

RAMBO



INSTRUCTION BOOKLET

Introduction

These instructions must be comprehensively read by any person intending to use or maintain this machine.

Purpose of Use

This equipment is expressly designed and intended to be used for the shearing of sheep, goats and animals of the camelidae family.

All maintenance should only be carried out by suitably trained personnel

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Improper use or incorrect set up of this sheep shearing machine can lead to serious injury.

Always disconnect the power supply before changing combs and cutters.

Never switch on the machine without a comb and cutter fitted.



It is advised that any person using this machine attend a sheep shearing training course to ensure correct usage of this machine.

Adequate protective clothing should be worn at all times whilst shearing.

You should be aware of sharp objects and moving parts, in particular the cutter.

The shearer should check the wool for any foreign objects before starting shearing.

Always disconnect power from the machine when it is not in use or when undergoing essential set up and/or maintenance.

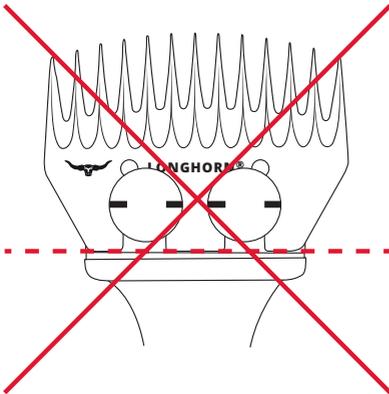
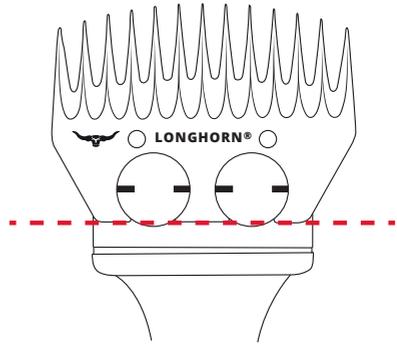
The machine should be used in a tidy, dry environment.

Positioning Your Comb and Cutter

Before you start, ensure the comb screws and tension knob are slack.

Hold the machine so that you are looking at its underside and so you can clearly see both comb screws.

Place your comb in the machine so that the sharp side faces the forks and adjust the comb until the heel is level with the back edge of the comb screws.

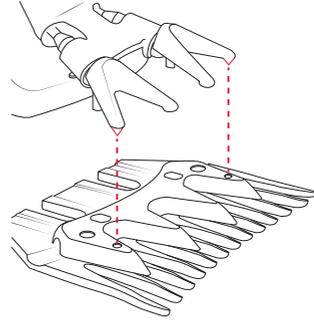


DO NOT position the heel of the comb to the back of the comb bed.

Tighten the comb screws finger tight, holding the comb in place. Not too tight, you may need to adjust this further.

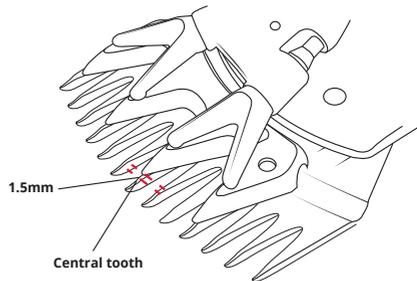
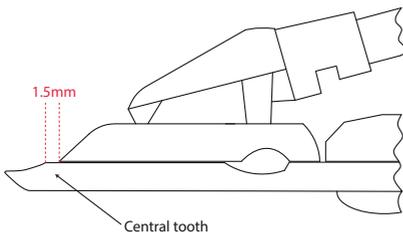
Turn over the machine and place your cutter onto the comb. The sharpened sides of both the comb and cutter should face each other. Locate the cutter onto the conical pins on the forks.

Secure the cutter by turning the tension knob clockwise. Apply enough tension to secure the cutter.



Setting the Lead

Adjust the comb so that as the cutter travels over the comb's central tooth, at least 1.5 mm of the comb tooth's flat ground surface is clear of the cutter's tip.

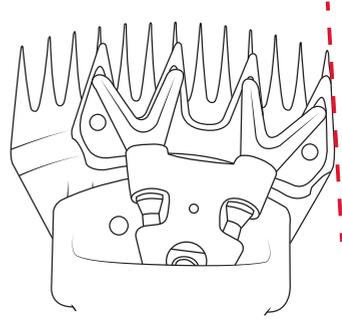


Finally, firmly tighten the comb screws.

