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TIMBERWOLF
TW 125PH

INTRODUCTION

Thank you for choosing this Timberwolf brushwood chipper. 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 which contains and explains the chipper 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 TW 125PH. All information in this manual is based on the latest product information available at the time.

All the information you need to operate the machine safely and effectively is contained within pages 2 to 7. 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 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 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

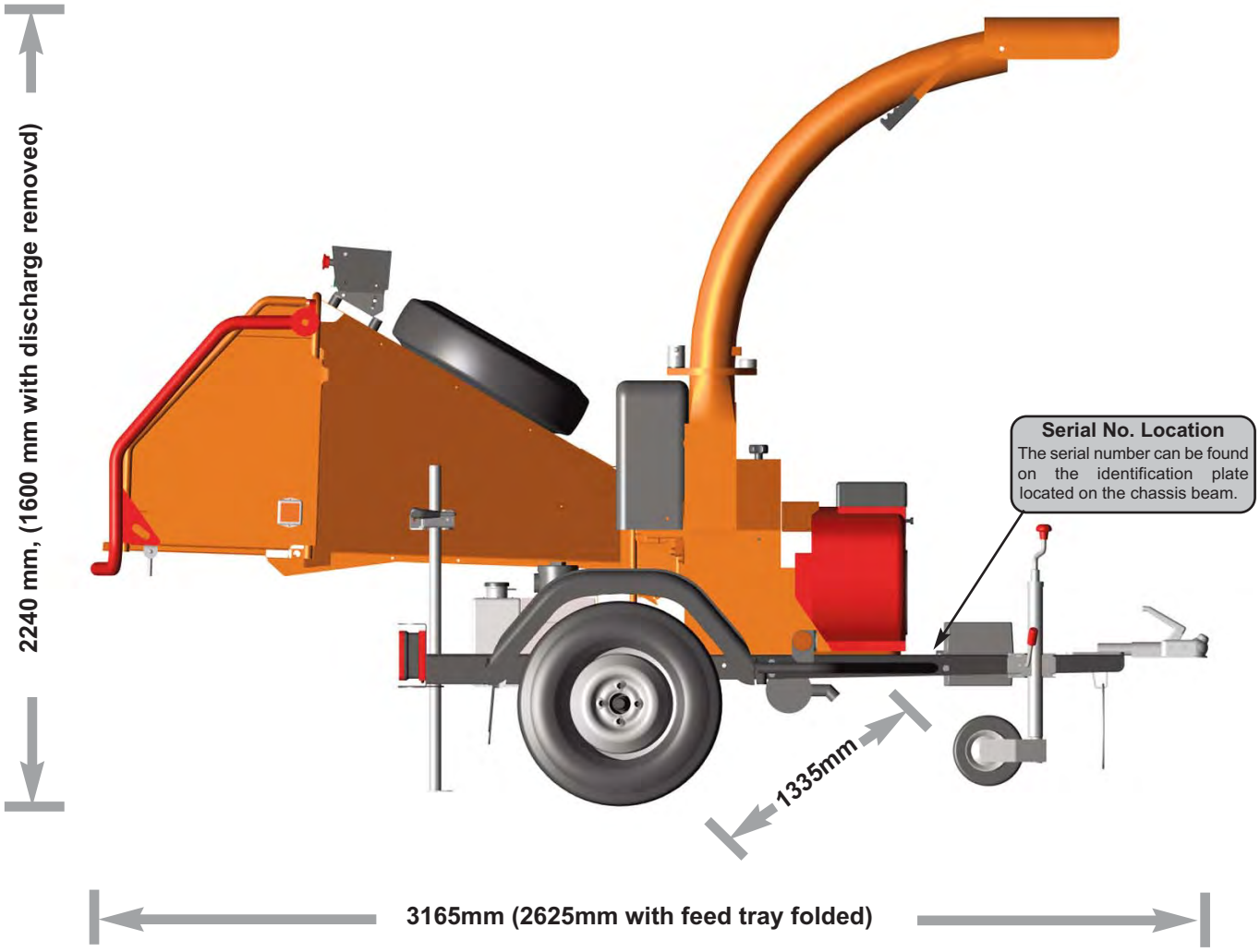
BE AWARE OF THIS SYMBOL AND WHERE SHOWN, CAREFULLY FOLLOW THE INSTRUCTIONS.

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 125PH

Designed to chip solid wood material up to 125 mm in diameter and capable of chipping over 2 tonnes of brushwood per hour.

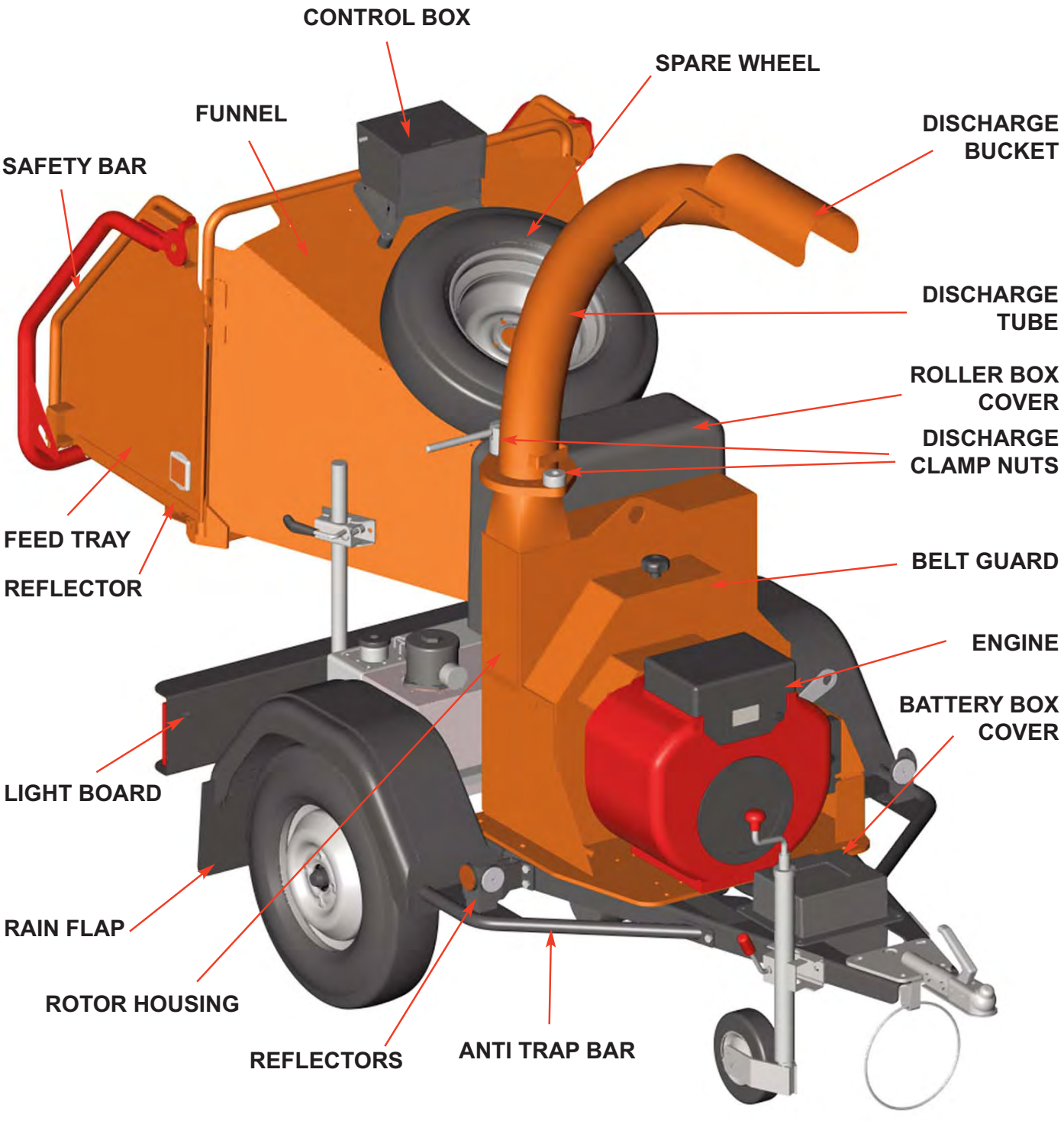
DIMENSIONS



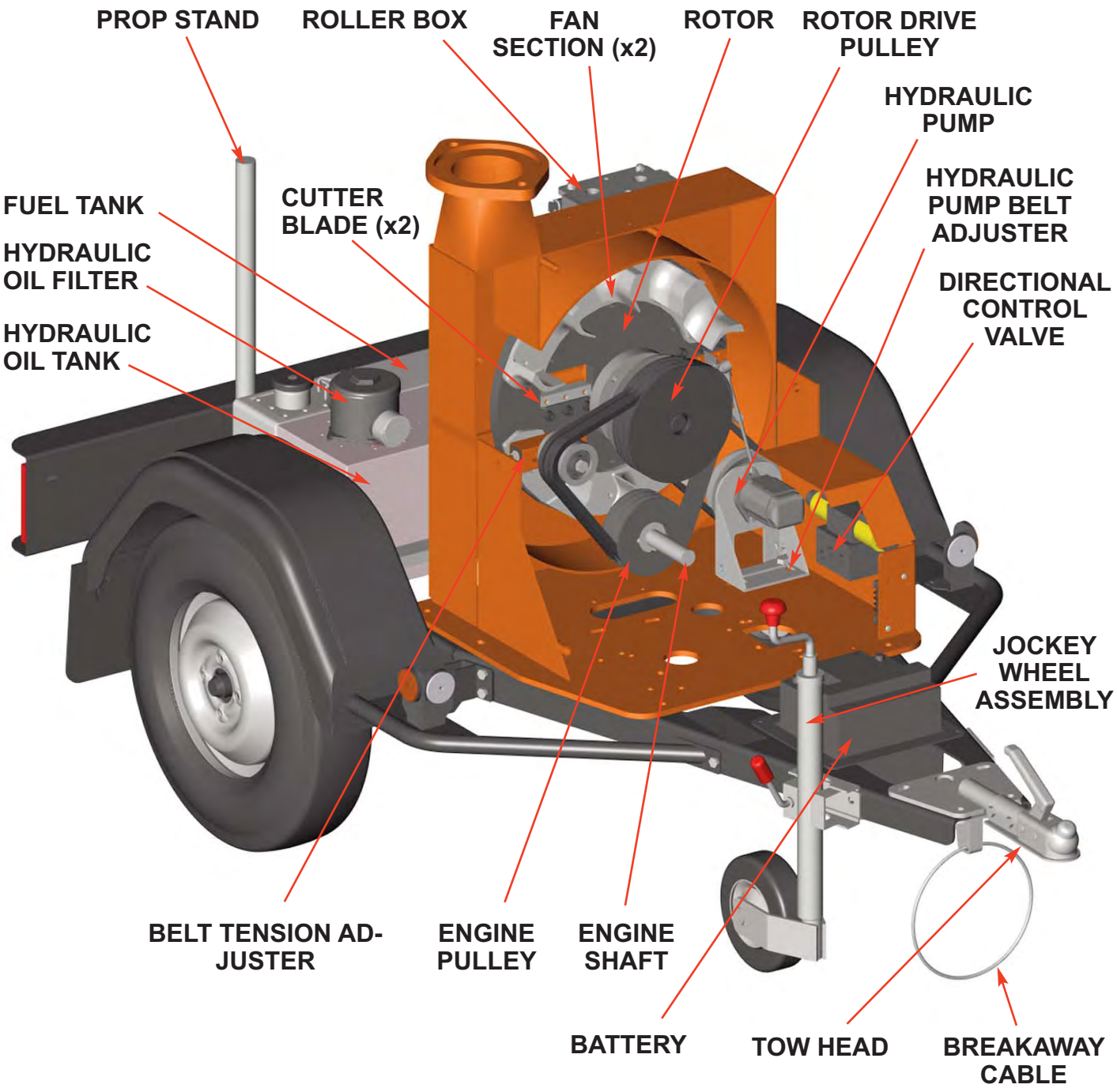
TIMBERWOLF TW 125PH SPECIFICATION

Engine type:	*Honda v-twin petrol*	**Max. diameter material:**	*125mm (5")*
Maximum power:	*14.9kW (20hp)*	**Fuel capacity:**	*18 litres*
Cooling method:	*Air cooled*	**Hydraulic oil capacity:**	*15 litres*
Overall weight:	*575kg*	**Material processing capacity:**	*2 tonnes/hr*
Starting method:	*Electric*	**Fuel type:**	*Unleaded petrol*
Roller feed:	*Twin hydraulic motor*		

PARTS LOCATOR



PARTS LOCATOR



WARNING

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

OPERATOR'S PERSONAL PROTECTIVE EQUIPMENT REQUIRED

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

Work gloves with elasticated wrist.

Steel toe cap safety boots.

Close fitting heavy-duty non-snag clothing.

Face mask if appropriate.

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

BASIC WOODCHIPPING SAFETY

The operator should be aware of the following points:

- MAINTAIN A SAFETY EXCLUSION ZONE around the chipper of at least 10 metres for the general public or employees without adequate protection. Use hazard tape to identify this working area and keep it clear from debris build up. Chips should be ejected away from any area the general public have access to.
- HAZARDOUS MATERIAL - Some species of trees and bushes are poisonous. The chipping action can produce vapour, spray and dust that can irritate the skin. This may lead to respiratory problems or even cause serious poisoning. Check the material to be chipped before you start. Avoid confined spaces and use a facemask if necessary.
- BE AWARE when the chipper is processing material that is an awkward shape. The material can move from side to side in the funnel with great force. If the material extends beyond the funnel, the brash may push you to one side causing danger. Badly twisted brash should be trimmed before being chipped to avoid thrashing in the feed funnel.
- BE AWARE that the chipper can eject chips out of the feed funnel with considerable force. Always wear full head and face protection.
- ALWAYS work on the side of the machine furthest from any local danger, e.g. not road side.

GENERAL SAFETY MATTERS

DO'S AND DON'TS

ALWAYS stop the chipper engine before making any adjustments, refuelling or cleaning.

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

ALWAYS check the machine is well supported and cannot move.

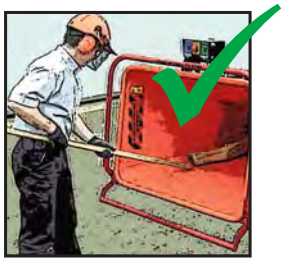
ALWAYS operate the chipper with the engine set to maximum speed when chipping.

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 use or attempt to start the chipper without the feed funnel, guards and discharge unit securely in place.

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

DO NOT allow -

- to enter the machine, as damage is likely.

DO NOT smoke when refuelling.

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

DO NOT climb on the machine at any time.

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

DO NOT touch any exposed wiring while machine is running.

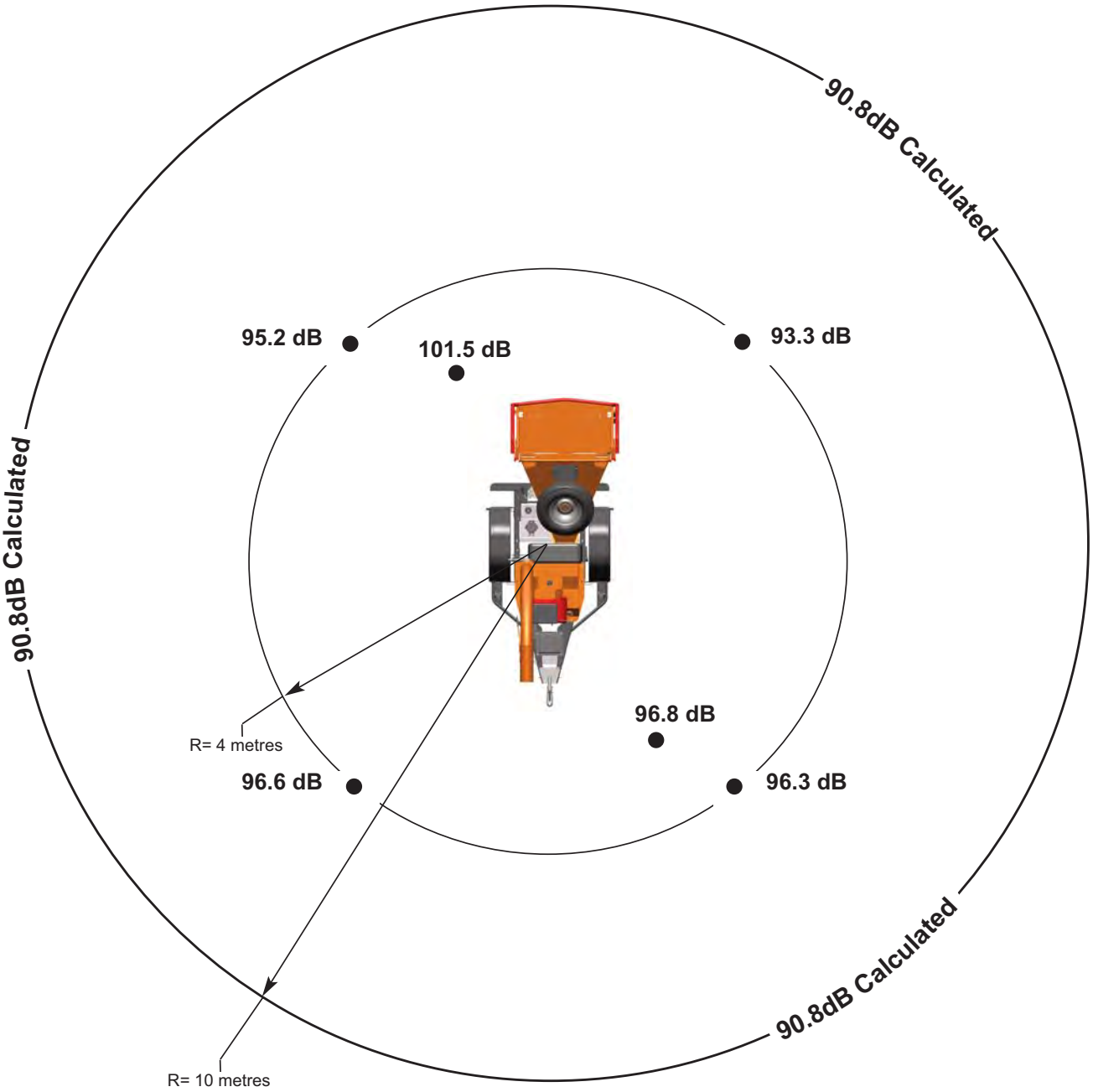
DO NOT use the chipper inside buildings.

