

## Cover

The axe in use.

## Inside of cover

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## Page 1

SOME INSTRUCTIONS  
for  
the purchase and care of an axe.  
ARVIKA  
TOOL FACTORY  
ESKILSTUNA

## Page 2

*Swedish smithy in the middle of the 1700's (Oil painting by Pehr Hilleström).*

## Page 3

[FELLING/CHOPPING (*Chopping is the most correct Sw. translation, felling might be what is intended*)] AXES

What axe should I buy? What kind of handle should it have? How is it hung and how does it need to be ground?

Here are some examples of the questions one is confronted with when seeking to buy an axe. Especially one that is going to purchase such a tool for the first time. By consulting experienced colleagues and tradesmen one might receive good advice, but this pamphlet should also be of use. It constitutes a compilation of the experiences that so far have been arrived at in this field, some of which might be of value also for those that see themselves as fully trained.

## Page 4

*The axeblank is cut and formed.*

### ARVIKA AXES – [TRADITIONAL/OF A LINEAGE:ANRIKA] AXES

The craft of forging axes, which is an old and one bound by traditions, that has in all time been carried out in our [places/countryside/small communities:bygder], has in our factory been [started:upptagits] in a large scale. With the help of modern working practises and machines and with the keeping of trades traditions, Arvika Tool factory have always strived after satisfying the greatest needs of an axes reliability and quality.

Today the axes are produced in a wide variety of models, designed, with among other things, the old village smiths axes as a model, and also varied for different parts of the country. They are made with both the traditional single piece constructions as well as the most modern configuration with inlaid specialty edge-steel.

*Thor – a chopper of an axe*

## Page 5

### What axe should I buy?

1. Yankee 2. Turpentine 3. [Dalecarlia:Dala] 4. [North Bothnia:Norrbotten]

These are the prime models of the market. No 1 and no 2 are the most prominent models in the whole country and would be the most common types. No 3 is used in [Dalecarlia:Dalarna] and southern [Northland:Norrland]. No 4 is used in [North Bothnia:Norrbotten].

The parts in the construction, which differentiate no 2, 3 and 4 from no 1 only concern the attire. They do not affect the performance, but does make the production more expensive. Many still seek these models, wherefore the production continues.

### What should the axe weigh?

The axes are produced in different weights, and one should choose one that fits the personal abilities of one's body the best, as well as the species of wood it is suited for. Hard wood and thick branches call for heavier axes.

0,9 – 1,3 kg is a suitable weight for axes meant for felling in normal coniferous forest and soft deciduous trees. For chopping beech, oak and other hard deciduous trees, an axe with a weight of 1,8 – 2,0kg will be well suited.

## Page 6

*Forging under the smithing-hammer.*

*If we follow the process in large of the manufacture of the, so called, whole steel-axe, we first see a glowing white steel beam being transported by a hoist to a powerful cutter. After the blank has been cut it is form pressed between dies, where it is also given an eye.*

*It is impressive to see how the axe blank has already found its shape after these short but hectic moments and how afterwards it is forged to the intended model by the fast, rhythmic and deafening blows of the smithing-hammer. The proud worker tasked with this important work is well to be compared to the legendary village-smiths of the old days. But there is a difference between tools available from then to now; aides that are available to our current worker and that his predecessor lacked.*

*Thor – an axe worth caring for*

## Page 7

**What kind of handle should I buy?**

The in the market commonly available curved handles are undoubtedly the best and the most used one. They are made of the domestic species of birch, beech and ash, as well as the American hickory, which is an excellent material. That the handle should have straight fibers/grain should be pointed out.

How does one then differentiate between the different woods?

**Birch** is to the appearance fine-pored and even.

**Beech** is recognized by the prevalent, small brown “mirrors/circles” that appear in the wood on some sides of the handle. On opposing sides these show as small, fine straight commas.

**Ash** is a wood with sharply identified, regular lines of coarse pores. It is “straight-fibred/grained”.

**Hickory** has irregular forthcoming, coarse pores and is often slightly brown coloured.

## Page 8

*The axe is ground.*

*The axe is now ready to travel to the grinding room, where it will receive its exact and definite appearance in specially constructed grinding chairs.*

*But still there remains one crucial part of the process – the hardening and tempering, which is done in modern ovens, where clever electrical control instruments guarantee a correct heat treatment. Here the edge receives its resilience and [resistance:motståndskraft] that gives it a lasting sharpness.*

*Thor – chops easy and correctly [This rhymes in Swedish]*

## Page 9

### How should the axe be hung?

The axe should be, like the image shows, somewhat [downturned/subordinated:underställd]. Herein one receives the best possible “answer” during the chop.

*The handle rests on the base*

*The middle of the edge is supported against the base. Level base.*

*Fig. 2.*

The number of [through-passing/continual:genomgående] fibres is vital for the durability of the handle. It should thus be formed so that no such fibres are damaged. See the picture. (fig. 3). This is avoided by carving on the handles, upper and rougher part, leaving the lower part entirely undisturbed.

