

TWOSE

A red swoosh underline that starts under the 'W' and extends to the right, ending under the 'E'.

AERATOR

Models: TA25 & TA30

Operator & Parts Manual

Publication 537

May 2008 (Rev.10.06.15)

IMPORTANT

VERIFICATION OF WARRANTY REGISTRATION



DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with McConnel 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 McConnel Limited web site at www.mcconnel.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 McConnel Service Department on 01584 875848.

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 McConnel 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.

CAUTION: DO NOT OVER TORQUE HYDRAULIC FITTINGS AND HOSES

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 McConnel 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 mounted machines supplied by McConnel 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.*

All Self Propelled Machines supplied by McConnel 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 or 1500 hours. Engine warranty will be specific to the Manufacturer of that unit.

1.02. *All spare parts supplied by McConnel 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 McConnel 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 McConnel Ltd's serial number plate has been removed or altered.*

1.05. *The warranty policy is valid for machines registered in line with the terms and conditions detailed and on the basis that the machines do not extend a period of 24 months or greater since their original purchase date, that is the original invoice date from McConnel Limited.*

Machines that are held in stock for more than 24 months cannot be registered for warranty.

1.06. *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.*

1.07. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*

1.08. *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.*

1.09. *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 McConnel Ltd cannot be held liable, and may have safety implications.*

1.10. *If in exceptional circumstances a non McConnel Ltd part is used to effect a repair, warranty reimbursement will be at no more than McConnel Ltd's standard dealer cost for the genuine part.*

- 1.11. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnell Ltd.*
- 1.12. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
 - 1.12.1. *Hoses, exposed pipes and hydraulic tank breathers.*
 - 1.12.2. *Filters.*
 - 1.12.3. *Rubber mountings.*
 - 1.12.4. *External electric wiring.*
 - 1.12.5. *Bearings and seals*
 - 1.12.6. *External Cables, Linkages*
 - 1.12.7. *Loose/Corroded Connections, Light Units, LED's*
 - 1.12.8. *Comfort items such as Operator Seat, Ventilation, Audio Equipment*
- 1.13. *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.*
- 1.14. *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. McConnell 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 McConnell 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 McConnell 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 McConnell 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 McConnell 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 McConnell Ltd Service Dealer, within 30 days of the date of repair.*
- 2.05. *Following examination of the claim and parts, McConnell Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by McConnell 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 McConnell Ltd. is final.*

3. LIMITATION OF LIABILITY

- 3.01. *McConnell 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. *McConnell Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.*
- 3.03. *Except as provided herein, McConnell 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. McConnel 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.*

McConnel Limited



DECLARATION OF CONFORMITY

Conforming to EU Machinery Directive 2006/42/EC

We,

McCONNEL LIMITED, Temeside Works, Ludlow, Shropshire SY8 1JL, UK

Hereby declare that:

The Product; *Tractor Mounted Aerator*

Product Code; *TA25, TA30*

Serial No. & Date Type

Manufactured in; *United Kingdom*

Complies with the required provisions of the Machinery Directive 2006/42/EC
The machinery directive is supported by the following harmonized standards;

- BS EN ISO 12100 (2010) Safety of machinery – General principles for design – Risk assessment and risk reduction.
- BS EN 349 (1993) + A1 (2008) Safety of machinery - Minimum distances to avoid the entrapment with human body parts.
- BS EN ISO 14120 (2015) Safety of machinery - Guards general requirements for the design and construction of fixed and movable guards.
- BS EN 4413 (2010) Hydraulic fluid power. Safety requirements for systems and their components.

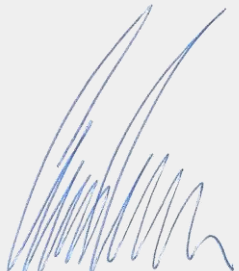
McCONNEL LIMITED operates an ISO 9001:2008 quality management system, certificate number: FM25970.

This system is continually assessed by the;

British Standards Institution (BSI), Beech House, Milton Keynes, MK14 6ES, UK

BSI is accredited by UK Accreditation Service, accreditation number: UKAS 003.

The EC declaration only applies if the machine stated above is used in accordance with the operating instructions.

Signed  *Responsible Person*
CHRISTIAN DAVIES on behalf of McCONNEL LIMITED

Status: *General Manager*

Date: *January 2018*

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GENERAL INFORMATION

Read this manual before fitting or operating the machine. Whenever any doubt exists contact your dealer or the McConnel Service Department for assistance.