NOISE TEST

MACHINE: TW 125PH

NOTES: Tested chipping 65mm x 75mm 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.



Guaranteed Sound Power: 120dB *(A)*

As required by Supply of Machinery (safety) regulations of 2008.

SAFE TRANSPORTATION

WARNING **DO NOT RIDE ON THE CHIPPER WHEN IT IS BEING TOWED.**

- WHEN towing a chipper the maximum speed limit is 60 mph.
- ON rough or bumpy road surfaces reduce speed accordingly to protect your machine from unnecessary vibration.
- WHEN towing off road be aware of objects that may catch the chipper undergear.
- WHEN towing off road ensure inclination is not excessive.
- AVOID excessively pot holed ground.
- WHEN reversing the chipper the short wheel base will react quickly to steering.
- ALWAYS check the discharge is tight before moving.
- KEEP tyre pressures inflated to 2.2 bar or 32 psi.
- CHECK wheel nuts are tightened to 90Nm or 65 lbs ft.
- CLEAR loose chippings and debris from the machine before departing.
- ENSURE feed funnel is closed and the catch is properly engaged before departing.

HITCHING ONTO THE TOW BALL

- CHECK ball head is well greased.
- WIND jockey wheel assembly anticlockwise until the tow head is above the height of the ball hitch on the vehicle.
- REVERSE vehicle so the ball hitch is directly below the tow head.
- ATTACH breakaway cable to a strong point on the vehicle, not the ball hitch.
- GRASP handle on tow head and push back catch with thumb.
- WIND jockey wheel assembly clockwise, to lower the tow head onto the ball hitch.
- RELEASE handle and continue to wind jockey wheel clockwise. The tow head should snap into place on the ball hitch. If it doesn't, repeat previous 2 steps.
- WIND jockey wheel up until fully retracted and the jockey wheel frame is seated in its notch on the stem. The chipper weight should be fully on the vehicle.
- RELEASE jockey wheel clamp and slide the jockey wheel assembly fully up.
- TIGHTEN clamp on jockey wheel assembly.
- CONNECT electrical plug to socket on rear of towing vehicle and check operation of all the trailer and vehicle lights.
- THE chipper is now properly attached to the vehicle.

UNHITCHING THE CHIPPER

- ENSURE the chipper will not roll away after being disconnected from the vehicle. Use the chocks provided if in doubt.
- DISCONNECT the electrical cable from the vehicle socket.
- RELEASE breakaway cable.
- RELEASE the jockey wheel assembly clamp.
- LOWER the jockey wheel assembly fully.
- RETIGHTEN the jockey wheel assembly clamp.
- WIND the jockey wheel assembly anticlockwise until it starts to take the weight of the chipper.
- GRASP the handle and release the catch with your thumb.
- CONTINUE to wind the jockey wheel anticlockwise. This should lift the tow head clear of the ball hitch.
- DRIVE the vehicle clear of the chipper.
- WIND the jockey wheel assembly to a suitable point where the chipper is level.
- THE chipper is now fully detached from the vehicle.

DELIVERY

All Timberwolf TW 125 machines have a full pre - delivery inspection before leaving the factory and are ready to use. Read and understand this instruction manual before attempting to operate the chipper. In particular, read pages 5-7 which contain important health and safety information and advice.

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.

MANUAL CONTROLS

Roller control box - is the control box above the feed opening of the chipper funnel. Its function is to control the feed rollers. The feed rollers draw material into the machine. ***It does 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 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 control buttons.

RED SAFETY BAR TEST

To ensure the safety bar is always operational it must be activated once before each work session. The rollers will not function until the bar is activated. This procedure must be repeated each time the ignition is switched off.

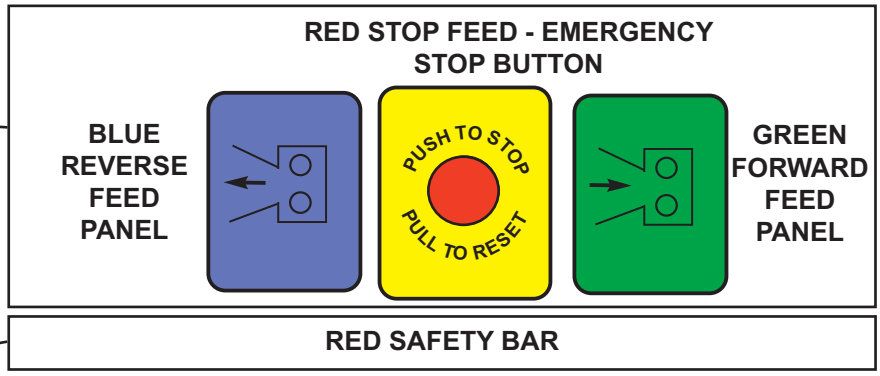
WARNING **DO NOT remove, jam, disable, bypass, override or otherwise impede the effectiveness of the red safety bar.**

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

RED BUTTON = Emergency stop - This button stops the rollers from feeding. It overrides all other buttons or bars and will not allow the other buttons to function until it has been reset. To reset, pull out until it returns to its original position. The forward and reverse buttons will now function.

BLUE BUTTON = 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 button. You do not have to press the STOP button before pressing the GREEN FEED button to recommence feeding.

Control Panel Diagram



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

AUTO CONTROLS

The no stress unit controls the feed rate of the material going into the chipping chamber. If the rotor speed is below the predetermined level, the no stress unit will not allow the feed rollers to work in either forward or reverse, until the rotor speed rises above the predetermined level. At this point, the feed rollers will start turning without warning.

EMERGENCY STOPPING

Push the RED STOP button (see diagram on page 9) or push the RED SAFETY BAR, whichever is the quickest for you to reach. Turn off the engine ignition key.

The emergency stop will prevent any more material being fed into the chipper. The rotor will still be turning. The engine must be powered down to stop the rotor.

ENGINE CONTROLS

This label indicates the speed setting of the chipper. With the throttle lever in the fast position (hare) the machine is ready to chip.

When the machine is not in use for short periods of time move the lever to the idle position (tortoise) or turn off completely.

BLADE WEAR

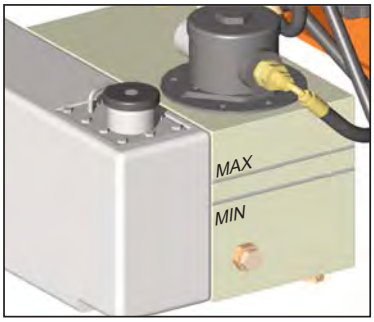
The most important part of using a wood chipper is keeping the cutter blades sharp. Timberwolf chipper blades are hollow ground to an angle of 40 degrees. When performing daily blade checks ensure blade edge is sharp and free from chips, if there is any evidence of damage, or the edge is “dull” change the blade(s). The TW 125PH is fitted with 2 blades 101mm (4") long. They are 44 mm wide when new. A new blade should chip for up to 25 hours before it requires sharpening. This figure will be drastically reduced by feeding the machine with stony, sandy or muddy material.

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

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

HYDRAULIC OIL LEVEL INDICATOR

The oil level will be visible through the tank wall. It should be within the upper and lower level marks.



PETROL TANK INDICATOR

The fuel level may be inspected by removing the fuel filler cap and looking into the tank.

DAILY CHECKS BEFORE STARTING

- LOCATE the machine on firm level ground.
- CHECK machine is well supported and cannot move.
- CHECK jack stand is lowered and secure.
- CHECK all guards are fitted and secure.
- 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 feed tray is in up position - to prevent people reaching rollers.
- CHECK controls as described below.
- CHECK (visually) for fluid leaks.
- CHECK fuel and hydraulic oil levels.

For parts location see diagrams on pages 3 & 4.

BEFORE USING THE CHIPPER

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.

WITH THE ENGINE RUNNING AT FULL SPEED

1 PRESS THE RED BAR TO POWER THE CONTROL SYSTEM

2 PRESS THE GREEN BUTTON
THE ROLLERS SHOULD RUN

3 PRESS THE RED BAR
THE ROLLERS SHOULD STOP

4 PRESS THE BLUE BUTTON
THE ROLLERS SHOULD TURN BACKWARDS ONLY WHILE THE BUTTON IS PRESSED

5 PRESS THE GREEN BUTTON AGAIN
THE ROLLERS SHOULD RUN

6 PRESS THE EMERGENCY RED BUTTON
THE ROLLERS SHOULD STOP

7 PRESS THE BLUE BUTTON
THE ROLLERS SHOULD NOT TURN

8 PULL TO RESET THE RED BUTTON
THE MACHINE IS READY TO USE

STARTING THE ENGINE

- **FOR A COLD ENGINE:**
  Place the throttle control at 1/3 throttle and pull the choke out.
  Insert ignition key into starter switch.
  Turn the key to start the engine. Release the key as soon as the engine starts.
  Gradually return the choke to the off position as the ngine starts and warms up. Allow the engine to warm up for at least one minute before chipping.
- **FOR A WARM ENGINE:**
  Follow the instructions for a 'cold engine' but return the choke to the off position as soon as the engine starts.

If engine fails to start after 10 seconds leave for 1 minute and try again.

STOPPING THE ENGINE

- SET engine to idle position.
- ALLOW to run for at least one full minute.
- SWITCH off and remove ignition key.

For more detailed information refer to the Engine Owner's Manual

STARTING TO CHIP

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

- CHECK that the chipper is running smoothly.
- RELEASE the catches on the feed tray and lower. Pull to release the red stop button.
- PERFORM the “before using the chipper” tests (see page 11).
- PRESS the green control button. The rollers will commence turning.
- STAND to one side of the feed funnel.
- PROCEED to feed material into the feed funnel.

CHIPPING

Wood up to the recommended diameter can be fed into the feed funnel. Put the butt end in first and engage it with the feed rollers. The hydraulic feed rollers will pull the branch into the machine quite quickly. Large diameter material will have its feed rate automatically controlled by the no stress unit.

Sometimes a piece of wood that is a particularly awkward shape is too strong for the feed rollers to break. This will cause the top roller to either bounce up and down on the wood, or both rollers to stall. If this occurs, press the BLUE REVERSE button until the material has been released. Pull the material out of the feed funnel and trim it so the chipper can handle it.

Both feed rollers should always turn at the same speed. If one or both rollers stop or suddenly slow down it may be that a piece of wood has become stuck behind one of the rollers. If this occurs, press the BLUE REVERSE button and hold for 2 seconds - then repress GREEN FEED button. This should enable the rollers to free the offending piece of material and continue rotating at the correct speed. If the rollers continue to stall in the 'forward feed' or 'reverse feed' position push the RED STOP BUTTON, turn the engine off, remove the ignition key and investigate.

BLOCKAGES

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

If the chipper becomes blocked, proceed as follows:

- STOP the engine and remove the ignition keys.
- REMOVE the discharge tube. Check that it is clear.
- WEARING gloves, reach into the rotor housing and scoop out the majority of the debris causing the blockage.

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

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

NOTE

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

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

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

THIS IS NOT A WORKSHOP MANUAL.

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

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

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

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

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

SERVICE SCHEDULE

WARNING **Always immobilise the machine by stopping the engine, removing the ignition key and disconnecting the battery before undertaking any maintenance work.**

SERVICE SCHEDULE	Daily Check	25 Hours	50 Hours	100 Hours	200 Hours	1 Year
Check water.	✓					
Check engine oil - top up if necessary (10W-30).	✓					
Check for engine oil / hydraulic oil leaks.	✓					
Check fuel level.	✓					
Check feed funnel, feed roller cover, access covers, engine covers and discharge unit are securely fitted.	✓					
Check blades.	✓					
Ensure engine air intake is free from leaf build up.	✓					
Check tyre pressure is 2.2 Bar (32 psi).	✓					
Check tension of main drive belts (and tension if necessary).		✓				
Grease the roller box slides.			✓ OR AS REQUIRED - SEE PG. 20			
Grease the roller spline and bearing.			✓ OR AS REQUIRED - SEE PG. 20			
Clean air filter element.			✓			
Check safety bar mechanism.			✓			
Check anvils for wear.			✓			
Check for tightness all nuts, bolts and fastenings making sure nothing has worked loose.	AFTER THE FIRST 25 HOURS THEN:			✓		
Check fuel pipes and clamp bands.					✓	
Check battery electrolyte level.					✓	
Change engine oil.	REFER TO YOUR ENGINE SUPPLIERS MANUAL					
Replace engine oil filter cartridge.						
Replace spark plugs.						
Check valve clearance.						
Replace fuel pipes and clamp bands.						
Check for loose electrical wiring.						✓
Replace hydraulic oil filter - every year or 100 hours after service or repair work to the hydraulic system.						✓
Replace hydraulic oil.						✓
Axle maintenance.	REFER TO SUPPLIERS INSTRUCTION SHEET					
Tow head maintenance.						
Replace anvils when worn.	RETURN TO DEALER FOR ANVIL CHANGE					

NOTE: Your Timberwolf woodchipper 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.

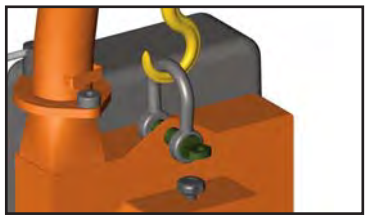
SAFE MAINTENANCE

ALWAYS IMMOBILISE THE ENGINE BEFORE UNDERTAKING ANY MAINTENANCE WORK ON THE CHIPPER BY REMOVING THE KEY AND DISCONNECTING THE BATTERY.

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

SAFE LIFTING OF THE CHIPPER

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



SPARES

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

BATTERY REMOVAL AND MAINTENANCE

WARNING **Refer to the battery safety section on pages 16-17.**

1. Remove the four M8 screws that retain the battery box top.
2. Remove the negative lead first and then the positive lead.
3. Clean, charge and/or top up the battery as required.
4. Refitting is the reverse of removal. Apply a smear of petroleum jelly to the terminals to prevent corrosion.

CHECK FITTINGS

The Timberwolf TW 125PH is subject to large vibrations during the normal course of operation. Consequently there is always a possibility that nuts and bolts will work themselves loose. It is important that periodic checks are made to ensure the security of all fasteners. Fasteners should be tightened using a torque wrench to the required torque (see below). ***Uncalibrated torque wrenches can be inaccurate by as much as 25%. It is therefore essential that a calibrated torque wrench is used to achieve the tightening torques listed below.***

	Size	Pitch	Head	Torque lbft	Torque Nm
Blade Bolts	M10	Standard	T50 Torx	45	61
Hyd Motor Retaining Bolts	M10	Standard	17mm Hex	34	46
Funnel Retaining Nuts	M12	Standard	17mm Hex	38	51
General	M8	Standard	13 mm Hex	17	23
General	M10	Standard	17 mm Hex	34	46
General	M12	Standard	19 mm Hex	60	80

COPPER EASE SAFETY INFORMATION

Product name: Copper Ease.

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

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

FIRST AID

Skin contact: there may be mild irritation at the site of contact, wash immediately with plenty of soap and water.

Eye contact: there may be irritation and redness, bathe the eye with running water for 15 minutes.

Ingestion: there may be irritation of the throat, do not induce vomiting, wash out mouth with water.

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

BATTERY SAFETY INFORMATION

WARNING NOTES AND SAFETY REGULATIONS FOR FILLED LEAD-ACID BATTERIES

For safety reasons, wear eye protection when handling a battery.

Keep children away from acid and batteries.

Fires, sparks, naked flames and smoking are prohibited.
-Avoid causing sparks when dealing with cables and electrical equipment, and beware of electrostatic discharges.
-Avoid short circuits, otherwise:

Explosion hazard:
-A highly explosive oxyhydrogen gas mixture is produced when batteries are charged.

Corrosive hazard:
-Battery acid is highly corrosive, therefore:
-Wear protective gloves and eye protection.
-Do not tilt the battery, acid may escapefrom the vent openings.

First aid:
-Rinse off acid splashed in the eyes immediately for several minutes with clear water! Then consult a doctor immediately.
-Neutralise acid splashes on the skin or clothes immediately with acid neutraliser (soda) or soap suds, and rinse with plenty of water.
-If acid is swallowed, consult a doctor immediately.

