

Instruction manual

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IMPORTANT: Read all instructions before using.

Guide d'utilisation

Page 14

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

Manual de instrucciones

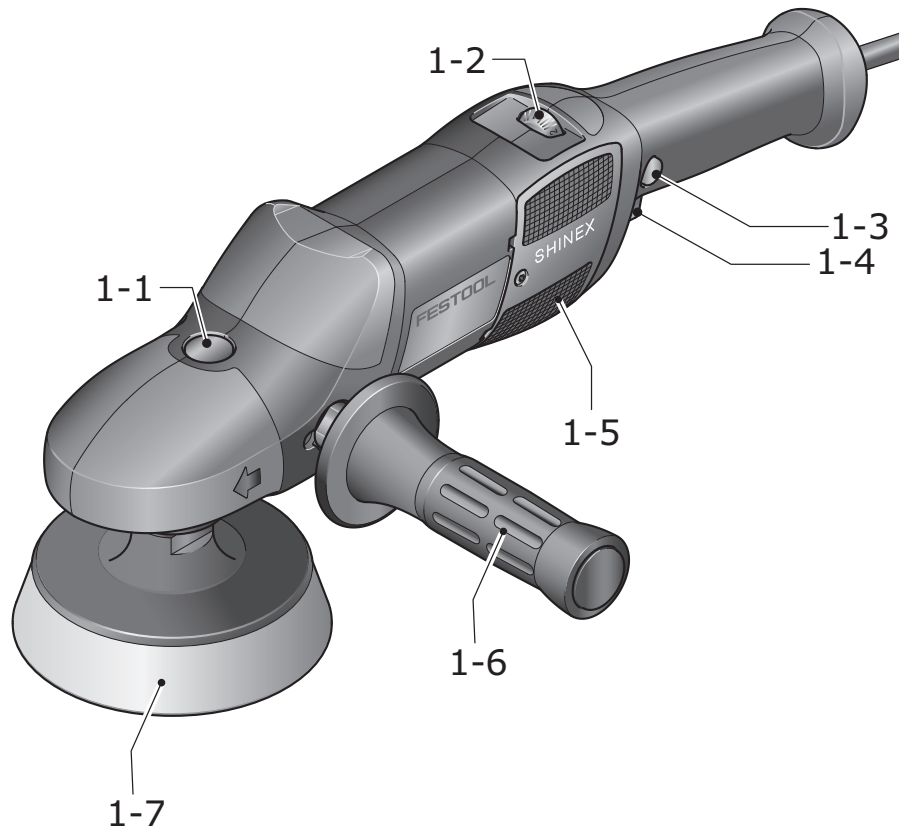
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IMPORTANTE: Lea todas las instrucciones antes de usar.

Instruction manual
Guide d'utilisation
Manual de instrucciones

SHINEX
RAP 150-14 FE
RAP 150-21 FE















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n_0	no load speed
	Class II construction
rpm	revolutions per minute
min^{-1}	
"	inch
lb.	pound
	diameter
	handling instruction
	hint, tipp
	Warning of general danger
	Risk of electric shock
	Read the Operating Instructions/Notes!
	Wear protective goggles.
	Wear ear protection.
	Wear breathing mask.




Symbols



V	volts
A	amperes
Hz	hertz
~	a.c. alternating current
—	direct current
d.c.	

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 injures 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 safety instructions



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 and 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.

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 dust mask, non skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- 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.
- 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.
- Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- 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.
- 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

- 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.
- 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.
- Disconnect the plug from the power source and/or battery pack 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. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, 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 dry, clean and free from oil and grease.** Slippery handles do not allow for safe handling and control of the tool in unexpected situations.

5 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.

Machine-related safety instructions

Special safety instructions for polishing

- a. **This machine is designed for polishing. Please read all of the safety information, instructions, illustrations and descriptions supplied with the machine.** Failure to observe the following instructions may result in an electric shock, fire and/or serious injury.
- b. **Do not use this machine to perform work such as roughing, fine sanding, brushing or abrasive cutting.** Performing tasks for which the power tool is not designed can create hazards and lead to injury.
- c. **Never use accessories that were not specially developed and designed for this machine.** Just because an accessory part can be fitted on your machine does not guarantee safe operation.
- d. **The permissible speed of the accessory must be at least as high as the maximum speed specified**

