

# FIELD GUIDE



**TRUST BLUE**

- Quality sharpening tools for safer and more efficient forestry work
- Unique, innovative tools yield increased productivity in the field
- Achieve a perfectly sharpened saw chain in a few steps





**August Rüggeberg GmbH & Co. KG, Marienheide/Germany, develops, produces and markets tools for surface finishing and cutting materials under the PFERD brand nam.**

PFERD started producing files over 200 years ago. Since then, this family-owned company has become one of the leading manufacturers in the tool industry, even producing for several original equipment manufacturers. Innovative ideas and products are the key to success.

Right from the start, the “jumping horse” has been a distinctive brand mark for excellent quality, top performance and efficiency. It symbolises strength, endurance and reliability. Professionals associate the name with top-of-the-range products.

This field guide includes a collection of technical resource information on maintaining saw chains, as well as a catalogue of PFERD chain saw files, tools for repairing other forestry equipment and accessories.

Technical resource information: Pages 3-17  
 Product catalogue: Pages 18-30



### PFERD tools for forestry

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### Work in forests

Forest owners and forestry professionals have long recognized the importance of the forest for society and the environment. Forestry work makes a significant contribution towards maintaining three fundamental core functions: the **economic, ecological and social functions**.

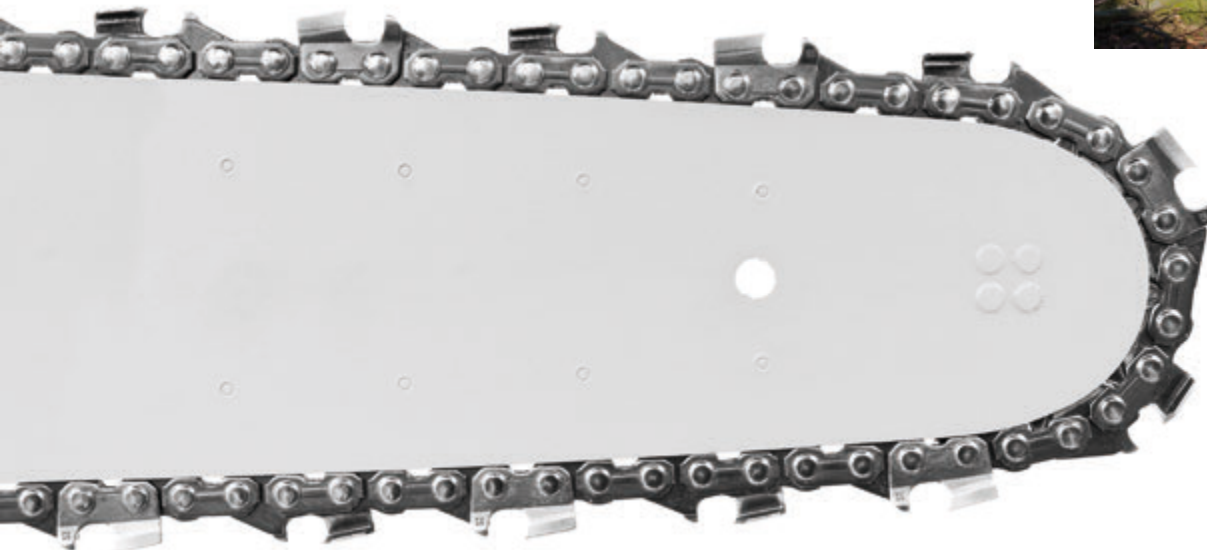
The forest is an **important economic factor** and serves as a **workplace** for many people. With sustainable management by foresters, it supplies the **raw material of wood**, which, despite industrially produced alternatives made of plastics and metals, is an indispensable part of our everyday lives. Wood is used in a **range of industries**, for example, the furniture, construction and paper industries and is receiving acclaim as a **fuel** for heating and energy generation.



Alongside the production of raw materials, forestry serves **the protection of humankind and the environment**, as well as providing **relaxation for people** and **helping them maintain their health**. Woods can only provide leisure facilities such as walking, cycling and riding paths and special play areas through the work performed by foresters.

The **instrument most frequently used** in forestry is the **chain saw**. Its introduction in the middle of the 1950's revolutionized manual forestry work. Much less time is now needed to fell a tree, remove its branches and cut it into appropriate pieces in comparison to working with a hand saw or axe. However, forestry work is still **hard, demanding and dangerous work** that places high demands on people and machinery and during which serious accidents can happen. Even the increasing mechanization since the end of the 1980's won't change the fact that **people are always the focus**.

The **correct posture, optimum working methods, safe machines and instruments** and the use of **personal protection equipment** are important aspects that need to be considered during daily work. The **condition of working equipment** often influences the work result, the level of physical strain and safety. Optimum maintenance of the machines and instruments deployed is a basic prerequisite for **efficient, ergonomic and safe work**.



### Why use files from PFERD?

For more than 200 years, PFERD files have been renowned worldwide as a **top-quality** product. With their consistently **high cutting performance**, they reduce the cost of labour-intensive manual work and provide significant **economic benefits**. PFERD files still achieve an excellent surface quality after long periods of use.

PFERD has used its centuries of experience to develop perfect file shapes and cuts for **use in forestry** with practical use in mind.

State-of-the-art production technology, our own machine tooling at PFERD's global headquarters in Marienheide, near Cologne, and strict quality controls guarantee excellent PFERD quality. PFERD is certified according to DIN EN ISO 9001.

### Professionals appreciate PFERD files for:

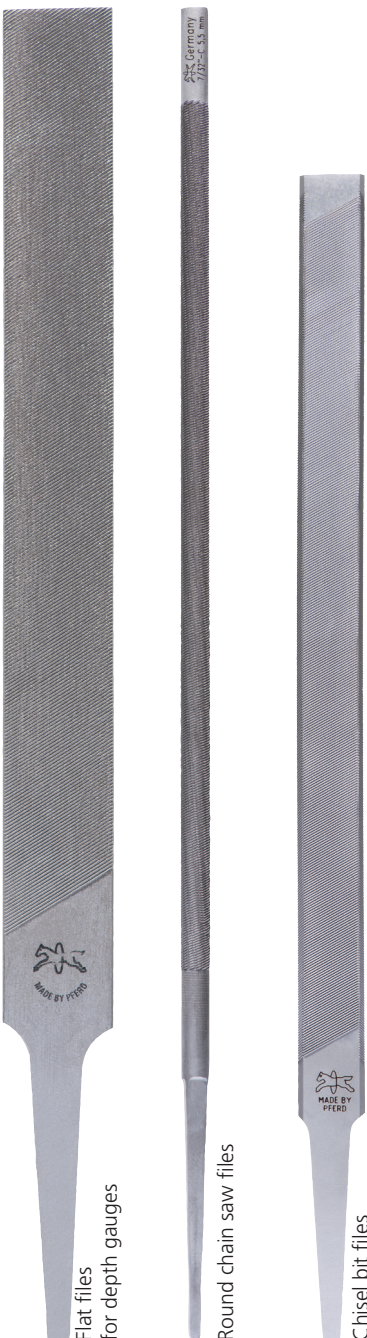
- excellent stock removal
- comfortable guidability
- durability
- optimal surfaces and sharpening results

### An appropriate steel microstructure, essential for uniform hardness

Profiling in the rolling mill, shaping of blanks and tangs, annealing processes prior to cutting and final heat treatment cause a change in the microstructure of the steel. Throughout these treatments, it is essential to maintain a high carbon content to ensure the requisite hardness and removal performance of the file.

