



breviglieri

macchine agricole

b83



ZAPPATRICE ROTANTE FISSA



Manuale d'uso e manutenzione "Istruzioni Originali"

- Prima di iniziare ad operare, leggere attentamente le istruzioni per l'uso
- Conservare il presente manuale per futura consultazione



Operating and Maintenance Manual "Original Instructions"

- Read these operating instructions carefully before using the machine
- Keep this manual for future reference

Manuel d'utilisation et d'entretien "Instructions Originales"

- Avant de commencer le travail, lisez attentivement les consignes d'utilisation
- Conservez ce manuel pour référence future

Betriebs- und Wartungsanleitung "Originalbetriebsanleitung"

- Bevor Sie mit der Arbeit beginnen, lesen Sie diese Betriebsanleitungen aufmerksam durch
- Bewahren Sie dieses Handbuch zum Nachschlagen

Manual de empleo y mantenimiento "Instrucciones Originales"

- Antes de empezar a operar con la máquina, leer atentamente las instrucciones para el empleo
- Mantenga este manual como referencia futura

Questo manuale è valido dalla matricola - This manual is valid from serial number - Ce manuel est valable à partir du numéro de série - Diese Handbuch ist gültig ab Seriennummer - Este manual es válido a partir del número de serie 2011Z8000058

Codice documento - Document code - Code du document - Dokument
Ref. - Signatura del documento Z8000028

Revisione n°/in data - Review #/Date - Révision n°/Date - Überprüfung
Nr./am - Revisión No./fecha 01 / 30.11.2017

Copia della Dichiarazione CE di Conformità • Copy of the EC Declaration of Conformity • Copie de la déclaration de conformité CE • Das Kopie der EG-Konformitätserklärung • Copia de la declaración de conformidad CE



BREVIGLIERI S.P.A. via Labriola, 2 - 37054 Nogara (Verona) Italia



I - DICHIARAZIONE DI CONFORMITÀ «CE»

Il costruttore dichiara che la macchina è conforme ai requisiti di sicurezza e salute previsti dalle Direttive Europee 2006/42/CE, alle norme EN ISO 4254-1, EN ISO 12100 ed alle norme EN ISO 4254-5 (erpic, zappatrici, sarchiatrici), EN ISO 4254-12 (trinciatrici), EN ISO 4254-13 (falciatrici), EN 10408 (seminatrici).

BG - ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ «ЕО»

Производителят декларира, че машината отговаря на изискванията за безопасност и здраве, предвидени от европейска директива 2006/42/ЕО, EN ISO 4254-1, EN ISO 12100 и от стандарти EN ISO 4254-5 (Почвообработващи машини със задвижвани работни органи), EN ISO 4254-12 (Ротационни дискови и барабани косачки и раздробители), EN ISO 4254-13 (косачки), EN 10408 (сеялки).

CS - PROHLÁŠENÍ O SHODĚ «CE»

Výrobce prohlašuje, že stroj odpovídá všem příslušným požadavkům na bezpečnost a ochranu zdraví podle Směrnice 2006/42/ES, podle směrnice EN ISO 4254-1, EN ISO 12100 a směrnice EN ISO 4254-5 (kultivátory, brány, odplevelovače), EN ISO 4254-12 (drtiče), EN ISO 4254-13 (sekačky), EN 10408 (seči stroje).

HR – «EZ» IZJAVA O SUKLADNOSTI

Proizvođač izjavljuje da je stroj u skladu sa sigurnosnim i zdravstvenim zahtjevima koje predviđa europska direktiva 2006/42/EZ, s normama HRN EN ISO 4254-1, HRN EN ISO 12100 te s normama HRN EN ISO 4254-5 (pokretani strojevi i oruđa za obradu tla), HRN EN ISO 4254-12 (kružne vertikalne kosilice i sitnilice), EN ISO 4254-13 (rotacione kosilice), EN 10408 (sijačice).

DK - «EF»-OVERENSSTEMMELSESERKLÆRING

Producenten erklærer, at maskinen er i overensstemmelse med kravene til sikkerhed og sundhed i EF-direktiv 2006/42/EF, standarderne DS/EN ISO 4254-1, DS/EN ISO 12100 og standarderne DS/EN ISO 4254-5 (harver, hakkere, radnere), DS/EN ISO 4254-12 (snittere), DS/EN ISO 4254-13 (mejemaskiner), DS/EN ISO 11073-10408 (såmaskiner).

ET – «EÜ» VASTAVUSDEKLARATSIOON

Tootja deklareerib, et masin vastab tervisekaitse- ja ohutusnõuetele, mis on sätestatud Euroopa direktiivis 2006/42/EÜ, standardites EN ISO 4254-1, EN ISO 12100 ja standardites EN ISO 4254-5 (äkked, freeid, reasharimisasinad), EN ISO 4254-12 (vasartrumluga niidukhekseldid), EN ISO 4254-13 (niidukid), EN 10408 (seemnekülvikud).

FI – «EU»-VAATIMUSTENMUKAISUUSVAKUUTUS

Valmistaja vakuuttaa, että kone vastaa Euroopan parlamentin ja neuvoston direktiivin 2006/42/EU turvallisuu- ja terveysvaatimuksia sekä standardeja EN ISO 4254-1, EN ISO 12100 ja standardeja EN ISO 4254-5 (aurat, karhit, harat), EN ISO 4254-12 (silppurit), EN ISO 4254-13 (niittokoneet), EN 10408 (kylvökoneet).

F - DÉCLARATION "CE" DE CONFORMITÉ

Le constructeur déclare que la machine est conforme aux exigences essentielles de sécurité et de santé pour l'opérateur prévues par la directive européenne 2006/42/CE, ainsi qu'aux normes NF EN ISO 4254-1, NF EN ISO 12100 et aux normes NF EN ISO 4254-5 (herse, fraises rotatives, bineuses), NF EN ISO 4254-12 (broyeurs), NF EN ISO 4254-13 (tondeuses), NF EN 10408 (semoirs).

GR - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ «ΕΚ»

Ο κατασκευαστής δηλώνει ότι το μηχάνημα συμμορφώνεται με τις απαιτήσεις ασφάλειας και υγείας που προβλέπονται από την ευρωπαϊκή οδηγία 2006/42/ΕΚ, τα πρότυπα EN ISO 4254-1, EN ISO 12100 και τα πρότυπα EN ISO 4254-5 (σβάρνες, τόπαρες, σκαλιστήρια), EN ISO 4254-12 (τεμαχιστές), EN ISO 4254-13 (χαρτοκοπτικά μηχανήματα), EN 10408 (μηχανήματα σποράς).

EN - «EC» DECLARATION OF CONFORMITY

The manufacturer declares that the machine complies with the health and safety requirements laid down in European Directive 2006/42/EC, the standards EN ISO 4254-1, EN ISO 12100 and standards EN ISO 4254-5 (harrow, tillers, inter-row tillers), EN ISO 4254-12 (flail mowers), EN ISO 4254-13 (mowers), EN 10408 (seed drills).

GA - DEARBHÚ COMHRÉIREACHTA «CE»

Dearbhaíonn an déantúsaí go gcomhlíonnann an gléas leis na riachtanais sábháilteachta agus slándála mar a leagtar síos sa Treoir Eorpach 2006/42/CE, sna caighdeáin EN ISO 4254-1, EN ISO 12100 agus caighdeáin EN ISO 4254-5 (brácaí, saothróirí, saothróirí idirlinte), EN ISO 4254-12 (buainteoirí súisteacha), EN ISO 4254-13 (buainteoirí), EN 10408 (sioladóirí).

LV - «EK» ATBILSTĪBAS DEKLARĀCIJA

Ražotājs paziņo, ka mašina atbilst veselības un drošības prasībām, kas norādīti Eiropas direktīvā 2006/42/EK, EN ISO 4254-1 standartos, EN ISO 12100 standartos un EN ISO 4254-5 standartos (ecēšas, kultivators, starprindu kultivators), EN ISO 4254-12 (plaujmašīna), EN ISO 4254-13 (plējējī), EN 10408 (rindsejmašīna).

LT - «EB» ATITIKTIES DEKLARAVIMAS

Gamintojas patvirtina, kad mechanizmas atitinka sveikatos ir saugos reikalavimus, išdėstytus Europos Direktyvoje 2006/42/EB, standartuose EN ISO 4254-1, EN ISO 12100 ir standartuose EN ISO 4254-5 (akėčios, kultivatoriai, sukamieji kultivatoriai), EN ISO 4254-12 (šienapjovės smulkintuvai), EN ISO 4254-13 (šienapjovės), EN 10408 (sėjamosios).

MT - DIKJARAZZJONI TA' KONFORMITÀ «KE»

Il-manifattur jiddikjara li l-magna hi konformi mar-rekwiziti tas-sigurtà u s-saħħa previsti mid-Direttiva Ewropea 2006/42/KE, mal-istandards EN ISO 4254-1, EN ISO 12100 u mal-istandards EN ISO 4254-5 (harrows, mghażaġ, weeding machines), EN ISO 4254-12 (shredders), EN ISO 4254-13 (mowers), EN 10408 (seeders).

NL - «EG»-VERKLARING VAN OVEREENSTEMMING

De fabrikant verklaart dat de machine voldoet aan de vereisten inzake de veiligheid en de gezondheid voorzien door de Europese richtlijn 2006/42/EG, de normen NEN-EN-ISO 4254-1, NEN-EN-ISO 12100 en de normen NEN-EN-ISO 4254-5 (eggen, landbouwfrezen, schoffelmachines), NEN-EN-ISO 4254-12 (hakse-laars), NEN-EN-ISO 4254-13 (maaimachines), NEN-EN-ISO 10408 (zaaimachines).

PL - DEKLARACJA ZGODNOŚCI «WE»

Producent deklaruje, że maszyna spełnia wymogi bezpieczeństwa i zdrowia określone w Dyrektywie 2006/42/WE, w normach PN-EN ISO 4254-1, PN-EN ISO 12100 oraz w normach PN-EN ISO 4254-5 (brony, glebogryzarki, opielacze), PN-EN ISO 4254-12 (kosiarzki bijakowe), PN-EN ISO 4254-13 (kosiarzki), PN-EN 10408 (siewniki).

PT - DECLARAÇÃO DE CONFORMIDADE «CE»

O fabricante declara que a máquina está em conformidade com os requisitos de segurança e saúde previstos na Directiva Europeia 2006/42/CE, as normas EN ISO 4254-1, EN ISO 12100 e as normas EN ISO 4254-5 (grades, fresas, sachadores), EN ISO 4254-12 (tritadoras), EN ISO 4254-13 (gadanheiras), EN 10408 (semeadores).

RO - DECLARAȚIE DE CONFORMITATE «CE»

Producătorul declară faptul că utilajul respectă cerințele de sănătate și siguranță prevăzute în Directiva europeană 2006/42/CE, standardele EN ISO 4254-1, EN ISO 12100 și standardele EN ISO 4254-5 (grape, motocultivatore, motocultivatore între rânduri), EN ISO 4254-12 (secerători laterale), EN ISO 4254-13 (secerători), EN 10408 (seamnători).

SK - VYHLÁSENIE O ZHODE S PREDPISMI «ES»

Výrobca vyhlasuje, že stroj zodpovedá požiadavkám na zdravie a bezpečnosť uvedeným v Európskej smernici č. 2006/42/ES, normám EN ISO 4254-1, EN ISO 12100 a normám EN ISO 4254-5 (brány, kultivátory, medzíradičkové kultivátory), EN ISO 4254-12 (cepové žacie stroje), EN ISO 4254-13 (žacie stroje), EN 10408 (vysievacie riadkové stroje).

SI - «ES» IZJAVA O SKLADNOSTI

Proizvajalec izjavlja, da je stroj izdelan v skladu z zahtevami glede zdravja in varnosti, ki so navedene v evropski direktivi 2006/42/ES, standardih EN ISO 4254-1, EN ISO 12100 in standardih EN ISO 4254-5 (brane, kultivatorji, medvrstni kultivatorji), EN ISO 4254-12 (mulčerja), EN ISO 4254-13 (kosilnice), EN 10408 (sejalnice).

ES - DECLARACIÓN DE CONFORMIDAD «CE»

El constructor declara que la máquina cumple los requisitos de seguridad y salud según las Directivas Europeas 2006/42/CE, las normas EN ISO 4254-1, EN ISO 12100 y las normas EN ISO 4254-5 (gradas, binadoras, cultivadores), EN ISO 4254-12 (picadoras), EN ISO 4254-13 (segadoras), EN 10408 (sembradoras).

S - FÖRSÄKRAN OM ÖVERENSSTÄMMELSE MED «EG»-DIREKTIV

Tillverkaren försäkrar att maskinen är tillverkad i överensstämmelse med säkerhets- och hälsoföreskrifterna i Europadirektiv 2006/42/EG, enligt standard EN ISO 4254-1, EN ISO 12100, och enligt standard EN ISO 4254-5 (harvar, jordfräsar, rullharvar), EN ISO 4254-12 (fålhackar), EN ISO 4254-13 (slättermaskiner), EN 10408 (såningsmaskiner).

DE - «EG»-KONFORMITÄTSEKTLÄRUNG

Der Hersteller erklärt, dass die Maschine den Vorschriften zur Sicherheit und Gesundheit der EU-Maschinenrichtlinie 2006/42/EG, der Normen EN ISO 4254-1, EN ISO 12100 sowie der Normen EN ISO 4254-5 (Eggen, Bodenfräsen, Hackmaschinen), EN ISO 4254-12 (Kreiselmäherwerke und Schlegelmäher), EN ISO 4254-13 (Mähmaschinen) und EN 10408 (Sämaschinen) entspricht.

HU - «EK»-MEGFELELŐSÉGI NYILATKOZAT

A gyártó kijelenti, hogy a gép megfelel a 2006/42/EK irányelv egészségvédelmi és biztonsági követelményeinek, valamint az EN ISO 4254-1, EN ISO 12100 és EN ISO 4254-5 (boronák, kapálógépek, gyomlálógépek), továbbá az EN ISO 4254-12 (szárzúzó), EN ISO 4254-13 (kaszálógépek) és EN 10408 (vetőgépek) szabványoknak.

Tipologia:

Mod.:

Matr.:

Nogara:

Breviglieri Spa

Presidente e A.D.
Luciano Paola



CONGRATULATIONS

Dear Customer, thank you for the trust you have put in us by choosing one of the quality products of the **BREVIGLIERI** range. Upon receiving the machine, please check to see if there are any shipping damages or missing parts; also check the integrity of the machine and the accessories you purchased. Immediately report any defects to the manufacturer. Read and comply with the instructions in this manual before the initial startup; pay particular attention to the safety instructions. After carefully reading the manual, you can take full advantage of your new machine. Please make sure all machine operators read this manual before starting up the machine. If you have any questions or problems, please consult this manual or call the Service Center.