- on the machine.** Accessories that rotate faster than the permissible level can rupture and the shattered pieces may fly around.
- e. **The outside diameter and the thickness of the accessory must be within the specified size range of the machine.** Accessories with incorrect dimensions cannot be sufficiently protected or controlled.
 - f. **The bore diameter of discs, flanges, backing pads and all other accessories must fit the spindle of the power tool exactly.** Accessories with an unsuitable bore diameter do not run smoothly, vibrate excessively and lead to loss of control.
 - g. **Do not use damaged accessories. Before use, always check accessories such as polishing pads for nicks or cracks and check backing pads for cracks and excessive wear. Every time the machine is dropped, check both the machine and accessories for damage, or install undamaged accessories. Following the check and assembly of accessories, ensure that all persons are beyond the rotating range of the tool and run the machine for one minute at maximum speed.** Damaged accessories usually break completely during this test time.
 - h. **Wear personal protective equipment. Depending on the application, use a shield, full-face mask or protective goggles. If practical, wear a dust mask, ear protection, safety gloves and a work apron suitable to protect against impact or small sanding or workpiece parts.** The eyes should be protected against foreign objects flying around, which are generated during various applications. The dust or respiratory mask must be suitable to filter dust arising from the application. If you are exposed to prolonged periods of loud noise, you may suffer a loss of hearing.
 - i. **Ensure that persons standing near the machine maintain a safe distance to the work area. Everyone who enters the work area must wear personal protective equipment.** Parts of the workpiece or tool can fly off and cause injury outside the immediate work area.
 - j. **Keep the power cable away from rotating parts.** If you lose control, the power cable could be cut or become stuck and your hand or arm could be drawn into the rotating parts.
 - k. **Never set the power tool down until the tool has stopped completely.** Rotating tools may come into contact with the storage area, whereby you may lose control of the power tool.
 - l. **Do not allow the power tool to continue running while you are carrying it.** Your clothing may acci-

dentally get caught in the rotating power tool and the tool may drill into your body.

- m. **Clean the ventilation slots of your power tool on a regular basis.** The motor-driven blower draws dust into the housing, heavy deposits of swarf can cause electrical hazards.
- n. **Never operate the machine near combustible materials.** Sparks can ignite these materials.
- o. **Never use tools that have to be liquid-cooled.** Water and other liquid coolants can cause potentially fatal electric shocks.

Kickbacks and corresponding safety instructions:

A kickback is a sudden reaction as a result of a jammed or blocked rotating tool, sanding disc, sanding pad, wire brush, etc. Jamming or blocking leads to an abrupt stop of the rotating tool. An uncontrolled power tool is thus accelerated against the direction of rotation of the tool at the blocking point.

If, for example, a sanding disc is jammed or blocked in the workpiece, the edge of the sanding disc, which is immersed in the workpiece, can get caught and the sanding disc may crack or cause a kickback. The sanding disc then moves away from or towards the operator, depending on the direction of rotation of the disc at the blocking point. This can also cause sanding discs to break.

A kickback is the consequence of incorrect use or misuse of the power tool and can be prevented by taking appropriate precautionary measures, as described below.

- a. **Hold the power tool firmly in your hands and move your body and arms into a position where you can absorb the kickback forces of a rebounding tool. Always use the additional hand grip, if available, in order to have the greatest possible control over kickback forces or reaction moments upon start-up.** The operator can control the kickback and reaction forces with suitable precautionary measures.
- b. **Never place your hands near rotating tools.** The power tool can move over your hand in the event of a kickback.
- c. **Avoid the area in which the power tool is moved in the event of a kickback.** The kickback drives the power tool in the opposite direction to the

movement of the sanding disc at the blocking point.

- d. **Exercise extreme caution when working in the area of corners, sharp edges, etc. Prevent power tools rebounding from the workpiece and getting stuck.** The rotating power tool tends to get stuck at corners, sharp edges, etc., or if it rebounds. This causes a loss of control or a kickback.
- e. **Do not use a chainsaw or toothed saw blade.** Such tools often cause a kickback or the loss of control over the power tool.

Special safety instructions for polishing

- a. **Ensure there are no loose parts of the polisher hood, in particular cords. Stow or shorten the cords.** Loose and rotating strings can catch your fingers or get stuck at the workpiece.

Further safety information

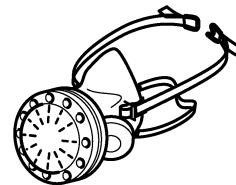
- **Prevent liquid polish from seeping into the machine.** The penetration of liquid polish into the power tool increases the risk of electric shock.

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.

Technical data

SHINEX rotary polisher	RAP 150-14 FE	RAP 150 -21 FE
Power	10 A	10 A
Tension	~120 V, 60Hz	~120 V, 60Hz
Speed	600 - 1400 min ⁻¹	900 - 2100 min ⁻¹
Max. speed ¹	2100 min ⁻¹	3000 min ⁻¹
Polishing pads up to	dia.150 mm (5.9 in.)	dia. 150 mm (5.9 in.)
Weight (without mains cable/polishing pad)	2,1 kg (4.6 lbs.)	2.1 kg (4.6 lbs.)
Safety class	□ /II	□ /II

¹ Max. speed in the event of faulty electronics.

