

HDK BUCKRAKES

10,12 AND 14 TINE

Edition No: 7085-10-99



# IMPORTANT VERIFICATION OF WARRANTY REGISTRATION



## DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with Twose of Tiverton Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the Twose web site at [www.twose.com](http://www.twose.com), log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the Twose Office on 01884 253691.

### Registration Verification

|  |
|--|
| Dealer Name: .....   |
| Dealer Address: .....  |
| Customer Name: .....   |
| Date of Warranty Registration: ...../...../..... Dealer Signature: ..... |

### NOTE TO CUSTOMER / OWNER

*Please ensure that the above section above has been completed and signed by the selling dealer to verify that your machine has been registered with Twose of Tiverton Limited.*

**IMPORTANT:** During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below*. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

### TORQUE SETTINGS FOR HYDRAULIC FITTINGS

| HYDRAULIC HOSE ENDS |         |        |
|---------------------|---------|--------|
| BSP                 | Setting | Metric |
| 1/4"                | 18 Nm   | 19 mm  |
| 3/8"                | 31 Nm   | 22 mm  |
| 1/2"                | 49 Nm   | 27 mm  |
| 5/8"                | 60 Nm   | 30 mm  |
| 3/4"                | 80 Nm   | 32 mm  |
| 1"                  | 125 Nm  | 41 mm  |
| 1.1/4"              | 190 Nm  | 50 mm  |
| 1.1/2"              | 250 Nm  | 55 mm  |
| 2"                  | 420 Nm  | 70 mm  |

| PORT ADAPTORS WITH BONDED SEALS |         |        |
|---------------------------------|---------|--------|
| BSP                             | Setting | Metric |
| 1/4"                            | 34 Nm   | 19 mm  |
| 3/8"                            | 47 Nm   | 22 mm  |
| 1/2"                            | 102 Nm  | 27 mm  |
| 5/8"                            | 122 Nm  | 30 mm  |
| 3/4"                            | 149 Nm  | 32 mm  |
| 1"                              | 203 Nm  | 41 mm  |
| 1.1/4"                          | 305 Nm  | 50 mm  |
| 1.1/2"                          | 305 Nm  | 55 mm  |
| 2"                              | 400 Nm  | 70 mm  |

# WARRANTY POLICY

## WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with Twose of Tiverton Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

### 1. LIMITED WARRANTIES

- 1.01. *All machines supplied by Twose of Tiverton Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.*
- 1.02. *All spare parts supplied by Twose of Tiverton Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*
- 1.03. *The warranty offered by Twose of Tiverton Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*
- 1.04. *This warranty does not extend to any product from which Twose of Tiverton Ltd's serial number plate has been removed or altered.*
- 1.05. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*
- 1.06. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*
- 1.07. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*
- 1.08. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which Twose of Tiverton Ltd cannot be held liable, and may have safety implications.*
- 1.09. *If in exceptional circumstances a non Twose of Tiverton Ltd part is used to effect a repair, warranty reimbursement will be at no more than Twose of Tiverton Ltd's standard dealer cost for the genuine part.*
- 1.10. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of Twose of Tiverton Ltd.*
- 1.11. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
  - 1.11.1. *Hoses, exposed pipes and hydraulic tank breathers.*
  - 1.11.2. *Filters.*
  - 1.11.3. *Rubber mountings.*
  - 1.11.4. *External electric wiring.*
  - 1.11.5. *Bearings and seals.*

- 1.12. All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.
- 1.13. Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.

**NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. Twose of Tiverton Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.**

## **2. REMEDIES AND PROCEDURES**

- 2.01. The warranty is not effective unless the Selling Dealer registers the machine, via the Twose of Tiverton Ltd web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.
- 2.02. Any fault must be reported to an authorised Twose of Tiverton Ltd dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which Twose of Tiverton Ltd cannot be held liable.
- 2.03. Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by Twose of Tiverton Ltd. Please note that failure by the customer to release the machine for repair will not be accepted as a reason for delay in repair or submitting warranty claims.
- 2.04. All claims must be submitted, by an authorised Twose of Tiverton Ltd Service Dealer, within 30 days of the date of repair.
- 2.05. Following examination of the claim and parts, Twose of Tiverton Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by Twose of Tiverton Ltd and appropriate labour and mileage allowances if applicable.
- 2.06. The submission of a claim is not a guarantee of payment.
- 2.07. Any decision reached by Twose of Tiverton Ltd is final.

## **3. LIMITATION OF LIABILITY**

- 3.01. Twose of Tiverton Ltd disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.
- 3.02. Twose of Tiverton Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.
- 3.03. Except as provided herein, Twose of Tiverton Ltd shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.
- 3.04. No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.

## **4. MISCELLANEOUS**

- 4.01. Twose of Tiverton Ltd may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.



