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INTRODUCTION

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

Before using your new chipper, please take time to read this manual which contains
IMPORTANT HEALTH AND SAFETY INFORMATION
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 both the Timberwolf TW 125PH and the TW 125DH. All information in this manual is based on the latest product information available at the time.

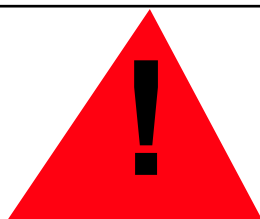
All the information you need to operate the machine safely and effectively is contained within pages 3 to 12. Ensure that all operators are **adequately trained** for operating this machine especially with regard to **safe working practices**.

Entec's policy of constantly improving their products may involve major or minor changes to the chippers or their accessories. Entec Industries 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, in some cases there may be 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

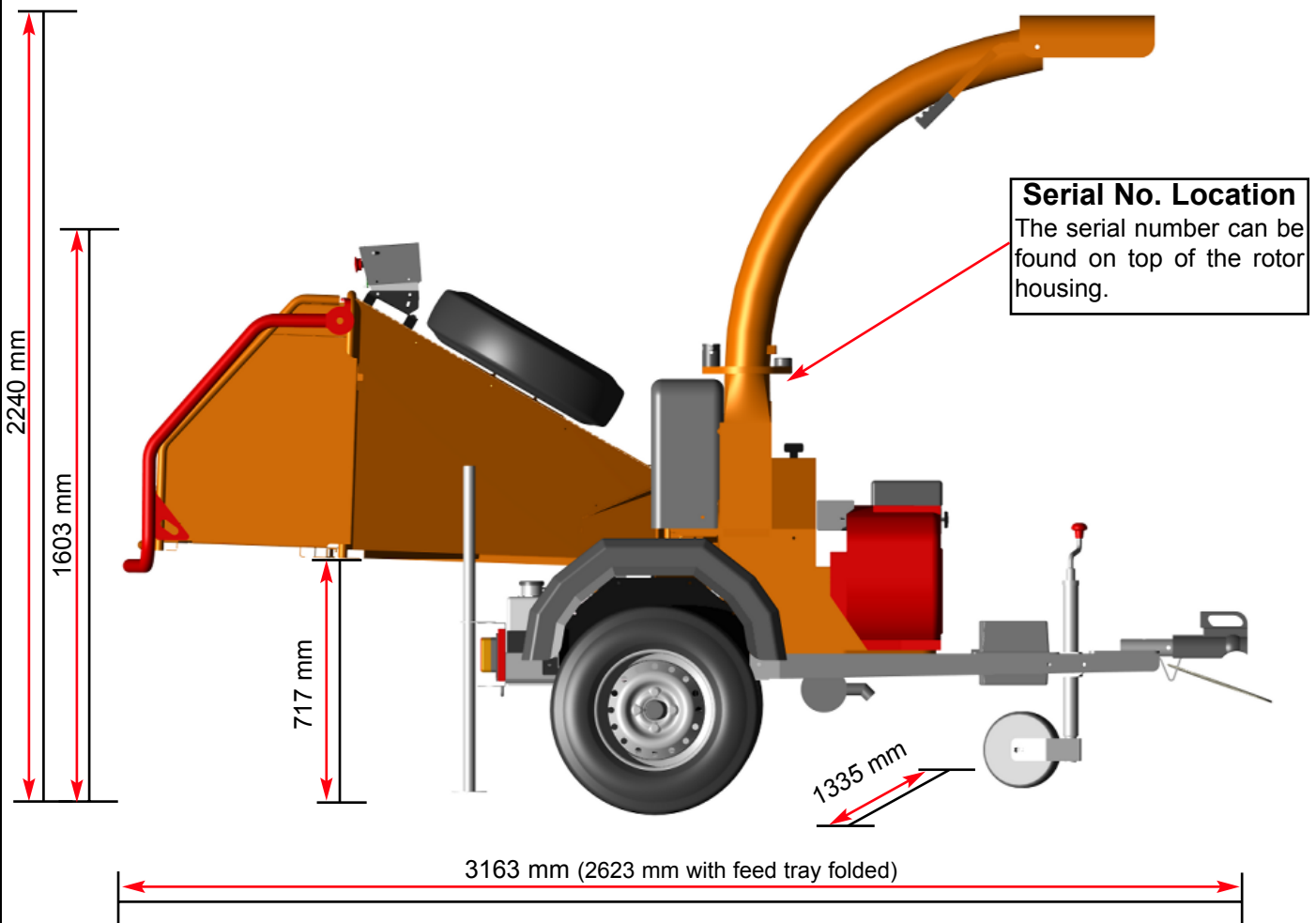
This caution symbol indicates important safety messages in this manual. When you see this symbol be alert to the possibility of injury to yourself or others, and carefully read the message that follows.



PURPOSE OF MACHINE

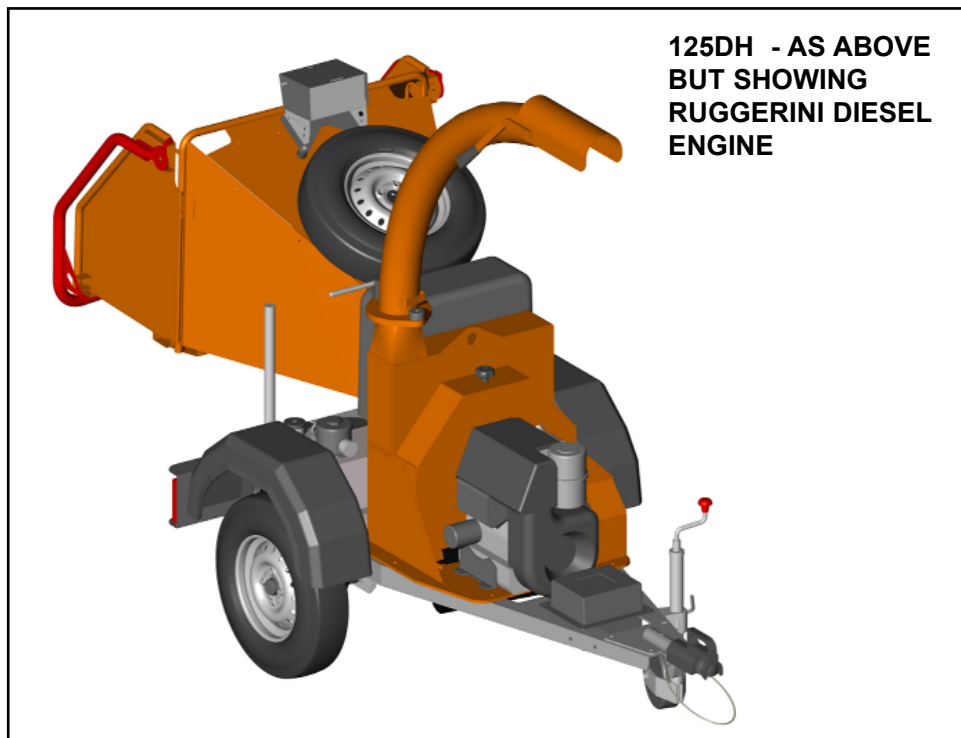
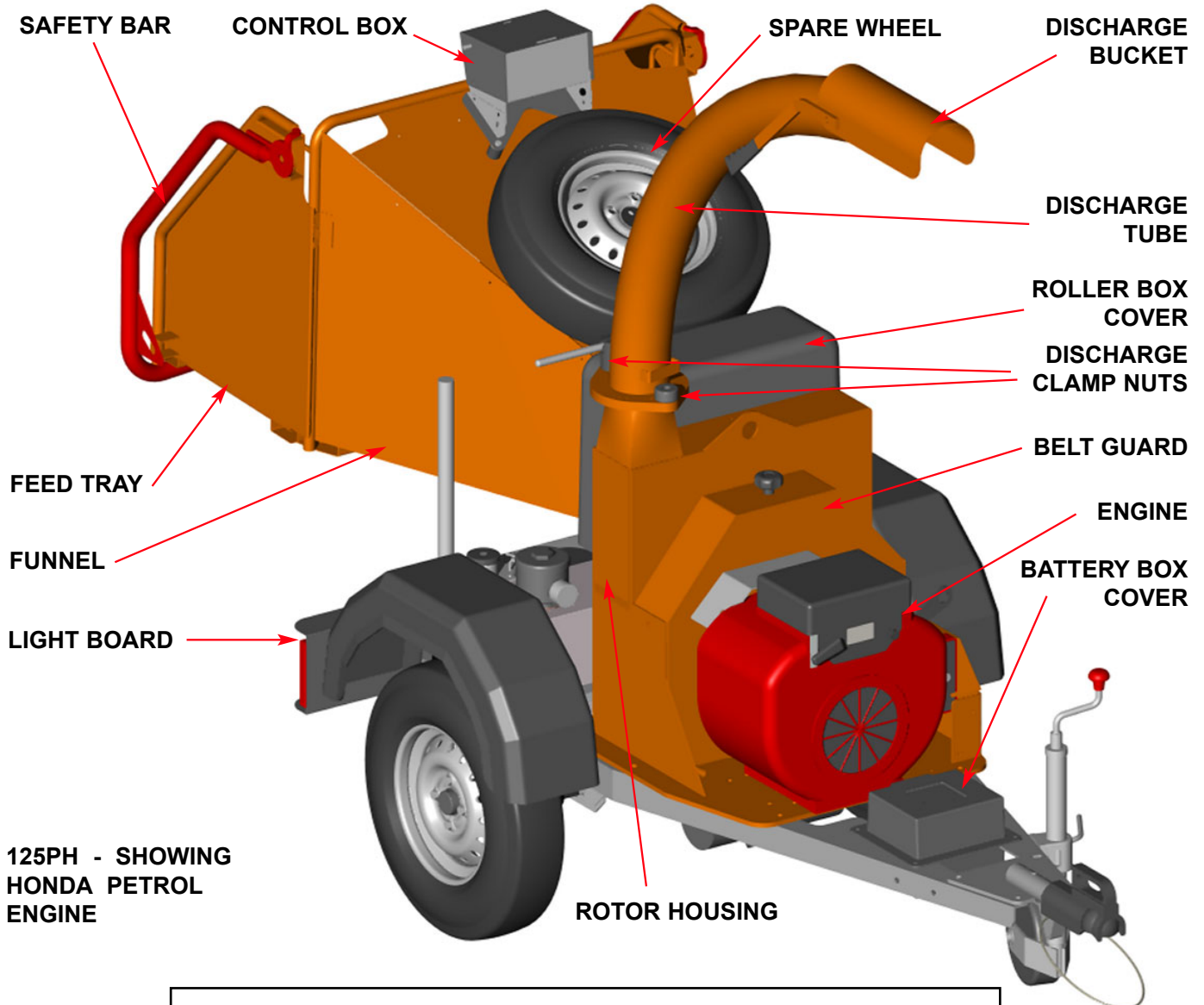
The Timberwolf TW 125PH and the TW 125DH brushwood chippers are designed to chip solid wood material up to 125 mm in diameter. The maximum cross-section hardwood for continuous feed is 5000 mm². They are capable of chipping over 2 tonnes of brushwood per hour.

DIMENSIONS



Timberwolf TW 125DH & TW 125PH Specification

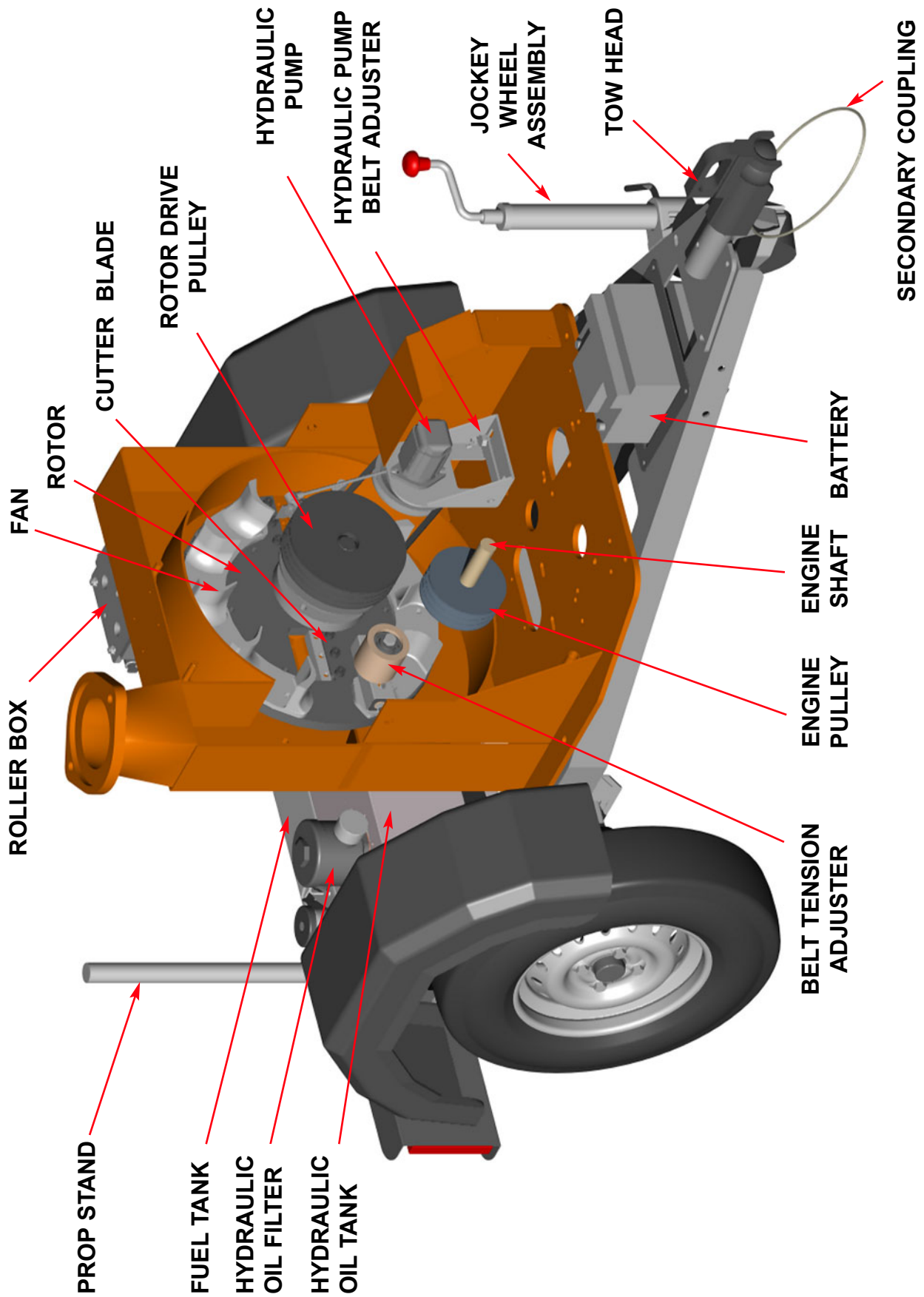
Engine type	125DH:	Ruggerini twin diesel	Roller feed	125DH:	Single hydraulic motor
	125PH:	Honda v-twin petrol		125PH:	Twin hydraulic motor
Maximum power	125DH:	14.2 kW (19 HP)	Max. diameter material:	125 mm (5")	
	125PH:	14.9 kW (20 HP)		Fuel capacity: 18 litres	
Cooling method:	Air cooled		Hydraulic oil capacity: 13 litres		
Overall weight:	570 kg		Material processing capacity: 2 tonnes/hr		
Starting method:	Electric		Fuel type	125DH:	Diesel
				125PH:	Unleaded petrol





PARTS LOCATOR

4





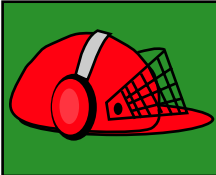
WARNING



The chipper will feed material through on its own. To do this, it relies on sharp blades on 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.



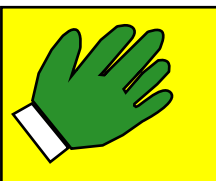
OPERATOR'S PERSONAL PROTECTIVE EQUIPMENT REQUIRED



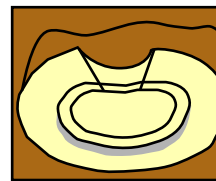
Chainsaw safety helmet fitted with visor and recommended ear defenders to the appropriate specifications.



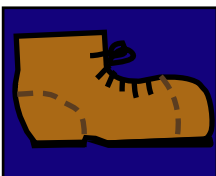
Close fitting heavy-duty non-sag clothing.



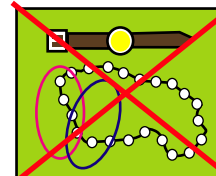
Work gloves with elasticated wrist.



Face mask if appropriate.



Safety boots.



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

BASIC WOODCHIPPING SAFETY

The operator should be aware of the following points:

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



GENERAL SAFETY MATTERS



DO'S AND DONT'S



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

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

ALWAYS check machine is well supported and cannot move.

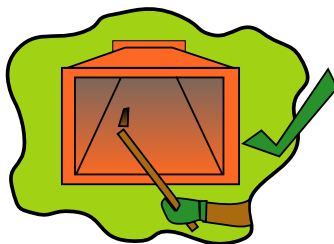
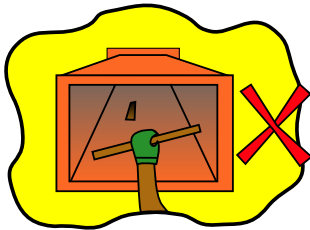
ALWAYS run with the engine set to maximum speed.

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 use chipper in a well ventilated area - exhaust fumes are dangerous.

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

DO NOT use or attempt to start the chipper without the feed funnel, belt guard, guards and discharge unit securely in place.

DO NOT start the chipper running unless properly guarded.

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

DO NOT allow -



BRICKS



STRING



CLOTH



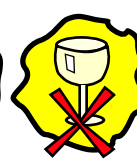
PLASTIC



STONES



METAL



GLASS



RUBBER



ROOTS



BEDDING
PLANTS

- to enter the machine, as damage is likely.

DO NOT smoke when refuelling. Petrol is explosive!



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 whilst machine is running.