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1 OVERALL INFORMATION

1.1 INTRODUCTION

This manual contains all the information you need to know for proper use and normal maintenance of the **B83** (hereinafter also called “machine”), produced by **BREVIGLIERI S.P.A.** of Nogara (VR) Italy, hereinafter also called “manufacturing company”. The statements herein do not constitute a complete description of the various parts, nor a detailed ex position of their operation. However, the user will find al the information that is normally provided for the safe use and the proper keeping of the machine. Failure to observe the indications in this manual, operational negligence, incorrect use of the machine and the execution of unauthorized modifications, can be grounds for cancellation of the warranty given by the manufacturer to the machine. The manufacturer declines all responsibility for damages due to negligence and failure to comply with the instructions in this manual. For any repairs or revisions involving operations of a certain complexity, contact an authorized Service Center that has specialized staff or directly contact the manufacturer, who is at your complete disposal to provide prompt and accurate technical support and everything that can be useful for the operation and the maximum machine efficiency. This manual must be kept in a safe place to allow its preservation and consultation throughout the lifetime of the machine. In order to develop and upgrade this product, **BREVIGLIERI** reserve the right to make changes without notice. In case of dispute, the text of the instructions for use, to which reference will be made, shall be exclusively in Italian. Some of the images shown may differ from the machine in your possession: they are shown here only for illustration to explain the operations to be performed.

1.2 WARRANTY

The Manufacturer guarantees brand new products for a period of 12 (twelve) months from the date of delivery. When the machine is delivered, make sure that both it and the accessories are complete and in a perfect condition. Complaints should be presented in writing within 8 (eight) days from receipt of the machine. The warranty merely covers the repair or replacement, free of charge, of those parts which, after thorough examination by the Manufacturer, are recognized as being defective (with the exclusion of hoes). Expenses concerning replacement of lubricants, transport costs, customs duties and VAT remain at the purchaser’s charge in any case. Replacement or repair of parts under guarantee shall in no case extend the warranty terms. The Manufacturer will not accept returned goods without prior written authorization. The purchaser shall only be able to exercise his rights in relation to the warranty when he has complied with the conditions governing warranty performance, as indicated in the supply contract.

1.3 WARRANTY EXCLUSIONS

(Besides the circumstances indicated in the supply contract) the warranty becomes void:

- When the damage can be ascribed to insufficient maintenance.
- When, following repairs made by the user without the Manufacturer’s consent or owing to the installation of spurious spare parts, the machine has been subjected to changes and the damage is ascribable to these changes.
- When the machine has been hitched to tractors whose power rating exceeds the value given in the “2.6 Technical specifications” table in this manual.
- When the user has failed to comply with the instructions in this manual.

Damage deriving from negligence, carelessness, bad and improper use of the machine or incorrect manoeuvres by the operator are also excluded from the warranty. Removal of the safety devices with which the machine is equipped shall automatically void the warranty and relieve the Manufacturer from all relative liability. The warranty also becomes void if spurious spare parts are used.

Even when covered by the warranty, the machine must be returned Carriage Free.

1.4 MANUFACTURER AND AFTER-SALES SERVICE CONTACT INFORMATION

Breviglieri Spa
Via Labriola 2 - 37054 NOGARA (Verona) - ITALY
Tel. 0039 0442 537411 r.a. - Fax 0039 0442 537444
www.breviglieri.com - info@breviglieri.com

1.5 MANUAL UPDATE

The information, descriptions and figures contained in this Manual reflect the state of the art at the moment of the sale of the machine. The Manufacturer reserves the right to make changes, at any time, to the machine for technical or commercial reasons. These changes do not compel the Manufacturer neither to make changes to machines already sold until then nor to consider this present Manual inadequate. Any integrations that the Manufacturer will consider worthwhile will have to be kept along with the Manual and will be considered as part of it.

1.6 CE PLATE



FIG. 1

- A Machine model
- B Machine version
- C Serial number
- D Weight (in Kg)
- E Year of manufacture

1.7 HOW TO READ THE MANUAL

The Manual has been divided into single chapters, each one is addressed to one of more types of operators (SKILLED STAFF OR OPERATOR) whose necessary skills for operating the machine safety have been defined. The sequence of the chapters meets the temporal logic of the life of the machine.

To make the text easier to understand, the meanings of the words, abbreviations and pictographs used in this Manual are indicated in the consecutive chapters.

In the Manual, in chapter 2 there is a paragraph called “General safety warnings”. These warnings refer to the machine in general, during its life and its running.

At the start of each chapter you will find the paragraph “Safety warnings”. These warnings are addressed to the operator to protect themselves when performing the operations described in the paragraph itself. You might also find find, inside the paragraph, safety warnings addressed to the operator for protecting themselves when performing the operations described in the paragraph itself. Always read the safety warnings at the beginning of the chapter before performing any operation described in a paragraph.

1.8 DECALS USED IN THE MANUAL



DANGER

Serious or fatal injuries.



WARNING

Possible serious or fatal injuries.



CAUTION

Possible slight or negligible injuries or damages to the machine.



NOTE

USEFUL INFORMATION.



SKILLED STAFF

Manufacturer or After Sales service centre's staff.



OPERATOR

User of the machine.



ALWAYS WEAR GLOVES TO PROTECT YOUR HANDS



ALWAYS WEAR GOGGLES TO PROTECT YOUR EYESIGHT



ALWAYS WEAR PROTECTIVE CLOTHING TO PROTECT YOUR BODY



ALWAYS WEAR A HELMET



ALWAYS WEAR EAR PROTECTORS TO PROTECT YOUR HEARING



ALWAYS WEAR SAFETY BOOTS



ALWAYS WEAR A MASK TO PROTECT YOUR FACE

1.9 GLOSSARY

Term/icon	Meaning
PTO	power take-off (PDF)
DPI	Personal protective equipment
STD	Standard equipment
OPT	Optional equipment
in.	Working depth
	PTO rpm

2 GENERAL WARNINGS AND DESCRIPTION OF THE MACHINE

2.1 GENERAL SAFETY WARNINGS



DANGER

Read the instructions carefully before using the machine.

The Manufacturer declines all and any liability for not complying with the safety and prevention instructions provided for in this Manual.

It is recommended not to operate on the machine with procedures, operators or qualifications different from the ones indicated in this Manual.

Never deactivate or alter in any way the safety components on the machine. Doing so will automatically make the warranty void.

In case of malfunction of a safety component, contact the After Sales centre immediately to order the spare part.

Always put the machine in a safety position before carrying out the handling, installation and maintenance phases (See “6.2 Machine in safety position”).

Pay attention to the clothing worn by anyone operating the machine. Do not wear loose or flapping garments that could become caught up in moving parts. Avoid wearing big rings or bracelets that could make your hands caught up in the machine parts.

i NOTE

KEEP THIS INSTRUCTION MANUAL FOR ANY FUTURE CONSULTATION

IN CASE OF THE SALE OF THE MACHINE TO A THIRD PARTY, THIS INSTRUCTION MANUAL MUST BE GIVEN IN INTACT AND LEGIBLE.

2.2 DESCRIPTION

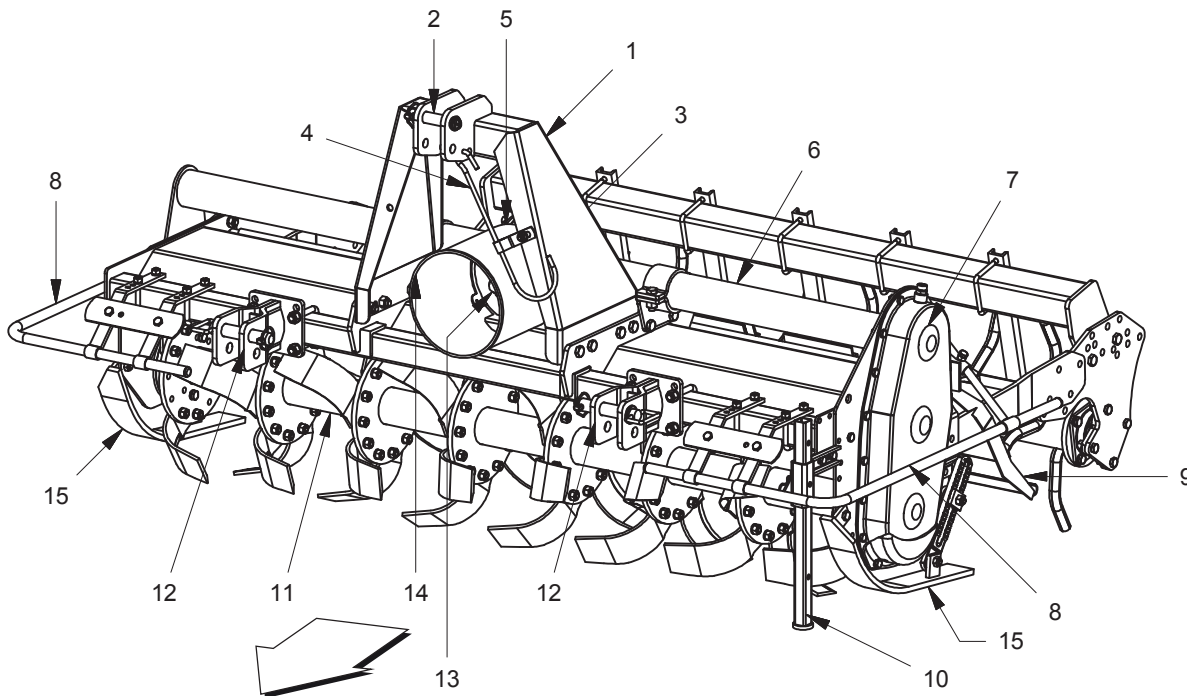


FIG. 2

1. Three-point hitch linkage
2. Upper 3-point hitch
3. Machine lifting point
4. Driveline support
5. Gearbox/final drive unit
6. Transmission shaft
7. Side transmission unit
8. Safety guards
9. Hood
10. Bearing stand
11. Hoed rotor
12. Lower 3-point hitch
13. Power take-off
14. Driveline shield
15. Work depth adjuster skid

2.3 OPERATING PRINCIPLE

The **B83** rotary tiller comprises of a metal framework housing the central hitch with three-point linkage (1, Fig. 2), a hoed rotor installed in the lower part (11, Fig. 2) driven by gears situated in the side housing (7, Fig. 2). The machine only operates when hitched to a tractor with an adequate power rating (consult "2.6 Technical specifications" for the specific power). The implement is driven by the tractor via a driveline (with CE marking) which meshes with the gearbox/final drive unit in a central position (5, Fig. 2), and is subsequently transmitted by a drive shaft.

2.4 ACCESSORIES

2.4.1 STANDARD (STD)

- PTO shaft.
- Depth control by adjustable side skids.
- Rear hood adjustment by spring.
- 3 point hitch CAT I - II.
- Steel tube rotor:
shaft Ø3.5".

Gearbox:

Single speed

- “C” hoes.
- Rotor hoes turned inward.
- Rotor with 6 hoes for flange.
- Side transmission by gears.
- Front shifting hitches.

2.4.2 OPTIONAL (OPT)

- Spiked roller

It can be used on damp, clay soils and in difficult working situations. It does not compact the soil but levels it at the rear of the machine.

- Cage roller

This is used for soil of medium consistency and when the degree of humidity is low. It prepares the soil for seeding but does not compact the surface.

A	B	540 rpm	Cod.
27	43	298	8066461
33	36	435	8066463
23	46	238	8066460

- Roller adjustment system
- Mechanical rams
- “L” hoes
- Flange reinforcement
- Multi speed gearbox
- Pair of front wheels

2.5 DECALS APPLIED ONTO THE MACHINE

The machine has been designed and built in compliance with all possible safety standards able to safeguard those who work with it. Despite this, there may still be residue hazards which are signalled on the machine by decals. These decals (pictograms) are affixed to the machine and indicate the various situations of insecurity and danger in a brief form.



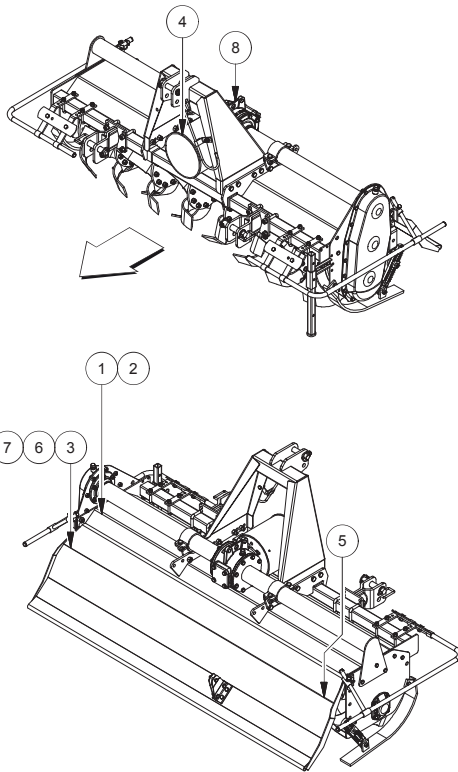
DANGER

Keep the decals clean. Replace the decals if there are damaged or detached.

Pos	Decal	Meaning of decal
1		Carefully read the instruction manual before beginning work. cod. 9364670
2		Before proceeding with maintenance operations, stop the machine, lower it to the ground and consult the instruction manual. cod. 9364671
3		Danger of upper limbs being cut off. Do not remove the guards and keep well away from moving parts. cod. 9364662
4		Danger of being caught up by the driveline. It is absolutely forbidden to get near the driveline when it is operating. cod. 9364672
5		Danger of falling. It is absolutely forbidden to climb on to the machine. cod.9364673
6		Danger of lower limbs being cut off. Keep at a safety distance from the machine when it operates. cod. 9364675



Pos	Decal	Meaning of decal
7		Danger of sharp objects thrown up by the machine could represent a danger hazard. Keep at a safety distance. cod. 9364674
8		Hitching points to lift the machine. cod. 9364668
/		Lubricating point cod. Z1700002

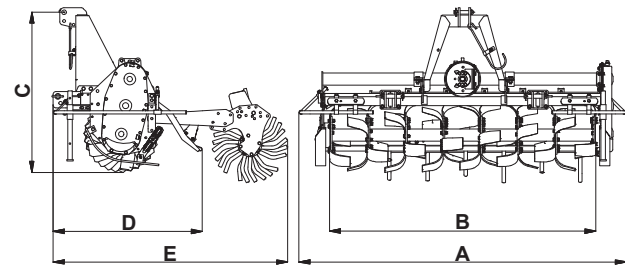
**FIG. 3** Position of the decals

2.6 TECHNICAL SPECIFICATIONS

Version	Tractor		Hoes x6	
	Kw	HP		
155	37-66	50-90	42	4-8
180	37-66	50-90	48	4-8
205	33-66	60-90	54	4-8
230	51-66	70-90	60	4-8

- PTO shaft: 1" 3/8 Z6
- CAT I (155) - II (180-230) three point hitch.

