EN - *translation of the original instructions for use (also applies to special designs)*

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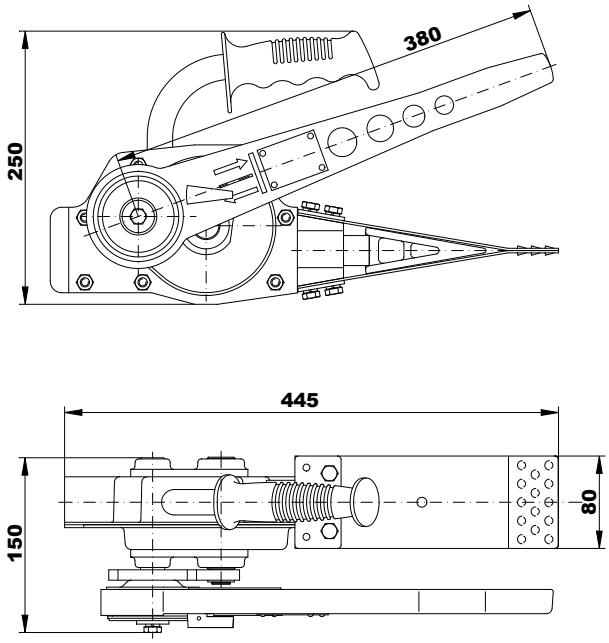
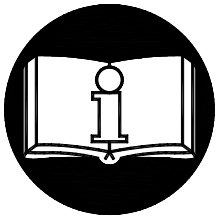
SAFETY PRINCIPLES, OPERATION AND MAINTENANCE MANUAL

FOR

MECHANICAL WEDGE

type MK 4





Read this manual carefully before using this product. The manual contains important safety, installation, operation and maintenance instruction. Make this manual available to all responsible persons.

Keep for further use!

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1 DEFINITION

! DANGER **Danger:** indicates the presence of a hazard, which will cause death or severe injury if the warning is ignored.

! WARNING **Warning:** indicates the presence of a hazard, which can cause death or severe injury if the warning is ignored.

! CAUTION **Caution:** indicates the presence of a hazard, which can cause minor injury if the warning is ignored. Caution can also indicate dangerous practices.

2 PURPOSE OF DEVICE

2.1 Mechanical wedge type MK 4 (further only mechanical wedge) is the product determined for tree harvesting especially bigger volumes to the chosen direction of tree fall, eventually for longitudinal splitting of round timber.

2.2 Mechanical wedge by its design meet requirements given by Directive of European Parliament and Council 2006/42/ES in wording of the Czech technical regulation – decree of the government no.176/2008 code in valid wording and requirements of the harmonized Czech technical norms ČSN EN ISO 12100.

3 DESCRIPTION OF DEVICE

3.1 DESCRIPTION OF THE PRODUCT

Mechanical wedge consists of steel casing, where the geared transmission is placed. Outlet pinion of transmission moves cog rack with stretching wedge. This wedge during forward movement spreads flexible tongues screwed to casing.

Operating is provided by handle lever with reverse mechanism. During forward movement the ratchet gear is operating, during reverse movement it is necessary the ratchet pawl put out of operation.

3.2 SAFETY PRINCIPLES

! WARNING

3.2.1 Before use

ALWAYS ensure the physically strong, qualified and instructed persons, elder 18 years, knowing this manual and trained in safety of operation and way of work operates the wedge.

NEVER use damaged or worn mechanical wedge.

3.2.2 While operation

ALWAYS make sure the mechanical wedge is used correctly (see chapter 6).

NEVER use mechanical wedge as a lever.

NEVER leave mechanical wedge unattended when in use.

3.2.3 After use

ALWAYS ensure the wedge against incompetent use.

3.2.4 Risk analysis

Analysis of possible risks as far as design, operation and environment of use of mechanical wedge point of view is stated in separate document “ Risk analysis”. This document is available in service centres.

4 OPERATION

4.1 USE OF THE WEDGE

! CAUTION

While in operation, pay attention so as not to exceed maximal lift of the sliding wedge. NEVER slide the wedge over red groove, placed on both sides of the rack.

