Tume-Agri Oy

97596504 3/2013

HANKMO – STARMIXER

4600 S / 6400 S

Operator’s manual

Right to make structural changes reserved

Read manual before use
Translation

EC Declaration of Conformity for the Machine
(Machine Directive 2006/42/EC, Annex II A)

Manufacturer: Tume-Agri Oy
Add.: Sudenkorventie 1
FI - 14200 TURENKI

Name and address of person authorized to compile a technical file:
Name: Heimo Valli Address: Sudenkorventie 1, FI-14200 Turenki
Hereby declares that
Cultivators Hankmo Starmixer 4600S and 6400S Serial number _____
• are in compliance with the applicable decrees of the Machine Directive (2006/42/EC)
and in addition declares, that
• the following standardized European directives and standards have been applied:
SFS-EN ISO 12100-1:2003

Place and Date: Turenki, 20.12.2016
Signature:

Patrik Jungarå
Managing Director

CONTENTS

	Page
EC declaration of conformity	5
General safety instructions	5
The intended use of the implement	6
Assembly	6
Instructions for use	7
Service	8
Storage	8
Technical data	8
Illustrations	17

GENERAL SAFETY INSTRUCTIONS

Everybody who is to use, service or otherwise handle the implement must read and understand this instruction manual before starting work.

Never go under an unsupported machine lifted by hydraulics. Use locking bolts in maintenance and transportation (fig. 1 and 2).

Make sure that all the pins and cotter pins of the section frames, drawbar and transport wheel are properly fastened.

Never try to clean, lubricate or adjust a moving machine.

Do not allow anyone to stand near the machine when it is moving. Riding on a moving implement is forbidden.

Replace damaged hydraulic hoses and components without delay.

Transport max. speed is 30 km/h.

Be extremely careful when assembling the machine and hitching to the tractor.

The implement does not cause any essential increase in the noise level in the tractor cabin. The need to use hearing protection depends on the noise isolation of the cabin.

Do not carry out any alterations to the implement without the consent of the manufacturer. The manufacturer is not responsible for any consequences of unauthorized alterations.

THE INTENDED USE OF THE IMPLEMENT

The Hankmo rotary harrows are intended for use in seedbed preparation, stubble cultivation, breaking of grassland and pastures and fallow cultivation. Hankmo can also be used for mixing in to the soil e.g. plant rests, green fertilizers, manure, fertilizers and chemicals. Thanks to its shearing and soil mixing knives, Hankmo can also be used for weed control.

The implement may not be used for other than soil tilling, weed control and fertilizing operations of the kind mentioned above. Transporting anything other than properly fixed additional weights on the implement is forbidden.

ASSEMBLY

Hankmo 4600S and 6400s are delivered from the works with frame sections and axles dismounted as well as hydraulic components and small parts in separate box.

Assembling is best done in the following order:

- The middle section is placed on an even place.
- Mounting of the transport wheel frame is shown in fig. 3. Check the air pressure in the tyres (it should be 2 bar).
- The drawbar (fig. 4) is adjusted to a convenient length and the tractor connected to the harrow.
- The transport wheel cylinder and hydraulic hoses (L=8000 mm) are fitted as shown in fig. 5. The hoses are connected to the outlets for a double acting cylinder of the tractor.

- Mount the rear balks to side section frames. The mounting of these has to be done before the mounting of side section frames to middle section. There are two different rear balks as shown in fig. 6 and 7 right and left.
- The side sections are lifted up to their place and locked with pivot pins (fig. 8 and 9).
- The lift cylinder and hose (L=5600 mm) is mounted (fig. 9). Connect the lift cylinder to a single acting hydraulic outlet.
- The harrow is lifted to the transport position and the axles are placed out along the sides. There are two kinds of axles: right- and left-hand mountable, four of both types. The right-hand mounted axle differs from the left-hand mounted axle by the rotating direction of the knives (fig. 10 and fig. 11).
- The side sections are lowered above the axles and the springs are fastened with clamps and clamping plates on the axle balks (fig. 12). The nuts should be tightened to the torque of 100 - 120 Nms (10 - 12 kp).
- In the axle assembly the inner spring of a right-hand mounted axle is fastened to the right from the stop lug on the axle balk. A left-hand mounted axle is attached in a similar way to the left from the stop lug (pics. 12-13).

NOTE: The rear roller is extra equipment. Rear balks are not used if a rear roller is installed. Roller kit includes its own fastening parts (fig. 14 and fig. 15).

INSTRUCTIONS FOR USE

The working depth can be adjusted by a pin and telescopic adjusting bars between the middle frame and transport wheels as shown in fig. 16. If You want to reach max. working depth remove the pin (fig. 17) and lift the transport wheels up by tractor hydraulics.