2.7 OVERALL DIMENSIONS

**FIG. 4**

	A	B	C	D	E
Version	inch	inch	inch	inch	inch
155	69	63	47	36	64
180	80	74	47	36	64
205	88	82	47	36	64
230	96	91	47	36	64

2.8 NOISE LEVEL

- Acoustic pressure LpAm (A): dB 83,6
- Acoustic power LwA (A): dB 98,5

**CAUTION**

Danger of loud noise when operating the machine.



ALWAYS WEAR EAR PROTECTORS TO PROTECT YOUR HEARING

2.9 VIBRATIONS

During its normal working, the machine does not transmit significant vibrations to the tractor and therefore to the operator. These vibrations are less than 8,2 ft/s² for the operator's upper limbs and less than 1,6 ft/s² for the sitting part of the operator's body.

3 TRANSPORT AND HANDLING

3.1 SAFETY WARNINGS

**NOTE**

READING THIS CHAPTER IMPLIES THAT, FOR A SAFE USE OF THE MACHINE, WHAT IS CONTAINED IN THE PARAGRAPH "2.1 GENERAL SAFETY WARNINGS" HAS BEEN FULLY UNDERSTOOD.

**DANGER**

Never allow access to unauthorised and/or unqualified staff in the area of handling and packaging of the machine.

The handling and packaging phases of the machine must be carried out by staff specialised in operating cranes and forklift trucks.

CAUTION

Always use CE lifting equipment (straps, cranes, forklift trucks..) for handling the machine and the packaging.

The lifting equipment for the machine or the packaging must have a capacity higher than the load weight.



ALWAYS WEAR GLOVES TO PROTECT YOUR HANDS



ALWAYS WEAR PROTECTIVE CLOTHING TO PROTECT YOUR BODY



ALWAYS WEAR SAFETY BOOTS

3.2 HANDLING

3.2.1 HANDLING OF THE MACHINE



ALWAYS WEAR A HELMET

Version	Weight		Hoisting equipment
	Kg	lb	
155	470	1036	crane/lifting chains
180	520	1146	crane/lifting chains
205	550	1213	crane/lifting chains
230	590	1301	crane/lifting chains

The weights refers to the machine with hood.

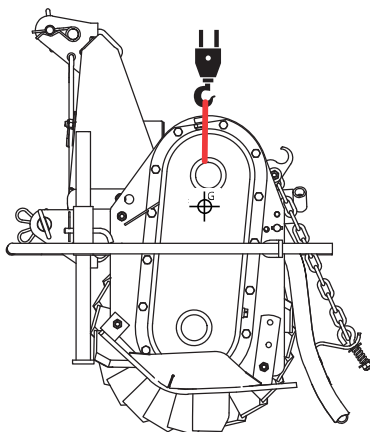


FIG. 5 Handling machine

Make sure that the zone in which the operations take place is uncluttered and that there is a sufficient «escape route», i.e. a clear and safe zone to which the operators can quickly

move if the load should fall.

CAUTION

Beware of the sharp edges as they can damage the lifting chains.

When handling, loads must not be hoisted no more than 8 inches from the ground

Lift the machine with the utmost care and move it slowly without jolting on to the truck or railway car. The surface on to which the machine is to be loaded must be perfectly horizontal, to prevent the load from shifting.

3.2.2 HANDLING ACCESSORIES



ALWAYS WEAR A HELMET

Accessories with a weight less than 44 lbs can be handled by a single operator.

The rollers must be handled with a crane and lifting straps ("Fig. 6"). Fix two hoisting shackles, one on each side. Insert the shackle pin in the hole of the roller holder plate ("Fig. 6"). Hitch the lifting straps.

Lift the roller of few centimetres. Check the roller balance

CAUTION

Crash risk. The roller is fitted on freely rotating supports. Connect a strap to the centre of the roller.

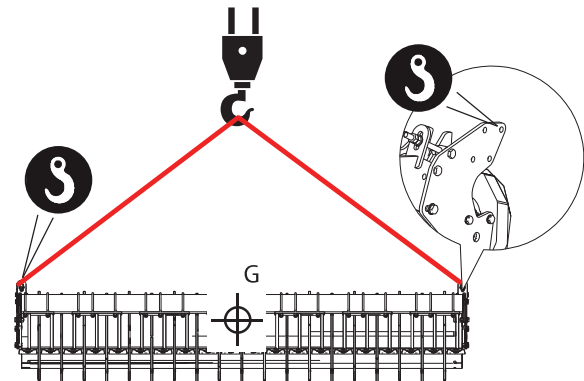


FIG. 6


Spiked roller

Version	Ø 477 Øi 101,6	
	Kg	lb
155	550	1213
180	610	1345
205	650	1433
230	700	1543

Weights refer to the machine with roller.

Cage roller



	Ø 405	
Version	Kg	lb
155	570	1257
180	615	1356
205	660	1455
230	710	1565

Weights refer to the machine with roller.

3.3 TRANSPORT OF PACKAGING

CAUTION

Never dispose of the packaging waste in the environment. The disposal of waste must be in compliance with the regulations in force in the country where the machine is installed.

The machine can be delivered wrapped in a plastic film.

NOTE

UPON DELIVERY, CHECK (VISUALLY WITH THE CARRIER) THE PERFECT CONDITION OF THE PACKAGING. FURNISH PROOF AND REPORT ANY FOUND ANOMALIES TO THE MANUFACTURER.

If the machine must be transported over a long distance, it can be loaded on a truck or railway car. Once the machine has been moved on to the truck or wagon, make sure that it remains blocked in position. Fix the machine firmly to the surface on which it rests. After transport and before freeing the machine check the solidity of the packaging and the position of the machine. Remove the fastening systems of the load. Unload the machine following the handling operations.

3.4 STORAGE

Storing wrapped machines must be done in places protected from bad weather and sun. Storage time must be limited to the strict minimum; for machine wrapped in plastic film the storage time is 12 months whereas the ones protected with a plastic sheet, storage time must be limited to the minimum (EU or neighbouring countries). For further information regarding storage time and methods contact the Manufacturer After-Sales service. The Manufacturer does not guarantee the condition of the content for periods of time longer than the recommended ones.

4 INSTALLATION

4.1 SAFETY WARNINGS

NOTE

READING THIS CHAPTER IMPLIES THAT, FOR A SAFE USE OF THE MACHINE, WHAT IS CONTAINED IN THE PARAGRAPH "2.1

GENERAL SAFETY WARNINGS" HAS BEEN FULLY UNDERSTOOD.

READING THIS CHAPTER IMPLIES THAT, FOR A SAFE USE OF THE MACHINE, WHAT IS CONTAINED IN PARAGRAPH "3 TRANSPORT AND HANDLING" HAS BEEN FULLY UNDERSTOOD.

DANGER

For transport needs, the safety guards may have been removed from the machine. Upon delivery of the machine the user will have to proceed with their proper fitting tightening properly the fastening elements.

Never use the machine without any of the guards provided for and delivered.



ALWAYS WEAR GLOVES TO PROTECT YOUR HANDS



ALWAYS WEAR PROTECTIVE CLOTHING TO PROTECT YOUR BODY



ALWAYS WEAR SAFETY BOOTS

4.2 ASSEMBLING THE MACHINE

The machine could be delivered disassembled. The third point (1, Fig. 2), the rear hood (9), the safety guards (8), the hood adjusters(6), are not fitted onto the machine when delivered.

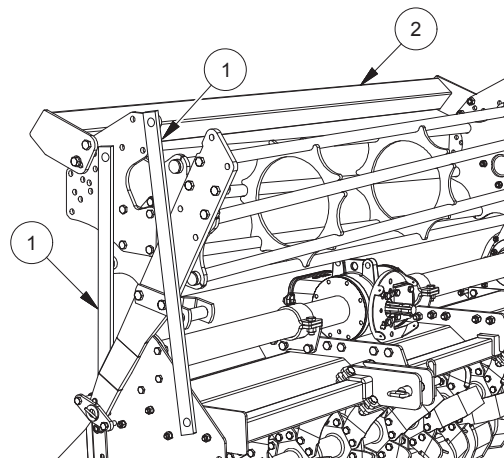


FIG. 7

Before fitting the roller to the machine, do as follows:

- Secure the roller with the appropriate hoisting straps having a minimum capacity equal to the roller weight (for weights, see paragraph "3.2.2 Handling accessories").
- Pull the hoisting straps.
- If the roller is secured to a transport support, remove it.
- Impede the rotation of the scraper holder bar (1, "Fig. 8").
- Place the roller on the ground with the support plates (2, "Fig. 8") set in the assembly direction.
- Sustain the roller holder bar (3, Fig. 8) with proper sup-

ports to prepare the fitting of the roller

- Loosen the screws fixing the clamps (1, “Fig. 7”).

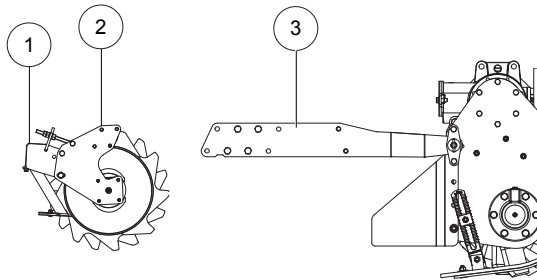


FIG. 8

- Fit the roller unit. Loosen the screws (8, “Fig. 9”) of the roller supports to the arm (4).

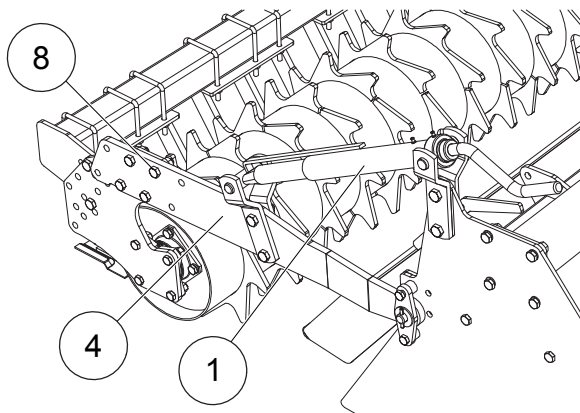


FIG. 9

- Mount the roller adjustment jacks (1, Fig. 9).

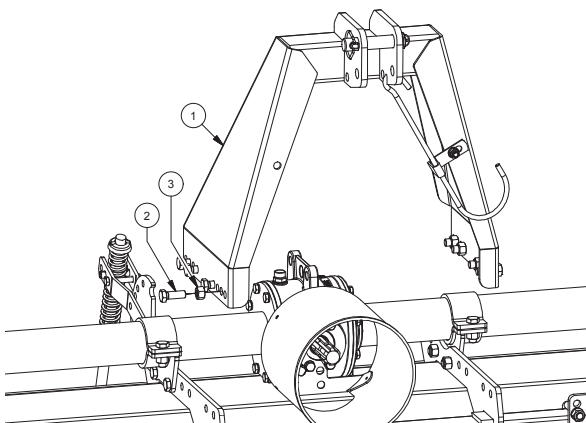


FIG. 10

- Fit the third point (1, Fig. 10), insert it inside between the frame supports; tighten bolts (2) and nuts (3) at the recommended torque (see table “Bolt driving torque (Nm)” on page 45)

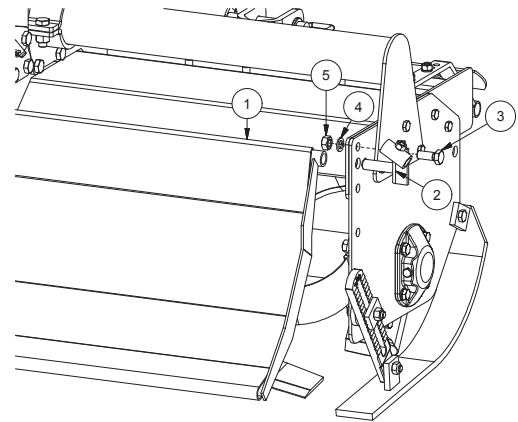


FIG. 11

- Fit read hood (1, Fig. 11): place it between the frame sides; insert the supports (2) through the hood and both the sides; stop the supports with screw (3), washer (4) and nut (5).

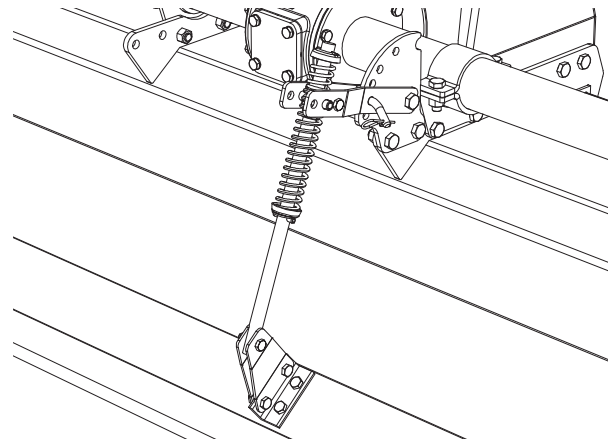


FIG. 12

- Fit hood adjuster (Fig. 12)

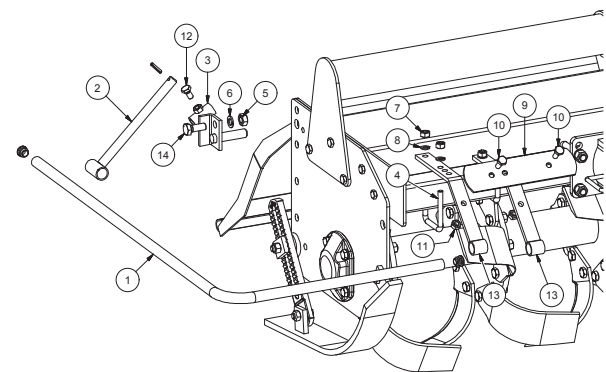


FIG. 13

- Fit safety guards on both sides of the machine:
 1. Fit rear support (3, Fig. 13) with screw (14), nut (5) and washer (6).
 2. Insert the support (2) securing it into position with the bolt (12).
 3. Insert the longest side of the guard (1) into the rear sup-

- port (2) and insert the front supports (13) into the guard (1).
4. Fit front supports onto the front tube of the machine by means of U-bolts (4), nuts (7) and washers (8).
5. No tightening at this stage.
6. Fit the plate (9) onto the front supports (13) by means of bolts (10) and nuts (11). No tightening at this stage.
7. Drag the front supports (13) onto the tube, positioning the outer U-bolt (4) at 50mm from the side of the machine.
8. Tighten nuts (7).
9. Tighten bolts (10).

DANGER

Never use the machine without any of the guards provided for and delivered.