Use only Twose Genuine Parts on Twose equipment and machines.

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 the damage of either machine or equipment if not observed carefully.

NOTE:

An operating procedure, technique etc., which is considered essential to emphasise.

LEFT AND RIGHT HAND:

This term is applicable to the machine when fitted to the tractor and viewed from the rear. This also applies to tractor references.

Note: The illustrations in this manual are for instructional purposes only and may on occasion not show some components in their entirety. In some instances an illustration may appear slightly different to that of your particular model but the general procedure will be the same. E&OE.

MACHINE & DEALER INFORMATION

Record the Serial Number of your machine on this page and always quote this number when ordering parts. Whenever information concerning the machine is requested remember also to state the make and model of tractor to which the machine is fitted.

Machine Serial Number:	Installation Date:
Machine Model details:	
Dealer Name:	
Dealer Address:	
Dealer Telephone No:	
Dealer Email Address:	

INTRODUCTION

The Aerator is available in 2.5 or 3.0 metre build widths each with a choice of 2 different rotor and blade configurations; all with working depth of up to 230mm. The integral weight carrying tray allows for ballast to be added for increased penetration. A rear hitch permits the attachment of a roller for 'one pass' operation.

The Aerator improves vertical drainage and relieves compaction on amenity turf areas, pasture and grassland. The machine has low maintenance requirements and is a simple and easy tool to use for effective results in various applications.

SPECIFICATIONS	TA25 Model	TA30 Model
<i>Working Width</i>	<i>2.5m</i>	<i>3.0m</i>
<i>HP Requirements</i>	<i>40HP</i>	<i>40HP</i>
<i>Weight</i>	<i>390kg</i>	<i>445kg</i>
<i>Attachment</i>	<i>3-point linkage</i>	<i>3-point linkage</i>
<i>Working Depth (Max.)</i>	<i>230mm</i>	<i>230mm</i>
<i>Transport Width</i>	<i>2.5m</i>	<i>3.0m</i>
<i>Rotor Discs (No.)</i>	<i>12/16</i>	<i>14/20</i>
<i>Blades (No.)</i>	<i>36/80</i>	<i>42/100</i>
<i>Length</i>	<i>1.1m</i>	<i>1.1m</i>

SAFETY PRECAUTIONS

WARNING!



Never allow inexperienced personnel to operate the machine without supervision.

Never allow anyone to ride on the machine either in transport or work.

Never carry out maintenance under the machine when it is raised on the tractors linkage – always use suitable substantial support equipment.

WARNING!



Always tighten check chains during transport.

Always ensure any ballast weights are secure.

Always ensure nuts and bolts are tight and that linkage attachments are in good condition.

MACHINE ATTACHMENT

Tractor Selection

The tractor must have category 2 three-point linkage.

Tractor Preparation

Front weights should be added as necessary up to the manufacturer's maximum to ensure operating stability.

Fitting to Tractor

The Aerator is fitted with high and low three-point linkage mounting points. The bottom hitch bar must be located in the position such that when the machine is fully engaged in the soil, the tractors draft link is horizontal or slightly lower at the tractor end - the rule of thumb is high position for large tractors and vice versa.

Attachment Procedure

- Attach tractor's three-point linkage to the machine.
- Tighten check chains.
- Lift machine on three-point linkage.
- Raise parking feet in their sockets and secure in the raised position.

The machine is now ready for transportation to the worksite.

OPERATION

Check Chains

Check chains or stabilisers should be loosened partially to allow steering of the tractor but tight enough to prevent the machine from coming into contact with the rear tyres.

Ballast

Trays are provided to accommodate ballast weight up to a maximum of 1000kg in order to achieve the required soil penetration. Any added weight should be evenly distributed between the weight trays and are suitably secured in place. Ensure weights are stable at all times.

Work

Adjust top link such that the bed is horizontal when the machine is in work: Tractor linkage should be set to allow the machine to follow the ground contours. Drive in as straight a line as possible. Raise the machine out of the ground to turn the headland.

Rear Hitch

A rear hitch is provided to allow the Aerator to be used in conjunction with a roller or chain harrows etc.

MACHINE REMOVAL

Removal from Tractor

Choose a firm level site on which to remove and store the machine.