Setting the Throw

It is normal for the clipper forks to lock in position either side of the throw.

Whichever side the forks are positioned at, this is the side you will set the throw from. If the forks are positioned in the centre, push your forks to the right if you are right-handed, or to the left if you are left-handed.



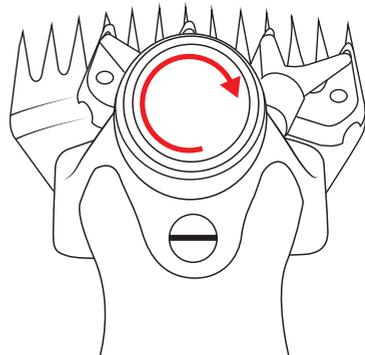
Adjust the comb so that the outside edge of both the comb and cutter align. Firmly tighten the comb screws and then turn the tension knob clockwise to apply tension and secure the cutter in place.

Setting the Tension

Tighten the tension knob by turning it clockwise.

Too little tension causes 'feathering' which compromises the quality of the cut.

Too much tension will cause the comb and cutter to overheat, resulting in your combs and cutters becoming blunt faster.



Comb and Cutter Usage

Never increase the tension when the comb or cutter starts to become blunt as this will damage your equipment. When your combs and cutters do start to go blunt, change them.

Once blunt, you should have your combs and cutters sharpened on a specialist grinder.

For professional shearers the recommended cutter to comb ratio is three cutters to one comb. However, we advise that general farm shearers can lower that ratio to 2:1.

Electrical Safety

To reduce the risk of electric shock, do not expose the transformer to rain or moisture.

- Use a 3 amp fuse in the transformer plug (UK plug only).
- Do not insert plug into a damaged socket.
- Check the transformer for damage or defects before use.
- Do not use the transformer if the electric cable is damaged or if the transformer has been in contact with water.
- Keep the transformer out of direct sunlight and away from naked flames.
- Never attempt to open the transformer.

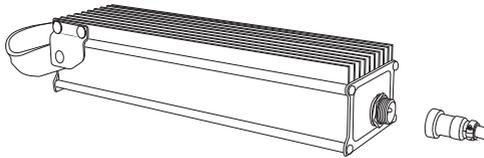
Mains Transformer Specifications

AC Input	Voltage		Current	Frequency
	100-120VAC	220-240VAC	2.5A	50-60Hz
DC Output	28V		8A	

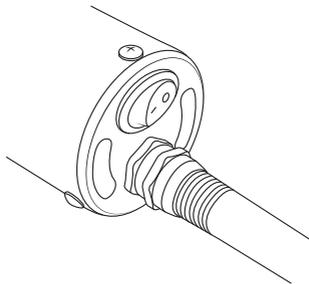
Operation

Once you have your comb and cutter set up (explained in pages 4 - 6) you are ready to plug in and shear.

The transformer can either be hung up or sat on a solid, dry surface. Locate the handpiece's power cable and plug this into the transformer. Ensuring the wall plug and the handpiece are switched off, plug the transformer into the wall.



Holding the Rambo handpiece, switch the wall plug on and then switch the handpiece on via the switch located on the back of the handpiece.



Battery Safety

- Only connect the battery clips to a 12 volt DC power supply.
- Do not use a battery that looks damaged or is leaking.
- Do not use a machine with damaged battery leads.
- Do not smoke or allow naked flames anywhere near the battery.
- Do not let any metal objects come in contact with the battery as these could cause a spark and possibly make the battery explode.
- Do not remove the power leads while the machine is running.

To connect your machine to a battery

1. Make sure your machine is switched off.
2. Connect the black lead to the negative (-) terminal on the battery.
3. Connect the red lead to the positive (+) terminal on the battery.

To disconnect your machine from the battery

1. Make sure your machine is switched off.
2. Remove the red lead from the positive (+) terminal on the battery.
3. Remove the black lead from negative (-) terminal on the battery.

Running the machine directly from a vehicle

- If you are using the machine connected to a vehicle it is advisable to start the vehicle every 2/3 hours for approximately 15 minutes to top up the battery.
- There is no need to disconnect the battery from the vehicle when using the machine.
- The vehicle does not need to be running whilst using the machine.