For transport You have to change the location of the pin to the transport position holes (fig. 2).

Recommended working speed is 10-15 km/h.

IMPORTANT: **Use extra weights to reach desired working depth only if needed.**

IMPORTANT: **In conditions of stony soil decrease working depth and speed.**

IMPORTANT: **If Your tractor is equipped with double acting lower links, do not use them to press the drawbar down. It may cause breaking of first axles.**

SERVICE

Grease the bearings daily during the season until grease comes out of both sides of the bearings.

Check regulary that the knives are tight. Tightening is done in the following manner (fig. 18):

- loosen the clamping nuts a few turns
- knock the pin out of the shaft nut
- tighten the shaft nut with 785 Nm (80 kpm = 80 kg power with 1 m shaft)
- lock the shaft nut with the pin
- tighten the clamping nuts

Check the skid rails under bearings and replace them when needed.

To avoid bearing and axle damage a broken knife should be replaced immediately. Otherwise dirt can get past the broken knife down the inside of the spacers and into the bearings.

STORAGE

The harrow should be throughly cleaned immediatelly after the season. To preserve the bearings it is essential that the labyrinth seals are packed with grease. To ensure this, grease all bearings until grease comes out of both sides of the bearings.

It is advisable to store the harrow under cover.

TECHNICAL DATA

Model	HANKMO 4600 S	HANKMO 6400 S
Working width (m)	4,6	6,4
Transport width (m)	3,0	3,0
Number of knife axles	8	8
Number of knife crosses	96	136
Weight (kg)	2050-2350	3100-3400
Tyres	10.0/75-15.3	12.5/80-18
Power requirement kW (hp)	85/110	115/150

Noise level < 70 dB (A)

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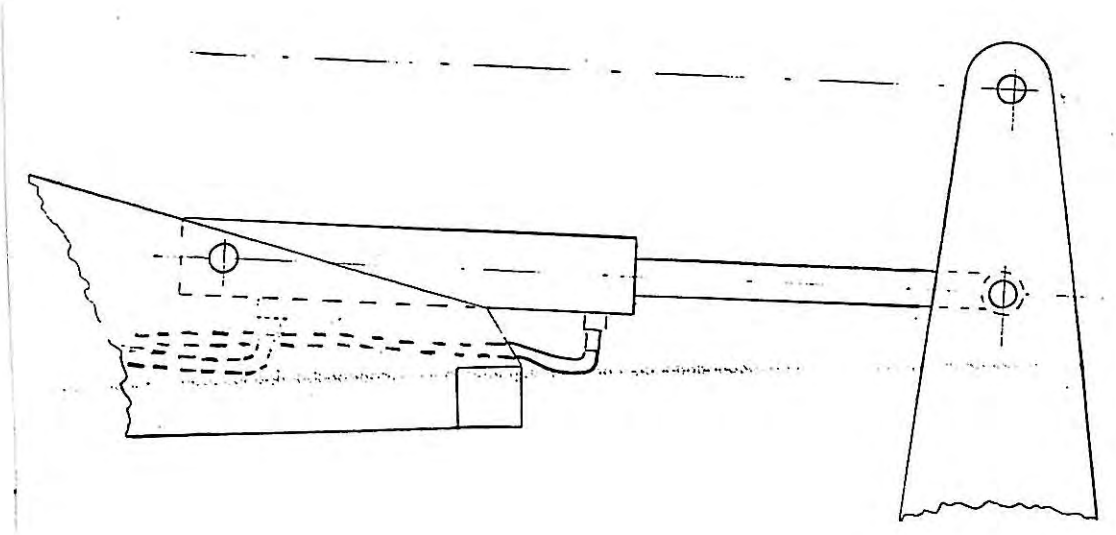

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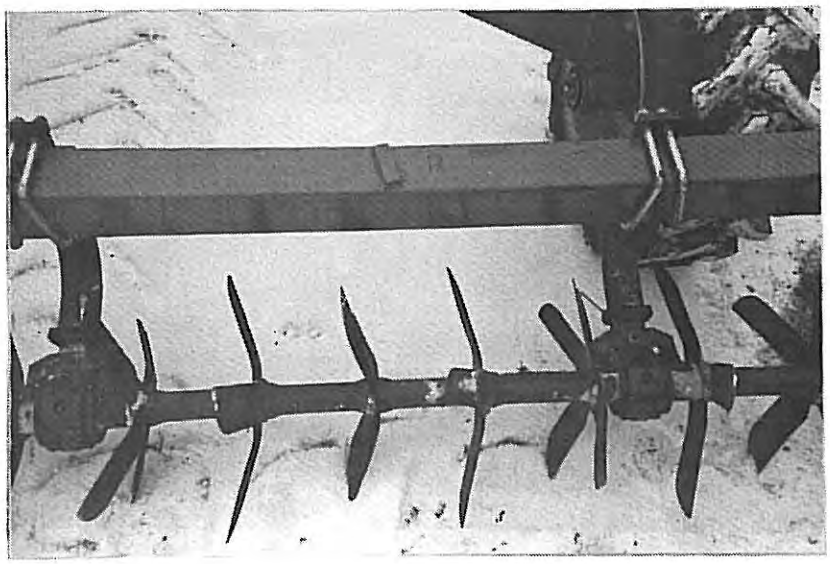