NOTE

REFER TO RECOMMENDED TORQUE AS PER TABLE "BOLT DRIVING TORQUE (NM)" ON PAGE 45

4.2.1 FITTING OPTIONAL ROLLERS (OPT)

To fit optional rollers proceed as described in paragraph "4.2 Assembling the machine".

4.2.2 FITTING FRONT WHEELS (OPT)

Fit the support (1, "Fig. 14") onto the front bar; secure the wheels as externally as possible so as to make them hold the machine assuring a proper transversal stability.

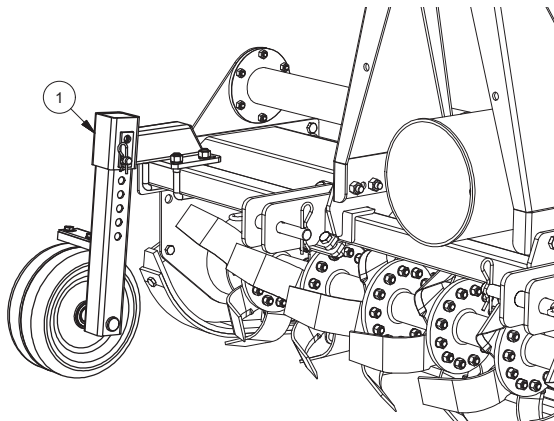


FIG. 14

DANGER

Before starting the machine check that the rotor rotation does not interfere with the wheels: follow instructions as per chapter "6.2 Machine in safety position", then rotate the rotor by hand for at least a complete turn and check that it is free to rotate.

NOTE

REFER TO RECOMMENDED TORQUE AS PER TABLE "BOLT DRIVING TORQUE (NM)" ON PAGE 45

5 OPERATING

5.1 SAFETY WARNINGS

NOTE

READING THIS CHAPTER IMPLIES THAT, FOR A SAFE USE OF THE MACHINE, WHAT IS CONTAINED IN THE PARAGRAPH HAS BEEN FULLY UNDERSTOOD "2.1 GENERAL SAFETY WARNINGS".

DANGER

Before operating the machine always check all the connections and check that there are no operators in the working area. Also make sure that the guards are correctly positioned.

Never touch hoses and moving parts.

CAUTION

Before beginning work, make sure that the machine is in order, that the lubricating oils are at the right level and that all parts subject to wear and deterioration are fully efficient.



ALWAYS WEAR GLOVES TO PROTECT YOUR HANDS



ALWAYS WEAR SAFETY BOOTS

5.2 RECOMMENDED USE

The machine **B83**, rotary tiller is solely designed for use in agriculture in order to prepare, work and break up the soil. The machine has been designed for being used by a single operator. During work the operator must be driving the tractor. The machine can work on soils with small stones.

NOTE

ANY OTHER USE OF THE MACHINE DIFFERING FROM THE EXPLANATIONS GIVEN IN THIS MANUAL RELIEVES FOR MANUFACTURER FROM ALL AND EVERY LIABILITY FOR DERIVING DAMAGE TO PERSONS, ANIMALS OR PROPERTY.

THE MANUFACTURER IS NOT LIABLE FOR DAMAGES RESULTING FOR THE USE OF THE MACHINE IN DIFFERENT WAYS FROM THE RECOMMENDED ONES.

ONLY USE THE MACHINE WITH ORIGINAL ACCESSORIES OR AUTHORISED BY THE MANUFACTURER.

5.3 PREDICTABLE IMPROPER USE

CAUTION

It is absolutely forbidden to operate the tractor or have it operated, with the machine hitched, by persons who are not in possession of an adequate driving license, by inexperienced persons or by those whose psycho-physical

conditions of health are not good

Never use parts of the machine as a ladder to climb up.
Never use the control levers or flexible tubes as grips.

Never remove the safety guards when the machine is working, for no reason whatsoever.

Beware of breakage of the hoes. Never operate on soils with large stones.

It is absolutely forbidden to transport things, persons or animals on the machine.

5.4 RESIDUAL RISKS AND DANGEROUS ZONES



DANGER

Danger of being crushed. Zone between machine, tractor and three-point hitch, during the phases of hitching, unhitching, use of the machine and machine stop with the tractor engine on.

Danger of being crushed. Zone between the machine and the ground surface when lowering the machine for work, parking and routine maintenance.

Danger of objects thrown. When operating some objects or stones could be thrown from the rear side of the machine. Keep the machine at a 50 yards distance from passers-by, roads, paths, inhabited areas etc...

Danger of tilting over. Never park or stop on sloping ground.

Danger of being burnt. As a secondary effect, lengthy use of the machine can cause the gearbox and of some parts of the hydraulic circuit to heat. Never touch these hot parts during or immediately after use.

Read carefully the instructions manual of the PTO shaft attached to the PTO shaft itself. If there is any doubt regarding its working, if it is without any guards and is worn or broken, replace it with a new PTO shaft marked «CE» having the same specifications.

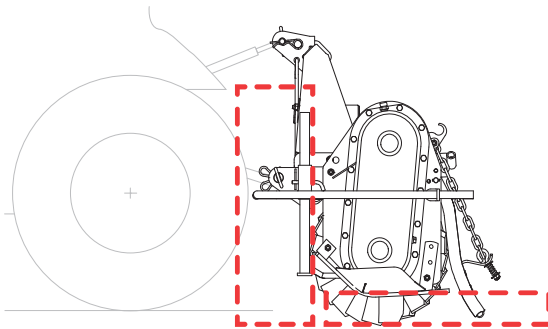


FIG. 15

5.5 DESCRIPTION OF THE SAFETY DEVICES

- Guards on the PTO shaft tractor side (1, "Fig. 16") and machine side (2) including the restraining chains.



FIG. 16

- PTO guard tractor side (2, "Fig. 17").
- Protective tubes against access to the hoes area (1, "Fig. 17").
- Driveshaft Protections (3, "Fig. 17")

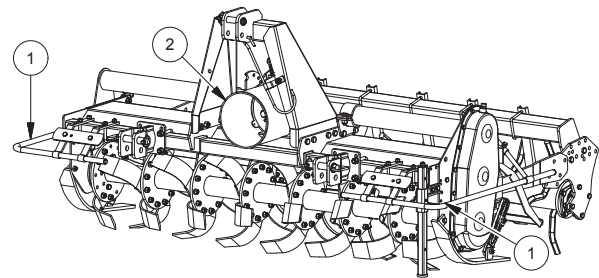


FIG. 17

5.6 OPERATING

5.6.1 HITCHING THE MACHINE TO THE TRACTOR



DANGER

Danger of being crushed. Keep hands and feet away from the hoes and the machine.



CAUTION

The hitching and unhitching operations of the machine from the tractor must be carried out on stable and horizontal ground.

During the hitching and unhitching operations, never stand between the machine and the tractor.



CAUTION

Hitching a machine to a tractor means a different distribution of weights on the axis. Check the stability of

the machine-tractor assembly. Observe the maximum indicated weight on the tractor axles.

Hitch the machine to a tractor with appropriate HP.

Before hitching or unhitching the machine from the three-point hitch, lock the control lever of the power-lift.

The class of the machine's coupling pins must correspond to that of the power lift hitch.

- Make sure that there are no objects, bystanders and/or animals in the immediate vicinity of the machine and that the PTO is disengaged.
- Back up the tractor towards the machine. Drive the tractor near to the implement with caution and adapt the height of the lift links to the height of the hitching pins.
- Turn off the tractor and put the parking brake on.
- Move the power-lift bars to the lower hitches ("Fig. 18"). Insert the attachment pins (1). Fasten the pins with the trigger pins (2) part of standard equipment.

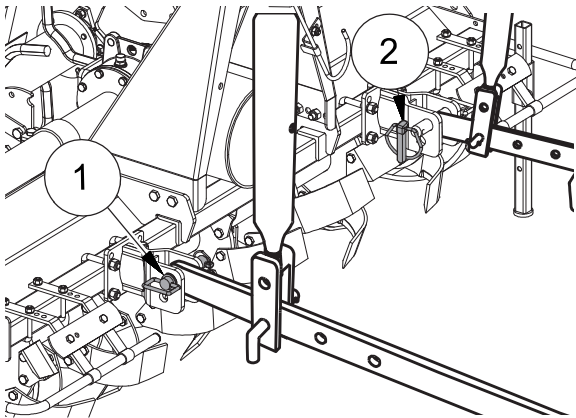


FIG. 18

- Move the tie-rod of the power-lift to the three-point hitch ("Fig. 19"). Set the tie rod so that the machine stays on the ground. Insert the attachment pin (1). Lock the pin with the trigger split pin (2), part of standard equipment.

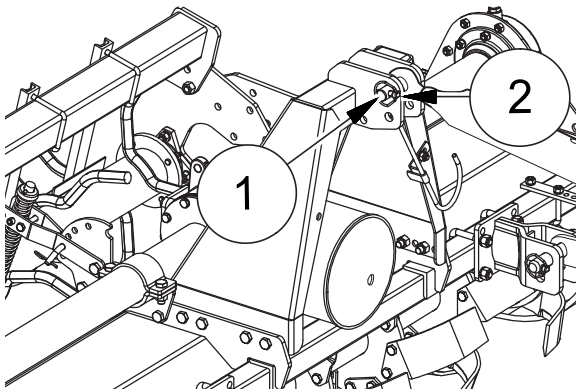


FIG. 19

- Lock the power lift bars with the relative chains and parallel idlers on the tractor. This must be done to prevent the machine from swinging sideways
- Start the tractor. Start lifting the machine from the

ground. Turn off the tractor. Remove the keys from the dashboard.

- Set the arms of the tractor power-lift so that the machine is levelled. The hoes have to be at the same distance from the ground on both sides of the machine.

5.6.2 FITTING OF MAIN PTO SHAFT (TRACTOR SIDE)

DANGER

Installing and uninstalling the PTO shaft must always be done when the tractor is off.

CAUTION

When hitched to the tractor, the machine can only be operated with the driveline complete with shields fixed by their chains. Keep well away from the spinning driveline.

Prevent the shields from turning by means of the relative chains and always read the operation and maintenance manual supplied with the driveline

Only used a PTO shaft marked «CE», equipped with guards and locking chains.

- Fit the driveline into the machine's power take-off and make sure that it is perfectly locked in the correct position.
- Fit the driveline into the tractor's power take-off and make sure that it is perfectly locked in the correct position. Make sure that the shield is free to turn.
- Fasten the shield with the relative chain. Remove the support from the driveline (4 Fig. 1) and fix it on the relative hook.
- Lift and lower the machine to check if the length of the PTO shaft is correct.

NOTE

IF THE PTO SHAFT IS TOO LONG YOU CAN SHORTEN IT FOLLOWING THE INSTRUCTIONS GIVEN IN THE INSTRUCTION MANUAL OF THE PTO SHAFT.

IF YOU LOSE THE PTO SHAFT INSTRUCTION MANUAL, CONTACT THE PTO SHAFT MANUFACTURER OR **BREVIGLIERI** AFTER-SALES SERVICE.

5.6.3 CIRCULATE ON THE PUBLIC ROADS

NOTE

COMPLY WITH THE HIGHWAY CODE REGULATIONS IN FORCE IN YOUR COUNTRY WHEN TRAVELLING ON PUBLIC ROADS.

CONSULT "2.7 OVERALL DIMENSIONS" FOR THE WEIGHT AND DIMENSIONS. THIS WILL ALLOW YOU TO MAKE SURE THAT THE MACHINE CAN PASS THROUGH TUNNELS OR LOW CONSTRUCTIONS WITHOUT DIFFICULTY.

**CAUTION**

When required by road regulations, on-road transport must be carried out with reflex reflectors, flashing lights, slow vehicle and protruding load signals. Put these signals on the rear side of machine in a well visible manner. When transporting at night or with poor visibility install warning and side marker lights.

It is absolutely forbidden to transport persons or animals on the machine.

When driving round bends with and without the machine, take care of the centrifugal force exercised when the center of gravity is in a different position.

Set the control lever of the tractor's hydraulic lifting control in the locked position when driving on the roads with the machine raised.

When transporting the machine disengage PTO and disconnect the PTO shaft from the tractor.

The machine must be raised at least 16 inches from the ground for road transport.

Ensure that the tractor-machine assembly is stable.

The following expressions must be observed to ensure that the tractor-machine assembly is stable:

$$M \times s \leq 0,2T \times i + Z \times (d+i)$$

$$M \leq 0,3T \text{ (prudential value)}$$

$$Z \geq \{[(M \times s) - (0,2T \times i)] / (d+i)\} \text{ (for calculating the ballast)}$$

where:

i = tractor's wheelbase

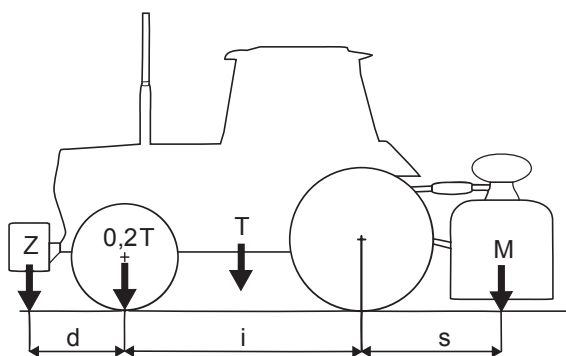
d = horizontal distance between the center of gravity of the front ballast and the tractor's front axle

s = horizontal distance between the center of gravity of the machine and the tractor's rear axle

T = weight of the tractor in running order

Z = ballast weight

M = weight of the machine

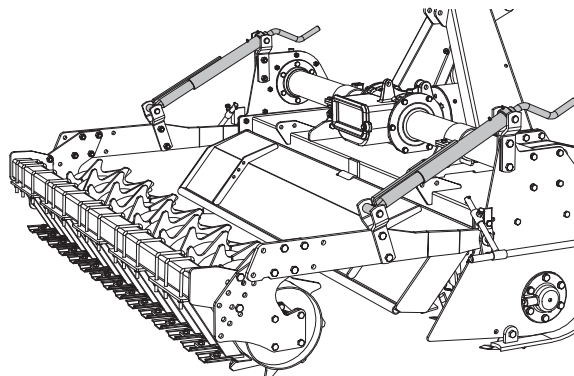
**FIG. 20****5.6.4 SETTING WORKING DEPTH****DANGER**

Park the machine on a horizontal and stable surface. Disconnect PTO. Turn off the tractor. Put the parking brake on.

The adjustment of the machine working depth depends on the position of the rear roller and/or by the position of the side skids.