Warning notes: The battery case can become brittle, to avoid this:

-Do not store batteries in direct sunlight.
-Discharged batteries may freeze up, therefore store in an area free from frost.

Disposal:
-Dispose of old batteries at an authorised collection point.

-The notes listed under item 1 are to be followed for transport.
-Never dispose of old batteries in household waste.

BATTERY SAFETY INFORMATION...cont.

1. Storage and transport
- Batteries are filled with acid.
- Always store and transport batteries upright and prevent from tilting so that no acid can escape.
- Store in a cool and dry place.
- Do not remove the protective cap from the positive terminal.
- Run a FIFO (first in-first out)warehouse management system.

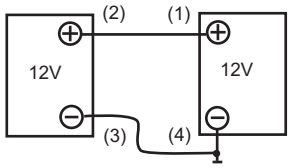
2. Initial operation
- The batteries are filled with acid at a density of 1.28g/ml during the manufacturing process and are ready for use.
- Recharge in case of insufficient starting power (cf. section 4).

3. Installation in the vehicle and removal from the vehicle
- Switch off the engine and all electrical equipment.
- When removing, disconnect the negative terminal first.
- Avoid short circuits caused by tools, for example.
- Remove any foreign body from the battery tray, and clamp battery tightly after installation.
- Clean the terminals and clamps, and lubricate slightly with battery grease.
- When installing, first connect the positive terminal, and check the terminal clamps for tight fit.
- After having fitted the battery in the vehicle, remove the protective cap from the positive terminal, and place it on the terminal of the replaced battery in order to prevent short circuits and possible sparks.
- Use parts from the replaced battery, such as the terminal covers, elbows, vent pipe connection and terminal holders (where applicable); use available or supplied filler caps.
- Leave at least one vent open, otherwise there is a danger of explosion. This also applies when old batteries are returned.

4. Charging
- Remove the battery from the vehicle; disconnect the lead of the negative terminal first.
- Ensure good ventilation.
- Use suitable direct current chargers only.
- Connect the positive terminal of the battery to the positive output of the charger. Connect the negative terminal accordingly.
- Switch on the charger only after the battery has been connected, and switch off the charger first after charging has been completed.
- Charging current-recommendation: 1/10 ampere of the battery capacity Ah.
- Use a charger with a constant charging voltage of 14.4V for re-charging.
- If the acid temperature rises above 55° Celsuis, stop charging.
- The battery is fully charged when the charging voltage has stopped rising for two hours.

5. Maintenance
- Keep the battery clean and dry.
- Use a moist anti-static cloth only to wipe the battery, otherwise there is a danger of explosion.
- Do not open the battery.
- Recharge in case of insufficient starting power (cf. section 4).

6. Jump Starting
- Use the standardised jumper cable in compliance with DIN 72553 only, and follow the operating instructions.
- Use batteries of the same nominal voltage only.
- Switch off the engines of both vehicles.
- First connect the two positive terminals (1) and (2), then connect the negative terminal of the charged battery (3) to a metal part (4) of the vehicle requiring assistance away from the battery.

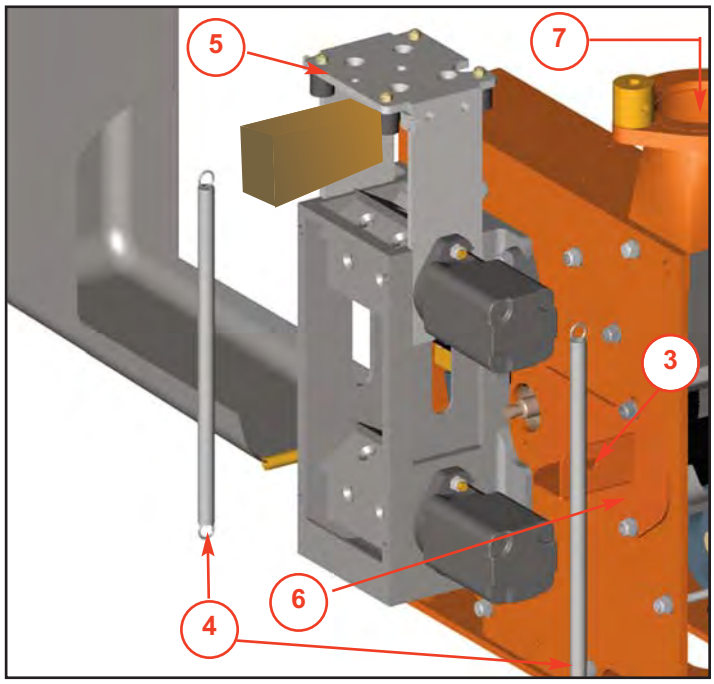


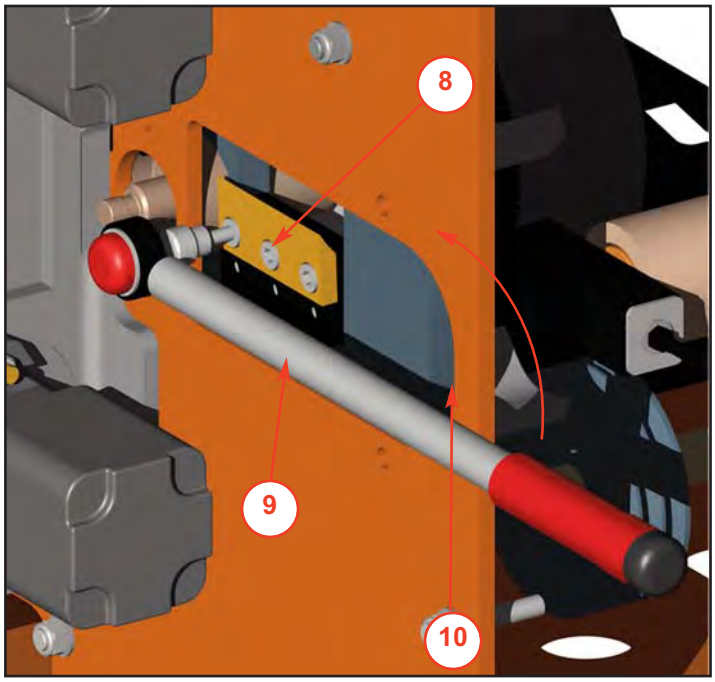
- Start the engine of the vehicle providing assistance, then start the engine of the vehicle requiring assistance for a maximum of 15 seconds.
- Disconnect the cables in reverse sequence (4-3-2-1).

7. Taking the battery out of service
- Charge the battery; store in a cool place or in the vehicle with the negative terminal disconnected.
- Check the battery state of charge at regular intervals, and correct by recharging when necessary (cf. section 4).

CHANGE BLADES

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





1. Turn the chipper off and remove the ignition keys.
2. Remove battery leads.
3. Remove bolt and washer retaining roller box guard and lift guard.
4. Remove the two springs on the roller box slide.
5. ***NOTE: Rollerbox slide weighs in excess of 20kg.*** Lift the roller box slide and wedge a suitably sized piece of wood to hold in place.
6. Remove blade access cover.
7. Remove discharge tube. Turn the rotor by hand by grasping fan section on rear of rotor disc until blade is visible through aperture.
8. Use a small screwdriver to remove sap and debris from Torx socket in screw - be particularly careful to ensure every last piece has been removed.
9. Undo blade screws using Torx socket drive provided. Rotor will turn until Torx socket has located on machine.
10. **Before fitting replacement blades carefully clean blade recess in rotor so that no debris is trapped between blade and rotor.**
11. When fitting blades replace any damaged screws with new and coat each screw with copperslip over the whole of the thread.
12. **Retighten each screw to 60Nm (45lbs ft).**

    NOTE: This torque setting is vitally important to ensure your bolts come out at a later date and Timberwolf recommend you purchase a torque wrench for this and other jobs on the chipper.
13. Grease all surfaces of the roller box sliding mechanism (see diagram on page 20).
14. Replace blade access cover.
15. ***NOTE: Rollerbox slide weighs in excess of 20kg.*** Remove wedge, lower roller box slide and replace springs.
16. Close roller box guard making sure that it is located over the retaining bracket, and ensure bolt and washer (as note 3) are tightened.
17. Refit battery leads.

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

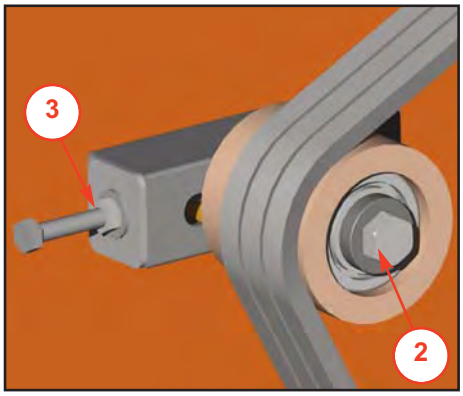
TENSION BELTS

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

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

TENSION DRIVE BELTS

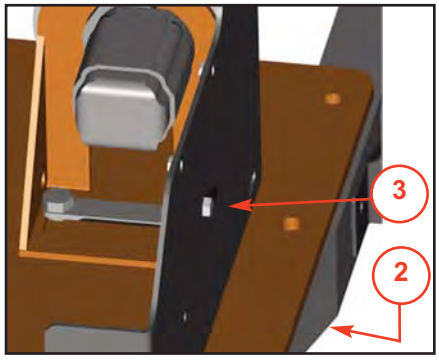
1. Remove belt guard.
2. Loosen bolt in centre of tensioner pulley with a 19mm spanner so that pulley is able to slide with minimal wobble.



3. Turn nut in end of tensioner pulley slider until correct belt tension is achieved. For instructions on checking belt tension & correct belt tension values, please refer to the Timberwolf V-Belt Tensioning Data Table at the end of the manual.
4. Retighten bolt in centre of tensioner pulley.
5. Refit belt guard.
6. Run machine and test, recheck belt tension.
7. NOTE: Slack drive belts will cause poor performance and excess belt and pulley wear.

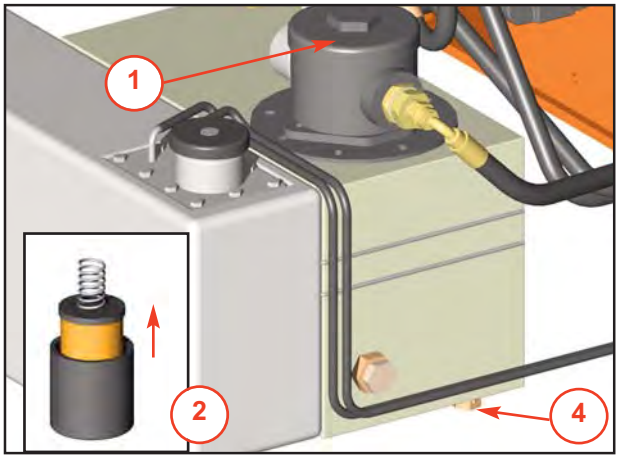
TENSION HYDRAULIC PUMP BELT

1. Remove belt guard.
2. Access the two nuts on the under side of the chassis and slacken using a 19 mm socket spanner.
3. Adjust the M8 bolt on the outside plate until the desired tension is achieved. For instructions on checking belt tension & correct belt tension values, please refer to the Timberwolf V-Belt Tensioning Data Table (pg. 44).
4. Retighten the two nuts to (80 Nm) 60 lbs/ft.
5. Refit belt guard.



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 chipper is standing level and brush away loose chips.**

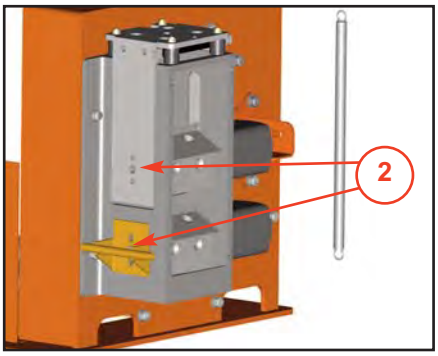


NOTE: This is a non-adjustable air breather filter.

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 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.

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.

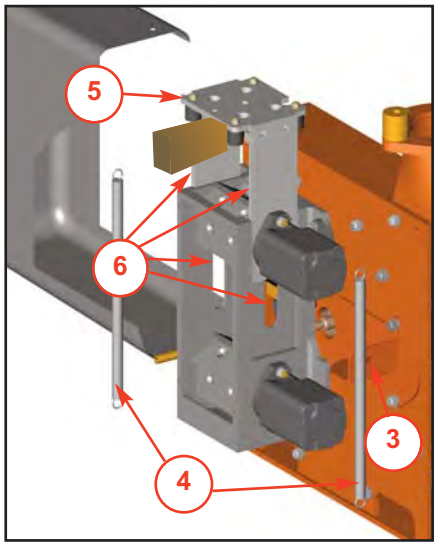


1. Remove bolt and washer retaining roller box guard and lift guard (see diagram on page 18).
2. Locate two grease nipples; one in the centre of each roller shaft.
3. Use a pump action grease gun to apply a generous amount of grease to each roller drive. **DO NOT USE GRAPHITE BASED GREASE.** After applying grease, to penetrate all the bearing surfaces thoroughly, start the machine and operate the rollers for 20 seconds. Switch off the machine. Repeat this greasing/running procedure a further 3 times.
4. Close roller box guard making sure that it is located over the retaining bracket, and ensure bolt and washer are tightened.

GREASE THE ROLLER BOX SLIDES

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

1. Turn the chipper off and remove the ignition keys.
2. Ensure machine has come to a complete stop - remove battery leads.
3. Remove the bolt and washer retaining roller box guard and lift guard.
4. Remove the two springs on the roller box slide.
5. ***NOTE: Rollerbox slide weighs in excess of 20kg.*** Lift the top roller and wedge a suitably sized piece of wood to hold in place.
6. Apply thin grease with a brush to each slide on roller box and on inner cheeks of slider. **DO NOT USE GRAPHITE BASED GREASE.**
7. ***NOTE: Rollerbox slide weighs in excess of 20kg.*** Remove wedge, lower roller box slide and replace springs.
8. Close roller box guard making sure that it is located over the retaining bracket, and ensure bolt and washer (as note 3) are tightened.
9. Refit battery leads.



GREASING ROTOR BEARINGS

Both front and rear bearings are sealed and do not need greasing.

ENGINE SERVICING

All engine servicing must be performed in accordance with the Engine Manufacturer's handbook provided with the machine. **FAILURE TO ADHERE TO THIS MAY INVALIDATE WARRANTY AND/OR SHORTEN THE LIFE OF THE ENGINE.**

CHECK HOSES

All the hydraulic hoses should be regularly inspected for chafing and leaks. The hydraulic system is pressurized to 130 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 reassembly. Fittings should then be retightened.

ENVIRONMENTAL MANUFACTURING LLP 12 MONTH CHIPPER WARRANTY

WARRANTY PERIOD

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

LIABILITY

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

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

Engine units are covered independently by their respective manufacturer warranties.

OWNERS WARRANTY RESPONSIBILITIES

As the owner of an Environmental Manufacturing LLP woodchipper you are responsible for the following;
-Operation of the woodchipper 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 woodchipper registered with Environmental Manufacturing LLP as a hire chipper or long term demonstrator – in these situations they are duly authorised to transfer any remaining warranty period to their first end user.

