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## TH200 Tine Harrow



## Original Instructions

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THIS MANUAL MUST BE HANDED TO THE OPERATOR BEFORE USE. THE OPERATOR MUST UNDERSTAND FULLY THE CONTENT OF THIS HANDBOOK BEFORE USING THE MACHINE FOR THE FIRST TIME. OF THE IMPLEMENT IS RESOLD, THIS MANUAL MUST ACCOMPANY THE MACHINE.

## NOTE:

The information contained in this manual is correct at the time of going to press. However, in the course of development, changes in specification are inevitable. Should you find the information given differs from your machine, please contact Chapman Machinery Ltd direct for advice. **Use only Chapman Genuine Service Parts on Chapman Machinery and Machines.**

# HSE Information

## Safe use of all-terrain vehicles (ATVs) in agriculture and forestry – AIS Sheet 33

### Introduction

This information sheet gives advice on the safe use of ATVs. It covers the two main types used in off-road working in agriculture and forestry, which are:

- sit-astride ATV / sit-in machines
- side-by-side mini-utility vehicles,

The Full HSE information sheet can be found here or using the QR Code at the bottom of the article: <https://www.hse.gov.uk/pubns/ais33.pdf> and must be read prior to any ATV/UTV use. Below are related extracts to trailed machinery.

### REMEMBER - GET PROPERLY TRAINED AND ALWAYS WEAR HEAD PROTECTION

#### Training

Under the Provision and Use of Work Equipment Regulations 1998 (PUWER), there is a legal requirement for employers to provide adequate training, and to ensure that only employees who have received appropriate training in their safe use, including the use of any towed equipment or attachments, are permitted to ride ATVs. The same requirements apply to the self-employed. HSE regards training provided by recognised training providers as being adequate for the purposes of PUWER.

#### Protective clothing

More than half of all ATV riders have been thrown off at some time. As these machines are not fitted with either a cab or roll bar, your only protection is what you wear.

- **Head protection is vital.** The majority of ATV fatalities in the UK in the last ten years have been caused by head injuries. Nobody who died from head injuries was wearing a helmet. Helmets would certainly have prevented most, if not all, the deaths. **You should always wear a helmet when riding an ATV.** All helmets should have a chinstrap and be capable of being used with suitable eye protection. The type of helmet chosen should be based on an assessment of the circumstances in which the ATV will be used, eg the types of surface travelled over and anticipated speeds. The harder the surface and higher the speed the greater the degree of protection needed. **NB: Forestry helmets and industrial hard hats are not acceptable for any ATV operations.**
- Wear clothing that is strong and covers your arms and legs. Gloves are useful for protection and to keep hands warm in cold weather for good control of the ATV. Wear sturdy, ankle-covering footwear, eg boots or wellingtons that are strong, supportive and have good wet grip.
- Protect your eyes from insects and branches with either a visor or goggles.

#### Trailed equipment and loads

Ensure all riders know the manufacturers recommended towing capacity and drawbar loading limit. Always operate

within these requirements.

Remember that your ability to control the ATV by your body movements will be considerably reduced when carrying a load or towing a trailer.

- When selecting trailed equipment look for:
  - over-run brakes;
  - a swivel hitch drawbar;
  - bead lock rims on wheels;
  - a low centre of gravity and a wide wheel track;
  - a long drawbar; and
  - attachment points for securing a load.
- Check the weight ratio between your ATV and its trailed load. This needs to be assessed for each operation. As a general guide, on level ground, braked trailed equipment can be a maximum of four times the unladen weight of the ATV. For unbraked trailed equipment the maximum should be twice the unladen weight. These loads should be reduced when working on slopes, uneven ground or poor surface conditions. Follow the manufacturers advice for your particular machine.
- Weight transfer is also important. Stability and resistance to jack-knifing is improved if some load is transferred onto the ATV's drawbar. Approximately 10% of the gross weight of the loaded trailer is recommended, but this should not exceed the manufacturers drawbar loading limit. Remember that weight transfer can change dramatically when you start going up or down hill.
- When selecting mounted equipment, make sure it is within the manufacturers approved weight limit, with a low centre of gravity, and controls which are easy to operate but do not create a hazard. Where equipment is added to one end of the machine, add ballast at the other end to maintain stability.
- Loads carried on racks must be well secured, e.g. with ratchet straps, and be evenly balanced between the front and rear, except where they are deliberately altered to aid stability when going up or down a slope.
- Only tow a load from the hitch point. Loads towed from other points such as the rear rack have caused sudden rear overturning even on slight slopes or with slight acceleration. Ropes or chains should not be used to drag a load where they can become caught on a wheel. This may lead to entanglement with the brake cable, causing unexpected braking.

