

Terminator Pro 500-600 / 800 Tree Stump Cutter

User, Parts and Workshop Manual

Revision 16 - August 2023. SN. 100497-

Original Instructions



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Pro 800, Pro 500-600 Professional Handheld Tree Stump Cutter

A lightweight tree stump cutter, powered by a chainsaw engine.

Reading and understanding this manual is essential for your own safety, the safety of those around you, and the productive life of the machine.

This machine is for professional use. It is important that users of this machine are competent and have read and fully understood this user manual before attempting to use the machine.

This is an attachment. Although there will be instructions within the manual that refer to the engine, we are not responsible for the engine or the fitting of this attachment to the engine. This attachment is only to be used on the engine that it is intended for, which is indicated by the model type. Changing the type of engine will result in different cutter wheel speeds, which could cause harm to the machine and/or the operator.

The machine consists of a cutter wheel with teeth mounted onto a stub shaft which is fitted into a hub with roller bearing support.

Off the other end of the stub shaft, within the hub is a pulley wheel.

The hub is attached to a hollow, rectangular shaft which contains a series of stepped, floating, pulleys connected by separate belts. This provides the reduction in gearing from the engine to the cutter wheel.

The belts are tensioned at both ends of the shaft. The assembly is pre-tensioned before fitting the engine. Belt adjustment can be undertaken without removing the engine.

Fitting of the engine to the machine must be undertaken correctly. Please pay attention to the fitting instructions. Incorrect fitting could result in damage to the machine and possible injury to the operator.

This machine has been designed for the cutting out of small stumps and small to medium sized stumps in restricted access situations.

Due to the size of the machine it is easily manageable. This does not mean it should be used continuously for long periods of time. This could cause damage to the machine and the operator.

The user must respect the limitations of this machine and the effects that long periods of vibration can have on the operator. Limiting daily exposure to vibration is essential and should be considered for each job. The recommended maximum daily use is one hour. This machine is not designed for working all day, every day. Please respect the limitations of this machine.

Do not use this machine for cutting concrete, asphalt, bricks, metal or anything else other than tree stumps.

The fitting of this attachment may cause extra or different types of stress on your engine. It will depend on how the machine is used and maintained. The user must take this into consideration. We strongly recommend not applying very high RPM for extended periods of time, especially when not under load. Slightly more oil in the fuel mix would probably be a good idea. Allow the engine to cool off regularly. Change or sharpen the teeth regularly.

Chainsaw Attachments will not accept any liability for any engine failures due directly or indirectly to the fitting of this attachment. If you are not happy with these terms, then please contact your supplying dealer before using the machine.

The machine has been tested extensively under normal working conditions by competent operators without any engine problems.

This manual must be read and fully understood by the operator. If the operator can't read this manual, then the operator must be trained by someone who has read and fully understood this manual.

This manual or a copy of this manual should accompany the machine at all times, so that it can be referenced to.

A copy of the engine manual should accompany this manual and be used for safety reference and maintenance.

Access to this manual online can be found by using the QR code on the machine.

It is essential that the attachment is only fitted to the engine that it is designed for in accordance with the instruction manual. No modifications must be made. The relevant engine manual forms part of the health and safety instructions for the complete machine.

EC DECLARATION OF CONFORMITY



We, the manufacturer -

Chainsaw Attachments Ltd
The Log House, Kiln Lane,
Binfield Heath, RG94EN. UK

Hereby declare that -

Stump Grinder Attachment

Pro 500/600

Pro 800

Serial Number -

fulfils all relevant provisions of the machinery directive 2006/42/EC

Including - BS EN ISO 12100-2010 and BS EN ISO 22867-2011

Parameter	500 Pro	600 Pro	800 Pro
Weight overall.	26.8 kg (59 lb)	28kg (61.7 lb)	30.6 kg (67.5 lb)
Weight w/o leg.	22.8 kg (50.3 lb)	24 kg (52.9 lb)	26.6 kg (58.6 lb)
Length (mm)	1657mm (65")	1657mm (65")	1741mm (68.5")
Engine	Stihl MS-500i	Stihl MS-661	Stihl MS-880
Sound level	<i>Lwa 121 dB</i>	<i>Lwa 120 dB</i>	<i>LWA 121 dB</i>
Vibration level	<i>Hands - 19 m/s2</i>	<i>Hands - 19 m/s2</i>	<i>Hands - 19 m/s2</i>
Power kW / hp	5 / 6.8	5.4 / 7.3	6.4 / 8.6
Displacement	79.2cc	91.1cc	121.6cc

Specifications are approximate and will vary with fuel and other conditions

Authorised representative within the European Union -
Andrew Watts

Drawn up on 09/02/2021 by:

P. Watts (M/D)

DECLARATION OF CONFORMITY



We, the manufacturer -

Chainsaw Attachments Ltd
The Log House, Kiln Lane,
Binfield Heath, RG94EN. UK

Hereby declare that -

Stump Grinder Attachment

Pro 500/600

Pro 800

Serial Number -

*fulfils all relevant provisions of **Supply of machinery (safety) regulations 2008***

Including - BS EN ISO 12100-2010 and BS EN ISO 22867-2011

Parameter	500 Pro	661 Pro	880 Pro
Weight overall.	26.8 kg (59 lb)	28kg (61.7 lb)	30.6 kg (67.5 lb)
Weight w/o leg.	22.8 kg (50.3 lb)	24 kg (52.9 lb)	26.6 kg (58.6 lb)
Length (mm)	1657mm (65")	1657mm (65")	1741mm (68.5")
Engine	Stihl MS-500i	Stihl MS-661	Stihl MS-880
Sound level	<i>Lwa 121 dB</i>	<i>Lwa 120 dB</i>	<i>LWA 121 dB</i>
Vibration level	<i>Hands - 19 m/s²</i>	<i>Hands - 19 m/s²</i>	<i>Hands - 19 m/s²</i>
Power kW / hp	5 / 6.8	5.4 / 7.3	6.4 / 8.6
Displacement	79.2cc	91.1cc	121.6cc

Specifications are approximate and will vary with fuel and other conditions

Drawn up on 09/02/2021 by:

P. Watts (M/D)

Vibration

Recorded vibration levels -

Hands - 19 m/s²

Left foot - 14 m/s²

Extended uncertainty of measurements: $U = \pm 1.2$

The given uncertainty means total uncertainty based on standard deviation multiplied by coefficient $k=2$ with a confidence of approximately 95%

Due to so many different factors, including, but not limited to the hardness of the wood hardness of the ground, the condition of the teeth and the machine, an incalculable addition to the vibration level could occur.

For this reason we advise that the user takes the following action.

- 1) Keep exposure to a minimum. Low duty cycles with plenty of breaks is essential, limiting users exposure to vibration. We recommend no more than one hour use per day.*
- 2) Keep hands warm. Exercise hands and fingers in breaks*
- 3) Wear heavy duty gloves and boots that offer adequate anti-vibration protection.*
- 4) Don't grip the handles too tight.*
- 5) Keep the engine RPM below 75% whenever possible.*
- 6) Keep the teeth sharp.*
- 7) Make sure the wheel is balanced with evenly worn or new components.*
- 8) Take extra care in cold weather*

Noise

The maximum noise levels come from the engine. See the engine manual for more information.

