



— PERFECTION IN EVERY LINE —



**TXE OPERATOR MANUAL**

# INTRODUCTION

## IMPORTANT - PLEASE READ THIS MANUAL BEFORE USE

This is essential if you are to learn how to operate this equipment correctly. Failure to do so could result in personal injury or equipment damage.

This manual should be considered a permanent part of the equipment and should remain with the machinery if sold on.

### WARRANTY

Warranty is provided as part of Supaturfs Support Package for customers who operate their equipment as described in this manual. This warranty provides you, the customer, with assurances that Supaturf will back its products where defects appear within the warranty period. Should the equipment be abused or modified to change its performance beyond the original specification, the warranty will become void.

### INTENDED USE/DISCLAIMER

The Supaturf TXE is designed for use as a line marker. The intended use is for line marking of sports fields or applying turf dyes using the spray boom accessory. Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from misuse and these risks must be borne solely by the user.

The Supaturf TXE should only be operated, serviced and repaired by persons familiar with its characteristics and acquainted with the relevant safety features (accident prevention).

### RECOMMENDED PRODUCT LIST FOR SUPATURF TXE LINE MARKERS

#### *Supaturf Line Marking Liquids:*

Supa Stadia, Supa Stadia ECO and Stadia Colours

#### *Cleaning Liquids:*

Supaflush

Material Safety Data Sheets for all of the above products are available on request or on our website at

[www.supaturf.co.za](http://www.supaturf.co.za)

## SECTION 1 - INTRODUCING THE SUPATURF TXE LINE MARKERS

Thank you for choosing the Supaturf TXE battery operated spray line marking machine.

Your machine is the culmination of years of research and field trials. It provides a no compromise, build quality, combined with a rugged but simple design that ensures ease of maintenance and ultimate usability. All Supaturf machines are manufactured in England to professional grade quality and are fully guaranteed by Supaturf, the leading innovating force in sports line marking.

Currently there are two machines in the Supaturf TXE range. The TXE 252 is capable of operating for up to 1¾ hours (approx 7 pitches) on a single overnight charge of its battery. The TXE 505 offers a heavy duty and enhanced specification and will operate for up to 4½ hours (approx 14 pitches) from a single charge of the battery. Please note that these timings have been measured under test conditions in our research and development facility using equipment operating at optimum performance. With proper maintenance and operation you can expect to achieve these results throughout the life of your battery.



For details of the accessories above, which are available for the TXE please see section 7 of this manual.

## SECTION 2 - MACHINE SET UP

Please look at the inside back cover page 15 of this manual so that you can see the illustrations of the TXE and refer to it when reading this manual.

Your machine is supplied fully assembled and tested in its transit packaging. First it is advisable to check that you have everything that you need to start spraying. You should have received:

1. TXE machine (252 or 505 models)
2. Battery charger unit
3. Mixing bucket
4. Mixing paddle
5. Marking discs
6. 100ml bottle of Supaflush cleaner
7. Envelope containing this manual

To remove the TXE from the box, two people are required to lift the machine from its packaging. All you need to do to start spraying is to unfold the handlebars and secure them at the height required. There are 3 fixing positions available. Select the required position and tighten the hand wheel fastener.

There may well still be some charge in your battery, but it is advisable to charge the unit overnight before proceeding. To do this, connect the charger plug lead to the charging point on the switch found on the machine handlebars underneath the on/off switch.

Ensure the connection is secure and plug the charger into a convenient mains socket. Turn on the mains power and leave to charge, see the instructions supplied with the charger for further information on the use of the charger. When the unit is fully charged, disconnect the charge unit from the mains and disconnect the charge unit from the handlebar plug. Activate the on/off switch located on the handlebar. The pump should be heard to work.

**WARNING:**

**Always charge the battery in a well-ventilated area. Never charge the battery in a closed container (see battery care section on page 7 for further information).**

### **SECTION 3 - USING THE SUPATURF TXE**

**Note:** Section 10 on page 9 gives training checklist for new operatives.

Once the machine has been set up as detailed in SECTION 2 you can mark out your pitch without delay. First you will need to choose which Supaturf line marking liquid you wish to use (see SECTION 5). Dilute the liquid to the desired concentration and thoroughly mix with water using the bucket and mixing paddle provided. Dilution rates are recommended for each product - please stay within these guidelines. The Supaturf TXE guarantee is only valid if Supaturf liquids (or an exact equivalent) are used in the prescribed way.

