

**FEIN. Powered by
innovation.**



Operating manual for the FEIN Marine range



**Working with the
FEIN MULTIMASTER MARINE TOP**

**Working with the
FEIN MARINE POWER POLISHER**

The FEIN care product range



The first choice for interior outfitting, maintenance and repair of boats. The FEIN Marine range

FEIN produces a range of optimum equipment for anyone wanting great boatbuilding and yacht maintenance results. The FEIN Marine range includes power tools, which are just as durable as they are powerful, and accessories, tailored perfectly to interior outfitting, conversion work and maintenance of boats. A practical system you can rely on for decades to come. And it's hardly

a surprise! The FEIN tools in the range have long proved themselves in tough everyday industrial use, spanning seasonal sanding down of antifoul products, repairs to teak decks, refits or individual conversion work inside boats. In other words, the range covers all key boating applications.



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Working with the FEIN MULTIMASTER MARINE TOP

The FEIN MULTIMASTER MARINE TOP is THE universal system for interior outfitting, maintenance and repairs to boats. It embodies more than 40 years of experience in oscillation technology. Thanks to its wide range of accessories, this versatile and high-precision tool is suited to all important applications undertaken by boatyards, fitters, boat dealers, charter companies and boat owners. The FEIN MULTIMASTER MARINE TOP can easily cut down the time required for teak deck repairs by up to 80 %. When it comes to sawing and scraping work, the marine system has an impressive service record too.

ENSURING YOUR SAFETY

Please observe the safety instructions on the supplementary sheet enclosed with the machine and those in the operating manual!



Changing tools and selecting the right speed

The FEIN MULTIMASTER MARINE TOP allows you to quickly and easily change tools in the blink of an eye.



This is how it works:

Fully open the FEIN MULTIMASTER MARINE TOP's clamping lever by 180 degrees (also refer to application video).

Pull out the tensioning element on the tool mounting and insert the accessory in the working position you want in the teeth on the FEIN MULTIMASTER MARINE TOP. Ensure that the accessory's teeth have snapped in correctly.

Then insert the tensioning element all the way and finally close the clamping lever.

Your FEIN MULTIMASTER MARINE TOP is now ready.

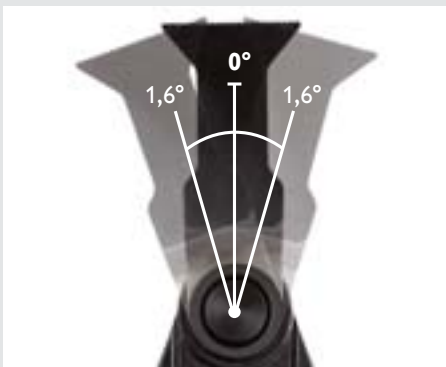
Selecting the right speed

- ▶ When renovating the deck, the speed on the electronics should be reduced greatly, i.e. roughly to stage 3–4.
- ▶ When working with the profile sanding set (optional accessory), you should also greatly reduce the speed (maximum stage 4).
- ▶ A low speed also brings benefits to filigree cut-outs with the narrow M-CUT saw blades.

NOTE

We recommend working at maximum speed for all other applications.

Technology



The FEIN MULTIMASTER oscillates at $2 \times 1,6^\circ$

The oscillating motion of the FEIN MULTIMASTER MARINE TOP results in very little dust when sawing compared with other power tools such as angle grinders.

Any dust produced when sawing isn't distributed far but remains close to the place of work. The motor fan may however cause the dust to swirl around in very tight spaces.

Compared with other saws or angle grinders, the principle behind the FEIN MULTIMASTER MARINE TOP makes it a very safe power tool.

SAFETY INSTRUCTIONS

Please do not touch any saw blades during work and follow the operating manual and accompanying safety instructions.