Pro500 - Lwa 121 dB

Pro661 - Lwa 120 dB

Pro800- LWA 121 dB

Assembly

PPE - Use of relevant ppe such as work boots during assembly is important as heavy parts could drop onto feet etc.

Fitting of Engine

This job is easier if you have assistance. If undertaking on your own it's easier if you have a box, stand or log to take the weight of the unit whilst lining the engine up.

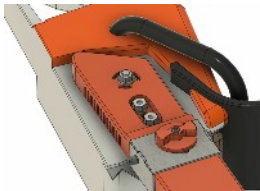
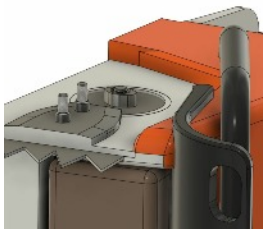
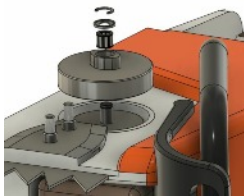
BE SURE THAT THERE'S NO OIL IN THE OIL TANK. If you leave oil in the tank it will pump out onto the belts and cause the belts to slip and fail. With some engines its possible to turn the oil off, however, we recommend you also remove oil from the tank.

The sprocket on the chainsaw needs to be removed.

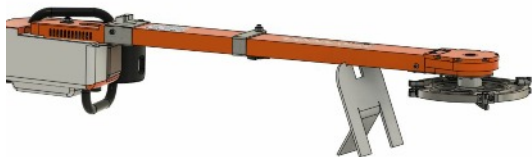
- Apply the brake
- With a small screwdriver, remove the C-clip, washer and sprocket.
- **Replace the washer with small washer supplied. Replace the C-clip.**
- Fit the stump cutter unit as you would a chainsaw bar, locating the pulley onto the drive shaft spline. You can see through the bottom of the mounting vents. Turn the cutter wheel by hand to locate the spline. Do not use the engine adjuster. Set this in the middle. Fit supplied nuts and tighten.

Make sure the engine is fitted correctly and rigid. Make sure the engine exhaust is fitted correctly and intact.

If there is any excessive vibrating or noise coming from the engine or attachment, STOP and investigate. Do not use until it is fixed.



Support engine and shaft with a stand or box to keep the unit level.

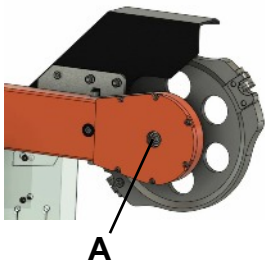
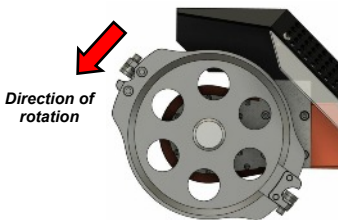


- Fit the mounting plate and engine nuts and be sure that everything is lined up and located before tightening the assembly. Do not over-tighten.
- The mounting plate should fit flush against the engine body.
- With the Pro661, we provide engine nuts. With the Pro880 you use the nuts that come with the engine.

The belts are pre-tensioned. Further tensioning. See maintenance.

Fitting of Cutter wheel

Fit the cutter wheel to the hub shaft the correct way round. Place large nut in hole in shaft. Screw bolt in from other side with locking washer in place. Tighten with to 60Nm



Leg

The leg is ready assembled.

The machine should never be used without the supporting leg

Fitting Guard

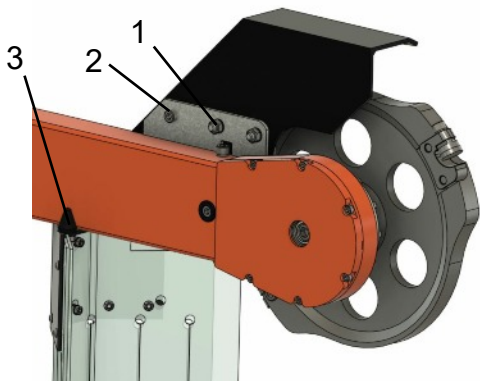
Slide the guard between the two steel plates and push backwards.

Tighten nut (1) and insert and tighten bolt (2)

Make sure rubber stopper (3) is located on the other side of the shaft

This guard must be in place and secured properly during operation. Also it must be perfectly in tact along with the skirt.

If the skirt becomes creased during storage, straighten it out before use.



Running in procedure

The attachment is partly run in on a test rig in the factory, however, we recommend low duty cycles of five to ten minutes for the first few times. This will extend the life of the machine.

Check all bolts regularly as vibration can cause them to come loose.

Transportation

Transportation And Storage

Remove the leg before transporting the machine in a vehicle. Bear in mind that the engine might still be hot and could cause injury or damage. As with all engines it's possible for fuel to leak out. Be aware of this and keep in a well ventilated area.

Use the stand (A) for storage and transportation. The stand can be bolted down into vehicle and the attachment can be tied down to the stand. This will prevent the machine from rolling over and reduce the risk of fuel leakage.

Do not store or transport the machine upside down.

*With the removal of the leg, the machine weighs approximately **25kg** and should be within the capable lifting limits of most fit and strong adults.*

With the leg fitted, the machine should be manoeuvred on the rubber wheel, which is mounted on the end of the leg. Simply pull the leg handle back towards the engine and push along whilst holding the rear handle of the engine in your right hand.

It is important that the engine is not running whilst moving the machine to the site. Only start the engine once you are at the stump and ready to start cutting. Apply the brake on the engine when moving between stumps.

Move the machine on the wheel wherever possible.

Site preparation

Make sure the site is cordoned off so no people or animals can get anywhere near the operation. 20m exclusion zone

Make sure the operation area is well guarded to prevent material or any parts being ejected from around the stump. This guarding must be in front, to the sides and behind the operation.

The machine is designed to cut tree stumps that are fixed firmly in the ground. The machine is not designed to cut any material other than wood. Loose objects can be picked up and thrown. The site must be fully assessed first. Any foreign object, large stones, wire, string, cables etc must be removed before attempting to use the machine. The operator must check to make certain that there are no power cables, gas pipes or any other services in the cutting area.

Keep away from all services, particularly electricity.

Make sure all teeth and wheel components are in place, sharp and that the bolts are tight. Machinery must be turned off before changing teeth or undertaking any work to the cutter wheel.

The operator must be comfortable with the terrain he is working with and must be sure that the machine can be held stable at all times. Avoid wet and slippery surfaces. Avoid steep slopes

Make sure there are no trip hazards

The machine is designed for cutting out small to medium size stumps. It is important for the well being of the operator and the machine to take regular breaks and not to push yourself or the machine too hard, as one will eventually fail.

User extra guarding near roads and buildings.

This machine must not be used indoors.

Keep the machine well away from any open fires, especially when refuelling.

A risk assessment should be carried out by the operator and/or the site manager before operation.

Using the machine

The operator must wear full PPE, including, but not limited to, chainsaw protective boots, hard hat with visor and ear protection, gloves, and adequate clothing. In dry and dusty conditions the operator should also wear a sufficient dust mask.

The operator is totally responsible for any injury or damage caused to third parties.

The machine must be in perfect working order, with all guards and fixing screws in place securely. Check at regular intervals.