**WARNING:**

**To avoid splashing of line marking liquid into eyes, eye protection and gloves should be used whilst handling and pouring line marking materials. In the event of spillage, refer to the Material Safety Data Sheet for the line marking material being used.**

#### ***Filling the Tank***

Unscrew the tank cap; the pre-mixed line marking liquid is then poured into the tank to the desired level. It is important to always fill the tank through the basket filter found in the top of the tank to stop large particles or foreign matter, such as grass from entering the spray system. The markings on the side of the tank are a useful guide to estimate how much liquid is in the tank. The maximum capacity of the tank is 25 litres. As a guide, a typical football pitch with a 3 inch line would require approximately 7-8 litres of diluted liquid for a single pass, walking at an average speed of 2 mph.

It may be necessary to purge any trapped air through the system. This can be done in the following way. Once the tank has been filled with the required amount of diluted line marking liquid, switch the machine on for 10 to 20 seconds (ensuring a suitable container is available to capture the spray liquid if necessary). After this time the spray should become solid with no air in the system and the spray pattern should be steady with no 'fluttering' evident. If not then there is still air in the system that will need to be purged via the separation point on the tube.

Hold the connector between your fingers with one hand and push the tube into the connector with the other, whilst holding the blue spring loaded plastic end back, pulling on the 6mm pipe at the same time. This will disconnect the pump outlet tube from the spray arm. Switch on the machine and allow the liquid to run out of the outlet tube. Again a suitable container should be used to catch the liquid. Once the air has been exhausted (allow 15 to 20 seconds to ensure that all air has been expelled) switch off the machine. Reconnect the pump outlet tube to the in-line 6mm connector. This is done by pushing the pipe back into the connector.

### ***Line Width Adjustment***

The width of the line is adjusted by raising or lowering the spray arm until the desired width is obtained. This is adjusted by unscrewing the hand wheel on the spray arm clamp and adjusting the height and spray nozzle position as required. Width can also be altered by a ¼ turn of the spray head. It is recommended that a typical line is sprayed from a position exactly between the front wheels, but it is possible to adjust the position of the whole spray nozzle assembly such that the line can be sprayed outside the right hand wheel. If this marking position is required, then ensure that the rear wheel will not run over the line, as the marking liquid will still be wet.

### ***Marking your First Lines***

#### **IMPORTANT**

Before commencing marking always ensure the tank lock found on the handle is in the lock position thus preventing accidental tipping of the tank. To familiarise yourself with the operation of the machine it is worthwhile to use a suitable area where the operation can be rehearsed. The spray nozzle is connected to an instant shut-off valve, which is activated by the pressure generated as soon as the pump starts working. As soon as the switch is switched to the on position, a fan of liquid will come from the spray nozzle and as soon as the switch is switched to the off position the fan will stop instantly without drips.

The pitch to be lined out should be planned and possibly stringed out in advance (or similar) and the TXE should be adjusted to your satisfaction prior to use. When spraying, you should walk at a consistent pace and ensure that you do not step on the line after it is sprayed, as this may result in a series of white footprints.

#### **Marking circles**

The wheels of the TXE are configured on a shorter front axle and a longer rear axle, which result in the front wheels being inset by about a half wheel width. This makes marking circles easier.

When spraying lines at 90 degrees to recently sprayed lines it is advisable to stop the machine when its wheels are just in front of the existing line and “walk” the wheels over the line to avoid the wheels becoming contaminated with marking liquid that hasn’t dried. As a guide you could expect Supaturf line marking liquid to dry within 15 to 20 minutes in direct hot sunshine but this could take considerably longer subject to prevailing weather conditions. It is best to be cautious.

**Note:** When the machine is on site and not in use, ensure it is not left on a slope, as it is not fitted with a parking brake.