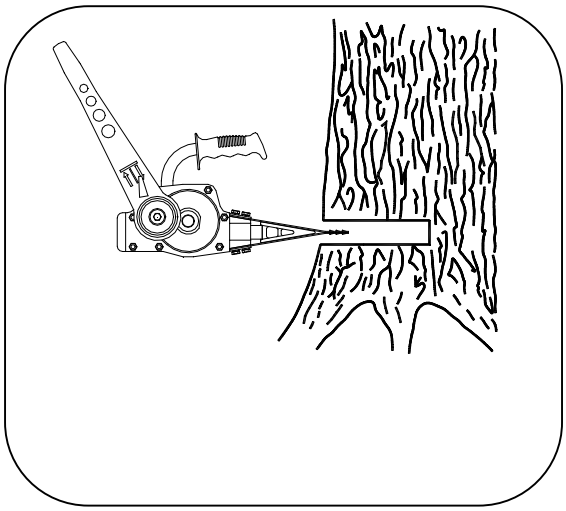
ALWAYS read instruction manual and safety regulations.

1. Make a wedge shape cut in the direction of the tree fell.
2. Make the main cut on the opposite side.
3. After the enough deep cut put blades on its edge (set the control lever of the reverse mechanism to the forward position and set in motion ratchet-and-pawl mechanism). By several swing motions of lever set the elastic blades so as it would be possible to put the chain saw bar into cut. Pay attention to the sufficient tolerance between the end of blades and chain saw bar.
4. Continue further in the cut.
5. Remove the saw before finishing the cut.
6. By the subsequent swinging motion of the lever insert the stretching wedge further into the cut, elastic blades are more opened until the tree inclined and falls.
7. Put the wedge into the origin position by putting out the pawl opposite setting the operating switch of the reverse mechanism and subsequent movement of the operating lever.
8. When longitudinal splitting round wood make longitudinal cut by the wood saw. Put the wedge into it and according to the above described manipulation split it.

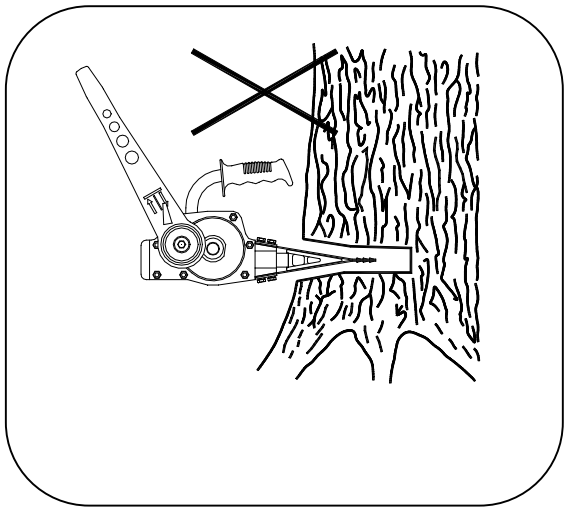
! CAUTION

When using the wedge all regulations about safety and protection of health during tree harvesting must be kept.

4.2 INSERTION OF WENGE INTO THE CUT



CORRECTLY – into the cut are inserted only the ends of elastic blades



WRONG – wedge is slipped too deep into the cut

5 MAIN TECHNICAL PARAMETERS

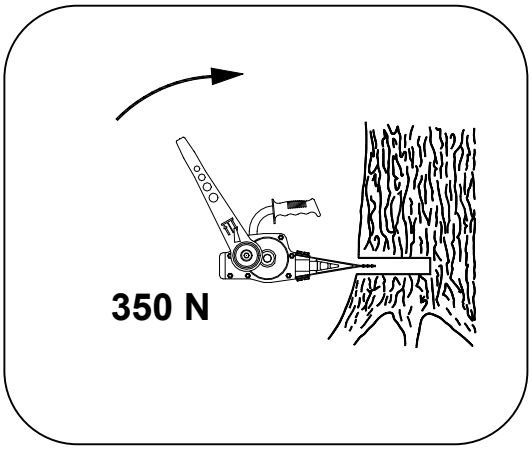
Operating force	350 N
Max. perpendicular compressive force	60 kN
Weight	8,5 kg
Range of operating temperature	-20°C to +50°C