- Lower stand legs and secure in the lowered position.
- Lower machine to the ground.
- Disconnect the three-point linkage.

Storage

Remove soil from the blades and coat with old oil.

Grease rotor bearings.

Check bolts for tightness

MAINTENANCE

Grease rotor bearings on a daily basis prior to work.

Check nuts and bolts for tightness regularly on the first day's work and on a weekly basis thereafter.

Blades are directional and therefore must be replaced in the same aspect and position from which they came.

Note: It is important that the bolt goes through the rotor disc first and the nut is against the blade. Tighten to 172 lbf./ft. (233Nm).



For best performance ...

USE ONLY GENUINE TWOSE SERVICE PARTS

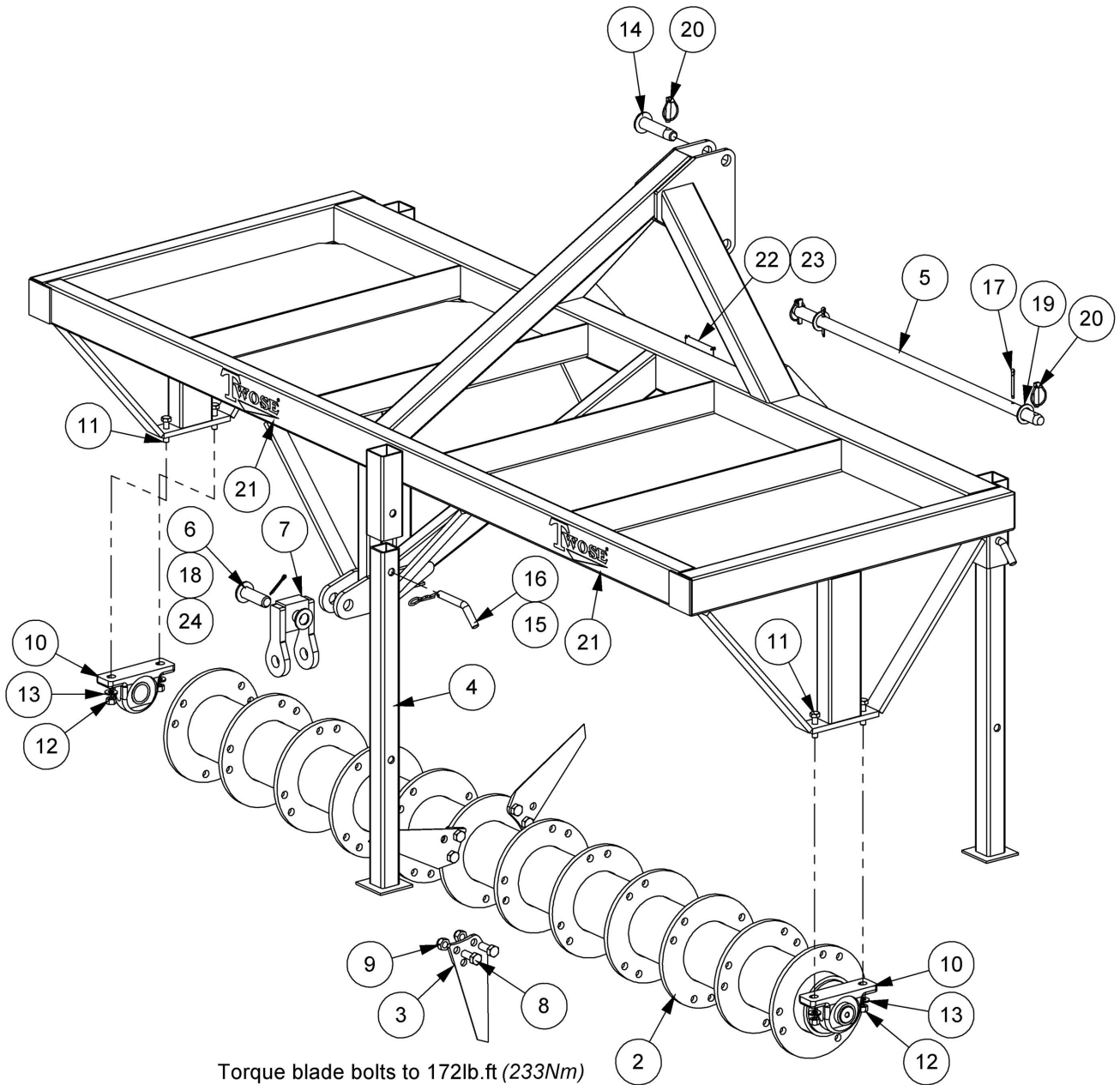
To be assured of the latest design improvements purchase your 'Genuine Replacements' from the 'Original Equipment Manufacturer'