EC DECLARATION OF CONFORMITY  
conforming to EEC Directive 98/37/EC

We,

of TWOSE OF TIVERTON LIMITED, 6 Chinon Court, Lower Moor Way, Tiverton Business Park, Tiverton, Devon, EX16 6SS.

declare that under our sole responsibility that the product (type)

This machine is one of a group suitable for mowing/topping pasture/vegetation

Serial No. & Date: .....

Manufactured by the above Company/\* .....

.....

(\*insert business name and full address if not stated above)

complies with the required provisions of the Directive 98/37/EC and conforms with European Norm. BS EN 292

Part 1: 1991 Safety of Machinery - Terminology, Methodology

Part 2: 1991 Safety of Machinery - Technical Specifications

and other national standards associated with its design and construction as listed in the Technical File.

Signed Adrian Longstaff  
on behalf of TWOSE OF TIVERTON LIMITED Responsible Person

Status DIRECTOR OF ENGINEERING

Date 13 February 2001

**THIS MANUAL IS TO BE HANDED TO THE CUSTOMER BEFORE  
THE MACHINE IS TO BE USED FOR THE FIRST TIME**



**TWOSE OF TIVERTON LIMITED  
6 CHINON COURT  
LOWER MOOR WAY  
TIVERTON BUSINESS PARK  
TIVERTON  
DEVON  
EX16 6SS**

**TEL: (01884) 253691  
FAX: (01884) 255189**

All dimensions and capacities mentioned in this book are approximate. In pursuance of the Companies policy of constant development, the right is reserved to depart, without notice, from any detail illustrated or specified in this book, without incurring the obligation to provide such modifications on machines previously delivered.

No responsibility will be accepted by Twose of Tiverton Limited for any injury, damage or loss arising from the improper use or lack of maintenance of any machinery supplied by them or from any failure of the user to comply with all instructions published by Tractor or Loader manufacturers, particularly with regard to maximum load capacities, tyre pressures and stability, or with instructions and regulations pertaining to Tractor Cabs.



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## SPECIFICATION

|                    |   | <u>10 Tine</u> | <u>12 Tine</u> | <u>14 Tine</u> |
|--------------------|---|----------------|----------------|----------------|
| Overall Height     | - | 1100mm         | 1100mm         | 1120mm         |
| Overall Width      | - | 1965mm         | 2381mm         | 2790mm         |
| Overall Tine Width | - | 1872mm         | 2288mm         | 2740mm         |
| Length of Tines    | - | 1275mm         | 1275mm         | 1275mm         |
| Weight of Machine  | - | 291 Kg         | 432 Kg         | 516Kg          |

\* Note:- All dimensions and details given are approximate and are for guidance only.

## GENERAL INFORMATION

NOTE:- The provision of this information is a requirement of the Health & Safety at Work Act 1974.

NOTE:- This handbook has been designed to help the operator and service/mechanic to use and understand the machine fully, safely and efficiently, bearing in mind the Health & Safety requirements and the new CE requirements which come into force from January 1st 1995.

NOTE:- The handbook/manual will be supplied in a waterproof plastic outer cover to prevent damage from rain, condensation etc. The cover of the handbook will include its own part number, which includes information as to machine type and issue date of manual in question.

### DANGER

NOTE:- It is very important that the handbook/manual has been read thoroughly - throughout, and is completely understood before attempting to attach or use machine in any way.

CAUTION: When ordering spares, please state clearly:-

- (a) Machine type and model No.
- (b) Part No. of component.
- (c) Description of component.
- (d) Quantity required.
- (e) Full address to which spares are to be sent.
- (f) Method of delivery required.

CAUTION:- Always insist on genuine and correct spare parts.

NOTE:- Further copies of this handbook/manual can be obtained from:-

TWOSE OF TIVERTON LIMITED  
6 CHINON COURT  
LOWER MOOR WAY  
TIVERTON BUSINESS PARK  
TIVERTON  
DEVON  
EX16 6SS

TEL: 01884 253691  
FAX: 01884 255189

## SAFETY NOTES AND WARNINGS

Throughout the handbook the following sub headings are used to draw attention to various points of importance.



**DANGER  
WARNING**

This is to draw attention to very important instructions which MUST be followed precisely to avoid injury or death.

### CAUTION

This is used to draw attention to instructions which MUST be followed to avoid damage to operator, machine, process or the environment.

### NOTE:-

This is used to highlight points used for supplementary information.

## ABOUT THIS MACHINE

This is a hydraulically powered push-off Buckrake.

It is intended to be attached to an agricultural vehicle by means of the "three-point-linkage" couple-up system.

The purpose for its production and its sole intention is to transport grass-silage from a tipping point to a clamp. The double acting rams assist the spreading of grass onto the clamp.

AT NO TIME must this machine be used for anything other than, or to do any job - other than that for which it has been designed (see note above).