The 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

E C Declaration of Conformity

CE

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	:	Self-powered portable machine intended to chip up tree waste prior to disposal.
Model	:	TW 125PH
Serial No.		*Serial Manufacture*

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

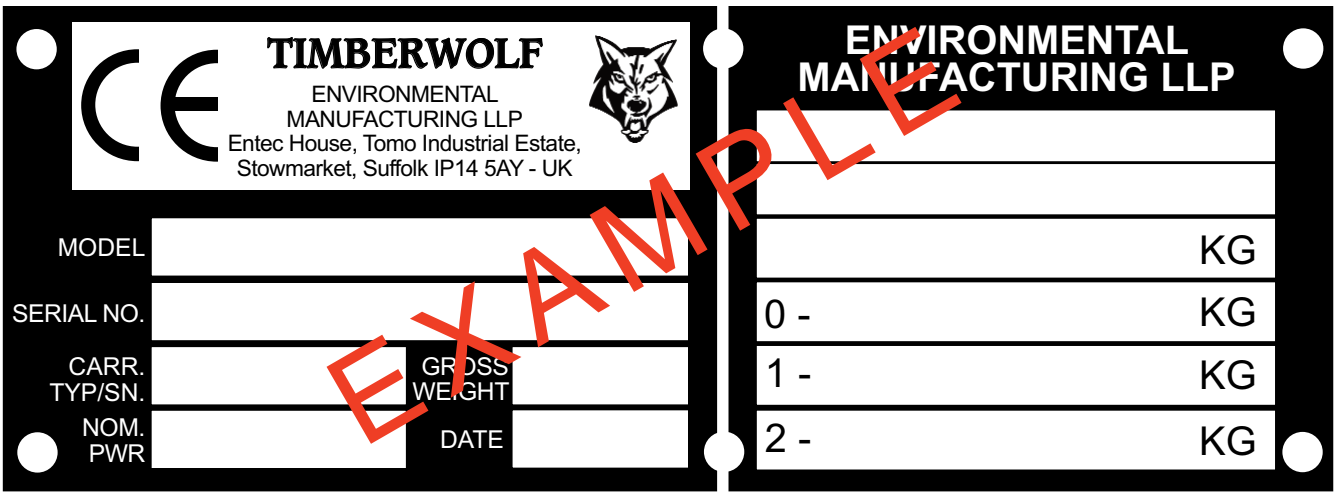
BS EN 12100-1: 2003 Safety of Machinery- Basic concepts, BS EN 13857-1: 2008 Safety of Machinery-Safety distances to danger zones, BS EN 60204-1: 1998 Safe electrical practices, BS EN 13732-1:2006 Safety of Machinery – Temperatures of touchable surfaces, BS EN 13849-1: 2008 – Safety of Machinery – Safety 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 December 2009

IDENTIFICATION PLATE



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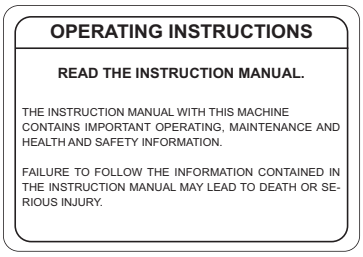

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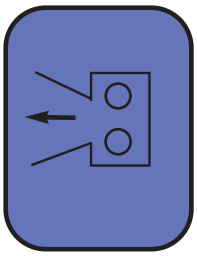

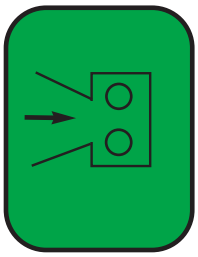

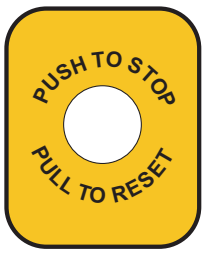

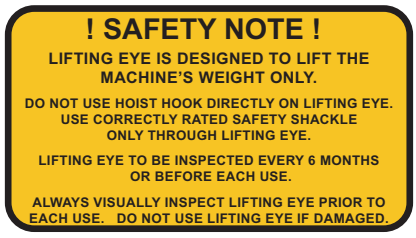

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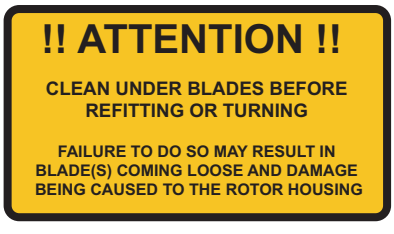


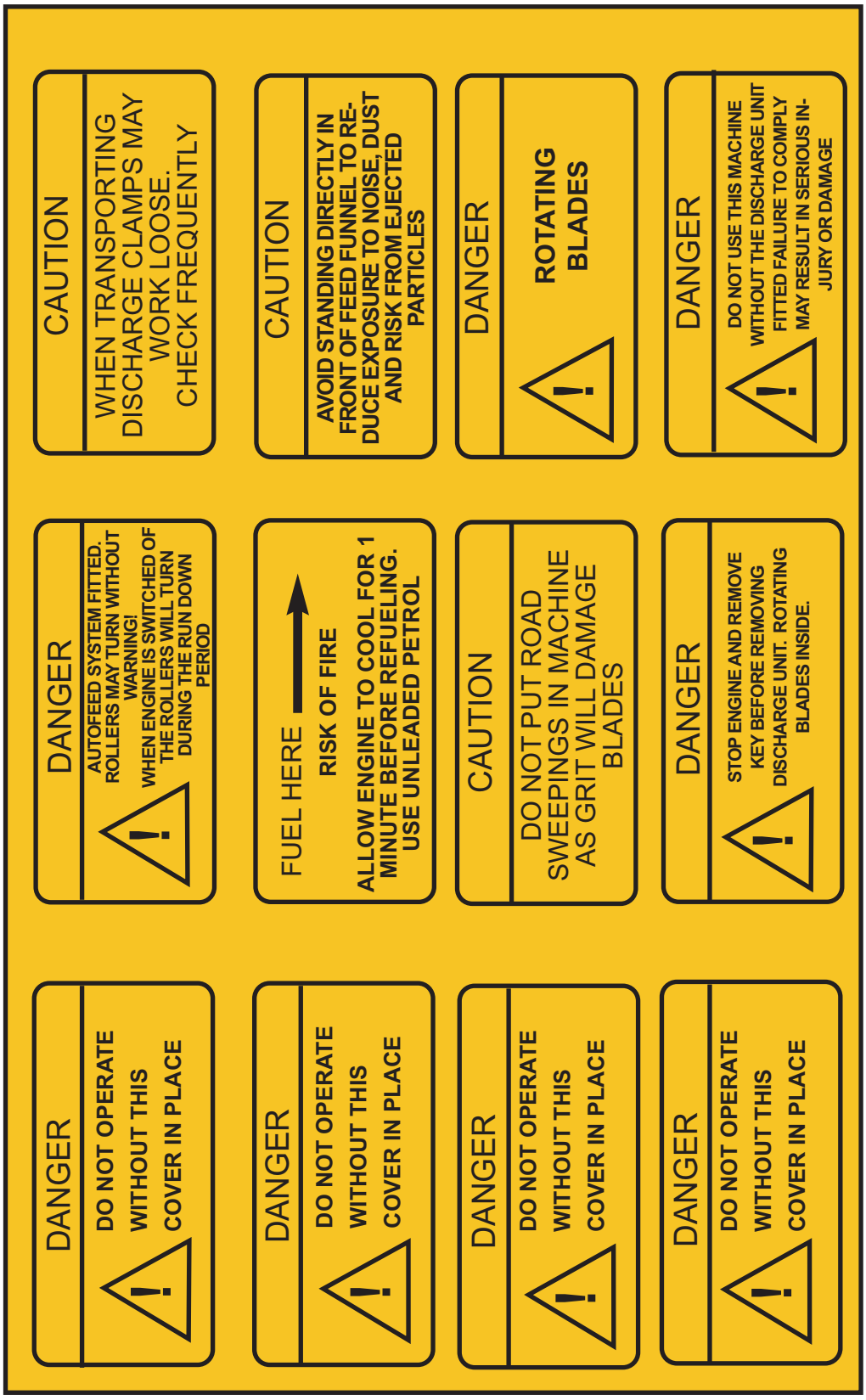
X2

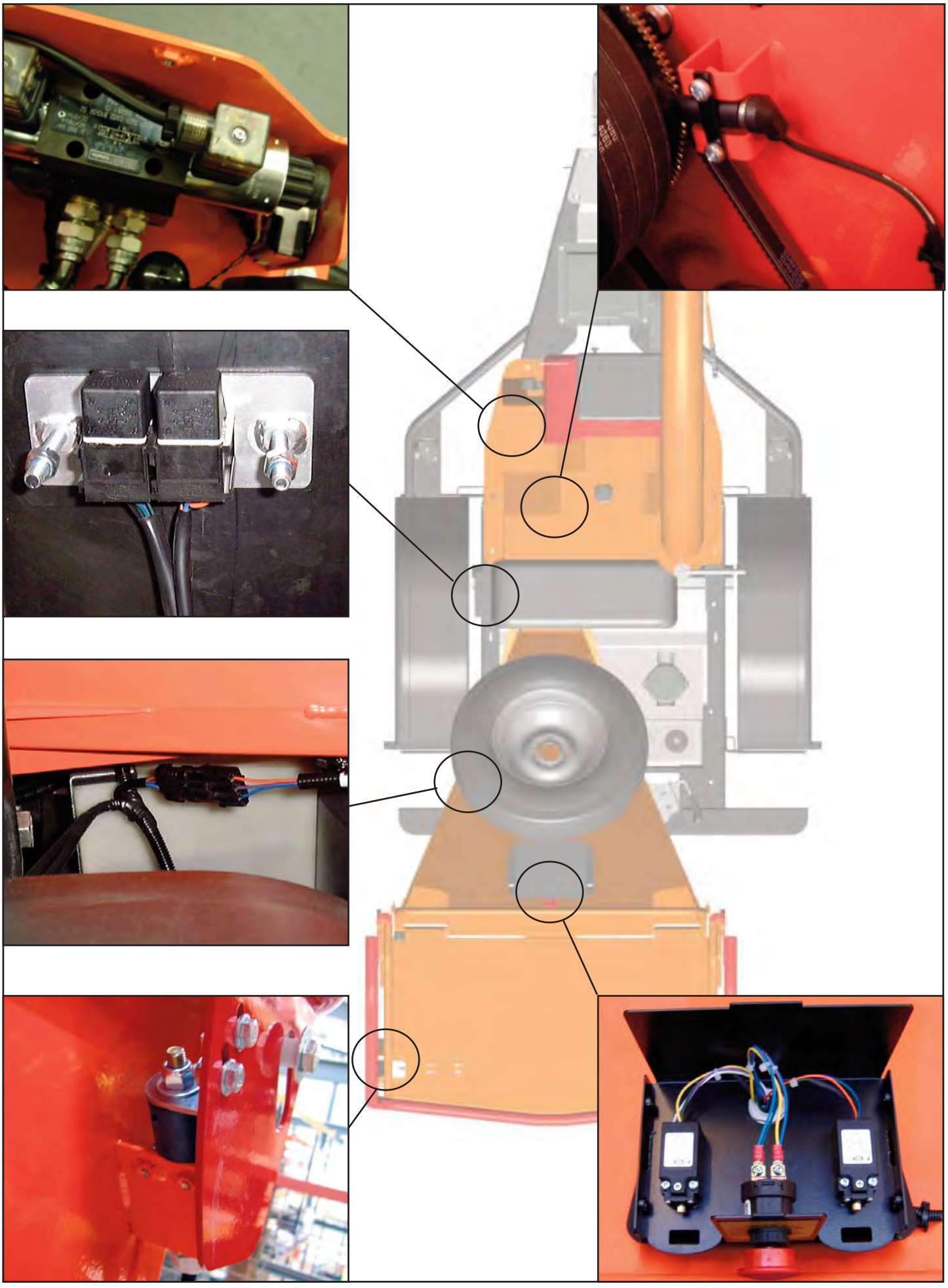
3022	3004	4099

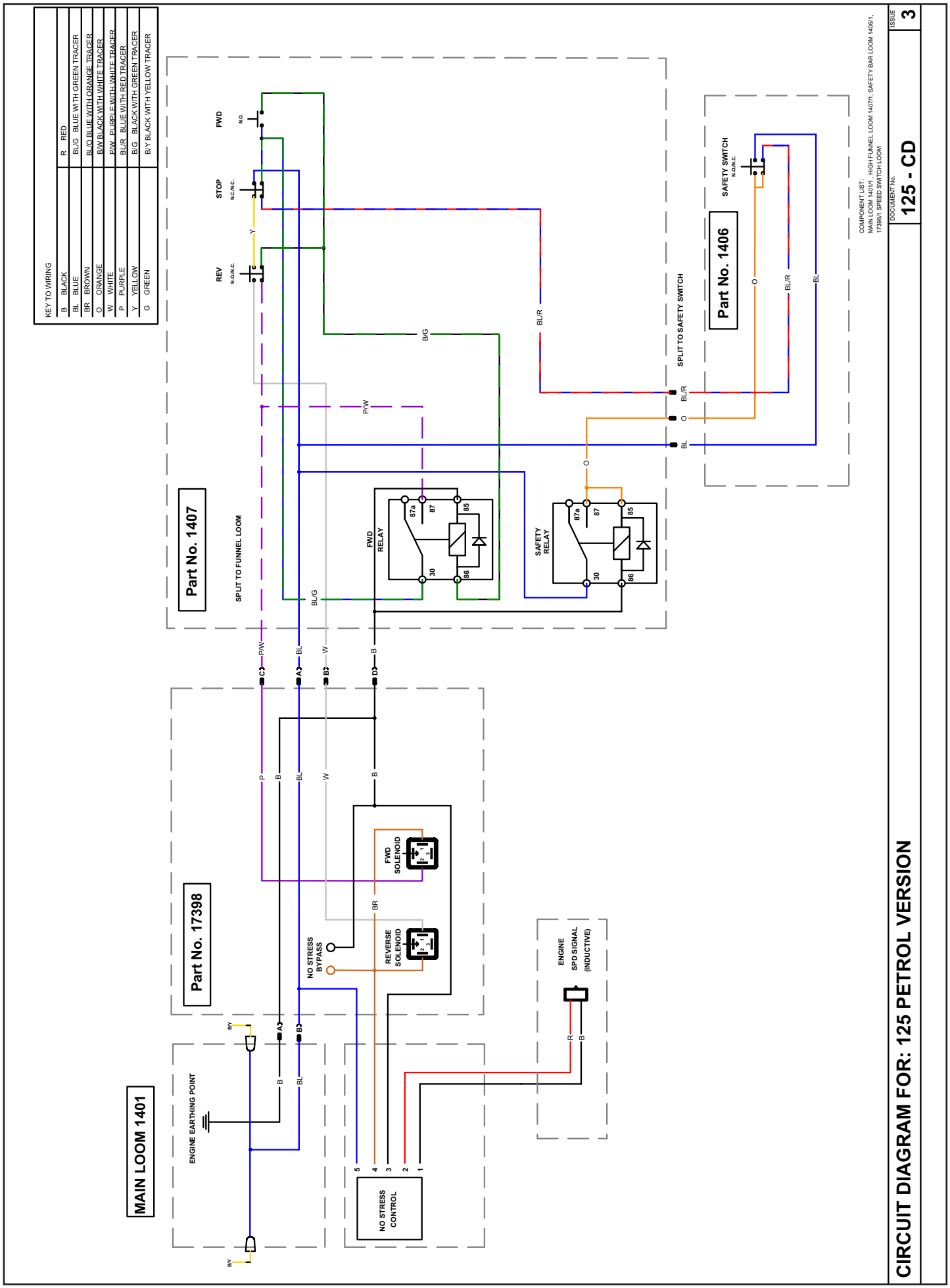
TIMBERWOLF
TW 125PH

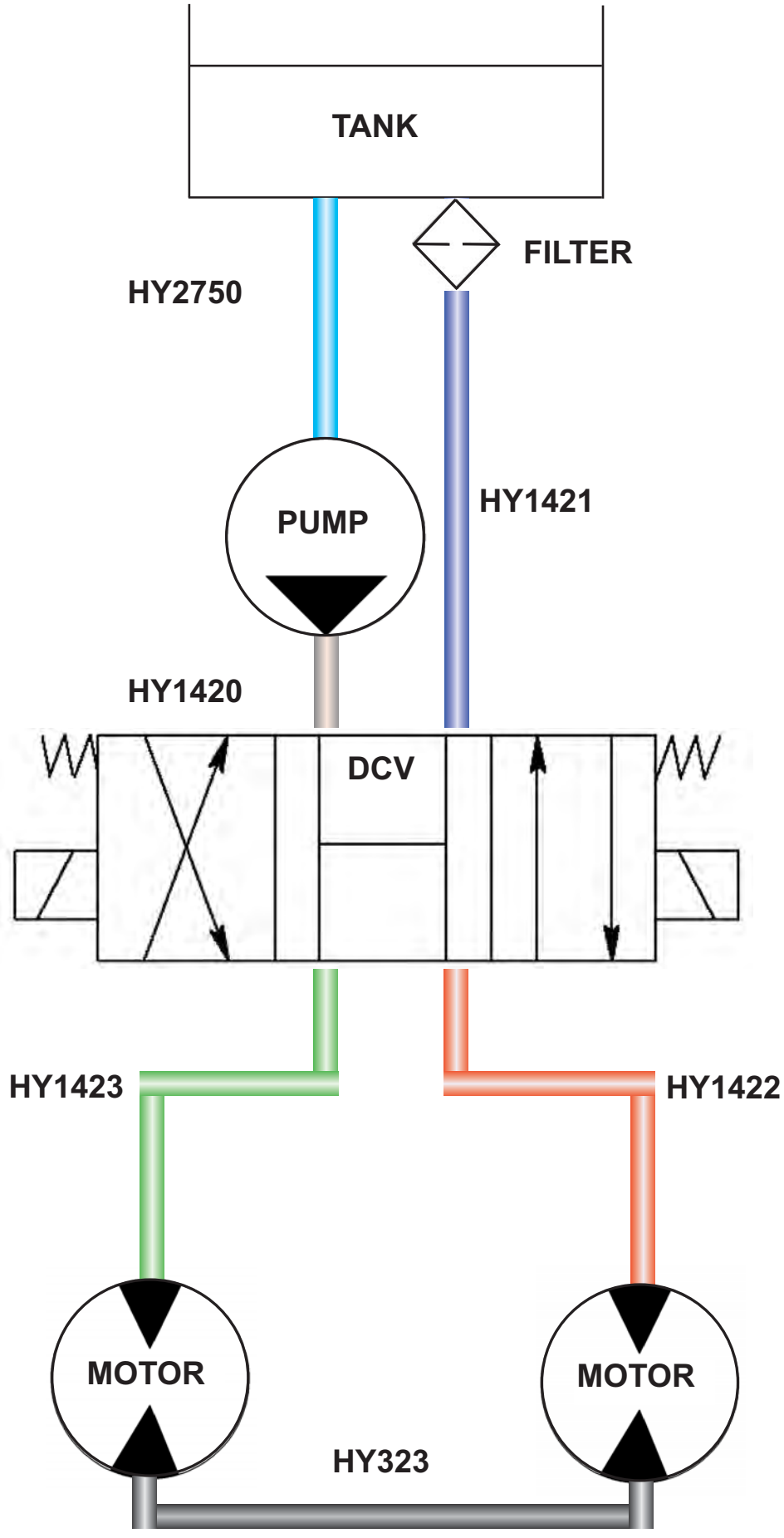
18393	18438	P0000156

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






KEY TO WIRING
B BLACK
BL BLUE
BR BROWN
O ORANGE
W WHITE
P PURPLE
Y YELLOW
G GREEN
R RED
BL/G BLUE WITH GREEN TRACER
BL/O BLUE WITH ORANGE TRACER
B/W BLACK WITH WHITE TRACER
P/W PURPLE WITH WHITE TRACER
BL/R BLUE WITH RED TRACER
B/G BLACK WITH GREEN TRACER
B/Y BLACK WITH YELLOW TRACER
MAIN LOOM 1401
ENGINE EARTHING POINT
NO STRESS CONTROL
NO STRESS BYPASS
FWD SOLENOID
REVERSE SOLENOID
ENGINE SPD SIGNAL (INDUCTIVE)
Part No. 17398
Part No. 1407
SPLIT TO FUNNEL LOOM
FWD RELAY
SAFETY RELAY
FWD
STOP
REV
SPLIT TO SAFETY SWITCH
Part No. 1406
SAFETY SWITCH
COMPONENT LIST:
MAIN LOOM 1401/1 , HIGH FUNNEL LOOM 1407/1, SAFETY BAR LOOM 1406/1,
17398/1 SPEED SWITCH LOOM
CIRCUIT DIAGRAM FOR: 125 PETROL VERSION
DOCUMENT No.
125 - CD
ISSUE
3