This machine is designed to operate at the best performance achievable within its limits. Modifications to this attachment should not be made without consulting Chainsaw Attachments first in writing.

Parts of this machine, especially the engine may become hot. Be careful when handling. Do not clean the machine with petrol or other flammable liquids.

Do not attempt to fix or maintain the machine when the engine is running.

As the title suggests, this is a tree stump CUTTER. It is designed to cut wood. It will tolerate a certain amount of contact with soil and stones. But the teeth will become blunt. It is important to change or sharpen the teeth when they become dull. This machine is not designed to cut wood with blunt teeth. Blunt teeth will cause damage to the attachment and possibly the engine, along with extra vibration exposure to the operator. It will also require more fuel to remove the stump. For the above reasons it is not economical or practical to run with blunt teeth.

Ensure the wheel turns freely without fouling before starting the machine. Check bolts are tight. Make sure the guard is intact, tight and complete.

***BE SURE THAT THE OIL TANK IS EMPTY.** If you leave oil in the tank it will pump out onto the belts and cause the belts to slip and fail.*

Slipping belts will also damage the pulleys and result in a high repair cost.

This machine must not be used when there is insufficient lighting. The operator must be able to see clearly what he is cutting.

If people or animals come near or into the 20m exclusion zone, stop and turn off engine.

The manufacturer bears no responsibility for damage to property or injury to third parties resulting from misuse according to this manual.

Operation

With the leg removed and the engine brake on, start the engine. Check the wheel is not turning and the brake is working correctly. Check that the engine controls, including the stop switch is working correctly.

Lift the engine up with the cutter wheel on the ground.

Insert the quick release spigot of the leg into the pivot point on the shaft by pushing the handle forward towards the guard.

Pull the handle back to the upright position. This is the working position.

Place your left foot on the step. This should always be your front foot. Your right foot should be back, behind the engine.

Position yourself near the front of the stump. Release the engine brake. Then with your right hand apply some engine revs.

Cut down the face of the stump. Cut a vertical slot on the front, right hand side. Then move the cutter wheel to the left and cut another slot to the left of the first slot. Work from right to left until you've cut the front face away.

Do not cut on top of the stump. Do not cut the other side of the stump. Do not cut underneath the stump using the upper part of the cutter wheel.

Move the machine forward an inch or so and repeat the above. Keep repeating the above until the stump has been removed.

The cutting will always be better with higher engine revs. Only apply full throttle when the wheel is under load and engaged in the stump.

Your left hand moves the machine forward and slightly downwards.

Your right hand moves the engine up and down, which in turn moves the wheel down and up. Your right hand also controls the throttle.

Your left foot anchors the machine to the ground. Your right foot provides stability. Always keep your left foot on the step.

Use the engine brake to stop the wheel quickly, but only when necessary. Otherwise, use the ground to stop the wheel.

Keep the leg as close to right angles with the main shaft as possible. See pictures for correct and incorrect operating positions.

Do not slew from side to side when cutting, only for positioning.

This machine must only be used outside in well ventilated areas with sufficient lighting.

Do not use in restricted areas that prevent the correct manoeuvrability and stability of the machine that would prevent the safe working of the machine. The correct stance is essential for the safe operation of this machine.

The machine should never be used without the supporting leg

Cutting Procedure

Start cutting down the front right hand side of the stump.

Do not slew from side to side like other stump grinders

Work your way from right to left taking vertical slots out of the stump, no wider than the maximum cutting of the wheel (about 5 cm)

Continue until you've completed one complete pass across the front of the stump. Make sure you go to the required depth on this pass

Repeat the above as many times necessary to complete the entire stump.

Do not cut no top of the stump. This will cause vibration



IMPORTANT The red block shows the only part of the wheel that should ever be in contact with the stump.

Higher will cause kickback.

Lower will cause vibration

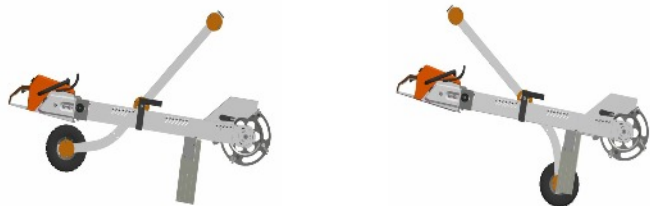
Correct

The leg is at right angles to the shaft. This angle will change a little whilst in use, but the angle should not change more than plus or minus 10 degrees.



Incorrect

Movement like this will make the machine unstable and risk the leg from coming



Blockages, breakages and hitting of foreign objects

In the event of the wheel blocking or the teeth hitting something hard or the entanglement of string or wire, **STOP. Turn off the engine.** Place the machine on the ground and investigate.

Unblock the wheel and check all wheel components. Check that the bolts are tight. Check that the wheel turns freely. Check that there is no side wobble in the wheel. Check that the wheel is intact and not damaged.

Only when you are sure the situation is resolved, should you start the machine.

Once started, if there is any unfamiliar vibration or noise, **STOP** the machine and investigate. Do not use until the problem is fixed.

Maintenance

Checking Belt Tension

It feels like the wheel is slowing but the engine RPM is still high.

Please follow this procedure in this order.

Belts should not be hot. Run machine for one minute with cutter wheel spinning slowly.

- 1) Loosen bolt (A) Do not remove.
- 2) Loosen nut (E)
- 3) Go to back of machine and loosen bolts (B) (C) and (F)
- 4) Loosen nuts that hold engine on.
- 5) Turn knob (D) clockwise by hand. Do not use a tool for assistance as this could over-tighten the belts.
- 6) Tighten bolt (C) and then tighten bolts (B) and (F) and (E) Then tighten engine bolts
- 7) Go back to front and tighten bolts (A)

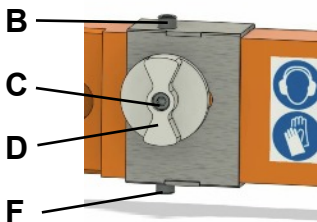
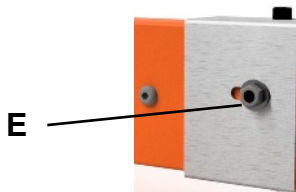
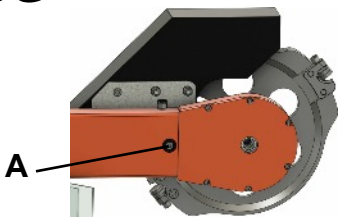
Please note that if belts are allowed to slip, the pulleys will wear and then even new belts might not grip properly.

Understanding 'V' belt tensioning

The belts don't want to be loose. Slack needs to be taken out of the belt to prevent it from slipping. However, they also don't want to be too tight.

'V' belts grip on the sides. If the belts are too tight they will pull down into the pulley groove too much causing unnecessary friction, heat and load on the bearings.

Just tighten to take up the slack.



