK**

Date:

Hours:

Invoice number:

Signature:

Next service due:

Authorised dealer stamp

**11 MONTH WARRANTY SERVICE CHECK**

Date:

Hours:

Invoice number:

Signature:

Next service due:

Authorised dealer stamp

**23 MONTH WARRANTY SERVICE CHECK**

Date:

Hours:

Invoice number:

Signature:

Next service due:

Authorised dealer stamp

Date:	
Hours:	
Invoice number:	
Signature:	
Next service due:	

Authorised dealer stamp

Date:	
Hours:	
Invoice number:	
Signature:	
Next service due:	

Authorised dealer stamp

Date:	
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Signature:	
Next service due:	

Authorised dealer stamp

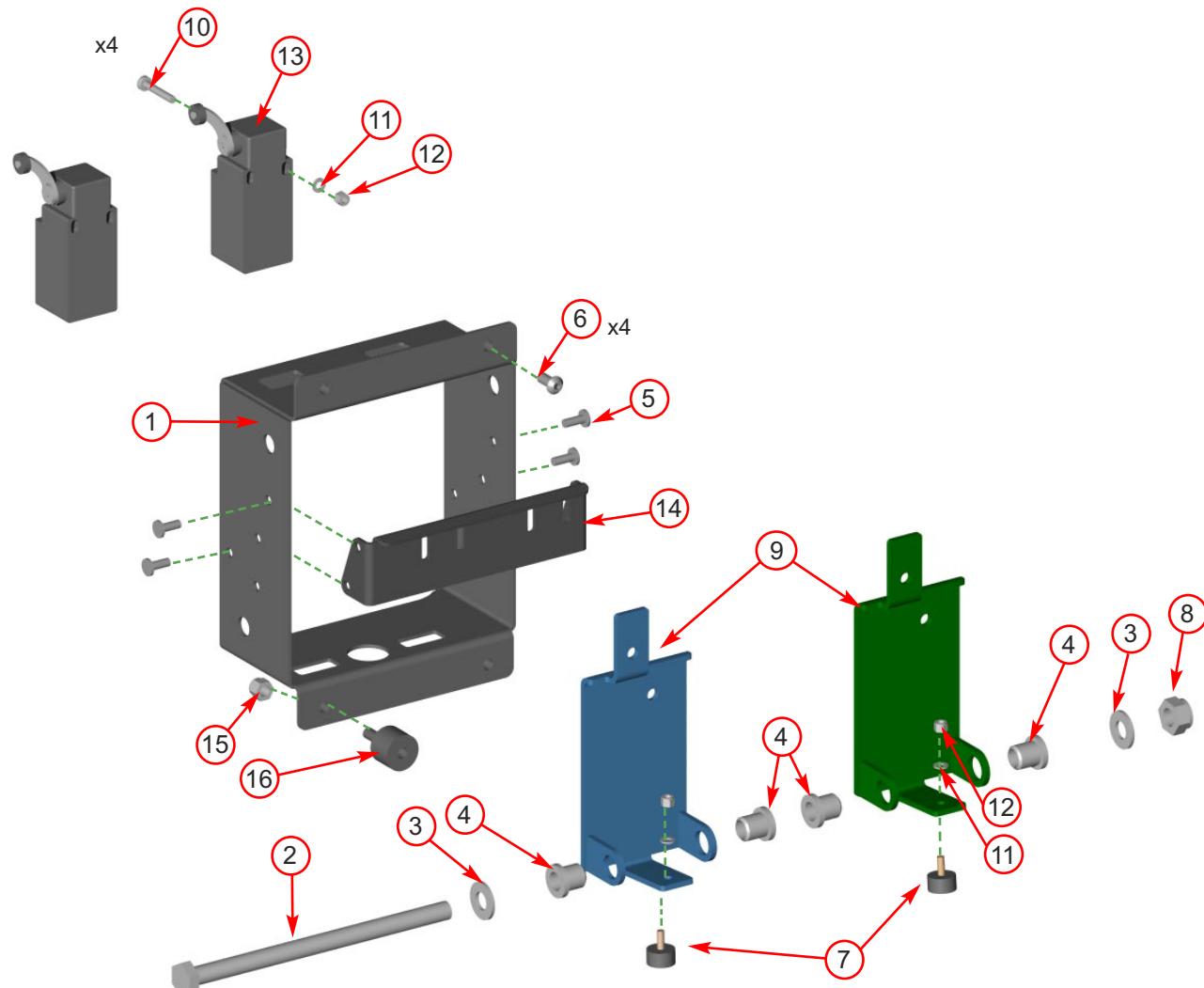
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## PARTS LISTS

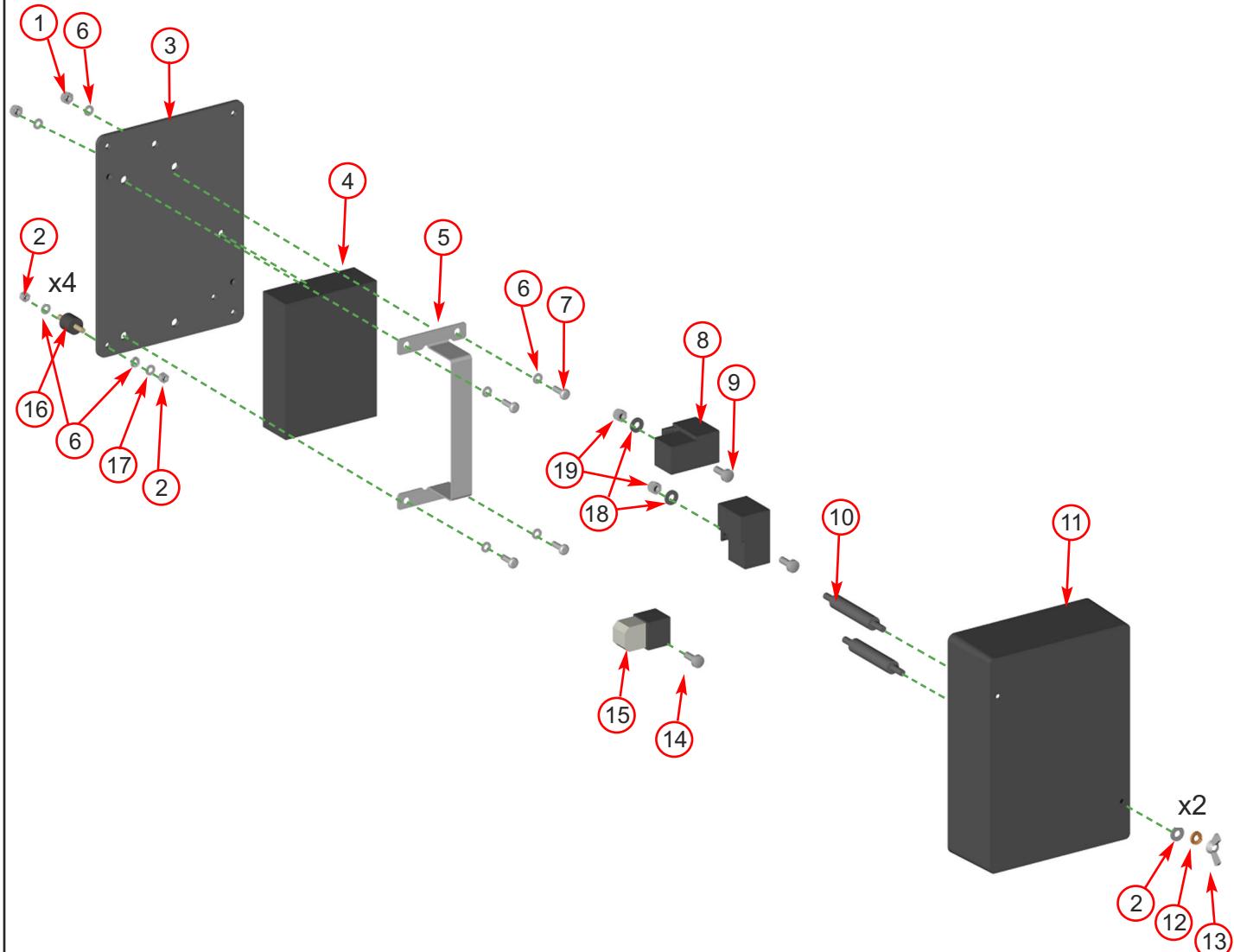
THE FOLLOWING ILLUSTRATIONS ARE FOR PARTS IDENTIFICATION ONLY. THE REMOVAL OR FITTING OF THESE PARTS MAY CAUSE A HAZARD AND SHOULD ONLY BE CARRIED OUT BY TRAINED PERSONNEL.