Always quote:

- ***Machine Type***
- ***Serial Number***
- ***Part Number***

Design improvements may alter some of the parts listed in this manual – the latest part will always be supplied when it is interchangeable with an earlier one.

TA25E AERATOR – 2.5M / 36 BLADES

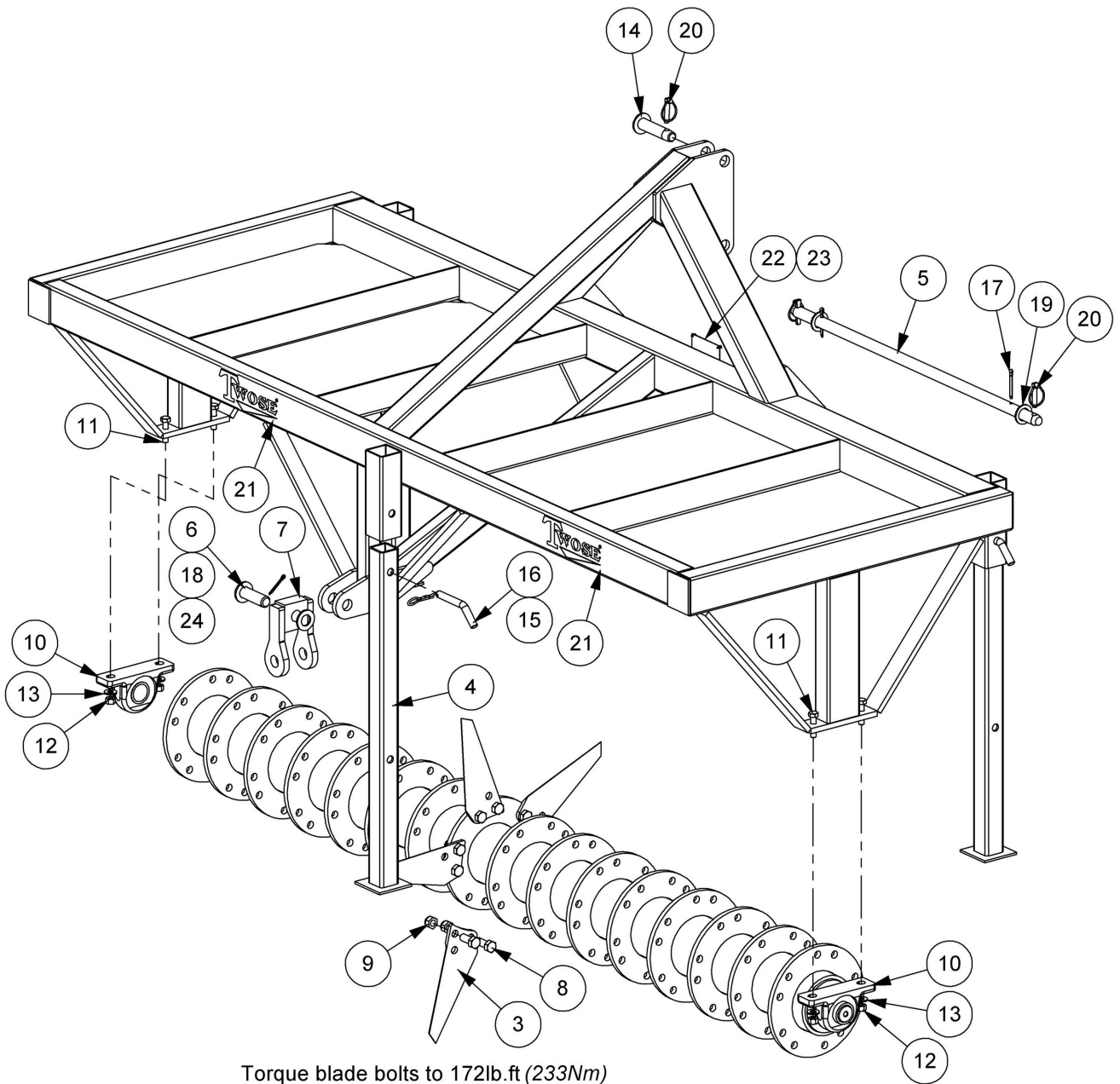


NOTE: for reasons of clarity blades have only been illustrated on one of the rotors discs.