Maintenance of Cutter Wheel

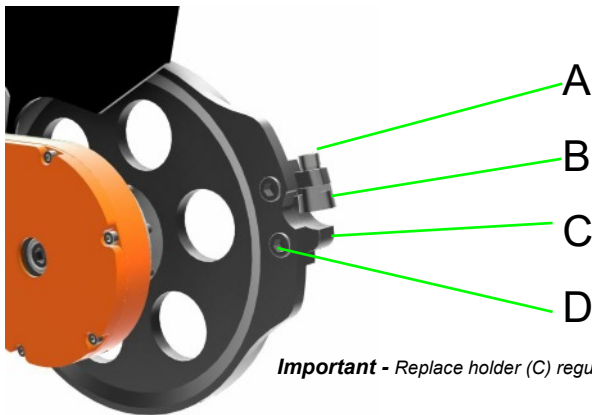
We've made the maintenance of the cutter wheel as easy as possible to encourage users to change the teeth regularly. Sharp teeth greatly increases performance, extends the life of the machine and uses a lot less fuel.

All the components on the wheel can be replaced when worn.

There are now two cutting tips which can be turned to give three cutting edges each.

Simply -

- 1) Undo and remove the small bolt, (A)
- 2) Turn or replace tip (B)
- 3) Replace and tighten bolt (A) to 40 Nm installing locking washer
- 4) **Replace holder (C) when worn.** The holder also restricts the depth of cut. As this wears the tooth will cut more aggressively. If the cut becomes too aggressive there will be extra load on the belts and the machine will start to jump and pull into the stump too much. This could result in belts breaking and other problems.
- 5) Tighten bolts (D) to 50 Nm

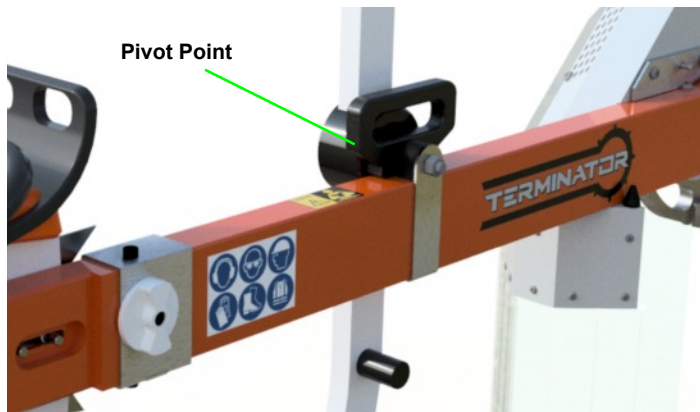


Important - Replace holder (C) regularly

Grease Pivot

For your convenience the machine is fitted with a quick removing leg, which makes transportation, carrying and storage a lot easier.

The pivot point should be greased regularly to prevent wear. We suggest that this is greased before each use. Also, if any dust or other contaminates should get into this area, they should be cleaned out. Every now and again it would be a good idea to clean this area out and insert some fresh grease.



To remove the leg, push the handle end forward so it just about touches the guard. Then gently pull the leg away from the machine. The opposite procedure to install the leg. When installing, make sure the spigot is fully located before pulling the leg backwards. Failure to locate it properly could result in a broken handle.

Spline Drive

Apply a small amount of Alumslip or Copperslip to the spline drive every 50 hours or whenever removing the engine. Whichever comes first.



Servicing

Check all bolts regularly. Bolts can vibrate loose. If they are not checked parts can fail

The machine is designed for low maintenance. It will depend on the usage, but a strip down service should be carried out once a year or every two hundred hours, whichever comes first. We strongly recommend that you send the machine back to us or your local service dealer for servicing. Simply remove the engine, guard, leg and cutter wheel and send the main shaft back to us or a local dealer.

The machines warranty could be void if the main shaft of the machine is incorrectly maintained.

Maintenance of Shaft and Hub

The bearings and belts are standard sizes, but we've selected types that offer particular performance qualities. Changing the brand or spec might result in premature failure.

First 10 hours use, or if belt starts to slip

Check belts and tighten if necessary. See page 17

Remove any dust and debris from inside the shaft by tipping up.

Check all bolts for tightness. Check all wheel components are in place and intact.

Check that all parts are secure and not damaged.

Check there are no wobbles from fitted parts

Check the brake functions correctly.

Check that the engine controls, including the stop switch is working correctly.

Maintain the engine in accordance with the engine manual.

Apply copperslip or alumslip to engine drive pulley.

Clean out and apply grease to pivot.

Check all safety decals are readable and in place.

Cleaning

Tip the machine up so that the engine is on the ground and the wheel is in the air. This will release and dust and debris that has made it's way into the machine.

Clean machine with soapy water and wipe dry. Do not jet wash main shaft and hub.

Note: Jet washing the hub will result in water getting into the main hub bearing. This will cause the bearing to fail eventually.

Engine

Maintain the engine in accordance with the engine manual.

Notes for major service

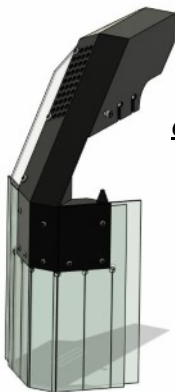
- *Before attempting to service the shaft and hub, remove the leg, guard, engine and cutter wheel.*
- *The bearing in the hub cover needs Alumslip or Copperslip applied when refitting to help with disassembly.*
- *Replace all worn parts.*
- *The first 10 hour service will need to be undertaken again after a major service.*
- *If the shaft is sent back to us for service, we install the refurbished shaft onto a test rig and run it for 30 minutes until warm, before re-tightening the belts. If the service isn't undertaken in our factory, we suggest very careful running in for the first hour or so of use. Then checking of the belt tension will need to be undertaken. See page 11*

We recommend major servicing at an authorised workshop that has undertaken training and is familiar with this product.