TANK
FILTER
HY2750
HY1421
PUMP
HY1420
DCV
HY1423
HY1422
MOTOR
MOTOR
HY323

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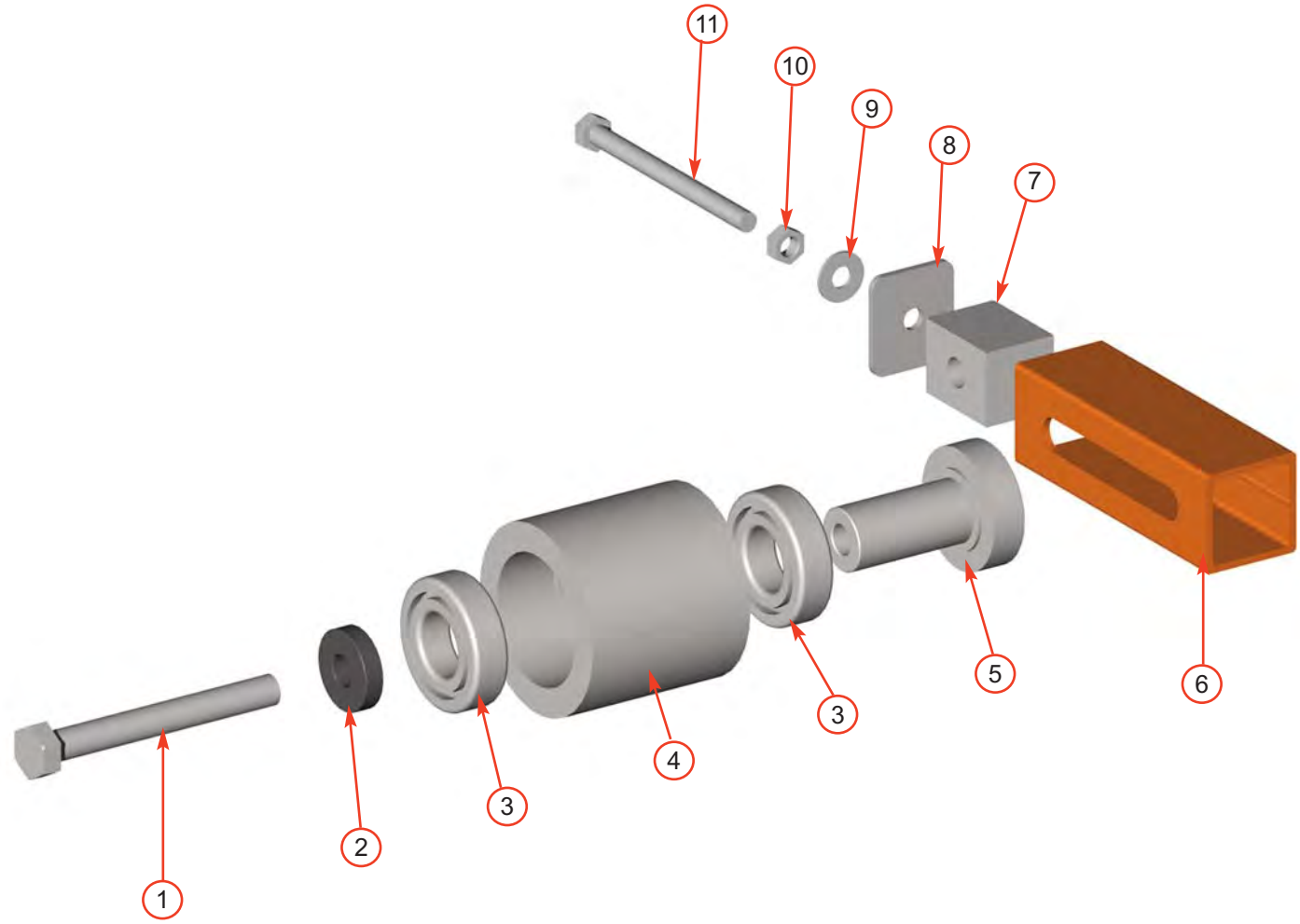
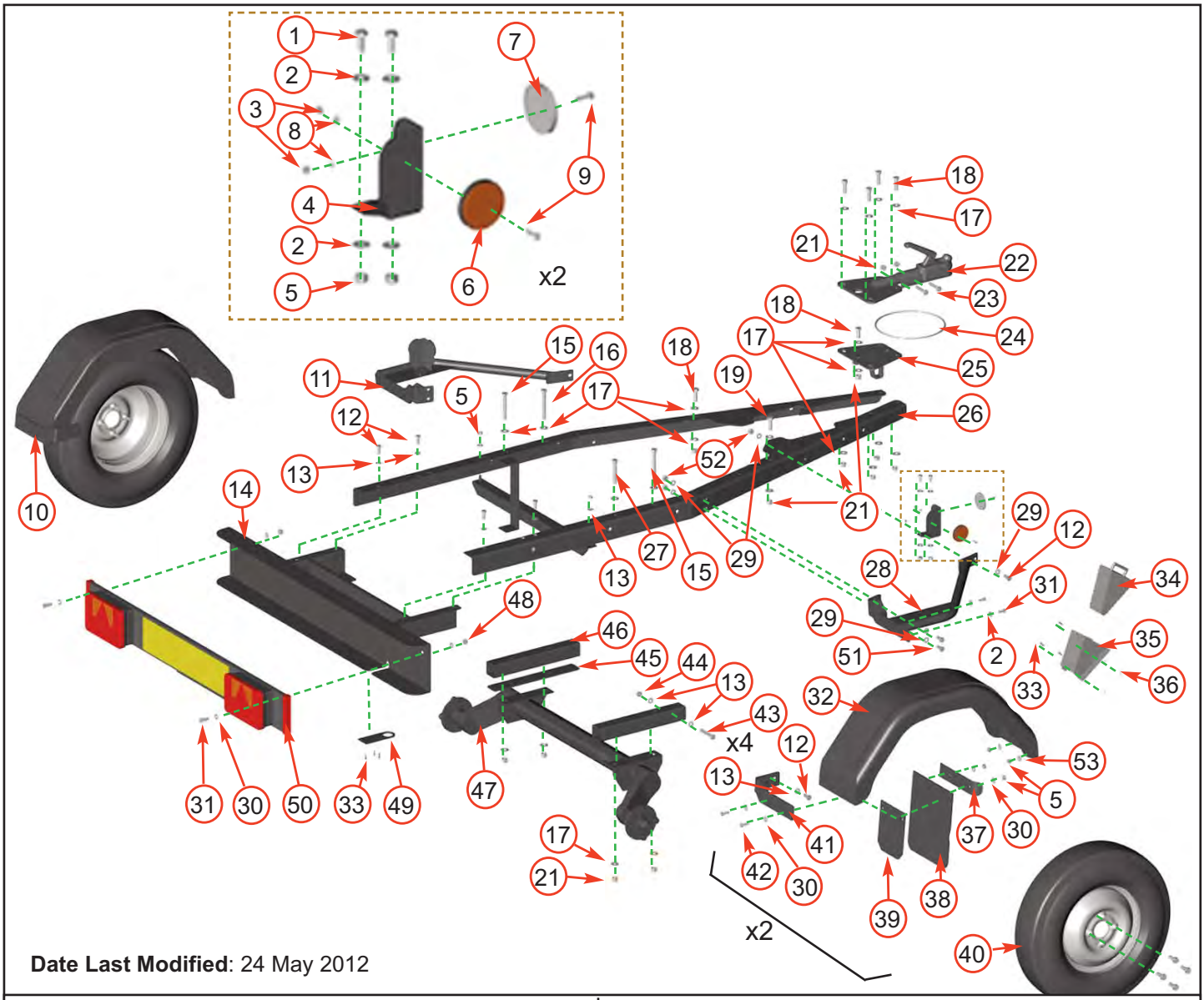
PARTS LISTS

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.



Item	Part No	Part Name	Q'ty
1	0313	M12/100 Bolt	1
2	0415	Heavy Washer	1
3	0491	Bearing 6205	2
4	0411M	Pulley	1
5	0472M	Pulley Boss	1
6	*N/A to purchase*	Slider	1
7	0469MS	Slider Block	1
8	1342PS	End Plate	1
9	*made in production*	Washer	1
10	0476	Plain M8 Nut	1
11	2988	M8/90 Bolt	1

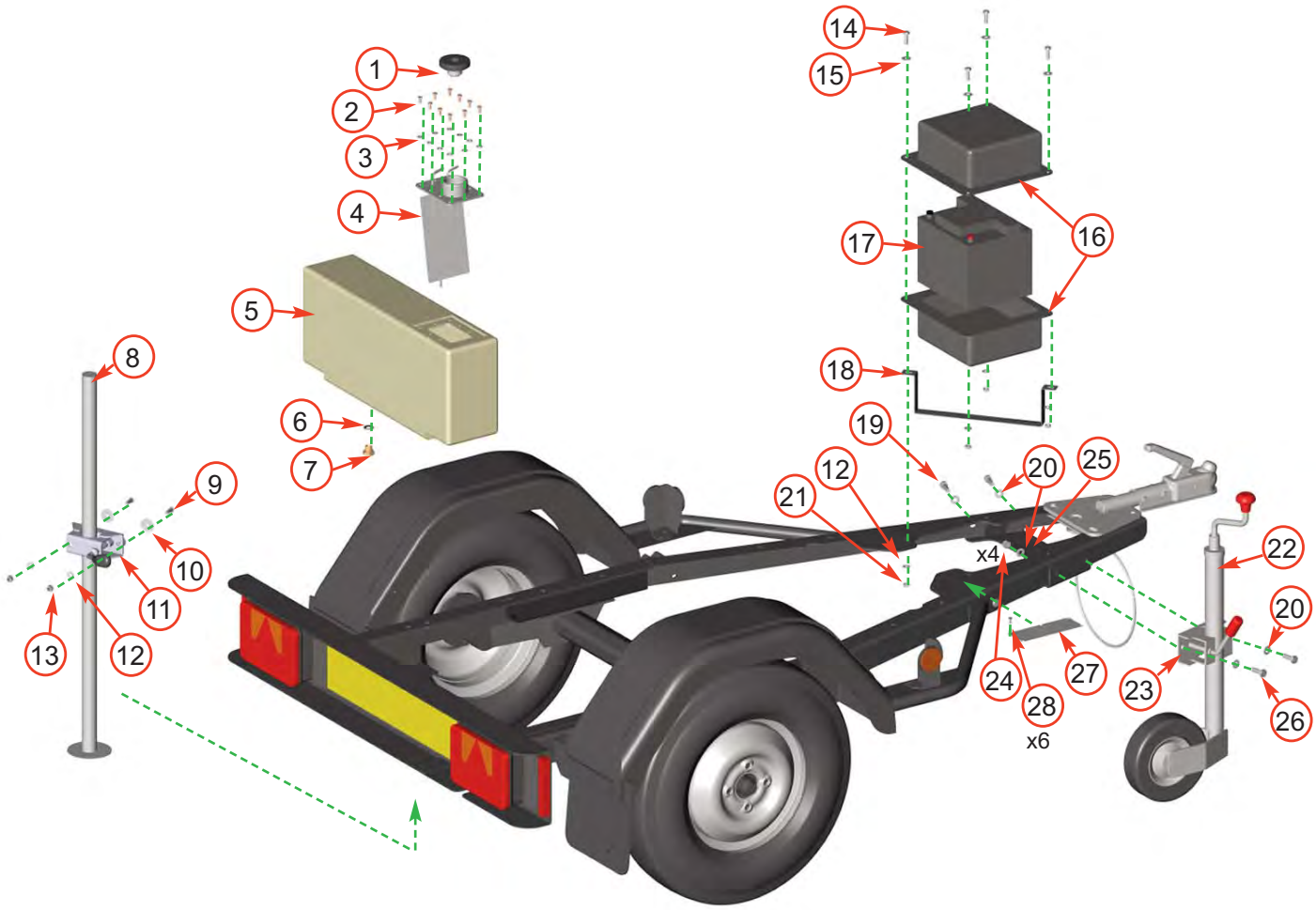
Date Last Modified: 17th Aug 05



Date Last Modified: 24 May 2012

Item	Part No	Part Name	Q'ty
1	0346	M8/20 Bolt	4
2	0711	M8 A Washer	12
3	0236	M5 P Nyloc Nut	4
4	18919	Reflector Support Bracket	2
5	0481	M8 P Nyloc Nut	12
6	18923	Reflector Amber	2
7	18922	Reflector Clear	2
8	0857	M5 A Washer	4
9	0856	M5/20 Pan Pozi	4
10	19746	Rear Mudguard Bracket N/S	1
11	19743	Anti Trap Bar N/S	1
12	0360	M10/25 Bolt	10
13	0839	M10 C Washer	16
14	18959FB	Trailer Board	1
15	0332	M12/90 Bolt	2
16	0313	M12/100 Bolt	1
17	0704	M12 C Washer	22
18	0431	M12/40 Bolt	6
19	18963FB	Beam N/S	1
20	0429	M12/35 Bolt	1
21	0644	M12 P Nyloc Nut	13
22	18090	50mm Coupling Head	1
23	18725	M12/60 Bolt	2
24	0018	Breakaway Cable	1
25	18626FS	Brace Plate	1
26	18964FB	Beam O/S	1
27	0331	M12/80 Bolt	1