#### **WARNING:**

**If the machine is going to be lifted onto a vehicle after line marking for use at another site, it is advisable that the tank should be emptied and the machine lifted by two people. To empty the tank, place the mixing bucket provided at the rear of the machine and remove the tank lid. Tip the tank over backward on its pivot point ensuring the marking liquid is emptied into the provided mixing bucket. The mixed marking liquid can then be stored and re-used. Alternatively loading ramps may be used to ensure the operator's safety.**

## SECTION 4 - MAINTAINING YOUR SUPATURF TXE

Clean your line-marking machine after every use.

It is vitally important (and a condition of your guarantee) that your TXE is thoroughly cleaned after every use to ensure the long life of the spraying components of the machine. It is recommended that Supaflush be used to further aid the cleaning of the machine.

Always clean the TXE after use and follow these simple steps to ensure your machine is as clean as possible.

1. Empty leftover product out of the tank.
2. Add approximately 4 litres of clean water into the tank.
3. Agitate the water in the tank by moving the tank up and down on its pivot.
4. Empty out the waste water.
5. Repeat steps 2, 3 and 4 with further 4 litres of clean water.
6. If using Supaflush - Repeat step 2, this time using 2 litres of water and adding 50mls of Supaflush to the water. Turn on the machine. This allows the Supaflush cleaner to wash through the pump and spray nozzle assembly.

\* In the event of a frost, do not leave water/marketing fluid in the tank and pump.

**Note:** Always use eye protection and gloves when using Supaflush cleaner. In the event of spillage, refer to the Supaflush Material Safety Data Sheet. Dispose of waste water through the appropriate channels.

### **WARNING:**

**Solvent based material should never be used to wash the machine or tank. This will damage the machine and invalidate the guarantee whilst potentially creating an explosive environment.**

### ***Replacement of spray nozzle and/or filter:***

Spray nozzles and filters are consumable items and need to be cleaned or replaced on a regular basis. The timing of this depends upon the amount of usage, but as a general guide, we would expect the average user to clean the filter every month, or as necessary, and replace it every 3-6 months. Replace the spray nozzle when the spray pattern is damaged. Spray nozzles should be replaced at least once every 3-6 months.

Replacement is a simple process. Look at the exploded diagram in the inset illustration (see page 15). The filter is item marked **F** and the spray nozzle is the item marked **G**. To access the nozzle, turn the nozzle cap (**H** in the inset illustration on page 15) one half turn anti-clockwise. The filter, sealing washer and nozzle can now be removed and replaced if required. Re-assembly is a simple reversal of this process.

### ***Replacement of the in-line blade fuse:***

If, for whatever reason the pump draws too much powder, the in-line fuse will blow at 5 amps to protect the wiring loom. The fuse is located in the wiring loom as shown in figure 2 on page 11. Open the fuse cover and pull out the fuse. Replace if necessary.

### **WARNING:**

**Always replace the fuse with the same rated 5-amp blade fuse. Check wiring loom for and signs of wiring insulation damage.**

## ***Battery Care***

### **GENERAL BATTERY SAFETY MEASURES**

Always charge the battery in a well-ventilated area. Never charge the battery in a closed container. Do not attempt to open the battery casing. In the unlikely event of the battery leaking and sulphuric acid electrolyte coming into contact with skin or clothing, wash off immediately with water.

Should the electrode come into contact with skin or clothing, wash off immediately with copious amounts of water and consult a doctor. The battery should be regularly checked for cracks/damage to the casing and if any damage is found, always replace the battery. Always dispose of used batteries through appropriate collection or recycling channels.

The batteries on both the 252 and 505 are similar in nature. The 505 machine uses an 18 amp/hour battery and the 252 uses a 7.2 amp/hour battery. This notation relates to the amount of power that the battery can store on a single charge. The more amp/hours the longer the battery will provide powder at a given power demand from the pump.

These batteries are kept at peak condition if they are recharged before they are fully discharged. It is not a problem if fully discharged occasionally, but it should not be the norm if you want to gain the longest life possible from the battery.

Charge the battery at least every 3 months, even when not in use.