5.1 MATERIAL AND CONFIGURATION

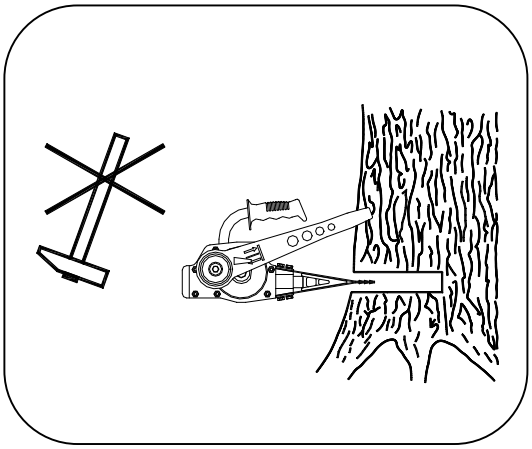
Mechanical wedge is made of steel and cast iron, grip of handle is made of plastic.

6 SERVICE INSTRUCTIONS

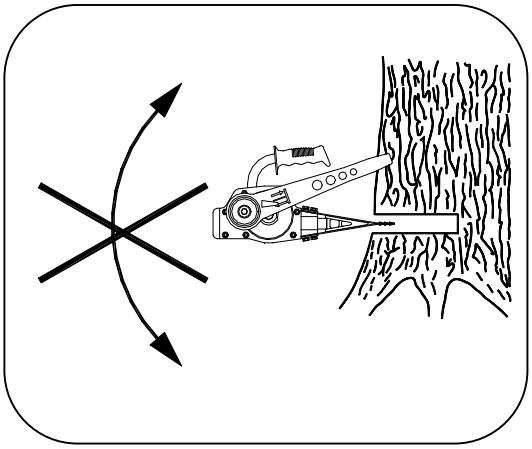
Do not overload wedge with higher forces, then mentioned in tablet 5.



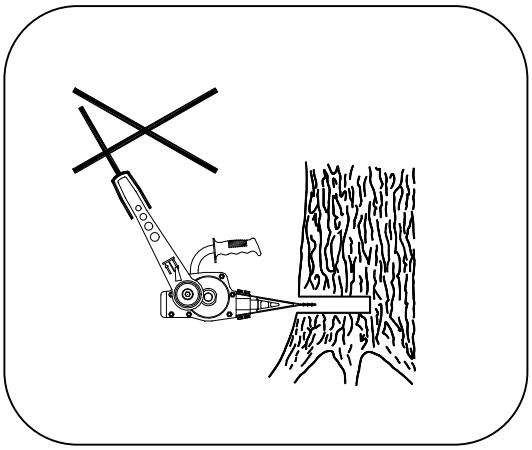
Do not strike the wedge into cut by force.
Do not act on the wedge by external dynamic strokes.



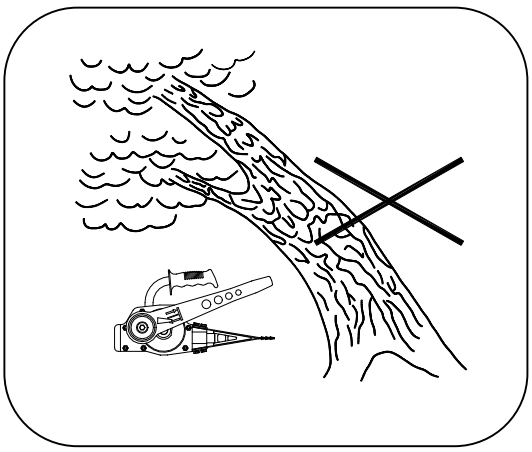
Do not use wedge as a lever for tree felling.



Do not lengthen the length of arm by the help of tube or other extension piece.



Do not use the wedge for tree felling of larger volumes, where the gravity centre is offset in direction of the main cut.