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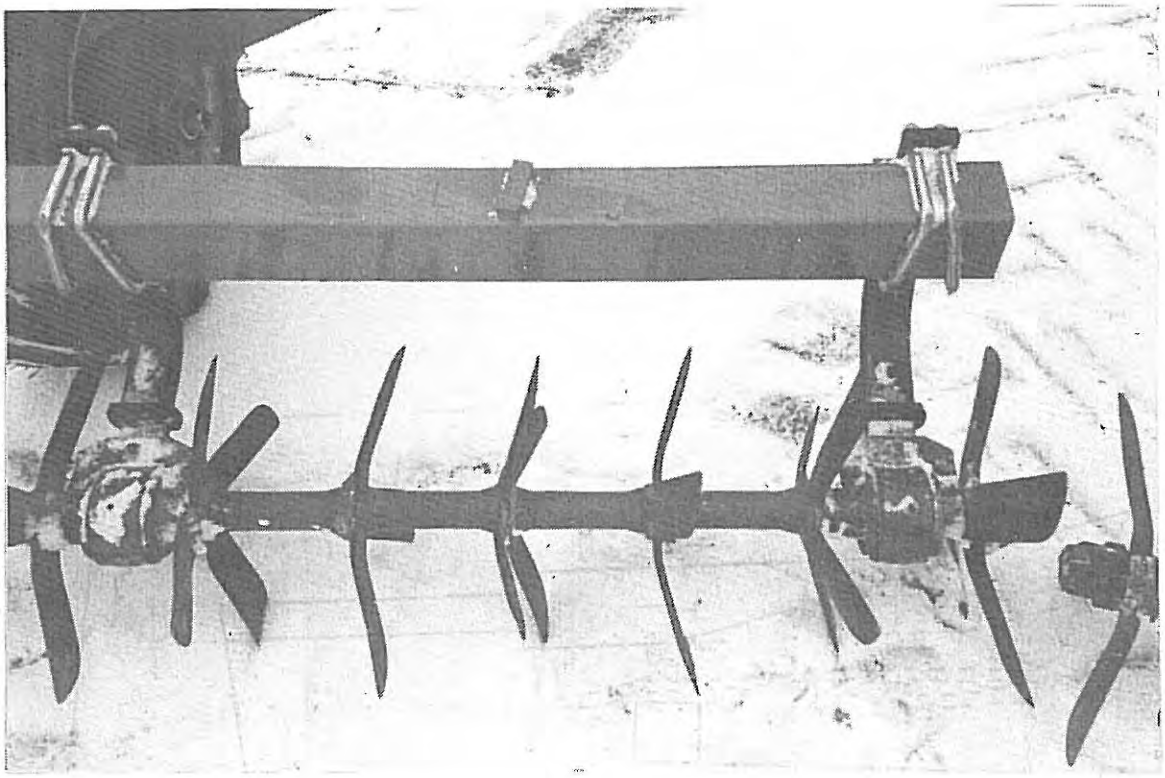