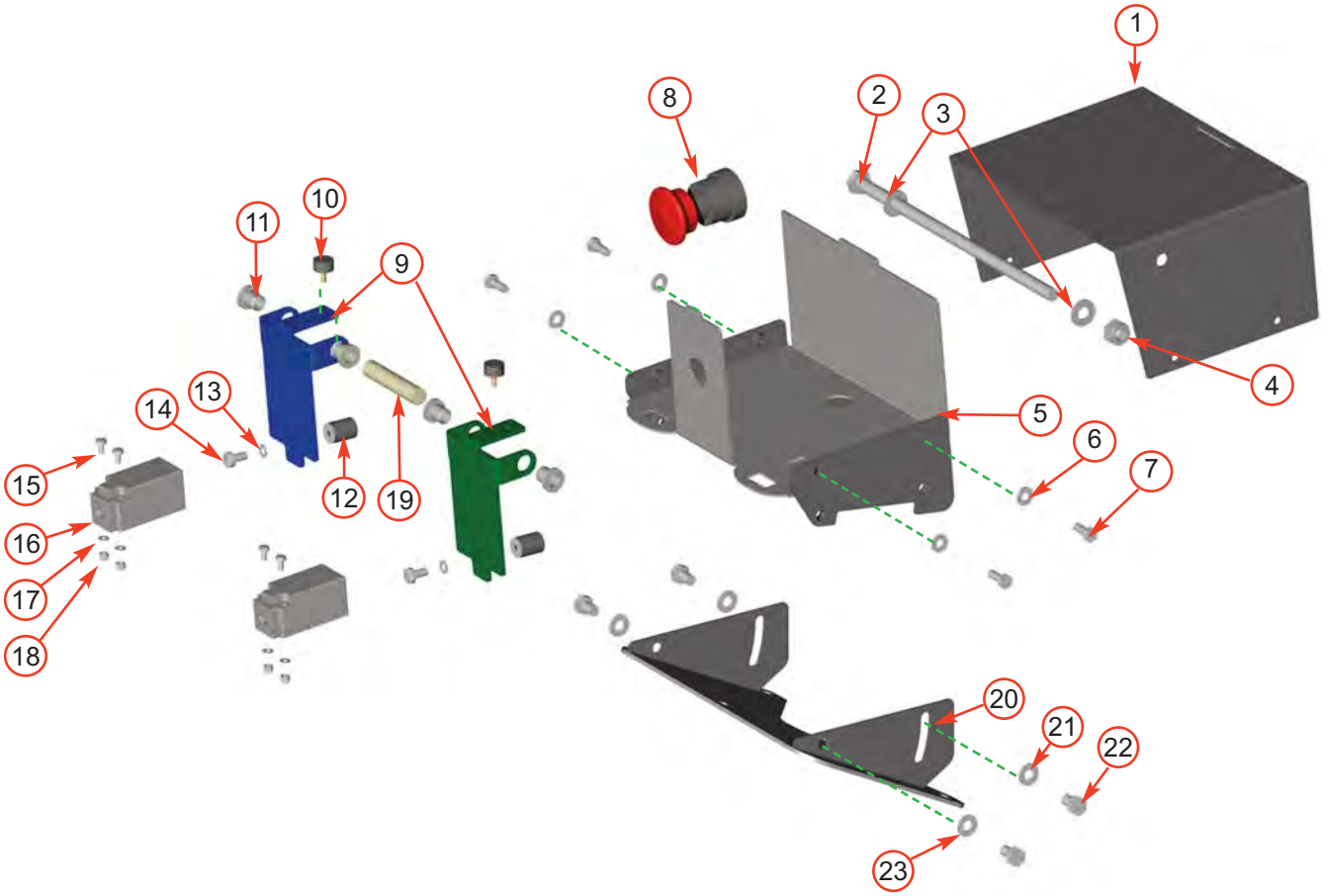
Item	Part No	Part Name	Q'ty
28	19744	Anti Trap Bar O/S	1
29	0701	M10 A Washer	8
30	0712	M8 C Washer	10
31	0350	M8/25 Bolt	6
32	19664	Mudguard	2
33	0067	Pop Rivet	7
34	1390	Wheel Choc	2
35	1391F	Choc Holster	2
36	0708	M5 C Washer	8
37	19681	Rain Flap Clamp	2
38	19691	Rain Flap	2
39	19689	Rain Flap Support	2
40	19663	Wheel (inc spare)	3
41	19747	Rear Mudguard Bracket O/S	1
42	18113	M8/35 Bolt	4
43	0371	M10/70 Bolt	4
44	0052	M10 T Nyloc Nut	4
45	17345B	Spacer Plate	1
46	2899FB	Spacer Tube	2
47	17505	Axle	1
48	0481	M8 T Nyloc Nut	2
49	18962PB	Prop Support	1
50	19792	Lightboard	1
51	0382	M10/30 Bolt	2
52	4345	M10 P Nyloc Nut	6
53	0714	M8 Mudguard Washer	4



Date Last Modified: 31 Oct 12

Item	Part No	Part Name	Q'ty
1	1374	Fuel Tank Cap	1
2	1658	M6/12 Bolt	11
3	0709	M6 C Washer	11
4	2813FS	Tank Top	1
5	1872	Fuel Tank	1
6	0396	3/8" Dowty Washer	1
7	0211	3/8" Drain Plug	1
8	1247	Prop Stand	1
9	0347	M8/20 Button Head	2
10	0714	M8 Penny Washer	2
11	0017	Prop Stand Clamp	1
12	0711	M8 A Washer	6
13	0479	M8 P Nyloc Nut	2
14	0350	M8/25 Bolt	4

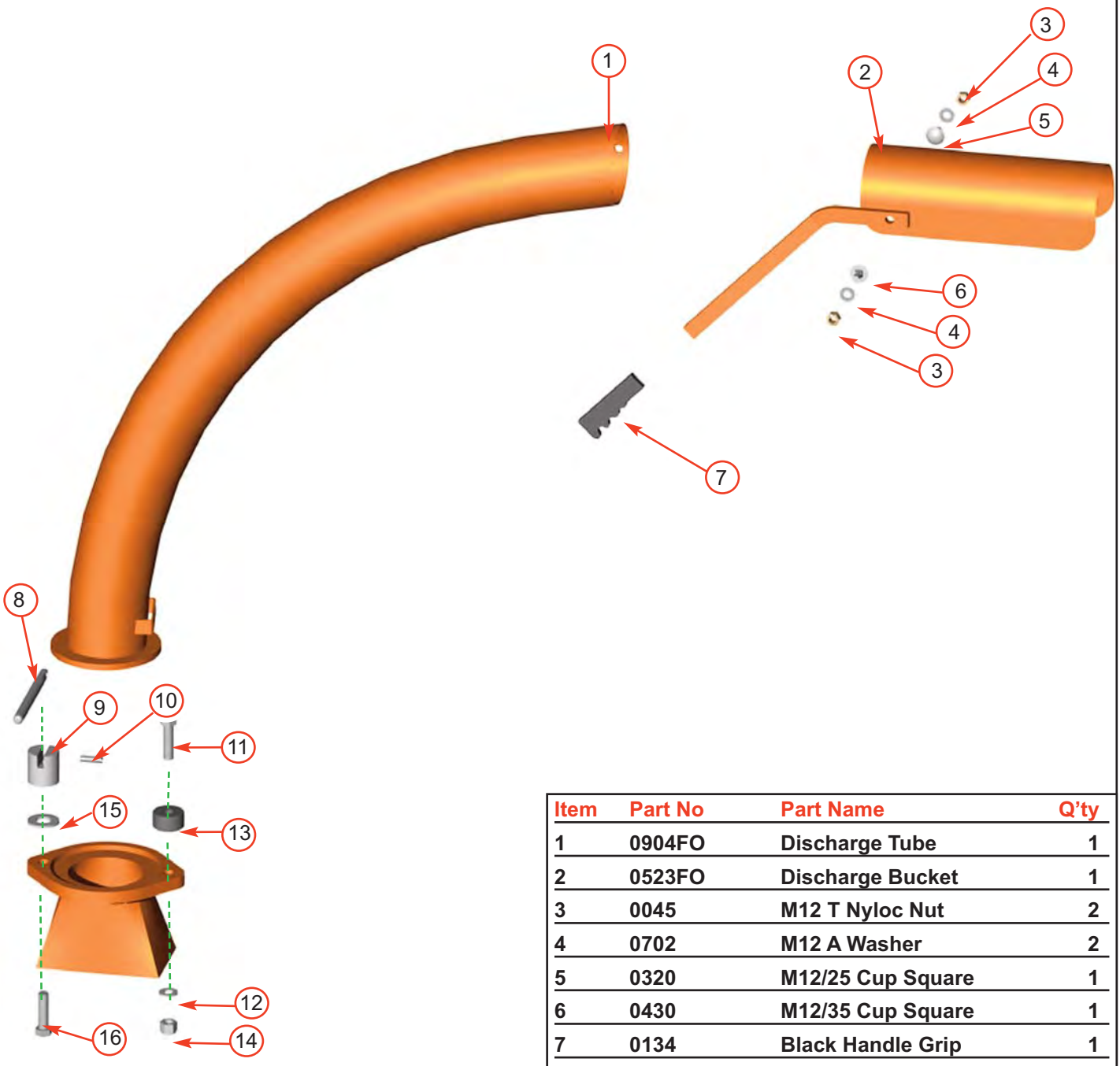
Item	Part No	Part Name	Q'ty
15	0712	M8 C Washer	4
16	0764	Battery Box 1/2 Sect.	2
17	0368	Battery	1
18	1808F	Tank Strap	1
19	0382	M10/30 Bolt	2
20	0701	M10 A Washer	8
21	0481	M8 T Nyloc Nut	4
22	P*75	Jockey Wheel Assy	1
23	17515	Jockey Clamp Assy	1
24	4345	M10 P Nyloc Nut	4
25	17520FB	Brace Bracket	1
26	0382	M10/30 Bolt	2
27	19600	ID Plate	1
28	0067	Pop Rivet 6 4.8 x 12	6



Date Last Modified: 21st July 04

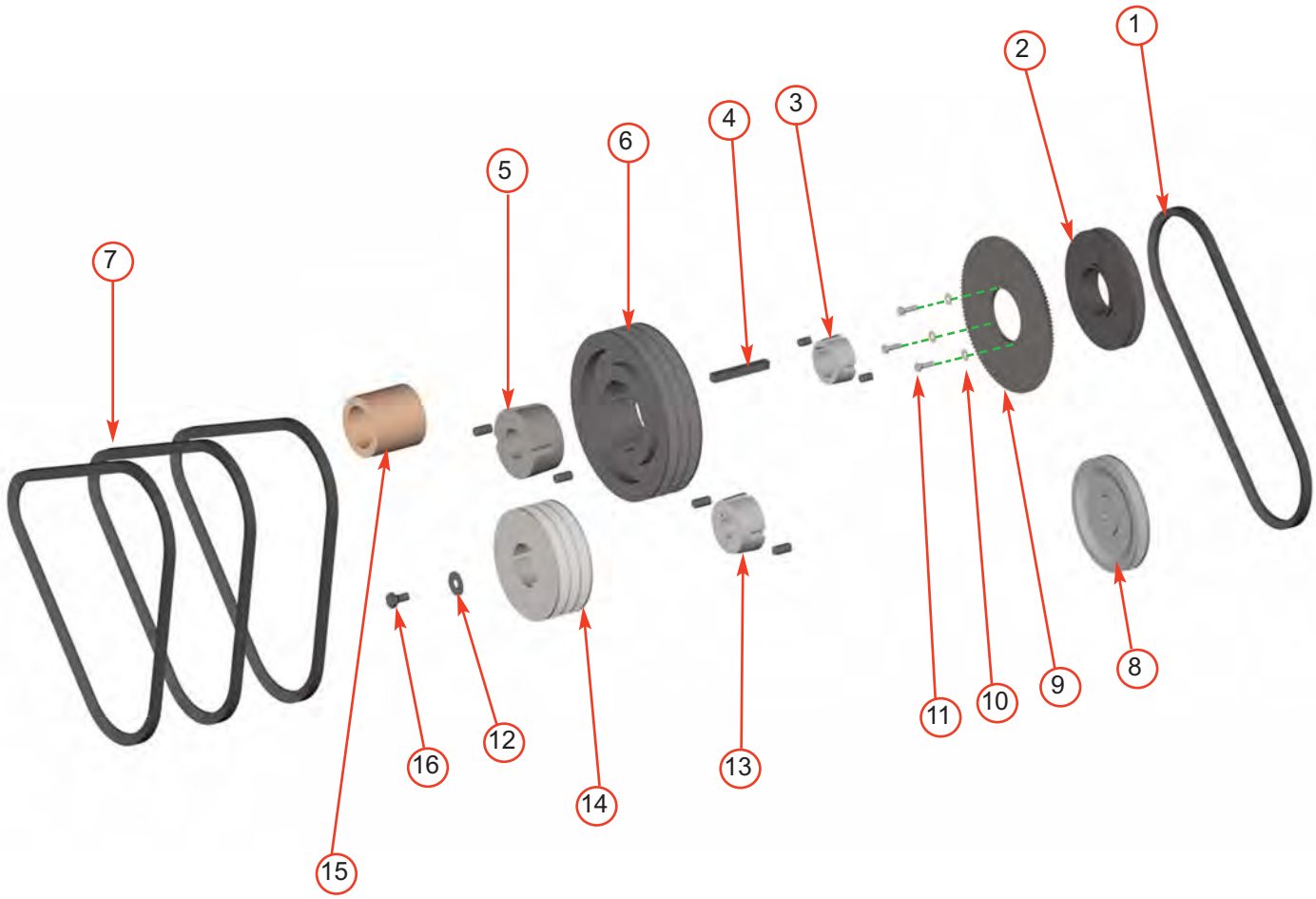
Item	Part No	Part Name	Q'ty
1	2794FB	Control Box Cover	1
2	2803	M10/240 Bolt	1
3	0839	M10 C Washer	2
4	4345	M10 P Nyloc Nut	1
5	2795FB	Control Box Base	1
6	0709	M6 C Washer	4
7	1658	M6/12 Bolt	4
8	2853	Stop Switch	1
9	2796FS	Finger Plate	2
10	2834	AV Mount	2
11	2804	Bush M10 Top Hat	4
12	2807	AV Mount 20 x 16	2

Item	Part No	Part Name	Q'ty
13	0857	M5 A Washer	2
14	18103	M5/8 Pan Pozi	2
15	18168	M4/35 Pan Pozi	4
16	1348	Limit Switch	2
17	18100	M4 Washer	6
18	18235	M4 P Nyloc Nut	6
19	made in production	65mm Spacer	1
20	2793FB	Bracket Mounting Control Box	1
21	0712	M8 C Washer	2
22	0344	M8/16 Bolt	4
23	0711	M8 A Washer	2



Item	Part No	Part Name	Q'ty
1	0904FO	Discharge Tube	1
2	0523FO	Discharge Bucket	1
3	0045	M12 T Nyloc Nut	2
4	0702	M12 A Washer	2
5	0320	M12/25 Cup Square	1
6	0430	M12/35 Cup Square	1
7	0134	Black Handle Grip	1
8	1649MS	Discharge Clamp Handle	1
9	4109M	M16 Clamp Nut	1
10	4131	Roll Pin	1
11	0434	M16/70 Hex Bolt	1
12	1354	M16 C Washer	1
13	2837M	Clamp Nut Small	1
14	1511	M16 P Nyloc Nut	1
15	0832	M24 Washer	1
16	0333	M16/60 Hex Bolt	1

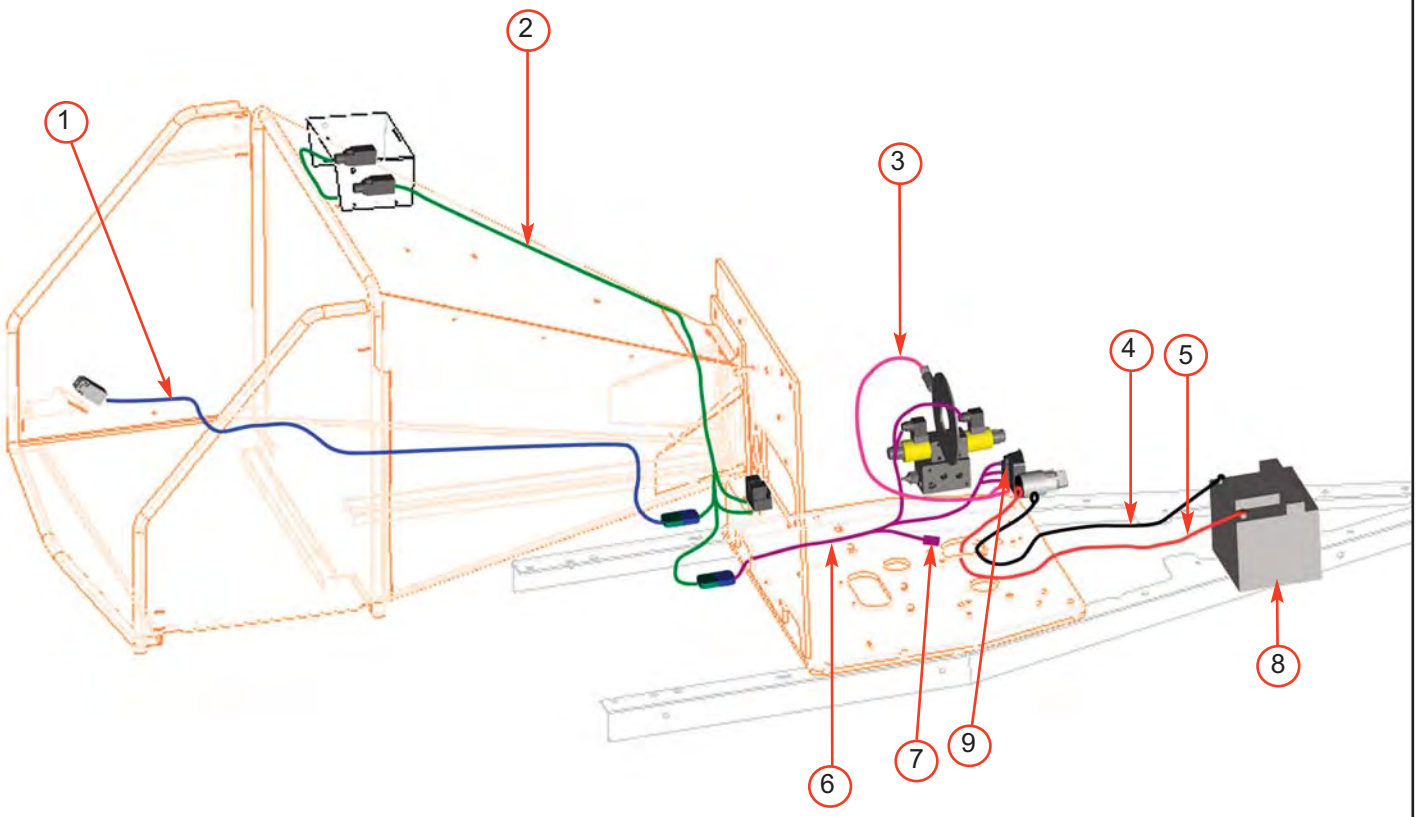
Date Last Modified: 11th Dec 07



Date Last Modified: 10th Sept 09

Item	Part No	Part Name	Q'ty
1	0994	Belt 950	1
2	0949M	Pulley 140 X 1 SPA	1
3	0412	Bush 1610 38 mm	1
4	18961M	Key	1
5	0410	Bush 2517 38 mm	1
6	1351	Pulley 200 X 3 SPA	1
7	0310	Belt 1060	3
8	0983MS	Pulley 139 X 1 SPA	1