Roller setting with screw jacks

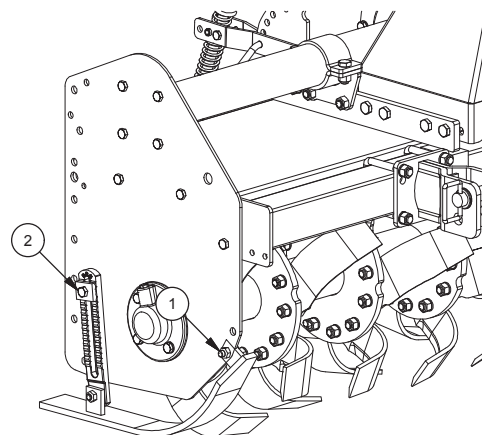
This solution ("Fig. 21") is carried out with two screw jacks. When the roller is raised, working depth increases. When the roller is lowered, working depth decreases

**FIG. 21****NOTE**

IF THERE ARE SIDE SKIDS ADJUST THEM AS DESCRIBED BELOW IN FIG. 22

Side skids adjustment

Loosen nuts (1, Fig. 22), act upon the rear regulator by loosening the nut (2). Withdraw downwards to reduce the working depth; Insert upwards to increase the working depth. Tighten nuts (1 and 2, Fig. 22).

**FIG. 22****5.6.5 STARTING WORK****DANGER**

Before starting the machine, make sure that the safety devices are in perfect condition.

Never start the machine if there is a suspected mechanical failure. Contact the technical assistance centre.

Before starting work, get familiar with the control devices and their functions.



Check the working area so as to be confident with the soil and check for any possible excessive slopes. Make sure that there are no objects in the area that could be picked up and thrown at a distance. Clear the area of these objects. Check constantly that there are no people, children or pets in the working range of the machine.

Check the rpm rate before engaging the power take-off. Do not switch the 540 rpm rate with the 1000 rpm one.

It is absolutely forbidden to linger within the range of action of the machine when this is operating.

It is absolutely forbidden to get between the tractor and machine while the engine is running and the driveline engaged.

Never engage PTO when the tractor engine is off. Danger of sudden movements when restarting the tractor.

The operator must never leave the driver's seat when the tractor engine is on and/or the machine is running.

Disengage PTO when the machine is not used.

Lower the machine to bring the hoes close to the ground, without touching it. Engage PTO. Lower the machine gradually and bring it into working position. The tractor power-lift must be completely lowered.

Begin work with the PTO at full rate. Gradually dig the implement into the ground. Do not depress the accelerator pedal too much with the PTO engaged. To break up the soil to the required degree, you must consider several factors, i.e.:

- the nature of the soil (medium consistency, sandy, clayey, etc.)
- the work depth
- the ground speed of the tractor
- optimum machine adjustment

Soil crumbling is obtained at a low tractor ground speed, with the rear hood lowered and the hoes spinning at 200-300 rpm. Besides holding back the clods already broken up by the hoes, the rear hood also obtains a well levelled and uniform surface after the soil has been worked. Adjust the roller or the skids to suit the degree to which the soil must be crumbled, engage the PTO and begin to move forward with the tractor, progressively lowering the implement. Cover a short distance, then check to make sure that the work depth, soil crumbling and ground levelling operations have been carried out in the required way.

**CAUTION**

The speed of the tractor when the machine is operation must not exceed 1÷2.5 mph or components could be broken or damaged.

Always disengage PTO when lifting the machine to prevent the PTO shaft working at a too big angle (see PTO shaft instruction manual).

Lift the machine from the ground when working in curve or in reverse.

5.6.6 REGULATION OF REAR HOOD

**DANGER**

Never adjust the rear hood when the machine is in movement or when the rotor is rotating.

**DANGER**

Park the machine on a horizontal and stable surface. Disengage PTO. Turn the tractor off. Put the parking brake on.

**CAUTION**

Danger of breakage. Never lower the rear hood more than the length of the hoes. While working it must only touch the ground.

To level and crumble the soil to a greater degree, the machine has a rear hood (1, "Fig. 23") positioned behind the hoes. It can be adjusted in height by means of a spring (3). It is recommended to start working with the hood in a middle position: after the first working yards, when reaching the chosen depth, secure the position of the hood to the support (4); insert adjustment pin (5).

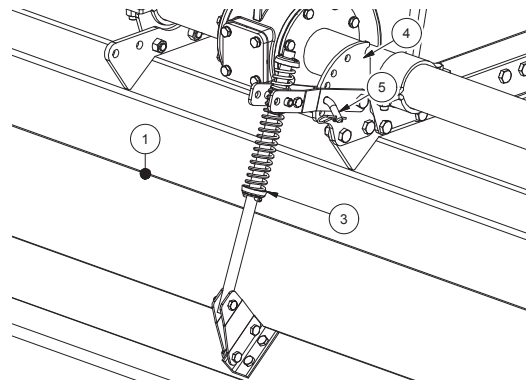


FIG. 23

**PERICOLO**

The rear hood has the dual functions of soil crushing/leveling device and protection/safety device. **NEVER OPERATE THE MACHINE WITHOUT HOOD OR WITH THE HOOD LIFTED FROM THE GROUND.**

5.6.7 STOPPING

At the end of work the operator must:

- Park the machine on a horizontal and stable surface.
- Disengage the tractor PTO.
- Lower the machine to the ground.
- Stop the tractor and engage the parking brake.
- Make sure that all parts of the machine have come to a standstill.

Only after the above mentioned operations have been carried out may the operator leave the tractor unattended.



5.6.8 PROCEDURES IN CASE OF ACCIDENTS OR MECHANICAL FAILURES

In case of accident you must always:

- Turn the tractor off. Put the parking brake on.
- Move the injured person away and check their conditions. According to the seriousness of the accident call the casualty department.
- If the person has caught up their clothes in parts of the machine cut the clothes to free them.
- Inform the competent authorities.

In case of shutdown of the machine or following any malfunction or breakdown, always do as follows:

- Turn the tractor off. Put the parking brake on.
- Identify the cause of the shutdown or the malfunction. According to their assigned tasks the operator can carry out simple operations of removing caught up material. For disassembling the machine contact the Technical assistance centre.
- After returning to the normal efficiency conditions you can restart.

In case of smoke coming out or obvious signs of fire in any point of the machine proceed as follows:

- Turn the tractor off. Put the parking brake on.
- Put out the fire using only CO₂ extinguishers.
- To reactivate the machine contact the Technical assistance centre.

5.6.9 UNHITCHING THE MACHINE FROM THE TRACTOR



DANGER

Park the machine on a horizontal and stable surface. Disengage PTO. Turn off the tractor. Take the key out of the dashboard.



CAUTION

Danger of being hit and crushed. Before disconnecting the machine from the tractor power-lift check that the machine is stable on the ground.

- Check that there are no foreign bodies in the parking area of the machine.
- Move to the parking area of the machine.
- Turn off the tractor.
- Lower completely the machine to the ground.
- Turn off the tractor engine and apply the parking brake.
- Pull out the PTO shaft from the tractor PTO and place it on its support.
- Disconnect the top link rod.
- Disconnect the power lift links.
- Switch on the tractor engine and move away.



NOTE

ONCE UNHITCHED FROM THE TRACTOR, THE MACHINE MUST

BE KEPT IN A DRY PLACE, SHELTERED FROM ADVERSE WEATHER CONDITIONS.

PREVENT ANIMALS, CHILDREN OR UNAUTHORIZED PEOPLE FROM FREE ACCESS TO THE MACHINE.

5.6.10 PREPARING FOR STORAGE

At the end of the working season or if the machine is to remain idle for a long period of time, proceed as follows:

- Wash the machine and most of all wash off fertilizers and chemical products and dry it.
- Carefully check the machine and replace any damaged or worn parts if necessary.
- Fully tighten all the screws and bolts, and particularly the ones fixing the hoes.
- Thoroughly grease the machine and then cover it with a tarpaulin and store it in a dry place.



NOTE

IF THESE OPERATIONS ARE CARRIED OUT WITH CARE, IT WILL BE ALL TO THE USER'S ADVANTAGE AS THE EQUIPMENT WILL BE IN OPTIMUM CONDITIONS WHEN NEEDED AGAIN

6 MAINTENANCE

6.1 SAFETY WARNINGS



NOTE

READING THIS CHAPTER IMPLIES THAT, FOR A SAFE USE OF THE MACHINE, WHAT IS CONTAINED IN THE PARAGRAPH HAS BEEN FULLY UNDERSTOOD "2.1 GENERAL SAFETY WARNINGS".

LOWER RUNNING COSTS AND A LONGER MACHINE LIFE DEPEND ON CONSTANT OBSERVANCE OF THESE INSTRUCTIONS.

SERVICING FREQUENCIES INDICATED IN THIS MANUAL ARE INDICATIVE AND REFER TO NORMAL WORKING CONDITIONS. ANYHOW THEY MAY VARY ACCORDING TO THE TYPE OF USE, WHETHER THE ENVIRONNEMENT IS DUSTY OR NOT, SEASONAL FACTORS ETC. SERVIVING OPERATIONS MUST OBVIOUSLY BE CARRIED OUT MORE FREQUENTLY IN HEAVIER DUTY CONDITIONS. AS TIME PASSES IT IS NECESSARY TO INCREASE THE FREQUENCY OF THE ROUTINE MAINTENANCE OPERATIONS.



DANGER

Observe the safety instructions, the intervals and the procedures indicated in the routine maintenance.

Proceed with maintenance and cleaning operations always after putting the machine in a safety position (see "6.2 Machine in safety position").

Leave at least a one meter space around the machine when performing maintenance operations.

Before starting the machine, after repairs, for testing, check that no-one stands or passes in the working zone of the hoes. Always clamp the raised component to



prevent it from falling.

Never work alone under the machine or when carrying out repair or maintenance operations.

It is not proper that, in case of breakdown or malfunction, operators not properly trained and qualified, try to find out the causes of the malfunction or the failure.

**CAUTION**

Never carry out welding, grinding and drilling operations without prior authorization and instructions from the Manufacturer.



ALWAYS WEAR GLOVES TO PROTECT YOUR HANDS



ALWAYS WEAR PROTECTIVE CLOTHING TO PROTECT YOUR BODY



ALWAYS WEAR SAFETY BOOTS

6.2 MACHINE IN SAFETY POSITION

**DANGER**

Park the machine on a horizontal and stable surface.

Disengage PTO. Turn the tractor off. Put the parking brake on. Remove the keys from the dashboard.

Remove the PTO shaft from the tractor PTO. Place the PTO shaft on its support.

Unhitch the machine from the tractor power-lift unit.

6.3 SCHEDULED MAINTENANCE

The hours refer to the working of the machine. The days and years refer to the solar cycle.

6.3.1 AFTER THE FIRST 8 HOURS SERVICE

Maintenance operations	Qualifications	State of the machine	n° of oper.
Overall check of the machine	Operator	Machine in a safety position	1
Check tightening of all nuts and bolts	Operator	Machine in a safety position	1

6.3.2 EVERY 8 HOURS/1 DAY SERVICE

Maintenance operations	Qualifications	State of the machine	n° of oper.
Check efficiency and wear and tear of the guards	Operator	Machine in a safety position	1

Maintenance operations	Qualifications	State of the machine	n° of oper.
Check fastening of all guards	Operator	Machine in a safety position	1
Check/reset the existence and connections of pins, split pins and retainers	Operator	Machine in a safety position	1
Check lubricant leaks	Operator	Machine in a safety position	1
Greasing	Operator	Machine in a safety position	1

6.3.3 EVERY 20 HOURS SERVICE

Maintenance operations	Qualifications	State of the machine	n° of oper.
Check that the hoe screws are fully tightened	Operator	Machine in a safety position or	1
Check wear of the hoes	Operator	Machine in a safety position or	1
Greasing of the PTO shaft	Operator	Machine in a safety position	1

6.3.4 AFTER 100 HOURS SERVICE

Maintenance operations	Qualifications	State of the machine	n° of oper.
Check oil level in the side gearcase	Operator	Machine in a safety position.	1
Check/change oil in the gearbox	Operator	Machine in a safety position	1

6.3.5 EVERY 500 HOURS/1 YEAR SERVICE

Maintenance operations	Qualifications	State of the machine	n° of oper.
Change oil in the gearbox	Operator	Machine in a safety position	1
Change oil in the side gearcase	Operator	Machine in a safety position	1

6.3.6 PTO SHAFT MAINTENANCE

CAUTION

As per the PTO shaft maintenance, follow scrupulously the instructions given in the instruction manual of the PTO shaft.

6.3.7 CHECKING GUARDS



Operator

CAUTION

Any changes in colour or any signs of cracks or fissures indicate that the guard has lost its original features and immediately replace it with an original spare part.

- Check for the presence or the wear and tear of the PTO guards.
- Check the wear and tear of the PTO shaft guards.
- Check for the restraining chains.

6.3.8 REPLACING HOES



Operator

DANGER

Before carrying out maintenance regarding cutting hoes put the machine in a safety position (see “6.2 Machine in safety position”).

When servicing or replacing hoes with the lifted machine, put stands under the machine. Prevent risk of being crushed if the machine falls.

The hoes fitted on the implement are suitable for soil of a normal consistency. If the hoes should accidentally bend (or break) during work, they must be immediately replaced. Make sure that the new hoes are mounted in exactly the same positions as the old ones. If several hoes must be replaced, it is advisable to demount and remount them one at a time in order to avoid positioning errors.

To replace hoes:

- Put the machine in a safety position (see “6.2 Machine in safety position”).
- Lift the machine (see “3.2 Handling”).
- Put two bearing stands at the sides of the machine (for machine weight, see “3.2 Handling”). Place the machine on the stands. Do not remove the lifting hook.
- Place yourself under the machine
- Loosen the two bolts (1, “Fig. 24”).
- Remove the hoe (2)
- Replace the worn hoe with a new one.

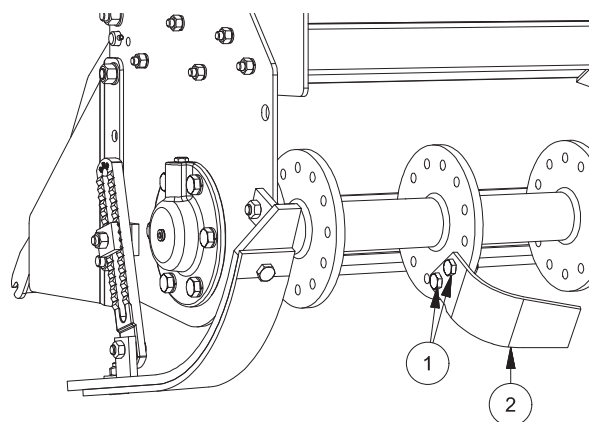


FIG. 24

NOTE

THE HOES ARE RIGHT AND LEFT. CHECK THE DIRECTION OF ROTATION OF THE ROTOR AND FIT THE HOES PROPERLY.

DANGER

DANGER of falling. When the rotor is rotated with a lever, the hoes might hit the ladder or lifting gear on which the operator stands to reach higher hoes; take care and check that the hoes do not come into contact with anything that could make the operator lose balance. Take all the possible precautions, proceed carefully and plan all the work steps.