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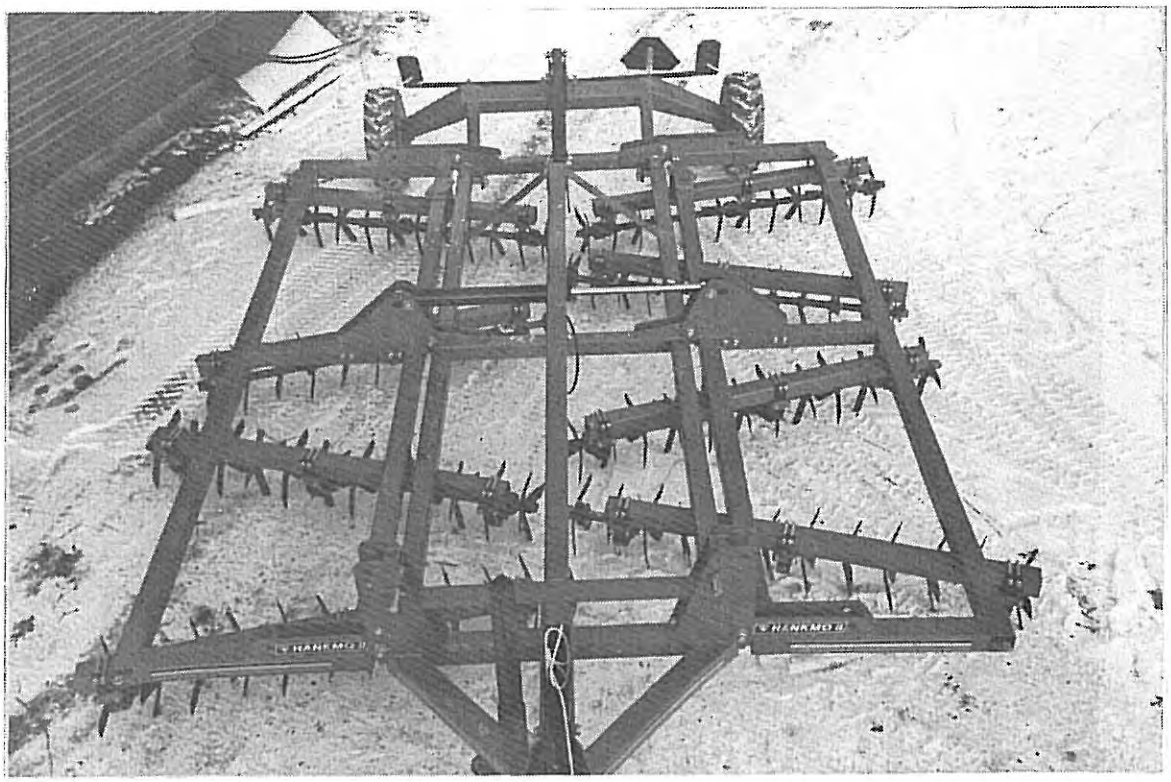

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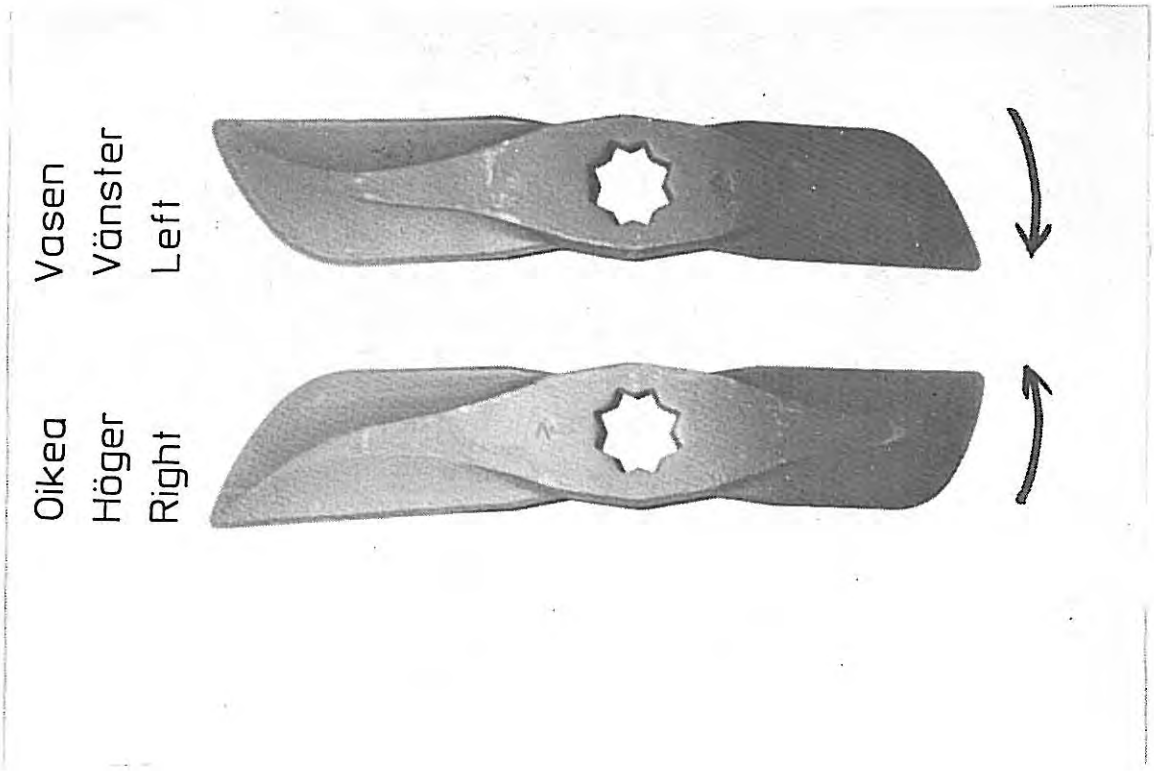