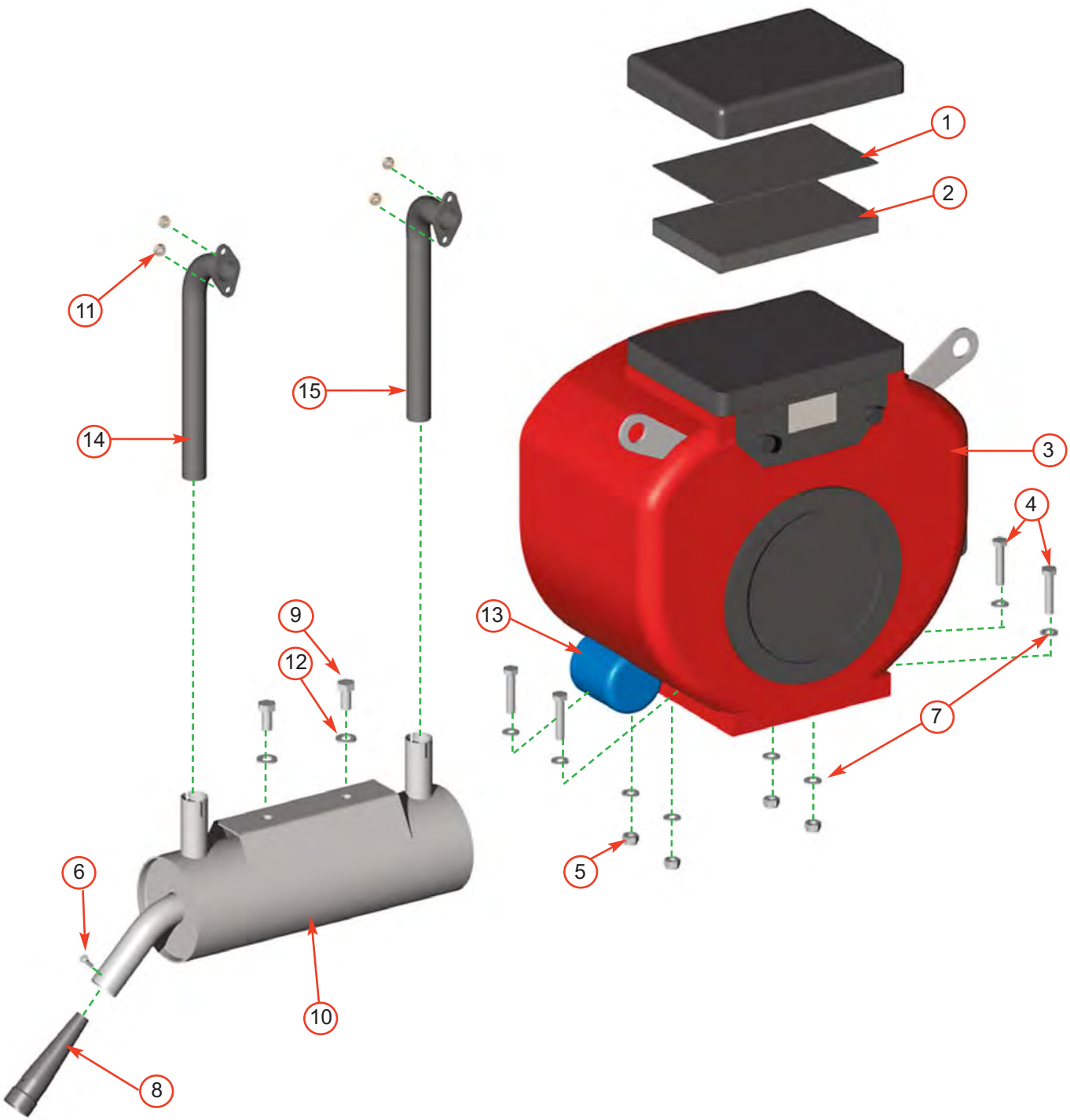
Item	Part No	Part Name	Q'ty
9	1028S	Trigger	1
10	0709	M6 C Washer	3
11	1236	M6/20 Bolt	3
12	4344	M10/30 Washer	1
13	0408	Bush 2012 1"	1
14	0444	Pulley 132 X 3 SPA	1
15	0411MS	Belt Tension Pulley	1
16	17283	Long Socket Head Screw	1



Date Last Modified: 14th July 11

Item	Part No	Part Name	Q'ty
1	1406	Limit Switch Loom	1
2	1407	Control Box Loom	1
3	1638	No Stress Sensor (part of loom no. 1477)	1
4	1484	-VE Battery Cable (part of loom no. 1477)	1
5	1483	+VEBattery Cable (part of loom no. 1477)	1

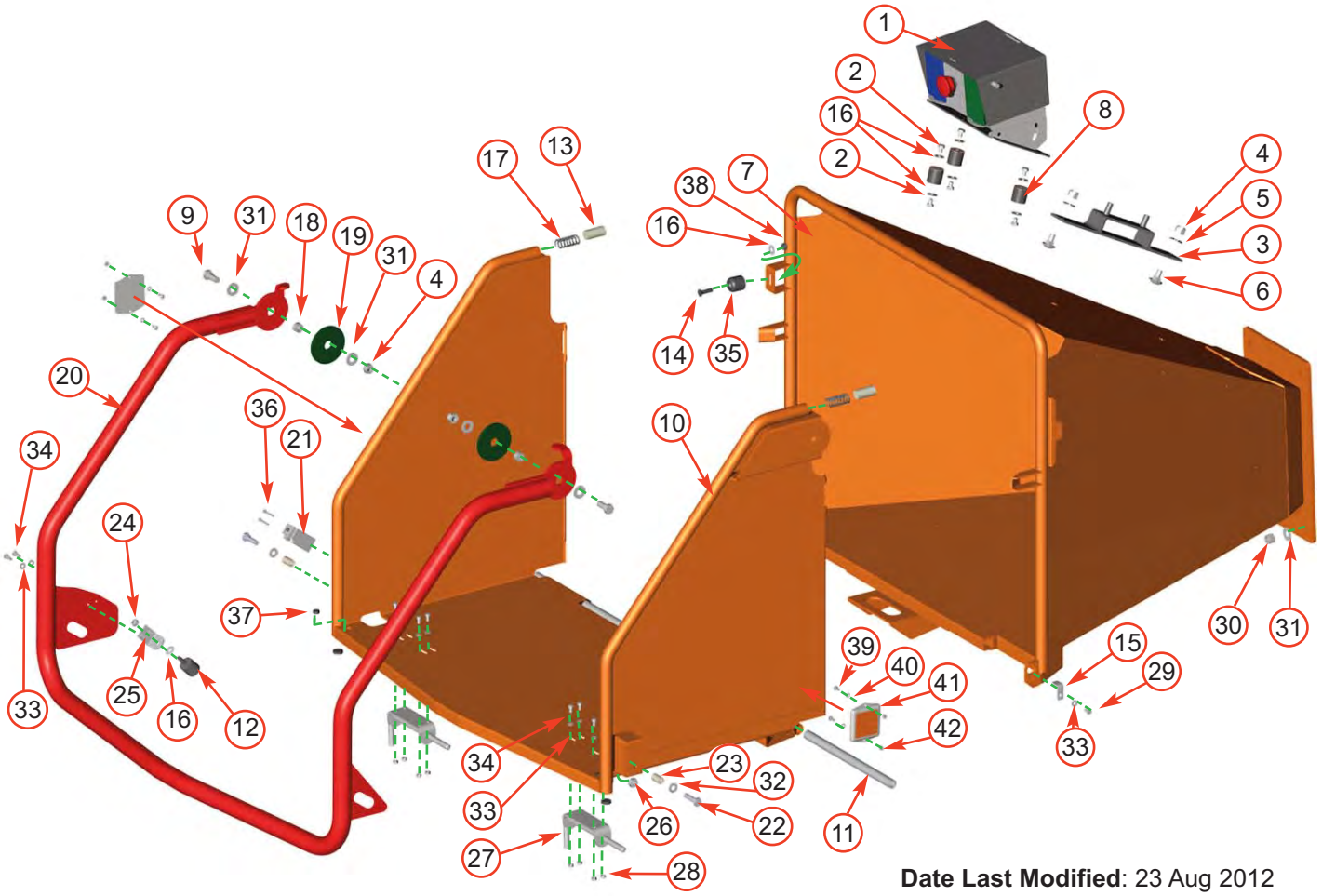
Item	Part No	Part Name	Q'ty
6	17398	No Stress Loom	1
7	1401	Honda Adapter	1
8	0368	Battery	1
9	4350	Speed Switch	1



Date Last Modified: 17th May 2012

Item	Part No	Part Name	Q'ty
1	1424	Foam Filter Element	1
2	1425	Paper Filter Element	1
3	19296	Engine	1
4	1580	M10/60 Bolt	2
5	4345	M10 P Nyloc	4
6	1353	4.8 x 12mm Pop Rivet	1
7	0839	M10 C Washer	8
8	19370	Spark Arrester	1

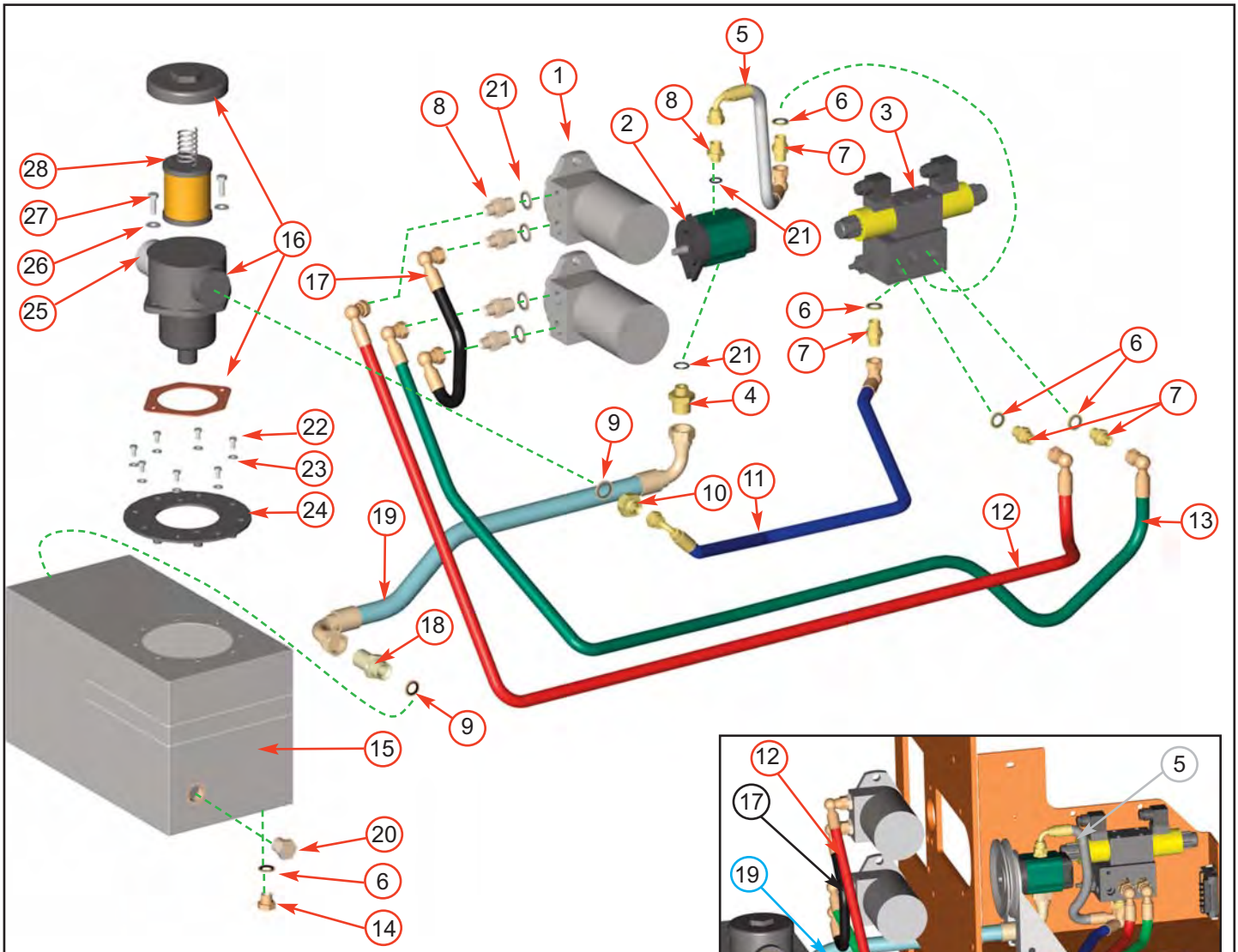
Item	Part No	Part Name	Q'ty
9	0277	M12/25 Bolt	2
10	19374F	Muffler	1
11	supp'd with engine	M8 Nut	4
12	0702	M12 A Washer	2
13	1426	Oil Filter	1
14	19364F	Exhaust Pipe	1
15	19365F	Exhaust Pipe	1

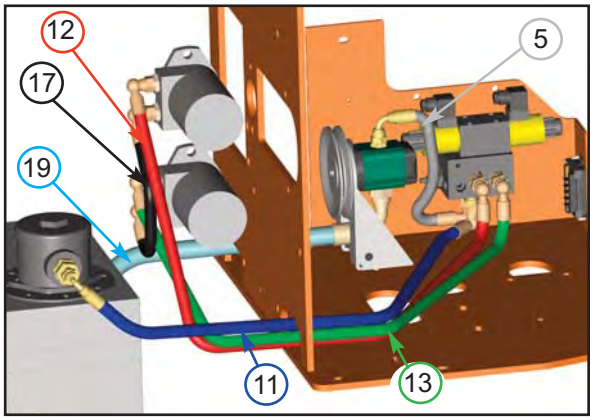


Date Last Modified: 23 Aug 2012

Item	Part No	Part Name	Q'ty
1	2809F	Control Box (detail on pg 34)	1
2	1721	M8/10 Bolt	6
3	0289FS	Spare Wheel Bracket	1
4	0045	M12 T Nyloc	4
5	19169	M14 A Washer	2
6	0320	M12/25 Cup Square	2
7	4238FO	Funnel	1
8	1644	M8 Anti-Vibration Mount	3
9	0429	M12/35 Bolt	2
10	2919FO	Feed Tray	1
11	2922FS	Hinge Pin	2
12	0178	Rubber End Stop	1
13	1600	Nylon Pistons	2
14	18115	M8/50 Csk Soc.	1
15	4018S	Pin Bracket	2
16	0712	M8 C Washer	8
17	1603	Die Springs	2
18	1605M	Stainless Spacer	2
19	1599FR	Bearing Washer	2
20	1570	Safety Bar	1
21	1348	Limit Switch	1

Item	Part No	Part Name	Q'ty
22	1520	M10/45 Bolt	2
23	1591	Nylon Spacer	2
24	0479	M8 P Nyloc Nut	1
25	2727FS	Bracket Actuator	1
26	4345	M10 P Nyloc Nut	2
27	2986	1/2" Spring Bolt	2
28	0391	M6 T Nyloc Nut	8
29	1236	M6/20 Bolt	2
30	0046	M12 Plain Nut	4
31	0704	M12 C Washer	8
32	4344	M10 Repair Washer	2
33	0709	M6 C Washer	12
34	0437	M6/16 Bolt	10
35	4206	Nylon Bush	1
36	1006	M4/30 Pan Pozi	2
37	2493	Rubber Cap	2
38	0481	M8 T Nyloc Nut	1
39	18104	M5/12 Pan Pozi	4
40	0857	M5 A Washer	4
41	18924	Square Reflector	2
42	18102	M5 T Nyloc Nut	2