NOISE TEST

MACHINE:

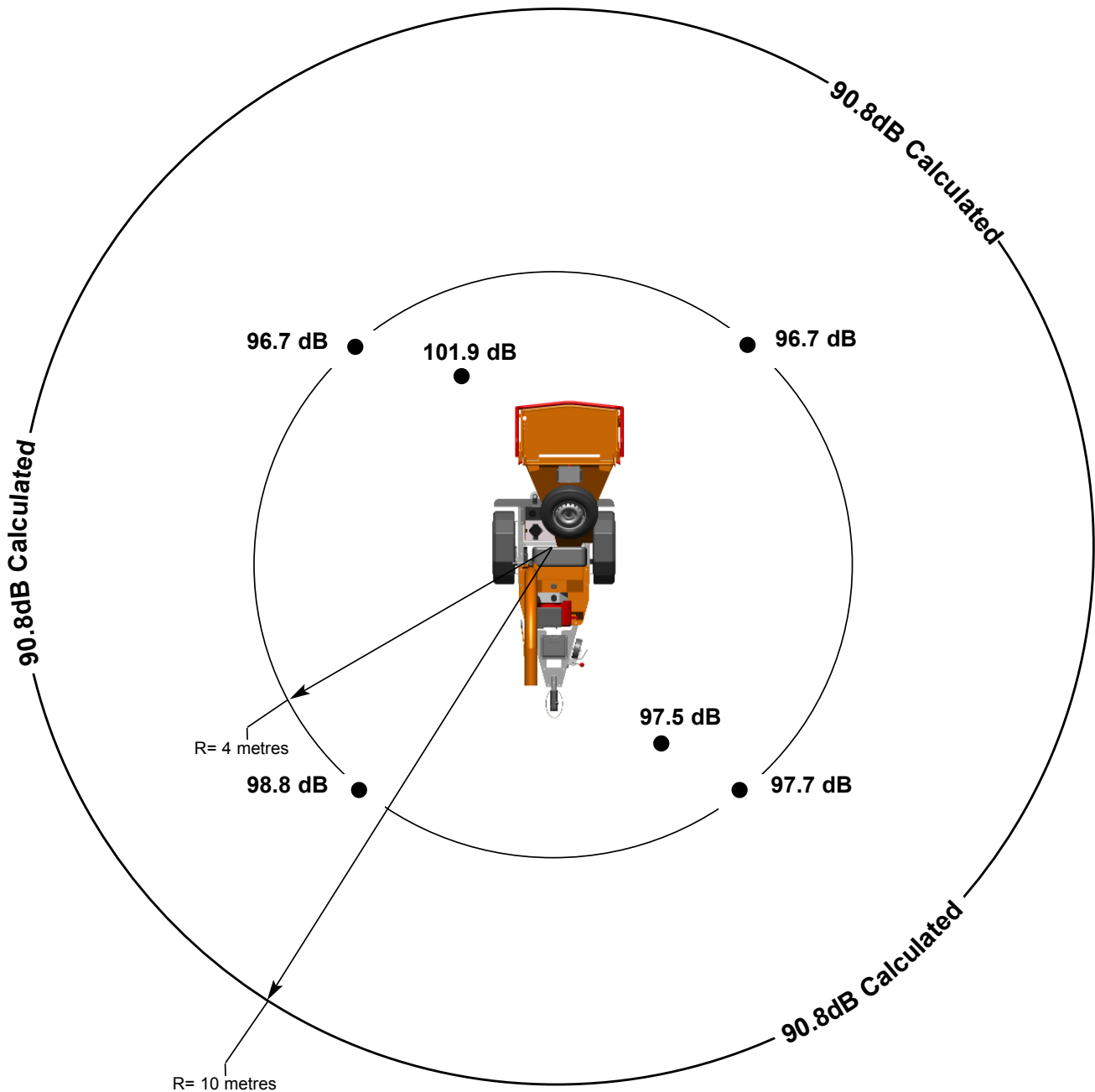
TW 125PH & TW 125DH

NOTES:

TESTED CHIPPING 65 mm X 75 mm CORSICAN PINE
1.5m IN LENGTH

Noise levels above 90dB (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.

Figures shown represent readings for the 125DH, the 125PH figures are slightly lower.



Guaranteed Sound Power: 125PH 120dB (A) 125DH 121dB (A)

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



SAFE TRANSPORTATION

- **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.
- **THE** chipper does not have brakes so be aware of increased braking distances.
- **ALWAYS** check the discharge is tight before moving.
- **KEEP** tyre pressures inflated to 1.8 bar or 26 psi.
- **CHECK** wheel nuts are tightened to 90Nm or 65 lbs ft.
- **CLEAR** loose chippings and debris from the machine before departing.
- **ENSURE** the feed funnel is closed and the catches are properly engaged before departing.

HITCHING ONTO THE TOW BALL

- **CHECK** the 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** the vehicle so the ball hitch is directly below the tow head.
- **ATTACH** the secondary coupling to a strong point on the vehicle, not the ball hitch.
- **ENSURE** the barrel lock is retracted from the tow head.
- **GRASP** handle on tow head and push back catch with thumb.
- **WIND** the jockey wheel assembly clockwise, so lowering 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** the jockey wheel clamp and slide the jockey wheel assembly fully up.
- **TIGHTEN** clamp on the jockey wheel assembly.
- **CONNECT** electrical plug to socket on rear of towing vehicle and check operation of all the trailer and vehicle lights.
- **INSERT** the barrel lock for security.
- **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** the barrel lock.
- **RELEASE** secondary coupling.
- **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** work gloves with elasticated wrist.
- **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

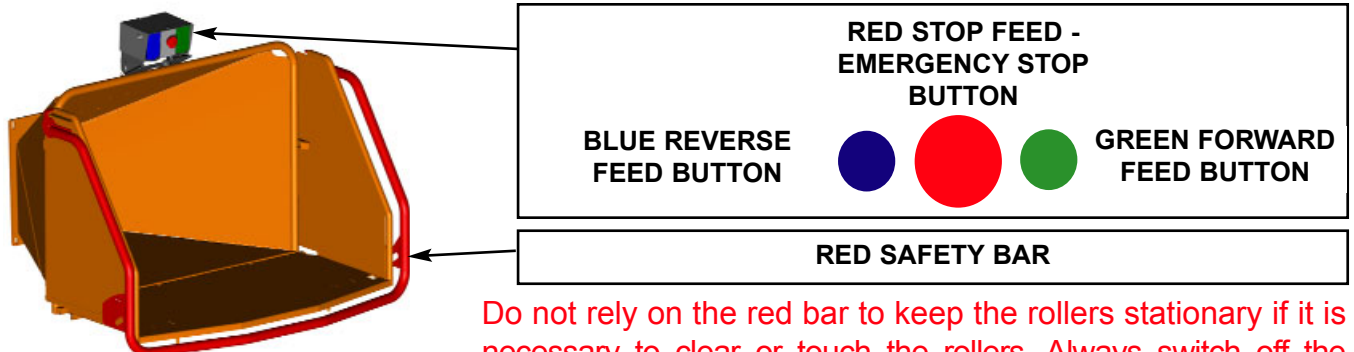
To ensure the **SAFETY BAR** is always operational it must be activated once before each work session. The rollers will not function until the bar is activated. This procedure must be repeated each time the ignition is switched off.

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 or twist (depending on style of button) 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





AUTO CONTROLS

The speed control unit controls the feed rate of the material going into the chipping chamber. If the rotor speed is below the predetermined level the speed control unit will not allow the feed rollers to work in either forward or reverse until the rotor speed rises above the predetermined level, at which point the feed rollers will start turning without warning.

EMERGENCY STOPPING

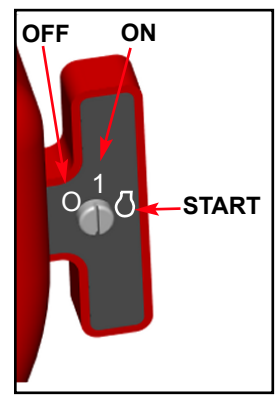
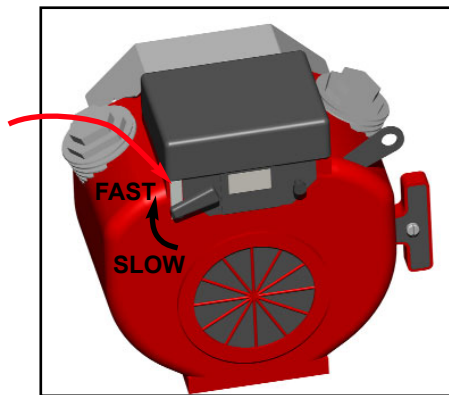
Push the **RED STOP** button or push the **RED SAFETY BAR** (whichever is the quickest for you to reach). Turn off the engine ignition key.

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.

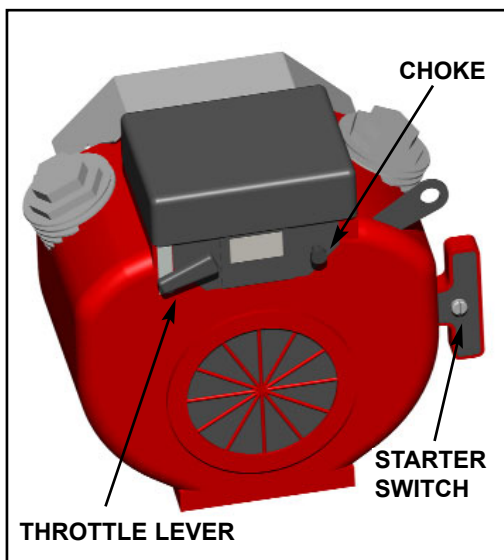
PETROL ENGINE CONTROLS (125PH)

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.



STARTING THE PETROL ENGINE (125PH)



● 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 engine 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 PETROL ENGINE (125PH)

- **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



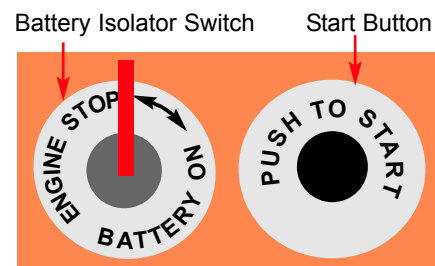
DIESEL ENGINE CONTROLS (125DH)

The Ruggerini engines are not fitted with a throttle or preheat mechanism. They are designed to run at working speed at all times.

STARTING THE DIESEL ENGINE (125DH)

- **TURN** the battery isolator switch to the 'ON' position.
- **PUSH** the 'START' button until the engine begins to fire.
- **RELEASE** the 'START' button.
- **ALLOW** the engine to warm up for 1 minute before starting chipping

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



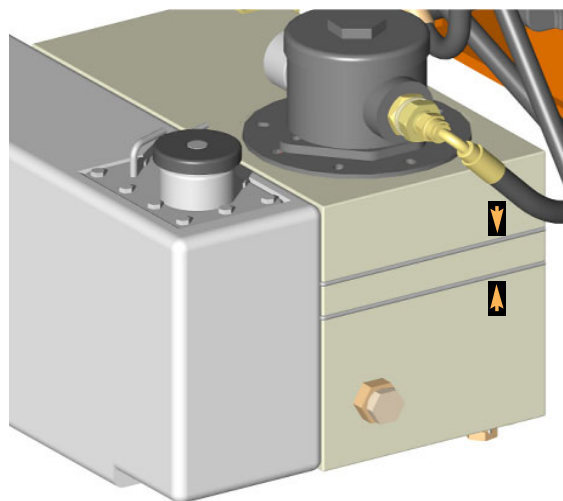
STOPPING THE DIESEL ENGINE (125DH)

- **TURN** the battery isolator switch to the 'OFF' position.

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

HYDRAULIC OIL LEVEL INDICATOR

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



PETROL TANK INDICATOR

The fuel level may be inspected by removing the fuel filler cap and looking into the tank. A graduated plate will indicate the level.



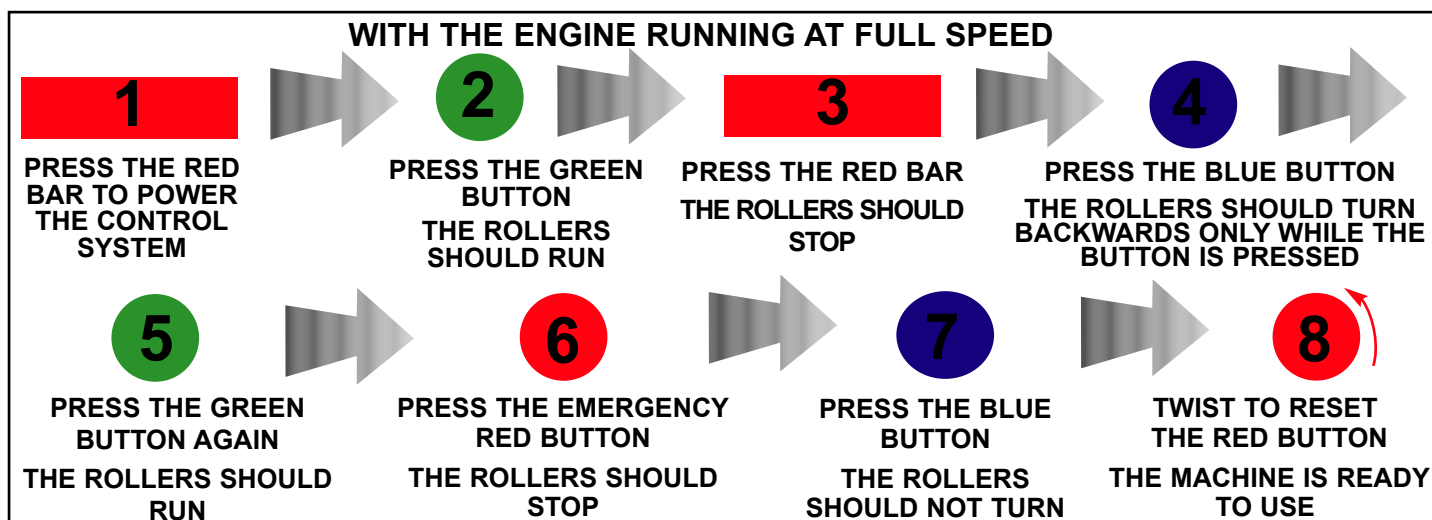
DAILY CHECKS BEFORE STARTING

- **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.



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. Turn to release the red stop button.
- **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 roller. 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 speed control 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 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 whilst 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.



WARNING



**ALWAYS IMMOBILISE THE MACHINE BY STOPPING THE ENGINE,
REMOVING THE IGNITION KEY AND DISCONNECTING THE BATTERY BEFORE
UNDERTAKING ANY MAINTENANCE WORK.**



Table 1. Service Schedule Complete the following tasks:	Daily Check	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 200 Hours	Every 500 Hours	Every Year
Check engine oil - top up if necessary.	●						
Check for engine oil/hydraulic oil leaks.	●						
Check fuel level.	●						
Check feed funnel, feed roller cover, access covers, bonnet and discharge unit are securely fitted.	●						
Ensure engine air intake in bonnet is free from leaf build up.	●						
Check tyre pressure is 26 - 28 psi.	●						
Check and adjust if necessary belt tension.		●					
Grease the roller drive splines.			●				
Clean air filter element.			●				
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.					●		
Change engine oil.		Refer to Engine Owner's Manual					
Check battery electrolyte level.					●		
Replace engine oil filter cartridge.		Refer to Engine Owner's Manual					
Replace spark plugs.		Refer to Engine Owner's Manual					
Check valve clearance.		Refer to Engine Owner's Manual					
Replace hydraulic oil filter - every year or 100 hours after service or repair work to the hydraulic system.							●
Replace hydraulic oil.							●
Check for loose electrical wiring.							●
Replace fuel pipes and clamp bands.		Refer to Engine Owner's Manual					
Axle & Tow head maintenance		Refer to Suppliers Information Sheet					

NOTE: Main Rotor Bearings are sealed for life. No greasing or lubrication is necessary.








ENGINE SERVICING

Ensure servicing is performed in accordance with the Engine Manufacturer's Handbook.

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.
-  **AVOID** contact with hydraulic oil.
-  **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.

SPARES

Only fit genuine Entec 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 leaflet for safety and COSHH requirements. 

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 & TW 125DH are 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).

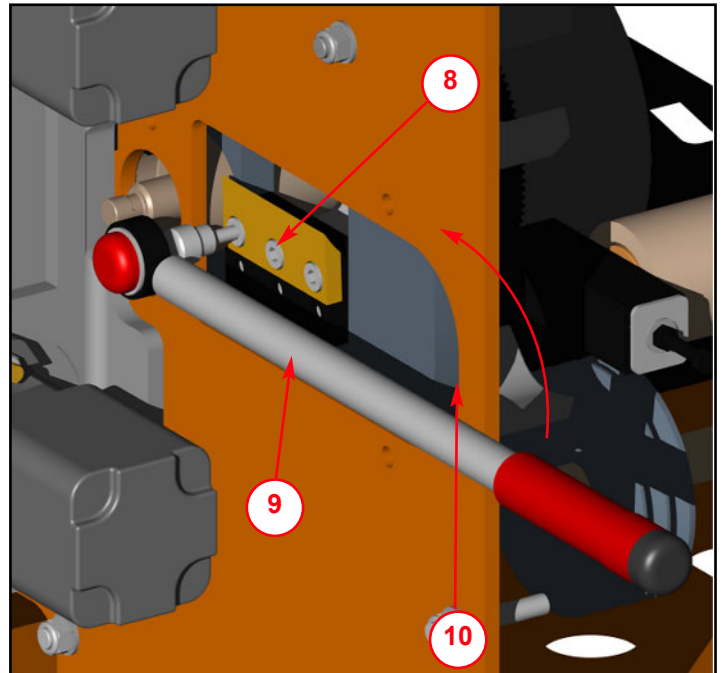
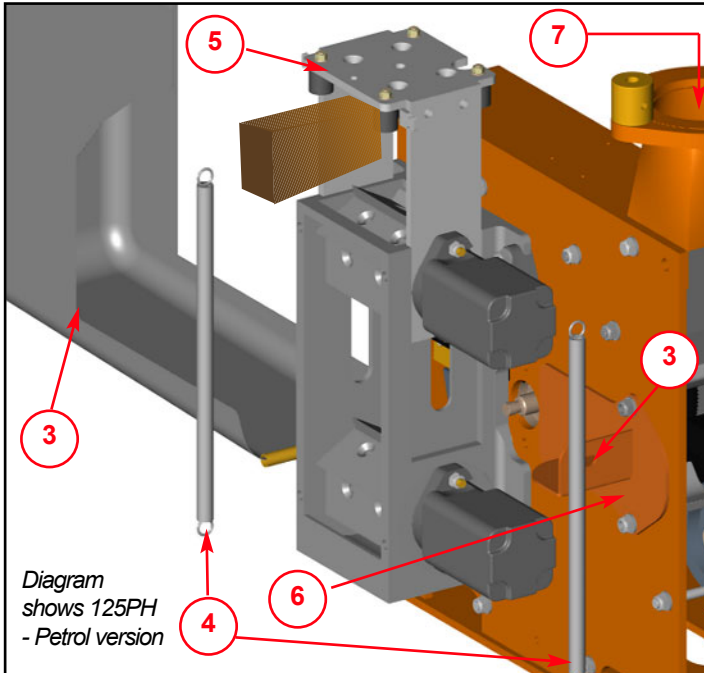
	Size	Pitch	Head	Torque lbft	Torque Nm
General	M8	Standard	13 mm Hex	17	23
General	M10	Standard	17 mm Hex	34	46
General	M12	Standard	19 mm Hex	60	80



CHANGE BLADES

WARNING

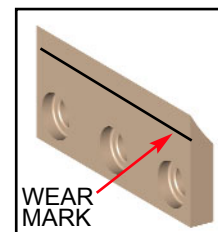
Wear riggers gloves for the blade changing operation.



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 Entec 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 page18).
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 and ensure bolt and washer 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.



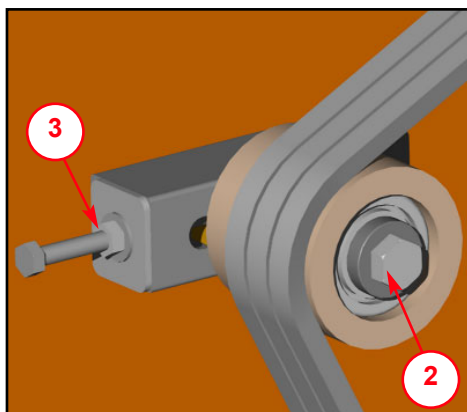


CHECK HOSES

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.

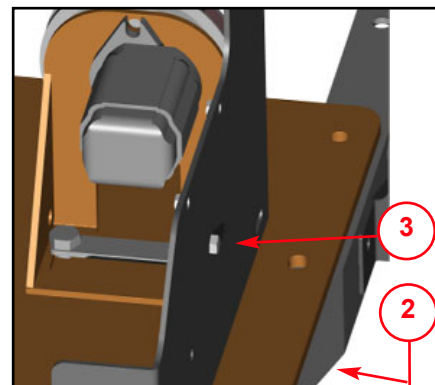
TENSION DRIVE BELTS



1. Remove side panel.
2. Loosen bolt in centre of tensioner pulley with a 19 mm 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 and lock the tensioner pulley bolt back up again. Tension is correct when 4.5kg of force deflects one belt 6 mm at the centre of its span. (Push the belt firmly with your index finger; it should deflect to roughly the depth of your fingernail).
4. Run machine and test, recheck belt tension.
5. **NOTE:** Slack drive belts will cause poor performance and belt / 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. Tension is correct when 4.5kg of force deflects one belt 6 mm at the centre of its span. (Push the belt firmly with your index finger, it should deflect to roughly the depth of your fingernail).
4. Retighten the two nuts to (80 Nm) 60 lbs/ft.
5. Refit belt guard.