#### Further information

For information about health and safety go to <https://www.hse.gov.uk/>

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# Important Safety Information

Always read this manual before fitting or operating the machine – whenever any doubt exists contact your dealer or the Chapman Machinery Service Department for advice and assistance.

## DEFINITIONS

The following definitions apply throughout this manual:

**WARNING** - An operating procedure, technique etc., which can result in personal injury or loss of life if not observed carefully.

**CAUTION** - An operating procedure, technique etc., which can result in damage to either machine or equipment if not observed carefully.

**NOTE** - An operating procedure, technique etc, which is considered essential to emphasis.

**LEFT & RIGHT HAND** - This term is applicable to the machine when attached to the towing vehicle and is viewed from the rear – this also applies to tractor references.

## Safety Information

- Do not operate this equipment unless you have studied this manual in full
- Only use this machine for its designated task - improper use is both highly dangerous and damaging to machine components
- Both operators & maintenance fitters should be familiar with the machine and fully aware of dangers surrounding improper use or incorrect repairs
- Before starting, carry out a visual check on both machine & towing vehicle as regards functionality, road safety & accident prevention rules
- Even when using the machine correctly, accidents can occur. It is imperative that nobody stand within the danger area. If working near roads, buildings or animals, special attention must be taken to ensure safety.
- Never wear loose clothing which could get caught in rotating equipment
- Never carry passengers on the towing vehicle
- Do not stand near the machine when operating
- Damaged or missing safety decals must be replaced immediately

## Transportation Safety

- When transporting, especially over rough ground, reduce speed to prevent damage to machine.
- This machine is not road legal in its standard form. DO NOT tow on public highways unless you have specified the road-legal model, and checked that this and the towing vehicle comply with local highway regulations in place.

## Operating Safety

- Pay special attention when working not to harm livestock if crowding around the machine occurs.
- If anything should become entangled in the mechanism, or blocked in the chute, stop the machine and disconnect the power before attempting to clear the blockage.

# Description

The TH200 Tine Harrow is a 2m wide (approx) unit, designed for quick and easy maintenance of grassland and pasture.

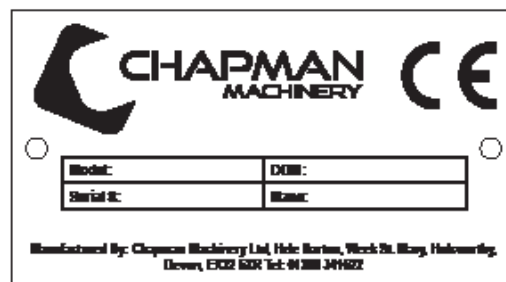
The TH200 Tine Harrow is a trailed attachment, with 4 rows of spring tines. The angle of attack of the spring tines can be adjusted in 3 increments from soft to aggressive. The height of the unit can also be adjusted using the electric actuator, to change between working and transport modes.

These machines should however only be used to perform tasks for which they were designed - use of the machine for any other function may be both dangerous to persons, and potentially damaging to components. Use of the machine beyond the stated usage may invalidate any applicable warranty, as well as being potential in breach of applicable safety regulations.

## Identification

Each machine is fitted with a serial plate (shown below) which details the following:

1. Model
2. Date of Manufacture (DOM)
3. Serial Number
4. Mass



When enquiring regarding spares or additional equipment, ensure you have this information to hand.

## Implement Decals

If your implement does not contain all of the decals shown below, please contact Chapman Machinery for replacement decals before use. **Note:** All decals must be present and visible. It is imperative that these are replaced if damaged to prevent potential harm to users.



