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FESTOOL

Instruction manual - Orbital sander

Page 6

IMPORTANT: Read all instructions before using.

Guide d'utilisation - Ponceuse vibrante

Page 20

IMPORTANT: Lire toutes les instructions avant de démarrer les travaux.

Manual de instrucciones - Lijadora orbital

Página 36

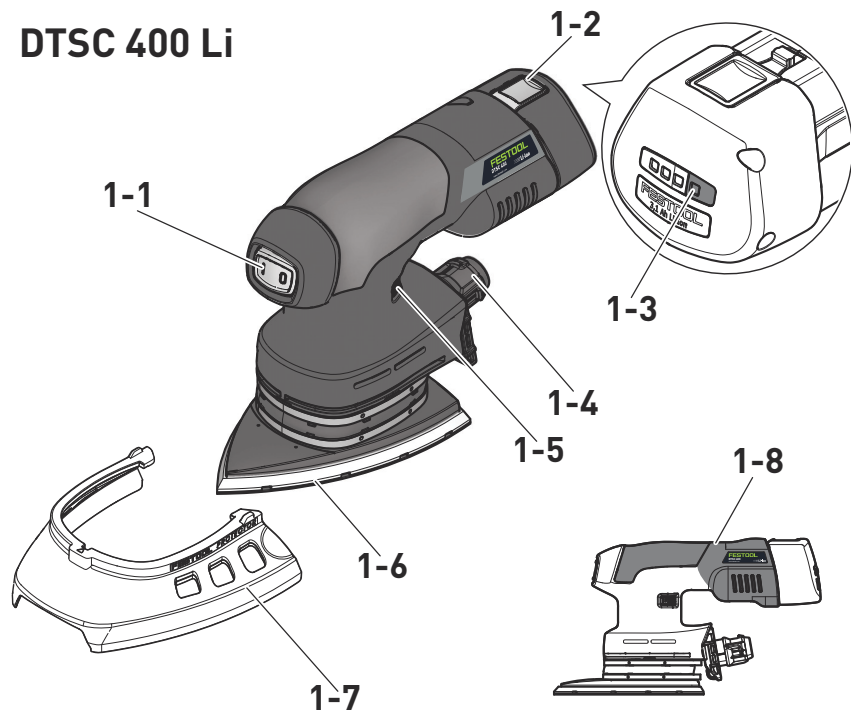
IMPORTANTE: Lea todas las instrucciones antes de usar.

**Instruction manual
Guide d'utilisation
Manual de instrucciones**

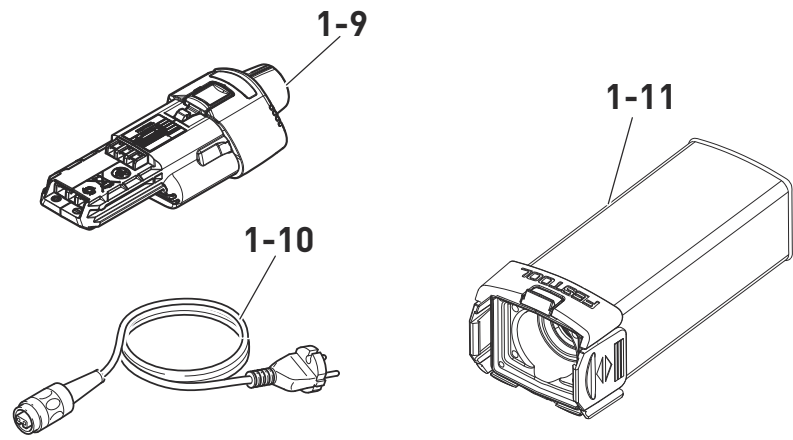
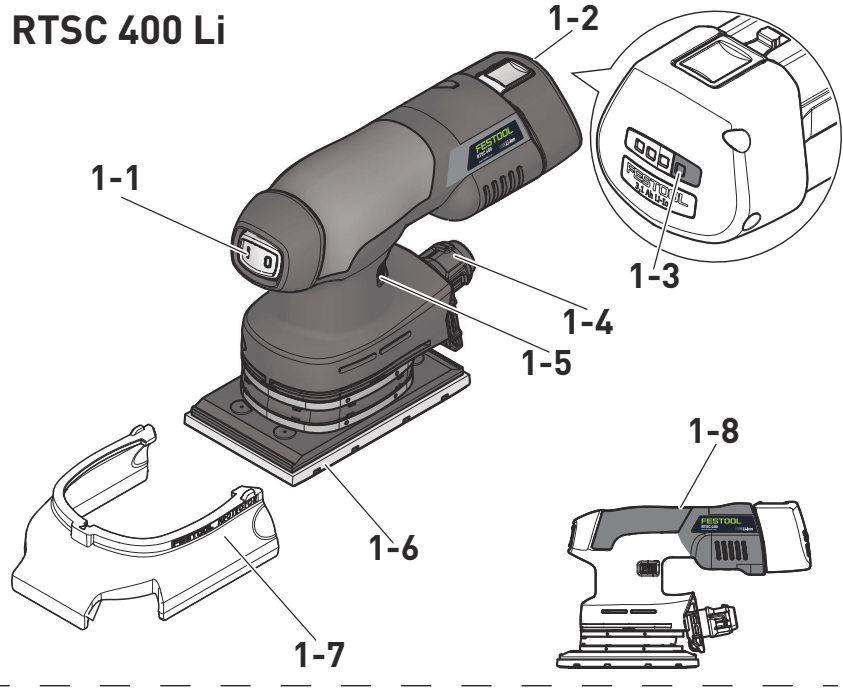
**RTSC 400 Li
DTSC 400 Li**