The Supaturf TXE 252 and 505 battery units have an operational life of approximately 200 to 500 charge cycles. Depending on your rate of usage, you will be able to approximate the life of your battery. The battery unit is fully guaranteed for one year. Always put your battery on charge until the green charge complete light has lit on the charger unit, regardless of the level of charge required.

## ***Pump Care***

The pump unit used on the Supaturf TXE is exclusive to Supaturf machines and has been specifically designed for this application. They will not require any internal maintenance as long as the machine is properly cleaned after every use. The pumps are self-priming and will not be damaged by short periods of dry running.

If you experience any problems with the pump, it is recommended that you return the unit to the factory for inspection. This service will be free within the guarantee period and a small charge will be made thereafter.

## **SECTION 5 – SUPATURF LINE MARKING LIQUIDS**

Supaturf line marking liquids have been specially formulated to be applied through Supaturf spray markers and produce the longest lasting sports line there is to date.

The particle size of the suspended solids within marking liquids is critical to the effective running of the pump and spray parts on Supaturf machines. For this reason it is recommended that only Supaturf line marking liquids are used as they have been specially formulated to provide optimum performance. Supaturf white spray marking liquids come in 2 grades, being Supa Stadia and Supa Stadia ECO. The finest quality is Supa Stadia ECO. All liquids can be diluted to achieve the desired quality of line and for example, the Supa Stadia ECO can be diluted up to 20:1 with water, although a 12:1 rate is more typically used.

\* For best results when mixing, always add the line marking liquid to water.

Supa Stadia line marking liquid is available in 12.5 litre drums. Supa Stadia ECO is available in 5 litre drums due to its super concentrated formulation. For details of these premium line marking liquids, please contact Supaturf's main dealer or go to the website, [www.supaturf.co.za](http://www.supaturf.co.za)

## SECTION 6 - THE SUPATURF TXE GUARANTEE

The Supaturf TXE machines are fully guaranteed for 12 months from the time of purchase. This guarantee covers all aspects of malfunctioning, but does not cover damage to the machine or component parts caused by misuse. Also, the guarantee is only valid if Supaturf line marking liquids are used in the machine and the machine is cleaned after each use.

## SECTION 7 - ACCESSORIES

The TXE has a range of accessories as follows:

1. Marking Disc attachment (*supplied with the machine*) - which can be adjusted for width of line and creates extra sharp edges to the applied line. A must to achieve the highest quality line.
2. The Athletics marker, which allows three lines to be marked in one pass.
3. The Spray Boom - a 3-nozzle spray boom attachment for spraying turf dyes.

Athletics Marker



Spray Boom



### ***Spare Parts***

A full range of spares is available for the TXE, these are listed on page 13. When ordering, please use the order code stated in the table. These order codes are shown on the illustrations on page 14 & 15 for identification.

## SECTION 8 - SUPATURF TXE STORAGE

Before long-term storage of a TXE, the machine should be thoroughly cleaned both internally and externally (for cleaning see section 4, page 6 - Maintaining your Supaturf TXE). After cleaning, the machine should be checked for any frame damage or rusting. Any damaged part/s should be replaced. When your TXE is not being used and is in storage over winter or summer, the battery must be fully charged before storage. After every period of 3 months in storage, the battery should be fully charged again. This will ensure maximum battery life.

Always store your TXE in a dry damp-free environment.

## SECTION 9 - TXE 505 AND 252 SPECIFICATION

### ***Weights and dimensions:***

TXE 505 (boxed) 31kg

TXE 252 (boxed) 27kg

Box dimensions 100cm x 58cm x 56cm

### ***Statistics:***

Tank capacity	25 litres
Pump specification	Shurflo 8006 – 294 – 219
Electrical system	12 volt
TXE 505 battery	12 volt 18 amp hour cyclic use battery
TXE 252 battery	12 volt 7.2 amp hour cyclic use battery
Chargers rated at either	1.7 amp output
Chassis - tubing	Triple galvanised (flo-coat) tube
Machine length	76cm
Machine width	57cm
Machine height (handlebar upright)	103cm
Fuse rating	5 amp blade fuse

## SECTION 10 - OPERATORS TRAINING CHECK LIST

Before using a TXE machine, refer to the section below to ensure the machine performance is optimised and to check the user is competent with the machine.