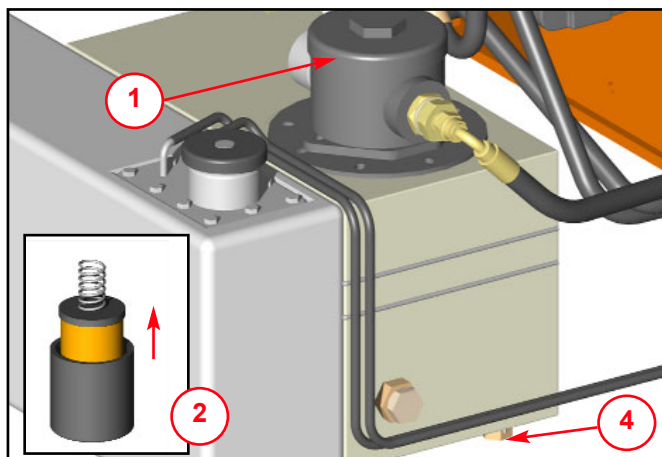


CHANGE HYDRAULIC OIL AND FILTER

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.

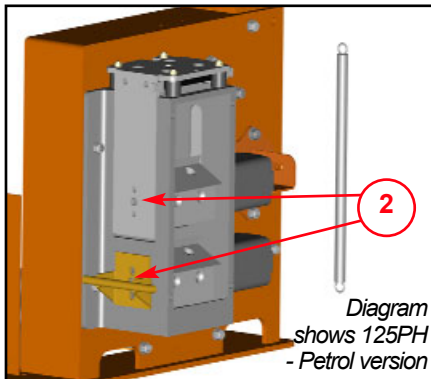


1. Remove the screw cap from the top of the filter housing.
2. Partially remove filter element from inner cup. Leave filter to drain for 15 minutes.
3. Remove filter element from cup when clear of hydraulic oil.
4. Remove drain plug and drain oil into a suitable container.
5. Replace drain plug.
6. Refill with VG 32 hydraulic oil until the level is half way up the sight glass (about 15 litres).
7. Replace the filter cup, install a new filter element and replace the filter cap (screw).
8. **NOTE:** This is a non-adjustable air breather filter.



GREASE THE ROLLER DRIVE SPLINES

NOTE: This should be done four times a year or every 50 hours. If the grease in the splines is allowed to dry out, rapid wear of the roller splines will occur resulting in a breakdown and the need to fit replacement parts. This failure is not warranty.

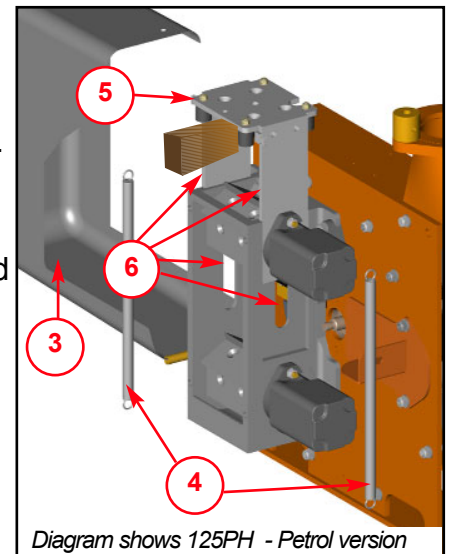


1. Remove bolt and washer retaining roller box guard and lift guard (see diagram on page 16).
2. Locate two grease nipples; one in the centre of each roller shaft.
3. Use a pump action grease gun to apply a generous amount of grease to each roller drive.
4. Close the roller box guard and refit the washer and bolt.

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. Remove battery leads - ensure machine has come to a complete stop.
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.
7. **NOTE: Rollerbox slide weighs in excess of 20kg.** Remove wedge, lower roller box slide and replace springs.
8. Close roller box guard and refit bolt and washer.
9. Refit battery leads.



GREASING ROTOR BEARINGS

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

ENGINE MANUFACTURER'S HANDBOOK

Refer to your Engine Manufacturer's Handbook for detailed instructions on the following:

- Changing the fuel filter.
- Checking the engine oil.
- Changing the engine oil.
- Changing the engine oil filter.



ENTEC 12 MONTH CHIPPER WARRANTY

WARRANTY PERIOD

The warranty period for the woodchipper commences on the date of sale to the first end user and continues for a period of 12 months.

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

LIABILITY

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

WARRANTY STATEMENT

Entec Industries warrants to the first end user that;

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

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

Engine units are covered independently by their respective manufacturer warranties.

OWNERS WARRANTY RESPONSIBILITIES

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

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

WARRANTY RESTRICTIONS

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

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

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

WARRANTY SERVICE

To obtain warranty service please contact your nearest Entec approved Timberwolf dealer. To obtain details of the nearest facility please contact Entec Industries 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.



Entec Industries Ltd

Entec House
Creeping Road, Stowmarket
Suffolk IP14 5AY
Tel: 01449 765800 Fax: 01449 765801

E C Declaration of Conformity



Entec Industries Ltd as the designer and manufacturer certifies that the machine stipulated below complies with all the relevant provisions of the:

Machinery Directive (98/37/EC) (& other relevant directives)

and the National Laws and Regulations adopting these directives.

Designer/Manufacturer : Entec Industries Ltd

Description of Machinery : Self-powered portable machine intended to chip up tree waste prior to disposal.

Model : TW 125H

Serial No. : _____

Harmonised standards applied: (including parts/clauses of):

BS EN 292:1991, BSEN 294: 1992, BS EN 60204: 1: 1998, BS EN 563: 1994 -Safety of Machinery – Temperatures of touchable surfaces, BS EN 954-1: 1996 – 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, *pr EN 13525: 1999 – Forestry Machinery – Wood chippers – Safety. BS EN 60204-1: 1998 – Safety of Machinery – Electrical equipment, BS EN 60529: 1991 – Safety of Machinery – Degrees of Protection for Enclosures, BS EN 60947-5-1: 1991 – Safety of Machinery – Low Voltage Switchgear – Electromechanical devices.

Together with all relevant National Technical Standards and Specifications as applicable: -
(Including parts/clauses of):

“Responsible” Person empowered to sign:  Mr. John Marshall
Position in Company: Director

Date: 19/9/03



IDENTIFICATION PLATES

Model

CE 2004

Serial number Date of manf.

ENTEC INDUSTRIES LTD
CREETING ROAD, STOWMARKET
SUFFOLK IP14 5AY

CE PLATE

ENTEC UK
STOWMARKET, SUFFOLK IP14 5AY

Date of Manuf.

Serial No.

Trailer Type

Equip. fitted

Nominal Pwr.

Gross Weight

CHASSIS IDENTIFICATION PLATE



STICKERS

22

TIMBERWOLF

1136

X2

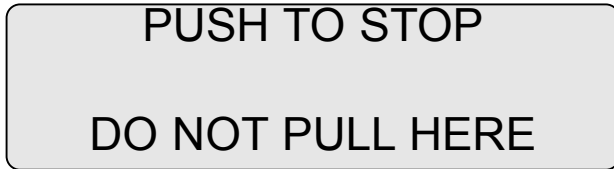
(Diesel models only)

1523



4099

X2

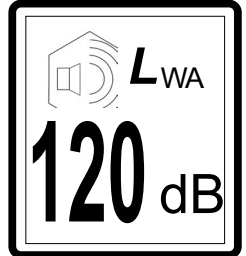
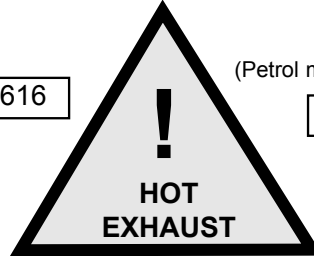


1399

616

(Petrol models only)

1522



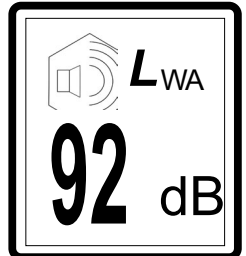
1645

2949



670

3004



1363



1661

EARS

EYES

HEAD

HANDS

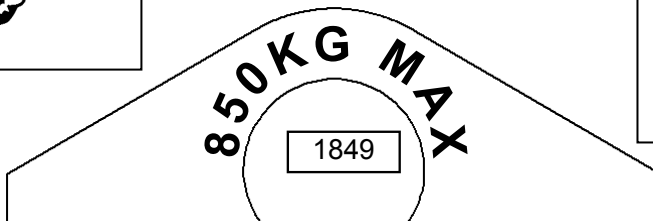
!! ATTENTION !!

CLEAN UNDER BLADES BEFORE
REFITTING OR TURNING

FAILURE TO DO SO MAY RESULT IN
BLADE(S) COMING LOOSE AND DAMAGE
BEING CAUSED TO THE ROTOR HOUSING

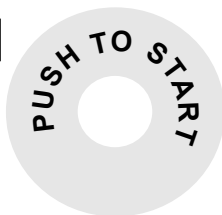
3022

1157



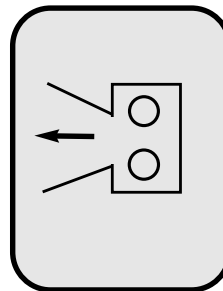
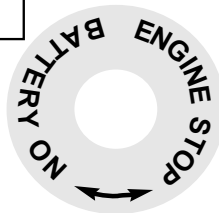
1849

1494

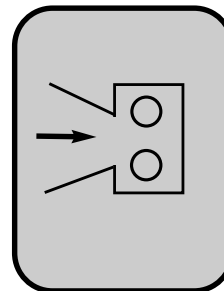


(Diesel models only)

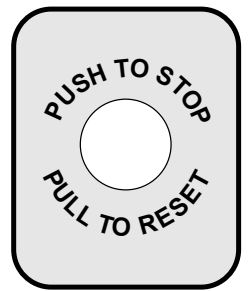
1496



2800



2801

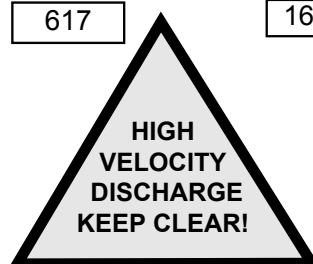


2802

671



617



1662

OPERATING INSTRUCTIONS

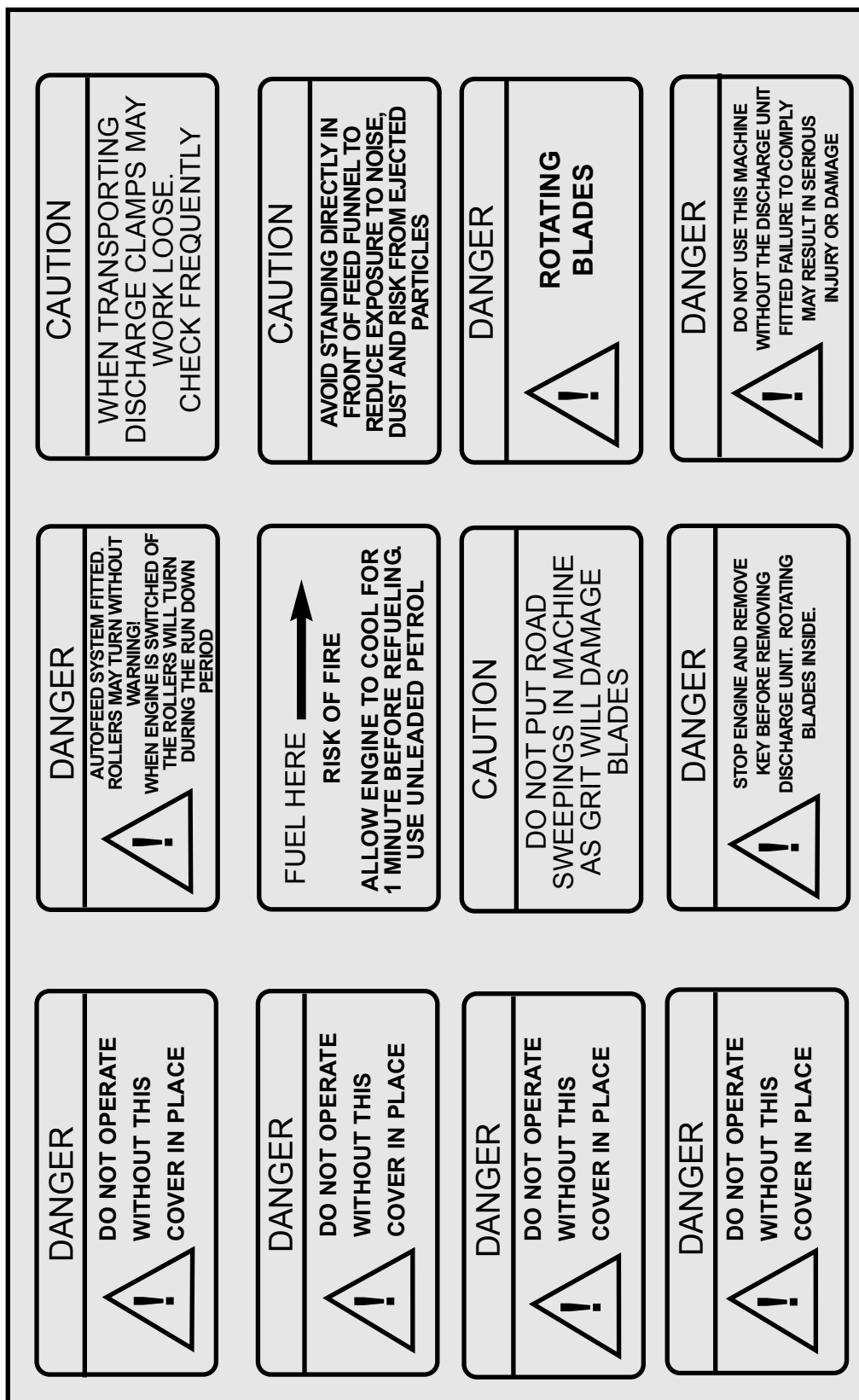
READ THE INSTRUCTION MANUAL.

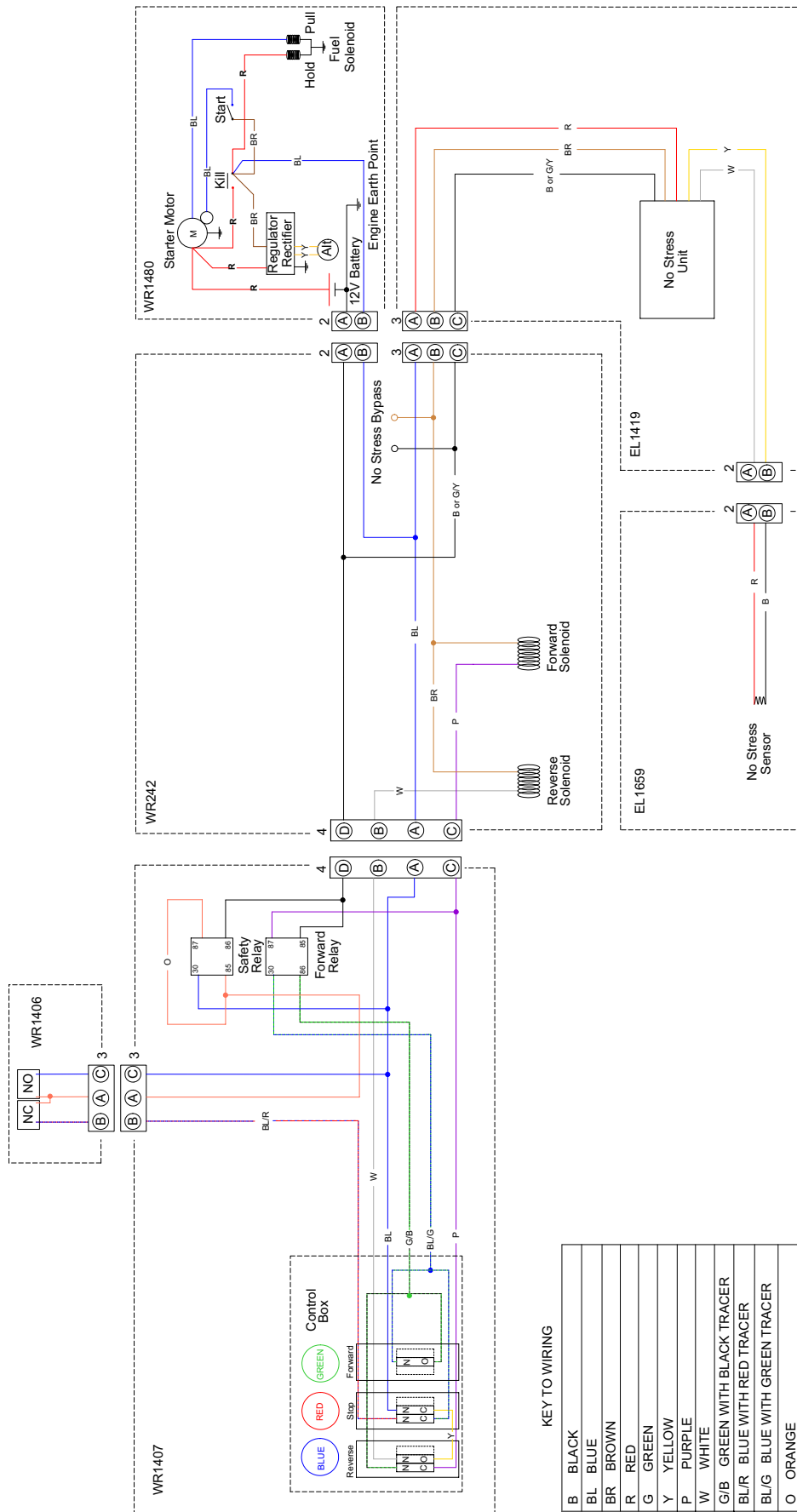
THE INSTRUCTION MANUAL WITH THIS MACHINE
CONTAINS IMPORTANT OPERATING, MAINTENANCE AND
HEALTH AND SAFETY INFORMATION.