	<i>Page No.</i>
CONTROL BOX	33
CONTROL PANEL	34
DISCHARGE	35
DRIVE TRAIN	36
ELECTRICAL LAYOUT	37
FRAME	38
FUNNEL	39
HYDRAULICS	40
ROLLER BOX	41
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DRUM HOUSING	43
DECALS	44

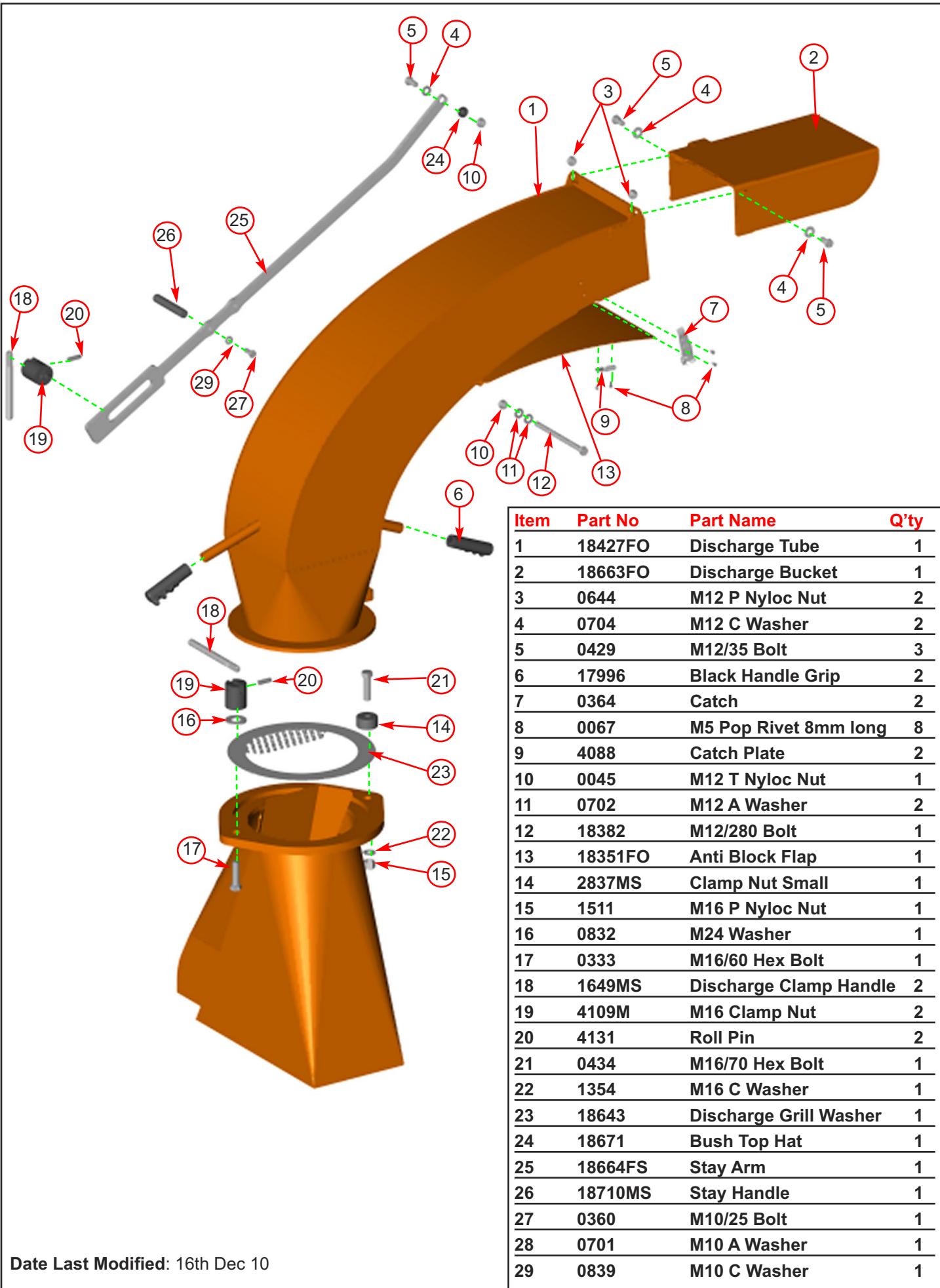


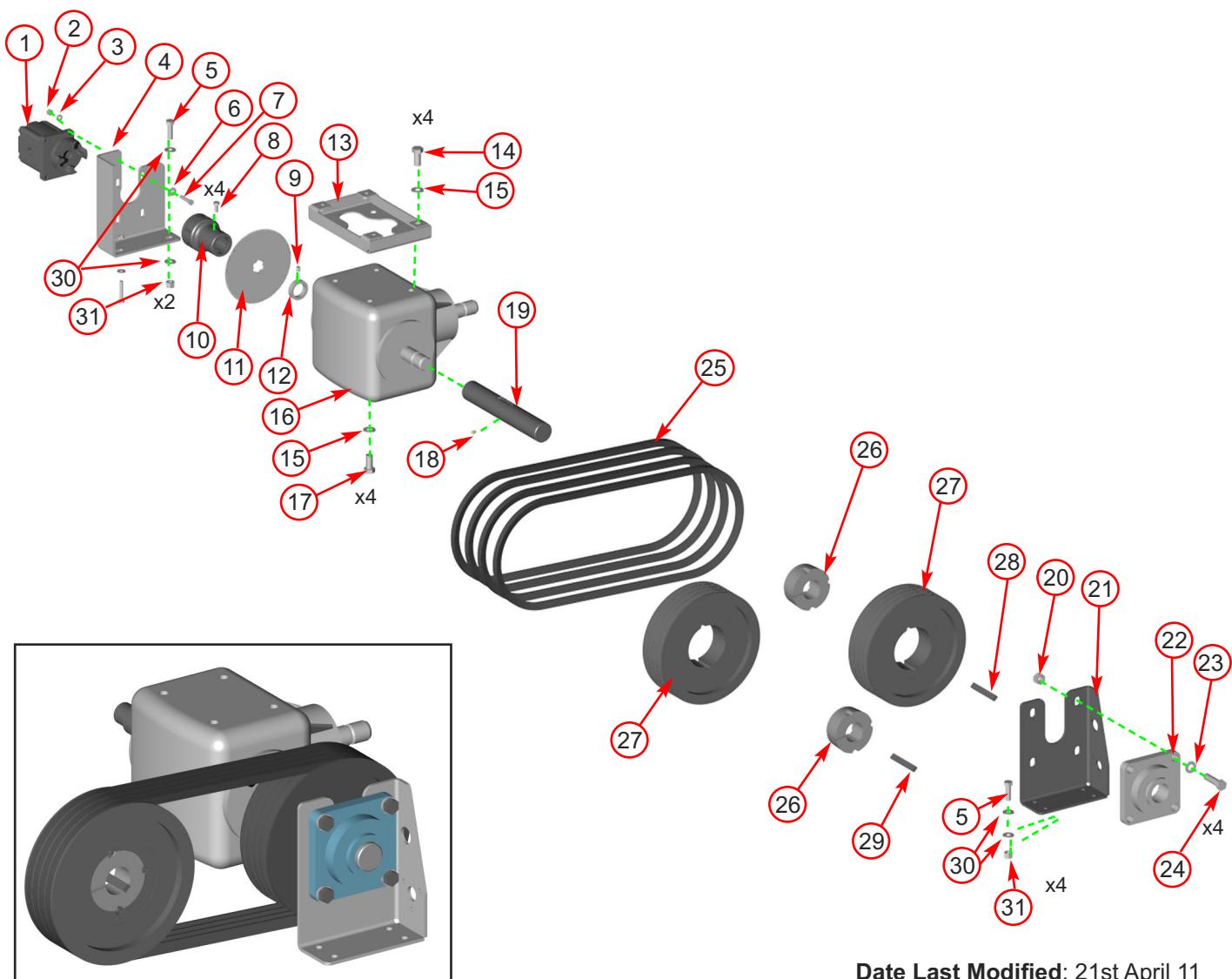
Date Last Modified: 31st March 11

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

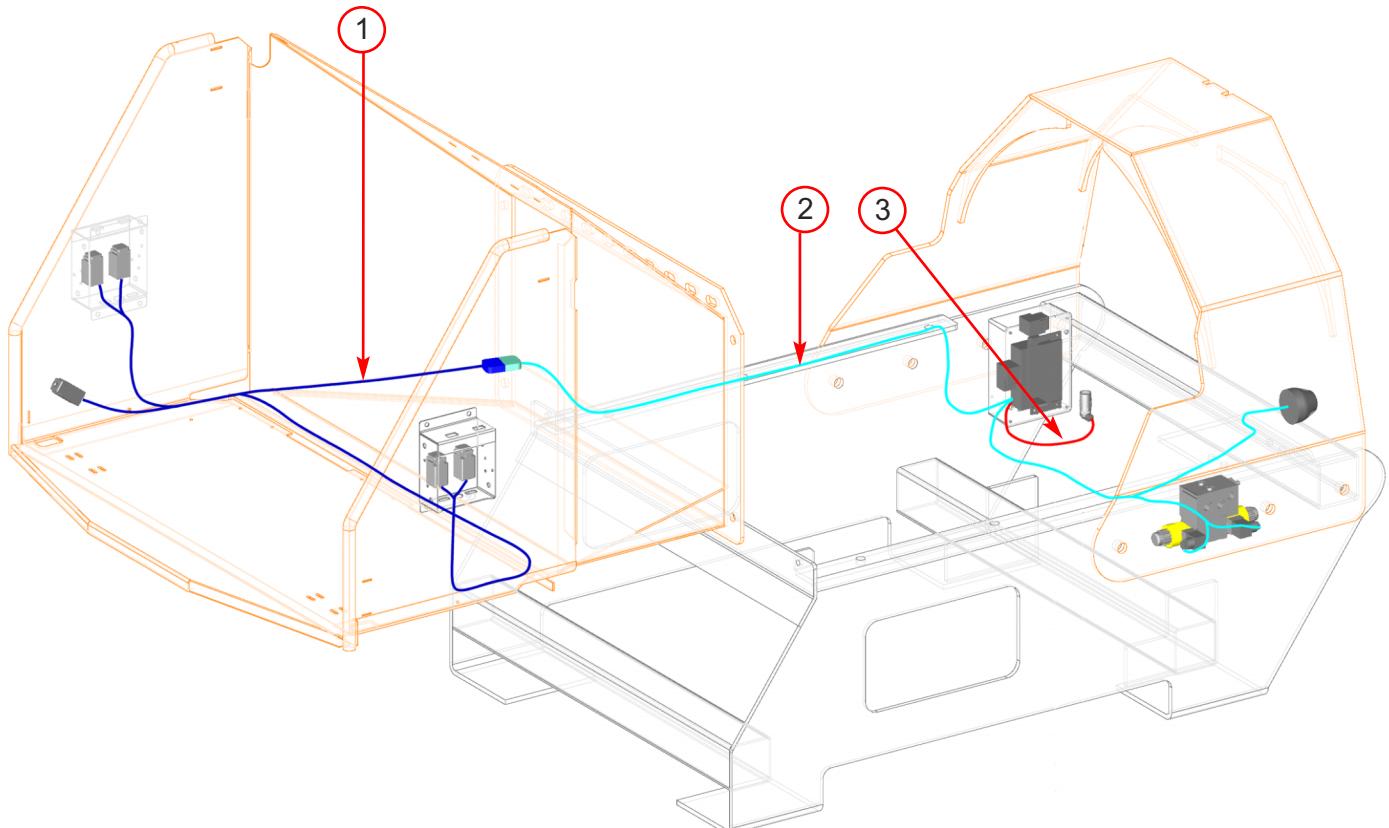
Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	0236	M5 P Nyloc Nut	4	11	1930	Electrical Cover	1
2	18291	M5 Plain Nut	8	12	18106	M6 Spring Washer	2
3	18834	Electrical Panel	1	13	18107	M6 Wing Nut	2
4	17990	Duel Speed Box	1	14	1151	Countersunk Pop Rivet	1
5	18002	Bracket	1	15	<i>Supp'd with loom</i>	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	<i>Supp'd with loom</i>	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				