Parts Manual



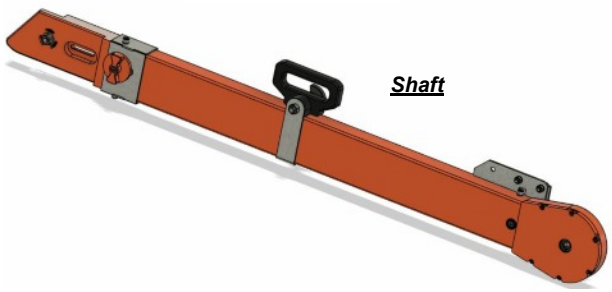
Leg



Guard

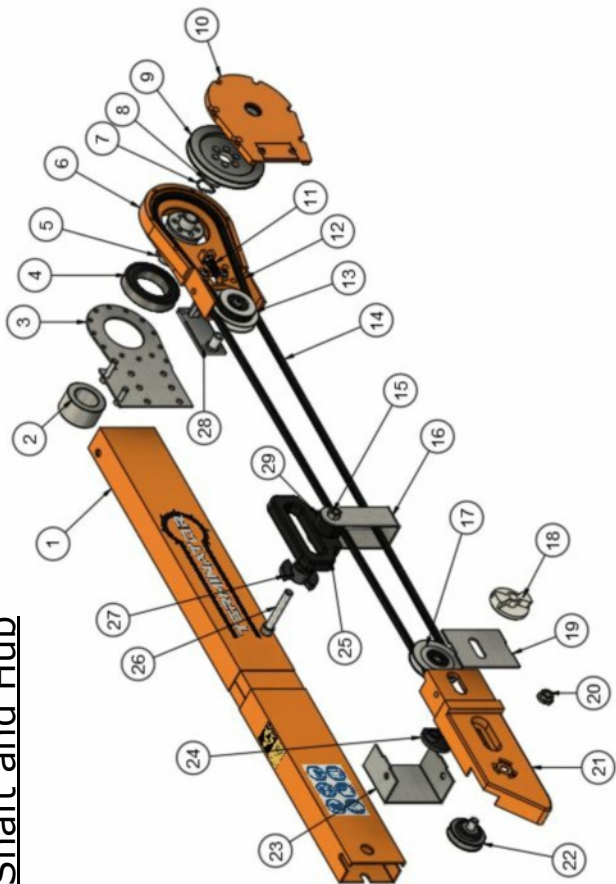


Wheel



Shaft

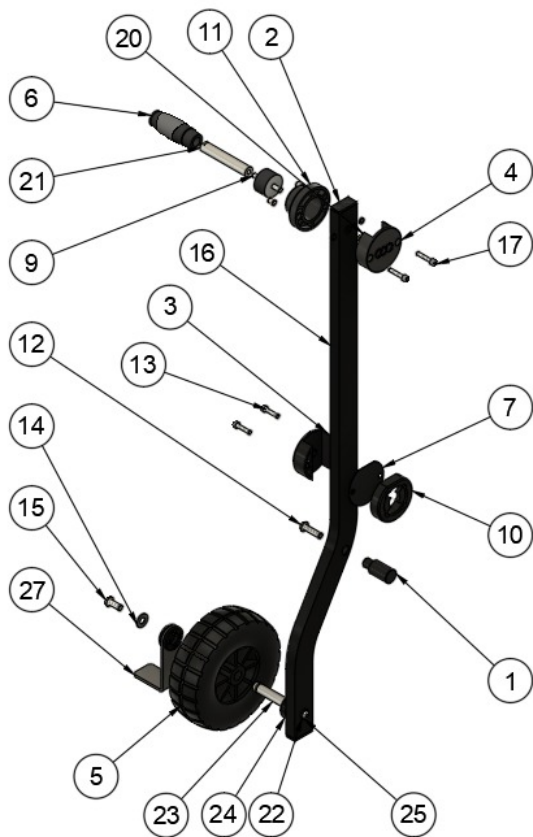
Shaft and Hub



Shaft and Hub

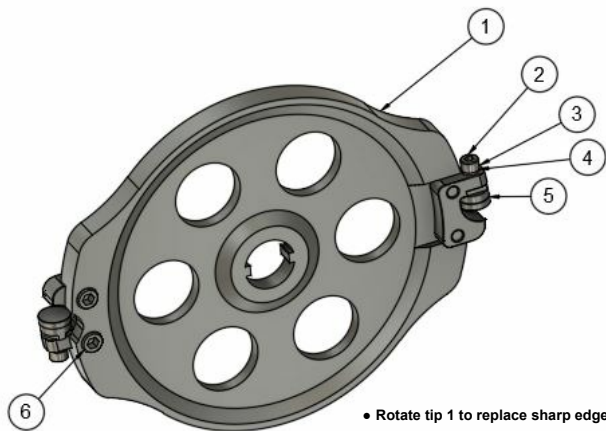
1	ALP-326 (661 & 500) ALP-327 (880)	661 Pro shaft
2	ALP-045	Wheel spacer
3	ALP-043	Hub wheel plate
4	ALP-048	Hub bearing
5	ALP-079	Hub shaft
6	ALP-321	Pro Hub
7	ALP-330	M25 wave washer
8	ALP-331	M25 machined washer
9	ALP-324	Hub pulley pro
10	ALP-323	Hub cover pro
11	ALP-332	Spring
12	ALP-317	XPZ630
13	ALP-345	Stepped V pulley pro complete
14	ALP-318	XPZ2240
15	ALP-059	M12 nut
16	ALP-233	661 shaft strap
17	ALP-341	Guide pulley complete
18	ALP-169	Belt tightener
19	ALP-110	Collar plate
20	ALP-059	M12 flange nut
21	ALP-103 (661) ALP-049 (880) ALP-325 (500)	Mounting
22	ALP-344	661 engine pulley
23	ALP-111	Collar plate 2
24	ALP-112	Cam
25	ALP-203	Shaft handle
26	ALP-200	M12 x 75 socket cap
27	ALP-107	Quick release spigot
28	ALP-322	Pulley Carrier pro
29	ALP-214	Handle block
30	ALP-053	M8 x 20 button
31	ALP-035	M8 nut
32	M8 washer v2	
34	ALP-053	M8 x 20 button
35	ALP-175	Hub cover bearing
36	ALP-053	M8 x 20 button
37	ALP-127	Mounting pulley bearing
81	ALP-127	Mounting pulley bearing
82	ALP-165	Engine pulley bolt
83	8mm small washer v1	

Leg Parts



Item	Qty	Part Number	Description
1	1	ALP-334	Leg Stopper
2	2	ALP-070	Square tube cap
3	1	ALP-179	Universal clamp Black
4	1	ALP-061	Universal clamp Orange
5	1	ALP-017	Leg wheel
6	1	ALP-065	Rubber grip
7	1	ALP-180	Plastic wear pad
8	1	ALP-191	Rubber O ring
9	1	ALP-063	Anti vibration mount
10	1	ALP-032	Quick release plate
11	1	ALP-062	Anti vibration hub
12	1	ALP-093	M12 x 45 button
13	2	ALP-489	M8 x 35 socket cap
14	1	ALP-090	M12 washer
15	1	ALP-010	M12 x 30 socket button
16	1	Leg5	
17	2	ALP-131	M8 x 40 socket cap
18	2	ALP-384	M8 spring washer
19	2	ALP-534	M8 Threaded Insert
20	1	ALP-187	M10 nyloc nut
21	1	ALP-064	Handle shaft
22	2	ALP-387	M10 washer
23	1	ALP-539	Leg wheel shaft
24	1	ALP-538	Ali wheel hub
25	1	ALP-540	M10 x 40 button
26	1	ALP-541	Leg spacer
27	1	Metal step	

Eco Tip Wheel

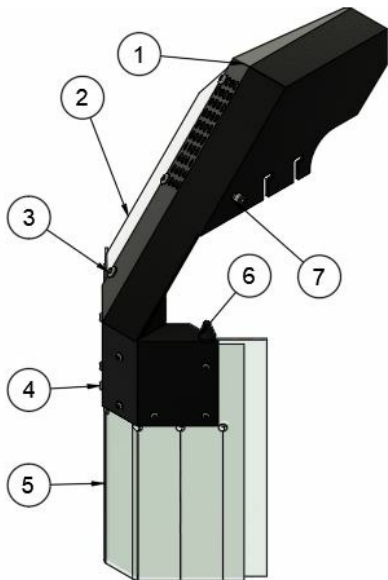


- Rotate tip 1 to replace sharp edge
- Tighten bolt 8 to 45 Nm
- Tighten bolt 6 & 7 to 55 Nm

When changing components, change all four together to maintain balance.