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]** Spindle stop
- [1-2]** Speed control

- [1-3]** Locking button
- [1-4]** On/Off switch
- [1-5]** Lint filter
- [1-6]** Additional handle
- [1-7]** Polishing pads

Intended use

This machine is designed for polishing painted surfaces. To guarantee electrical safety, the machine may not be operated while moist or in a damp environment.



WARNING

The user will be liable for damage due to improper use.

Operation



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.

Switch on/off

The switch **[1-4]** is an on/off switch (press = ON, release = OFF).

The locking button **[1-3]** can be engaged to operate in continuous mode. Press the switch again to release the knob.

Extension Cord

If an extension cord is required, it must have sufficient cross-section to prevent overheating or an excessive drop in voltage. An excessive drop in voltage reduces the output and can lead to failure of the motor. The table below shows you the correct cord

diameter as a function of the cord length for this power tool.

Total extension cord length (feet)	25	50	100	150
Cable size (AWG)	18	16	16	14

Use only U.L. and CSA listed extension cords.

Never use two extension cords together. Instead, use one long one.

① The lower the AWG number, the stronger the cord.

Electronics

Consider the pictures on the fold-out page.

The machine features full-wave phase control electronics with the following features:

Smooth start-up

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

Speed control

The available speed when the ON/OFF switch **[1-4]** is pressed down fully can be set **[1-3]** between 600 and 1400 rpm (RAP 150-14) or 900 and 2100 rpm (RAP 150-21) using the adjusting wheel. This enables you to optimise the cutting speed to suit the surface (see table).

① The power tool is fitted with a variable speed trigger: Pressing the ON/OFF switch harder increases the speed.

Application	Adjusting wheel setting
Working in polish	1 - 2
Polishing sensitive surfaces	3 - 4
High-gloss polishing	5 - 6

Constant speed

The preselected motor speed is maintained on a constant level. Electronic controls ensure a steady cutting speed even when operating under different loads.

Temperature cut-out

The machine power supply is limited and the speed reduced if the motor exceeds a certain temperature. The machine continues operating at reduced power to allow the ventilator to cool the motor rapidly. The machine starts up again automatically once the motor is cooled down sufficiently.

Electric current limit

AC limiting prevents excessive current consumption under extreme overload, which can lead to a decrease in the motor speed. The motor immediately restarts after the load is removed.

Settings



WARNING

Risk of injury, electric shock

► Always pull the mains plug out of the socket before performing any type of maintenance on the machine!

Attaching polishing pads

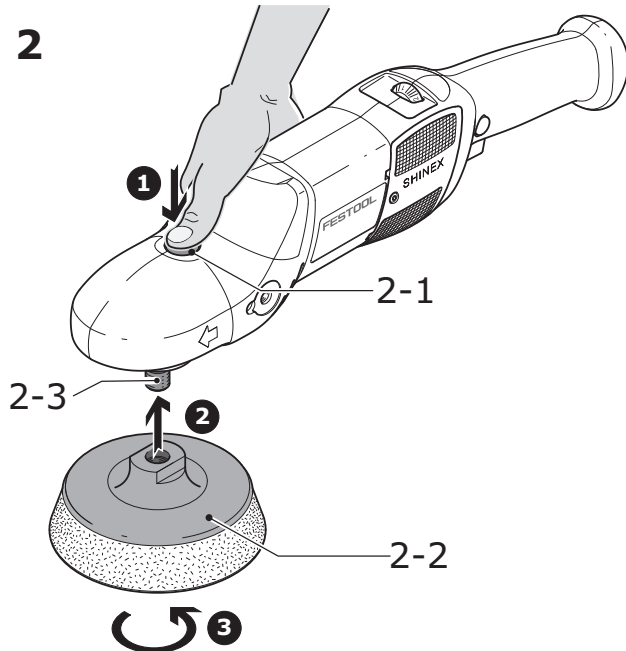
Only use polishing pads that are suitable for the maximum speed specified.

The polishing pads M 14 are fitted with a thread M

14 and are screwed directly onto the spindle.

Procedure

- ▶ Rotate the polishing pad [2-2] loosely on the tool spindle.
- ▶ Press and hold the spindle stop [2-1].
- ▶ Turn the tool spindle [2-3] until it stops and firmly screw the polishing pad.