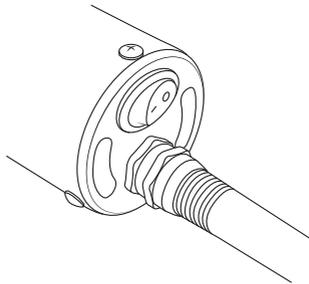
Operation

Once you have your comb and cutter set up (explained in pages 4 - 6) you are ready to connect to power and shear.

Sit the vehicle adaptor on a clean, dry, solid surface ensuring it cannot fall off. Locate the handpiece's power cable and plug this in to the vehicle adaptor.

Ensuring the Rambo is switched off, clip the battery leads onto the battery.

To switch the Rambo on, locate the switch at the back of the handpiece and turn on.



Electrical Safety

To reduce the risk of electric shock, do not expose the battery or charging unit to rain or moisture.

- Only use genuine batteries designed for this machine.
- Use a 3 amp fuse in the charging unit.
- Do not insert the plug into a damaged socket.
- Check the machine batteries for defects before use. Never use damaged batteries.
- Do not use a charger if the electric cable is damaged or if the charger has been in contact with water.
- Store batteries and charging unit in a cool, dry place and out of direct sunlight and away from naked flames.
- Charge before storage.
- If warm after use, allow to cool down before recharging.

Battery Circuit Breaker

If the handpiece is drawing too much power from the battery then the circuit breaker in the battery pack will cut power to the machine to prevent any damage. If this happens then you should identify the cause of the problem before continuing. See Troubleshooting pages 22 & 23 for diagnosis and solution.

To reset the circuit breaker in the battery, simply push the button on top of the battery pack.

Charging Unit

Input	100/240V AC 50/60Hz
Output	24V DC

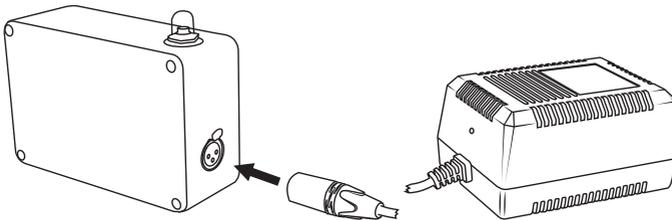
Battery Specifications

Type	Ni-MH
Voltage	24v
Charging Time	Around 2 hours

Sit the charging unit on a solid, flat, dry surface and plug the charger's output lead into the wall. A green LED light will appear indicating the charging unit is ready to use.

Ensure the battery is clean and free from any foreign objects and check for any defects on the battery.

Plug the charger's XLR lead into the battery. The charging unit's LED light will then turn red indicating the battery is charging. Once the battery is fully charged the red light will turn to green.



Charging Unit LED Indicator

Red	Charging
Green	Charging complete
Green Flashing	Battery pack overheating
Red & Green Flashing	Temperature range sensor (NTC) error
Red Flashing	Battery or DC plug short circuit

Accessories for the Rambo

Please check that you have all the accessories to the Rambo QuickDraw before assembling.

You should have:

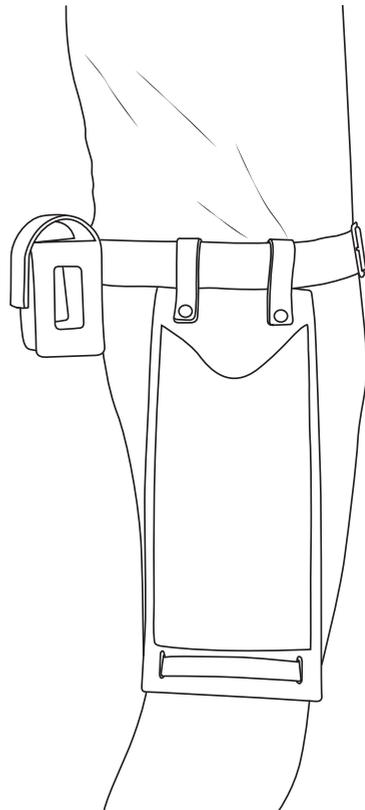
1 x leather belt, 1 x leather holster, 1 x leather battery holder.

Locate your leather belt, you will see 2 rivets through 2 holes in the middle of the belt. Unscrew them and put them to one side.

Slide the belt through the belt loops on the back of the battery holder first and then slide the belt through the loops on the holster.

