

# Sword steel

## Maintenance of your Japanese samurai sword



Cleaning your katana, wakizashi, tanto or any other Japanese weapon is extremely important for its preservation. So to keep your sword in optimal condition it's a good habit to clean and oil your sword every now and then. The carbon steel which is used to make Japanese swords is rather sensitive to oxidation and corrosion. Metallurgically speaking this means that the iron elements in the steel will react with the oxygen in the air. The iron will then become iron oxide which we all know by rust.

A thin layer of oil makes sure that the steel is not in direct contact with the air. However, it is possible for moist and acids to be trapped under the layer of oil which can cause corrosion despite the blade being oiled. For this reason it is very important to properly clean the blade before oiling it.

With display swords, cleaning and oiling the sword two or three times a year will probably suffice. Some external factors can cause the oil to pollute or dry out faster, for instance when placed close to a radiator. Polluted oil will attract dust which again attracts moist so it's generally a good idea to check upon your swords every once in a while. Don't wait too long with cleaning the blade because once it start oxidizing it's very difficult to stop (and revert) the process.

Both in traditional cutting exercises as well as 'backyard cutting' it's advised to keep a cloth at hand to quickly be able to move moist and acids from the blade. Of course thorough cleaning and oiling is needed after the cutting session.

Checking the sword's integrity is also a good idea every time you start and end your cutting session, however it's not needed to fully disassemble the sword for cutting or cleaning.

What you need

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- One clean cotton cloth with fine fibers for cleaning
- One small cotton cloth for applying oil
- Choji oil (or a different light and neutral mineral oil)
- Uchiko powder ball
- Optionally a sword rack

## Sword maintenance

The first rule in proper sword care is how to handle the sword during inspection and cleaning. The sword is always held in the right hand with the cutting edge pointing upwards.



Carefully unlock the saya with your left hand (thumb position is always on 2 o'clock NOT 12 o'clock). Now that the saya is unlocked you can remove the saya by moving the saya up (not the sword). Constantly apply some pressure from below to prevent any contact of the blade with the saya except for the mune (back side).

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When the saya is removed, place it in front of you. Now you have both hands cleared, take a piece of cloth and guide your sword (without touching the steel) to a secure and stable place. The best you can put back in the sword rack or place it behind the saya - right in front of you. First we'll start with cleaning the saya. When practicing noto (sheathing the sword) the sword will always try to cut away some of the wood of the saya. Loose wood chips in the saya can attract moist so we want to remove these from the saya. Take the cleaning cloth and fold it so you have a padded cushion. Place this on the floor and tap the saya opening onto the cushion so all debris falls out.



That's all that's needed for the saya so you can put it away and focus on the sword.

Keep in mind that the steel of the sword is never touched, especially with antiques or blades in a high-grade polish. If needed you can support the upper part of the steel with a piece of cloth. We will start by wiping away the old oil and dust. Enclose the blade from the back with a piece of cloth. Never enclose the blade from the cutting side!

Slowly move your way up from the habaki towards the kissaki. Use a clean part of the cloth once it gets dirty and don't forget to clean the mune and bo-hi.

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Once the blade is oil free you can take the uchiko powder ball. Uchiko powder consists of very fine particles of multiple types of polishing stones and has a very slight abrasive effect but is too soft to cause scratches so it's perfect for cleaning. Apply the powder on the blade by tapping the ball directly against the steel. New uchiko balls may require a few pads before the powder comes through.

Apply powder to both sides of the blade over the entire length. Don't worry if you miss a spot,

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the powder will spread automatically when removing it with the cloth.



Wiping off the uchiko is again done with a clean piece of the cloth. You can fold the cloth once or twice to be able to apply enough pressure but without letting the blade coming too close to your hands. As previously, slowly move upwards from the habako towards the kissaki. Again, always enclose the blade from the backside, never the front.



Once the uchiko is removed the steel appears very dry and you can really see the details of the steel. If you steel see some blemishes or finger prints it can be that the acids of your sweat have corroded the steel. You can check the results by holding the blade under a light source. Through the reflection you can easily see if you missed some spots. You can try removing these with another uchiko treatment or alcohol. With iaito or modern blades you can try some mild steel polish (like brasso).

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Lastly you can oil the blade, it only requires just a little bit so go easy! Put only a few drops on the oiling cloth and softly go over the blade. Also the oiling is done from the habaki towards the kissaki. Almost no pressure is needed to oil the blade.



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You're finished now and you can return the blade in its saya. As we did while unsheathing the sword we are going to hold the sword in the right hand with the cutting edge upwards. Take the saya and slowly pull it over the blade, carefully applying pressure from below.



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\* In some cases you will notice spots which were caused by acids. Multiple uchiko treatments or alcohol can remove light spots. However often the usual alcohol in medicine cabinets is diluted alcohol (70% alcohol, 30% water) which can cause oxidation by itself when left on the steel. Check with your pharmacy or hobby shop for methanol of 99.5% concentration or higher. Another good (and cheap) solution is isopropyl alcohol which is a common cleaning alcohol used for electrical components.

## Tips

- Fruit-tameshigiri (melons, bananas, apples etc etc) can be quite amusing but do demand instant cleaning with alcohol. The sugars and acids in the fruit can corrode a blade in less than 15 minutes.
- It's always a good moment to check whether your mekugi are still in good shape. A rattling tsuba and seppa can be a sign your mekugi need to be replaced. Another possibility is that the wood of the tsuka is worn or even worse ... cracked. An extra seppa is ALWAYS a better solution than having a rattling sword.
- Make all preparations before cleaning your sword. If you do happen to have forgotten something, return the sword in its sheath. Never leave a blade unattended, especially when opened!
- Make sure you have enough surrounding space so you don't bump into objects or persons. Besides damages to you or your loved ones, it could also damage the blade or the saya. Lastly we have noticed that couches, curtains or tables are often victimized by uncaring samurai.

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