Item	Qty	Part Number	Description
1	1	ALP-525	CSA Eco wheel
2	2	ALP-521	M8 x 20 socket cap
3	2	ALP-519	CSA eco holder
4	2	ALP-384	M8 spring washer
5	2	MT900	Eco-Tip 900
6	4	M10 x 20	M10 x 20 socket cap 12.9

Guard Parts



Item	Qty	Part Number	Description
1	1	ALP-030	Flared guard
2	1	ALP-232	Side screen
3	3	ALP-053	M8 x 20 button
4	8	ALP-051	M5 x 16 socket button
5	1	ALP-031	Main screen
6	1	ALP-294	Conical buffer
7	1	ALP-148	M8 x 16 socket cap

Decals



Wear all relevant PPE when operating this machine.



The guard must be in place and intact when operating this machine



Read the manual before operating this machine

Workshop Manual

Maintenance of Cutter Wheel

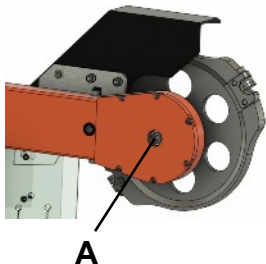
Main Service

Remove wheel from shaft. Clean the wheel before, during and after service, making sure there is no debris between mating surfaces. A toothbrush and cleaning fluid or WD40 and clean rag will assist with this.

Undo bolt (A) by turning counter-clockwise. Pull large nut and wheel off shaft.

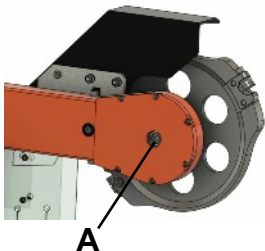
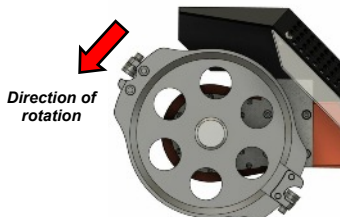
Check wheel for wear or cracks. Replace if there is any sign of damage such as cracks, bends or substantial wear.

Change all wheel bolts.



Fit the cutter wheel to the hub shaft the correct way around. Place large nut in hole in shaft. Screw bolt in from other side with locking washer in place. Tighten with allen key to 60Nm

Make sure there is no wheel wobble or notch sound. Wheel should turn without obstruction.



Maintenance of Guard

Remove the guard from the shaft. Clean the guard before, during and after service.

Check the guard for cracks. Replace guard or weld if there are cracks. If the guard is bent, replace or straighten.

Check the skirts. The skirts must be intact with no tears. If not replace.

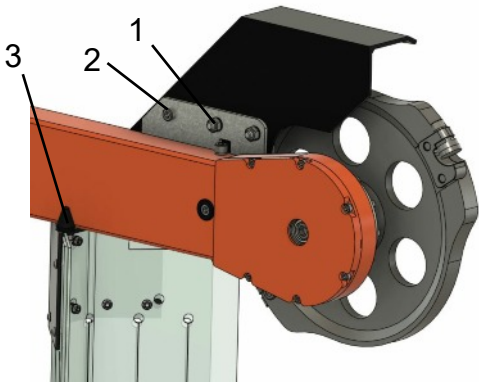
Skirt nuts and bolts must not be tightened too much 3-4 Nm. Penny washers must be used on skirt side. Use new locking nuts.

Refit the guard

Slide the guard between the two steel plates and push backwards.

Tighten nut (1) and insert and tighten bolt (2)

Make sure rubber stopper (3) is located on the other side of the shaft.



Maintenance of Shaft (belt changing)

Remove leg, engine, wheel and guard from shaft.

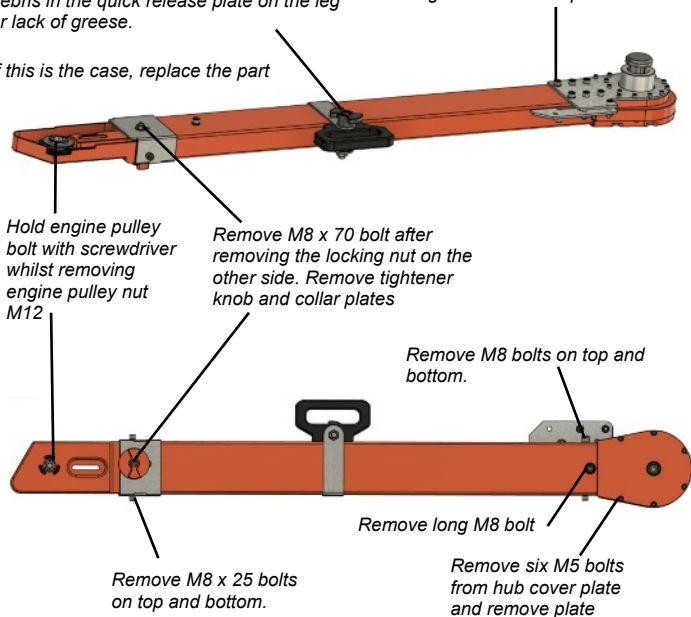
Clean the shaft before, during and after service, making sure there is no debris between mating surfaces. A toothbrush and cleaning fluid or WD40 will assist with this.

Make sure the work bench and everything is clean and free of debris before starting the service. As debris appears from shaft, continue to clean the working area.

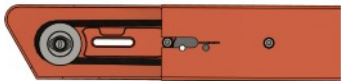
Check the quick release spigot for wear. If it is not black then the anodized hard surface has worn off. This will be due to debris in the quick release plate on the leg or lack of grease.

If this is the case, replace the part

Remove six M8 bolts. Note different lengths of bolts and positions

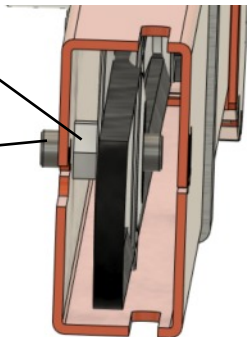


Remove engine pulley and pull out mounting plate with tightener cam

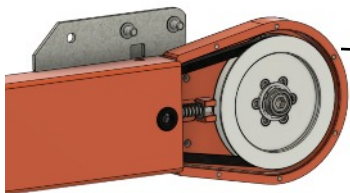


Hold guide pulley bolt with open-ended 19mm spanner

Undo M8 x 16 bolt and remove with spring washer and flat washer. It's easier to turn the spanner on the inside.



Now the guide pulley can be removed



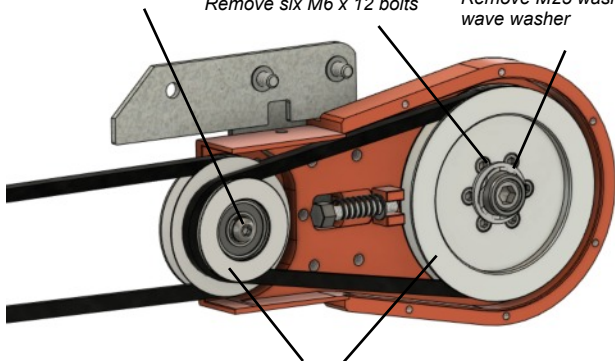
Now the complete hub assembly can be removed along with the main belt.

Clean away any debris.

*Remove M8 button bolt
with washer*

Remove six M6 x 12 bolts

*Remove M25 washer and
wave washer*



Remove both pulleys evenly with the belts

At this stage check the main hub shaft bearing in the hub. If notchy replace. See notes overleaf. Also check bearings in the stepped pulley bearings and condition of pulleys.