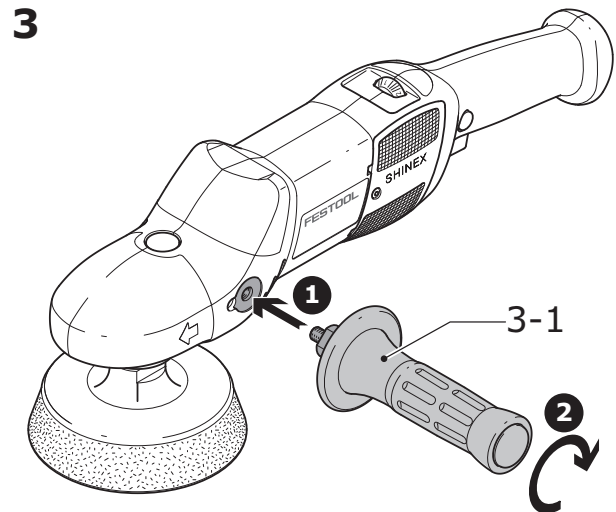


Attaching polishing accessories

StickFix is a system that simplifies the attachment of polishing accessories (felt, sponge, sheepskin) to the polishing pad [2-2] where they are retained by an adhesive coating.

Attaching the additional handle

The additional handle [3-1] can be screwed onto either the right or left of the gear head.

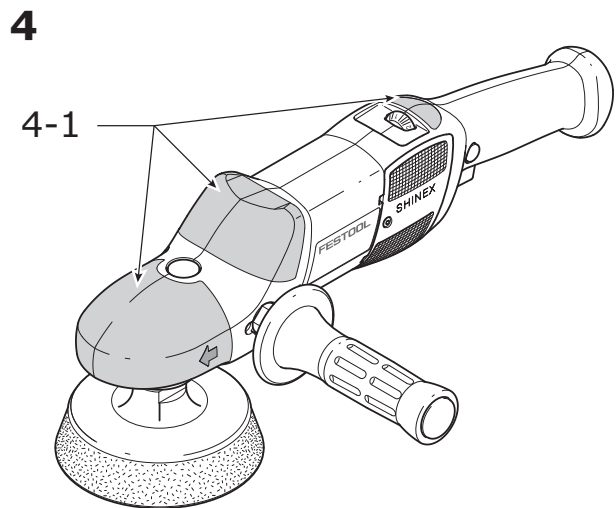


Working with the machine

Observe the following instructions:

- Do not use the machine when the electronics are faulty because the machine may operate at excessive speeds. An absence of the smooth start-up function or speed control indicates that the electronics are faulty.
- Do not overload the machine by pressing with excessive force! The best polishing results are achieved with moderate application pressure. The polishing capacity and quality are mainly dependent on the selection of the correct polish.
- Hold the machine with two hands, one on the motor housing and one on the gear head or additional handle [1-6] to ensure safe guidance.

- ① The rubber support points [4-1] provide extra stability when the machine is set down.



Service and maintenance



WARNING

Any maintenance or repair work that requires opening the motor or gear housing may 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.



WARNING

To prevent accidents, always remove the plug from the power supply socket before carrying out any changes or maintenance work on the tool!

- ▶ Do not use compressed air to clean the electrical tool! Do not try to clean parts inside the tool in this way, as you could let foreign objects in through the openings of the tool housing.

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

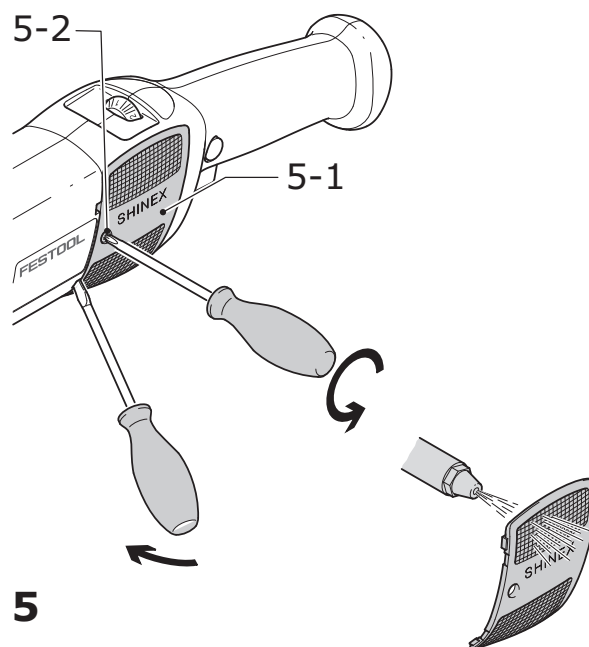
Cleaning the lint filter

- ▶ Clean the lint filter [5-1] regularly on both sides

of the machine.

- ▶ If the lint filter is heavily soiled, loosen the screw [5-2], remove the filter and clean using an extractor.

The machine is equipped with special carbon brushes. If they are worn out, the power is interrupted automatically and the machine comes to a standstill.



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!

Use only genuine Festool polishing pads. Low-quality polishing pads may cause serious machine imbalance and decreases the quality of the working results as well as increase machine wear.

The order numbers of the accessories and tools can be accessed via the Festool catalogue or on the Internet at "www.festoolusa.com".

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.