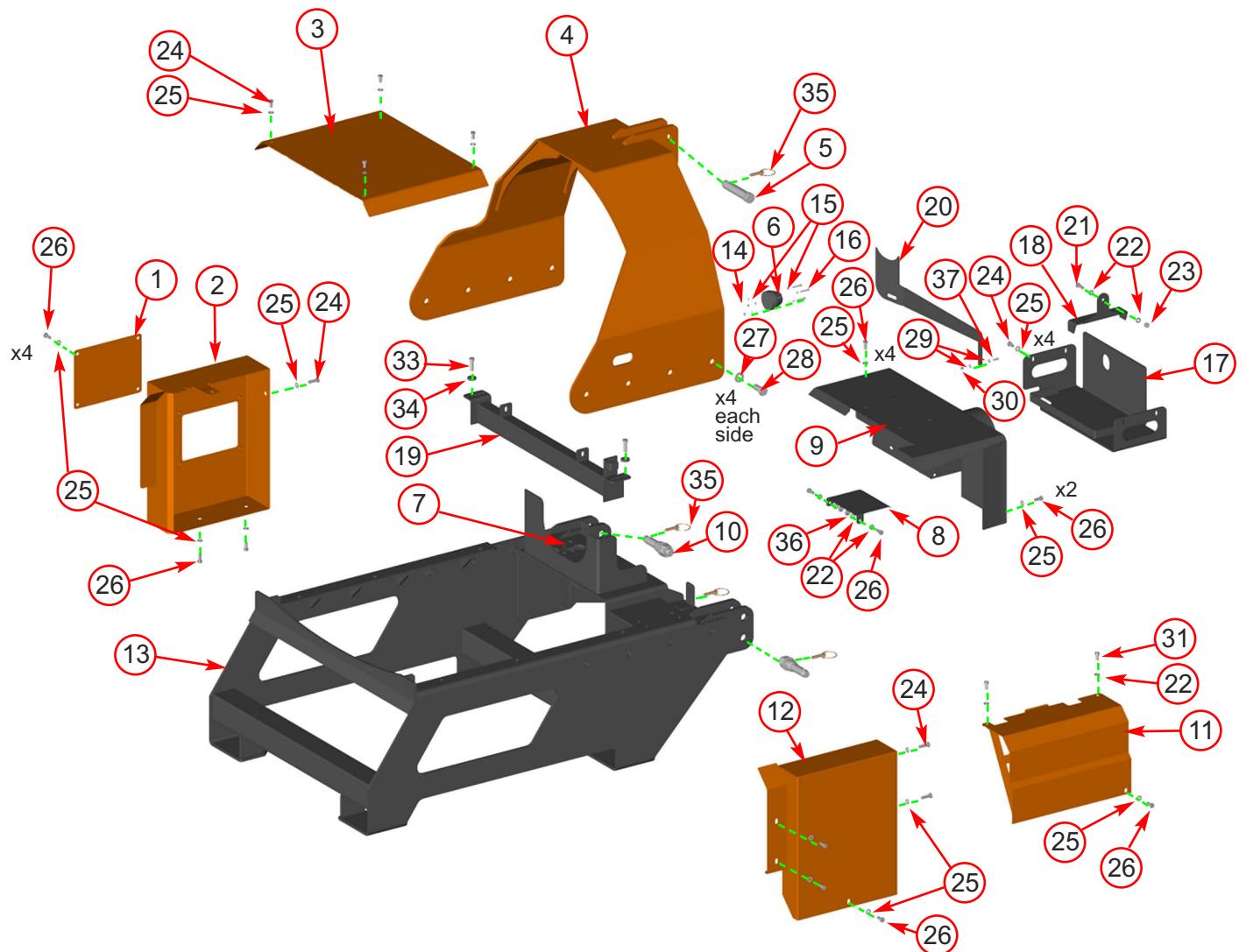
Date Last Modified: 21st April 11

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	18791	Pump	1	17	1628	M16/35 Bolt	4
2	0479	M8 P Nyloc Nut	4	18	0985	Grease Nipple M6 Straight	1
3	0711	M8 A Washer	4	19	18785	Main Drive Adapter	1
4	18792F	Pump Bracket	1	20	2978S	M16 Flange Nut	4
5	0431	M12/40 Bolt	6	21	18786	Main Drive Bracket	1
6	0712	M8 C Washer	4	22	17793	Bearings	1
7	18117	M8/35 Bolt	4	23	1218	M16 Hardened Washer	4
8	0346	M8/20 Bolt	1	24	0333	M16/60 Bolt	4
9	18037	M8/12 Grub Screw	1	25	18781	SPB Quad Belt SPB 1700	4
10	18783	Adapter Pump	1	26	17921	Taper Lock Bush	2
11	18866S	Trigger	1	27	18780	Pulley 280 x 4	2
12	18867	Retaining Collar	1	28	19145M	Key 52 x 14 x 9	1
13	18790FS	Gear Box Bracket	1	29	18328	Key 37 x 14 x 9	1
14	18183	M16/25 Bolt	4	30	0704	M12 C Washer	10
15	1354	M16 C Washer	8	31	0644	M12 P Nyloc Nut	6
16	18782	Gear Box	1				