### Exact shape and uniformly hewn cut

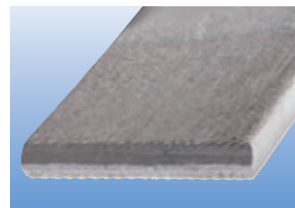
Blanks acquire their exact shape, critical for an appropriate performance, through a series of forging and grinding operations. Equally spaced teeth and a uniform depth of cut ensure good filing results and surface finishes. The type and angle of the cut depend on the purpose for which the file is intended.



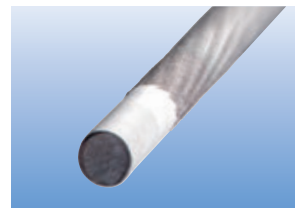
Flat files for depth gauges

Round chain saw files

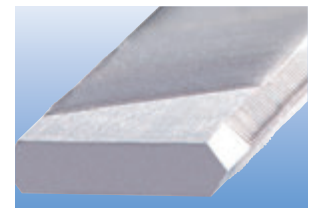
Chisel bit files



Flat files for depth gauges



Round chain saw files



Chisel bit files

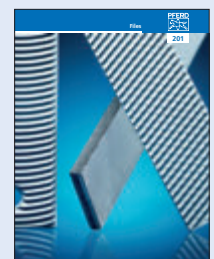
### The most important PFERD tool: The Tool Manual

With more than 7,500 innovative solutions for surface finishing and material cutting. Request a free copy at [www.pferd.com](http://www.pferd.com).



### Note

For more detailed information on files, please refer to the PFERD Tool Manual, catalogue 201.





### Why does a saw chain need to be sharpened?

The saw chain is subjected to natural wear when used. The chain must be regularly sharpened to achieve the **optimum cutting performance with the chain saw** and to guarantee **ergonomic and safe work**.

A perfectly sharpened saw chain ensures:

- Less wear to the cutting set and chain saw
- Better cutting performance and higher cutting speed
- Less fuel consumption and lower exhaust fume emissions
- Fewer vibrations and better work comfort
- Lower force input and less physical strain
- Reduction of kick-back risk and increased safety

### When should a saw chain be serviced?

- If the saw chain no longer pulls itself into the wood, this is a sign of a dull saw chain.
- If the chips become increasingly smaller or as fine as sawdust, this is a sign of insufficient sharpness and immediate action must be taken.
- If the aggressiveness is excessive or insufficient, the depth gauge distance must be checked.
- If the cut does not run in a straight line, this is a sign of unequal tooth lengths, sharpening angles and/or depth gauge distances.

### Notes:

By **resharpening early enough**, less material needs to be removed and the time needed to sharpen is considerably reduced. This is how you can **increase the service life of your saw chain**.



### Notes:

Please observe the current instructions and recommendations of the manufacturer of the respective chain saw or device.

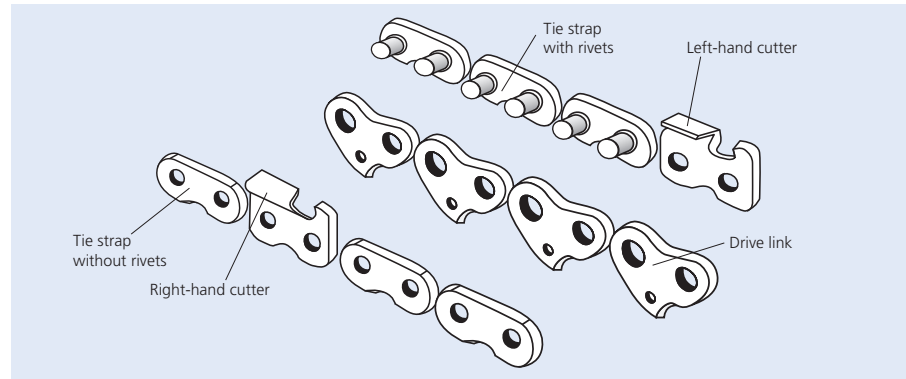


# The saw chain

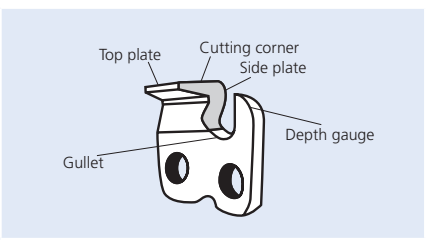
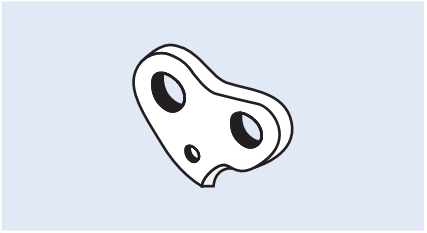
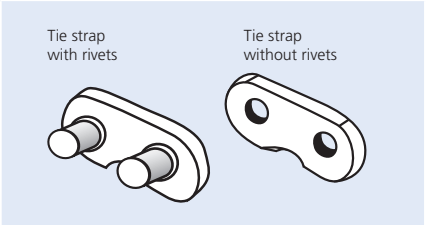
## Structure of the plane tooth saw chain

### How is a saw chain designed?

The saw chain is a complete circle consisting of recurring chain links. These are connected with each other but can still move. The chain length is determined by the number of drive links.



### The components of the saw chain are as follows:

<p><b>Cutting link</b></p>	<p>The cutting corner of the tooth carves out the wood shaving and the side plate cuts it off the side of the material.</p> <p>The distance between the depth gauge and the cutting corner controls the penetration depth of the plane tooth into the material.</p>	
<p><b>Drive link</b></p>	<p>Converts the rotating drive sprocket under motor power to the linear motion of the chain. The drive links are guided in the guide bar, provide stability in the direction of movement and ensure even distribution of the chain oil as a lubricant. The thickness of the drive links differs depending on the chain type and manufacturer.</p>	
<p><b>Connecting link</b></p>	<p>Consists of two tie straps which are used to assemble a chain loop. Special rivets provide flexibility, high strength for durability and low stretch, so the assembled chain can flow around the drive sprocket and through the guide bar in a fluid motion.</p>	





### How does the saw chain work?

The saw chain on a chain saw works according to the **plane tooth principle**. The chips are literally “planed out” of the material.

**Cutting teeth** are arranged on the left and right in the direction of tool rotation. The cutting tooth automatically works itself into the material due to its shape and the so-called **clearance angles** (the top plates slope towards the back and taper in the width). This also takes place due to the device’s own weight of the chain saw and cutting set as well as the forward movement of the saw chain. As full contact with the wood is prevented by the clearance angle, the saw chain cannot jam during the cutting work.

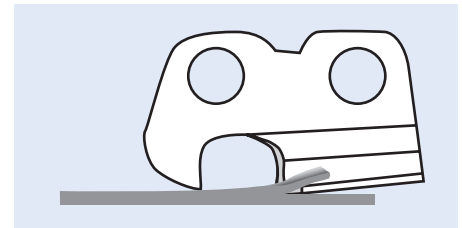
The **depth gauge** is located in front of the cutting tooth and has the function of limiting the penetration depth of the tooth into the wood.

Due to the fact that the height of the cutting tooth reduces each time it is sharpened due to the top plate that slopes away to the back, the distance between the cutting corner and depth gauge also decreases. The lower the **depth gauge distance** is, the thinner the wood chips become. The consequence is poorer cutting performance. The depth gauge distance therefore needs to be regularly checked and adjusted. File gauges that consider the recommended depth gauge distances are suitable for this job. This varies depending on the chain pitch and tooth geometry.