TA25E AERATOR – 2.5M / 36 BLADES

REF.	QTY.	PART No.	DESCRIPTION
		TA25E	2.5M AERATOR ASSEMBLY
1	1	1092267	MAINFRAME - 2.5m
2	1	1092272	ROTOR - 2.5M (12 DISC)
3	36	1900100	OUTFIELD BLADE
4	3	1092014	LEG
5	1	1092016	LINKAGE SHAFT (1000mm)
6	1	1092013	HITCH PIN
7	1	1092010	REAR HITCH
8	72	0211146	BOLT
9	72	0141006	CLEVELOC NUT
10	2	0600091	BLOCK BEARING
11	4	9213106	BOLT
12	4	9163006	CLEVELOC
13	4	9100106	FLAT WASHER
14	1	7118112	PIN
15	3	0431105	SPRING COTTER
16	3	7192023	LEG PIN
17	2	9501507	SPLIT PIN
18	1	9501406	SPLIT PIN
19	2	0100110	FLAT WASHER
20	3	0431217	LINCH PIN
21	2	200.007	DECAL - TWOSE
22	1	1335246	SERIAL No. PLATE
23	4	7103230	POP RIVET
24	1	0100109	FLAT WASHER

TA25S AERATOR – 2.5M / 80 BLADES



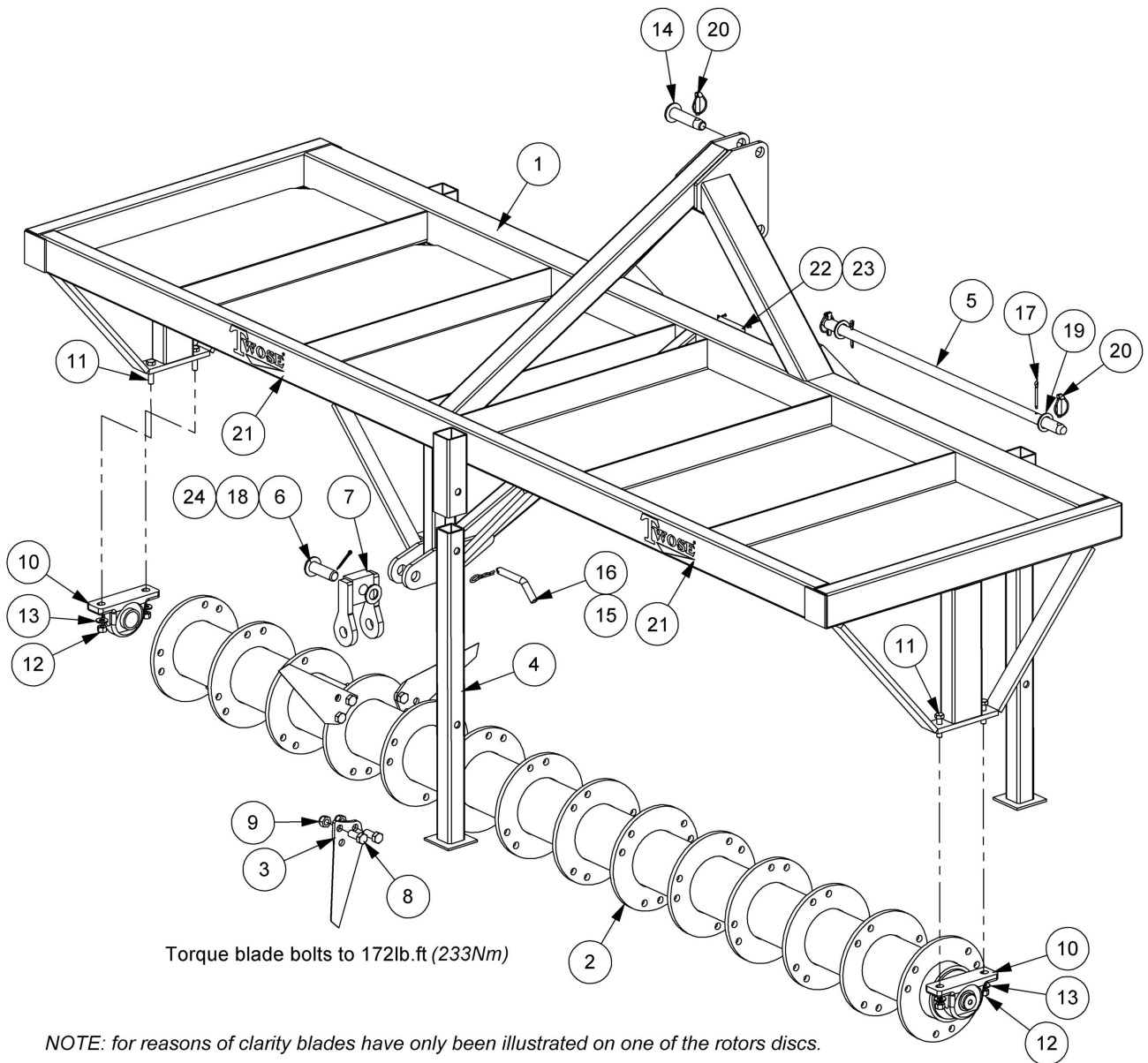
Torque blade bolts to 172lb.ft (233Nm)