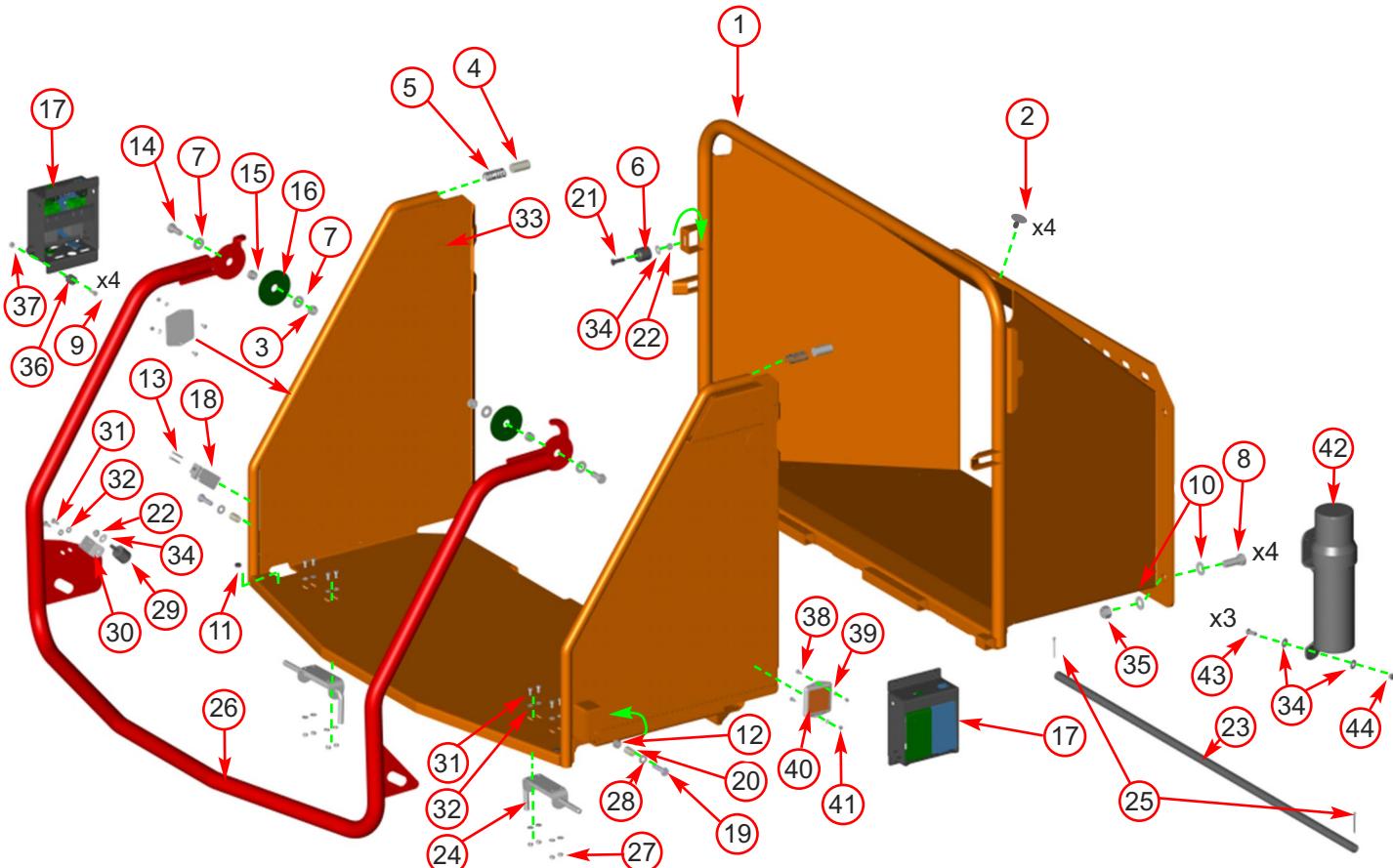
Date Last Modified: 3rd July 09

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				



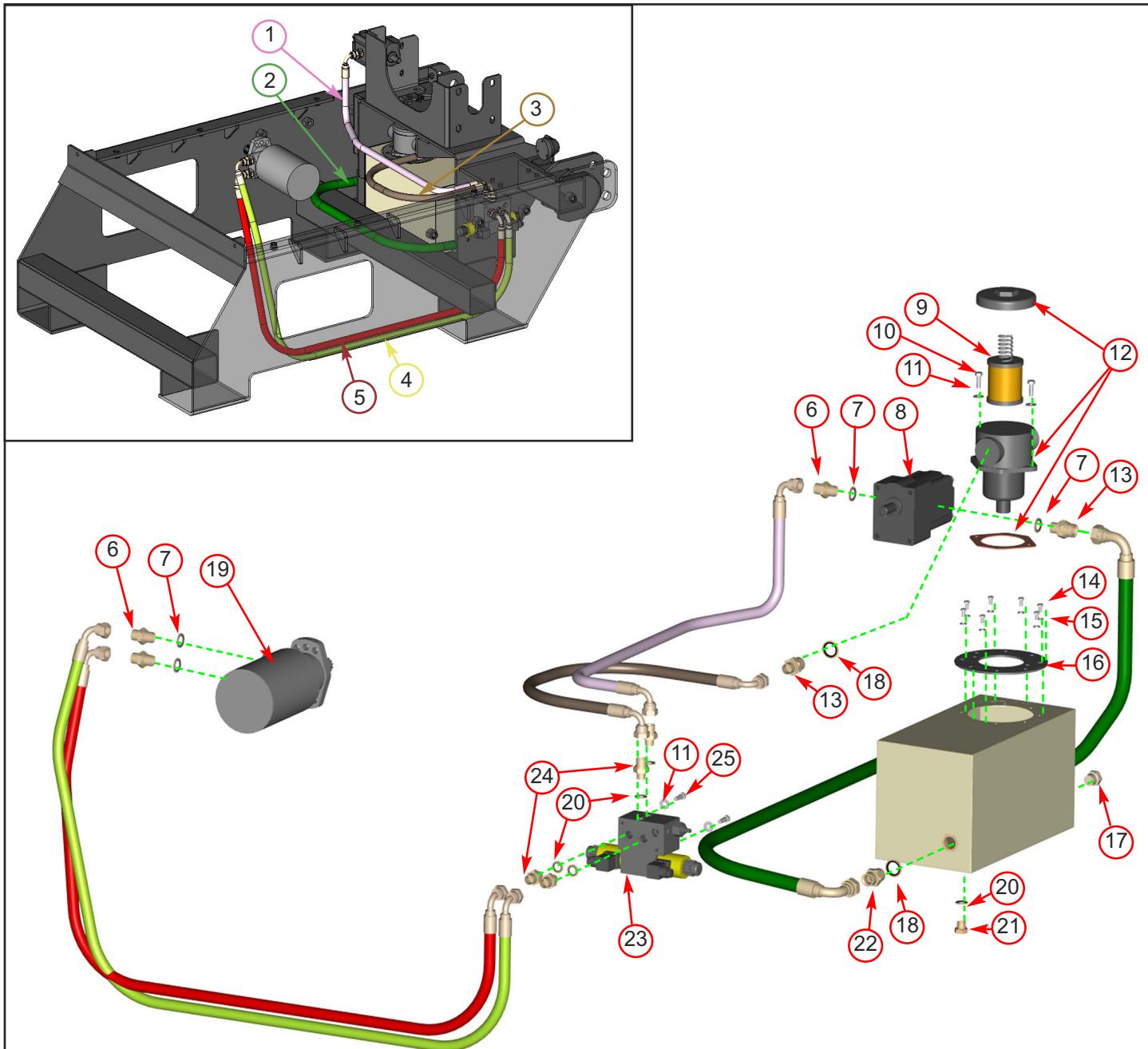
Date Last Modified: 24th March 11

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 Drum 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				