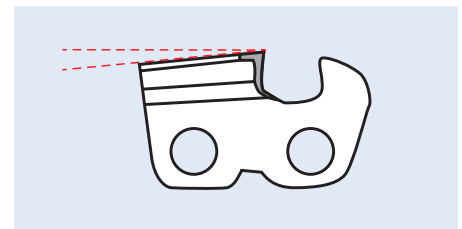
### Notes:

Maximum cutting performance can also be achieved by higher or lower reduction of the depth gauge and varying the sharpening angles depending on the wood type and hardness. However, please also note that a change to the depth gauge distance and sharpening angles recommended by the chain manufacturer can also have negative consequences such as:

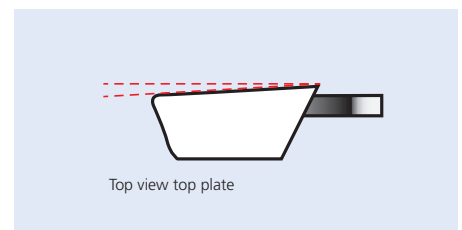
- Increased risk of kick-back
- Stronger vibrations
- More wear to the cutting set and chain saw
- The saw chain breaking
- Loss of warranty claims against the manufacturer



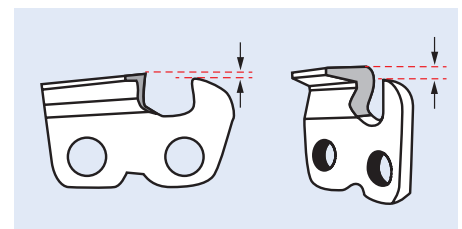
*Plane tooth principle*



*Top plate slopes towards the back*



*Top plate tapers in width*



*Depth gauge distance*



# The saw chain

## Tooth shapes and angles

### Which tooth shapes are available?

Tooth shapes differ with respect to the arrangement of the side and cutting corner. The tooth shape can be best identified by looking from the back in the direction of chain rotation. Professional sharpening is only guaranteed if the tooth shape has been identified and the corresponding angle is maintained.

The two most common tooth shapes are:

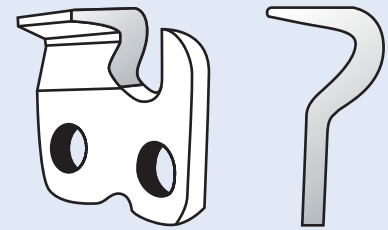
#### ■ The semi-chisel tooth

The semi-chisel tooth can be identified by the curved arrangement of the side and cutting corner. Compared to the full-chisel tooth, it is less susceptible to damage caused by dirt and easier to resharpen. Saw chains with this tooth shape are primarily used in the semi-professional segment.

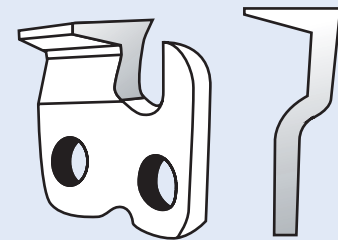
#### ■ The full-chisel tooth

With the full-chisel tooth, the side and cutting corner form a sharp-edged tip. It has less cutting resistance than the semi-chisel tooth, which contributes to better cutting performance. It is therefore very popular with professionals. Sharpening the full-chisel tooth requires practice and must be carried out very precisely.

Semi-chisel tooth



Full-chisel tooth



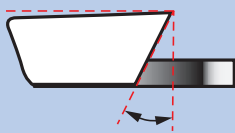
### Which angles need to be considered?

There are various recommendations with respect to the angle sizes depending on the tooth shape, the respective chain type and the application. You will find basic information in the table below. However, please also take the chain manufacturer's recommendations into account.

Angle \ Tooth shape	Semi-chisel	Full-chisel
Sharpening angle	30° or 35°	25° or 30°
Side plate angle	80° - 85°	60° - 70°
Top plate angle	60°	60°

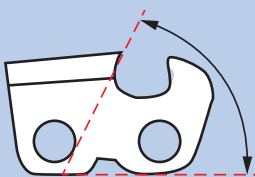
#### Notes:

Please pay attention to consistent sharpening angles, uniform depth gauge distances and identical tooth lengths when sharpening. This guarantees optimum cutting performance, a straight, even cut and ergonomic handling of the chain saw.



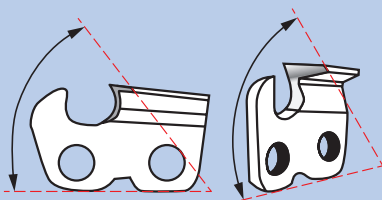
#### Sharpening angle

The guide bar is the starting point for measuring the angle. A sharpening angle differing from the recommendation can lead to a more irregular chain movement and increased wear to all components.



#### Side plate angle

The side plate angle can be best determined and checked from the closed outer side of the tooth.

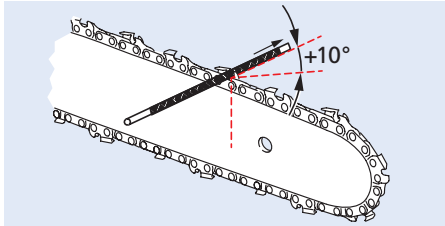
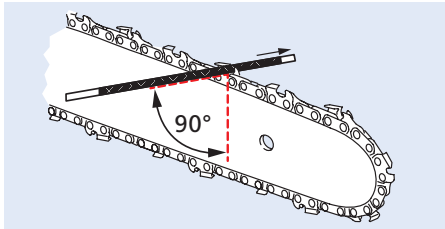


#### Top plate angle

The top plate angle, as the most important angle, is best identified by looking at the side of the open inner side of the tooth.

The optimum sharpening result is achieved by the interaction of all angles. If the sharpening angle, file diameter and file control are right, the result is the correct top plate angle.





### At which angle is the file controlled?

Depending on the chain or tooth type and the manufacturer recommendation, the file is controlled horizontally = 90° to the guide bar or with +10° gradient.

### Examples of different manufacturer recommendations:

- **Full-chisel chain, manufacturer A**  
Sharpening angle 30°, file control 90°
- **Full-chisel chain, manufacturer B**  
Sharpening angle 25°, file control +10° gradient

### Notes:

The file only works in a forward motion. Therefore, make sure to lift the file when moving back along the tooth.

### How is the correct file diameter determined?

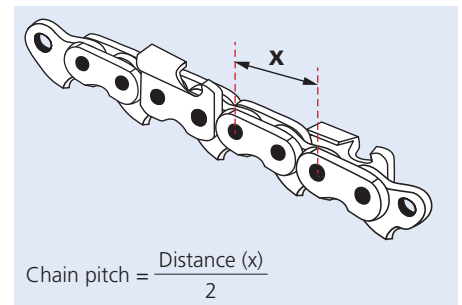
The choice of the correct file diameter is influenced by the chain pitch and the tooth geometry.

#### ■ Determining the chain pitch:

The pitch of the chain is established by dividing the distance between three consecutive rivets by two. The reference point for the distance measurement is the centre of the respective rivet. The sizes are provided in inches (1 inch = 2.54 cm).

#### ■ Determining the right file diameter:

You will find a general recommendation on the file diameter to be used below. The details from the respective chain manufacturer are however also to be considered as different tooth heights are also available with the same chain pitch. Please also note that 1/5 (20%) of the file diameter must protrude over the top plate.



### Notes:

Due to the fact that the tooth height reduces with progressing wear and constant resharping, it is advisable to use a file with a smaller diameter from around half of the tooth length. This ensures a consistently optimum sharpening result and compliance with the recommended angle.