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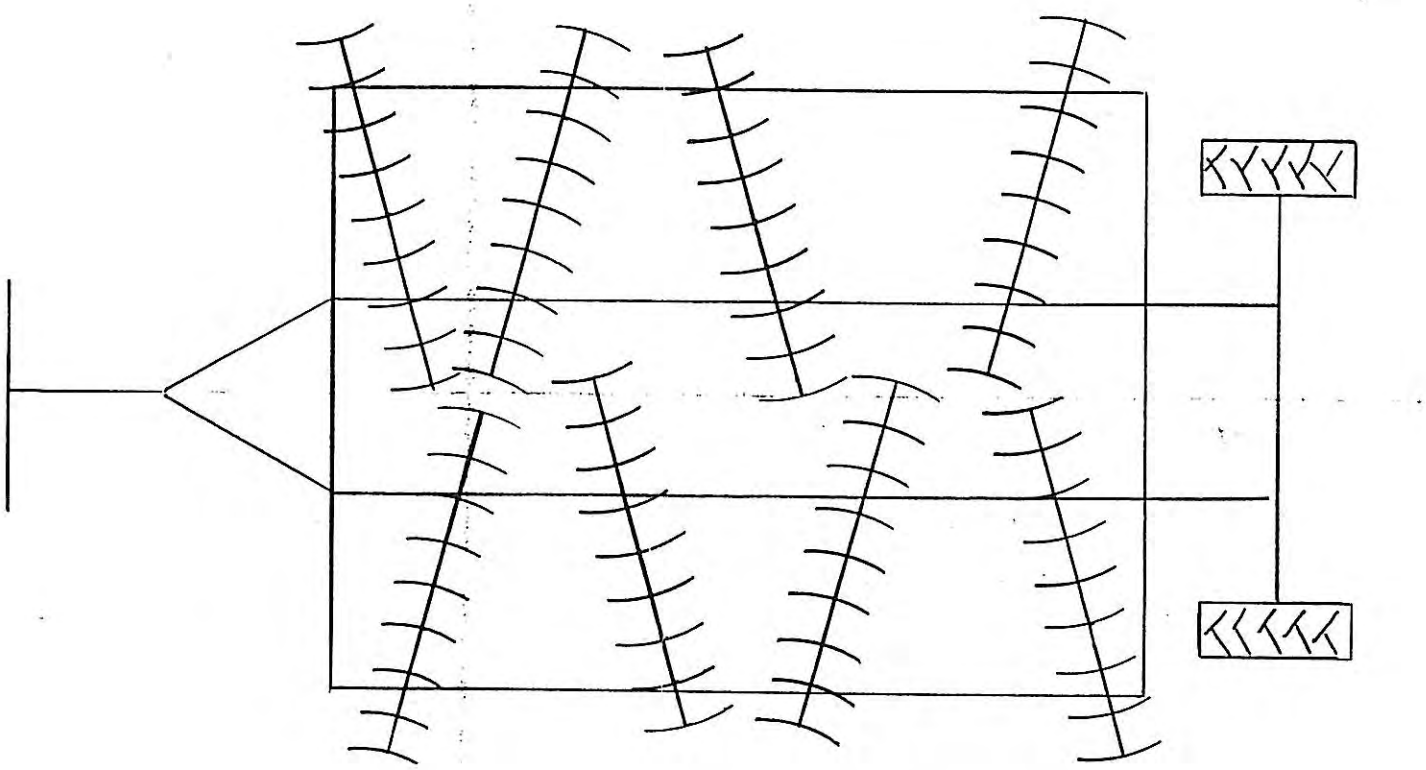