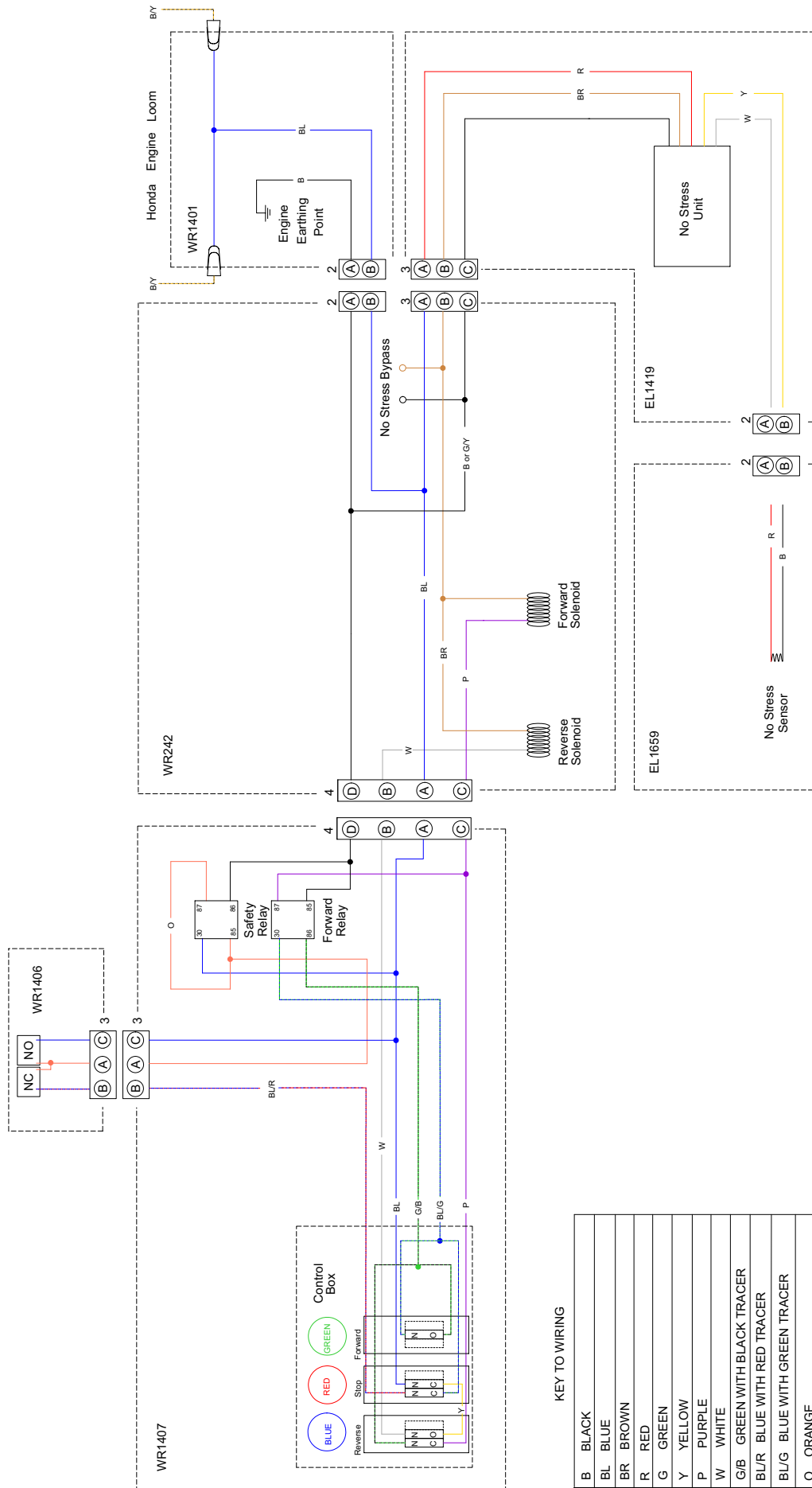
FAILURE TO FOLLOW THE INFORMATION CONTAINED IN
THE INSTRUCTION MANUAL MAY LEAD TO DEATH OR
SERIOUS INJURY.

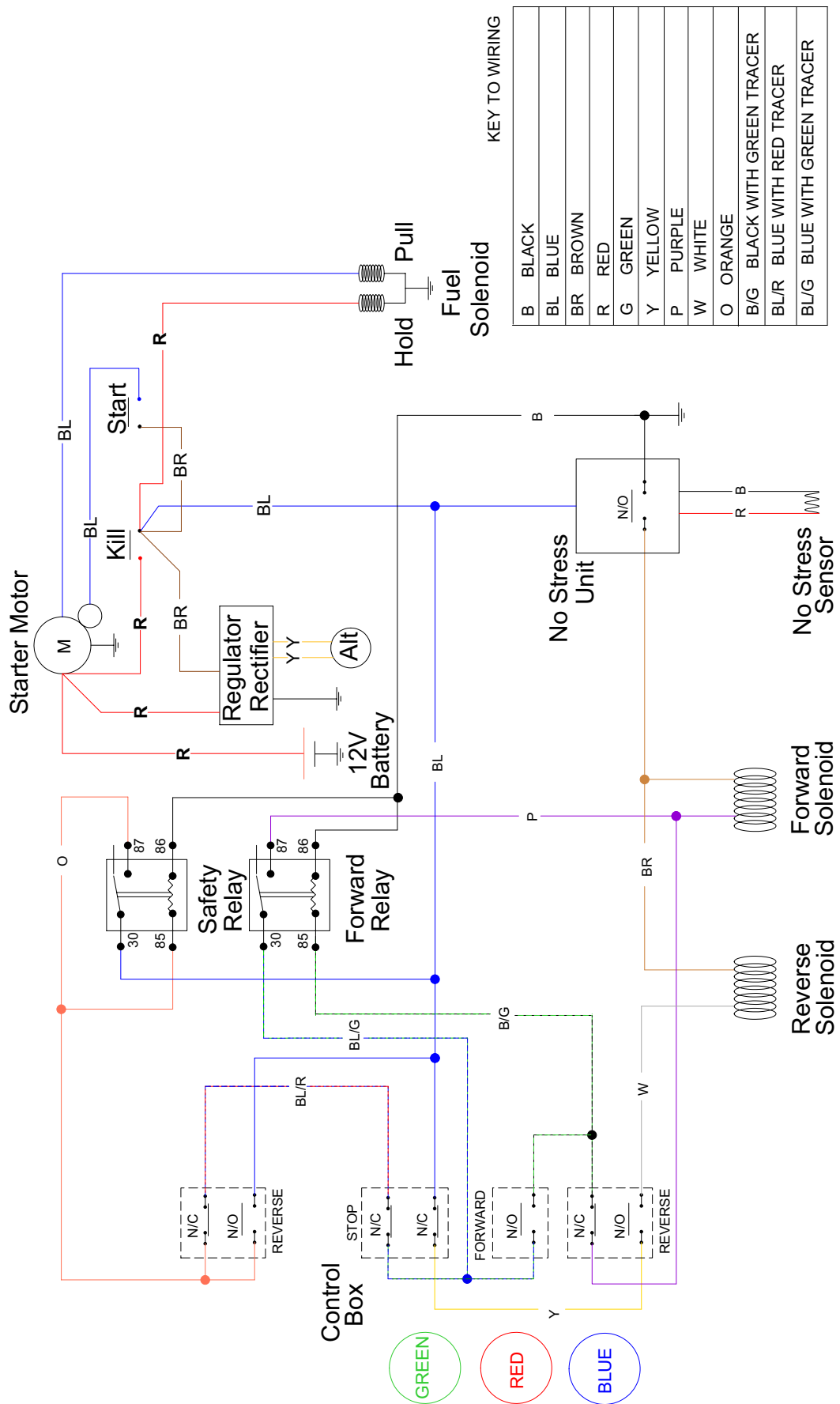


671





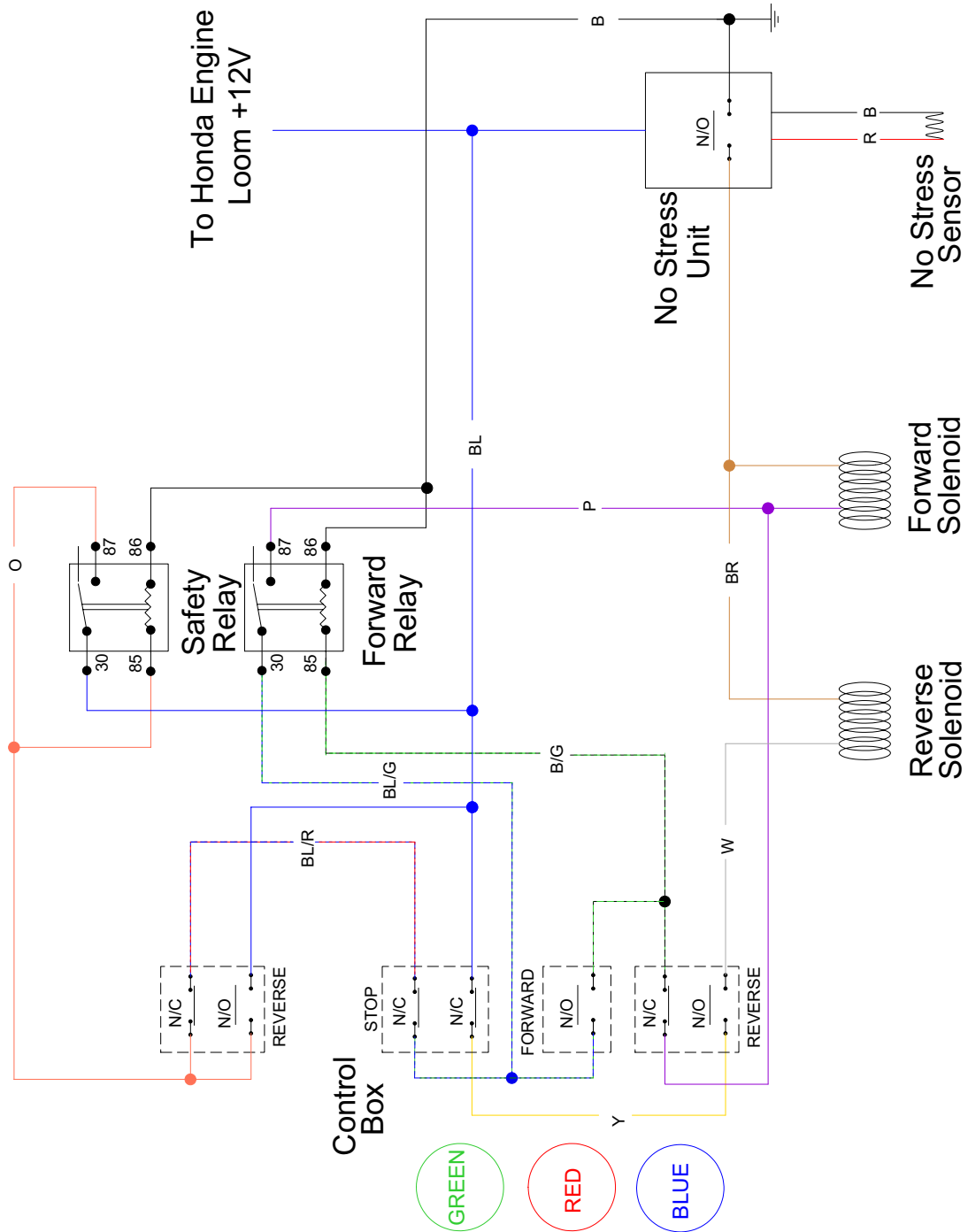


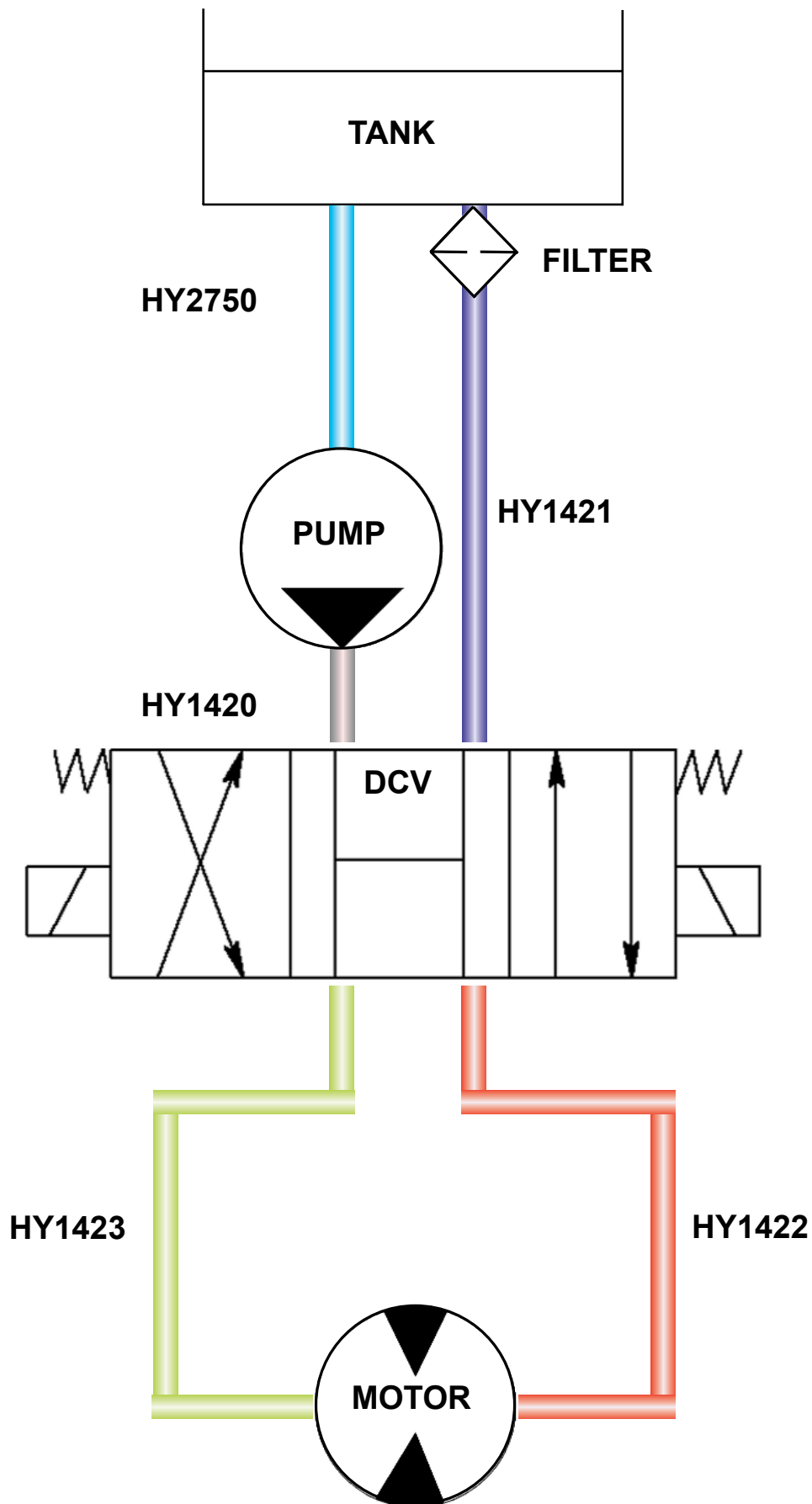


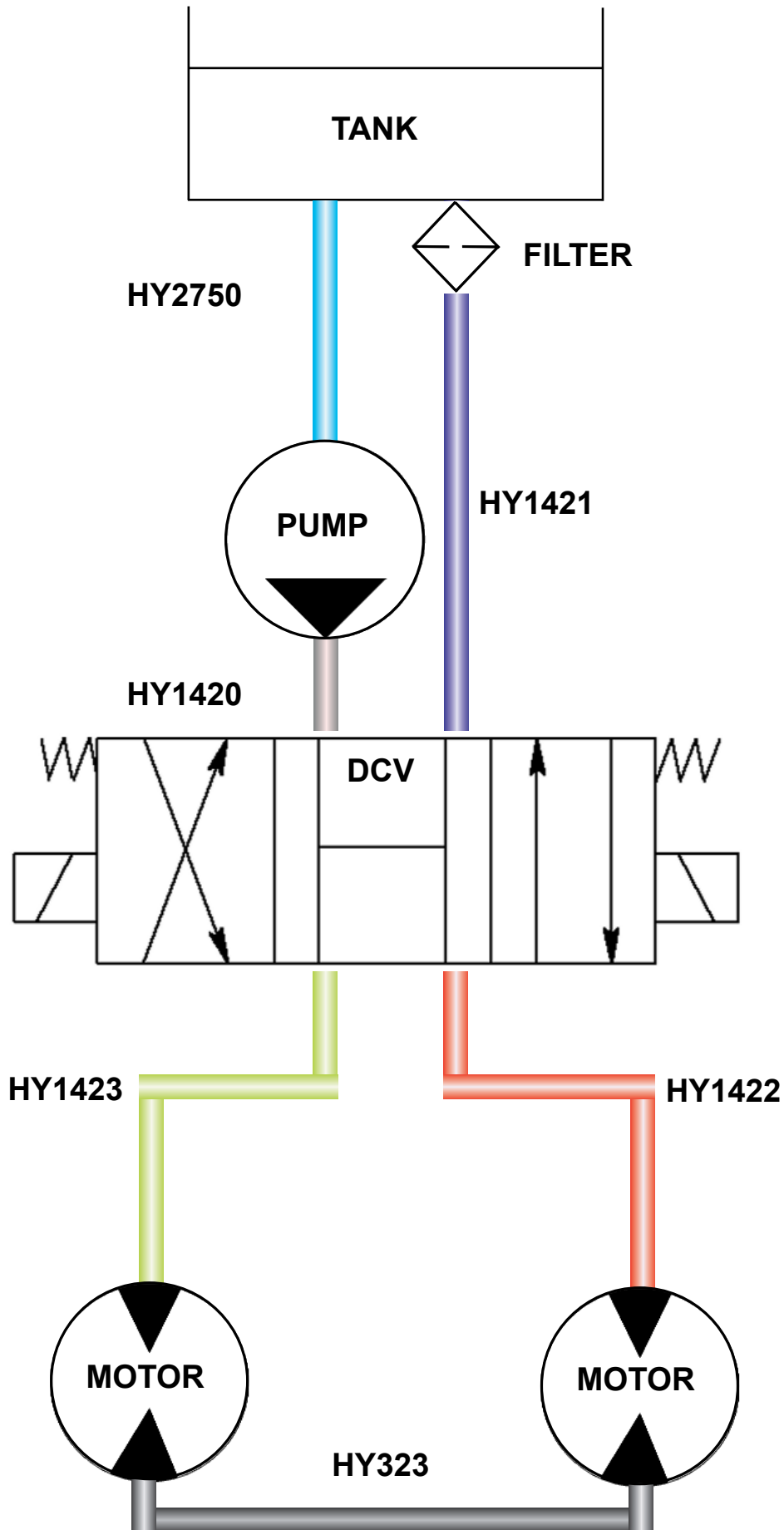


KEY TO WIRING

B	BLACK
BL	BLUE
BR	BROWN
R	RED
G	GREEN
Y	YELLOW
P	PURPLE
W	WHITE
O	ORANGE
B/G	BLACK WITH GREEN TRACER
BL/R	BLUE WITH RED TRACER
BL/G	BLUE WITH GREEN TRACER