### ***Familiarisation:***

Working of controls (section 3)

Understanding of the Material Safety Data Sheets for recommended products used with the TXE.

Operator's safety and caution information contained in this manual is understood.

Operational Features (section 3).

How to switch the machine on and off

How to raise and lower the spray nozzle assembly for desired line width.

How to safely mix line marking liquids (section 3)

How to mark your first lines.

How to fill and empty the tank - including the lifting on and off of a transport vehicle.

Cleaning procedures after use (section 4).

Recommended safety equipment that should be worn when cleaning the machine after use (section 4).

How to clean the machine after use

How to clean nozzles and filters after use.

Routine maintenance.

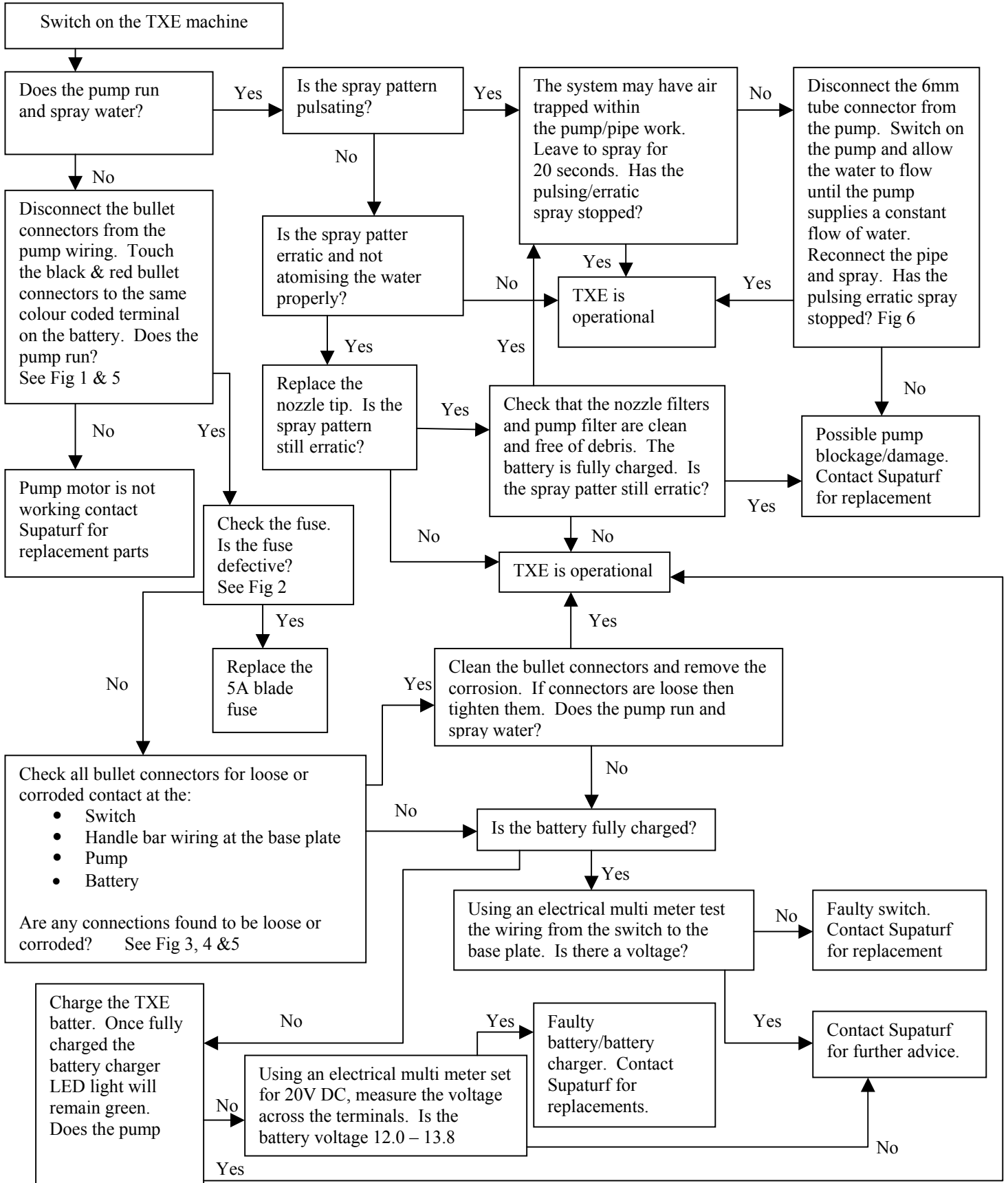
Battery condition checks (see battery care section and safety instructions for battery handling).