DTSC 400 Li



RTSC 400 Li















Contents

Symbols.....	6	Commissioning.....	11
About this manual.....	7	Settings.....	12
Safety instructions	7	Working with the machine.....	15
Intended use	10	Service and maintenance	16
Technical data	10	Accessories	17
Functional description	10	Environment	17

Symbols

Symbol Significance

	Warning of general danger
	Risk of electric shock
	Safety class II
	Read operating instructions and safety notices!
	Wear ear protection.
	Wear a dust mask.
	Wear protective goggles.
	Switch the power supply on.
	Switch the power supply off.
	RBRC Seal - Lilon
	Tip or advice
	Handling instruction




Symbol Significance



V	volts
A	amperes
Hz	hertz
~ a.c.	alternating current
— d.c.	direct current
n_0	no load speed
rpm	revolutions per minute
min^{-1}	revolutions per minute
"	inch
lbs	pound
\varnothing	diameter
$^{\circ}\text{C}$	degree centigrade
$^{\circ}\text{F}$	degree Fahrenheit
Nm	Newton metre
Ah	amps hour
Wh	watt hour

About this manual

Save these instructions


It is important for you to read and understand this manual. The information it contains relates to protecting **your safety** and **preventing problems**. The symbols below are used to help you recognize this information.

	DANGER	Description of imminent hazard and failure to avoid hazard will result in death.
	WARNING	Description of hazard and possible resulting injuries or death.
	CAUTION	Description of hazard and possible resulting injuries.

	NOTICE	Statement including nature of hazard and possible result.
	HINT	Indicates information, notes, or tips for improving your success using the tool.

Safety instructions

General power tool safety warnings

 **WARNING** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1 WORK AREA SAFETY

- Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.
- Never leave the power tool unattended.** Only leave the power tool when the tool in use has come to a complete standstill.

2 ELECTRICAL SAFETY

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power**

tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

- Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3 PERSONAL SAFETY

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- Use personal protective equipment. Always wear eye protection.** Protective equipment such

as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.

- c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d. **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- h. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

4 POWER TOOL USE AND CARE

- a. **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b. **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c. **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e. **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If dam-**

aged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

- f. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- h. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5 Battery tool use and care

- a. **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b. **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- c. **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- d. **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- e. **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- f. **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C (265 °F) may cause explosion.
- g. **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

6 SERVICE

- a. **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- b. **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.
- c. **Only use original Festool parts for repair and maintenance.** The use of incompatible accessories or spare parts can result in electric shocks or other injuries.

Machine-related safety instructions

- **Dust that is harmful to your health may be produced as you work (e.g. paint products containing lead and some types of wood).** Contact with or inhalation of this dust may pose a risk for the operating personnel or persons in the vicinity. Observe the safety regulations that apply in your country.