*Carving*

*The direction of the fibres in the handle*

*Cut-off handle end.*

*Small wedge.*

*A good way to fit the axe handle.*

*Fig. 3.*

## Page 10

*Ready for delivery.*

*If the axe passes the test, the Thor-label is applied, a sign of high quality, and is after packaging finished for loading onto the transport cars of the factory.*

*Outside the factory gates – on the company's own branch-line – there is a glimpse of an empty railway wagon. In a few hours it will be fully loaded – ready to forward Arvika axes to the demanding clientele.*

*The wagon might be headed for some station the northern forestry districts or perhaps to one of our neighbouring countries. But its journey may also take it to a harbour, since the market of the Thor-axe stretches far outside the borders of Scandinavia.*

*Thor – a chopper of an axe*

## Page 11

*The axe viewed from above.*

*Right -> <- Wrong*

*Fig. 4.*

Furthermore one must smooth the carving backwards. By this the handle bends better during stresses laterally, where it otherwise might break if the carving is done abruptly and the bending is concentrated to one place.

## Page 12

*Unnecessary cabin-day...*

*Lost income*

*Thor – an axe to trust*

## Page 13

*The axe seen from the front.*

*Fig. 5.*

Figure 5 shows how the wedge, diagonally set, presses in all directions. If the eye of the axe is not very narrow, this method can be used. With an additional wedge, as shown in figure 3, the small void in the lower part of the eye can be filled.

Be sure to dip the wedge in glue, if any is available, before hitting the wedge into the handle. It is suitable to carve a small groove on both sides on the wedge, such that it might be broken off a bit inside the handle, whose edges might then swell over the wedge, keeping it in place.

*- worthy good professional*

## Page 14

PROTECT THE AXE  
AND THE LEGS

Use double [supports/bases/foundation:underlag]

*Thor – a chopper of an axe*

## Page 15

How should the axe be ground?

One does wish for the axe to bite well and to break off the chips effectively. Some of the benefits are unfortunately won at the expense of others. E.g. a thin and sharp edge bites well but is easily dulled. One has to walk the golden middle way by adjusting the curvature of the sides of the edge to the wood that is going to be chopped, so that this curvature is made heavier for hard wood, more so than soft. The durability of the sharpness and the chip-breaking ability of the edge is increased at the cost of its ability to penetrate deep into the wood. This is indeed what is required, when the wood is hard. Loose/soft wood doesn't wear as much on the edge, and the axe is allowed to penetrate deeper, since it is possible to pry with more force on the handle.

*Ground for hard wood.    Ground for soft wood.    Ground for splitting.    Incorrectly ground.*

*Fig. 6.*

## Page 16

DON'T CHOP  
IN THE DIRECTION OF THE LEGS

The trunk can protect

*Thor – for [troublesome:kvistiga (lit. “branchy”) tasks*

## Page 17

Grind the axe on a regular **wet grindstone**. It is good economically. The file always leaves burrs, that require a long time honing to get the edge smooth.

One is required to discourage the use of a **high-speed grinder**. If extreme care is not taken during the grinding, one might easily “burn” the edge with the consequence of the temper running out and the steel turning soft.

## Page 18

FREE SPACE

Chop away shrubs and branches  
that might give the axe a dangerous heading.

*Thor - chops easily and correctly.*

## Page 19

How can I tell if damage is the result of manufacture error or because of careless use?

*Fig. 7.*

On the above depicted axe 1 shows a material or manufacturing fault, evident from the form of the breakage. In the cut/fracture there is often a dark patch, which tells us that slag particles, fracture or some voids may have been present.

2 shows a defect that is not evident of a manufacturing fault, but is the result of careless use or an accident.

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### ORDERLINESS – SECURITY

Eases the work

Lessens the accidents

*Thor – a crown among tools*

## Page 21

### What does then constitute as “careless use”?

One is easily and perhaps too often tempted to use the axe for purposes it is not intended for. It is used as a sledgehammer, wedge, cant hook and to bend and pry with and so on. If this is carried out by someone that is used to, and knows what the axe withstands, it is usually performed so carefully that no damage is incurred at the moment. Sooner or later however, the axe generally is completely destroyed. The eye deforms, the poll smashed/mushrooms, the bit breaks, chips break from the edge and so on.

### Splitting axes and mauls

For these axes most of what has been previously said can be applied. The **Splitting maul** one could regard as a regular sledge that has had one side drawn out and formed to an edge. It is heavy, about 3 kg and can be used as both a maul for a splitting wedge and to split with.

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### CARRY THE TOOLS SUCH

that they do not cause damage during slips and falls. Provide tools with protections during transport.

*Thor – worth caring for*

## Page 23

The **splitting axe** is something between a splitting maul and a felling axe, regarding weight as well as form. A wide ridge on both sides of the bit makes it suitable for splitting, but it is not tough and heavy enough to perform as a sledge.

Both of these axes are ground like a wedge, so that the edge has straight sides (compare to fig. 6). The handle should be straight, and the axe head aligned straight as well, at least regarding the splitting maul, due to it being used in two directions.

Since they are meant for splitting, these axes do not need to be as sharp as the felling/chopping axes.



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USE TONGS OR HOOK

Don't use the axe for  
pulling timber together.

*Thor – an axe for tradesmen*

Inside of back cover

*Georg Bergström*

ADVERTISING – STOCKHOLM

Back cover

ARVIKA  
TOOL FACTORY  
ESKILSTUNA

PERFEKTA TRYCK, ARLÖV

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