Chain pitch		File diameter	
inch	mm	inch	mm
1/4"	6.35	5/32"	4.0
.325"	8.25	11/64" - 3/16"	4.5 - 4.8
3/8"	9.32	13/64" - 7/32"	5.2 - 5.5
.404"	10.26	7/32"	5.5
3/4"	19.05	5/16"	7.9



# The saw chain

## Recommendations of chain manufacturers



We have put together the proper file diameters for the chain types from several manufacturers here.

### Manufacturer: HUSQVARNA

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
S36/ 91VG	3/8" LP	9.32	5/32"	4.0
90SG	3/8" LP	9.32	11/64"	4.5
H25/21BP - H30/95VP	.325"	8.25	3/16"	4.8
H42/73LP - H49/73D	3/8"	9.32	13/64"	5.2
H 64/27	.404"	10.26	7/32"	5.5

### Manufacturer: OREGON

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
25AP	1/4"	6.35	5/32"	4.0
20BP, 21BP, 22BP	.325"	8.25	3/16"	4.8
20LP, 21LP, 22LP	.325"	8.25	3/16"	4.8
M21LP, M22LP	.325"	8.25	3/16"	4.8
33LG, 34LG, 35LG	.325"	8.25	11/64"	4.5
95VP	.325"	8.25	3/16"	4.8
95R	.325"	8.25	3/16"	4.8
72D/DP, 73D/DP, 75D/DP	3/8"	9.32	7/32"	5.5
72LG, 73LG, 75LG	3/8"	9.32	7/32"	5.5
72LP, 73LP, 75LP	3/8"	9.32	7/32"	5.5
M73LP, M75LP	3/8"	9.32	7/32"	5.5
72RD, 73RD, 75RD	3/8"	9.32	7/32"	5.5
90SG	3/8"	9.32	11/64"	4.5
91VS	3/8"	9.32	5/32"	4.0
91VG	3/8"	9.32	5/32"	4.0
91R	3/8"	9.32	5/32"	4.0
M91VS	3/8"	9.32	5/32"	4.0
16H, 18H	.404"	10.26	7/32"	5.5
26, 26P, 27, 27P	.404"	10.26	7/32"	5.5
27R, RA	.404"	10.26	7/32"	5.5
59AC/CP	.404"	10.26	7/32"	5.5
58L/LG, 59L/LG	.404"	10.26	7/32"	5.5
11H	3/4"	19.05	5/16"	8.0
11BC	3/4"	19.05	5/16"	8.0

### Manufacturer: CARLTON

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
E1MC-BL	1/4"	6.35	5/32"	4.0
K1L, K2L, K3L	.325"	8.25	11/64"	4.5
K1NK-BL	.325"	8.25	3/16"	4.8
K1C, K2C, K3C	.325"	8.25	3/16"	4.8
K1C-BL, K2C-BL, K3C-BL	.325"	8.25	3/16"	4.8
N4C-BL	3/8" LP	9.32	5/32"	4.0
N1C, N1C-BL	3/8" LP	9.32	5/32"	4.0
A1LM, A2LM, A3LM	3/8"	9.32	7/32"	5.5
A1EP, A2EP, A3EP	3/8"	9.32	7/32"	5.5
A1EP-GL, A2EP-GL, A3EP-GL	3/8"	9.32	7/32"	5.5
B2LM, B3LM	.404"	10.26	7/32"	5.5
B2EP, B3EP	.404"	10.26	7/32"	5.5
B3H	.404"	10.26	7/32"	5.5
B3H-RP	.404"	10.26	7/32"	5.5
B3S	.404"	10.26	7/32"	5.5
B3RM10	.404"	10.26	7/32"	5.5

### Manufacturer: SABRE

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
16	1/4"	6.35	5/32"	4.0
357, 357D	3/8" LP	9.32	5/32"	4.0
463	.404"	10.26	1/4"	6.3
520(D), 523(D), 528(D)	.325"	8.25	3/16"	4.8
727(D), 737(D), 747(D)	3/8"	9.32	7/32"	5.5
757 MK®, 757 MK® Skip	.404"	10.26	7/32"	5.5
757(S), 767(S), 777(S), 858	.404"	10.26	1/4"	6.3
880(D), 883(D), 888(D)	3/8"	9.32	7/32"	5.5
920(D), 923, 928(D)	.325"	8.25	3/16"	4.8
943, F, P, PF	.404"	10.26	1/4"	6.3
980(D), 983(D), 988(D)	3/8"	9.32	7/32"	5.5
Jungle 58, J58	.404"	10.26	7/32"	5.5
Jungle 63, J68	.404"	10.26	7/32"	5.5
Jungle Ripping, E63	.404"	10.26	7/32"	5.5
MK II, MK II Skip	.404"	10.26	7/32"	5.5

### Manufacturer: SARP

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
S25	1/4"	6.35	5/32"	4.0
SE3S, SE1S	3/8"	9.32	5/32"	4.0
SG30, SG3, SG5, SG6	.325"	8.25	3/16"	4.8
SG3C, SG5C, SG6C	.325"	8.25	3/16"	4.8
SD3, SD5, SD6	3/8"	9.32	7/32"	5.5
SD3C, SD5C, SD6C	3/8"	9.32	7/32"	5.5
SF6	3/8"	9.32	7/32"	5.5
SF6H, SF2H (Harvester)	3/8"	9.32	7/32"	5.5

### Manufacturer: DOLMAR

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
062, 466	1/4"	6.35	5/32"	4.0
290	3/8"	9.32	11/64"	4.5
092	3/8"	9.32	5/32"	4.0
084	.325"	8.25	11/64"	4.5
086, 484, 686	.325"	8.25	3/16"	4.8
093, 099	3/8"	9.32	7/32"	5.5
103	.404"	10.26	7/32"	5.5
093,099	3/8"	9.32	13/64"	5.2

### Manufacturer: STIHL

Description	Chain pitch		File diameter	
	inch	mm	inch	mm
Rapid micro (RM)	1/4"	6.35	5/32"	4.0
Picco mini (PMN)	3/8" P	9.32	5/32"	4.0
Picco micro (PM)				
Picco micro1 (PM1)				
Rapid micro (RM)	.325"	8.25	3/16"	4.8
Rapid micro2 (RM2)				
Rapid super (RS)				
Rapid micro (RM)	3/8"	9.32	13/64"	5.2
Rapid micro2 (RM2)				
Rapid super (RS)				
Rapid micro (RM)	.404"	10.26	7/32"	5.5
Rapid micro2 (RM2)				
Rapid super (RS)				

Note: Please observe the instructions and recommendations of the manufacturer of the respective chain saw or device.







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**The fast way to a  
perfectly sharpened  
saw chain**

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# The saw chain

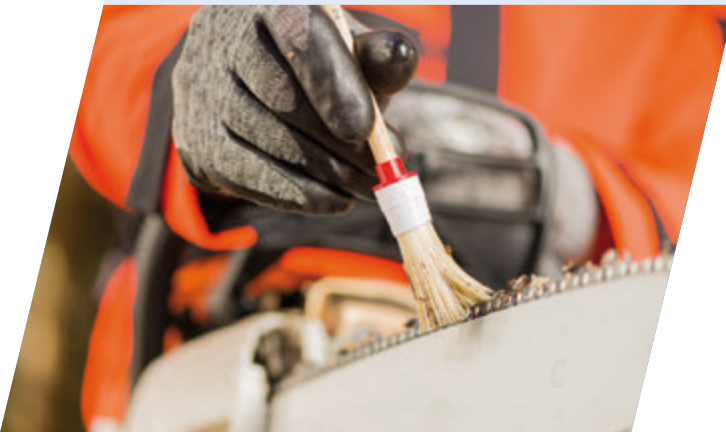
## The fast way to the perfectly sharpened saw chain

1

### Assessing the chain condition

Please **check** the saw chain for damages that may make it necessary to replace the chain immediately before sharpening it.