Wear a P2 respiratory mask to protect your health. In enclosed spaces, ensure that there is sufficient ventilation and connect an extraction system.



Always wear protective goggles to protect against sanding hazards.

- **Clean work equipment soaked in oils, for example sanding pad or polishing felt, with water and allow to dry.** Work equipment soaked in oil may combust spontaneously.
- **Attention: Risk of fire! Avoid overheating the grinding material and the sander. Always empty the dust container before taking a break.** Swarf in the filter bag or filter of the mobile dust extractor may self-ignite in unfavourable conditions such as flying sparks when grinding metals. Particular danger exists if the swarf is mixed with paint, polyurethane residue or other chemical materials and the grinding material is hot after long periods of work.
- **If the power tool is dropped or falls, check for damage to the machine and sanding pad. Remove the sanding pad for closer inspection. Have the damaged parts repaired before use.** Broken sanding pads and damaged machines can cause injuries and machine instability.
- **Always use original Festool sanding pads.**
- **While using the long-life dust bag be aware of electric charge. Always when possible use an antistatic suction hose with the power tool. A**

slight electric shock may cause you to panic briefly and become distracted, which may result in an accident.

- Only use the mains adapter with this device.
- Only use the mains adapter together with an original Festool plug-it cable.

Battery pack and charger safety instructions

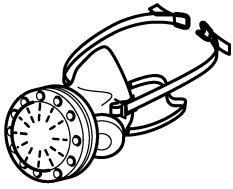
- This charger can be operated by persons with reduced physical, sensory or mental capabilities or a lack of practical experience and knowledge, provided they are supervised or have been instructed to use the machine safely and understand the dangers of machine operation. **Children** are not allowed use or play with the machine.
- Do not open the battery pack or the charger!
- Prevent metal parts (e.g. metal chips) or fluids from entering the charger!
- **Do not use power adapters or battery packs from other manufacturers to operate the cordless power tool. Do not use any charger from other manufacturers for charging the battery pack.** The use of impermissible accessories may result in electric shock and / or serious accidents!
- Protect the battery pack from excessive heat > 50 °C or constant heat sources such as sunlight or naked flames!
- Never use water to extinguish burning li-ion battery packs! Use sand or a fire blanket.
- Check the plug and the cable regularly and should either become damaged, in order to avoid a hazard, have them replaced by an authorised after-sales service workshop.
- Always pull the mains plug out of the socket when the charger is not in use.

Health hazard by dust



WARNING! Various dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically treated lumber.



The risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as dust masks that

are specially designed to filter out microscopic particles. Wash hands after handling.



WARNING

TO REDUCE THE RISK OF INJURY, USER MUST READ INSTRUCTION MANUAL.

Intended use

The sanders are designed for sanding wood, plastic, composites, paint/varnish, filler and similar materials as directed. Metals and materials that contain asbestos must not be processed.

To guarantee electrical safety, the machine must not be damp or operated in a damp environment. The machine must only be used for dry sanding.



The user is liable for improper or non-intended use.

Technical data

Cordless orbital sander	DTSC 400Li	RTSC 400Li
Voltage	18 - 20 V	18 - 20 V
No-load speed	6000 - 10000 min ⁻¹	6000 - 10000 min ⁻¹
Sanding stroke	5/64" (2.0 mm)	5/64" (2.0 mm)
Sanding pad	4"x 6" (100 x 150 mm)	3-5/32" x 5-1/4" (80 x 130 mm)
Weight (excl. battery pack, incl. sanding pad)	2 lbs (1.0 kg)	2 lbs (1.0 kg)

Functional description

The pictures for the functional description are on a fold-out page at the beginning of the instruction manual. While reading the manual you can fold out the page for comparison and quick reference.