TIMBERWOLF

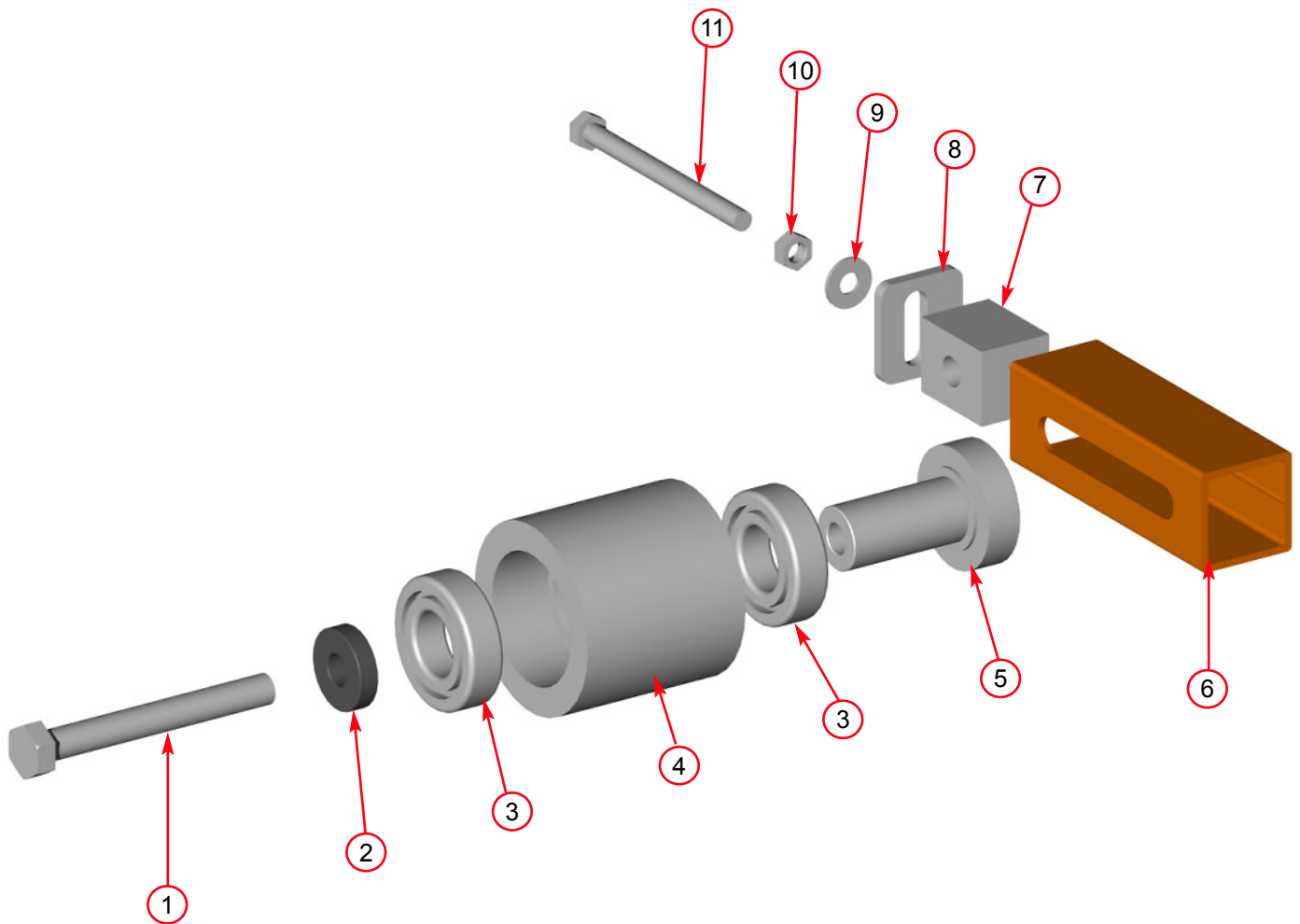
TW 125PH

& TW 125DH

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>
BELT TENSIONER	31
CHASSIS	32
CONTROL BOX	33
DISCHARGE	34
DRIVE TRAIN	35
ELECTRICAL LAYOUT (125DH)	36
ELECTRICAL LAYOUT (125PH)	37
ENGINE - DIESEL (125DH)	38
ENGINE - PETROL (125PH)	39
FUNNEL	40
HYDRAULICS (125DH)	41
HYDRAULICS (125PH)	42
ROLLER BOX - DOUBLE (125PH)	43
ROLLER BOX - SINGLE (125DH)	44
ROTOR	45
ROTOR HOUSING	46
STICKERS	47



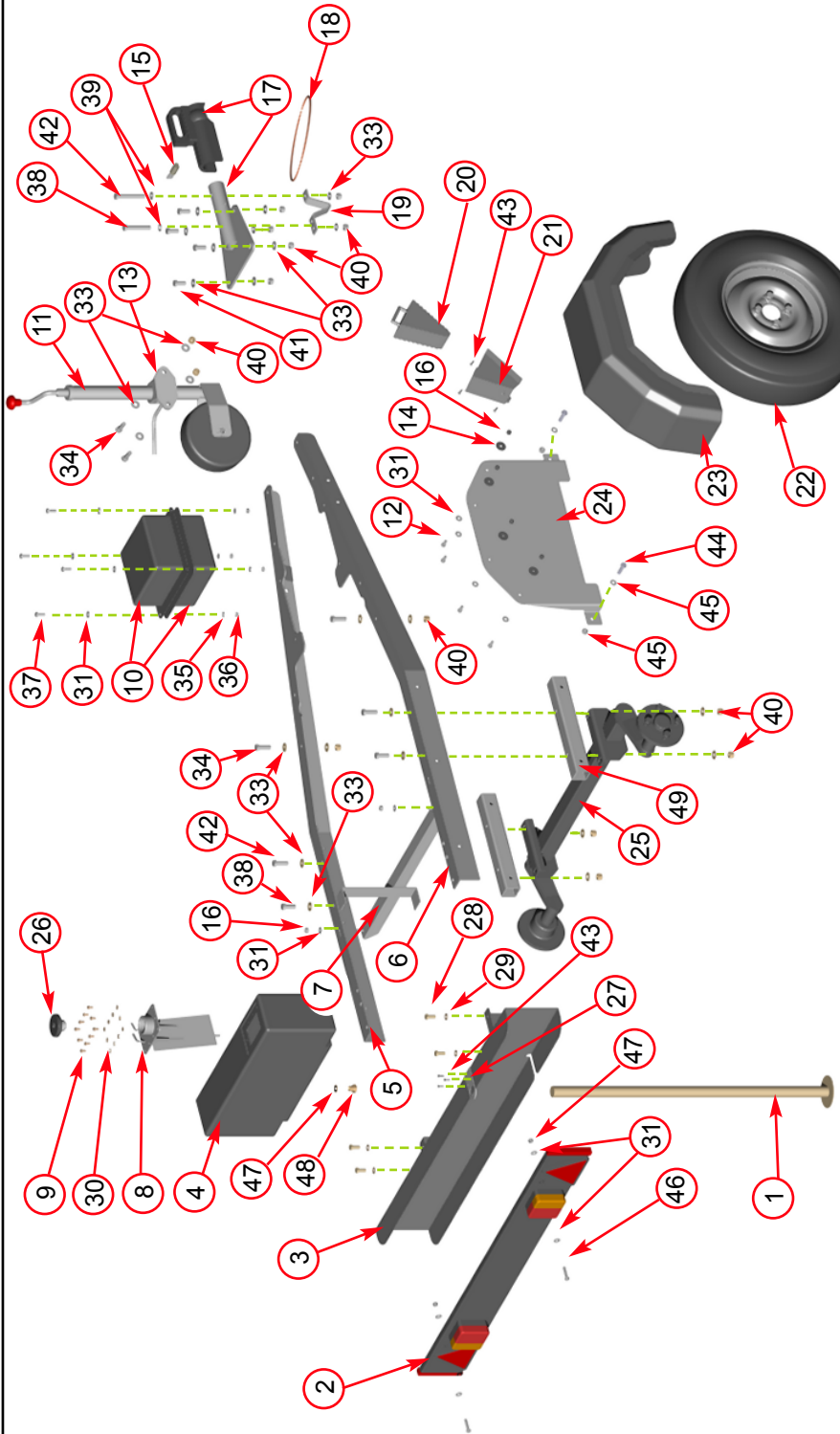
Item	Part No	Part Name	Q'ty
1	0313	M12/100 Bolt	1
2	0415	Heavy Washer	1
3	0491	Bearing	2
4	0411	Pulley	1
5	0472	Pulley Boss	1
6	N/A to purchase	Slider	1
7	0469	Slider Block	1
8	1342	End Plate	1
9	0711	M8 C Washer	1
10	0476	Plain M8 Nut	1
11	0342	M8/110 Bolt	1

Date Last Modified: 30th July 01



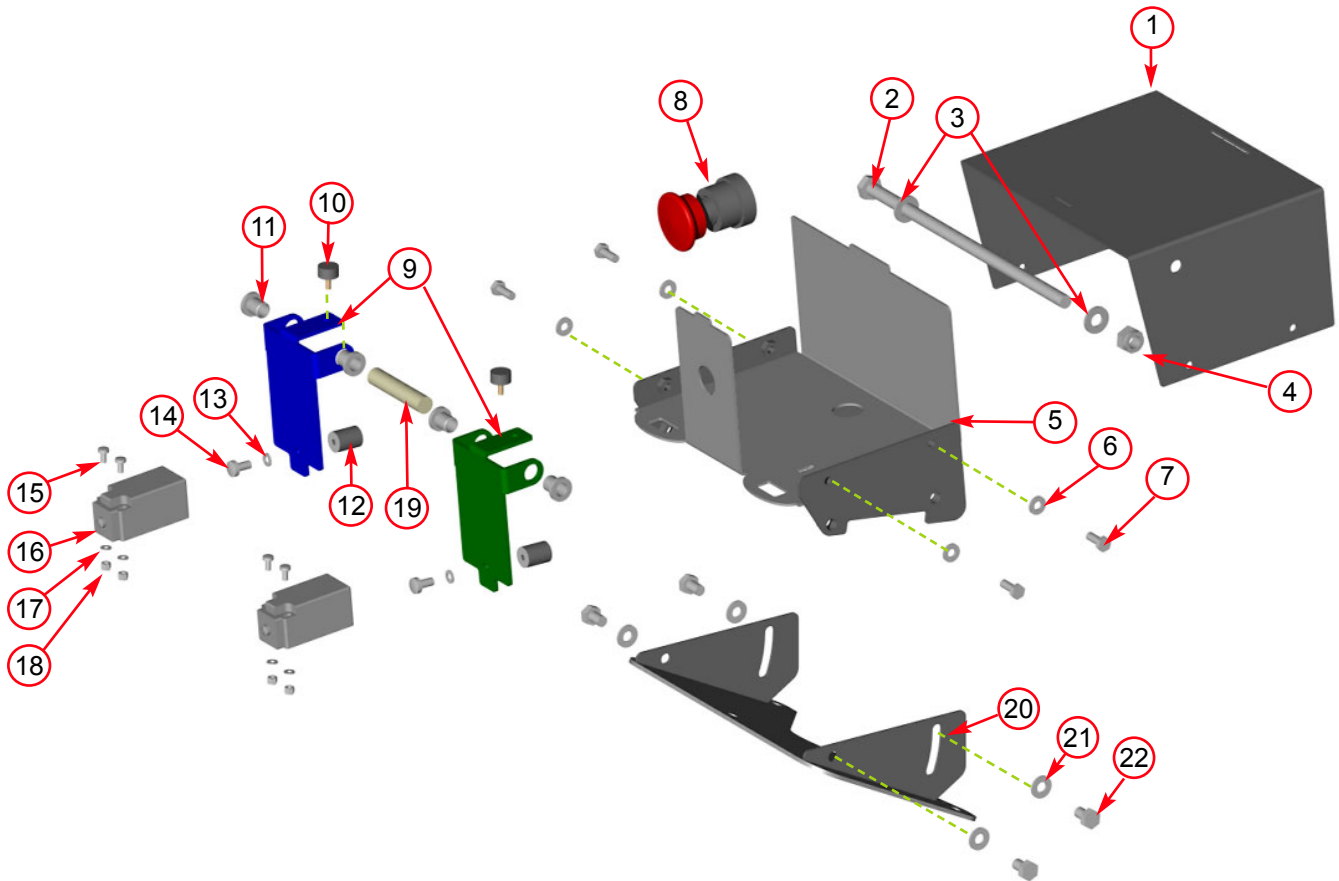
CHASSIS

32



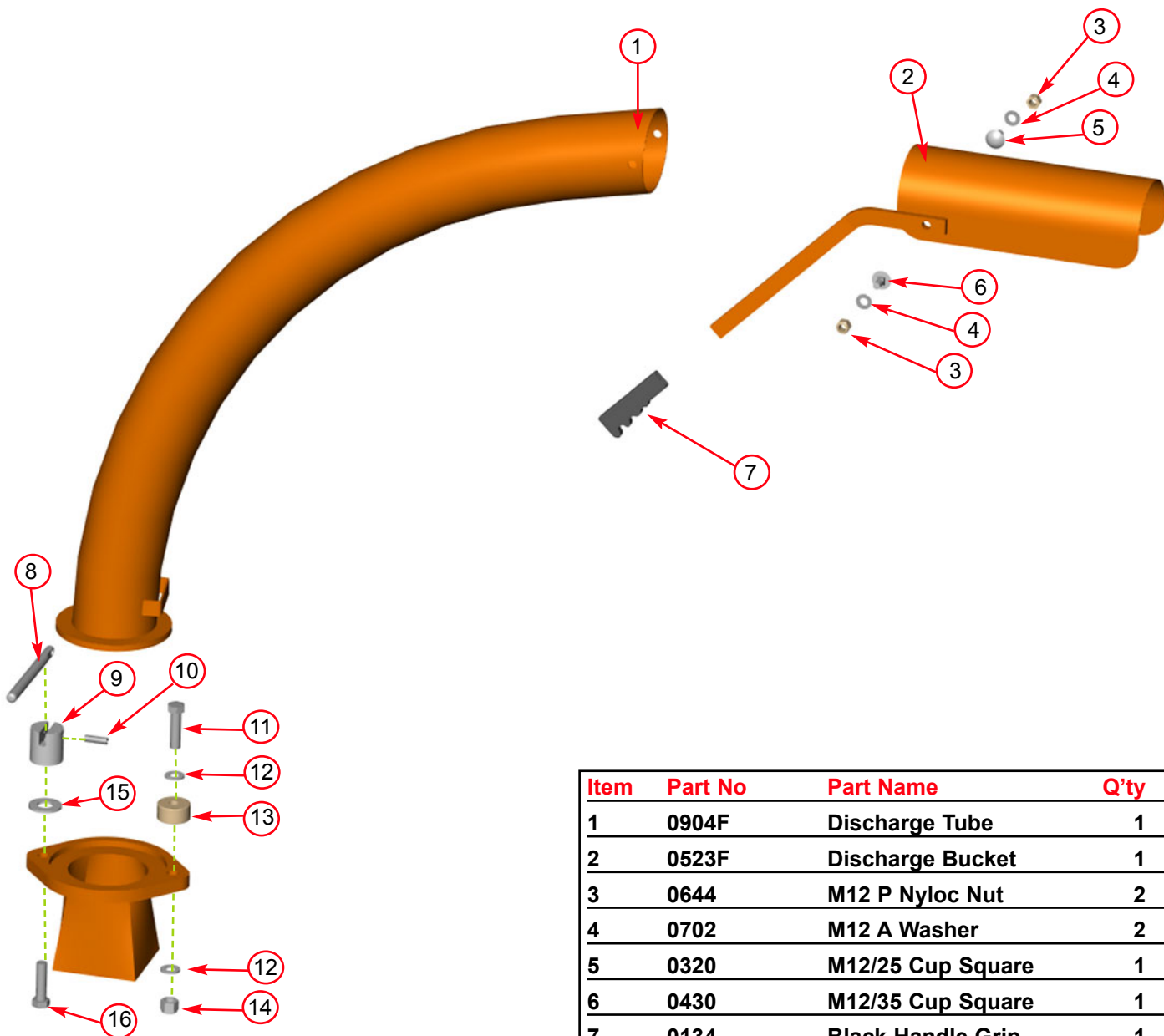
Date Last Modified: 8th Dec 04

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	1247	Prop Stand	1	18	0018	Secondary Coupling	1	35	0711	M8 A Washer	4
2	0445	Light Board	1	19	0011	Skid Plate	1	36	0481	M8 T Nyloc Nut	4
3	1384S	Trailer Board	1	20	1390	Wheel Choc	2	37	0351	M8/30 Bolt	4
4	1872/1566	Fuel Tank-Petrol/Diesel Version	1	21	1391	Choc Holster	2	38	0331	M12/80 Bolt	3
5	1372	Beam N/S	1	22	0200	Wheel (inc.spare)	3	39	0702	M12 A Washer	2
6	1373	Beam O/S	1	23	0048	Mudguard	2	40	0644	M12 P Nyloc Nut	14
7	1385S	Tank Support	1	24	1383	Mudguard Support	2	41	0382	M12/30 Bolt	4
8	2813	Tank Top	1	25	0099	Axle	1	42	0332	M12/90 Bolt	3
9	—	M6/12 Bolt	11	26	1374	Fuel Tank Cap	1	43	0067	Pop Rivet	11
10	0764	Battery Box 1/2 Section	2	27	1257	Prop Support	1	44	0393	M10/80 Bolt	4
11	0084	Jockey Wheel Assy Complete	1	28	0360	M10/25 Bolt	4	45	0839	M10 C Washer	8
12	0346	M8/20 Bolt	8	29	0701	M10 A Washer	4	46	0352	M8/40 Bolt	2
13	0197	Jockey Clamp Assy	1	30	0709	M6 C Washer	11	47	0396	3/8" Dowty Washer	1
14	0714	M8 Penny Washer	4	31	0712	M8 C Washer	14	48	0211	3/8" Drain Plug	1
15	0162	Head Lock It	1	32	0430	M12/35 Bolt	4	49	2899F	Spacer Tube	2
16	0479	M8 P Nyloc Nut	8	33	0704	M12 C Washer	23	50	0052	M10 T Nyloc Nut	4
17	1350	Tow Hitch	1	34	0431	M12/40 Bolt	4				



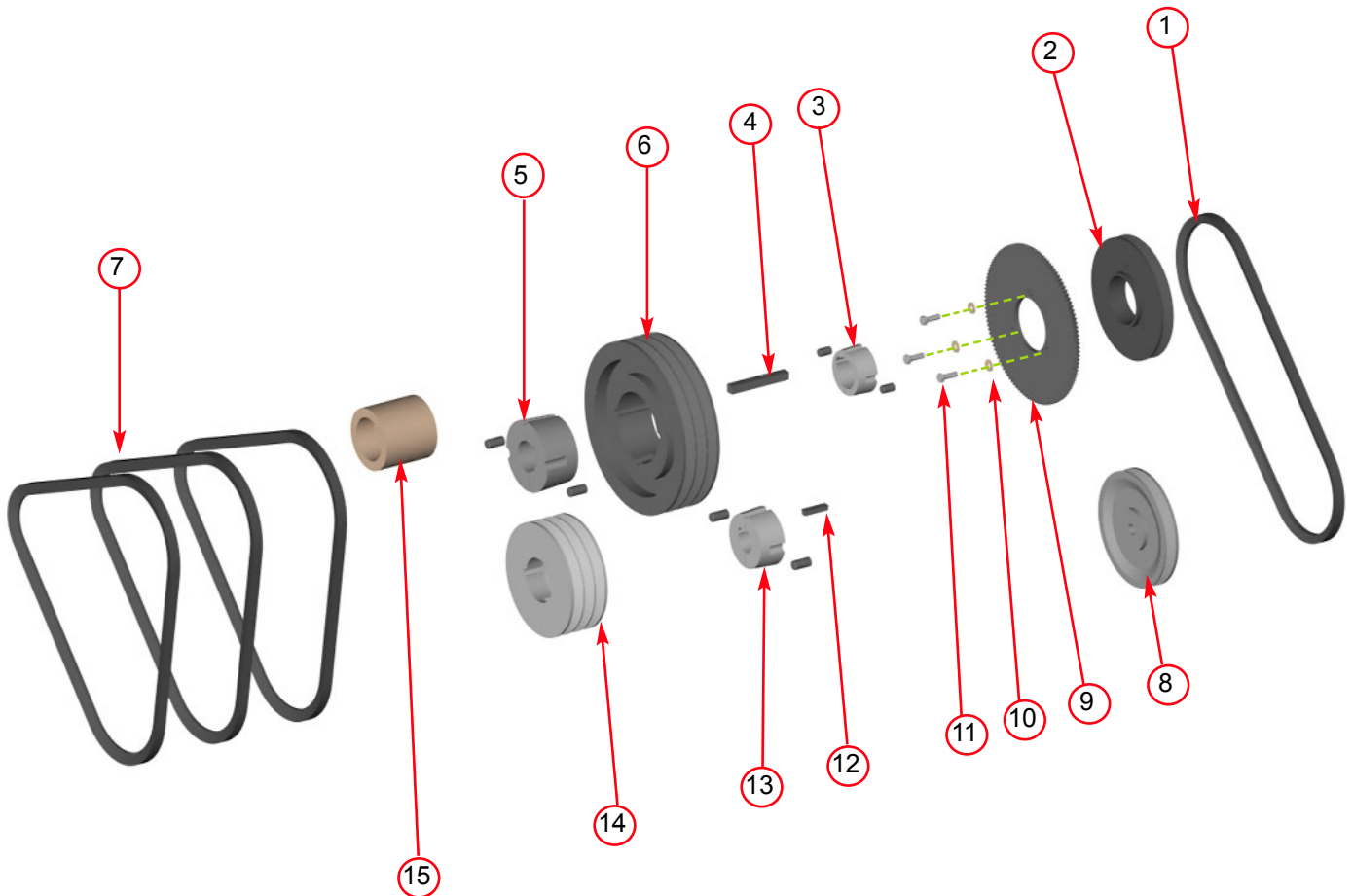
Date Last Modified: 4th Jan 04

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	2794F	Control Box Cover	1	12	2807	AV Mount 20 x 16	2
2	2803	M10/240 Bolt	1	13	0857	M5 A Washer	2
3	0701	M10 A Washer	2	14	0855	M5/10 Pan Pozi	2
4	0052	M10 T Nyloc Nut	1	15	—	M4/40 Pan Pozi	4
5	2795F	Control Box Base	1	16	1348	Limit Switch	2
6	0709	M6 C Washer	4	17	—	M4 Washer	4
7	1658	M6/12 Bolt	4	18	—	M4 Nyloc	4
8	2853	Stop Switch	1	19	—	Spacer	1
9	2796F	Finger Plate	2	20	2793F	Bracket Mounting Control Box	1
10	2834	AV Mount	2	21	0711	M8 A Washer	4
11	2804	Bush M10 Top Hat	4	22	—	M8/12 Bolt	4