Fit new long belt onto stepped pulley and push onto pulley carrier. Replace bolt and washer. Use thread lock and tighten to 35Nm.

Wrap the new small belt around the large hub pulley and around the stepped pulley before fitting the large pulley to shaft.

Now compress the pulley carrier spring by pushing the large pulley forward until it slides over the hub shaft.

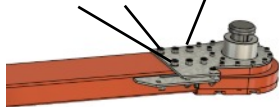
Line the bolts in the pulley up with the the threads in the hub shaft and refit the bolts. Tighten to 20Nm

Refit the wave washer followed by the M25 washer.

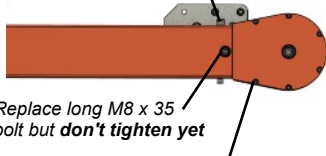
Make sure the main shaft is clean before pushing the long belt up through the shaft followed by the hub assembly.

Replace four M8 x 20 bolts with spring washers

IMPORTANT - These two are shorter. M8 x 16 with **spring washers**



Replace M8 x 20 bolts on top and bottom.



Replace long M8 x 35 bolt but **don't tighten yet**

Replace the hub cover plate and the six M5 x 12 bolts

The next bits are fiddly

If the guide pulley bearings are good, refit the pulley. Hold the guide pulley between the upper and lower part of the long belt.

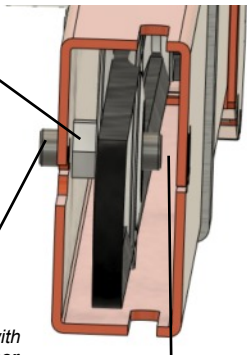
With an open-ended 19mm spanner, push the pulley into the shaft making sure the belt remains in the groove on the top and bottom.

Line it up with the hole.

Then insert the M8 x 16 bolt with **spring washer and flat washer.**

Tighten to 40 Nm

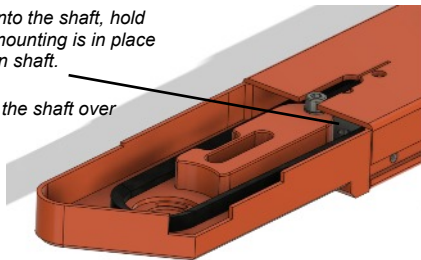
It's easier to turn the spanner on the inside.



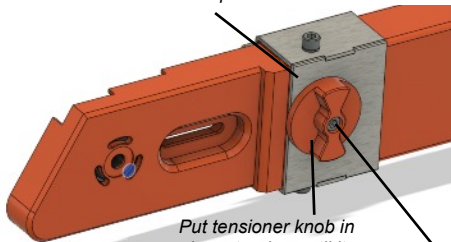
A 6mm thick piece of material can help position the pulley

Whilst sliding mounting plate into the shaft, hold cam in position we when the mounting is in place the cam locates into the hole in shaft.

Hold the cam in place and roll the shaft over



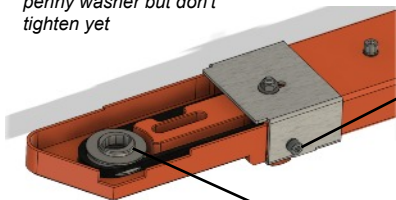
Position flat collar plate



Put tensioner knob in place, turning until it locates in cam

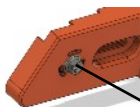
Screw M8 x 70 bolt through cam and out the other side of the shaft fitting 'U' shaped collar plate in place.

Fit M8 locking nut with penny washer but don't tighten yet



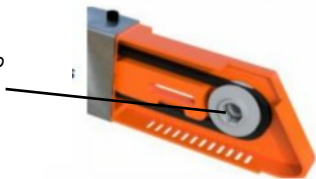
Then fit M8 x 25 bolts with spring washers top and bottom to hold collar plate in place but don't tighten yet

If engine pulley bearing and pulley is okay, refit with belt around the pulley.



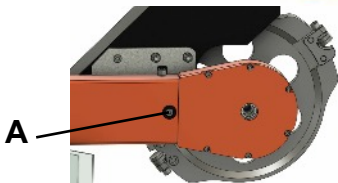
Fit and tighten M12 flanged engine pulley nut

Apply a small amount of Alumslip or Copperslip to the drive spigot



Now with all bolts loose, tighten knob (D) clockwise using finger and thumb. Do not overtighten or use tools.

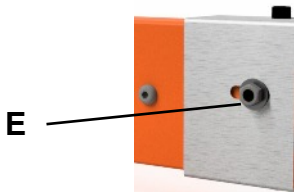
Whilst holding knob (D) with belts tightened, tighten bolts (C) (B) and (F)



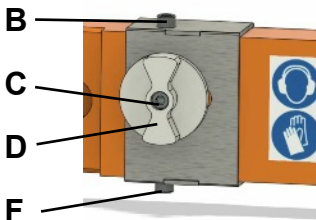
Then tighten nut (E)

Finally, tighten bolt (A)

The belts don't want to be loose. Slack needs to be taken out of the belt to prevent it from slipping. However, they also don't want to be too tight.



'V' belts grip on the sides. If the belts are too tight they will pull down into the pulley groove too much causing unnecessary friction, heat and load on the bearings. Just tighten to take up the slack.



Running in procedure

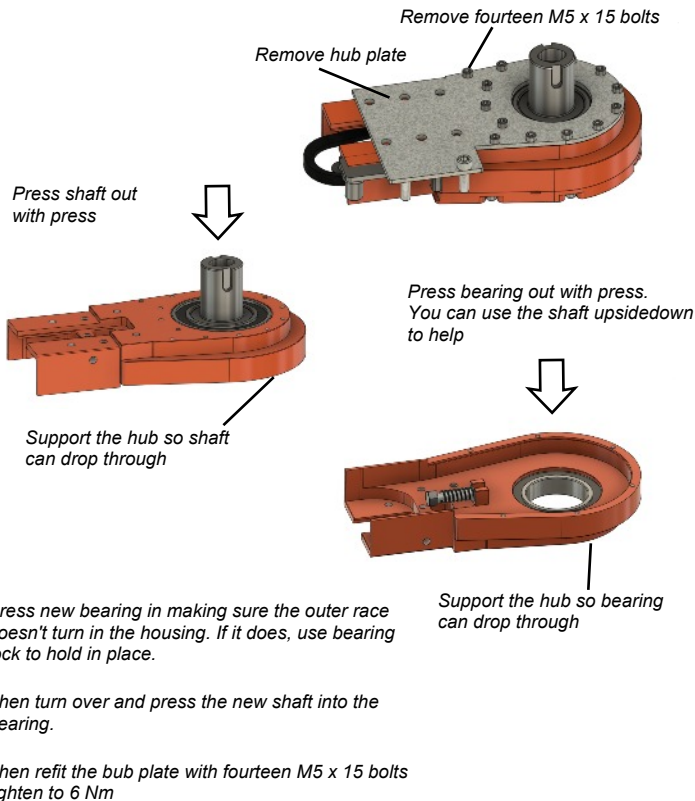
Low duty cycles of five to ten minutes for the first few times. This will extend the life of the belts.

Check all bolts regularly as vibration can cause them to come loose.