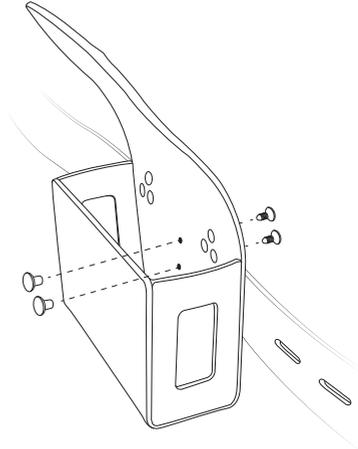
Try the belt and make sure the accessories feel comfortable and are in the right place.

The battery holder should be close to the middle of your back and the holster should sit on your leg.



Now take the belt back off and line up the 2 punched holes in the back of the battery holder with 2 of the punched holes of the belt.

Push the rivets through the punched holes on the back of the battery holder from the inside, pushing them through the aligned holes in the belt and fasten using the screws.

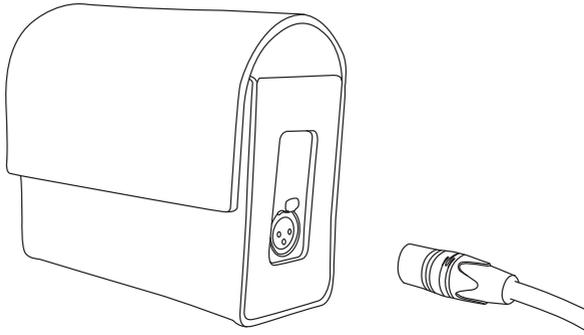


It is best to place your battery in the holder at this point. Place your battery in the holder so that the socket is facing forwards.

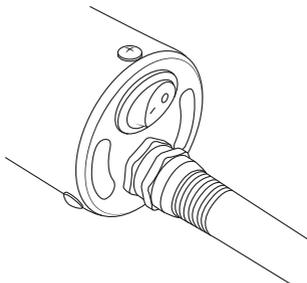
You can now put the belt back on and fasten the leg strap on the holster, securing the holster in place.

Operation

Finally you will be able to plug the Rambo handpiece into the battery, to do this plug the handpiece's coiled lead into the battery's socket ensuring the 3 pins line up and that it clicks into place.



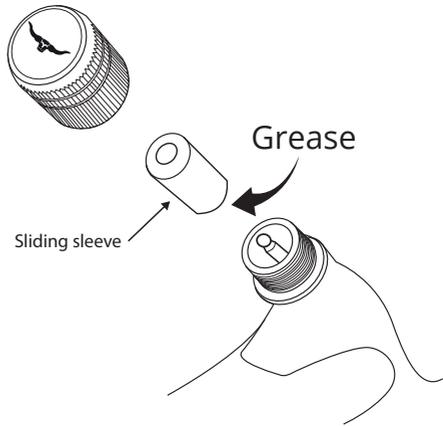
You will now be able to switch the Rambo on using the switch located at the back of the handpiece.



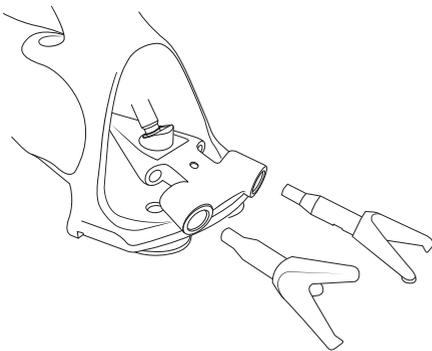
Greasing Points

We recommend that you grease the points indicated below before you commence shearing and that you check your handpiece daily.

Pack the sliding sleeve with grease. To do this, remove the tension knob by twisting anti-clockwise. Lift the fork body, remove the sliding sleeve and pack the hollow area with grease. **DO NOT** grease inside the tension knob as this will cause the handpiece to lose tension when shearing.



DO NOT grease the outside of the sliding sleeve, instead apply a small amount of shearing oil.