NOTE: for reasons of clarity blades have only been illustrated on one of the rotors discs.

TA25S AERATOR – 2.5M / 80 BLADES

REF.	QTY.	PART No.	DESCRIPTION
		TA30E	3.0M AERATOR ASSEMBLY
1	1	1092260	MAINFRAME - 3.0m
2	1	1092271	ROTOR - 3.0M (14 DISC)
3	42	1900100	OUTFIELD BLADE
4	3	1092014	LEG
5	1	1092016	LINKAGE SHAFT (1000mm)
6	1	1092013	HITCH PIN
7	1	1092010	REAR HITCH
8	84	0211146	BOLT
9	84	0141006	CLEVELOC NUT
10	2	0600091	BLOCK BEARING
11	4	9213106	BOLT
12	4	9163006	CLEVELOC
13	4	9100106	FLAT WASHER
14	1	7118112	PIN
15	3	0431105	SPRING COTTER
16	3	7192023	LEG PIN
17	2	9501507	SPLIT PIN
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19	2	0100110	FLAT WASHER
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23	4	7103230	POP RIVET
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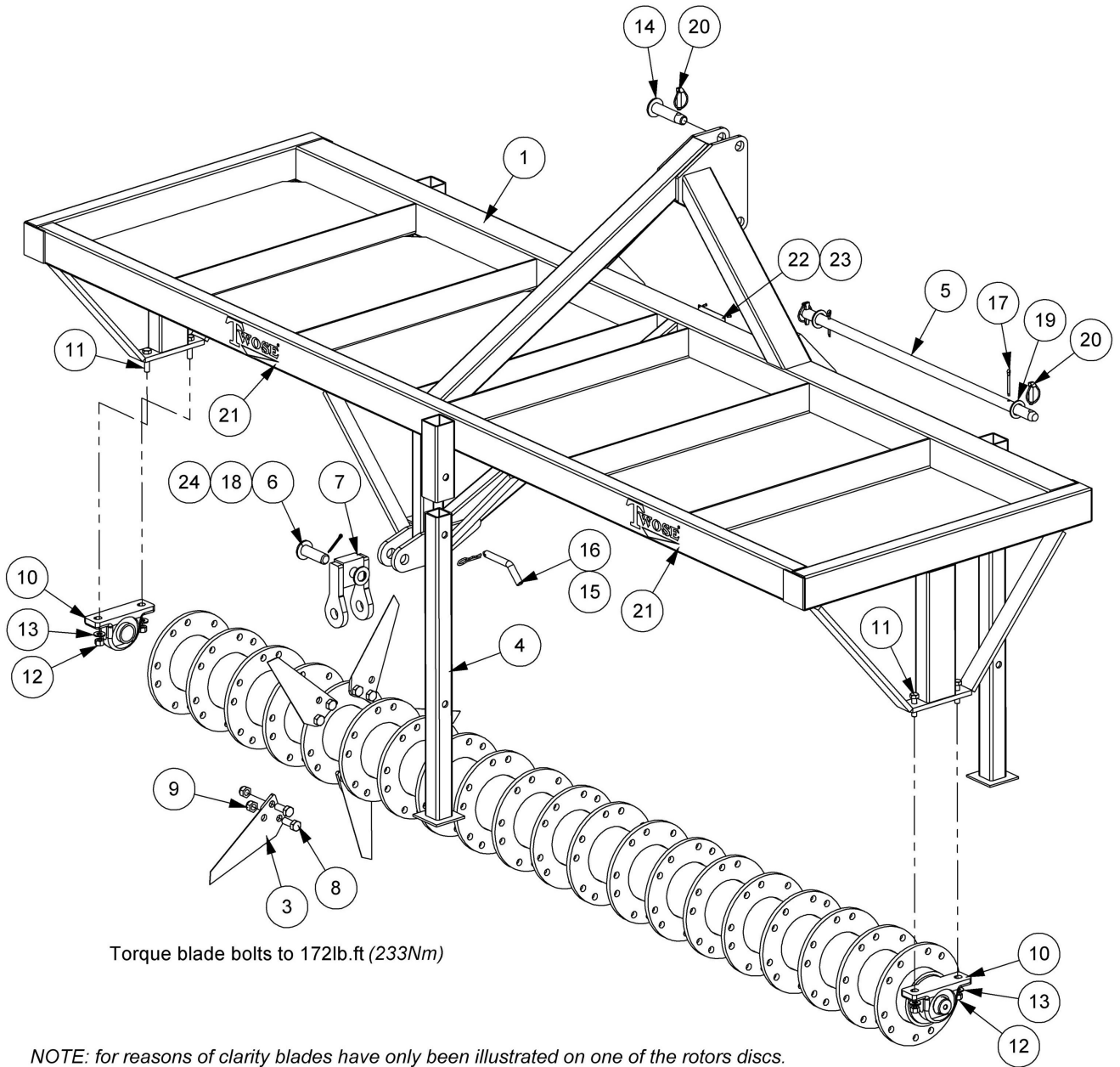
TA30E AERATOR – 3.0M / 42 BLADES