Item	Part No	Part Name	Q'ty
1	0904F	Discharge Tube	1
2	0523F	Discharge Bucket	1
3	0644	M12 P 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	1649F	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	2
13	2837M	Clamp Nut Small	1
14	1511	M16 P Nyloc Nut	1
15	0832	Washer	1
16	0333	M16/60 Hex Bolt	1

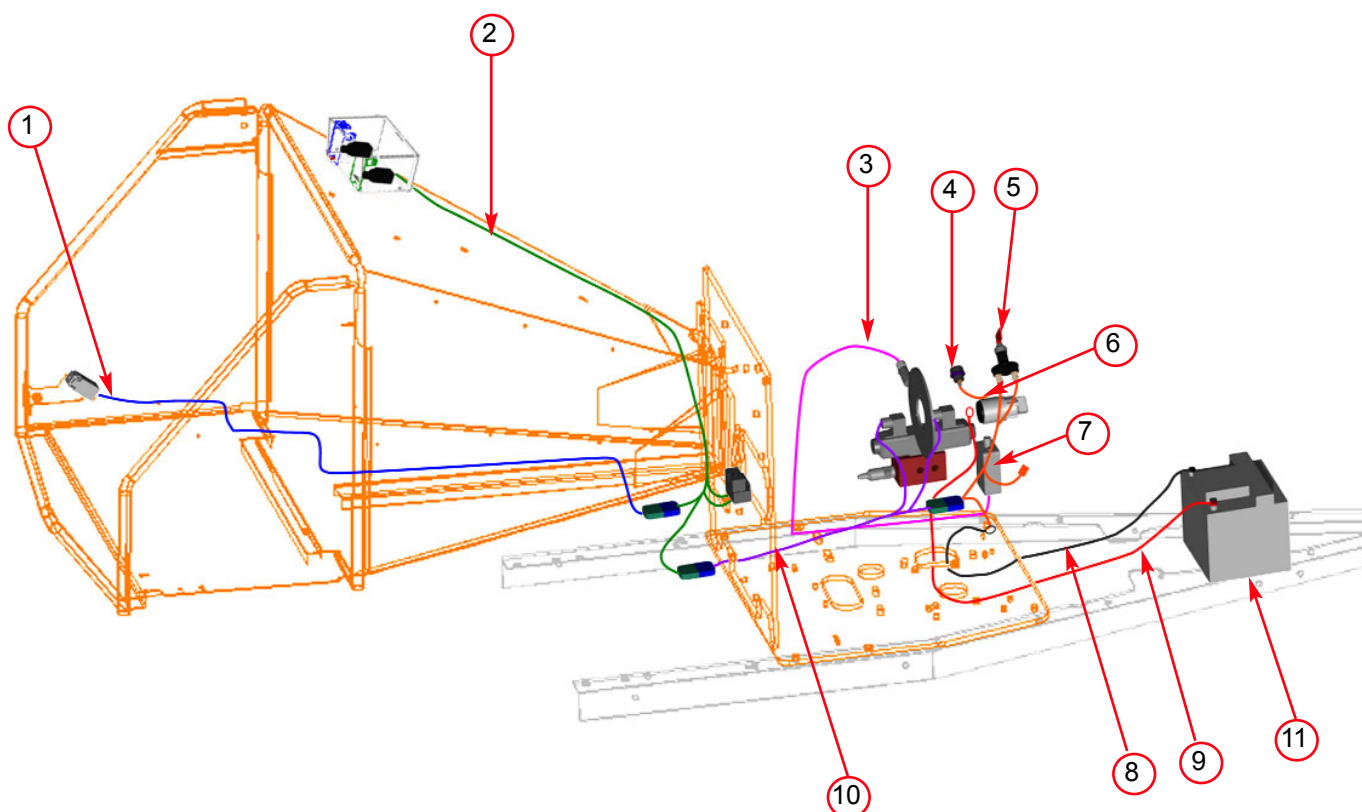
Date Last Modified: 14th Oct 04



Date Last Modified: 23rd Aug 04

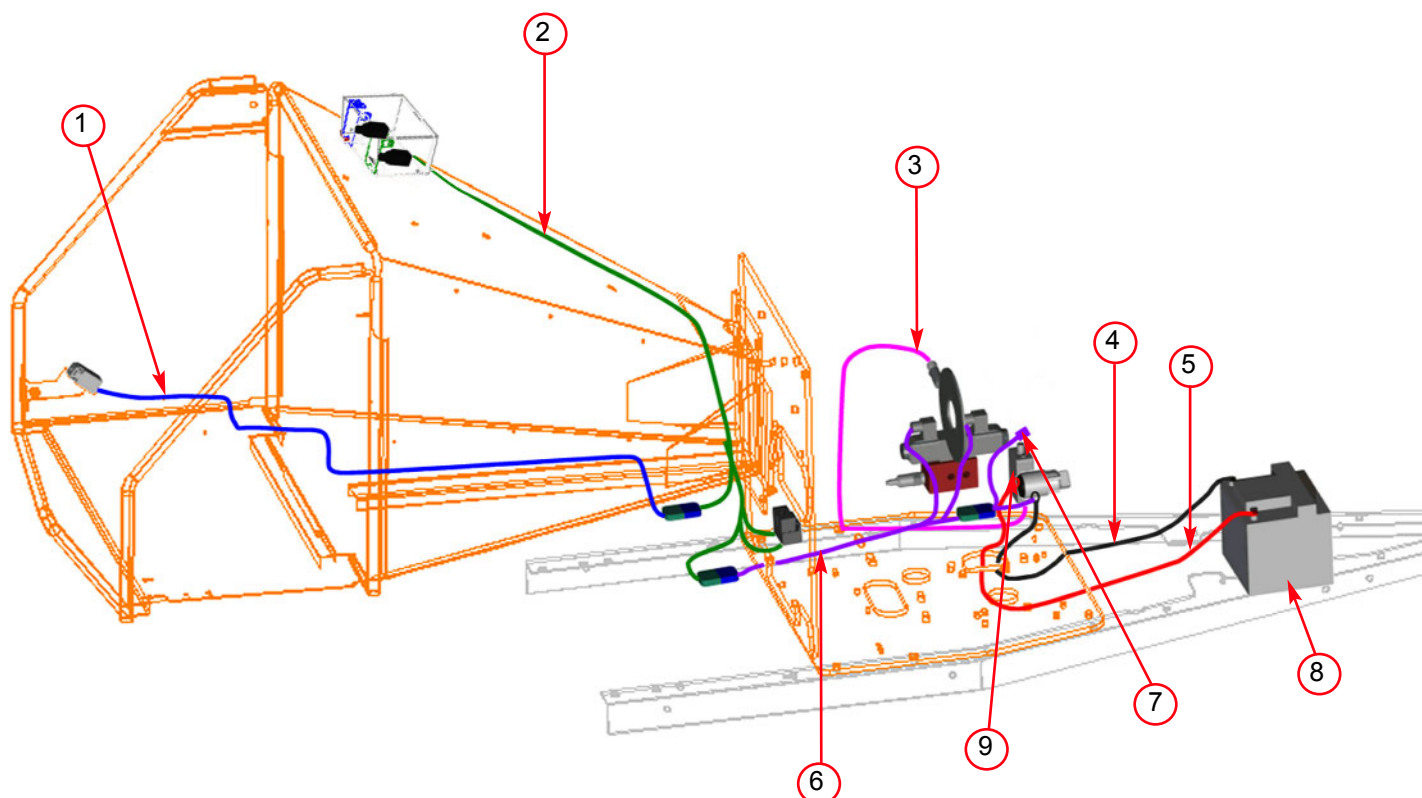
Item	Part No	Part Name	Q'ty
1	0994	Belt 950	1
2	0949M	Pulley 140 X 1 SPA	1
3	0412	Bush 1610 38 mm	1
4	0072	Key	1
5	0410	Bush 2517 38 mm	1
6	1351	Pulley 200 X 3 SPA	1
7	0310	Belt 1060	3
8	0983	Pulley 139 X 1 SPA	1
9	1028	Trigger	1

Item	Part No	Part Name	Q'ty
10	1236	M6/20 Bolt	3
11		M6 A Washer	3
12	0139	Key Stepped	1
13	0420 (125DH)	Bush 2012 1 1/8"	1
13	0405 (125PH)	Bush 1610 1"	1
14	0444 (125DH)	Pulley 132 X 3 SPA	1
14	1451 (125PH)	Pulley 132 X 3 SPA	1
15	0411	Belt Tension Pulley	1



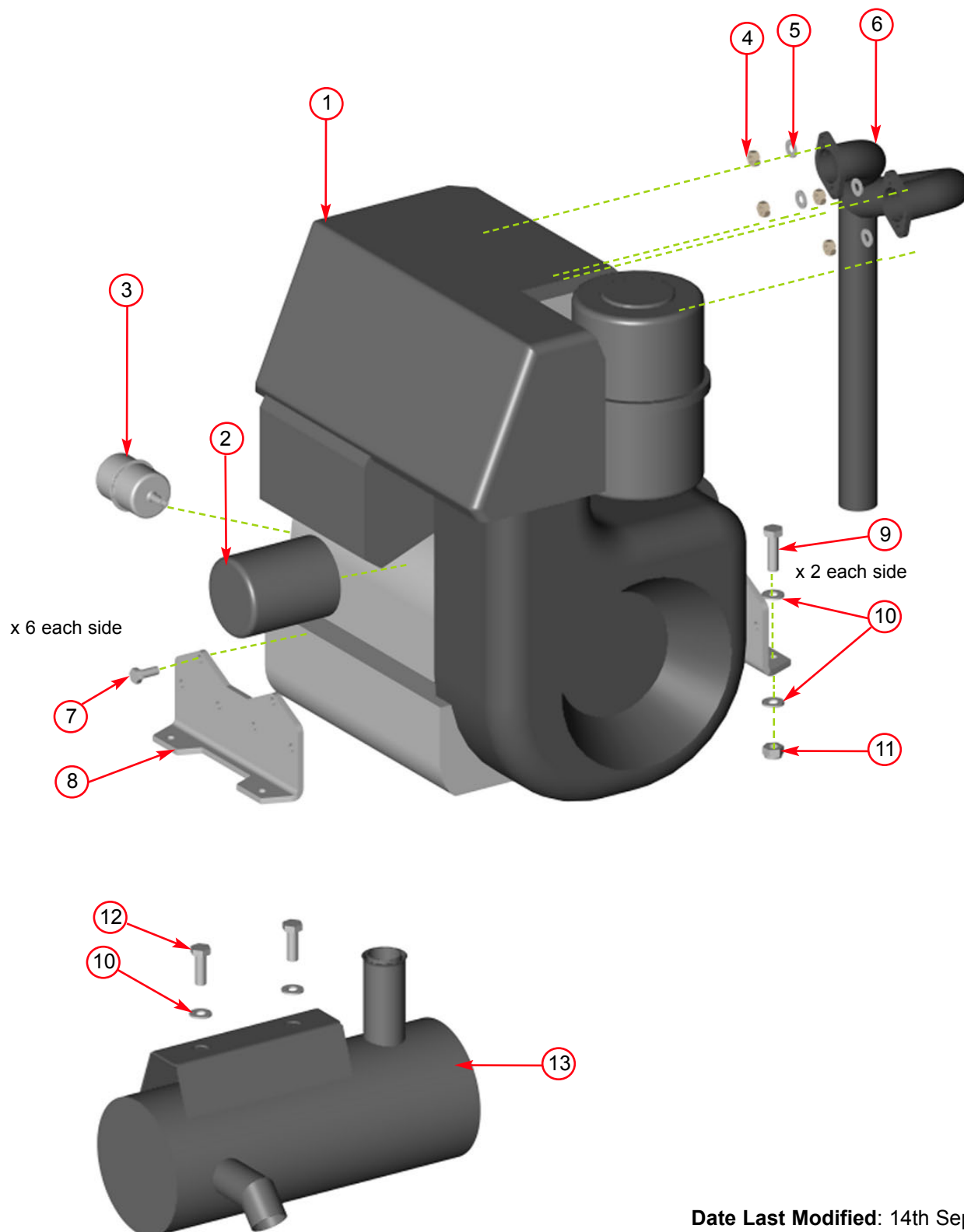
Date Last Modified: 23rd Aug 04

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	1406	Limit Switch Loom	1	7	1419	SCU	1
2	1407	Control Box Loom	1	8	3066	-VE Battery Cable	1
3	1638	Sensor, Speed Control	1	9	3065	+VE Battery Cable	1
4	1500	Momentary Push Button	1	10	0242	Speed Control Loom	1
5	1499	Battery Isolator Switch	1	11	0368	Battery	1
6	1480	Ruggerini Adapter	1				



Date Last Modified: 23rd Aug 04

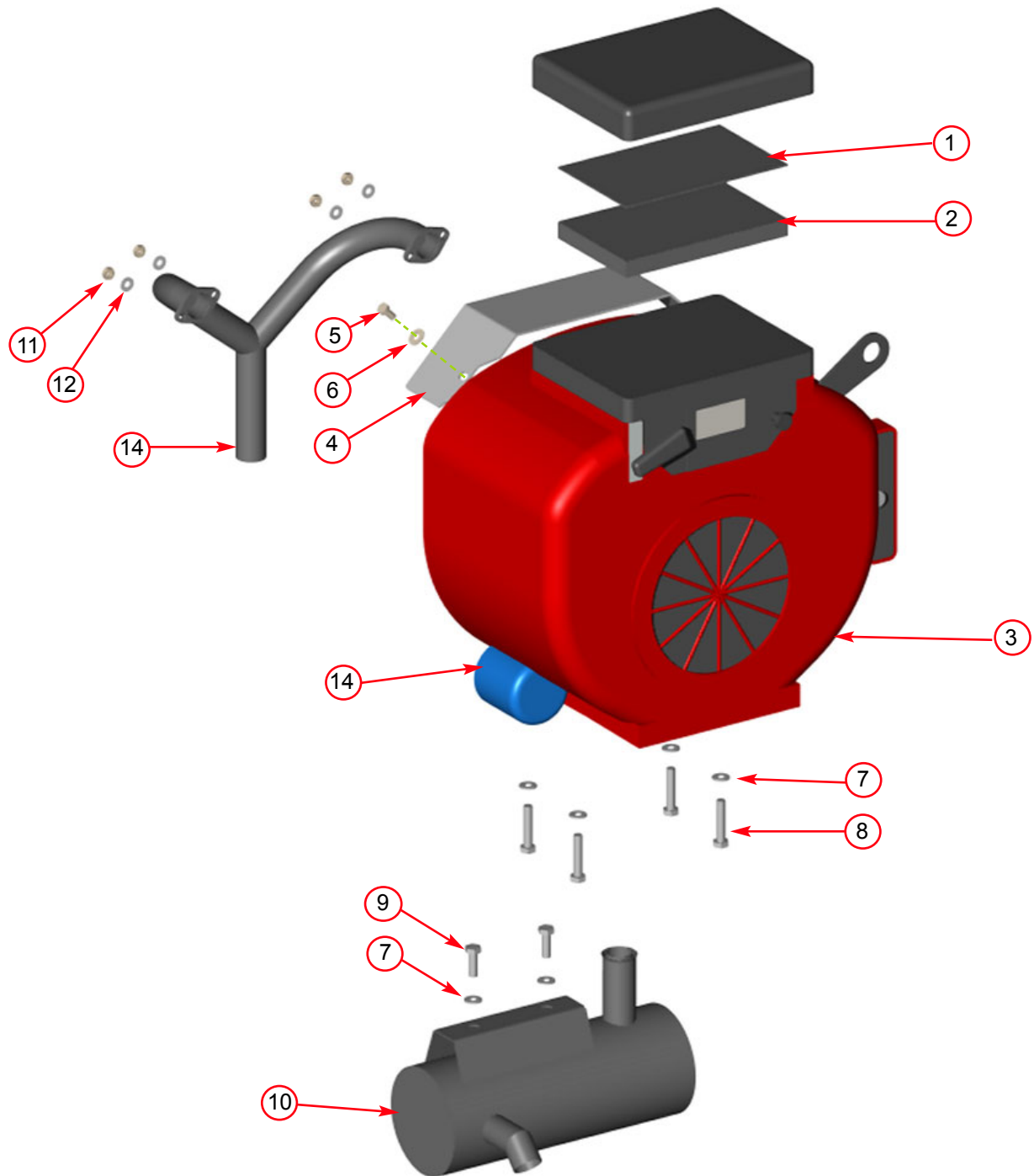
Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	1406	Limit Switch Loom	1	6	0242	No Stress Loom	1
2	1407	Control Box Loom	1	7	1401	Honda Adapter	1
3	1638	Sensor, Speed Control	1	8	0368	Battery	1
4	3063	-VE Battery Cable	1	9	1419	SCU	1
5	3064	+VE Battery Cable	1				



Date Last Modified: 14th Sept 04

Item	Part No	Part Name	Q'ty
1	1449	Engine	1
2	—	Oil Filter	1
3	—	In Line Filter	1
4	0854	M8 Binx Nuts	4
5	0207	M8 A Washer	4
6	1463	Manifold	1
7	0346	M8/20 Capheads	12

Item	Part No	Part Name	Q'ty
8	—	Engine Brackets	2
9	1812	M10/35 Bolt	4
10	0839	M10 C Washer	10
11	0052	M10 T Nyloc Nut	4
12	0382	M10/30 Bolt	2
13	1345F	Muffler	1