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\* Caution, crush hazard – never reach into crush area as parts may move trapping appendages

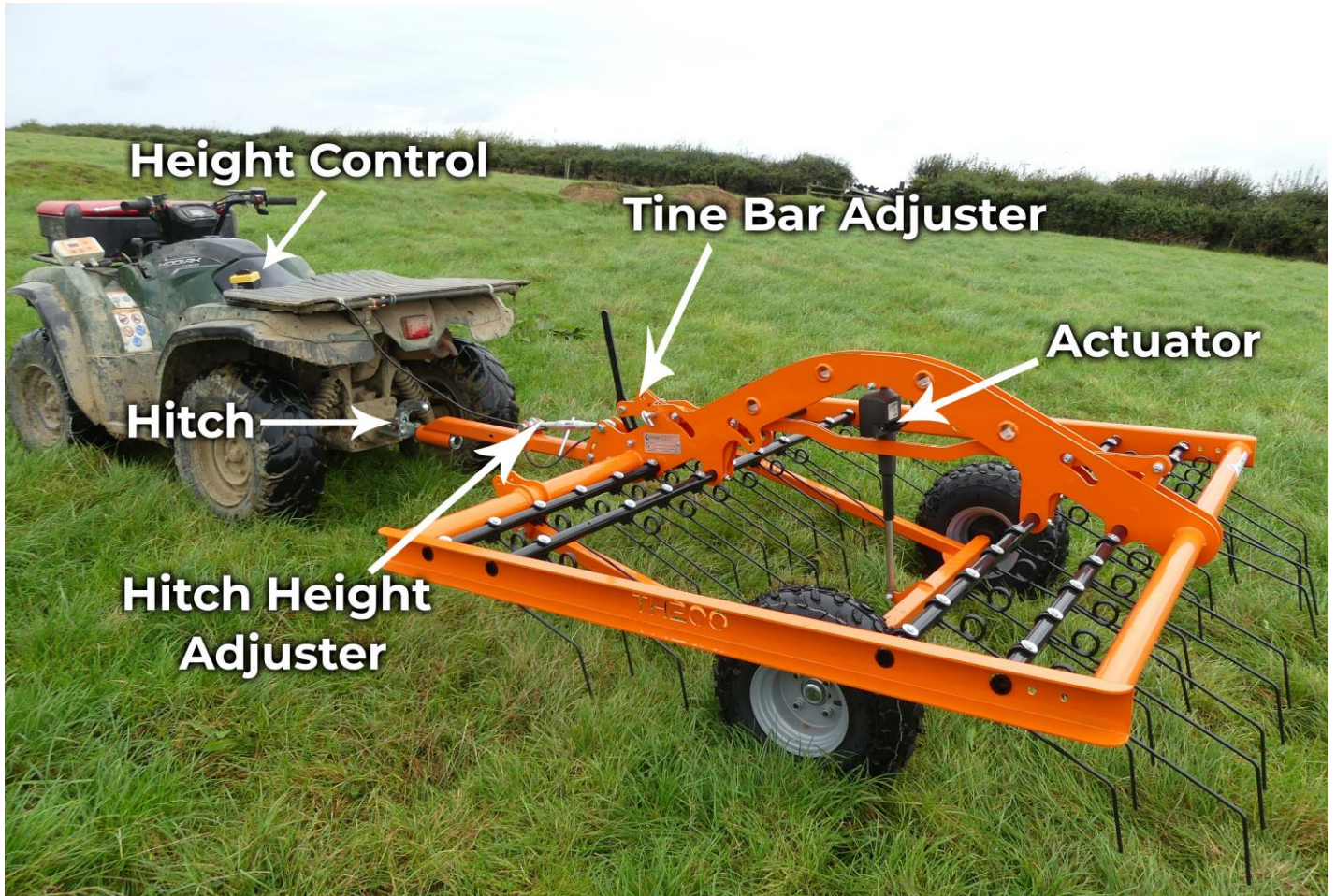


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\* Carefully read operators manual before handling this machine. Observe instructions and safety rules when operating.



## Component Identification



# Attachment

## Before Attaching the Machine

*Before attachment, ALWAYS ensure the following:*

- All safety guards & decals are in good working order and correctly fitted
- Lubrication points have been lubricated as per scheduled maintenance period
- The tyres are free of damage and inflated to the correct pressure
- Electrical connections are free of dirt and moisture

## Attaching the Machine

NOTE: This machine is designed to attach to the towing vehicle through a 50mm diameter ball hitch.