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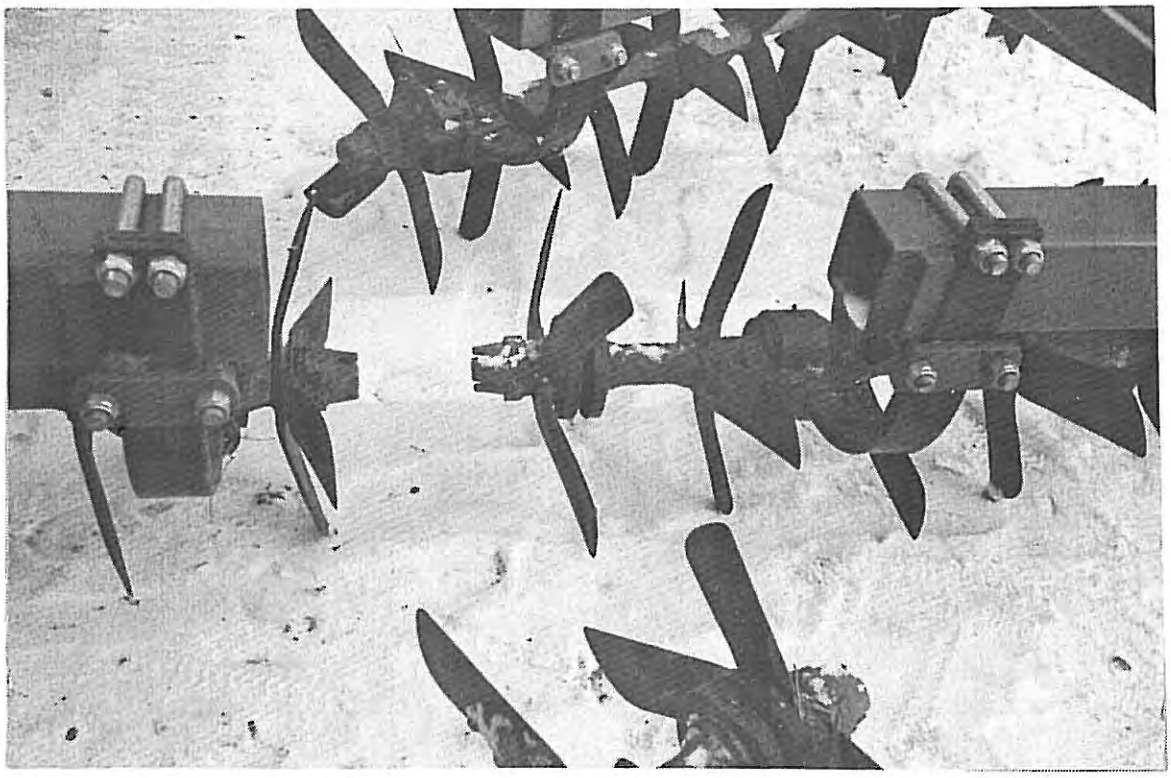

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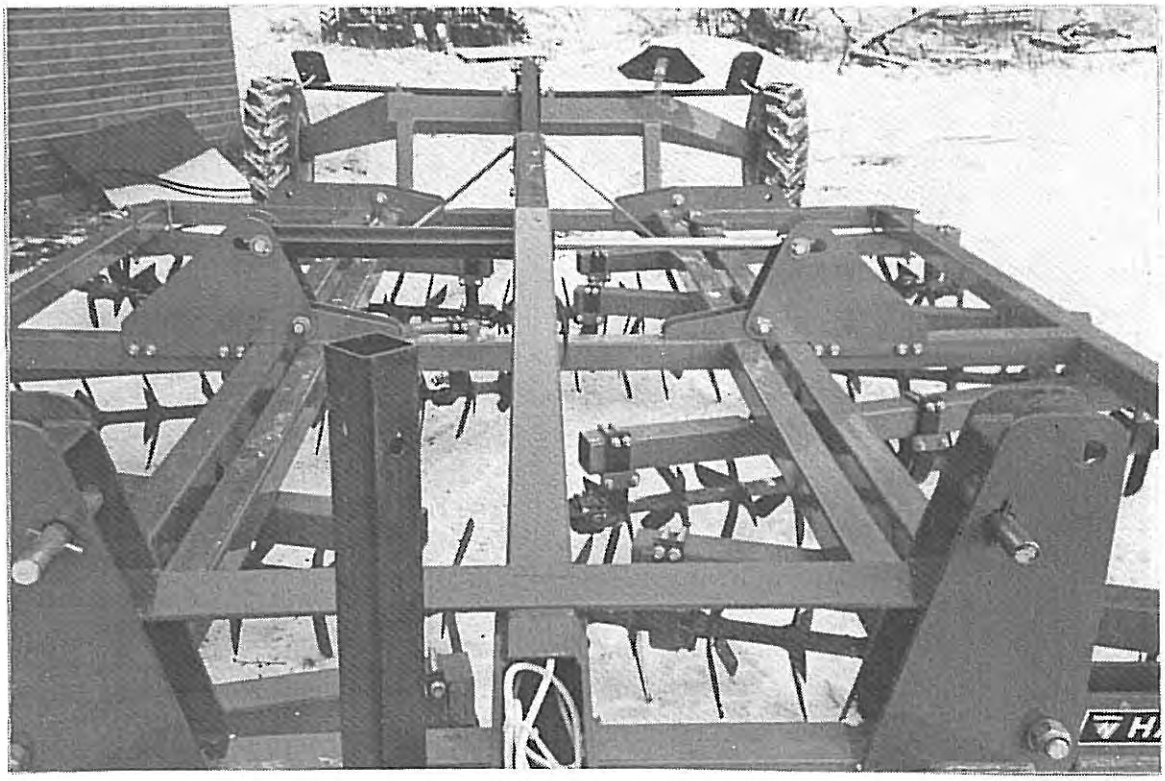