7 PACKING, STORAGE

7.1 PACKING

7.1.1 Mechanical wedges are supplied assembled. Two spare blades are part of the shipment.

Each product is fitted with label plate carrying the following data:

- Manufacturer marking
- address of manufacturer
- type of product
- CE marking
- serial number
- year of production

7.1.2 Part of delivery is the following documentation:

a) Instruction manual
b) ES declaration of conformity
c) Certificate of quality and completeness and warranty card.
C1) Warranty period is mentioned in warranty card.
C2) Warranty does not cover defects caused by not keeping instructions in operating manual and defects caused by wrong usage and unauthorised interference.
C3) Warranty also does not cover changes of the product and usage of unoriginal spare parts without agreement of the manufacturer.
C4) A claim for defects in the product must be applied according to the relevant provisions of the Commercial Code or the Civil Code, as amended.
d) List of service centres

7.2 STORAGE

Store mechanical wedges in dry and clean storages free of chemical influences and exhalations.

8 LUBRICATION

8.1 GENERAL

Remove the old lubricant before the application of the new one, clean parts by the acid solution and apply the new lubricant. Use the lubricant prescribed by the manufacturer.

8.2 MECHANISM OF THE WEDGE

Move out the non-loaded wedge into the maximum position. Apply to rack and slide back the wedge. Use grease: Universal lithium plastic lubricant, water resistant, usable in a minimum range of working temperatures from -20°C to +50°C. For example A2, LV2EP.

9 MAINTENANCE

From the safety and reliability point of view a it is necessary to keep the mechanical wedge in a good technical condition. According to the intensity of use, but at least once per 6 months, make the general examination of the wedge and lubrication of its sliding parts.

9.1 SAFETY PRINCIPLES

Maintenance, professional examinations and tests can be carried on only qualified personnel (service centres) trained in safety and maintenance of this product.

ALWAYS use only parts supplied by the manufacturer.
It is not allowed to provide repairs and maintenance in a different way than describes manufacturer. It is especially ban on the use of the unoriginal parts or carrying on changes of the product without approval of the manufacturer.

ALWAYS check the function of wedge after maintenance by moving out and in the wedge.

NEVER do maintenance when the wedge is in operation.

9.2 GENERAL INSTRUCTIONS

The following instructions give general important information about the dismantle, examination and repair and assemblage. If the wedge was from any reason dismantled, follow the subsequent instructions.

1. Provide maintenance in a clean environment.
2. **NEVER** dismantle wedge more then necessary to carry out the repair.
3. **NEVER** use excessive force, when dismantling parts.
4. **NEVER** use heat as a means for dismantling parts, when parts are determined for further use.
5. Keep the workplace clean, free from foreign substances that could get into bearings or other moving parts.
6. When putting a part into vice, ALWAYS use suitable inserts to protect the surface of parts.

9.3 CHECKING

Check all dismantled parts, whether are suitable for further use.

1. Check all parts, whether are not worn and have not scratches or cracks.
2. Check, whether the thread parts have not damaged thread.

9.4 REPAIR

Worn or damaged parts shall be replaced. Small burrs and scratches or other small surface defects remove and smooth by the fine abrasive stone or an abrasive cloth.

10 REMOVING FROM OPERATION – LIQUIDATION

Mechanical wedge does not contain any harmful substances, its parts are made of steel and cast iron. Grip of lever is made of plastic. After removing from operation give it to firm dealing with liquidation of metal scrap.

11 RELATED DOCUMENTATION

11.1 ES declaration of conformity

11.2 Instruction manual was prepared in accordance with the following technical regulations, technical standards and national provisions:

- Government order č.176/2008 Sb. in valid wording (Directive EP and Council 2006/42/ES)
- ČSN EN ISO 12100

12 FINAL REQUIREMENTS OF MANUFACTURER TO CUSTOMER

Any changes of product, possibly usage of unoriginal spare parts can be realised only after approval of the manufacturer.
When this condition is not observe the manufacturer cannot guarantee the safety of the product. In this case the warranty of the product is terminated.