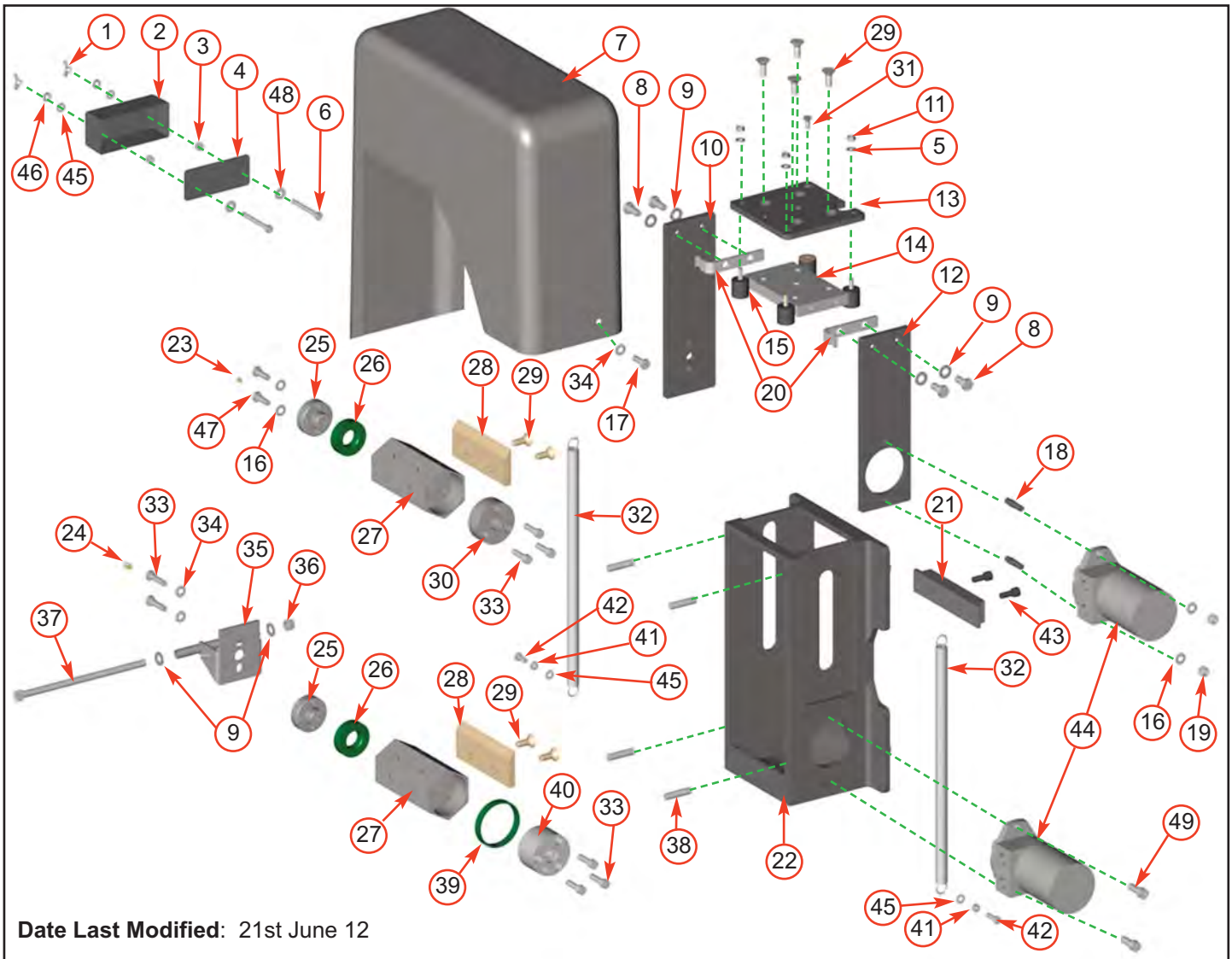
Date Last Modified: 16th May 07

Item	Part No	Part Name	Q'ty
1	2982B	Hydraulic Motor	2
2	0980	Hydraulic Pump	1
3	4252	Directional Control Valve (DCV)	1
4	1583	Adaptor mm 1/2" to 3/4" BSP	1
5	1420	3/8" Hose	1
6	0396	Washer Dowty 3/8"	5
7	0161	Adaptor mm 3/8" to 3/8" BSP	4
8	0026	Adaptor 1/2" - 3/8" BSP	5
9	0152	Washer Dowty 3/4"	3
10	0225	Adaptor mm 3/4" to 3/8" BSP	1
11	1421	3/8" Hose, Hyd Filter to DCV	1
12	4296	3/8" Hose, Top Motor to DCV	1
13	4295	3/8" Hose, Bottom Motor to DCV	1
14	0211	3/8" BSP Plug	1

Item	Part No	Part Name	Q'ty
15	1703	Hydraulic Tank	1
16	1413	Tank Top Filter	1
17	0323	3/8" Hose, Top Motor to Btm Motor	1
18	0766	3/4" - 3/4" BSP Adapter	1
19	2750	3/4" Hose, Hyd Tank to Pump	1
20	4219	3/4" Tapered Blanking Plug	1
21	0398	Washer Dowty 1/2"	6
22	1658	M6/12 Bolt	8
23	0709	M6 C Washer	8
24	1702FS	Tank Top Plate	1
25	1067	Breather Filter	1
26	0712	M8 C Washer	2
27	0350	M8/25 Bolt	2
28	0100	Filter	1

41 ROLLER BOX

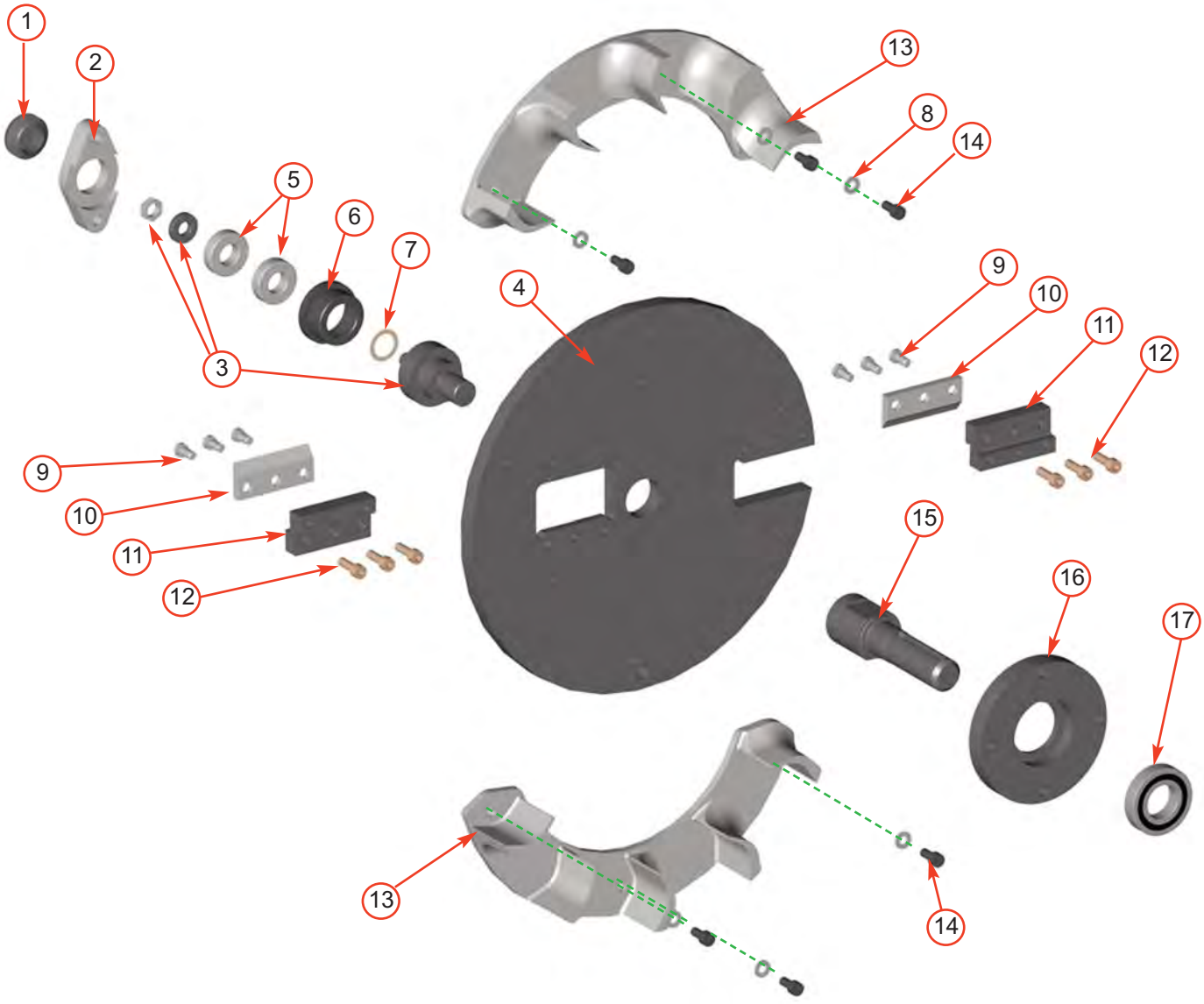
TIMBERWOLF
TW 125PH



Date Last Modified: 21st June 12

Item	Part No	Part Name	Q'ty
1	1673	M8 Wing Nut	2
2	1595	Relay Cover	1
3	0479	M8 P Nut	2
4	1672FS	Relay Back Plate	1
5	0711	M8 A Washer	4
6	0354	M8/60 Set Screw	2
7	0672	Cover	1
8	0429	M12/35 Bolt	4
9	0207	M12 A Washer	6
10	18025M	Non Drive Side Plate	1
11	0481	M8 T Nyloc Nut	4
12	18024M	Drive Side Plate	1
13	18027M	Plate Top Damper Carrier	1
14	1962MS	Block Top Damped	1
15	1768	AV Mount 30x30	4
16	0701	M10 A Washer	4
17	0360	M10/25 Bolt	1
18	1162S	Motor Studs	2
19	4345	M10 P Nyloc Nut	2
20	18028FS	Bracket Spring Hanger	2
21	0103MH	Anvil	1
22	228MS	Roller Box	1
23	0985	Straight Grease Nipple	1
24	0986	45° Grease Nipple	1
25	0055	Bearing Boss	2

Item	Part No	Part Name	Q'ty
26	0788	Plastic Bush	2
27	1362M	Roller Body	2
28	0325M	Roller Blade	12
29	0428	M12/30 Csk Soc.	28
30	1361	Drive Spline	2
31	P0000146	M8/18 Csk Screw	1
32	18070	Roller Box Spring	2
33	4068	M10/40 Caphead	8
34	0839	M10 C Washer	3
35	0534FS	Cover Bracket	1
36	0045	M12 T Nyloc Nut	1
37	0319	M12/220 Bolt	1
38	0356	Funnel Studs M12/50	4
39	2757	Bush Bearing Spline	1
40	4100M	Spline 6B Retro Bottom	1
41	0476	M8 Plain Nut	2
42	0350	M8/25 Bolt	2
43	0305	M10/25 Caphead	2
44	2982B	Hydraulic Motor	2
45	0711	M8 A Washer	4
46	1008	M8 Spring Washer	2
47	0382	M10/30 Bolt	2
48	0714	M8 Mudguard Washer	2
49	1985	M12/30 Caphead	2



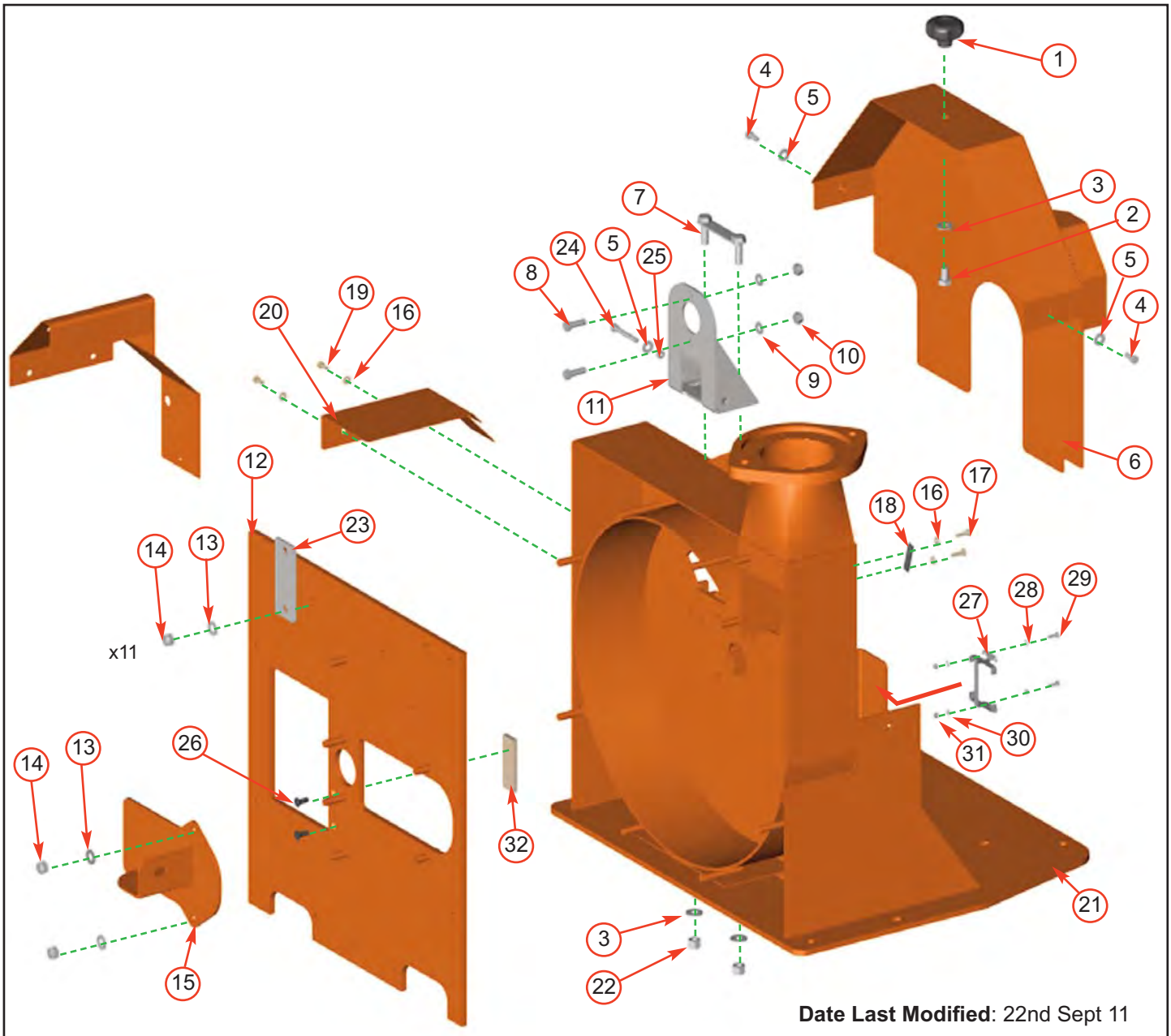
Date Last Modified: 10th Sept 09

Item	Part No	Part Name	Q'ty
1	0959	Plastic Cap	1
2	0884MS	Bearing Housing Front	1
3	18479K	Rotor Nose Shaft Kit	1
4	0880M	Rotor	1
5	0491	Bearing 6205	2
6	0883MCB	Bearing Cup	1
7	0796	20 Thou Shim	As Req'd
8	0701	M10 A Washer	6
9	0900	M10/20 Star Cap Screw	6

Item	Part No	Part Name	Q'ty
10	083MH	Cutter Blade 4"	2
11	18275M	Blade Pocket	2
12	0386	M10/30 Cap Screw	6
13	1571	Fan Section	2
14	0386	M10/30 Caphead	6
15	18912M	Rear Shaft	1
16	4063MCB	Bearing Housing Rear	1
17	0495	Bearing 6208	1

43 ROTOR HOUSING

TIMBERWOLF TW 125PH

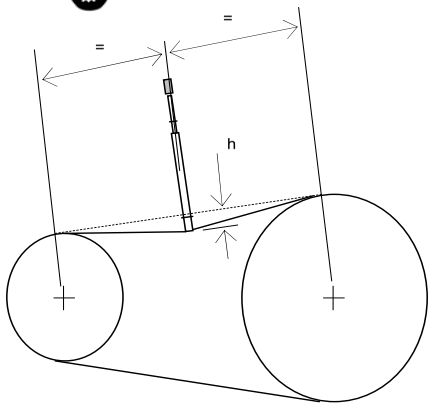


Date Last Modified: 22nd Sept 11

Item	Part No	Part Name	Q'ty
1	0361	M12 Knob	1
2	0318	M12/20 Bolt	1
3	0704	M12 C Washer	2
4	0346	M8/20 Bolt	2
5	0712	M8 C Washer	3
6	19376FO	Belt Guard	1
7	1027FS	Bolt Support Plate	1
8	19454	M10/30 CSK Screw	2
9	0839	M10 C Washer	2
10	0052	M10 T Nyloc Nut	2
11	0886FS	Pump Bracket	1
12	1267FO	Front Plate	1
13	0702	M12 A Washer	13
14	0045	M12 T Nyloc Nut	13
15	1268FO	Access Cover	1
16	0709	M6 C Washer	4

Item	Part No	Part Name	Q'ty
17	0348	M6/20 Pozi Pan	2
18	1416P	Sensor Clamp	1
19	0438	M6/16 Pozi Pan	2
20	1410FO	Inner Guard	1
21	18444FO	Rotor Housing	1
22	0644	M12 P Nyloc Nut	2
23	18023PS	Guard Stand-Off Plate	1
24	0353	M8/50 Bolt	1
25	0476	M8 Plain Nut	1
26	0355	M8/16 C/Sunk Bolt	2
27	17338	Bracket	1
28	0435	M5 C Washer	2
29	0708	M5/16 Pan Pozi	2
30	0857	M5 A Washer	2
31	18102	M5 T Nyloc Nut	2
32	0101MH	Anvil Vertical	1

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	190TFTR 190TVGTR	350DHB(t)	PTO100	PTO150	S426 SHREDDER	S426TFTR 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
	Belt deflection	=	h	4.0	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	3.1 - 3.3	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
PUMP BELT	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	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
	Force reading (Kgf)	New belt				1.9 - 2.0		2.3 - 2.4		2.3 - 2.4			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		2.3 - 2.5		2.7 - 2.9