Frame condition check.

**TXE Trouble Shooting Guide:**

This easy to use trouble shooting guide is designed to assist you should your TXE machine not work properly. Experience shows that many problems can be resolved with a little knowledge without the need to return the machine for repair or servicing. Part of this trouble shooting guide refers to the use of an electrical multi meter. If an electrical multi meter is not available for use then contact Supaturf directly for further advice.

**Note:** Blocked spray nozzles are regarded as a maintenance issue and not a machine fault. Before following the trouble shooting guide make sure that the TXE 25 litre tank is clean and has at least 5 litres of clean water in it. The machine's battery should be fully charged and all electrical and flow connections have been visually checked to ensure that nothing is loose. To check that the battery is fully charged put the TXE on charge as described in section 2 of this manual.



***Trouble Shooting Guide Pictures:***

***Figure 1***

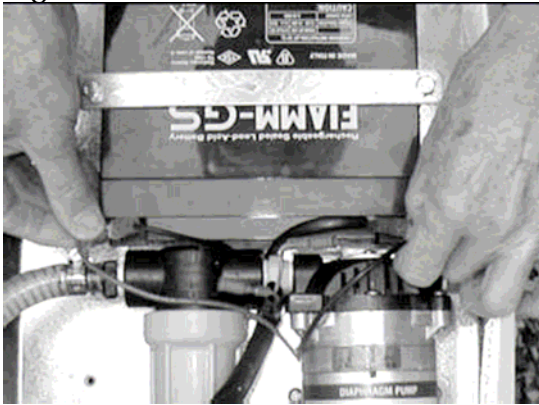


Figure 1 shows how to determine if the Shurflo pump motor is operational. Disconnect the bullet connectors from to the positive (red) terminal and the black wire to the negative (black) terminal as per figure 1.

***Figure 2***



Figure 2 shows the location of the 5-amp blade fuse with the fuse cover removed. The 5-amp blade fuse is translucent and can be easily checked to confirm whether the fuse has been damaged.

***Figure 3***



Figure 3 shows the TXE switch bracket removed and exposed bullet connectors.

**Figure 4**

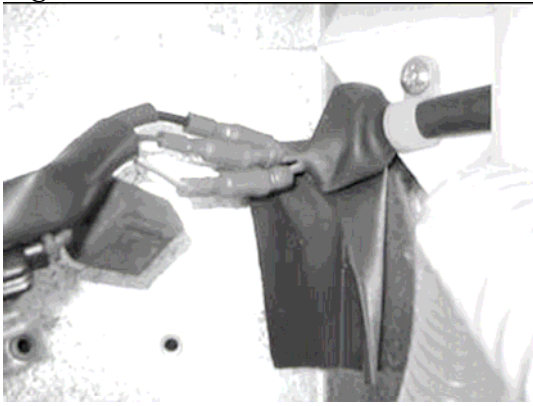


Figure 4 shows the bullet connectors leading from the handlebar to the wiring loom located on the base plate. **Note:** the plastic shroud can be slid up the wiring from the handle by undoing the screw holding the 'P' clip (as seen) to expose the connectors.

**Figure 5**



Figure 5 shows the bullet connectors leading to the pump. These may be tucked under the pump.