## HEALTH AND SAFETY



DANGER  
WARNING

Never attempt to assemble, couple up, or operate machinery until you understand fully the functions, controls and safety precautions required, as shown in the operators manual.



DANGER  
WARNING

Always follow tractor safety operations and instructions VERY carefully.  
NEVER TAKE RISKS

### CAUTION.

Be aware of warning stickers and instruction stickers on machine as care must be taken and instructions obeyed.

### CAUTION

Contact your dealer should you need advice, assistance, or if you do not understand the manual or machine. "NEVER ASSUME" - if not sure - ASK.

### CAUTION

Machine MUST NOT be altered or modified in any way - without permission - No liability will be accepted in respect of a machine that has been modified without manufacturers permission.



DANGER  
WARNING

Never drive machinery at speeds that could cause danger to other persons or properties, or in a manner that may cause accidents.



**DANGER  
WARNING**

Never attempt to Service/adjust or work on any machinery in an unsupported state.

For Example:- Any three point linkage mounted machinery  
Front Loaders  
Digger Booms  
Hedgetrimmer booms etc. etc.

Always ensure that machinery is safely supported and propped in position.

### CAUTION

Always "SWITCH-OFF" tractor engine before attempting to carry out adjustment or service repairs and inspections, on machinery.

Always be aware of your surroundings - and operate machinery accordingly. Beware of confined-tight areas, low height restrictions, buildings and overhangs etc. Also drive and operate bearing in mind weather conditions such as sun, rain, ice, snow, wind etc. [Make allowances in all situations].



**DANGER  
WARNING**

### CAUTION

Never carry "passengers" on machinery or on tractor.  
Ensure bystanders/onlookers are kept well away from operational area of apparatus.

### CAUTION

#### 'PARKING UP' MACHINE

When machine is being removed from tractor linkage and being 'parked up' it is essential that a good firm base and level site be found.

Always chock and prop machine to ensure a good firm position to leave parked. Ensure that stand legs of machine are correctly locked into position.

CAUTION

Never allow children to play on, or around, parked machinery.

CAUTION

Never wear loose fitting or ragged clothing which could get caught in machinery or controls.

CAUTION

Always dispose of discarded or worn out parts thoughtfully - by disposing of them in an approved and specified legal scrap site, bin or skip.

CAUTION

Worn out and spent waste oil, grease and other obnoxious substances must always be disposed of in suitable and legally approved dumping containers suitable for the waste in question.

CAUTION

Do not use the Buckrake as a form of Transport Box to carry anything other than the material it was designed for.

CAUTION

Do not use the Buckrake to push or scrape any materials other than it was designed for.



DANGER  
WARNING

Do not use the Buckrake to extract silage from a clamp.



NOTES

AMENDMENT

DATE

DETAILS

## GENERAL INSTRUCTIONS



DANGER  
WARNING

1. Before attaching any machine to a tractor or loader make sure that implement is still standing firmly on good solid - level site as it will be, providing unit was previously parked correctly.  
-Check that any wheels are 'chocked' correctly and that supports/props are in position where necessary to prevent booms etc. dropping.
2. Before and during the manoeuvring of the tractor or vehicle in order to attach machinery/implements, - make sure that No other persons are in the vicinity. Keep other persons well clear and make known your intentions, all the while keeping a sharp lookout whilst reversing and aligning machines for coupling up.
3. Always secure tractor into selected position by ensuring that brakes are applied correctly in order to prevent vehicle moving off on its own to cause injury and damage.
4. Make sure that the lift arms and top link ball ends of the tractor are properly fitted to the machine/implement by using correct adaptor sleeves where necessary, and that retaining pins of the correct type are used on all three point linkage points. Secure pins with relevant pin and ring assembly.
5. If the machine is of the drawbar type - check that the hitch on the tractor is in good condition and that the hitch pin used is of the correct size and type, and is properly secured when fitted.
6. Should it become necessary to make any adjustments or service on machine while raised on the tractor linkage, or raised on a front end loader - trestles or suitable supports MUST be positioned to support machine to prevent accidental dropping of lift arms, loader arms or mechanical failure.  
[MACHINE MUST ALWAYS BE PROPPED AND CHOCKED]

7. Never attempt to work on, adjust or service repair machinery of any kind whilst it is still running or working. Always stop the machine and **STOP THE TRACTOR ENGINE** - before any service/repairs begin.  
(**SWITCH OFF TRACTOR ENGINE BEFORE LEAVING TRACTOR SEAT**)
  
8. In transit always use transport stays or locking devices where provided.  
If, as in the case of some longer machines, the unit is transported lengthways - make sure that the front of the tractor is suitably ballasted to maintain stability.  
A method of achieving this would be to add suitable weights to a correctly specified and fitted front weight frame.
  