1. Reverse the towing vehicle up to the machine.
2. Attach the machine onto the towing vehicle's coupling. Adjust drawbar angle is necessary to ensure main frame of machine is parallel with ground when in working height, this ensures even tine contact across the 4 rows of tines.
3. Attach the control cable to the control socket fitted on the towing machine, ensuring a secure connection.
4. If required, adjust tine angle setting before lowering machine into work mode.

**WARNING: ENSURE CONTROL EQUIPMENT IS SECURELY ATTACHED TO THE TOWING VEHICLE BEFORE USE, REPLACEMENT CONTROL BOX ASSEMBLIES ARE EXPENSIVE!**

## Initial Set-up

### Tine Angle

The tines on the TH200 can be set to three settings of aggressiveness, using the black tine bar adjuster located just behind the machine drawbar. Pulling the adjuster forwards (towards the towing vehicle) will make the tines less aggressive and pushing the adjuster rearwards will make the tines more aggressive. The adjuster is fixed in place once set using a pin and retaining clip. \*We recommend you begin operation with the tines in the middle setting and adjust as required thereafter\*

### Height

The working height of the machine is set using the electronic actuator and control box. Pressing the relevant up / down arrow will raise or lower the main frame accordingly. The TH200 should only be transported across fields with the height at its maximum, and then lowered into use as required. The TH200 should be lowered to allow weight onto the tines, such that consistent ground contact is achieved by the tines. The wheels will always carry some weight, to ensure the unit tows easily and travels over rough terrain smoothly.

## Initial Test Operation

In order to familiarise the operator(s) with the machine, first adjust the tines and machine height in the yard, before going out to the pasture to commence work. This will ensure the operator is fully familiar with the operation of the machine. During this period the angle of the drawbar should be adjusted to suit the towing vehicle, such that the main frame of the TH200 runs level with the ground when the unit is in a working height.

Once the operator(s) are familiar with the machine and operation, the tank can be drained and refilled with water / herbicide as per the herbicide manufacturers recommendations.

## Operation

Ensure that the operator is suitably qualified to use a machine of this nature and that they have fully read and understood this manual - they should be aware of all safety aspects relating to the safe use of the machine.

**AFTER APPROXIMATELY ONE HOUR OF WORK WITH A NEW MACHINE, ALL NUTS, BOLTS AND DRIVE BELTS SHOULD BE CHECKED FOR TIGHTNESS AND ADJUSTED AS NECESSARY!**

## Operation

1. Set desired tine angle with machine in transport position (ie. height at maximum). Recommended start position is middle hole on tine adjustment.
2. Drive into paddock and using control box, lower tines onto ground until all tines are in contact with the ground. Ensure main frame is roughly parallel with ground and adjust drawbar angle if necessary.
3. The TH200 is quite heavy and the weight of the machine can be used to increase the pressure on the tines – more pressure = more tine penetration through the sward. Heavy harrowing in the spring will usually need more tine pressure and lighter de-thatching in the summer will need less pressure.
4. Harrow the field by first running around the edge a few times to allow turning room, and then traversing the field in straight lines. For some pastures a second pass at 90° to the first pass will be required.
5. Once finished harrowing raise to transport position (maximum height) for transport.

## Forward Speed

A forward speed of around 5mph will typically produce the best results, however this may need to be increased or reduced depending on the ground conditions and depth of grass sward.

## Operating Limits

**WARNING: DO NOT OPERATE BEYOND OPERATING LIMITS, DAMAGE TO MACHINERY OR INJURY TO OPERATOR MAY OCCUR.**

Minimum / Maximum Temperature: **5°C / +40°C**



## Storage

For extended periods of storage, it is advisable that the machine be kept in a clean dry environment protected from the elements to avoid risk of corrosion.