- [1-1]** On/Off switch
- [1-2]** Battery pack
- [1-3]** Capacity display
- [1-4]** Extractor connector
- [1-5]** Speed control
- [1-6]** Sanding pad
- [1-7]** Edge protector
- [1-8]** Handle (insulated gripping surface)
- [1-9]** Mains adapter with plug-it connection*
- [1-10]** Plug-it cable*
- [1-11]** Long-life dust bag

* not on all versions included in the scope of delivery

Commissioning

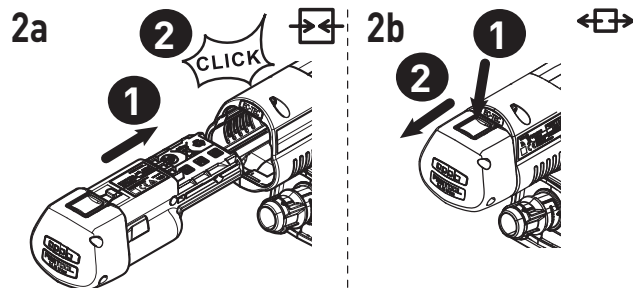
Switch on/off

The switch **[1-1]** is an on/off switch (I = ON, 0 = OFF).

- ① When the battery is empty, or if there is a power failure or the mains plug is removed, move the on/off switch immediately to the Off position. This prevents uncontrolled restarting.

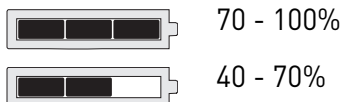
Battery pack

- ▶ Inserting the battery pack **[2a]**
- ▶ Removing the battery pack **[2b]**

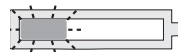


Capacity display

Pressing the green button on the capacity display **[1-3]** shows the charge status of the battery pack:



15 - 40%



< 15%

Recommendation: Charge battery pack before further use.

Mains adapter



WARNING

Unauthorised voltage or frequency!

Risk of accident

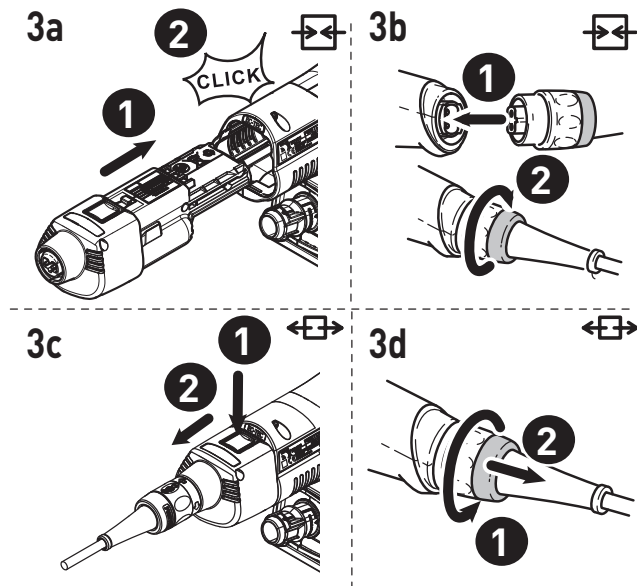
- ▶ The mains voltage and the frequency of the power source must correspond with the specifications on the machine's name plate.
- ▶ In North America, only Festool machines with the voltage specifications 120 V/60 Hz may be used.

The mains adapter (available as an accessory depending on the model) facilitates use of the cordless sanding technology with mains power, enabling you to switch between power supply sources. The mains adapter enables the mobile dust extractor's automatic electronic switch-on/shut-off function.

- ① For older mobile dust extractors, the automatic electronic switch-on/shut-off may only be acti-

vated under load and not yet under no-load speed due to low power consumption.

- ▶ Insert the mains adapter [3a]
- ▶ Connect the mains adapter and plug-it cable [3b]
- ▶ Remove the mains adapter [3c]
- ▶ Detach the mains adapter from the plug-it cable [3d]



Settings



WARNING

Risk of injury

- ▶ When working on power tools, always remove the batteries or disconnect the mains adapter first.

Electronics

Smooth start-up

The electronically controlled smooth start-up ensures that the machine starts up jolt-free.

Temperature cut-out

To avoid the motor overheating, the power consumption is limited at an excessive motor temperature. If the temperature continues to rise, the power tool switches off and can only be switched on again once the motor has cooled sufficiently.

Constant speed

The preselected motor speed is kept constant through electronic control. This means that, if the machine is used as intended (reasonable contact pressure), a constant sanding speed is achieved.