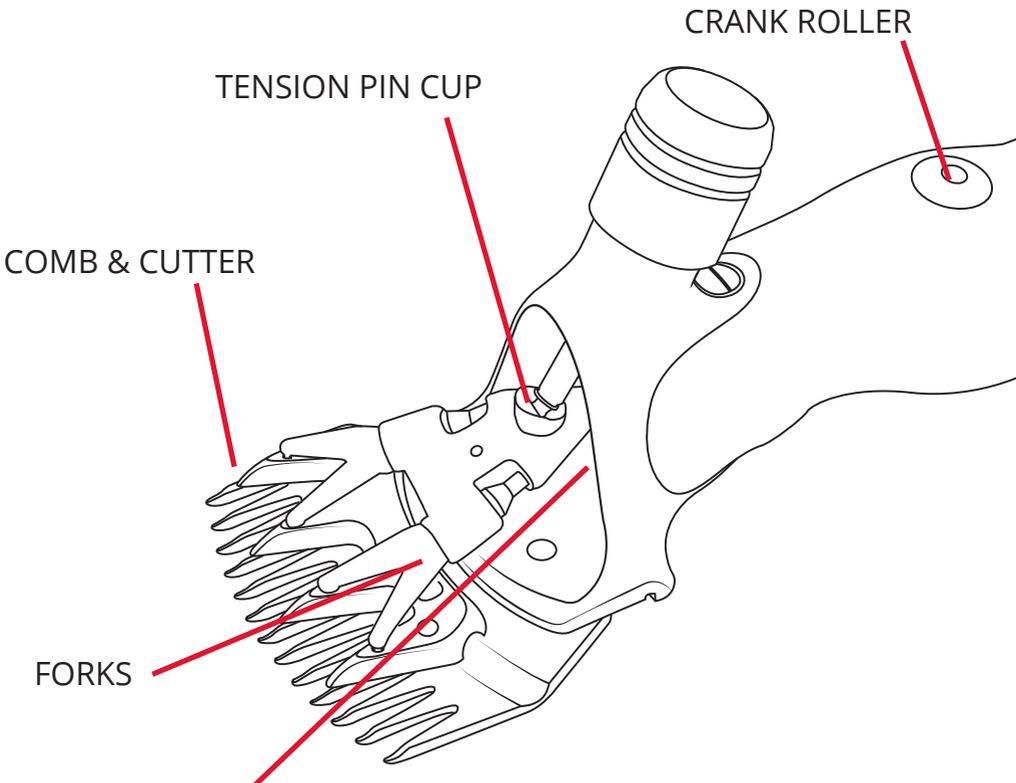
Grease the fork swivels by rotating the fork 90 degrees and pull away from the handpiece. Apply grease to both ends that go into the fork body.

Re-fit by reversing the procedure above.

Lubrication

Use Longhorn® shearing oil to keep your handpiece well lubricated.

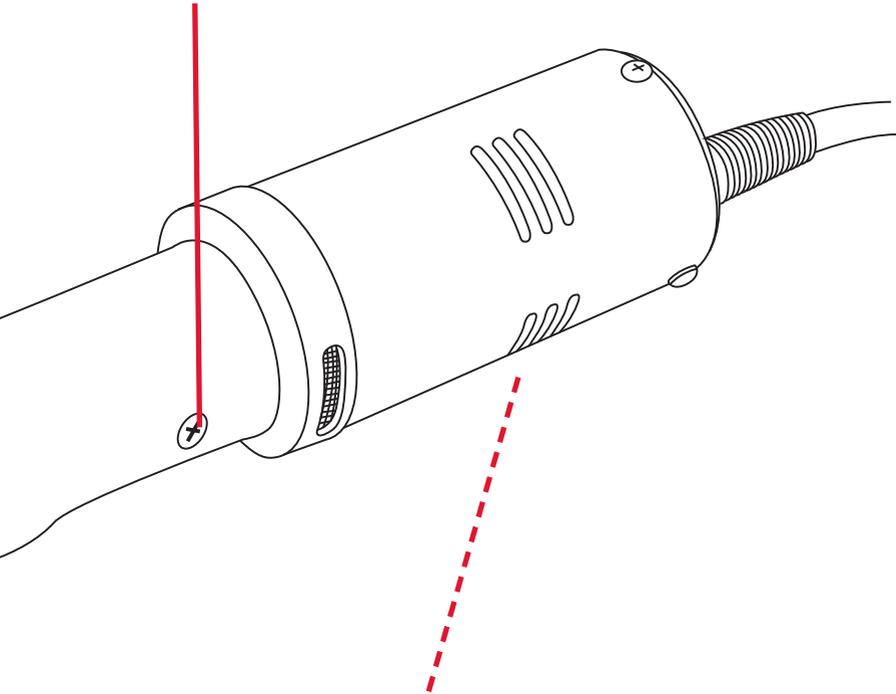
Before shearing commences you should prepare your handpiece by oiling every oil point indicated on the diagram below. We recommend oiling these points (excluding the oil screw hole) on every cutter change (**approximately 20 minutes**).