## Troubleshooting

Problem	Possible Causes	Remedies
Unit will not raise or lower	Shortage in wiring (may be indicated by unit losing power when run button pressed)	Check plug and battery connection are free from dirt and making good contact
	Actuator Fault	Replace motor, contact distributor
	Switch Fault	Replace switch, contact distributor
Poor tine contact with ground	Working height too high	Lower unit
	Tines worn	Inspect tines, replace if worn
	Drawbar angle incorrect	Adjust drawbar adjuster so that main frame is parallel with ground when at working height

# Warranty

## The Chapman Warranty

Chapman Machinery Ltd (herein 'Chapman' or 'Chapman Machinery') warrants that the machine referred to in the Warranty Registration Form will be free from manufacturing defects for a period of 24 months from the date of sale. This warranty does not affect your statutory rights, but merely adds to them. Should you have a problem within 24 months from the date of sale please contact your original dealer, or Chapman Machinery's Service Department.

Any part found to be defective during this period will be replaced or repaired, at our discretion, by the dealer or a authorised Service Engineer.

## Warranty Conditions

1. The Warranty Registration Form must be completed and returned to Chapman Machinery Ltd within 30 days of the date of sale
2. This warranty does not cover defects arising from fair wear and tear, wilful damage, negligence, misuse, abnormal working conditions, use in competition, failure to follow Chapman Machinery's instructions (oral or written, including all instructions and recommendation made in the Operator's Manual) or alteration or repair of the machinery without prior approval.
3. The machinery must have been serviced in accordance with the Operator's Manual and the Service Log must have been kept up to date and made available to the dealer should service, repair or warranty work be undertaken.
4. This warranty does not cover claims in respect of wearing parts such as blades, flails, paintwork, tyres, belts, hydraulic hoses, bearings, bushes, linkage pins, top links, ball ends unless there is a manufacturing or material defect or the cost of normal servicing items such as oils and lubricants.
5. This warranty does not cover any expenses or losses incurred whilst the machinery is out of use for warranty repairs or parts replacement.
6. This warranty does not extend to parts, materials or equipment not manufactured by Chapman Machinery, for which the Buyer shall only be entitled to the benefit of any such warranty or guarantee given by the manufacturer to Chapman Machinery. Only genuine replacement parts will be allowable for warranty claims.
7. All parts replaced by Chapman Machinery under warranty become the property of Chapman Machinery and must be returned to Chapman Machinery if so requested. Such parts may only be disposed of after a warranty claim has been accepted and processed by Chapman Machinery.
8. Chapman Machinery is not liable under this warranty for any repairs carried out without Chapman Machinery's written consent or without Chapman Machinery being afforded a reasonable opportunity to inspect the machinery the subject of the warranty claim. Chapman Machinery's written consent must, therefore, be obtained before any repairs are carried out or parts replaced. Use of non- Chapman Machinery parts automatically invalidates the Chapman Warranty. Failed components must not be dismantled except as specifically authorised by Chapman Machinery and dismantling of any components without authorisation from Chapman Machinery will invalidate this warranty.
9. All warranty claims must be submitted to Chapman Machinery on Chapman Machinery Warranty Claim Forms within 30 days of completion of warranty work.  
Using the machine implies the knowledge and acceptance of these instructions and the limitations contained in this Manual.

## Transfer of Warranty

The Chapman warranty be transferred to a subsequent owner of the machinery (for use within the UK only) for the balance of the warranty period subject to all of the stated warranty conditions and provided that the Change of Owner form is completed and sent to Chapman Machinery within 14 days of change of owner- ship.

**Chapman Machinery Ltd retain the right to refuse transfer of warranty.**

**Chapman Machinery reserves the right to make alterations and improvements to any machinery without notification and without obligation to do so.**



EC DECLARATION OF CONFORMITY  
Machinery Directive 2006/42/EC

Chapman Machinery Ltd

Hele Barton  
Week St. Mary  
Holsworthy  
Devon  
EX22 6XR

The Products Covered by this Declaration

Product: TH200 Tine Harrow  
Standards and Regulations used: Machinery Directive 2006/42/EC  
Place of Issue: United Kingdom  
Name of Representative: James Chapman  
Position of representative: Director

The Basis on which Conformity is being Declared

I declare that as the authorised representative, the above information in relation to the supply / manufacture of this product, is in conformity with the stated standards and other related documents following the provisions of Machinery Directive 2006/42/EC directives

The products described above comply with the essential requirements of the directives specified.

Signed: 

Date: .....21/01/2014.....