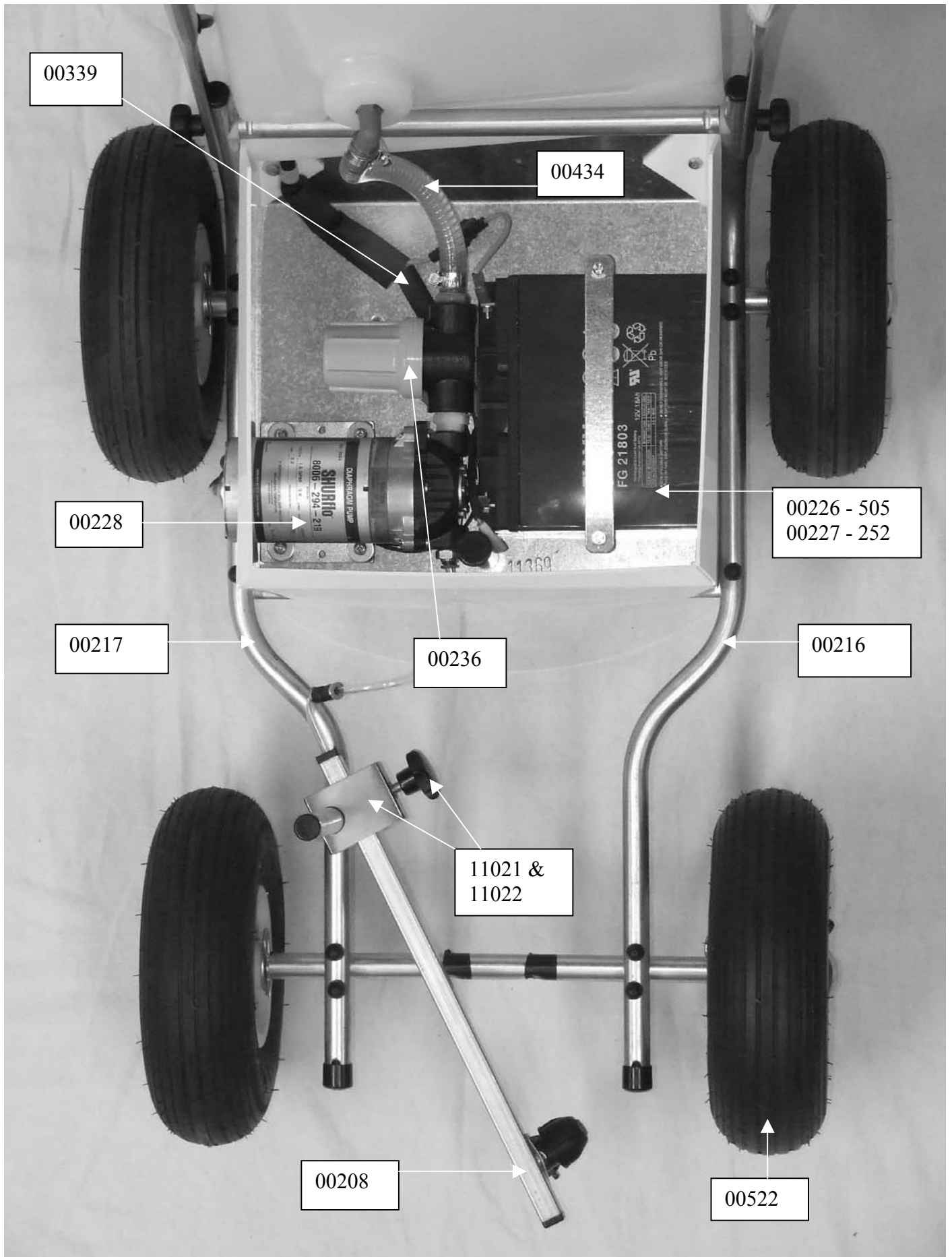
**Figure 6**



Figure 6 shows the in-line 6mm tube connector used to disconnect the pump outlet pipe from the spray arm assembly,