CAUTION

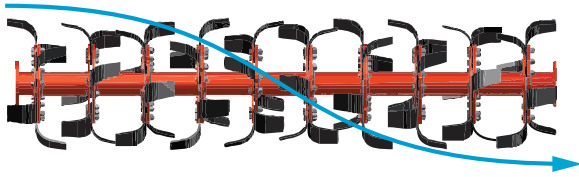
The bolts that holding the tools must have their heads on the side of the tool, and the nut on the side of the support. Comply the driving torque value.

BOLT DRIVING TORQUE (NM)

Classe	6.6	8.8	10.9	12.9
M8x1	15	26	36	44
M10x1,25	30	52	74	88
M12x1,25	51	91	127	153
M14x1,5	81	143	201	241
M16x1,5	120	214	301	361
M18x1,5	173	308	433	520
M20x1,5	242	431	606	727
M22x1,5	321	571	803	964
M24x2	411	731	1028	1234

NOTE

THE HOE TIMING OF **BREVIGLIERI** ROTARY TILLERS HAS BEEN STUDIED TO REDUCE POWER ABSORPTION OF THE MACHINE AND TO OBTAIN A BETTER CRUSHING OF THE SOIL; IT IS IMPORTANT THAT THE TOOLS ARE ALWAYS MOUNTED BACK ACCURATELY. (FIG. 25)


FIG. 25

6.3.9 CHANGING THE ROTATING SPEED OF THE HOES (OPT)

Operator

DANGER

Disengage PTO. Turn off the tractor. Put the parking brake on. Remove keys from the dashboard.

CAUTION

Danger of hot surfaces. The gearbox can reach very high temperatures. Wait for the parts and the oil in the gearbox to cool down.

Dispose of used oil in compliance with the directives of anti-pollution laws.

NOTE

TAKE CARE NOT TO MISTAKE GEARS AS YOU CANNOT FIT GEARS WITH TORQUES DIFFERENT FROM THE ONES INDICATED IN THE TABLE.

ALWAYS REPLACE THE PAIRS OF GEARS IN BOTH LATERAL GEARBOXES.

The hoe rotor can spin at various speeds, depending on the gear pairs mounted in the gearbox. It also allows the soil to be broken up to various degrees depending on its nature, the amount of moisture it contains, the ground speed, etc. Only use the pairs indicated in the table:

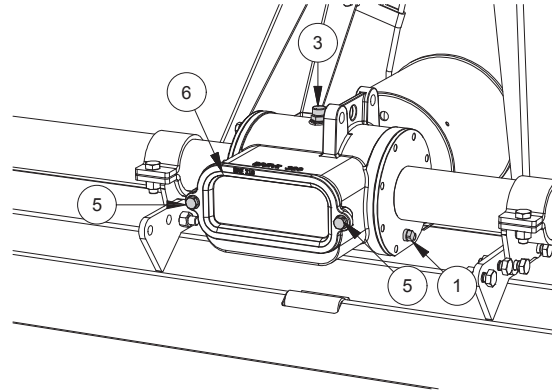
GEARBOXES - PTO 540 RPM

A (PTO)	27	33	23
B	43	36	46
Speed (RPM)	298	435	238

The faster the rotor spin, the more the soil is crumbled, but tractor power draw and hoe wear will also be greater. You are advised to use the lowest rotation speed able to work the soil in the required way.

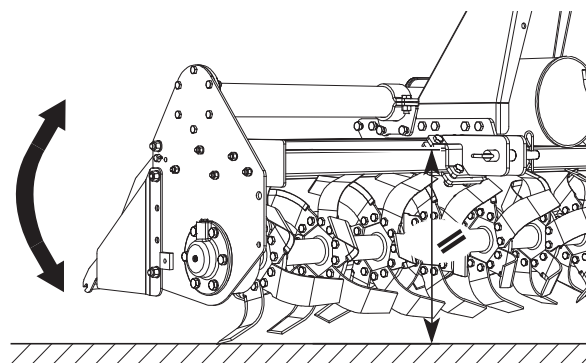
To change speed of the hoes do as follows:

- Loosen screws (5, "Fig. 26"). Remove the cap (6).
- Take out the gears from the shafts.
- Exchange the two gears or insert another couple of gears.
- Fit back the cap (6). Tighten bolts and nuts.


FIG. 26

6.3.10 CHECK OIL LEVEL IN CENTRAL TRANSFER CASE

Operator


FIG. 27

DANGER

Park the machine on a flat and stable surface. Disengage PTO. Turn off the tractor. Put parking brake on. Take keys out of the dashboard.

WARNING

BEWARE of hot surface. The gearbox can reach a very high temperature. Wait for the cooling down of the parts and of the oil contained in the gearbox.

Dispose of used oil in compliance with the directives of anti-pollution laws.



i NOTE

BEFORE CHECKING, BE SURE THAT THE HORIZONTAL SURFACE OF THE MACHINE IS PARALLEL TO THE GROUND (FIG. 27)

To check oil level in central transfer case:

- Loosen oil filler cap
- Check that the level is between the minimum and maximum indicated on the dipstick (Fig. 28)

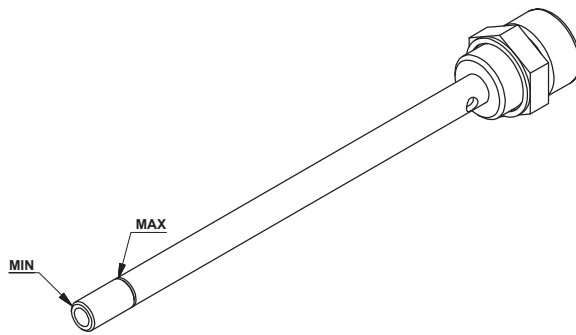


FIG. 28

6.3.11 REPLACING OIL IN CENTRAL TRANSFER CASE



SKILLED STAFF

Replacing the oil of the central transfer case is a delicate operation as it may be necessary to request the removal of the case itself from the machine. It is strongly recommended to contact authorized technical assistance services which have specialized staff. Contact your usual dealer to know where the nearest centre is.

i NOTE

TO MAKE THE OPERATION SIMPLER YOU CAN USE A LIQUID ASPIRATOR SPECIFIC FOR OIL RECYCLING, DIRECTLY FROM THE OIL FILLING HOLE.

DISPOSE OF USED OIL IN COMPLIANCE WITH THE DIRECTIVES OF ANTI-POLLUTION LAWS.

6.3.12 CHECK/REPLACEMENT OF OIL IN SIDE GEARCASE



Operator

i NOTE

BEFORE CHECKING, BE SURE THAT THE HORIZONTAL SURFACE OF THE MACHINE IS PARALLEL TO THE GROUND (FIG. 27)

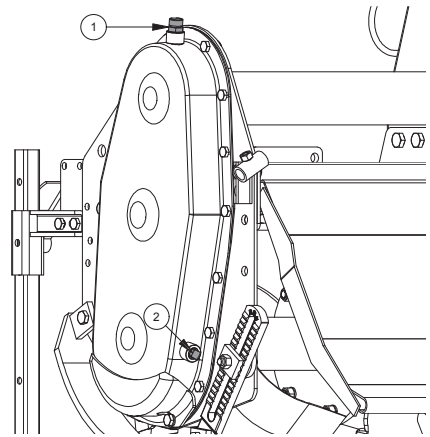


FIG. 29

To check the oil level in the side gearcase loosen the cap (3, "Fig. 29"). If the oil is at proper level, it will come out slowly and at minimum quantity.. If necessary fill with oil up to the right level.

To change oil:

- Place a basin under the oil drain plug (2).
- Loosen the oil drain plug.
- Loosen the level indicator cap (3). Drain all the oil.
- Tighten the oil drain plug (2).
- Fill with new oil.
- Fill with oil up to level.
- Tighten the level indicator cap (3).
- Tighten the cap (1).

For the type of oil to use see paragraph "6.4.2 Recommended lubricants".

i NOTE

TO MAKE THE OPERATION SIMPLER YOU CAN USE A LIQUID ASPIRATOR SPECIFIC FOR OIL RECYCLING, DIRECTLY FROM THE OIL FILLING HOLE (1, FIG. 29).

DISPOSE OF USED OIL IN COMPLIANCE WITH THE DIRECTIVES OF ANTI-POLLUTION LAWS.

6.4 LUBRICATION



DANGER

Proceed with maintenance and cleaning operations only after putting the machine in a safety position (see "6.2 Machine in safety position").

Keep lubricants out of children reach.



CAUTION

Lubricate and grease all the required points.

Read carefully warnings and caution on the lubricant containers.

Wash hands thoroughly after use.

Dispose of used oil in compliance with the directives of



anti-pollution laws.

NOTE

ALWAYS USE THE SAME TYPE OF RECOMMENDED OIL WHEN TOPPING UP OR CHANGING.

6.4.1 LUBRICATION POINTS

NOTE

THE SERVICING FREQUENCIES INDICATED IN THIS MANUAL REFER TO NORMAL CONDITIONS OF USE IN NORMAL ENVIRONMENT. IF THE MACHINE IS USED IN MORE SEVERE ENVIRONMENTAL CONDITIONS SERVICING OPERATIONS WILL HAVE TO BE CARRIED OUT MORE FREQUENTLY.

Before injecting lubricating grease into the lubricator, carefully clean the grease nipples to prevent mud, dust or foreign bodies from mixing with the grease thus reducing or even annul the lubricating effect.



LUBRICATING POINTS OF THE MACHINE ARE INDICATED ON THE SPECIFIC DECAL.

NOTE

INJECTING A LARGE QUANTITY OF OIL INTO THE GREASING POINTS AT HIGH PRESSURE CAN DAMAGE THE BEARING PROTECTIONS.

6.4.2 RECOMMENDED LUBRICANTS

Group	Type	Litres	U.S. gal.
Single speed gearbox	Oil COLUMBIA V.V. GEAR EP460	3.3	0.87
Multi speed gearbox	Oil COLUMBIA V.V. GEAR EP460	3.6	0.95
Side gearcase	Oil COLUMBIA V.V. GEAR EP460	2.0	0.53
All greasing points	Lithium grease	/	/

6.5 CLEANING



Operator

DANGER

In case of material clogging between hoes, never try to clean the machine when running. First put the machine in a safety position (see “6.2 Machine in safety position”). Wait until all the parts of the machine are completely still and perform cleaning carefully.

CAUTION

The decals on the machine must always be visible. Keep decals clean. Replace decals if they are worn. Ask the Manufacturer for spare parts (see “2.5 Decals applied onto the machine”).

Using pressure washers or air guns can detach decals.



ALWAYS WEAR GOGGLES TO PROTECT YOUR EYESIGHT

Clean off the machine of fertilizers and chemicals and dry it. Only use commercial inflammable and non toxic solvents.

6.6 TROUBLESHOOTING

Problem	Solution
Depth too shallow	<ul style="list-style-type: none">• Check the depth adjustment.• Move forward more slowly. There may be insufficient tractor power. Raise the rear hood/roller.• Further runs will be required if the soil is too hard.• The hoes slide over the ground instead of digging into the soil: advance more slowly.
Soil crumbled too finely	<ul style="list-style-type: none">• Lower the speed of the hoe rotors.• Raise the rear hood .• Increase the tractor ground speed.
Soil insufficiently worked	<ul style="list-style-type: none">• Increase the speed of the hoe rotors.• Reduce the ground speed.• Do not work if the soil is too wet.• If the levelling bar is installed, try to lowering it.
Clogged rotor	<ul style="list-style-type: none">• Soil too wet to work.• Raise the rear hood .• Reduce the ground speed.• Do not work where the grass is too tall
The machine jolts over the ground or vibrates	<ul style="list-style-type: none">• Foreign bodies locked between the hoes.• Hoes incorrectly mounted in the wrong positions.• Worn or broken hoes.• Hoes bent during work after hitting stones or having worked excessively hard soil.



Problem	Solution
The machine vibrates too much	<ul style="list-style-type: none"> • Reduce the ground speed of the tractor. • Adjust the machine in the correct way, as described in the instructions. • Clean the rotor. It could be clogged. • Check whether any hoes are broken. Replace them if this is the case.
The rotor turn in an uneven way	<ul style="list-style-type: none"> • Make sure that the driveline clutch is regulated correctly. • Excessively elastic clutch springs. Replace the springs.
The gearbox overheat	<ul style="list-style-type: none"> • Check the oil level and top up if necessary.

The parts forming the machine can be ordered from the Manufacturer, specifying:

- Machine model.
- The serial number of the machine.
- The year of manufacture.
- The serial number of the required part (indicated in the spare parts catalogue), a description of the part and the required quantity.

TRANSPORT WAY: if this is not specified, the Manufacturer will dedicate particular care to the service but shall not be liable for delays in shipment due to unforeseen circumstances. The shipping costs are always at the consignee's charge. The goods travel at the purchaser's risk and peril even when sold carriage paid. **BREVIOLIERI SPA** is always at your disposal for any assistance and/or spare parts you may require.

7 DISMANTLING AND DISPOSAL

NOTE

OBSERVE LAWS IN FORCE IN THE COUNTRY WHERE THE MACHINE IS BEING USED WITH REGARD TO THE USE AND THE DISPOSAL OF PRODUCTS USED FOR CLEANING AND SERVICING THE MACHINE, AS WELL AS OBSERVE THE INDICATIONS GIVEN BY THE PRODUCER OF THESE PRODUCTS.

IN CASO DI DISMANTLING OF THE MACHINE, OBSERVE THE ANTI-POLLUTION LAWS IN FORCE IN THE COUNTRY WHERE THE MACHINE IS BEING USED.

When dismantling the machine comply with anti-pollution laws and in particular dispose of used lubricants and various elements according to their different structures.

8 SPARE PARTS

8.1 LIST OF SPARE PARTS CRITICAL FOR SAFETY

The codes of the decals are indicated in the table in paragraph "2.5 Decals applied onto the machine".

Description	Fig.	Code
PTO guard tractor side	14, Fig. 2	0049301
CE Protections	8, Fig. 2	
v.155		0035488
v.180		0035488
v.205		0035489
v.230		0064319

8.2 HOW TO ORDER SPARE PARTS



CAUTION

Spare parts must comply with the requirements established by the Manufacturer. Only use genuine spare parts.