9. Always use machines in a sensible and reasonable manner and do not attempt to use them in work for which they are not intended. Avoid overloading and abusing them as this can cause damage to machine and tractor and can be very dangerous.
  
10. When unhitching/detaching a machine from a tractor three point linkage or from a front end loader ensure that any stands or legs are securely positioned and that the machine is parked where it will not be a safety hazard or cause annoyance to others.  
Make sure that chosen 'parking site' is a firm and level site.
  
11. Carry out regular periodic maintenance. - Always with safety in mind.
  
12. Ensure regular maintenance procedures are maintained for the lifetime of the machine.
  
13. **HEALTH AND SAFETY RULES AND REGULATIONS MUST BE ADHERED TO IN ALL AGRICULTURAL RESPECTS.**

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HEAVY DUTY PUSH-OFF MODEL  
REAR MOUNTED -  
10 & 12 TINE MODELS

ATTACHING BUCKRAKE TO TRACTOR

1. Attach the Buckrake to the lift arms of the tractor and fit an adjustable top link. The top link should be adjusted so that the ends of the Tines are resting on the ground when in the lowered position, i.e with the skids on the ground.
  
2. The linkage check should be adjusted, or a stabiliser fitted to keep sideways movement of the Buckrake to a minimum.
  
3. Connect the pressure hoses, supplied, between the Hydraulic Rams on the Buckrake and connect to tractor spool valve.
  
4. Start the tractor's engine, and, with external service selected, extend and retract the Buckrake rams several times so that the system is filled with oil. Check the oil level in the tractor's system and top up as necessary.
  
5. The Buckrake is now ready for use but before starting work please read the operation instructions and carry out the Daily Maintenance checks.

# HEAVY DUTY PUSH OFF BUCKRAKE - MODELS

## OPERATING INSTRUCTIONS

Before starting work carry out daily maintenance checks as specified in the 'Maintenance Instructions'.

The question of stability should be considered as the Buckrake is capable of carrying a considerable weight of material, depending upon density, and front weights should be fitted to the tractor if necessary.

The Buckrake should be loaded simply by reversing into the material to be carried. It is important to ensure that the Buckrake gate is fully retracted before loading.

Always reverse straight into the material and avoid contact with walls or kerbs.

A better work rate will be achieved if the Buckrake is loaded in a reasonable manner. The Buckrake will carry what the tractor's hydraulic system will lift so avoid trying to lift more than the tractor can cope with and the consequent loss of time in re-positioning the Buckrake.

The Buckrake can be used for handling a variety of materials on the farm but it is not designed for extracting silage from the clamp for example, although it can be used for carrying such materials once it has been extracted.

When discharging the load on the clamp a better result will be achieved if the grass is gradually pushed off while the tractor is in motion along the clamp.

This will mean that a 'carpet' of grass is spread from each load which in turn will mean easier access and a faster rate of work.

Alternatively, of course, the load can be quickly discharged at one point if required.

Sufficient revolutions of the tractor engine should be maintained while discharging to give an adequate supply of oil for the operation.

Always make sure that the Buckrake Gate is fully retracted before reloading the Buckrake.

ROUTINE MAINTENANCE  
AND LAYING-UP  
ALL MODELS  
DAILY



DANGER  
WARNING

Service all grease points using a good quality grease and oil all other Linge points. Check all bolts, nuts, setscrews, etc, for tightness.



DANGER  
WARNING

Check oil level in main system oil tank



DANGER  
WARNING

Liberaly grease or oil all pivot points regularly.

WEEKLY



DANGER  
WARNING

Check all hydraulic hoses and fittings for possible damage.



DANGER  
WARNING

Make sure that all hydraulic parts are suitably capped to prevent the ingress of dirt.



DANGER  
WARNING

Periodically check tine points for wear and/or damage, replace when necessary.

## LAYING UP



DANGER  
WARNING

Make sure that the pistol rods of the arms are protected by a good coat of grease to protect the plating.



DANGER  
WARNING

Clean off and protect all worn surfaces against corrosion.



DANGER  
WARNING

Clean the machine and note any damage or repairs needed. Arrange for spares and repairs as required. Prepare machine for next season.



DANGER  
WARNING

Fully lubricate the machine totally.