Setting and adjusting the speed


The speed can be set [1-5] between 6000 and 10000 min⁻¹ using the adjusting wheel.

For sanding, we recommend the following settings for the adjusting wheel [1-5]:

Sanding work	Adjusting wheel setting
- Sanding with max. abrasion	5 - 6
- Sanding off old paint	
- Sanding of wood and veneered surface prior to paintwork	
- Intermediate sanding of paintwork on surfaces	

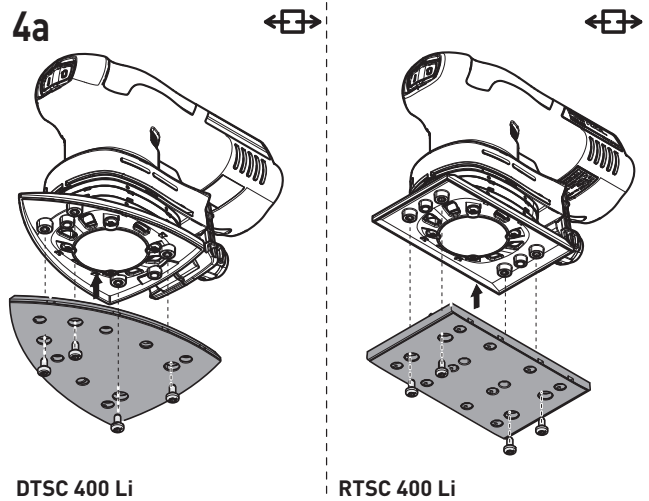
Sanding work	Adjusting wheel setting
– Sanding thinly applied undercoat	4 - 5
– Sanding wood with sanding cloth	
– Edge breaking on wooden parts	
– Smoothing primed wooden surfaces	
– Sanding solid wood and veneered edges	3 - 4
– Sanding rebate of windows and doors	
– Intermediate sanding of paintwork at edges	
– Light sanding of natural wood windows using sanding cloth	
– Smoothing wooden surfaces using sanding cloth before staining	
– Rubbing or removing excess limestone residue using sanding cloth	
– Intermediate sanding of paintwork on stained surfaces	2 - 3
– Cleaning natural wood window rebate using sanding cloth	
– Sanding stained edges	1 - 2
– Sanding of thermoplastics	

Changing sanding pad [4a]

 An optimal work result can only be achieved using original accessories and consumables. The use of non-original accessories or consumables invalidates the right to claim under warranty.

If the StickFix coating on the sanding pad has worn out, the entire sanding pad can be replaced:

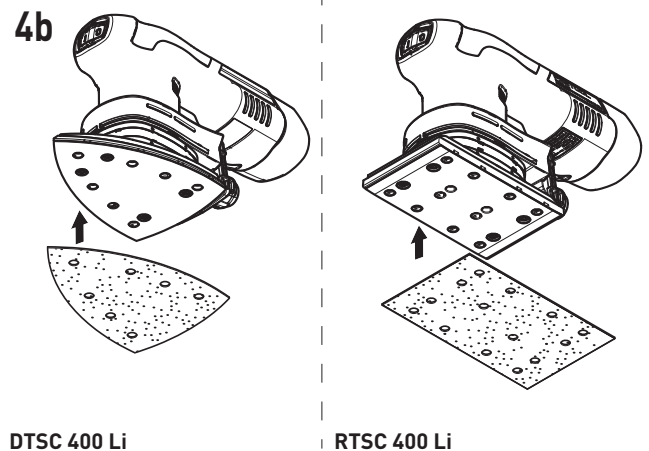
- ➊ Undo the four screws.
- ➋ Remove the sanding pad by pulling it downwards.
- ➌ Attach the new sanding pad.
- ➍ Use four screws to tighten it by hand (2.5 Nm).



Attaching sanding accessories using Stick-Fix [4b]

The suitable StickFix sandpaper and StickFix sanding cloth can be attached quickly and simply to the StickFix sanding pad.

- ▶ Affix the self-adhesive sanding accessory to the sanding pad.



Dust extraction



WARNING

Dust hazard

- ▶ Dust can be hazardous to health. Always work with a dust extractor.
- ▶ Always read applicable national regulations before extracting hazardous dust.