It is advisable to **remove dirt** from the cutting set first. This allows you to assess the condition of the cutting teeth better and comply with the corresponding angle more precisely. This means that you extend the service life of your files and maintain their stock removal rates. **Detergents** that loosen resin and dirt and **brushes** are recommended to clean the cutting set.



2

### Checking the chain tension

**Increasing** the chain **tension** a little **supports the sharpening work**. A stronger tension prevents the cutting tooth from moving or lifting.

#### Notes:

- Do not forget to **loosen the chain tension again** once the sharpening work is complete and tighten the chain according to the manufacturer's details for use of the chain saw.



### 3 Securing the chain saw

It is **advisable to secure** the cutting set in position to avoid it slipping when applying pressure during sharpening work. This means faster and more precise sharpening results can be achieved. A **portable vise** for flexible use on-site, hammered into a tree stump for example, is helpful.

**Notes:**

- Alternatively, you can cut/pierce the saw into a tree stump and clamp the cutting set in place with a combination wrench.

### 4 Identifying the shortest tooth

Initially identify the **shortest cutting tooth** with **calipers**, sharpen the tooth and then measure it again.

**The length** of this tooth **serves as orientation** for how the lengths of all other cutting teeth need to be adapted. The teeth must have the same length. A **uniform tooth length** contributes towards an even and straight cut. Slight deviations of up to **0.020"** (0.5 mm) can be ignored as they will not have a noticeable effect on the cutting action.

**Notes:**

- **Mark the first sharpened tooth** with chalk. This means you can clearly see when one side of the chain is fully sharpened.
- Applying the **chain brake makes sharpening easier** as the chain can no longer move.





## 5 Sharpening the saw chain

Once you have sharpened the shortest tooth you can start to work on the other teeth. The method of **sharpening the row of teeth on one side** first before moving to the other has proven to be successful.

Please note:

- It is generally recommended to hold the file horizontally at a **90° angle** to the guide bar. A **sharpening angle of 30°** is preferred.
- File from the **open inner side** of the tooth **outwards**.
- Pay attention to **light and even pressure** of the file on all teeth.
- 1/5 (20 %) of the file diameter must protrude over the top plate.
- It is essential that you do **not damage the chain links** when filing.

### Notes:

- The use of an **angle template** makes compliance with the recommended sharpening angle easier.
- **Count the file strokes performed.** Apply the **same number** of file strokes to each tooth. This helps you keep the tooth length as even as possible.
- Please pay attention to the chain manufacturer's advice and recommendations.



## 6 Checking the sharpening result

To **assess the result of sharpening**, you should ask yourself the following questions after working on each tooth:

- Has the **sharpening angle** been maintained?
- Are the **side and top plate angles** correct?
- Does the **tooth length** correspond with the length of the previous tooth?

### Notes:

- **Reflections of light on the cutting edge** display an insufficient sharpness.



### 7 Checking the depth gauge

Once you have sharpened all teeth of a chain, the **depth gauge distance** must be checked and adjusted if necessary. Corresponding **gauges** are available with which the distance can be quickly checked. The depth gauge distance can be adjusted with a **flat file**.

#### Notes:

- Make sure that the **distance** between the **cutting corner and the depth gauge** is the **same** on all cutting links. It can differ depending on the chain type, pitch and application:
  - For pitch 1/4", .325", 3/8" .025" (0.65 mm)
  - For pitch .404" .030" (0.75 mm)The depth gauge distance affects the thickness of the chips.
- The rounded/sloping shape of the depth gauge to the front **reduces the chain saw's kick-back risk** and achieves more regular operation and **reduced vibration**. It is therefore important to always check the shape of the depth gauge when lowering.

### 8 Final work

- **Remove metal shavings** from the saw chain.
- **Check the chain tension** before using the chain saw. Please take the manufacturer's details into account when doing so.
- **Clean the files and tools.**

#### Notes:

- Always **inspect the condition of all components** of the cutting set. The condition of the guide bar and the drive sprocket also influence the operation of the saw chain, the transfer of forces and the cut quality.

#### Characteristics of a perfectly sharpened saw chain:

- The same sharpening, side plate and top plate angle of all teeth.
- Cutting teeth with the same length.
- Even depth gauge distances.





## Before sharpening saw chains

The following tools and aids have proven to be successful when sharpening saw chains:

- Gloves and safety glasses to reduce the risk of injury
- Dirt/resin loosening detergent
- Brush/cleaning cloths
- Calipers to establish the tooth length
- File/combination gauge to establish the depth gauge distance
- Combination wrench to tighten the chain
- Portable vise to secure the chain saw
- Angle template
- 2 round files (graduated diameter) with file handle
- 1 flat file for depth gauge with file handle
- Marking chalk

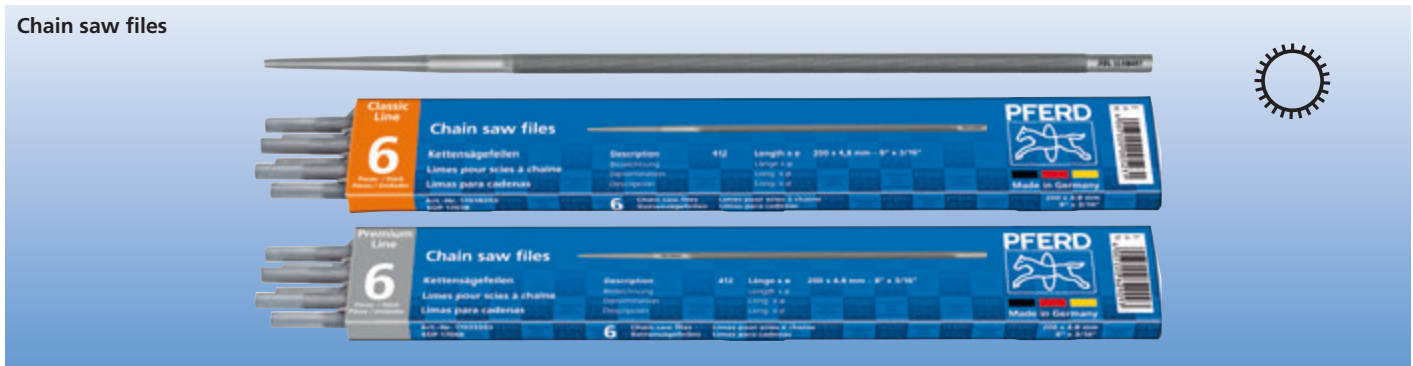
### Notes:

PFERD supplies **non-slip, easy-to-use, ergonomic file handles** for optimum use.



# Sharpening files

## Chain saw files



Round files for hand sharpening of saw chains with precise spiral cut for extreme sharpening and a particularly long tool life. The saw teeth sharpen quickly and without causing grooves. They allow cost-effective sharpening that is gentler than mechanical maintenance, without the thermal strain caused by friction.

PFERD offers two cut types. The "Classic line" spiral cut is impressive, due to the high degree of stock removal and aggressive sharpening behaviour.

The finer spiral cut of the "Premium line" provides increased stock removal, with a smoother filing action.