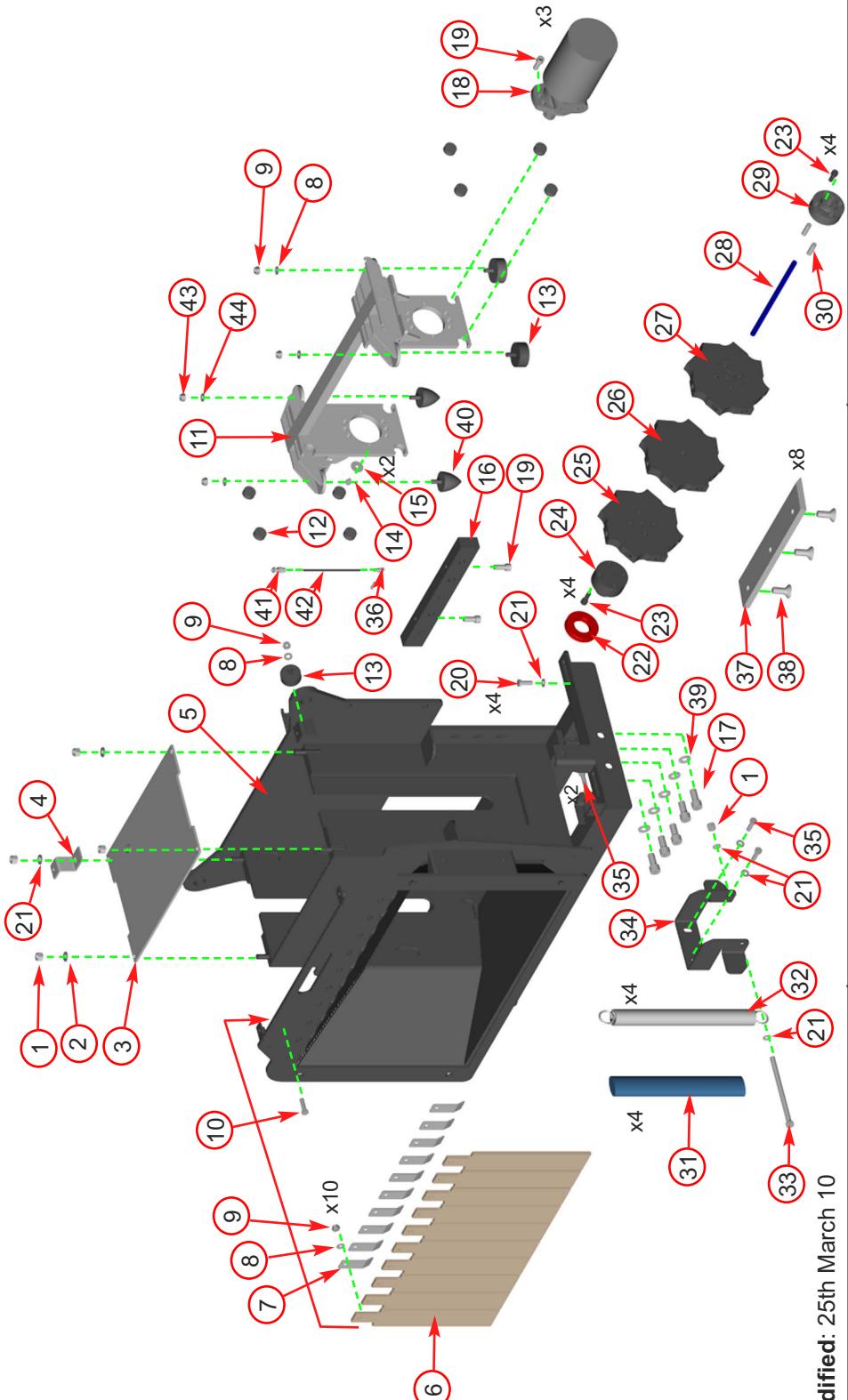
Item	Part No	Part Name	Q'ty
1	18321FO	Funnel	1
2	0654	Grommet	4
3	0045	M12 T Nyloc Nut	2
4	1601	Nylon Piston	2
5	1603	Die Spring	2
6	4206	Nylon Bush	1
7	0704	M12 C Washer	4
8	18381	M16/45 Bolt	4
9	18108	M6/8 Pan Pozi	8
10	1143	M16 A Washer	8
11	2493	Rubber Cap	2
12	4345	M10 P Nyloc Nut	1
13	1006	M4/30 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
22	0479	M8 P Nyloc Nut	2

Item	Part No	Part Name	Q'ty
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	P3501F	Feed Tray	1
34	0712	M8 C Washer	8
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
42	P*144	Operator's Manual Cannister	1
43	0347	M8/20 Button Head	3
44	0481	M8 T Nyloc Nut	3



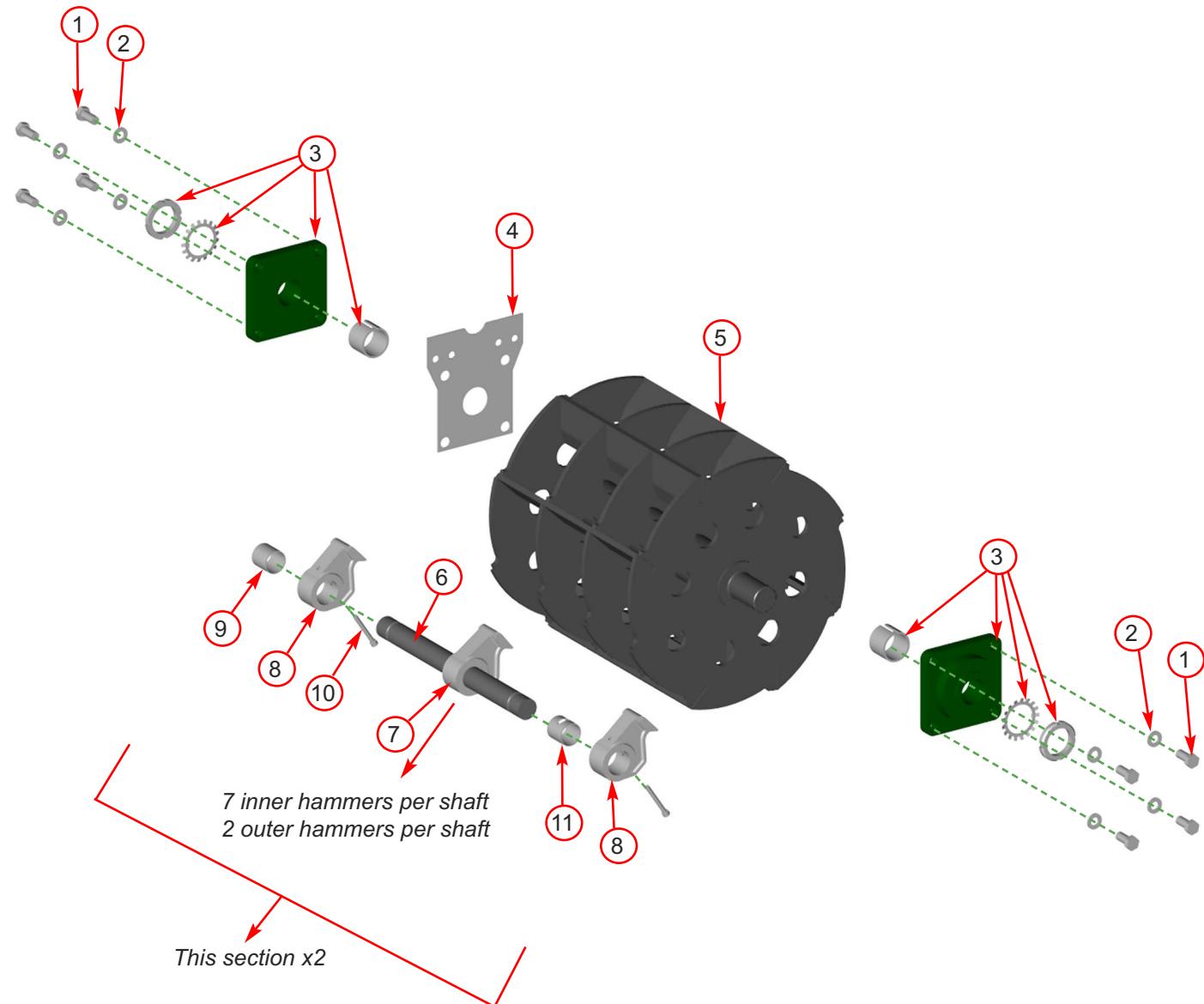
Date Last Modified: 4th Jan 2015

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	18170	M8/30 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				