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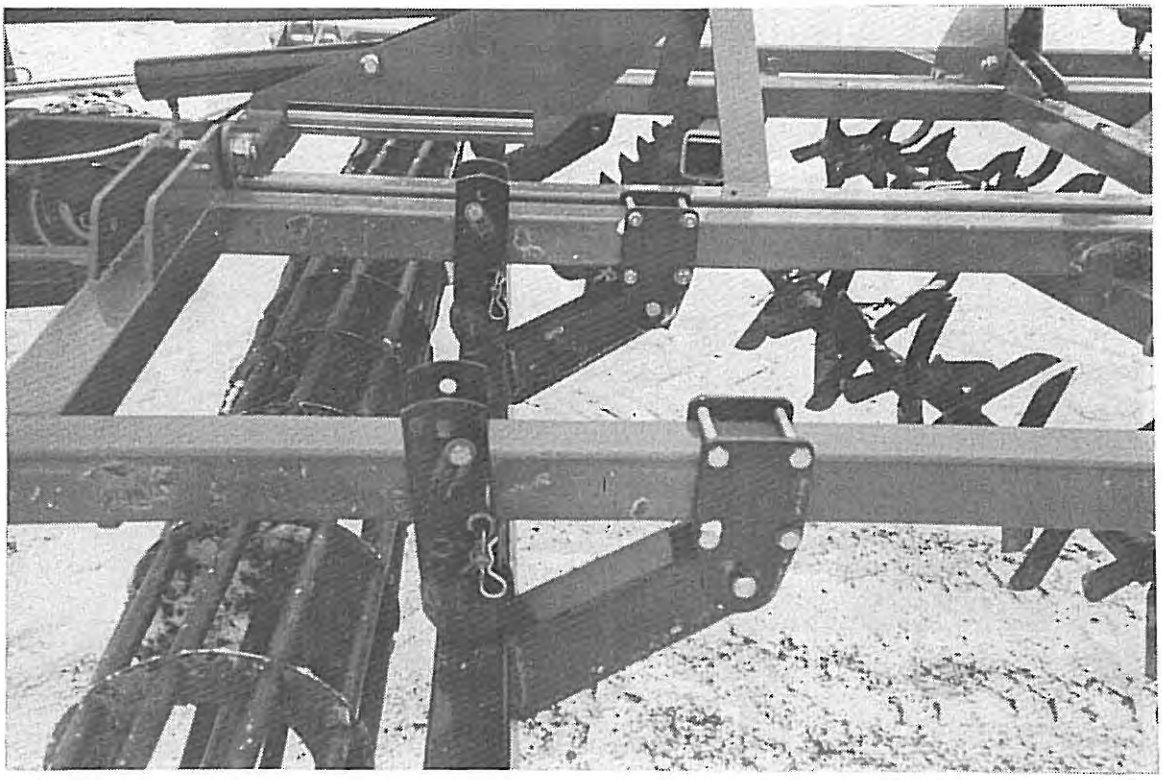