Can be delivered in various diameters, suitable for all commercially available saw chains. Available in packaging units of 6, 60, 300 and 600 pieces, in a standard box, or in units of 12 or 40 pieces, in a promotional plastic pouch.

**Recommendation for use:**

Two to three light filing strokes are enough for normal sharpening. Stock removal is kept to the necessary minimum to preserve the chain and its service life.

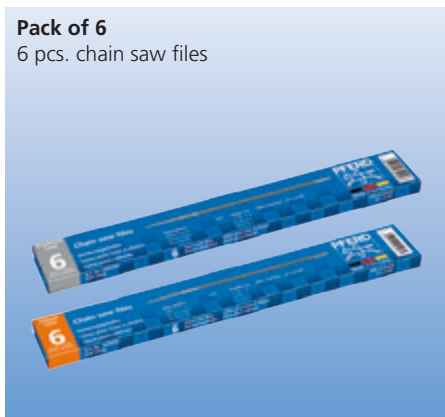
**PFERD specification number:**

412-8

Length [Inches]	Diameter [Inches]	Chain pitch [Inches]	Line and EDP number		Compatible handle EDP	
			Classic line	Premium line		
8	5/32	1/4	17047	17074	17046	6
8	11/64	3/8 LP*	17057	17075	17046	6
8	3/16	.325	17038	17076	17046	6
8	13/64	3/8	17048	17077	17045, 17046	6
8	7/32	3/8, .404	17039	17078	17045, 17046	6
8	1/4	1/2	17040	–	17045, 17046	6
8	5/16	3/4	17061	–	17045, 17046	6

\*LP = Low Profile

### Packing system for PFERD chain saw files





Two round files with "classic line" spiral cut in a promotional plastic pack to protect them from dirt and damage. The overlapping opening of the pack on the back means that it keeps the files secure.


One box contains twenty plastic packs with two files each (40 files total).

Deliverable file diameter: 5/32", 3/16", 7/32".

**PFERD specification number:**  
4122 SK

### Chain saw files, skin packed 2-pack sleeve



Length [Inches]	Diameter [Inches]	Chain pitch [Inches]	Line and EDP number Classic line	
8	5/32	1/4; 3/8 LP*	17058	40
8	3/16	.325	17059	40
8	7/32	3/8; 404	17063	40

\* LP = Low Profile

Three round files with "classic line" spiral cut in a promotional plastic pack to protect them from dirt and damage. The opening of the pack on the front makes it easier to remove and repack the files.


One box contains four plastic packs with three files each (12 files total).

Deliverable file diameter: 1/8", 5/32", 3/16", 7/32".

**PFERD specification number:**  
4122 SK

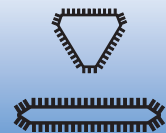
### Chain saw files, skin packed 3-pack sleeve



Length [Inches]	Diameter [Inches]	Chain pitch [Inches]	Line and EDP number Classic line	
8	1/8	1/4 LP*	17129	12
8	5/32	1/4; 3/8 LP*	17130	12
8	3/16	.325	17132	12
8	7/32	3/8; 404	17134	12

\* LP = Low Profile

### Chisel bit files




For servicing and sharpening saw chains with a square gullet. For edge grinding saw chains. Available as a three square or flat file.

The three square type is particularly suited to sharpening 3/8" chains.

The flat type fulfills two functions: it can be used to sharpen the blade and also to reduce the depth gauge. Particularly recommended for beginners.

**PFERD specification number:**  
DKT  
FLST

Length [Inches]	Shape	EDP number	Compatible handle EDP	Chain pitch [Inches]	
7	Three square	17081	11146	.325	12
7	Flat	17082	11146	.325	12

# Sharpening files

## Saw chain sharpeners

PFERD CHAIN SHARP tools are ideally suited for hand sharpening of saw chains. They sharpen saw teeth and regulate the depth gauge heights in just one step. The special design of the device creates the correct sharpening angle and allows even inexperienced users to achieve precise and uniform sharpening results. The additional use of a sharpening guide is not required.

Hand sharpening is more cost-efficient and definitely gentler than mechanical sharpening, and can extend the service life of the saw chain.

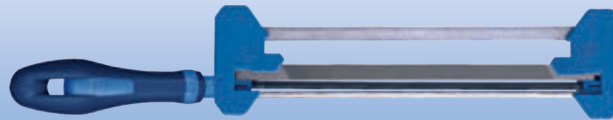
By simply changing worn files, the CHAIN SHARP can be used over a long period of time.

### Advantages:

- Compact design for easy portability
- Simple to use and predefined sharpening angle
- Simultaneous sharpening of saw teeth and depth gauges
- A long service life, as the files can be changed

### CHAIN SHARP KSSG Saw chain sharpeners

Professional model



Low profile model



PFERD has a range of saw chain sharpeners CHAIN SHARP KSSG available in three types, which are adapted to various chain pitches. This guarantees the highest degree of precision and optimum sharpening results.

Converting the device for sharpening on the right and left sharpening teeth can be achieved with just a few hand movements. The device creates a sharpening angle of 35°. The defined depth gauge distance is 0.025".

### CHAIN SHARP KSSG consist of the following:

- one sharpening device
- one chain saw file
- one depth gauge file
- one ergonomic file handle EDP No. 17046

The sharpening device is delivered with detailed operating instructions in a transparent, reusable plastic pouch, which protects against damage and dirt.

### PFERD Specification Number: KSSG

#### PFERDERGONOMICS®




Haptic Filter

#### PFERDEFFICIENCY®



Time Saving

Model	Chain saw file dia. [Inches]	Chain pitch [Inches]	Depth gauge distance [Inches]	EDP Number	Replacement round file		Replacement depth gauge	
					Classic line	Premium line		
Low Profile	5/32	3/8 LP*	0.018	17050	17047	17074	17052	1
Professional	3/16, 7/32	.325	0.025	17062	17038	17076	17051	1
Professional	3/16, 7/32	3/8	0.025	17049	17039	17078	17051	1

\* LP = Low Profile





### CHAIN SHARP CS-X Saw chain sharpener



The new generation of saw chain sharpeners, CHAIN SHARP CS-X, features improved file position, optimized shape and simpler handling.

Available in four types, which are adapted to various chain pitches. This guarantees the highest degree of precision and optimum sharpening results.

The device creates a sharpening angle of 30°. The specified depth gauge distance can be found in the table.

#### Saw chain sharpeners consist of the following:

- one sharpening device
- one depth gauge file
- two chain saw files

#### Advantages:

- Change from the right to the left tooth by flipping the device – no retrofitting required
- Optimised shape for more precise guiding
- Changing the files is easy due to the improved shape of the device

The sharpening device is delivered with detailed operating instructions in a transparent, reusable plastic pouch, which protects against damage and dirt.

**PFERD specification number:**  
CS-X

#### PFERDERGONOMICS®




#### PFERDEFFICIENCY®



#### PFERDMEDIA

To see it in action, please visit [pferdusa.com/CSX](http://pferdusa.com/CSX)

Chain saw file dia. [Inches]	Chain pitch [Inches]	Depth gauge distance [Inches]	EDP number	Replacement depth gauge file	Replacement round file		
					Classic line	Premium line	
1/8	1/4 LP*	0.018	17299	17310	17129	-	1
5/32	3/8 LP*	0.025	17300	17310	17047	17064	1
3/16	.325	0.025	17301	17310	17038	17066	1
13/64	3/8	0.025	17303	17310	17048	17067	1
7/32	.404	0.030	17304	17310	17039	17068	1

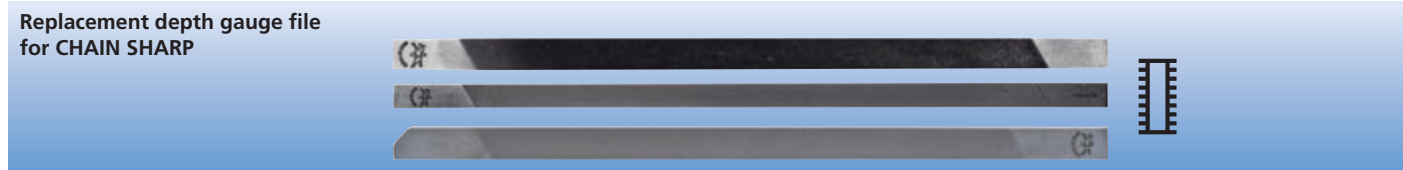
\* LP = Low Profile



Change from left to right tooth by flipping the device.