Integral dust extractor with long-life dust bag

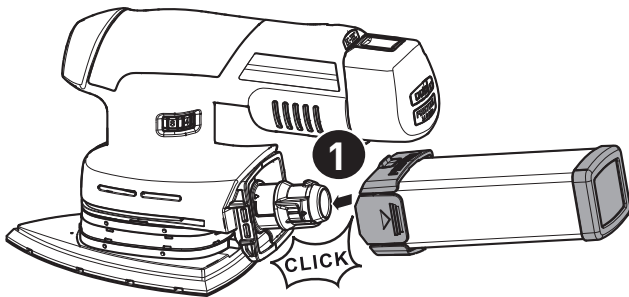
As standard, the sanders are equipped with an integral dust extractor. The sanding dust is extracted through extraction openings in the sanding pad and is collected in the dust bag.


Installing the dust bag [5]

- 1 Slide the dust bag onto the machine until it clicks into place.

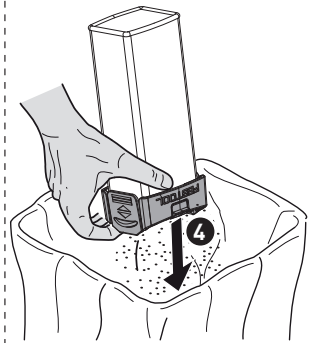
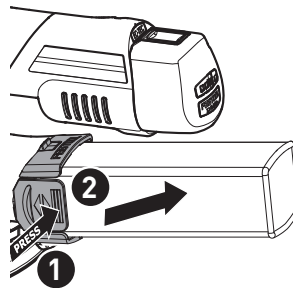
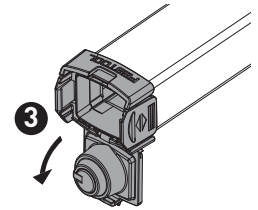


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 If the suction power is decreasing, empty the dust bag.

- 1 Press the dust bag onto the actuating elements.
- 2 Remove the dust bag by moving it towards the rear.
- 3 Open the flap on the dust bag.
- 4 Empty the dust bag and dispose of the waste.



Dust extraction with Festool's mobile dust extractor

To prevent having to frequently empty the dust bag when carrying out sanding work for a long period of time, you can connect Festool's mobile dust extractor (with an extraction hose diameter of 27 mm) to the extractor connection piece [1-4].

- 1 The start-up mode switches the mobile dust extractor on as soon as you switch the orbital sander on. The start-up mode only works in conjunction with the mains adapter.
- 2 If the power tool is used in cordless operation with a mobile dust extractor, the battery life decreases. Reducing the suction power minimises this effect.
- 3 High suction power can impair control of the power tool. Reducing the suction power minimises this effect.

Recommendation: Use an antistatic suction hose. This helps reduce the electric charge.

Edge protector [6]

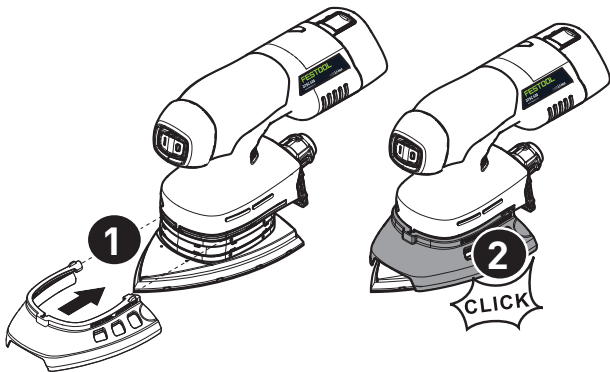
The edge protector [1-7] prevents the sanding pad circumference from coming into contact with a sur-

face (e.g. when sanding along a wall or a window), thus preventing back-kick of the machine, or machine damage.

- 1 Push the edge protector into the groove on the machine.
- 2 Slot the two ends of the edge protector into place until they click.
- 3 Loosen both ends of the edge protector.
- 4 Remove the edge protector by pulling it forwards.