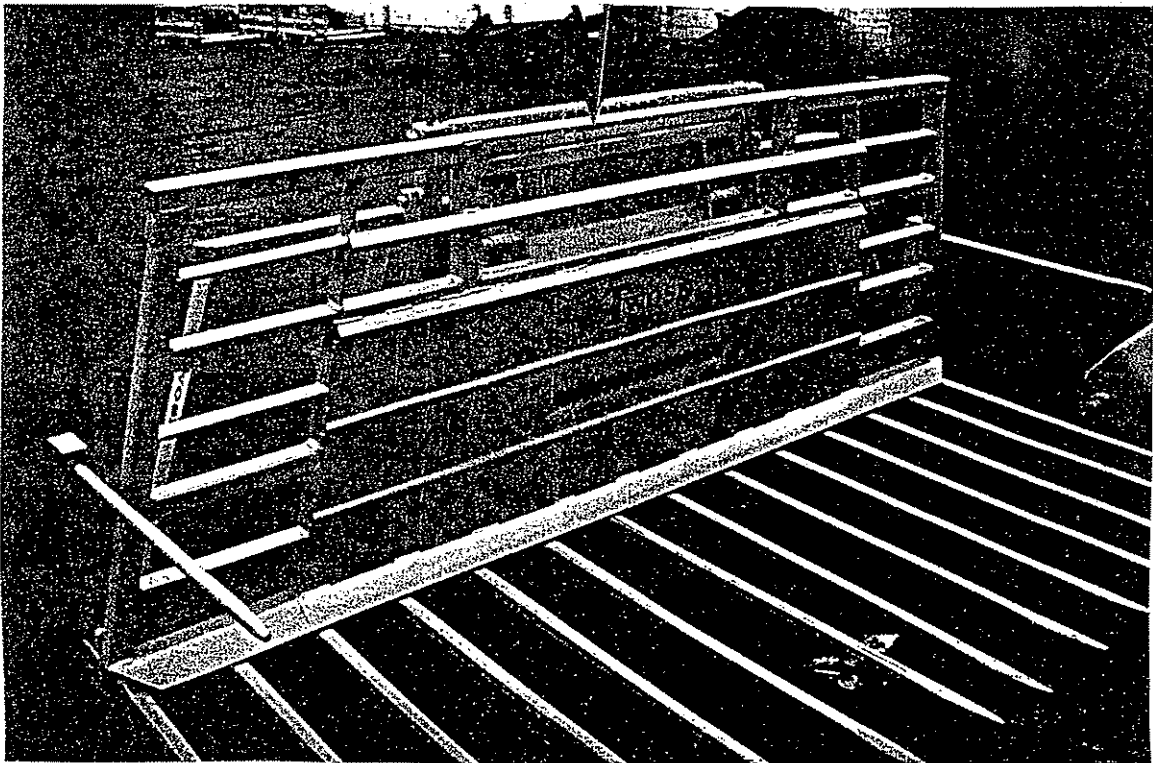
DANGER  
WARNING

Store the machine in dry - undercover conditions.

## HANDLING AND TRANSPORTATION OF MACHINERY

The picture highlighted below indicates safe lifting points for the machinery.

LIFT POINT (SLING)



The unladen weight of each Trimmer is given in the specification sheet of this book.

A form of lifting gear is required in order to move or handle this machinery safely. The lifting gear can be attached using a chain, rope or strap of sufficient strength, to the positions shown above.

Once the machinery has been moved, ensure that it comes to rest in a safe position. Supports or stay bars may be necessary to ensure stability of the machinery. Make sure the supports/stay bars are used whenever the machinery is transported.



## PARTS LIST

Always order Twoose genuine spares for your machine. They are correctly designed to give the best operational results.

When ordering spare parts, please specify:-

Type and Serial Number of machine

Part number, description and quantity of spares required.

Always make sure that you have ordered a sufficient quantity to complete the job.

Always make sure that you have ordered the correct parts. In some instances (eg Hydraulic Rams) parts or assemblies are, in the course of time, modified due to introduction of new materials, or improved design.

Always state by what means you wish the goods to be sent. In the absence of specific instructions consignments will be sent by post or railways goods service, if it is not possible to deliver by our own transport.

Always State the number of our Invoice or Sales Slip, and the reason for return should it become necessary to return any items for exchange or credit.

Remember that we operate a Service Department for Hydraulic Equipment which means that we can normally supply, by return, complete serviced and tested replacements.

## WARRANTY AND SPARE PARTS

all enquiries regarding these machines and orders for spare parts must be addressed to:-