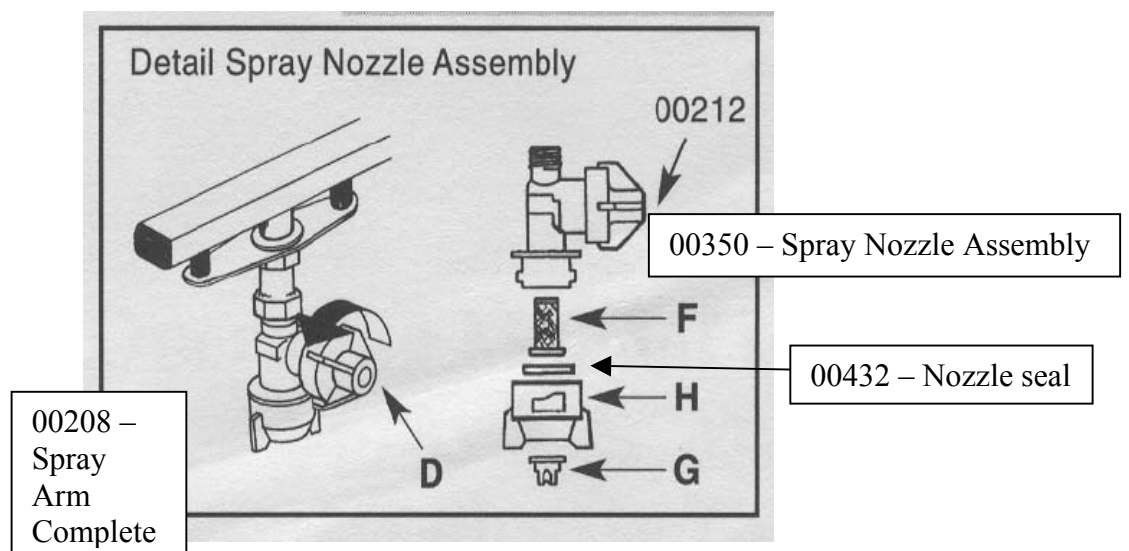
## THE TOPLINE TXE 252 AND 505 SPARE PARTS LISTING

Description of Replacement Spare Parts	Quantity	Order Code	
		TXE 505	TXE 252
Handlebar unit complete with switch, grip & wiring	1	00452	00452
Wheel	1	00522	00405
Tank (no markings)	1	00461	00461
Tank to strainer feed pipe complete with clips & tank outlet elbow	1	00434	00434
Spray arm complete with nozzle assembly	1	00208	00208
Front axle complete with R pins, washers & starlock caps	1	00209	00209
Rear axle complete with R pins, washers & starlock caps	1	00210	00210
Pack of 5 nozzle tips (marked as G on page 15)	1	00214	00214
Pack of 5 nozzle filters (marked as F on page 15)	1	00247	00247
Pack of 5 nozzle seals	1	00275	00275
Nozzle Cap (marked as H on page 15)	1	00440	00440
Spray valve (DCV) without nozzle, filter, cap or seal	1	00212	00212
Spray arm pillar	1	00213	00213
Articulated tank support pillar	1	00215	00215
Right frame brace (from front of machine)	1	00216	00216
Left frame brace (from front of machine)	1	00217	00217
Tank lid	1	13009	13009
Battery charger unit - South Africa	1	11395ZA	11395ZA
Battery	1	00226	00227
Pump	1	00228	00228
Battery retain bar complete with bolts	1	00230	00229
6 mm tube (per metre)	1	11010	11010
Strainer - in-line pump strainer	1	00236	00236
Strainer - in line strainer mesh	1	00237	00237
Wiring loom	1	00339	00339
Tank pivot bar with hand wheels	1	00243	00243
TXE pump and battery cover (shroud)	1	00242	00242
Tank lock with hand wheel	1	00245	00245
6mm in-line connector (found between pump & spray arm)	1	11059	11059
Hand wheel set for handlebar	1	04827	04827
Switch – complete	1	00274	00274
Spray arm clamp	1	11022	11022
Spray arm clamp hand wheel	1	11021	11021
<b>Accessories</b>			
Marking Disc Attachment		02066	02066
Athletics Marker		02018	02018
Spray Boom		02017	02017
SupaFlush 500 ml bottle		06302	06302





**Exploded view of components that make up part D**





**ADVANCED SPRAYING SYSTEMS FROM**



### **Contact details**

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18/09/09