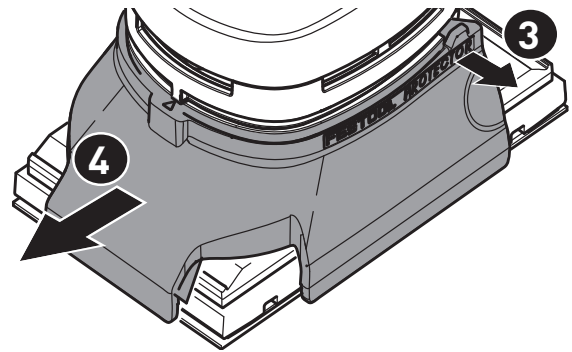
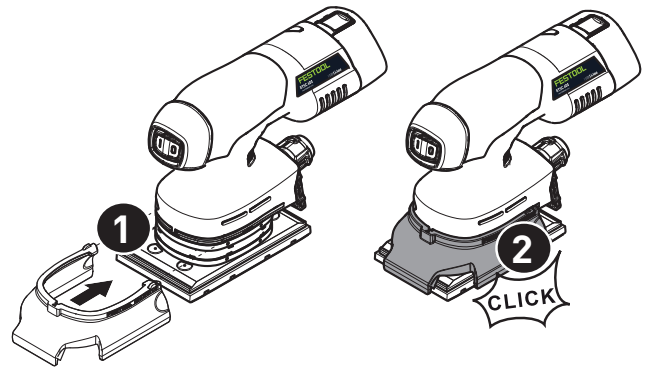
DTSC 400 Li

6



RTSC 400 Li

6



Working with the machine



WARNING

Risk of injury

- ▶ Always secure the workpiece in such a manner that it cannot move while being machined.

Observe the following instructions:

- Do not overload the machine by pressing with excessive force! The best sanding results are

achieved with moderate application pressure. The sanding capacity and quality are mainly dependent on the selection of the correct abrasive.

- Work in corners and on edges tends to subject the tip to increased stress and results in increased heat development. In such cases, work with reduced contact pressure.
- Hold the machine with one hand on the handle [1-8].

Warning signal

The machine shuts down and makes a sound:

- ▶ Switch off the machine.

Battery pack is empty.

- ▶ Change the battery pack.

The machine shuts down and does not make a sound:

Machine is overheated or has been overloaded.

- ▶ Switch off the machine for 30 seconds.
- ▶ Reduce the machine load.

If the machine's final speed is then not reached, allow the machine to cool down.

Service and maintenance



WARNING

Any maintenance or repair work that requires opening of the motor or gear housing should only be carried out by an authorised Customer Service Centre (name supplied by your dealer)!

- ▶ Maintenance or repair work carried out by an unauthorised person can lead to the wrong connection of the power cord or other components, which in turn can lead to accidents with serious consequences.



CAUTION

Certain cleaning agents and solvents are harmful to plastic parts.

- ▶ Some of these include, but are not limited to: Gasoline, Acetone, Methyl Ethyl Ketone (MEK), Carbonyl Chloride, cleaning solutions containing Chlorine, Ammonia, and household cleaners containing Ammonia.



WARNING

Risk of injury, electric shock

- ▶ When carrying out servicing and maintenance work, always remove the batteries or the mains adapter from the power tool first.
- ▶ All maintenance and repair work which requires the motor housing to be opened should always be carried out by an authorised service workshop.



Customer service and repair only through manufacturer or service workshops: Please find the nearest address at:
www.festoolusa.com/service




Use only original Festool spare parts!
Order No. at:
www.festoolusa.com/service

To ensure constant air circulation, always keep the cooling air openings in the motor housing clean and free of any obstruction.

In the event of a slowdown in performance or increased vibrations, blow and clean cooling air openings.

- ▶ Keep the contacts on the machine, charger and battery pack clean.

 For service, maintenance, disposal and transport of the battery pack, note enclosed instructions of the battery pack!

Accessories

Use only original Festool accessories and Festool consumable material intended for this machine. These components are designed specifically for this machine. Using accessories and consumable material from other suppliers will most likely affect the quality of your results and limit warranty claims. Machine wear or your own personal workload may increase depending on the application. Protect yourself and your machine, and preserve your warranty claims by always using original Festool accessories and Festool consumable material!