TWOSE OF TIVERTON LIMITED

6 Chinon Court

Lower Moor Way

Tiverton Business Park

Tiverton

DEVON

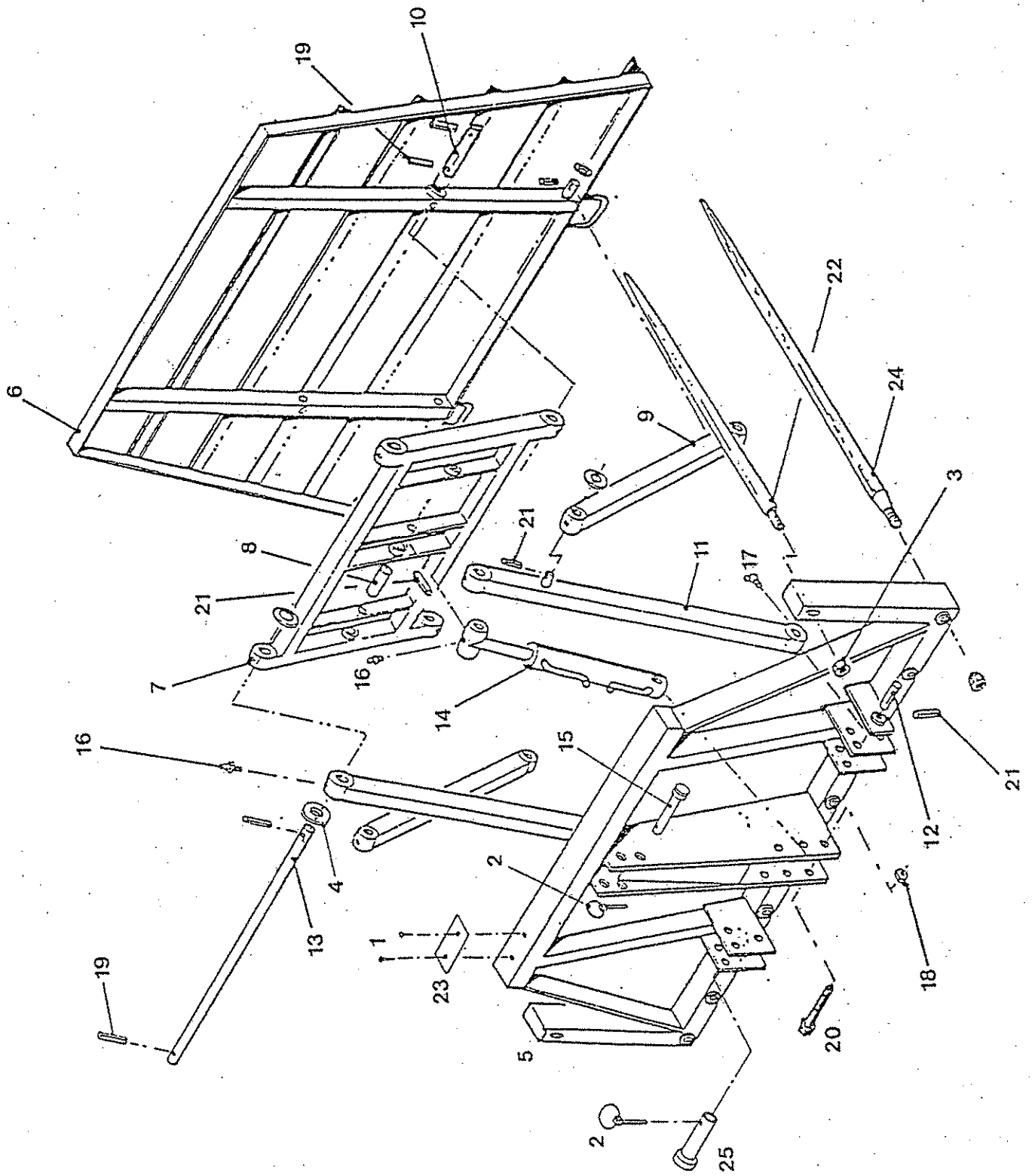
EX16 6SS

TELEPHONE (01884) 253691

FAX (01884) 255189

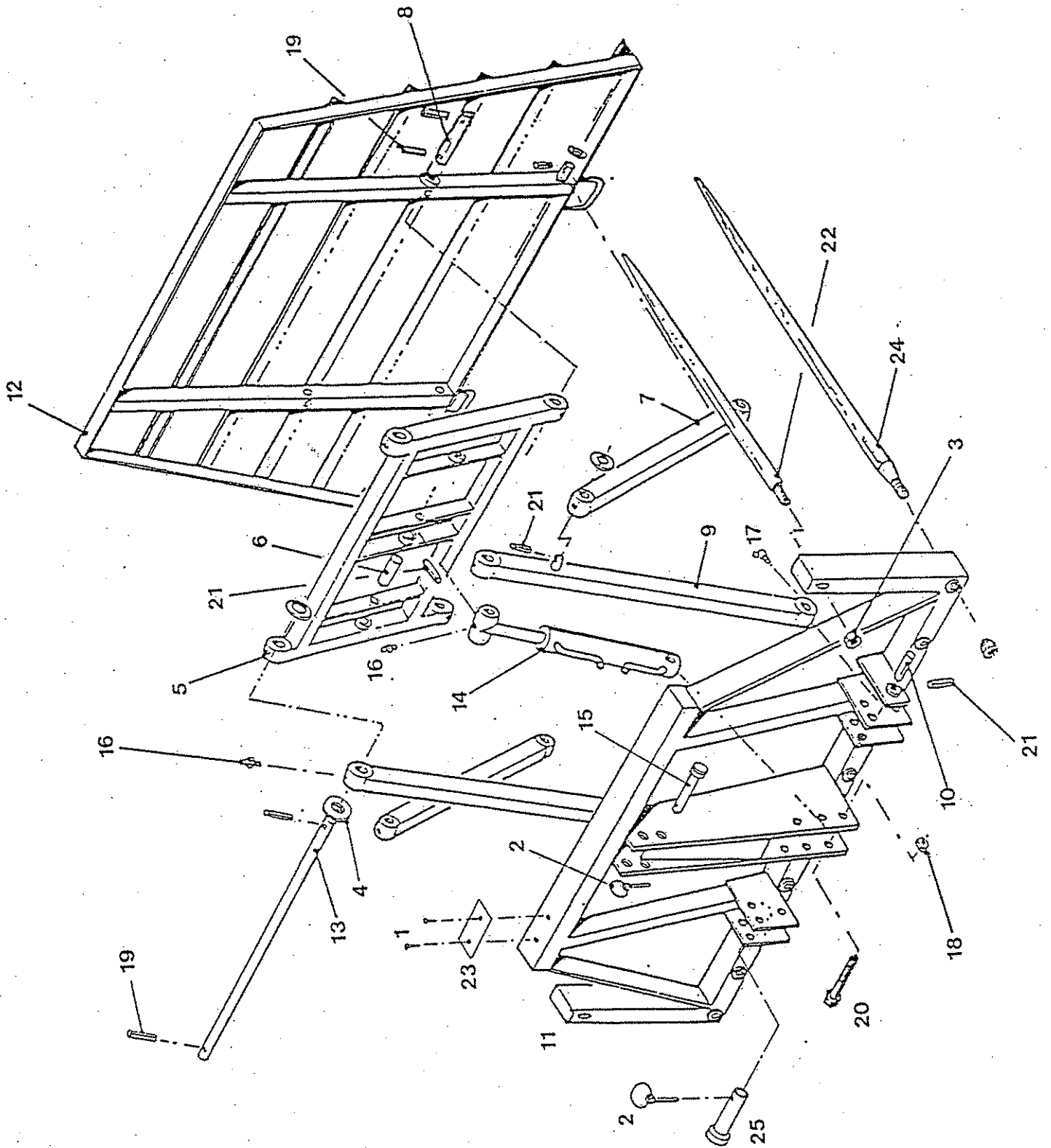
## 10 TINE MODEL

| <u>ITEM</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>        | <u>QTY</u> |
|-------------|-----------------|---------------------------|------------|
| *           | 004.221         | Hose 3/8 ST x ST x 1500   | 2          |
| 1           | 0460            | Screw                     | 2          |
| 2           | 0832            | Pin Assy                  | 3          |
| 3           | 0886            | Fullnut                   | 2          |
| 4           | 1351            | Washer                    | 10         |
| 5           | 168.020         | Main Frame 10 Tine HDK    | 1          |
| 6           | 168.021         | Gate 10 Tine HDK          | 1          |
| 7           | 168.022         | Swinger                   | 1          |
| 8           | 168.023         | Pin - Ram                 | 1          |
| 9           | 168.024         | Long Arm                  | 2          |
| 10          | 168.025         | Pin                       | 2          |
| 11          | 168.026         | Link Arm                  | 2          |
| 12          | 168.028         | Pin                       | 2          |
| 13          | 168.033         | Pin                       | 1          |
| 14          | 1680031         | Ram (Seal Set = 7091)     | 1          |
| 15          | 2584            | Pin, Top Link             | 1          |
| 16          | 2923            | G/Nipple                  | 12         |
| 17          | 2944            | G/Nipple                  | 2          |
| 18          | 3732            | Stiffnut                  | 1          |
| 19          | 3867            | Spring Pin                | 6          |
| 20          | 3894            | Bolt                      | 1          |
| 21          | 3939            | Spring Pin                | 7          |
| *           | 410184          | Transfer (HI-LIGHTER)     | 1          |
| *           | 410185          | Transfer "TWOSE" (Lg Blk) | 1          |
| *           | 410186          | Transfer "twose" (Sm Blk) | 2          |
| *           | 410189          | Transfer G. Nipple V      | 8          |
| *           | 410190          | Transfer G. Nipple ^      | 6          |
| *           | 410191          | Transfer G. Nipple ->     | 1          |
| *           | 410192          | Transfer G. Nipple <-     | 1          |
| 22          | 480118          | Tine Round                | 2          |
| 23          | 6900            | Plate Serial No.          | 1          |
| 24          | 6955            | Tine                      | 10         |
| 25          | 7711            | Pin                       | 2          |