TAVOLE RICAMBI • SPARE PARTS TABLES • PLANCHES DES PIÈCES DETACHÉES • LAMINAS REPUESTOS • ERSATZTEILTAFELN

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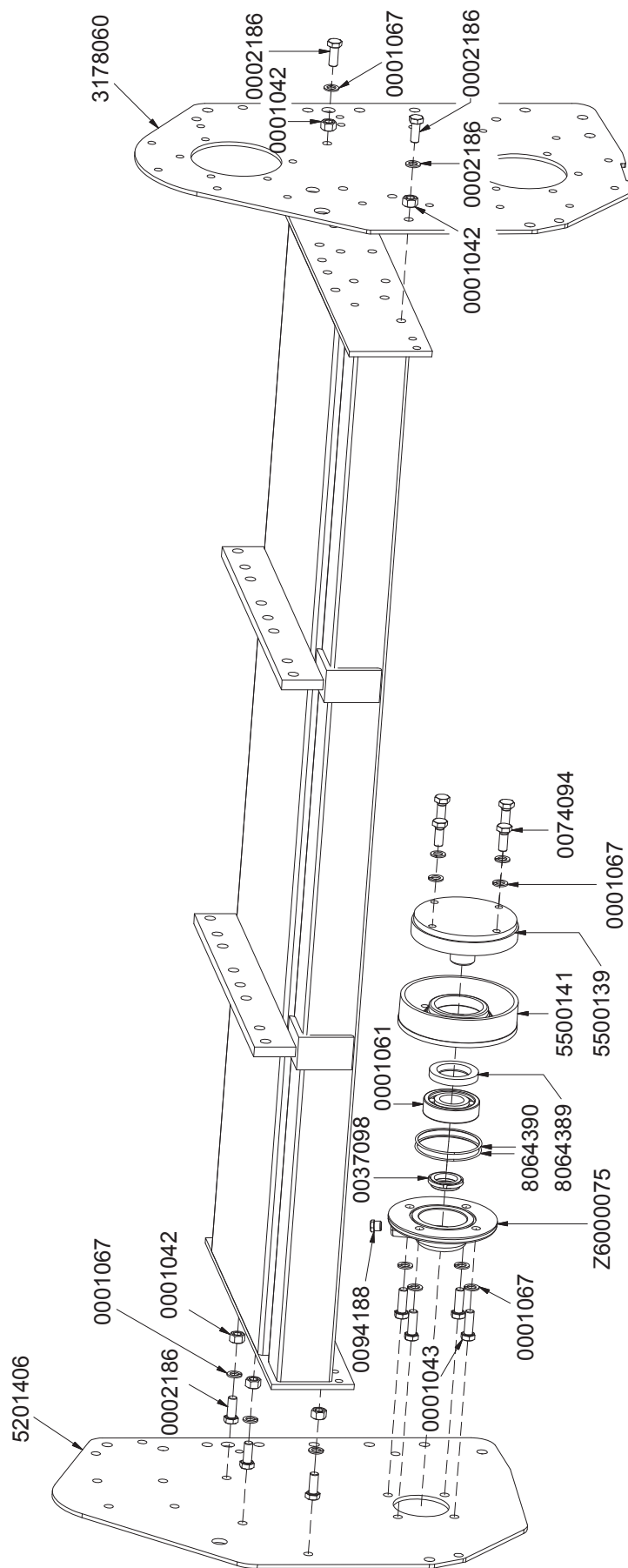
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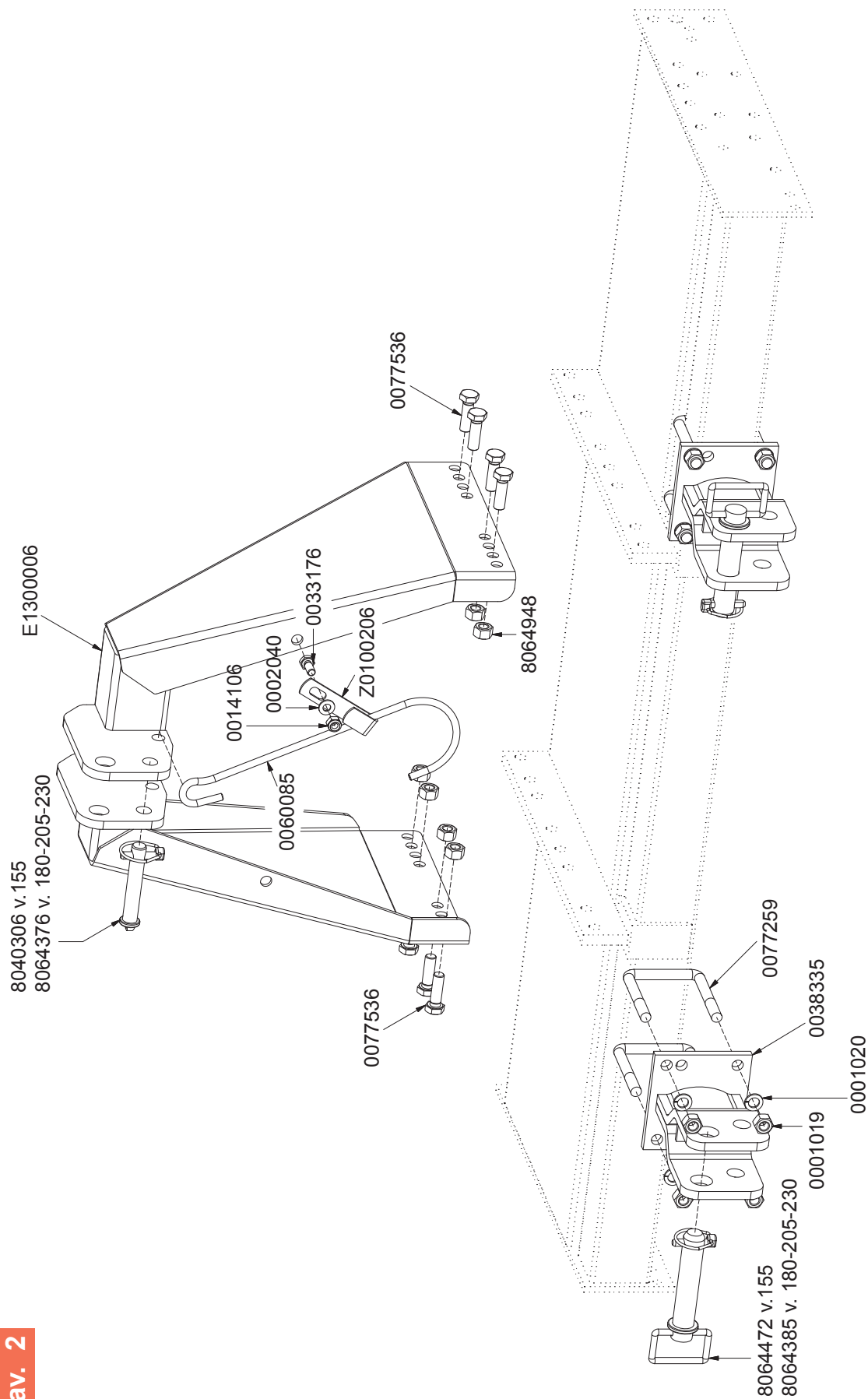
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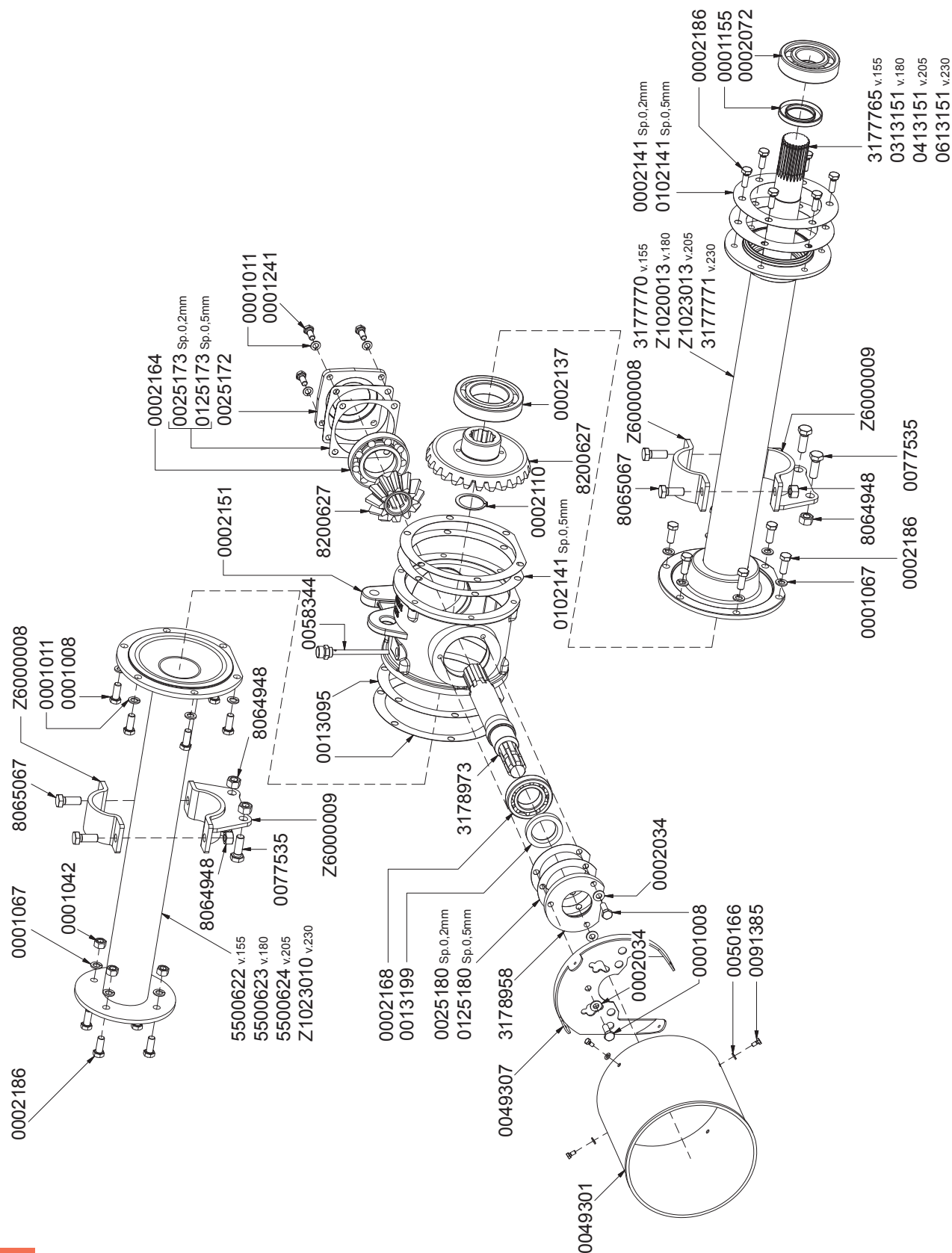