Sawing cut-outs with M-CUT saw blades



**M-CUT saw blade, wide,
8-star**
(6 35 02 157 01 0)



**Carbide file, narrow,
8-star**
(6 37 06 017 01 0)

The FEIN MULTIMASTER MARINE TOP produces cut-outs with a 10 mm edge or more in fibreglass, carbon fibre-reinforced plastic, other plastics and wood up to the maximum cutting depth that the tool length can achieve of around 28 mm. The maximum cutting depth obtained with 20 mm wide cutting tool is 45 mm. The maximum material thickness in sheet metal or aluminium is around 1 mm.

This is how it works:

When working ensure that you do not exert a high contact pressure, do not load the side of the saw blade or tilt it.

Very deep cuts in solid fibreglass can also be made with ease if you remove the saw blade from time to time to ensure that the swarf comes out.

Long cuts are a simple task, especially with the wider version (28 mm). When making these kinds of cuts, you should hold the saw blade at an angle of around 30 degrees to the workpiece.

Whenever undertaking sawing tasks with oscillating power tools ensure that the object you are working on is securely fixed and cannot vibrate with the power tool.

Cut-outs can be deburred or enlarged with the carbide file. You can also quickly and easily file curved edges with the carbide file. Don't exert too much lateral load on the file.

Sawing with universal E-Cut saw blades (bi-metal teeth)



Universal E-Cut saw blade,
long (60 mm), wide (44 mm)
(6 35 02 152 01 0)



Universal E-Cut saw blade,
long (60 mm), wide (44 mm)
(6 35 02 151 01 0)

Universal E-Cut saw blades can be used to produce cut-outs or even longer cut in fibreglass, carbon fibre-reinforced plastic, other plastics and wood up to a maximum cut depth of 60 mm. If making very deep cuts in solid fibreglass, the swarf should be removed by regularly withdrawing the saw blade.

This is how it works:

The maximum material thickness in sheet metal, copper and aluminium is around 2 mm.

E-Cut saw blades should be clamped so that the labelled side can be read from above. The stepped shape of the saw blades allows you to work flush to all surfaces.

You can adjust the operating angle of the saw blade to your needs in 45 degree steps.

When sawing out in corners you can clamp the saw blade at a 90 degree angle to the motor axis. Once you offset the saw blade this makes light work of a cut-out in a corner, such as a closet bracket.



Sawing with the 100 mm HSS saw blade



HSS saw blade
(6 35 02 154 01 0)

SAFETY INSTRUCTIONS

Please clamp the saw blade so that the part you hold is covered by the plastic protection and do not touch the coarsely toothed saw blade during operation!



Depth stop
(3 26 07 065 01 0)

NOTE

Please refer to the operating manual for more assembly tips.

The HSS saw blade makes the FEIN MULTIMASTER MARINE TOP a “mini circular saw”, presenting a dust-free alternative to angle grinders. It’s perfect for fully trimming e.g. a fibreglass hull or deck.

This is how it works:

The 100 mm HSS saw blade can produce longer cuts in fibreglass, carbon fibre-reinforced plastic and wood. The saw blade is not suited to metals or sheet metal. The maximum recommended cut depth is around 30 mm.

Depth stop

FEIN provides a depth stop for work undertaken with E-CUT saw blades or with the 100 mm HSS saw blade. You can use this for great repair results on fibreglass sandwich materials for example.



Sanding work



Triangular sanding pad
(6 38 06 153 02 2)

NOTE

To prevent unnecessary wear on the sanding sheet, do not spend long periods sanding one area!

You should clamp the unperforated triangular sanding pad for all sanding, cleaning and polishing work. To prevent scratches on yacht fittings, the sanding pad has a plastic backplate, the underside of which features velcro.

This is how it works:

Fit sanding paper of the grain you want, switch the machine on and briefly press onto a level surface, such as waste wood so that the sanding paper latches onto the sanding pad perfectly.

When working you should only exert a moderate contact pressure, keep the sanding paper in full contact with the surface and keep the machine moving at all times.