## 12 TINE MODEL

| <u>ITEM</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>        | <u>QTY</u> |
|-------------|-----------------|---------------------------|------------|
| *           | 004.221         | Hose 3/8 ST x ST x 1500   | 2          |
| *           | 004.222         | Hose 3/8 ST x 90 x 400    | 4          |
| 1           | 0460            | Screw                     | 2          |
| 2           | 0832            | Pin Assy                  | 3          |
| 3           | 0886            | Fullnut                   | 2          |
| 4           | 1351            | Washer                    | 10         |
| 5           | 168.022         | Swinger                   | 1          |
| 6           | 168.023         | Pin-Ram                   | 2          |
| 7           | 168.024         | Long Arm                  | 2          |
| 8           | 168.025         | Pin                       | 2          |
| 9           | 168.026         | Link Arm                  | 2          |
| 10          | 168.028         | Pin                       | 2          |
| 11          | 168.029         | Main Frame 12 Tine HDK    | 1          |
| 12          | 168.030         | Gate 12 Tine HDK          | 1          |
| 13          | 168.033         | Pin                       | 1          |
| 14          | 1680031         | Ram (Seal Set = 7091)     | 1          |
| 15          | 2584            | Pin                       | 1          |
| 16          | 2923            | G/Nipple                  | 14         |
| 17          | 2944            | G/Nipple                  | 2          |
| 18          | 3732            | Stiffnut                  | 2          |
| 19          | 3867            | Spring Pin                | 6          |
| 20          | 3894            | Bolt                      | 2          |
| 21          | 3939            | Spring Pin                | 8          |
| *           | 3999            | Tee M-M-M                 | 2          |
| *           | 410184          | Transfer (HI-LIGHTER)     | 1          |
| *           | 410185          | Transfer "TWOSE" (Lg Blk) | 1          |
| *           | 410186          | Transfer "twose" (Sm Blk) | 2          |
| *           | 410189          | Transfer G. Nipple V      | 8          |
| *           | 410190          | Transfer G. Nipple ^      | 6          |
| *           | 410191          | Transfer G. Nipple ->     | 1          |
| *           | 410192          | Transfer G. Nipple <-     | 1          |
| 22          | 480118          | Tine Round                | 2          |
| 23          | 6900            | Plate Serial No.          | 1          |
| 24          | 6955            | Tine                      | 12         |
| 25          | 7711            | Pin                       | 2          |



## 14 TINE MODEL

| <u>ITEM</u> | <u>PART NO.</u> | <u>DESCRIPTION</u>        | <u>QTY</u> |
|-------------|-----------------|---------------------------|------------|
| *           | 004.221         | Hose 3/8 ST x ST x 1500   | 2          |
| *           | 004.222         | Hose 3/8 ST x 90 x 400    | 4          |
| 1           | 0460            | Screw                     | 2          |
| 2           | 0832            | Pin Assy                  | 3          |
| 3           | 0886            | Fullnut                   | 2          |
| 4           | 1351            | Washer                    | 10         |
| 5           | 168.023         | Pin-Ram                   | 2          |
| 6           | 168.024         | Long Arm                  | 2          |
| 7           | 168.025         | Pin                       | 2          |
| 8           | 168.026         | Link Arm                  | 2          |
| 9           | 168.028         | Pin                       | 2          |
| 10          | 168.033         | Pin                       | 1          |
| 11          | 168.040         | Main Frame 14 Tine HDK    | 1          |
| 12          | 168.041         | Gate 14 Tine HDK          | 1          |
| 13          | 168.042         | Swinger HD for 14 Tine    | 1          |
| 14          | 1680031         | Ram (Seal Set = 7091)     | 2          |
| 15          | 2584            | Pin                       | 1          |
| 16          | 2923            | G/Nipple                  | 14         |
| 17          | 2944            | G/Nipple                  | 2          |
| 18          | 3732            | Stiffnut                  | 2          |
| 19          | 3867            | Spring Pin                | 6          |
| 20          | 3894            | Bolt                      | 2          |
| 21          | 3939            | Spring Pin                | 8          |
| *           | 3999            | Tee M-M-M                 | 2          |
| *           | 410184          | Transfer (HI-LIGHTER)     | 1          |
| *           | 410185          | Transfer "TWOSE" (Lg Blk) | 1          |
| *           | 410186          | Transfer "twose" (Sm Blk) | 2          |
| *           | 410189          | Transfer G. Nipple V      | 8          |
| *           | 410190          | Transfer G. Nipple ^      | 6          |
| *           | 410191          | Transfer G. Nipple ->     | 1          |
| *           | 410192          | Transfer G. Nipple <-     | 1          |
| 22          | 480118          | Tine Round                | 2          |
| 23          | 6900            | Plate Serial No.          | 1          |
| 24          | 6955            | Tine                      | 14         |
| 25          | 7711            | Pin                       | 2          |