# Sharpening files

## Depth gauge files



Rectangular file, cut on two sides. Matching the appropriate chain saw sharpeners.

**PFERD specification number:**  
4132


For use with	Length [Inches]	Cross-section [Inches]	EDP number	
KSSG 90-4,8, KSSG 90-5,5	8	23/64 x 15/64	17051	10
KSSG 91-4,0	8	9/32 x 3/16	17052	10
All CHAIN SHARP CS-X sizes	8	23/64 x 15/64	17310	10



Flat files are used to maintain the height of depth gauges on saw chain.

Rectangular file, tanged, with two rounded uncut edges, cut on two sides. Available in two lengths.

**PFERD specification number:**  
1213 RUK

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	
6	5/8 x 3/32	17043	11143	10
8	25/32 x 1/8	17044	11146	10


## Edge sharpener

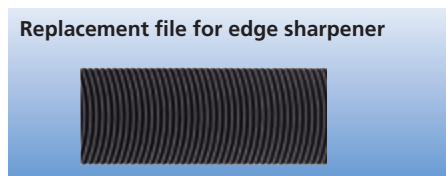


The unique universal edge sharpener from PFERD is ideal for removing burrs, squaring and reconditioning your bar. Simply remove the chain and run the tool along the bar rails in easy forward strokes. A 90 degree angle is built in for bar truing. The replaceable file is cut on both sides for twice the life. When it becomes worn, simply open the unit and flip the file.




**PFERD specification number:**  
LAH

Size [Inches]	EDP number	
2 x 1-1/2	14014	1



Replacement file for paint peeler.

**PFERD specification number:**  
LAHF 50

Length [Inches]	Cross-section [Inches]	Cut and EDP number Smooth (cut 3)	
2	1-1/2 x 3/16	14015	10



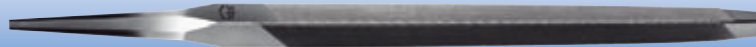
Triangular in shape and tapered toward the point, these single cut files are used primarily for sharpening handsaws, circular saws, narrow band, cross-cut and buck saws.

All have cut edges or corners to maintain saw gullets. Made in four cross sections: regular, slim, extra slim and double extra slim.


### Files recommended for various point handsaws

Points	File	Points	File	Points	File
5,5-12	7" taper	8	6" slim, 7" ex. slim, 8" dbl. ex. slim	11	5" extra slim, 6" double extra slim
6	7" or 8" slim	9	6" extra slim, 7" double extra slim	12	5" extra slim
7	6" or 7" slim	10	5" or 6" extra slim	13,14	5" double extra slim

### Regular taper




PFERD specification number:  
1232

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	Included handle EDP	
<b>Regular taper (plain)</b>					
6	15/32	17018	11144	–	10
10	23/32	17021	11145	–	10

### Slim taper




PFERD specification number:  
1237

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	Included handle EDP	
<b>Slim taper (plain)</b>					
4	7/32	17022	11143	–	10
5	9/32	17023	11143	–	10
6	11/32	17024	11144	–	10
7	13/32	17025	11145	–	10
8	15/32	17026	11145	–	10

### Extra slim taper



PFERD specification number:  
1238

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	Included handle EDP	
<b>Extra slim taper (plain)</b>					
4	3/16	17027	11143	–	10
6	9/32	17029	11144	–	10


# Sharpening files

## Taper saw files

### Double extra slim taper



**PFERD specification number:**  
1239

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	
5	3/16	17032	11143	10
8	5/16	17035	11144	10


## Cant and band saw files

### Cant saw



This blunt type file is used for sharpening small circular saws, buck saw blades and cross-cut saws. Single cut.

**PFERD specification number:**  
1230

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	
8	7/8 x 1/2	17014	11145	10


### Band saw



This tapered triangular file with cut edges or corners is especially designed to sharpen narrow band saw teeth and maintain round gullets. Single cut.

**Application**  
Sharpening of band saws

**PFERD specification number:**  
1231

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	
6	15/32	17117	11144	10
7	1/2	17118	11145	10
8	9/16	17119	11145	10




### Mill, tapered



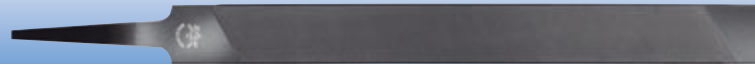
Mill files are suitable both as engineering and sharpening files. Useful for filing where a smooth finish is important. Also good for polishing and deburring work in lathes.

Mill files are widely applicable for sharpening tools and implements. Two square edges. Single cut on sides and edges. All sizes slightly tapered in width.

**PFERD specification number:**  
1212 SP

Length [Inches]	Cross-section [Inches]	Cut and EDP number			Compatible handle EDP	Included handle EDP	
		Bastard (cut 1)	Second (cut 2)	Smooth (cut 3)			
<b>Mill, tapered (plain)</b>							
6	19/32 x 7/64	19001	19002	19003	11144	–	10
8	25/32 x 9/64	19004	19005	19006	11146	–	10
10	31/32 x 11/64	19007	19008	19009	11146	–	10
12	1-5/32 x 7/32	19010	19011	19012	11148	–	10


### Mill, one round edge



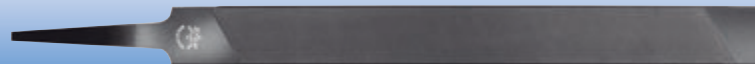
Same as regular mill files except that they have one round edge. Single cut on sides and edges.

Round edges are used where rounded gullets are preferred, as opposed to sharp corners or square gullets.

**PFERD specification number:**  
1212 gr

Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	Included handle EDP	
<b>Mill, one round edge (plain)</b>					
8	25/32 x 9/64	19017	11146	–	10


### Mill, two round edges



Same as regular mill files except that they have two round edges. Single cut on sides and edges.

Round edges are used where rounded gullets are preferred, as opposed to sharp corners or squared gullets.

**PFERD specification number:**  
1212 r

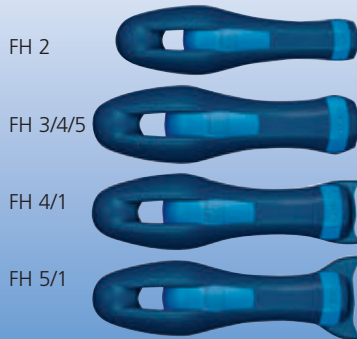
Length [Inches]	Cross-section [Inches]	Cut and EDP number Second (cut 2)	Compatible handle EDP	Included handle EDP	
<b>Mill, two round edges (plain)</b>					
8	25/32 x 9/64	19019	11146	–	10
10	31/32 x 11/64	19020	11146	–	10

# Sharpening files

## File handles



### Ergonomic file handles



#### Advantages:

- Optimum grip
- Ergonomic shape
- Soft exterior plastic with hard and rugged internal core
- Large, rounded contact surfaces

#### Maximum user safety:


- Protects hand from contact with sharp edges and corners
- Angular collar prevents files from rolling

Ergonomic file handles from PFERD guarantee maximum working safety. The shape and design principle protect hands from sharp edges and corners. The angular collar prevents the file rolling away during work. The combination of two high-grade plastic components in the file handle makes the file comfortable and easy to grip and guide over the workpiece.