FULCRUM CUP & POST

Drip oil down the barrel to reach the fulcrum cup & post. This should be done with no cutter attached to the handpiece and the tension released.

The oil screw hole should have **ONE** drop of oil poured in it every 2 - 3 hours. Any more will cause damage to the internal components of the motor.

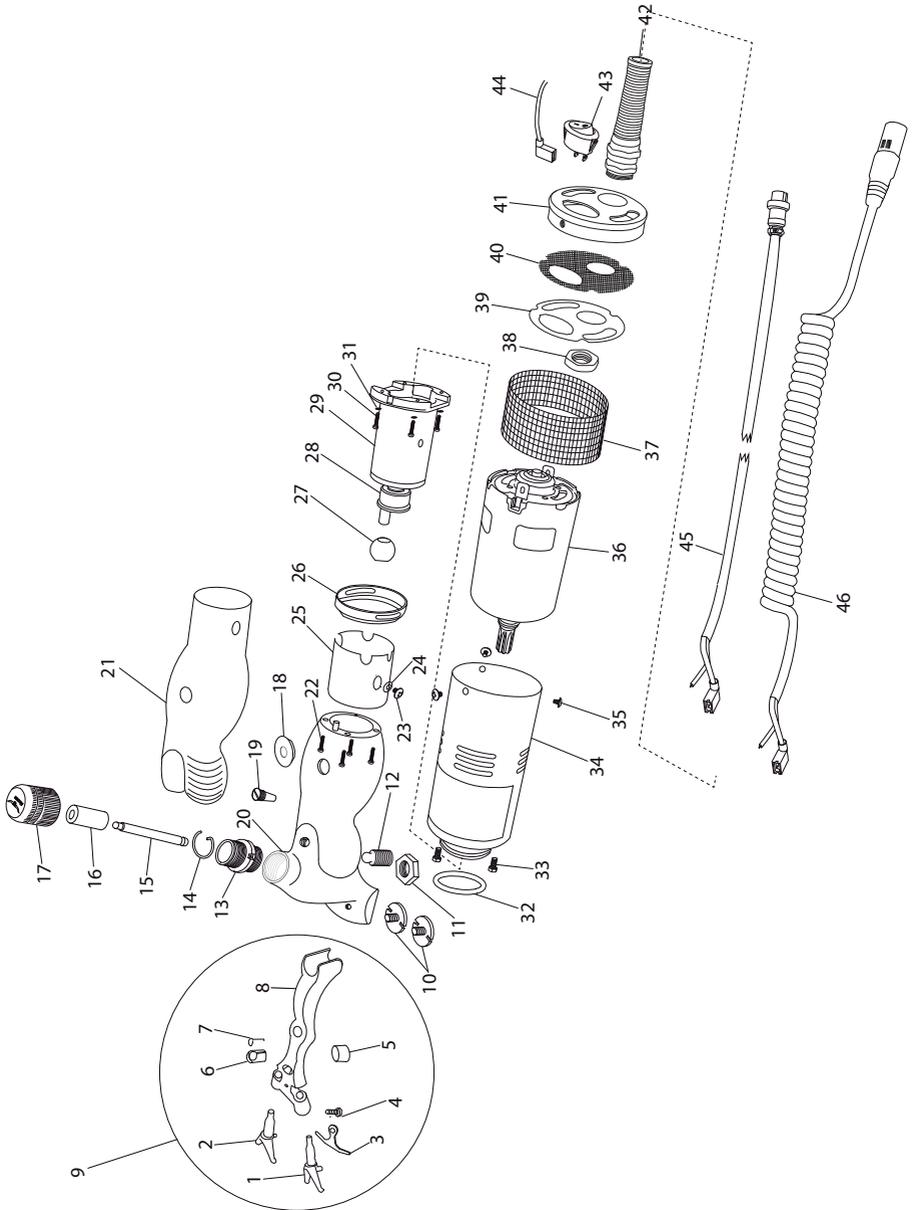


Air Filters

To allow adequate air flow you should clean these as frequently as necessary to keep the filter clear.