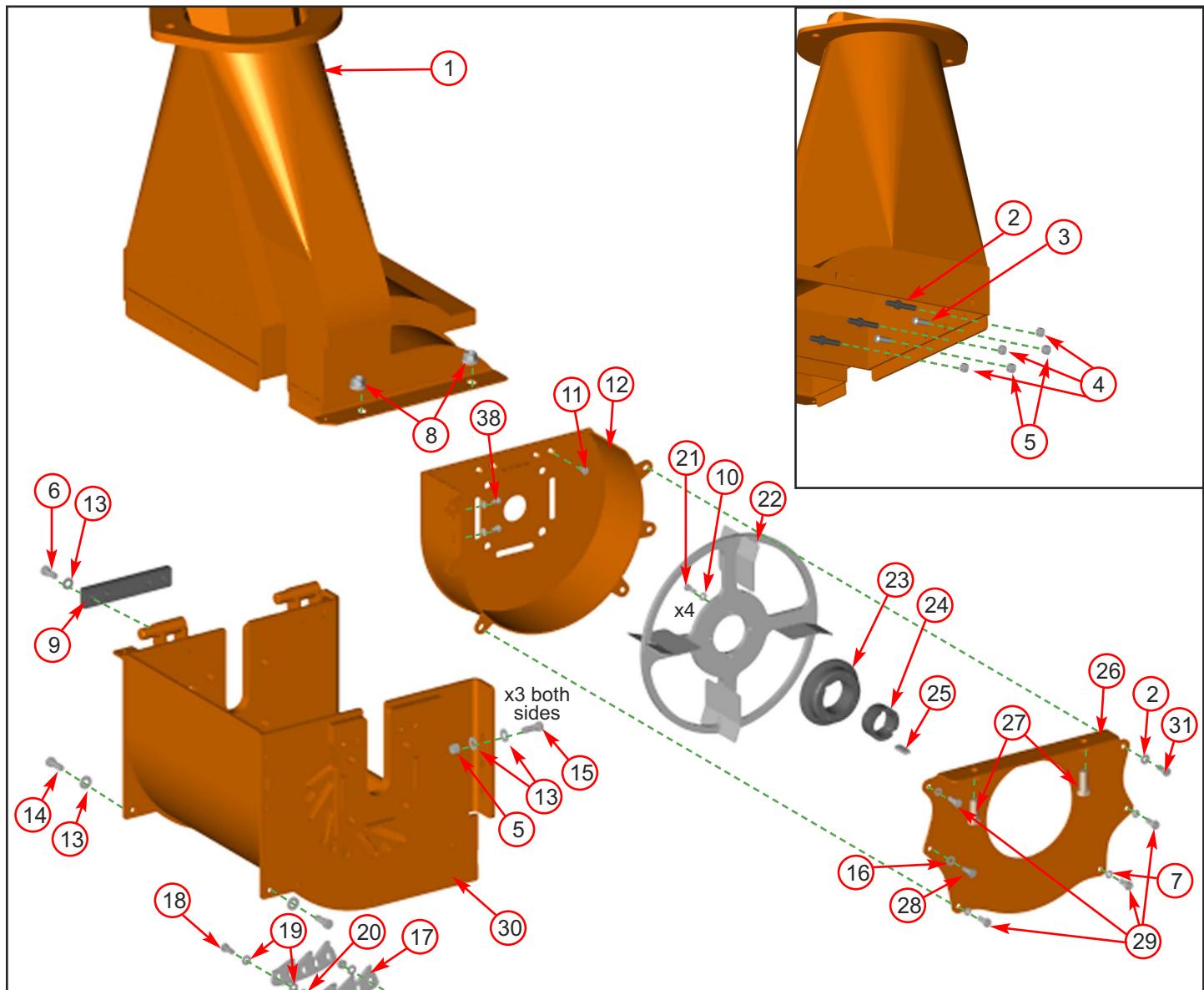
Date Last Modified: 25th March 10

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
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

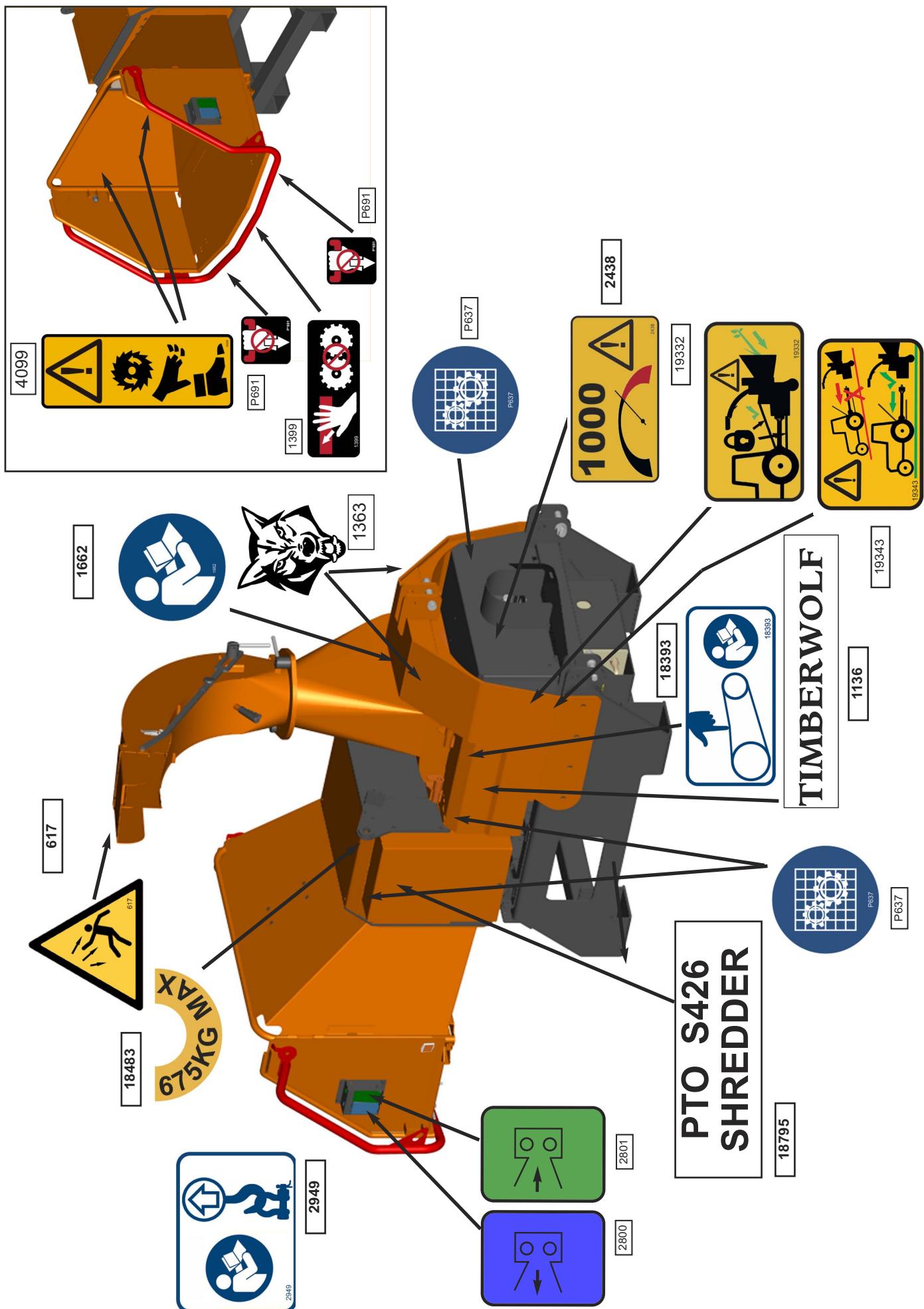
Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	18381	M16/45 Bolt	8	7	18072MH	Hammer Plain - Forging	14
2	1218	M16 Hardened Washer	8	8	18073MH	Hammer with Cross Drill - Forging	4
3	17793	Bearings	2	9	18354	Hammer Bush 40 x 40	14
4	18350PS	Bearing Shield	1	10	P0000022	M8/80 Caphead	4
5	18141F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