Cleaning and polishing work



Bristle fleece
(6 37 23 031 01 0)



FEIN yacht cleaner spray
(6 37 26 021 01 0)



FEIN yacht polish
(6 37 26 020 01 0)

The bristle fleece can be used to quickly and thoroughly clean fibreglass anti-slip structures on yacht decks.

This is how it works:

First spray a small amount of FEIN yacht cleaner spray on the areas you want to clean and leave to take effect.

Then work on the dirty areas with the FEIN MULTIMASTER MARINE TOP, the plastic backing plate and bristle fleece.

To finish, rinse off thoroughly with clear water or remove the dirt with a bucket and sponge.

The bristle fleece can also be used to polish fibreglass anti-slip structures. Simply apply a thin coat of FEIN yacht polish and polish the area with the bristle fleece.



Polishing with the felt polishing pad



Felt polishing pad
(6 37 23 032 01 0)



FEIN yacht polish
(6 37 26 020 01 0)

The felt polishing pad is great for polishing boat stainless steel fittings, chrome, non-ferrous metals like gelcoat and other plastic surfaces.

This is how it works:

Apply a thin layer of FEIN yacht polish onto the surface you want to polish and then polish with the FEIN MULTIMASTER MARINE TOP and felt polishing pad.

This process is perfectly suited to interior areas like the shower cabin or plastic window frames.



Renovation of teak deck panels



Cutter blade 3 mm

(6 39 03 200 01 7)

Cutter blade 4 mm

(6 39 03 201 01 6)

Cutter blade 5 mm

(6 39 03 202 01 9)



Carbide segment saw blade

(6 35 02 118 01 6)



Stopper knife

(6 39 03 178 01 7)

The cutter blades are suited to all common polyurethane joint materials. Simply select the right blade for your joint and if in any doubt use a narrower blade.

This is how it works:

Clamp the right blade in an 8 o'clock position on the machine. Remove the joint material in 2 – 3 steps.

Use the carbide segment saw blade to roughen and rework the groove flanks.

We recommend regularly sharpening the blade on the running machine. Please use a sanding paper with a 120 – 180 grain for this purpose (also refer to application video).

Once the joints have been squirted with the new polyurethane sealing compound, use the stopper knife to cut back the protruding compound.



Working with the FEIN MARINE POWER POLISHER

FEIN MARINE POWER POLISHER delivers brilliant results in boat maintenance. No matter whether you are undertaking long-term, powerful and time-saving cleaning, polishing, sealing or sanding, this power tool maintains yachts in record time. The supplied backing pad with extractor hood allows this tool to be used as a sander for wood, paint and antifoul coatings. All in all, the FEIN MARINE POWER POLISHER is perfectly suited to maintaining yachts over long periods: in boatyards, by maintenance services, boat dealers, charter companies and boat owners. Thanks to its double reduction with bevel and planetary gears, the FEIN MARINE POWER POLISHER delivers maximum power – even at low speeds.



Polishing in general

The FEIN MARINE POWER POLISHER is one of the most powerful polishers on the market. Its superb design ensures that the machine's set speed is maintained constantly even under very high loads. Even with a higher contact pressure and very large areas, disproportionate heating or machine overloads are therefore very rare.

As another benefit, you can quickly turn the FEIN MARINE POWER POLISHER into a rotary sander with dust extraction using the extractor hood supplied and the sanding pad. The relatively low speed level allows for highly effective work on polymer and other antifoul coatings.

The standardised M 14 tool mounting and spindle lock also permit a virtually unlimited diversity of applications coupled with a high level of operating comfort.



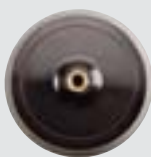
Cleaning work



Bristle fleece
(6 37 23 033 01 0)



FEIN yacht cleaner spray
(6 37 26 021 01 0)



Support plate
(6 38 06 187 01 0)

The bristle fleece is ideal for removing stubborn dirt from yacht decks or hulls.