PARTS LIST

1	H19-200	Left Hand Fork	25	H60-006	Heat Proof Sleeve
2	H19-201	Right Hand Fork	26	H60-007	Protective Ring
3	H19-202	Fork Retaining Spring	27	H19-222	Crank Roller
4	H19-203	Fork Retainer Screw	28	H60-008	Crank Body
5	H19-204	Fulcrum Cup	29 A	H60-011 (A)	Gearbox - Pre 2018
6	H19-205	Tension Pin Cup	29 B	H60-011 (B)	Gearbox - Post 2018
7	H19-206	Tension Pin Retaining Spring	30	H60-009	Gearbox Motor Screw
8	H19-207	Bare Fork Body	31	H60-010	Spring Washer
9	H19-208	Complete Fork Body	32	H60-012	O Ring
10	H19-209	Comb Screw	33	H60-013	Hexagon Headed Bolt
11	H19-115	Fulcrum Post Nut	34	H60-014	Motor guard
12	H19-116	Fulcrum Post	35	H60-015	Rear Cap Screws
13	H19-117	Threaded Bush	36 A	H60-016 (A)	Motor Unit - Pre 2018
14	H19-213	Tension Circlip	36 B	H60-016 (B)	Motor Unit - Post 2018
15	H19-214	Tension Pin	37	H60-027	Motor Filtering Net
16	H19-215	Sliding Sleeve	38	H60-018	Gland Nut
17	H19-118	Tension Knob	39	H60-020	Rear Cap Presser
18	H19-217	Rubber Bung	40	H60-019	Filtering Cap
19	H19-132	Safety Screw	41	H60-017B	Rear Cap
20	H19-001	Handle Head	42	H60-024	Gland
21	H19-002	Handle Cover	43	H60-021	Switch
22	H19-003	Handle Gear Box Screw	44	H60-022	Insulated Wire
23	H60-004	Oil Hole Screw	45	H60-041	Straight Flex - CB Plug
24	H60-005	Oil Hole Screw Washer	46	H60-042	Coiled Flex - XLR Plug



TROUBLESHOOTING

Any repairs should only be carried out by a trained professional. Only genuine parts designed for this machine should be used.

Problem	Diagnosis	Solution
General		
Handpiece not cutting correctly	Comb and cutter not set-up correctly in handpiece.	Refer to set-up pages 4 - 6
	Comb and cutter incorrectly sharpened and/ or blunt.	Have combs and cutters professionally sharpened.
	Not enough tension on comb and cutter.	Re-set tension, see page 6.
	No rise in sheep's wool.	Leave sheep longer or select different style of comb.
Cutter not staying in position	Conical pins may be worn on forks.	Replace forks. This is best done in pairs.
Comb not staying in position	Comb screws are worn or not tightened properly.	Replace comb screws.
Forks falling out of fork body	Fork retaining spring may be broken.	Replace fork retaining spring.
Handpiece not tensioning/ comb and cutter losing tension	Tension pin and sliding sleeve worn.	Replace tension pin and sliding sleeve.
	Tension pin cup worn.	Replace tension pin cup.
	Tension lock ring damaged, worn or stuck.	Replace tension lock ring.
Handpiece vibrating excessively	Cup and post worn.	Have cup and post replaced and set by a trained technician.
	Fulcrum post loose.	
Fork body broken	Handpiece accidentally damaged.	Send handpiece for repair and full service.

Handpiece noisy	Handpiece is dry.	Oil handpiece at the oiling points. See page 8 & 9.
Handpiece heating up excessively front, middle or back end	Too much tension on comb and cutter.	Replace comb and cutter, reset tension and oil. See pages 4 - 9.
	Handpiece needs oiling.	Oil handpiece. See pages 8 & 9.
	Comb and cutter blunt.	Have combs and cutters professionally sharpened.
Handpiece not switching on	Switch may be faulty.	Check wires and replace switch if needed.
Motor won't start	Damaged power connectors.	Replace connectors.
	Damaged sockets.	Replace sockets.
	Motor burnt out.	Replace motor.
	Break in flex.	Replace flex or shorten.
Rambo QuickDraw		
Handpiece won't start	Damaged battery.	Replace battery.
	Battery not charged.	Charge battery.
Handpiece power cut out	Breaker on battery tripped.	Reset breaker. Send in for service if problems persist.
Rambo Vehicle		
Handpiece won't start	Damaged battery leads.	Replace battery leads.
Handpiece power cut out	Breaker on vehicle adaptor has tripped.	Reset breaker. Send in for service if problems persist.
Rambo Mains		
Handpiece won't start	Faulty mains transformer.	Send transformer in for service.

RAMBO