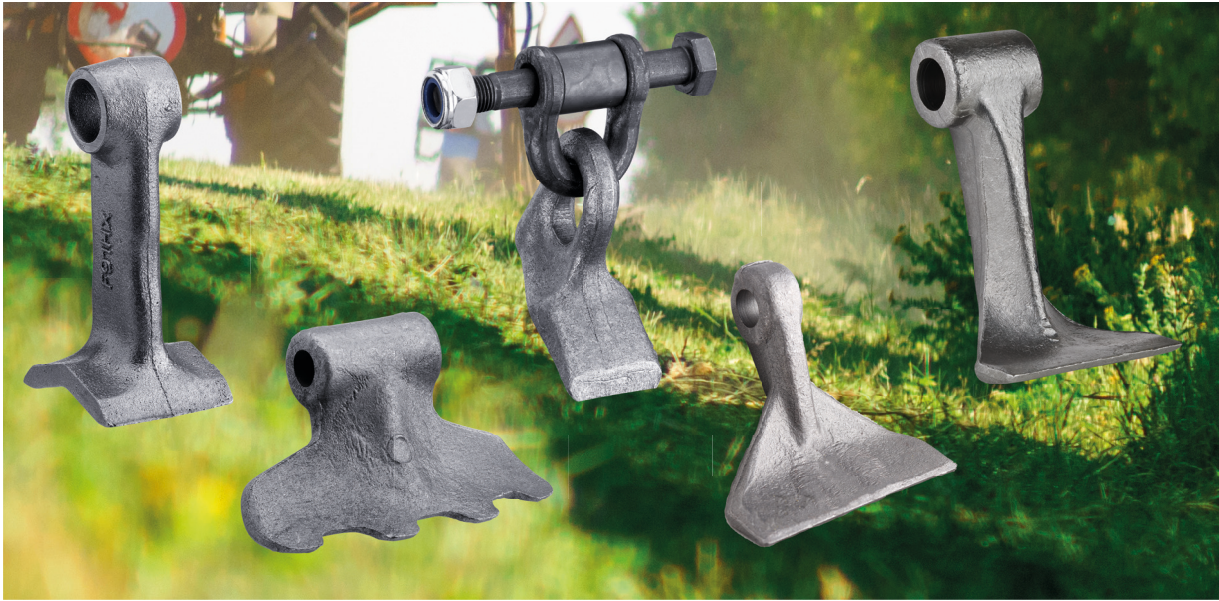


It's hammer time!

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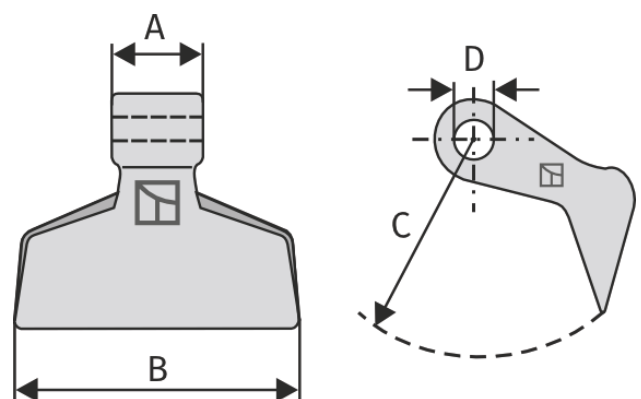


What to watch out for when refitting and retrofitting flails

Regardless of whether it's for mowing along the sides of the road and embankments or chopping catch crops, mulchers are essential for all municipal and agricultural work. Now, this article isn't actually about mulchers, but about the pruning hammers that can be installed on mulcher rotors. These hammers are available in a variety of different models, in all shapes and sizes.

The tools

Even though the pruning hammers (flails) come in a range of shapes and sizes, there is one thing that they all have in common. All pruning hammers can be categorised based on 5 criteria. The mounting dimension (A), working width (B), radius (C), hole diameter (D) and weight (E). With a few exceptions, you can use these criteria to always find the right pruning hammer for your machine.