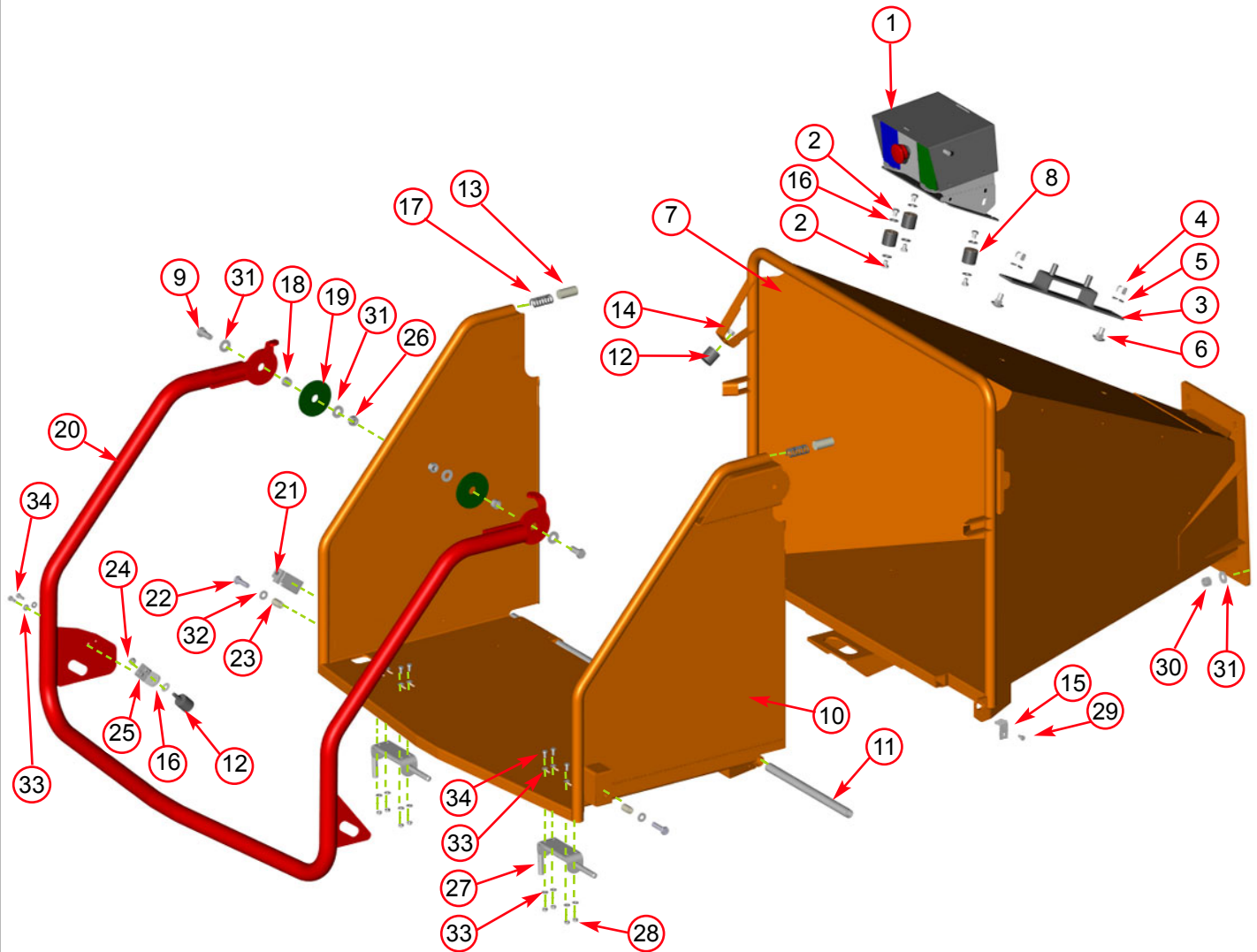
Date Last Modified: 14th Sept 04

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	1424	Foam Filter Element	1	8	1252	M10/50 Bolt	4
2	1425	Paper Filter Element	1	9	0382	M10/30 Bolt	2
3	1379	Engine	1	10	1345F	Muffler	1
4	1395	Guard Top Engine	1	11	0854	M8 Binx Nuts	4
5	0344	M8/16 Bolt	2	12	0207	M8 A Washer	4
6	0712	M8 C Washer	2	13	1426	Oil Filter	1
7	0839	M10 C Washer	6	14	1462	Manifold	1



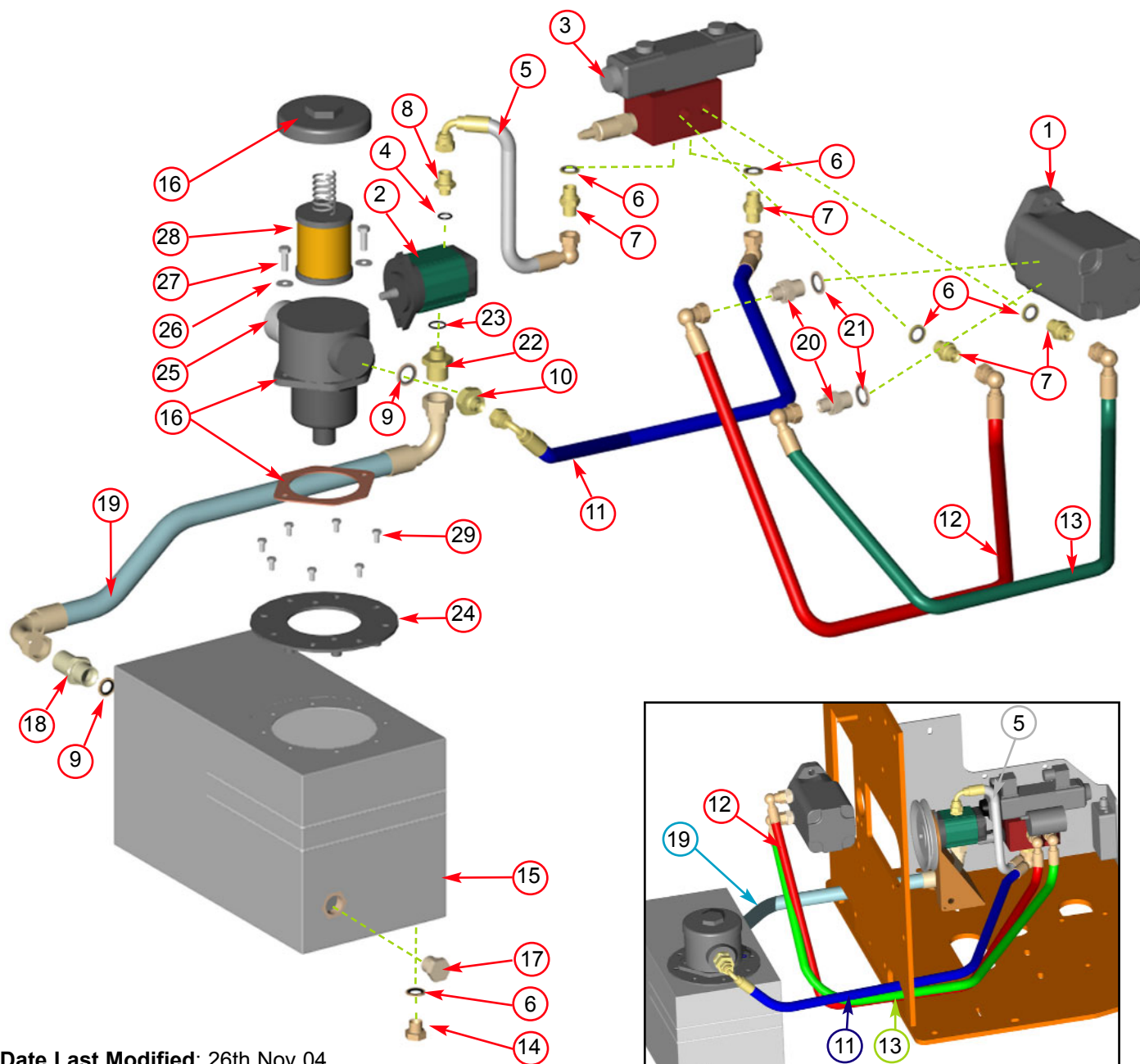
FUNNEL

40



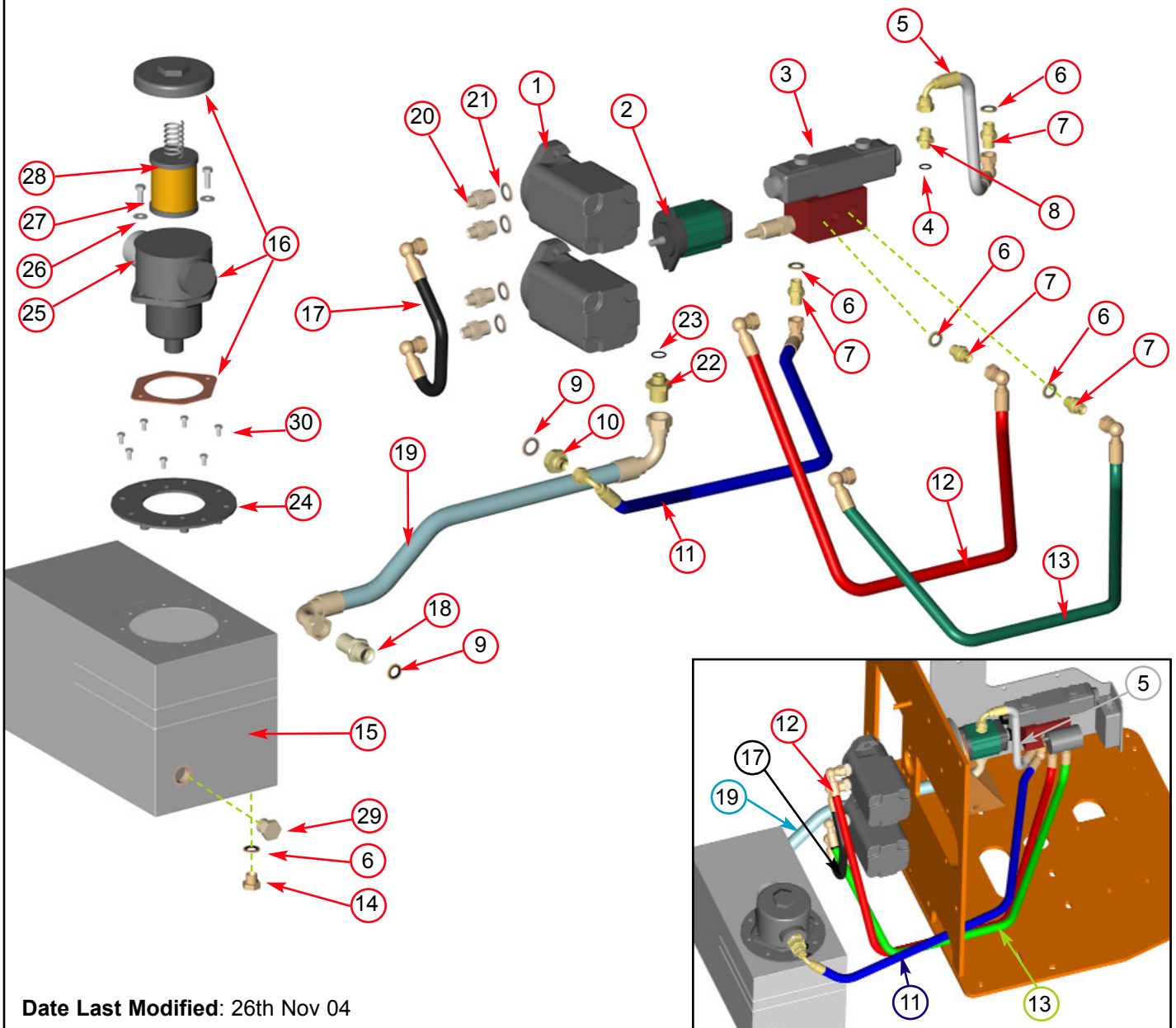
Date Last Modified: 15th Dec 04

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	2809F	Control Box (detail on pg 33)	1	18	1605	Stainless Spacer	2
2	1721	M8/10 Bolt	6	19	1599	Bearing Washer	2
3	289F	Spare Wheel Bracket	1	20	1570	Safety Bar	1
4	0644	M12 P Nyloc	2	21	—	See Wiring Diagram	1
5	0702	M12 A Washer	2	22	1812	M10/35 Bolt	2
6	0320	M12/25 Cup Square	2	23	1591	Nylon Spacer	2
7	2918F	Funnel	1	24	0479	M8 P Nyloc Nut	1
8	1644	M8 Anti-Vibration Mount	3	25	2727	Bracket Actuator	1
9	0321	M12/30 Bolt	2	26	0045	M12 T Nyloc Nut	2
10	2919F	Feed Tray	1	27	2986	1/2" Spring Bolt	2
11	2922F	Hinge Pin	2	28	0391	M6 T Nyloc Nut	8
12	0178	Rubber End Stop	2	29	1236	M6/20 Bolt	2
13	1600	Nylon Pistons	2	30	0046	M12 Plain Nut	4
14	0481	M8 T Nyloc Nut	1	31	0704	M12 C Washer	8
15	4018	Pin Bracket	2	32	—	M10 Repair Washer	2
16	0712	M8 C Washer	7	33	0709	M6 C Washer	18
17	1603	Die Springs	2	34	0437	M6/16 Bolt	10



Date Last Modified: 26th Nov 04

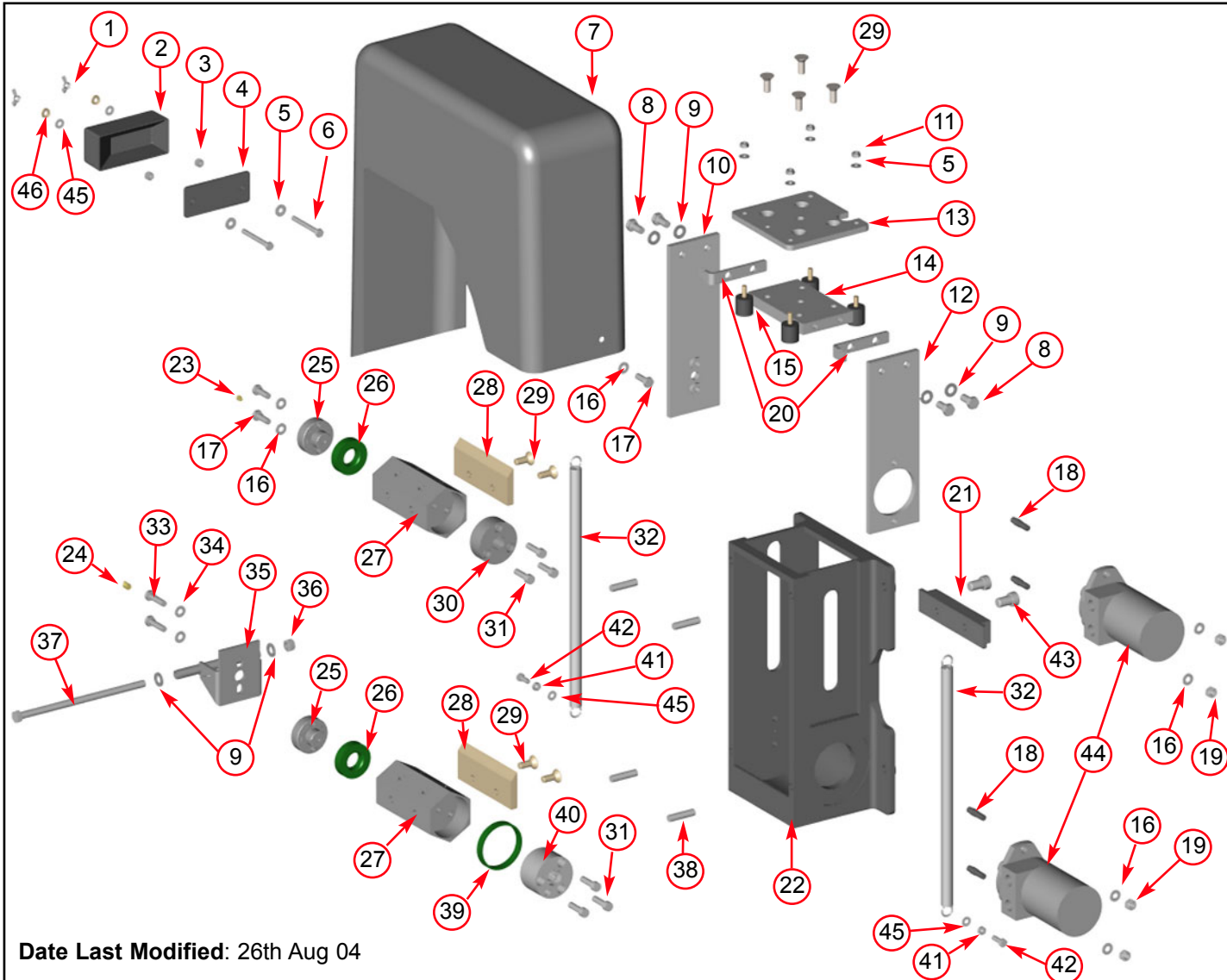
Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	2982	Hydraulic Motor	1	16	1413	Tank Top Filter	1
2	0980	Hydraulic Pump	1	17		3/4" Taper Plug	1
3	0163	Electric Valve	1	18	0766	3/4" - 3/4" BSP Adapter	1
4	0042	O Ring 9/16"	1	19	2750	Hose 3/4"	1
5	1420	Hose 3/8"	1	20	0026	Adaptor 1/2" - 3/8" BSP	4
6	0396	Washer Dowty 3/8"	5	21	0398	Washer Dowty 1/2"	2
7	0161	Adaptor mm 3/8" to 3/8" BSP	4	22	0026	Adaptor mm 1/2" to 3/8" BSP	1
8	0041	Adaptor 3/8" BSP to 9/16" UNF	1	23	0040	O Ring 3/4"	1
9	0152	Washer Dowty 3/4"	3	24	1702F	Tank Top Plate	1
10	0225	Adaptor mm 3/4" to 3/8" BSP	1	25	1067	Breather Filter	1
11	1421	Hose 3/8"	1	26	0712	M8 C Washer	2
12	1423	Hose 3/8"	1	27	0350	M8/25 Bolt	2
13	1422	Hose 3/8"	1	28	0100	Filter	1
14	0211	3/8" BSP Plug	1	29	1658	M6/12 Bolt	8
15	1703	Hydraulic Tank	1				



Date Last Modified: 26th Nov 04

Item	Part No	Part Name	Q'ty
1	2982	Hydraulic Motor	2
2	0980	Hydraulic Pump	1
3	0163	Electric Valve	1
4	0042	O Ring 9/16"	1
5	1420	Hose 3/8"	1
6	0396	Washer Dowty 3/8"	5
7	0161	Adaptor mm 3/8" to 3/8" BSP	4
8	0041	Adaptor 3/8" BSP to 9/16" UNF	1
9	0152	Washer Dowty 3/4"	3
10	0225	Adaptor mm 3/4" to 3/8" BSP	1
11	1421	Hose 3/8"	1
12	1423	Hose 3/8"	1
13	1422	Hose 3/8"	1
14	0211	3/8" BSP Plug	1
15	1703	Hydraulic Tank	1