TA30E AERATOR – 3.0M / 42 BLADES

REF.	QTY.	PART No.	DESCRIPTION
		TA30E	3.0M AERATOR ASSEMBLY
1	1	1092260	MAINFRAME - 3.0m
2	1	1092271	ROTOR - 3.0M (14 DISC)
3	42	1900100	OUTFIELD BLADE
4	3	1092014	LEG
5	1	1092016	LINKAGE SHAFT (1000mm)
6	1	1092013	HITCH PIN
7	1	1092010	REAR HITCH
8	84	0211146	BOLT
9	84	0141006	CLEVELOC NUT
10	2	0600091	BLOCK BEARING
11	4	9213106	BOLT
12	4	9163006	CLEVELOC
13	4	9100106	FLAT WASHER
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15	3	0431105	SPRING COTTER
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18	1	9501406	SPLIT PIN
19	2	0100110	FLAT WASHER
20	3	0431217	LINCH PIN
21	2	200.007	DECAL - TWOSE
22	1	1335246	SERIAL No. PLATE
23	4	7103230	POP RIVET
24	1	0100109	FLAT WASHER

TA30S AERATOR – 3.0M / 100 BLADES



TA30S AERATOR – 3.0M / 100 BLADES

REF.	QTY.	PART No.	DESCRIPTION
		TA30S	3.0M AERATOR ASSEMBLY
1	1	1092260	MAINFRAME - 3.0m
2	1	1092261	ROTOR - 3.0M (20 DISC)
3	100	1900100	OUTFIELD BLADE
4	3	1092014	LEG
5	1	1092016	LINKAGE SHAFT (1000mm)
6	1	1092013	HITCH PIN
7	1	1092010	REAR HITCH
8	200	0211146	BOLT
9	200	0141006	CLEVELOC NUT
10	2	0600091	BLOCK BEARING
11	4	9213106	BOLT
12	4	9163006	CLEVELOC
13	4	9100106	FLAT WASHER
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15	3	0431105	SPRING COTTER
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McConnel Limited, Temeside Works, Ludlow, Shropshire SY8 1JL. England.
Telephone: 01584 873131. Facsimile: 01584 876463. www.mcconnel.com