The mounting dimension is the width of the flail at the top of the head. It is limited by the width of the mounting bracket on the rotor. There should be a bit of space left around the flail in the mounting bracket so that it can pivot freely.

The working width is the length of the mowing edge on the bottom of the flail. This depends on the width of the rotor and the number of mounting brackets on the rotor.



The radius is the length from the centre of the mounting hole on the head to the mowing edge. This is decisive for the distance between the rotating flail and the machine housing. The distance should not be too small as if it is, the flail may hit the housing and damage it. In addition, if foreign objects are drawn into the rotor it can cause the rotor to become jammed.

The hole diameter in the head of the flail is also a crucial factor when it comes to working out whether a tool can be used or not. Here, the size of the bolt is limited by the size of the holes in the mounting brackets.

The weight of the part determines the occurring centrifugal forces and thus the required strength of the mounting element. The balance of the rotor also depends on the weight.

Retrofitting

When the time comes to replace a pruning hammer, it doesn't necessarily need to be replaced by an original part. You can often find more affordable replica parts that are of a similar quality to the original. It's important to ensure that all flails on the rotor are always changed at the same time to prevent vibrations caused by an imbalance damaging the rotor or the entire machine. The new flails should have the same starting weight as the previously installed flails. In addition, all the flails on a rotor should have the same weight. The difference in weight between the lightest and heaviest flails should be no more than 3% of the total weight of one of the flails on its own. Often the flails are grouped into batches by weight before being sold so that customers don't experience this problem. Be careful with stock items from different batches! Always check the weight again before mounting the flails.



Both sides of this pruning hammer can be used.



Small pruning hammer, suitable for light work.



Refitting

Depending on the application, other tools can also be mounted on the machines. For example, a machine can be equipped with Y-blades if necessary. These are often lighter than flails which can help to save energy when working in easy conditions. As long as there are no trees and shrubs that need chopping, you can save a lot of money because the blades are far lighter. However, the wear behaviour is somewhat different and the Y-blades are usually reversible. The dimensioning is also a little different to that of the pruning hammers. We'll be taking a closer look at Y-blades in another article.

For now let's just say "lighter is always better". If a heavy tool needs to be mounted, however, the user must speak to the manufacturer in advance to find out the maximum weight that the mounting brackets on the rotor are designed to carry. The mounting element should also be upgraded if necessary.

If the maximum permissible weight is exceeded, in a worst-case scenario this may cause the mounting bracket or bolts to break. Enormous forces are at play here and there is a high risk of collateral and external damage – and even injury to others – if something goes wrong, particularly in applications in public areas and spaces, and on motorways.

After the refitting, we recommend testing the machine with a hand crank of the entire rotor if possible. If the hammers hit the housing, they are liable to damage it. When starting the machine with the tractor's PTO shaft for the first time, it should be tested at the lowest speed first to see if there are any unusual vibrations that could be caused by an imbalance. If this is the case, the flails must be replaced again. Otherwise, the operational performance of the rotor bearing may be compromised and the rotor itself may eventually need to be replaced significantly earlier.



Pruning hammer with toothed cutting edge for more challenging work.



Large pruning hammer with a large clearance and long radius.



What else?

Some pruning hammers are reversible, this means that they can be turned around and used over a longer period of time. While this is cost-efficient, it does entail some risks. When turning the pruning hammers, each individual hammer should be examined closely. If there are any cracks in the material, particularly in the upper parts of the flail, then it should not be reused. As we already mentioned, this can result in the flail breaking and damaging the machine or, in a worst-case scenario, injuring people nearby.

We also recommend inspecting the hammers regularly to avoid any unpleasant surprises. This will allow you to keep an eye on the wear behaviour of the machine and procure any spare parts that you need, early on enough.



You can find pruning hammers and other useful parts like Y-blades in our Group 3!

Do you have any other questions about pruning hammers?

Feel free to drop us an email at the address below or get in touch with your local representative. We will always try our best to answer your questions.

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