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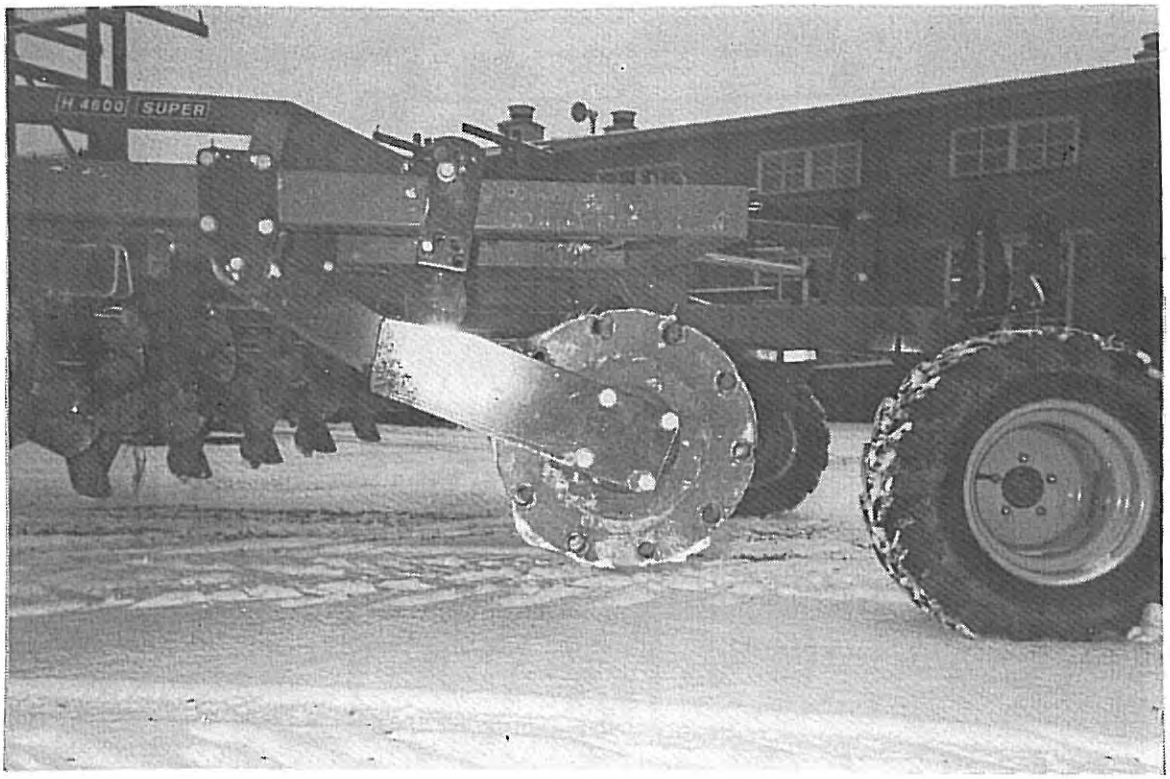

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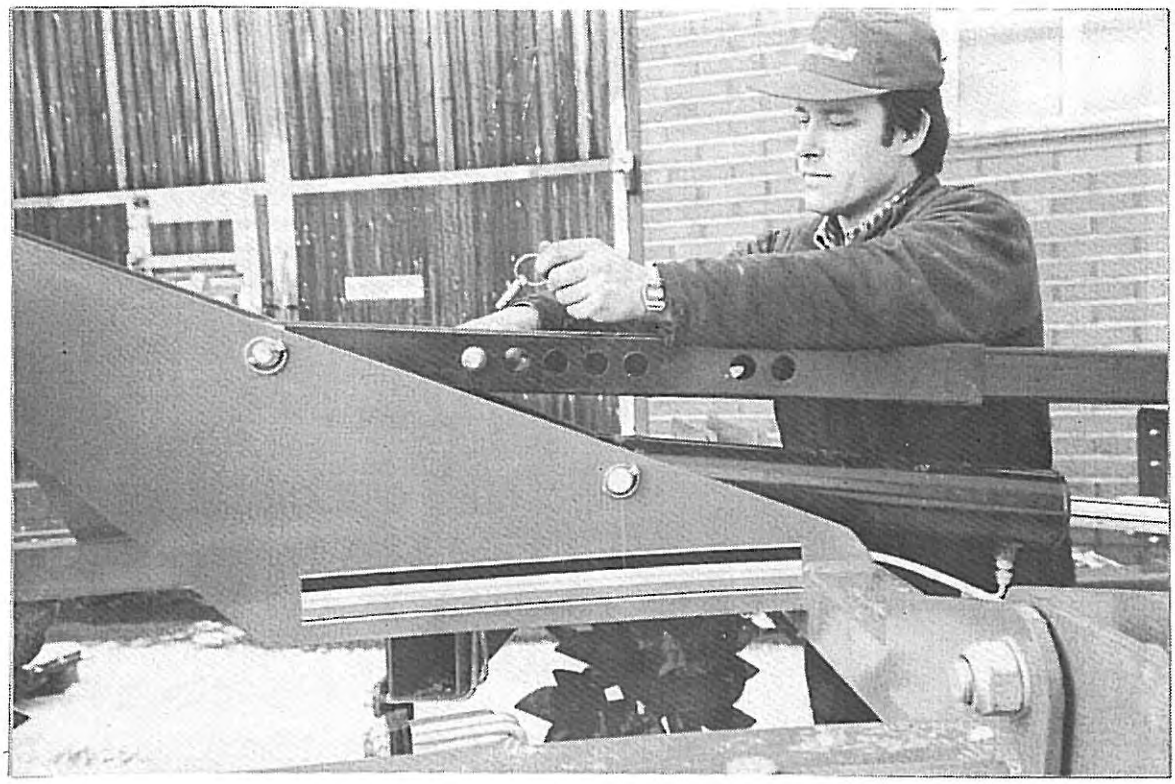

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