This is how it works:

Spray on the FEIN yacht cleaner spray and leave briefly to take effect.

Then clamp on the support plate, and attach the bristle fleece.

Now select the lowest speed (around 500 rpm) for mechanical cleaning that delivers results comparable with those obtained from using a brush.

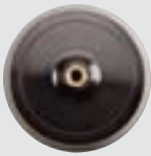
Once the cleaning work is complete, clean the surface with a sponge and water or spray off.

NOTE

In order to protect the environment, the cleaning of boats is strictly regulated in most watersport areas and is often only permitted inside boatyards. Please always observe the applicable regulations.



Polishing work



Support plate
(6 38 06 187 01 0)



Sponge, orange
(6 37 23 034 01 0)



Lambskin cover
(6 37 23 035 01 0)



Yacht polish
(6 37 26 020 01 0)

FEIN MARINE POWER POLISHER is the impressive all-rounder for polishing fibreglass boats made from gelcoat, painted boats made from steel or aluminium or fibreglass boats which have subsequently been painted.

This is how it works:

Apply a thin coat of FEIN polish in sections to the hull or deck areas you want to clean and leave briefly to take effect. Alternatively you can also apply the polish using the orange sponge or lambskin cover.

If your boat has been well maintained, you can then polish off with the orange sponge at a speed of around 600–900 rpm (electronics level 1–3).

On older boats, the lambskin cover will result in better polishing results at a speed of around 600–1200 rpm (electronics level 2–4).

Very old boats can also be perfectly polished with an increased contact pressure and speed of up to 1200 rpm.

The polishing effect obtained using the lambskin cover may be too powerful for painted boats (without gelcoat). The orange sponge is therefore the preferred method in such cases.

Sanding work



Extractor hood



Soft backing pad
(6 38 06 188 01 0)



Sanding paper
Grain 60 to 1200



Sanding fleece
(6 37 32 004 01 0)

The FEIN MARINE POWER POLISHER also delivers perfect results for marine sanding work.

This is how it works:

For sanding work, fit the extractor hood as shown in the accompanying sketch for right-handers so that the suction nozzle is to the right of the machine axis when viewed from above (vice versa for left-handers).

Then fit the soft sanding pad.

Use a sanding paper suitable for your sanding work with a grain of between 60 and 1200.

For environmental and health and safety reasons, we strongly recommend using dust extraction. Because of the very high sanding capacity and the high levels of dust therefore produced, the user should not work without a powerful dust extractor.

When extracting dusts which may be harmful to your health, always note the relevant national regulations.

We recommend the sanding fleece in particular for sanding off coats of antifoul. At the recommended speed of roughly 900–1000 rpm, the sanding fleece does not choke and produces an excellent service life on most coats of antifoul. This all makes for professional sanding without any risk of damage to the gelcoat on the hull.

NOTE

The sanding fleece is perfectly suited to sanding off coats of antifoul.

The FEIN care product range

The FEIN Marine range ensures the value of your boat in the long term. Not only does the powerful and user-friendly FEIN MARINE POWER POLISHER quickly make light work of the cleaning, polishing and sealing work needed every year, the comprehensive range of FEIN care products designed to complement it and suit all applications, ensures smooth surfaces. The combination delivers amazing results and preserves surfaces in record time.



FEIN yacht polish



FEIN yacht polish
(6 37 26 020 01 0)

The FEIN yacht polish is a real high-tech product which is designed for use with polishing machines. Unlike most competitor products, it has an aluminium oxide basis.

This gives you, the user, great benefits:

- ▶ The option of working on meaningful areas (e.g. one half of the hull) in the sun. If necessary, the viscosity of too dry a polish can be perfected when polishing the deck by adding water (spray bottle).
- ▶ Very easy to wash off – under all conditions and from all boat surfaces.
- ▶ As you work the particles in the aluminium oxide sanding material automatically reduce in size. This gives you a fine surface and a good shine in just one step (1-stage polishing).
- ▶ You can use an applicator to adapt the polishing result to all yacht preservation levels.
- ▶ The orange sponge delivers a slight to average polishing effect on gelcoat and painted surfaces while the lambskin cover (mixed fabric) delivers an average to high polishing effect depending on speed and contact pressure.
- ▶ The result and speed of processing is perfect for all imaginable surfaces.
- ▶ The FEIN yacht polish is also suited to plastic window frames and virtually all other plastics.