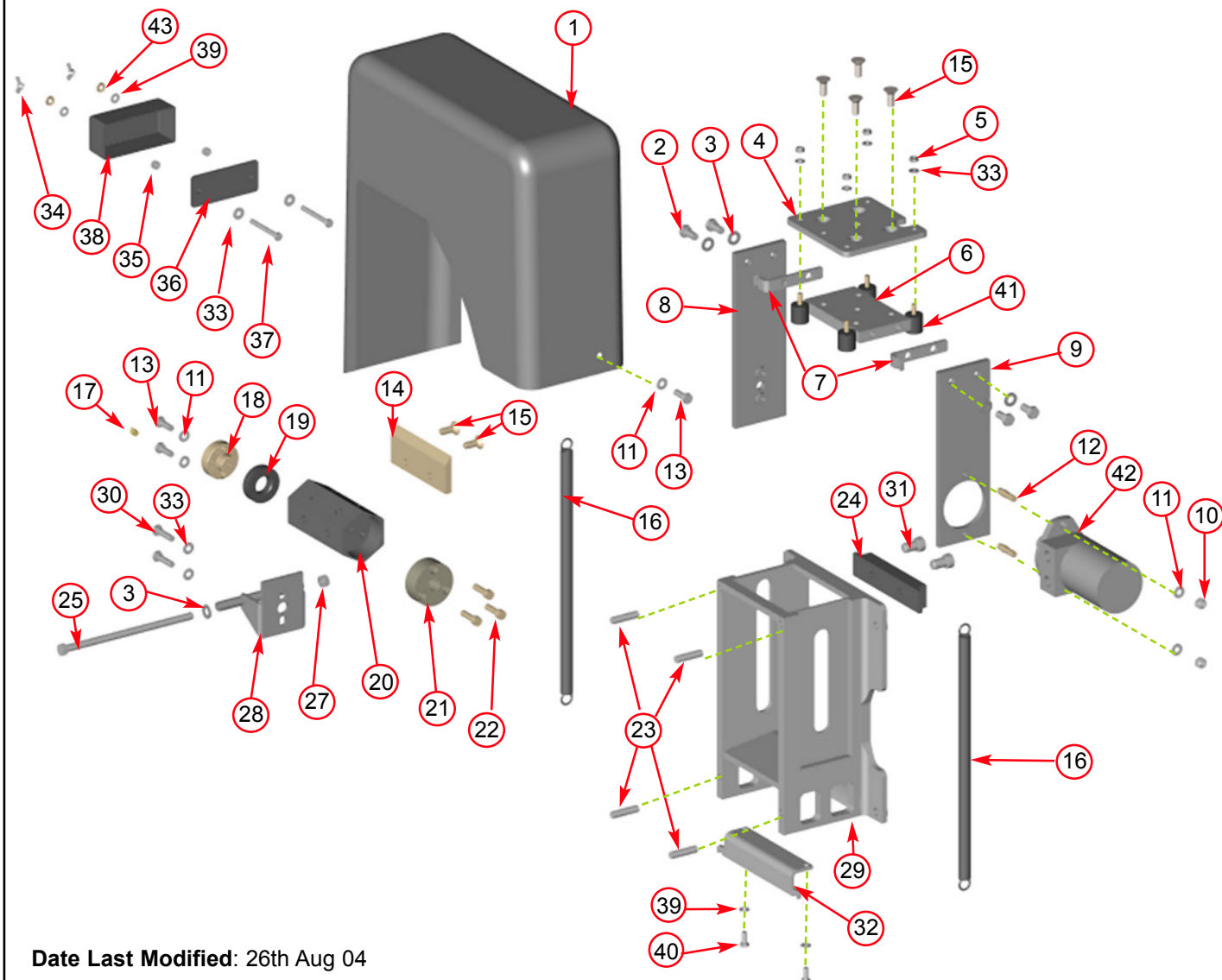
Item	Part No	Part Name	Q'ty
16	1413	Tank Top Filter	1
17	0323	Hose 1/2"	1
18	0766	3/4" - 3/4" BSP Adapter	1
19	2750	Hose 3/4"	1
20	0026	Adaptor 1/2" - 3/8" BSP	4
21	0398	Washer Dowty 1/2"	4
22	0026	Adaptor mm 1/2" to 3/8" BSP	1
23	0040	O Ring 3/4"	1
24	1702F	Tank Top Plate	1
25	1067	Breather Filter	1
26	0712	M8 C Washer	2
27	0350	M8/25 Bolt	2
28	0100	Filter	1
29		3/4" Taper Plug	1
30	1658	M6/12 Bolt	8



Date Last Modified: 26th Aug 04

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	1672F	Relay Back Plate	1
5	0712	M8 C Washer	6
6	0711	M8/60 Set Screw	2
7	0672	Cover	1
8	0429	M12/35 Bolt	4
9	0207	M12 A Washer	6
10	921F	Non Drive Side Plate	1
11	0481	M8 T Nyloc Nut	4
12	0487F	Drive Side Plate	1
13	1963F	Plate Top Damper Carrier	1
14	1962F	Block Top Damped	1
15	1768	AV Mount 30x30	4
16	0701	M10 A Washer	7
17	0382	M10/30 Bolt	5
18	1162	Motor Studs	4
19	0052	M10 T Nut	4
20	1964F	Bracket Spring Hanger	2
21	0103	Anvil	1
22	228M	Roller Box	1
23	0985	Straight Grease Nipple	1

Item	Part No	Part Name	Q'ty
24	0986	45° Grease Nipple	1
25	0055	Bearing Boss	2
26	0788	Plastic Bush	2
27	1362	Roller Body	2
28	0325	Roller Blade	12
29	0428	M12/30 Csk Soc.	28
30	1361	Drive Spline	2
31	0382	M10/30 Cap Screw	6
32	0423	Roller Box Spring	2
33	0309	M10/40 Bolt	2
34	0839	M10 C Washer	2
35	534F	Cover Bracket	1
36	0045	M12 T Nut	1
37	0319	M12/220 Bolt	1
38	0356	Funnel Studs M12/50	4
39	2757	Bush Bearing Spline	1
40	2756	Spline 6B Retro Bottom	1
41	0711	M8 A Washer	2
42	0346	M8/20 Bolt	2
43	0305	M10/25 Caphead	2
44	2982	Hydraulic Motor	2
45	0711	M8 A Washer	4
46	1008	M8 Spring Washer	2



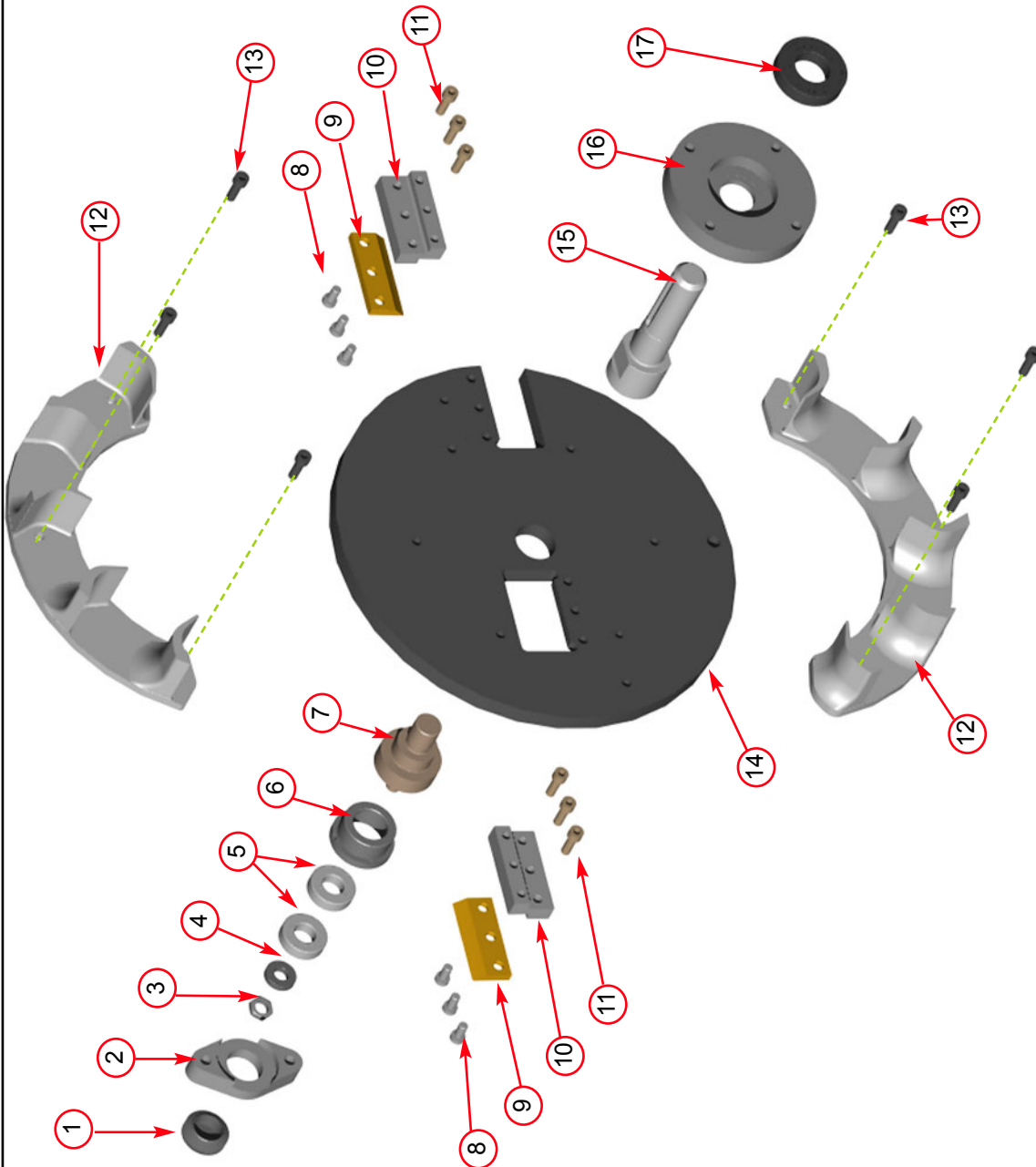
Date Last Modified: 26th Aug 04

Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	0672	Cover	1	22	0382	M10/30 Cap Screw	3
2	0429	M12/35 Bolt	4	23	0356	Funnel Studs M12/50	4
3	0207	M12 A Washer	5	24	0103	Anvil	1
4	1963F	Plate Top Damper Carrier	1	25	0319	M12/220 Bolt	1
5	0481	M8 T Nyloc Nut	4	27	0045	M12 T Nyloc Nut	1
6	1962F	Top Block Damped	1	28	0534F	Cover Bracket	1
7	1964F	Spring Hanger	1	29	0766M	Roller Box	1
8	0921F	Non Drive Side Plate	1	30	0346	M8/20 Bolt	2
9	0487F	Drive Side Plate	1	31	0305	M10/25 Caphead	2
10	0052	M10 T Nyloc Nut	2	32	0053	Bottom Spring Hanger	1
11	0701	M10 A Washer	5	33	0712	M8 C Washer	8
12	1162	Motor Studs	2	34	1673	M8 Wing Nut	2
13	0382	M10/30 Bolt	5	35	0479	M8 P Nut	2
14	0325	Blade Roller	6	36	1672F	Relay Back Plate	1
15	0428	M12/30 Csk Soc.	16	37	0711	M8/60 Set Screw	2
16	0423	Roller Box Spring	2	38	1595	Relay Cover	1
17	0985	Straight Grease Nipple	1	39	0711	M8 A Washer	4
18	0055	Bearing Boss	1	40	0346	M8/20 Bolt	2
19	0788	Bush Plastic	1	41	1768	AV Mount 30x30	4
20	1362	Roller Body	1	42	2982	Hydraulic Motor	2
21	1361	Drive Spline	1	43	1008	M8 Spring Washer	2



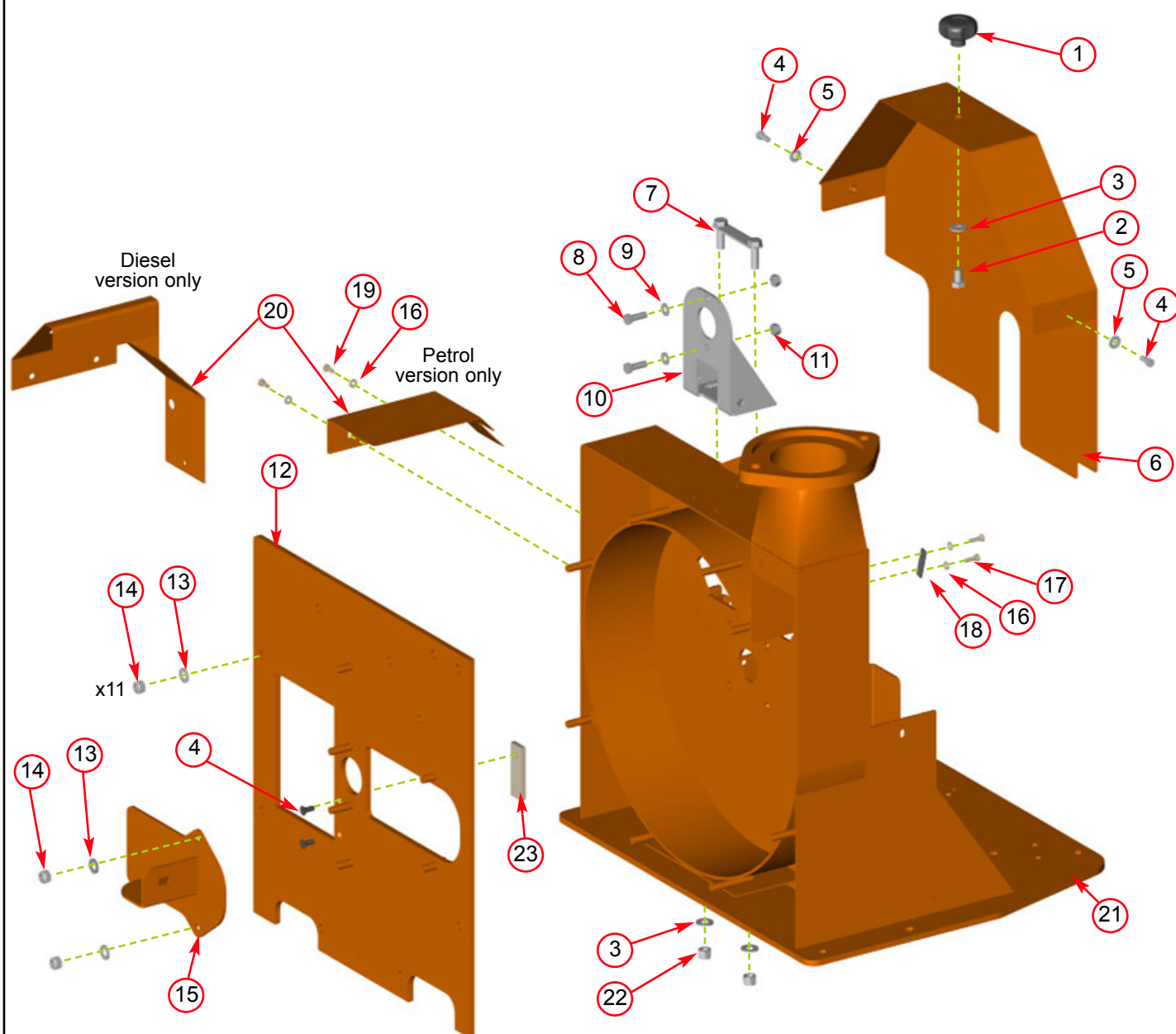
ROTOR PARTS

45



Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty	Item	Part No	Part Name	Q'ty
1	0959	Plastic Cap	1	7	1367	Nose Shaft	1	13	0878	M10/20 Bolt	8
2	0884	Bearing Housing Rear	1	8	0900	M10/20 Star Cap Screw	6	14	0880	Rotor	1
3	1275	M16 Half Nut	1	9	083H	Cutter Blade 4"	2	15	0881	Rear Shaft	1
4	1412	Washer Heavy Thick	1	10	757B	Blade Pocket	2	16	0676	Bearing Housing Rear	1
5	0491	Bearing 6205	2	11	0386	M10/30 Cap Screw	6	17	0495	Bearing 6208	1
6	0883	Bearing Cup	1	12	1571	Fan Section	2				

Date Last Modified: 2nd Oct 03



Date Last Modified: 23rd Aug 04

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	4
5	0712	M8 C Washer	2
6	1389	Belt Guard	1
7	1027F	Bolt Support Plate	1
8	0382	M10/30 Bolt	2
9	0701	M10 A Washer	2
10	0052	M10 T Nyloc Nut	2
11	0886F	Pump Bracket	1
12	1267F	Front Plate	1

Item	Part No	Part Name	Q'ty
13	0702	M12 A Washer	13
14	0045	M12 T Nyloc Nut	13
15	1268F	Access Cover	1
16	0709	M6 C Washer	4
17	0348	M6/20 Pozi Pan	2
18	1416	Sensor Clamp	1
19	0438	M6/16 Pozi Pan	2
20	1410 (PH)	Inner Guard	1
OR	1485 (DH)	Inner Guard	1
21	1382F	Rotor Housing	1
22	0644	M12 P Nyloc Nut	2
23	0101	Anvil Vertical	1



STICKERS

47

TIMBERWOLF

1136

X2

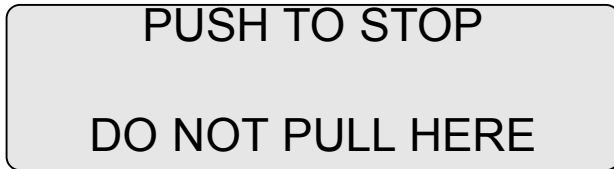
(Diesel models only)

1523



4099

X2

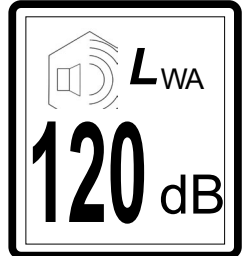
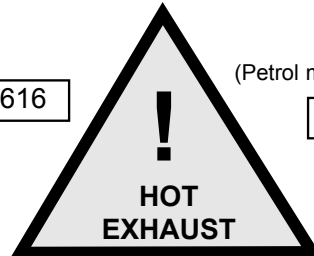


1399

616

(Petrol models only)

1522



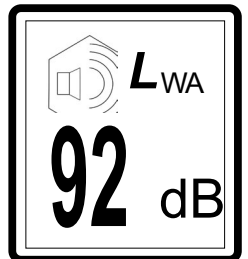
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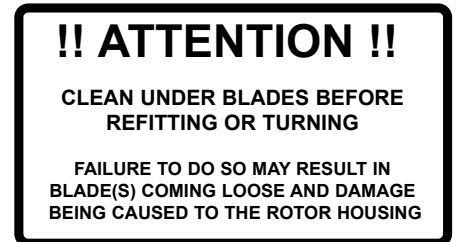
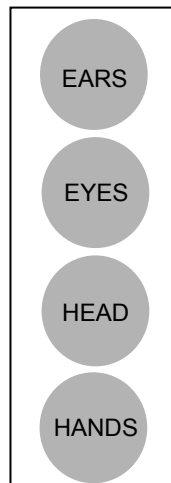


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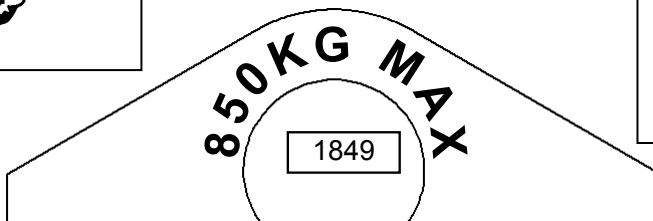


1661



3022

1363



1849

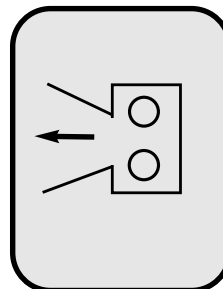
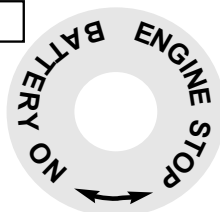
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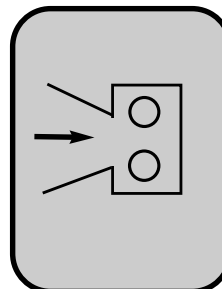


(Diesel models only)

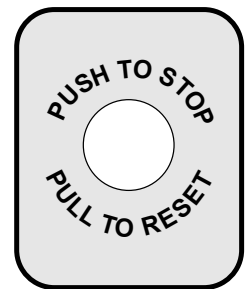
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2800

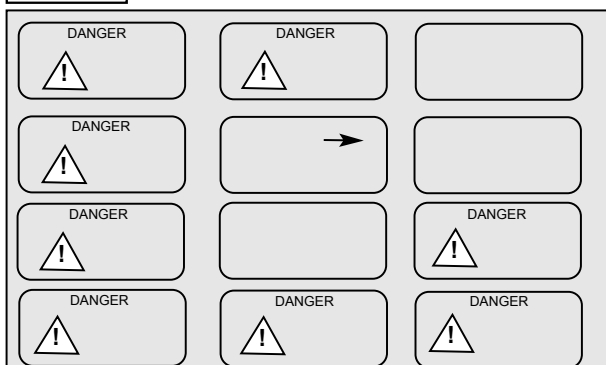


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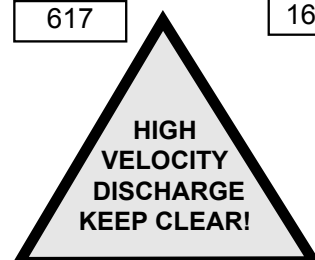


2802

671



617



1662

OPERATING INSTRUCTIONS

READ THE INSTRUCTION MANUAL.

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.