Maintenance of Hub

Clean the hub before, during and after service, making sure there is no debris between mating surfaces. A toothbrush and cleaning fluid or WD40 will assist with this.

Make sure the work bench and everything is clean and free of debris before starting the service.



Changing bearing in hub cover

Use 19mm socket or something that fits through the hole of the cover but not the bearing. Press out with press



Turn over and press new bearing in making sure the outer race doesn't turn in the housing. Use bearing lock to hold in place.

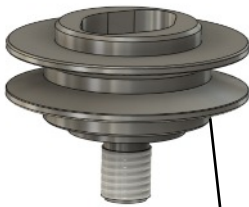
Changing bearing in engine pulley

Use 14mm socket or something that fits through the hole of the pulley but not the bearing. Press out with press

Then press bolt out of bearing with M10 bolt.

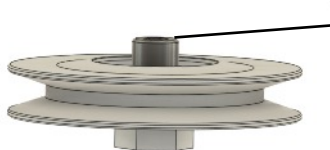
Press engine pulley bolt into bearing first using high temperature bearing lock.

Then press new bearing into pulley making sure the outer race doesn't turn in the housing. Use high temperature bearing lock to hold in place.



Support the plate so bearing can drop through without bending plate.

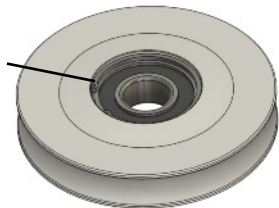
Changing bearing in guide pulley



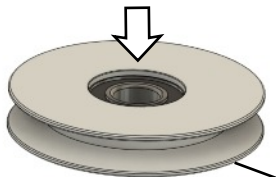
Remove M8 x 12 bolt and penny washer, holding the hex of bolt in vise.

Then press bolt out.

Remove 'C' clip with clip pliers



Turn over and press bearing out with press



Support the pulley so bearing can drop through

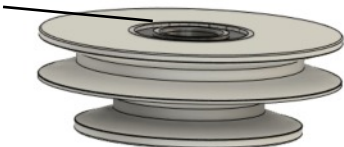
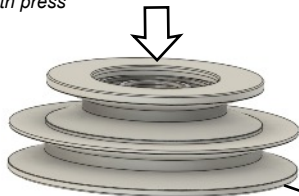
Turn over and press new bearing in making sure the outer race doesn't turn in the housing. If it does, use bearing lock to hold in place. Fit 'C' clip.

Then press bolt in. Fit penny washer and M8 x 12 bolt using a strong threadlock.

Changing bearing in stepped pulley

Remove 'C' clip with clip pliers

Turn over and press bearings out with press



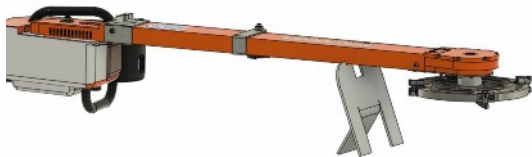
Support the pulley so bearing can drop through

Turn over and press new bearings in making sure the outer race doesn't turn in the housing. Use bearing lock to hold in place.

Then refit 'C' clip

Fitting engine

Support engine and shaft with a stand or box to keep the unit level.

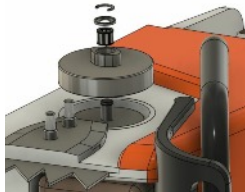


- Fit the mounting plate and engine nuts and be sure that everything is lined up and located before tightening the assembly. Do not over-tighten.
- The mounting plate should fit flush against the engine body.
- With the Pro661, we provide engine nuts. With the Pro880 you use the nuts that come with the engine.

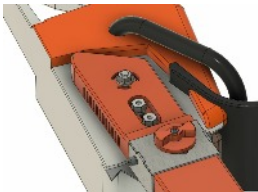
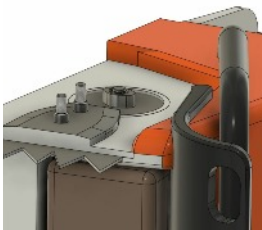
This job is easier if you have assistance. If undertaking on your own it's easier if you have a box, stand or log to take the weight of the unit whilst lining the engine up.

BE SURE THAT THERE'S NO OIL IN THE OIL TANK. *If you leave oil in the tank it will pump out onto the belts and cause the belts to slip and fail. With some engines its possible to turn the oil off, however, we recommend you also remove oil from the tank.*

The sprocket on the chainsaw needs to be removed.



- *Apply the brake*
- *With a small screwdriver, remove the C-clip, washer and sprocket.*
- **Replace the washer with small washer supplied. Replace the C-clip.**
- *Fit the stump cutter unit as you would a chainsaw bar, locating the pulley onto the drive shaft spline. You can see through the bottom of the mounting vents. Turn the cutter wheel by hand to locate the spline. Do not use the engine adjuster. Set this in the middle. Fit supplied nuts and tighten.*



Make sure the engine is fitted correctly and rigid. Make sure the engine exhaust is fitted correctly and intact.

If there is any excessive vibrating or noise coming from the engine or attachment, STOP and investigate. Do not use until it is fixed.

Decommissioning

When the machine comes to the end of its economical life, please be sure to dispose of it responsibly.

Remove engine - Remove any fuel from the tank. see engine manual for disposal advice.

Aluminium can be separated from steel and all can be recycled.

Sharp or dangerous parts should be removed or made safe.

Do not let the machine get into the wrong hands.

The machine should not be modified for the same use or any other use.

Alternatively, the unit can be sent to Chainsaw Attachments or a dealer for free disposal. You can also ask about part exchange options.

Changes

We have a policy of constant improvement. Machine specifications and Information in this manual might change in the future without notice from us. If you'd like the latest information, it can be found on our website or by contacting us.

Warranty

We provide a 3 months parts and labour warranty which covers defected parts, design issues and poor workmanship. Hopefully there will be none of this with your machine. However, if you experience a problem and we deem it to fall into the above, we will repair or replace the parts in question at our cost. The warranty does not cover user error, abuse or failure due to lack of, or incorrect maintenance.

The machine must be brought or sent to us or one of our service agents, unless otherwise agreed.

We will endeavour to send the machine back to you as soon as possible.

We might choose to send out a service/repair machine as a replacement. If this is the case, it will be fully serviced and in better condition than the machine being replaced.

We will not accept or be in any way responsible for loss of work or income resulting from a failed machine.

In most cases the machine will be inspected before any warranty work is agreed.

This is an attachment. We do not provide any warranty for the engine you decide to put it on. The engine supplier may decide not to warranty the engine if this attachment is fitted.

ALL MACHINES MUST BE REGISTERED WITHIN 14 DAYS OF PURCHASE

Failure to register your machine within 14 days of purchase will result in any warranty being void.

Registering your machine indicates to us that you have read the manual before operation.

The information you give us will not be used for any marketing purposes and will not be passed on to any third parties.

If you are not happy with our terms, please take it up with us or your supplying dealer before putting the machine into use.

We really want you to enjoy using your machine and we hope that it gives you good service. We're here to help you with any questions or issues.

Registration Form

Please complete this form and send back to us within 14 days of purchase.

Name

Company

House

Street

County

Country

Postcode

Telephone number

Date of purchase

Place of purchase

Serial Number

***Chainsaw Attachments Ltd
The Log House, Kiln Lane
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