Continuation of page 20: FEIN yacht polish



FEIN yacht polish
(6 37 26 020 01 0)

NOTE

High speeds of up to 1200 rpm are only recommended for very old boats in a poor condition.

This is how it works:

Apply a thin coat of FEIN boat polish to the yacht hull or deck, working in sections.

Alternatively, the polish can also be applied with the machine.

Next polish using the machine at these recommended speeds:

Sponge, orange	600 – 900 rpm
Lambskin cover	600 – 1200 rpm

The surface should then be wiped with a microfibre cloth.



FEIN all-purpose yacht cleaner



FEIN all-purpose yacht cleaner
(6 37 26 021 01 0)

NOTE

In order to protect the environment, the cleaning of boats is strictly regulated in most watersport areas and is often only permitted inside boatyards. Please always observe the applicable regulations.

FEIN all-purpose yacht cleaner

The FEIN all-purpose yacht cleaner is not only perfectly suited to boat hulls and decks, but delivers outstanding results indoors too.

This is how it works:

Spray yacht cleaner on to dirty areas and leave for a short time to take effect.

Then remove the loosened dirt with water and a sponge. Rinse with water.

The yacht cleaner can also be used in combination with the bristle fleece – with great results. (See pages 11 and 16)



FEIN anti-yellowing spray



FEIN anti-yellowing spray
(6 37 26 022 01 0)

FEIN anti-yellowing spray

The FEIN anti-yellowing spray removes yellowing and algae from the waterline, as well as rust stains. The practical spray bottle makes the product easy to apply. The spray does not attack plastic and is very efficient.

This is how it works:

Spray FEIN anti-yellowing spray to the affected areas on the waterline and leave for a short time to take effect.

Then rinse with plenty of water.

A safety data sheet for the FEIN anti-yellowing spray is available on request.

FEIN carnauba wax and cleaner



FEIN carnauba wax and cleaner

(6 37 06 023 01 0)

NOTE

Do not use in strong sunlight!

FEIN carnauba wax and cleaner allow for a high sheen seal which will last for a long time to come. It is anti-static and resistant to impact and shampoo! The cleaning components are not abrasive and can be used without you having to first polish if boats are well maintained.

The care products offer impressive features such as an outstanding level of sheen and a high level of protection.

This is how it works:

Use a soft cloth to apply the wax to the hull or deck, working in sections.

Leave briefly to dry a little.

To remove use a polishing machine (running at roughly 500–700 rpm) and an orange sponge.

Wipe down with a soft, clean cloth – if possible a microfibre cloth.

A safety data sheet for the FEIN carnauba wax and cleaner is available on request.

FEIN nano wax and cleaner



FEIN nano wax and cleaner
(6 37 06 024 01 0)

NOTE

Do not use in strong sunlight!

FEIN nano wax and cleaner ensure a very resistant and high sheen seal, which is anti-static, resistant to impact and shampoo and very fine thanks to the nanoparticles it contains. You can use it to fill slight scratches and protect the boat's surfaces from the weather and UV rays.

The cleaning components are not abrasive and can be used without you having to first polish if boats are well maintained, i.e. before the start of the season.

These care products offer impressive features such as an outstanding level of sheen and a high level of protection.

This is how it works:

Use a soft cloth to apply the wax to the hull or deck, working in sections.

Leave briefly to dry a little.

To remove use a polishing machine (running at roughly 500–700 rpm) and an orange sponge.

Wipe down with a soft, clean cloth – if possible a microfibre cloth.

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