The order numbers of the accessories and tools can be found in the Festool catalogue or on the Internet under "www.festoolusa.com".

Systainer

Many Festool products are shipped in a unique system container, called "Systainer". This provides protection and storage for the tool and accessories. The Systainers are stackable and can be interlocked together. They also can be interlocked atop Festool CT dust extractors.

To open the Systainer


 Turn the T-loc [7-1] to this position.

To lock the Systainer

 Turn the T-loc [7-1] to this position.

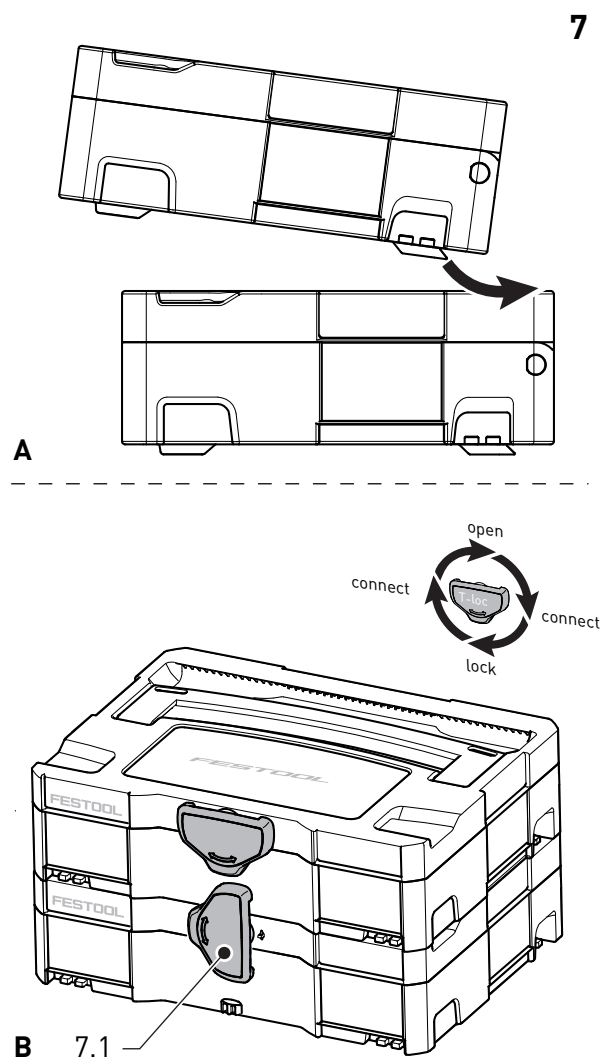
To connect two Systainers

Place one Systainer on the top of the other (Fig. [7 A]).

 Turn the T-loc [7-1] to one of this positions (Fig. [7 B]).

The Systainers are connected and locked.

① A new generation Systainer is connectable on top of a previous generation Systainer by the four latches of the previous Systainer.



Environment

Do not dispose of the device as domestic waste! Dispose of machines, accessories and packaging at

an environmentally responsible recycling centre. Observe the respective national regulations.

Battery Disposal



WARNING

Risk of fire or injury

- ▶ Do not attempt to disassemble the battery or remove any component projecting from the battery terminals.
- ▶ Prior to disposal, protect exposed terminals with heavy insulating tape to prevent shorting.

The RBRC™ Seal



The RBRC™ (Rechargeable Battery Recycling Corporation) Seal on nickel cadmium (NiCd), nickel metal hydride (NiMH) or lithium-ion (LiIon) batteries (or battery packs) indicates Festool is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. In some areas, it is illegal to place spent batteries in the trash or municipal

solid waste stream and RBRC Program provides an environmentally conscious alternative.

Please call 1-800-822-8837 for information on battery recycling and disposal bans/restrictions in your area, or return your batteries to the Festool Service Center for recycling. Help protect our environment and conserve natural resources!

Information on data protection

The power tool contains a chip which automatically stores machine and operating data (RFID). This data saved cannot be traced back directly to an individual.

The data can be read using special (contactless) devices and shall only be used by Festool for fault diagnosis, repair and warranty processing and for quality improvement or enhancement of the power tool. The data shall not be used in any other way without the express consent of the customer.