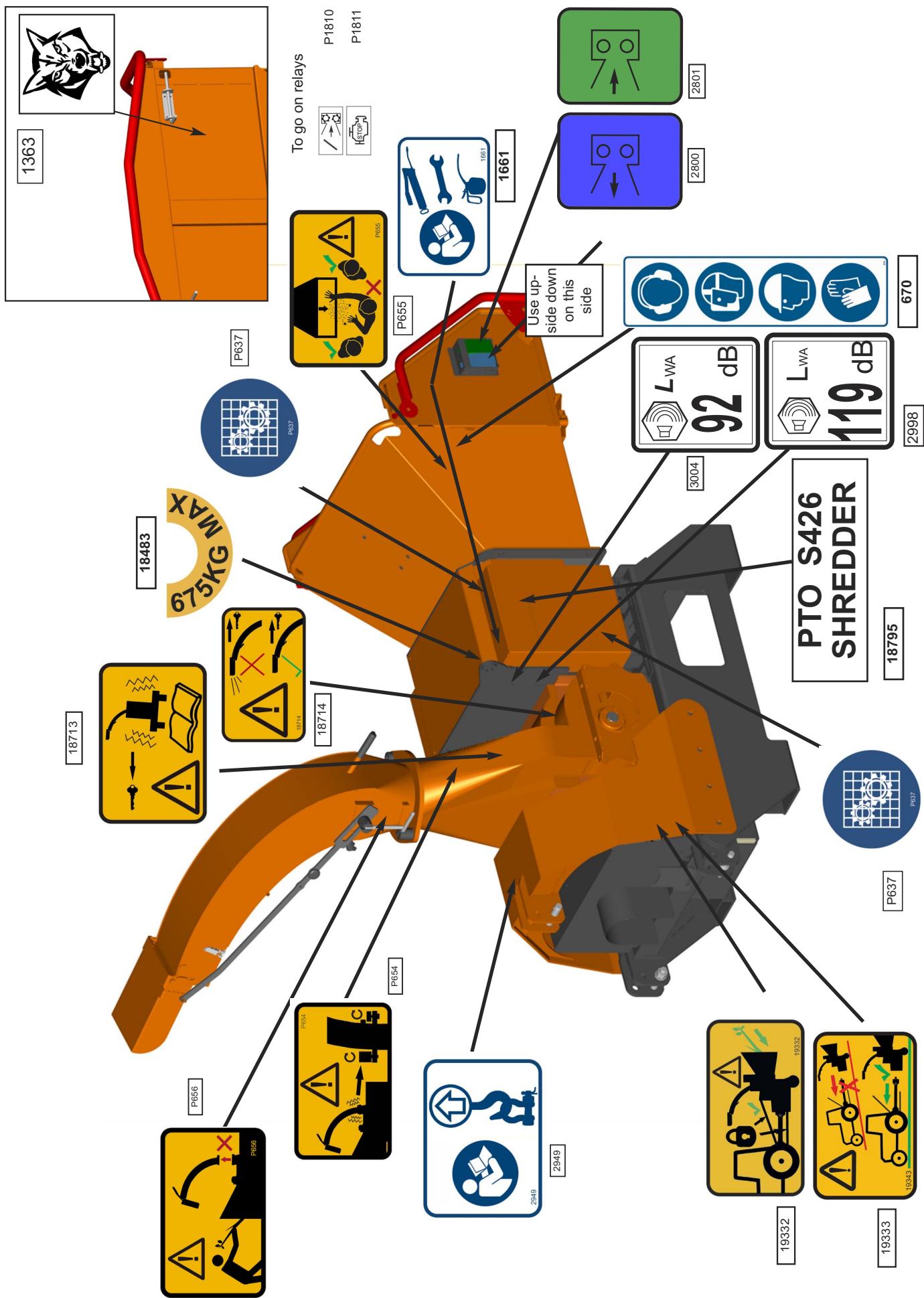


Date Last Modified: 22nd May 08

Item	Part No	Part Name	Q'ty
1	18425FO	Top Section Drum Housing	1
2	18485	Catcher Finger	3
3	18484	M12/30 Button Head	2
4	0045	M12 T Nyloc Nut	3
5	0644	M12 P Nyloc Nut	8
6	1321	M12/30 Bolt	4
7	0712	M8 C Washer	4
8	2978S	M16 Flange Nuts	2
9	18330MS	Side Brace	1
10	0711	M8 A Washer	4
11	0355	M8/16 Csk	4
12	18149FO	Lower Fan Housing	1
13	0704	M12 C Washer	18
14	0429	M12/35 Bolt	2
15	0431	M12/40 Bolt	6
16	0702	M12 A Washer	2

Item	Part No	Part Name	Q'ty
17	18331PS	Catcher Plate	2
18	4068	M10/40 Caphead	10
19	0701	M10 A Washer	20
20	0052	M10 T Nyloc Nut	10
21	0350	M8/25 Bolt	4
22	18143FS	Fan Assembly	1
23	18144M	Fan Hub	1
24	2850	Taper Lock 2012 50	1
25	18329	Key 22 x 14 x 9	1
26	18150FO	Fan Cover	1
27	18381	M16/45 Bolt	2
28	0277	M12/25 Bolt	2
29	0350	M8/25 Bolt	4
30	18167FO	Base Section Drum Housing	1
31	18576	M8/8 Csk Screw	2







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