We will be happy to send you more information about the topic of health and safety on request.

PFERDERGONOMICS®



Compatible for file length [Inches]	Compatible for	PFERD specification number	EDP number	
4 - 6	Key files and very narrow tangs	FH 2	11143	10
4 - 6	Regular tangs	FH 3	11144	10
8 - 10	Three square, square, round, special shapes	FH 4	11145	10
8 - 10	Hand, flat, half round section	FH 4/1	11146	10
12 - 14	Hand, flat, half round section	FH 5/1	11148	10
12 - 14	Three square, square, round, special shapes	FH 5	11147	10


### Plastic file handles



#### Advantages:

- Proven PFERD file handle made of strong plastics
- Air chambers help absorb hand moisture
- Enlarged handle front reduces fatigue and improves safety
- Good force transmission and grip control

Available in four different types to accommodate most tanged files.

Compatible for file length [Inches]	Compatible for	PFERD specification number	EDP number	
4 - 6	Key files and very narrow tangs	PH 08	11130	10
4 - 6	Regular tangs	PH 09	11131	10
8 - 10	All tangs	PH 11	11132	10
12 - 14	All tangs	PH 13	11133	10

The special wooden handle has an angular contact surface which maintains a 35° filing angle for accurate, uniform sharpening of all chain teeth.


Compatible for the following file diameters:

- 13/64"
- 7/32"
- 1/4"
- 5/16"

**PFERD specification number:**  
HKSF-100

**Wooden handle for round chain saw files**



Type	EDP number	
Wood	17045	 100

## Special handles

The plastic chain saw file handle fits all diameters of PFERD chain saw files.

Defining an angle of 30° and 35°, the gauge mounts on the pin of the plastic file handle. Please observe your saw chain specifications.

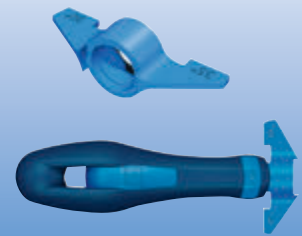
**PFERD specification number:**  
FH 1 KSF


KSSL

**PFERDERGONOMICS®**



**Plastic handle and filing angle guides**



Type	EDP number	
<b>Plastic handle for chain saw files</b>		
Plastic	17046	10
<b>Filing angle guides</b>		
25° - 30° guide	17090	10
30° - 35° guide	17091	10

For easy cleaning of chip-loaded files.


Rugged wooden handle with wear-resistant steel wire filing.

**Application:**  
Cleaning of files

**PFERD specification number:**  
HB

**File card and brush**



Description	EDP number	
File card	17146	 5
File card and brush	17147	5



# Accessories

## Portable vise




Portable Vise



A portable vise made of solid steel for sharpening saw chains on the job. It is hammered into a tree stump or trunk and serves the purpose of securing the guide bar. A better sharpening result can be achieved as the chain saw is prevented from slipping. The chain can be moved freely during sharpening work.

**PFERD Specification Number:**  
FB

Type	EDP Number	
FB	17080	10





# Large diameter cut-off wheels

## Portable gas saw – Performance line SG-ELASTIC

PFERD portable wheels offer market-leading performance. Manufactured with a combination of heavy reinforcement and a high concentration of premium abrasive grain, they are the preferred brand of professional contractors, demolition personnel, rescue personnel and municipalities.

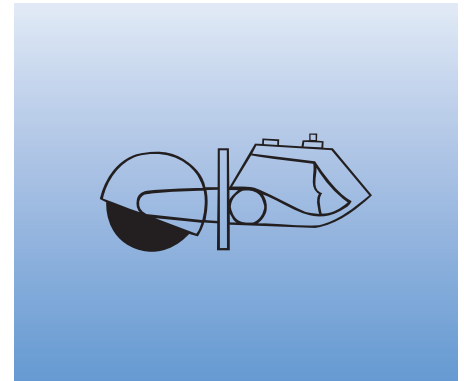
They withstand extremely tough operating environments with high consistency and reliability. Their high safety level, fast cut rate and long service life results generate unparalleled productivity levels and overall cost-savings.

**PFERD portable wheels comply with all U.S. safety standards. In addition, they comply with European and international safety standards which exceed the requirements imposed by ANSI.**



**PFERDMEDIA**

For more information, please visit [pferdusa.com/portable](http://pferdusa.com/portable)



Performance metal-cutting wheels for use on steel and ferrous metals. Aggressive cutting action and long service life. For use on electric or gas-powered portable cut-off saws.

**Abrasive: Aluminum oxide A**


**Workpiece material:**  
Steel

**Applications:**  
Cutting of sections and solid material

**PFERD specification number:**  
A 24 S SG

**Steel  
Hardness grade S**



Diameter x thickness nominal [Inches]	Thickness metric [mm]	Bore	EDP number		Max. RPM
<b>Flat (type 1)</b>					
12 x 1/8	4.0	20 mm	64010	20	6,400
12 x 1/8	4.0	1"	64015	20	6,400
14 x 3/16	4.5	20 mm	64016	10	5,500
14 x 3/16	4.5	1"	64018	10	5,500
16 x 3/16	4.8	1"	64019	10	4,800





# Large diameter cut-off wheels

## Portable gas saw – Performance line SG-ELASTIC

### Cast iron/steel-reinforced concrete Hardness grade Q



Blended grain portable cut-off wheel designed to cut ductile iron, water main pipe and cast iron quickly and efficiently. For use on electric or gas-powered portable cut-off saws.

**Abrasive: Aluminum oxide A and silicon carbide C**

**Workpiece materials:**


Ductile iron, cast iron, steel-reinforced concrete, composite materials

**Application:**

Cutting of reinforced solid materials

**PFERD specification number:**

AC 24 Q SG

Diameter x thickness nominal [Inches]	Thickness metric [mm]	Bore	EDP number		Max. RPM
<b>Flat (type 1)</b>					
12 x 1/8	4.0	20 mm	64118	20	6,400
12 x 1/8	4.0	1"	64120	20	6,400
14 x 3/16	4.5	20 mm	64123	10	5,500
14 x 3/16	4.5	1"	64124	10	5,500
16 x 3/16	4.5	20 mm	64117	10	4,800
16 x 3/16	4.5	1"	64126	10	4,800

### Masonry Hardness grade R



Designed for cutting masonry and natural materials on electric and gas-powered portable saws. Aggressive cutting action and long service life.

**Abrasive: Silicon carbide C**

**Workpiece materials:**

Masonry, natural stone, refractory brick


**Application:**

Cutting of solid material

**PFERD specification number:**

C 24 R SG



Diameter x thickness nominal [Inches]	Thickness metric [mm]	Bore	EDP number		Max. RPM
<b>Flat (type 1)</b>					
12 x 1/8	4.0	20 mm	64230	20	6,400
12 x 1/8	4.0	1"	64235	20	6,400
14 x 3/16	4.5	20 mm	64236	10	5,500
14 x 3/16	4.5	1"	64238	10	5,500
16 x 3/16	4.5	1"	64239	10	4,800







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Subject to technical modifications.

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**PFERD**



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