Tav. 1

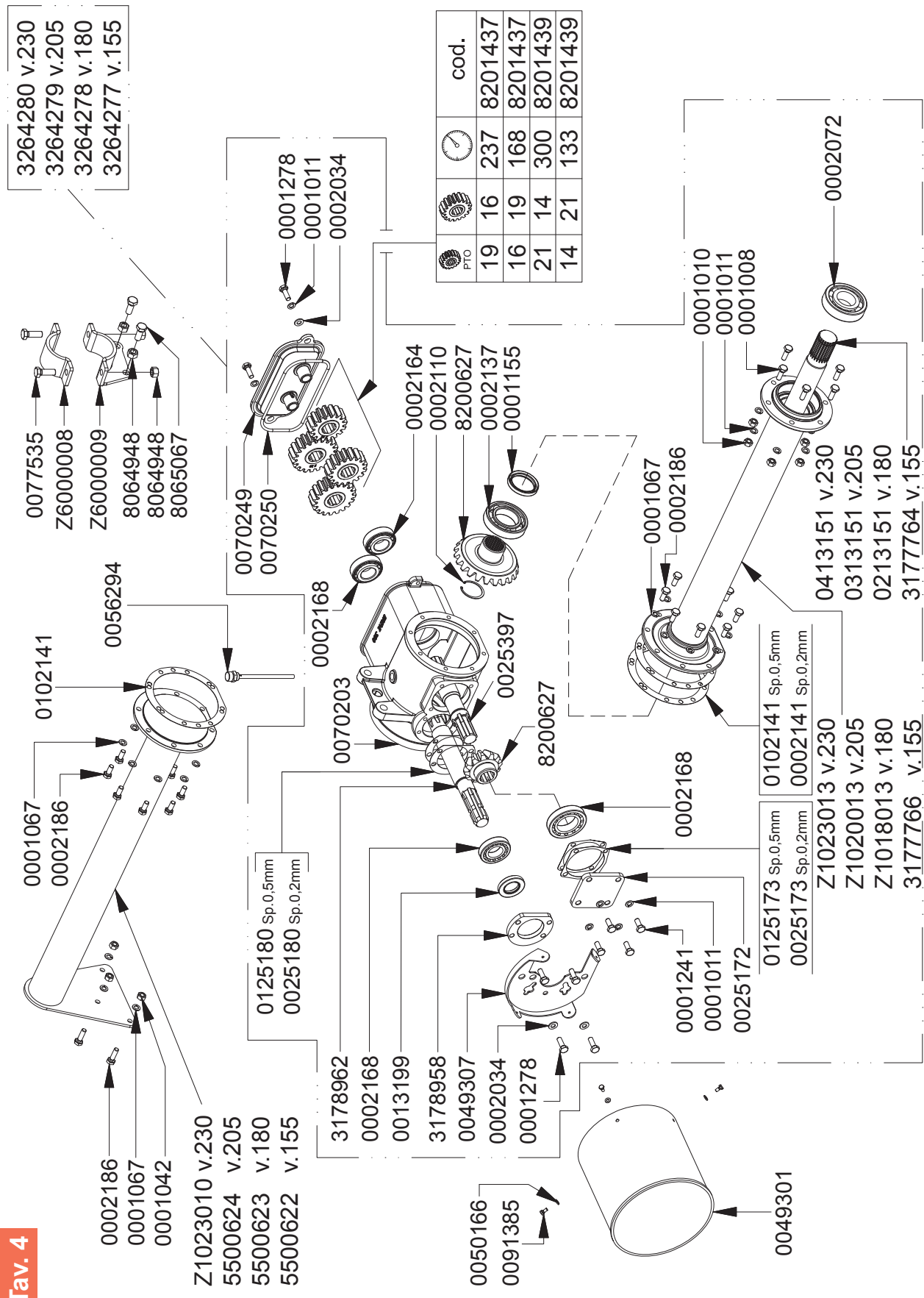


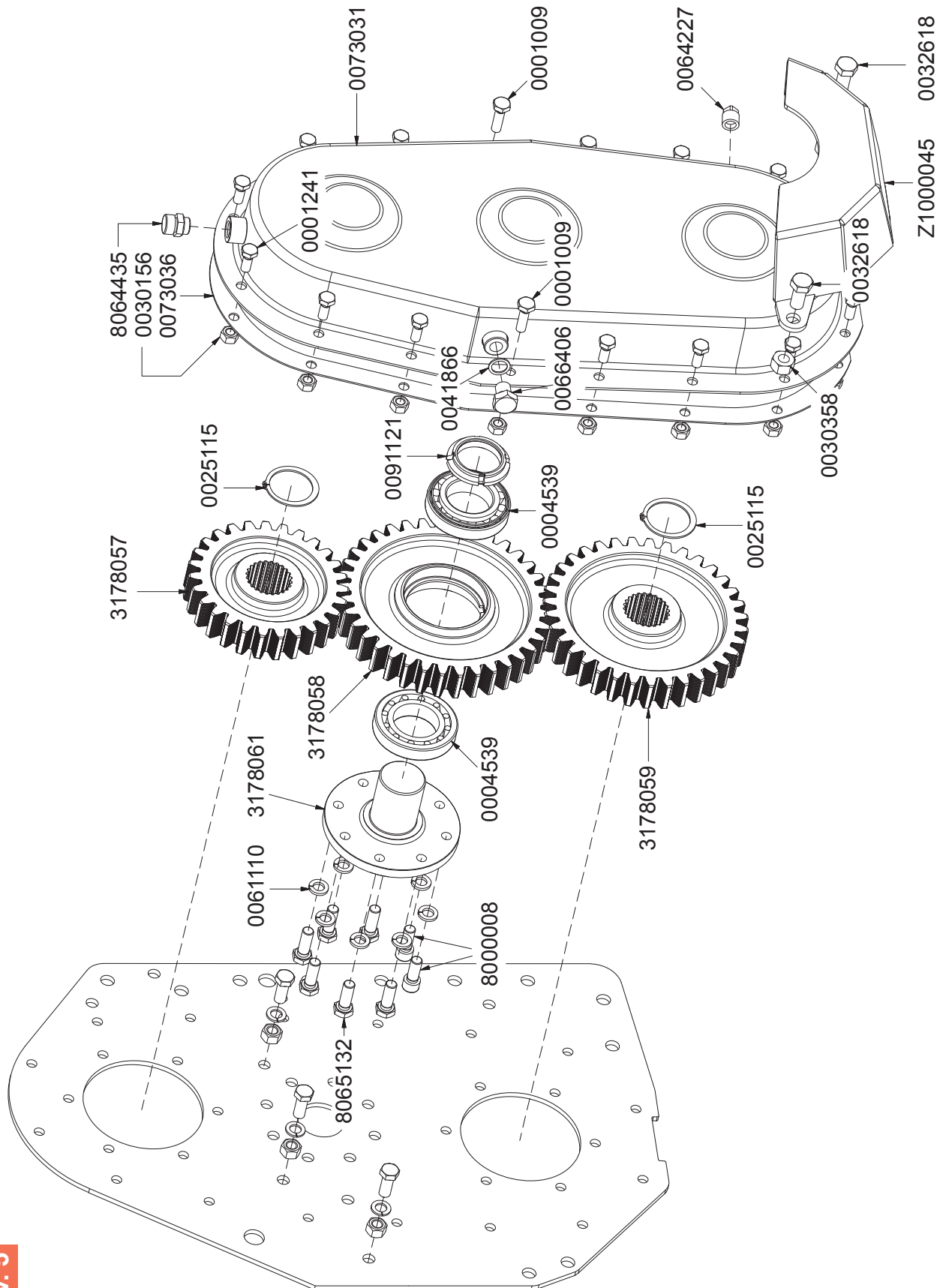
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Tav. 3

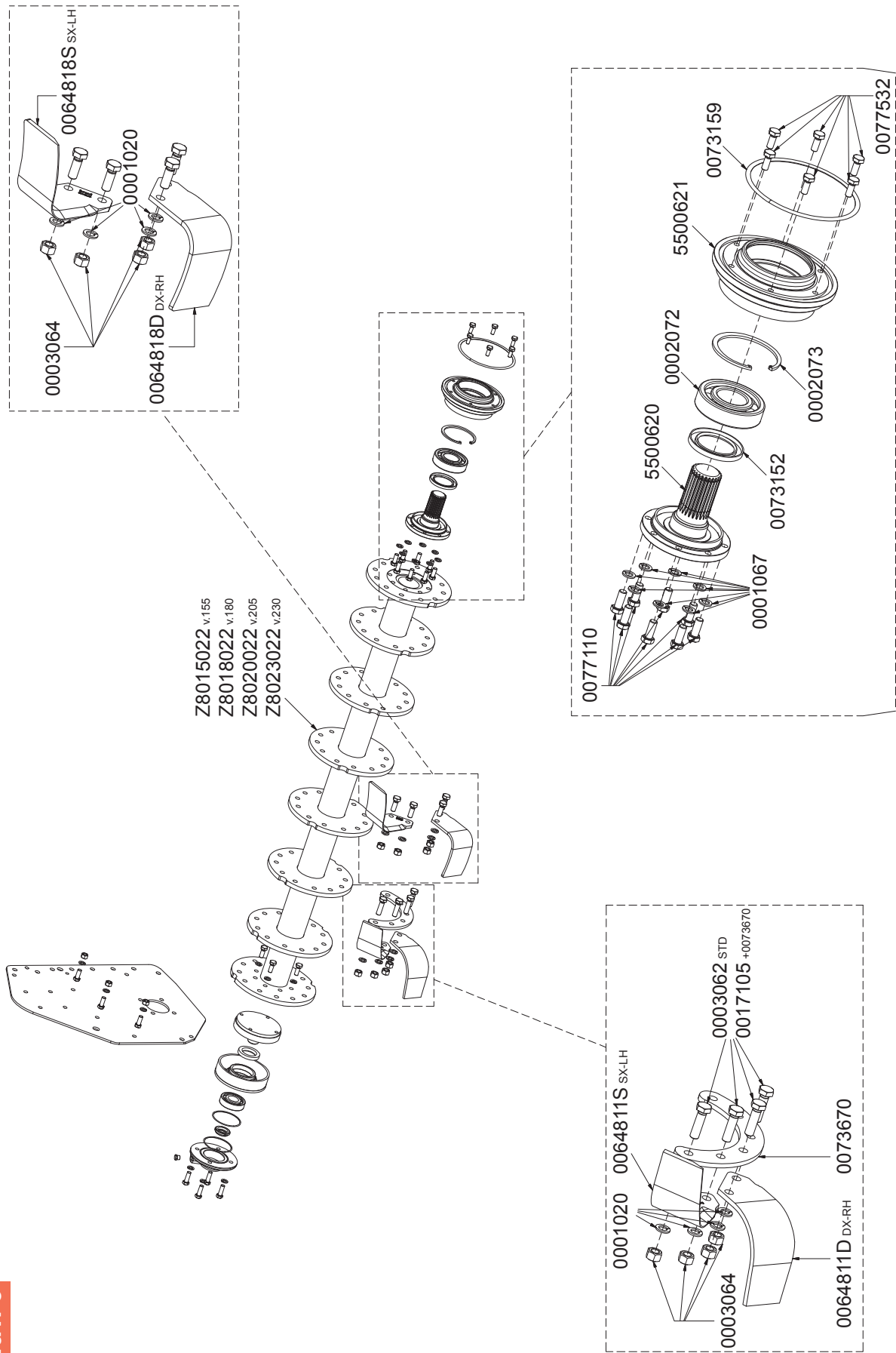


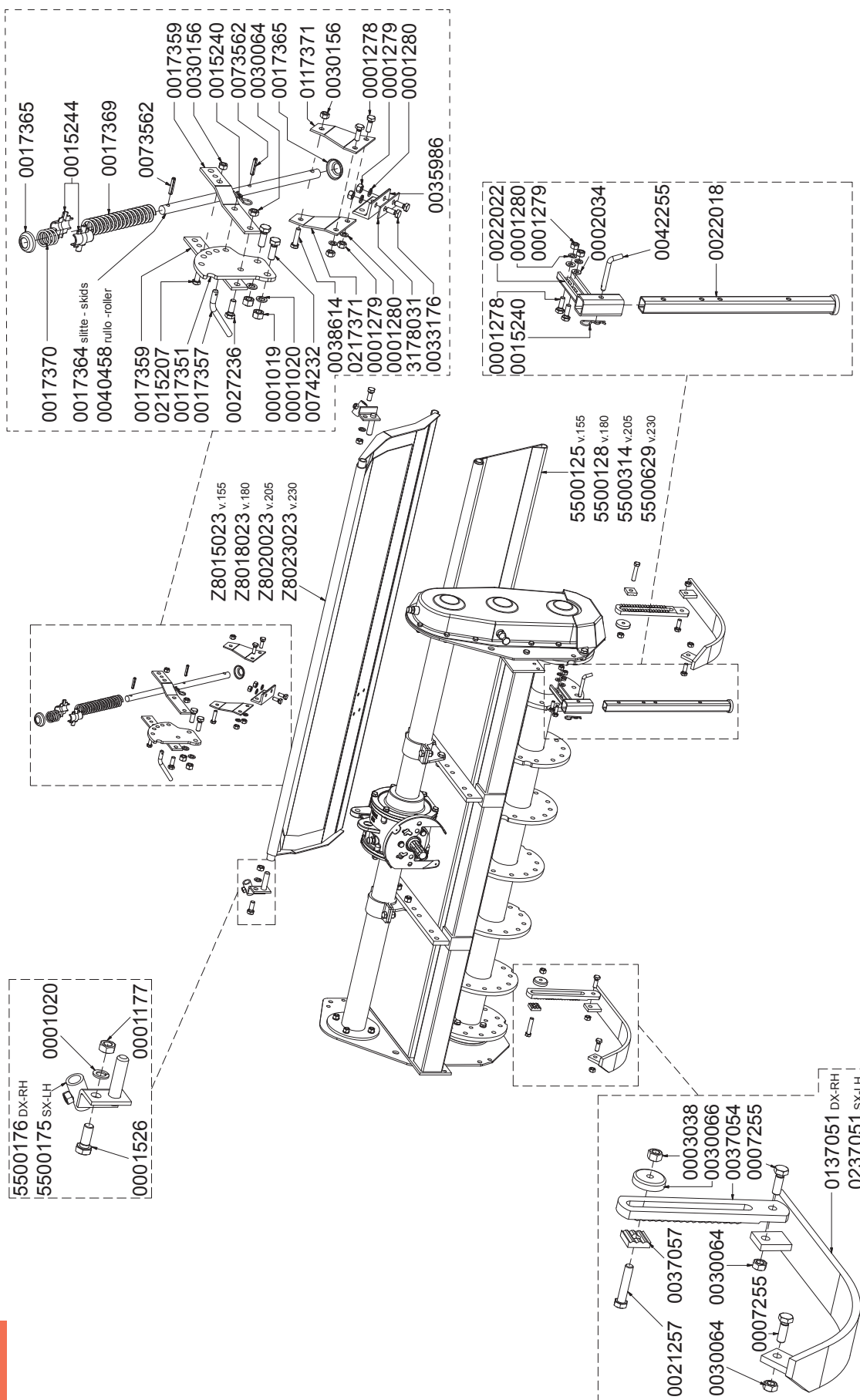
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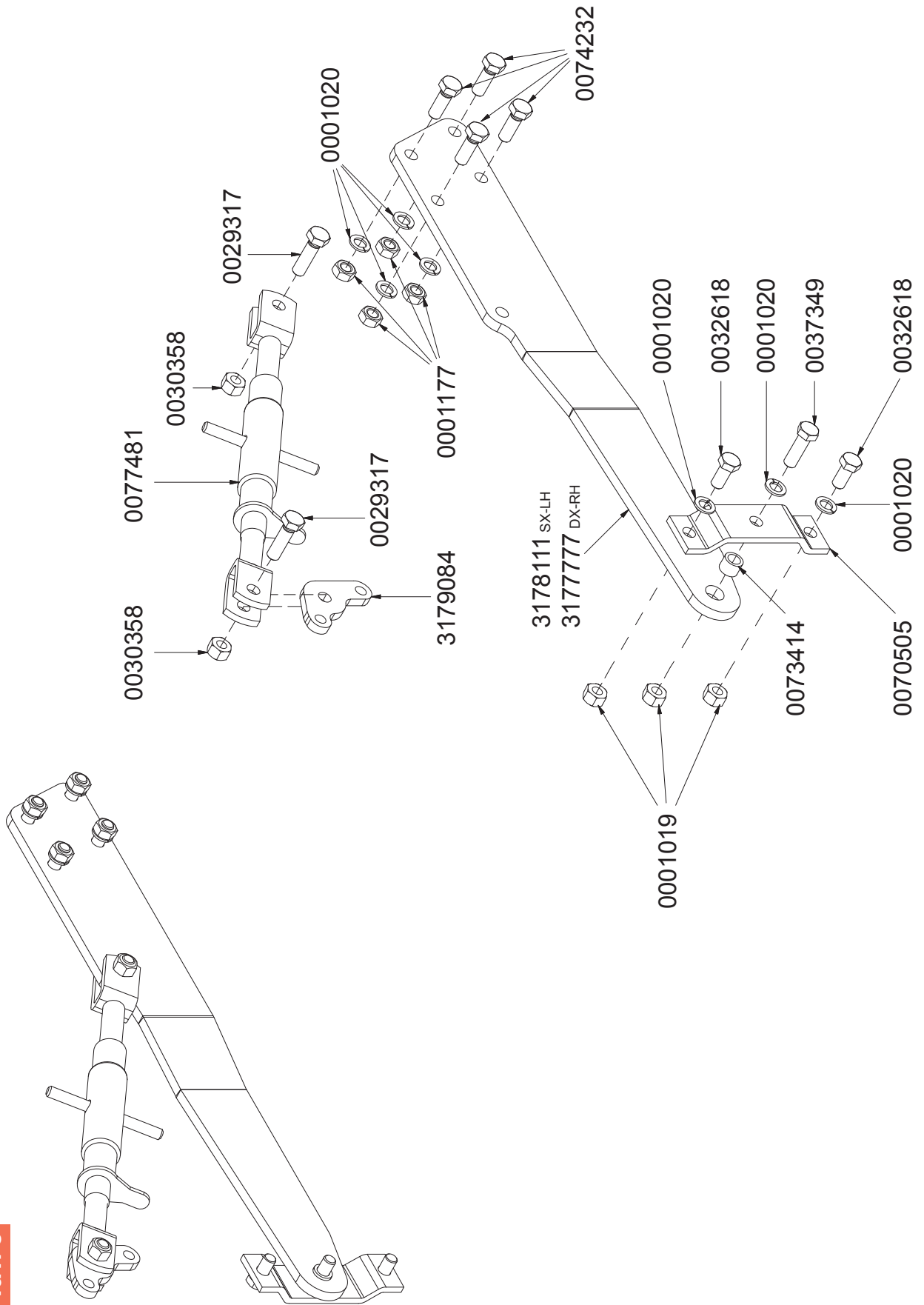
Tav. 5

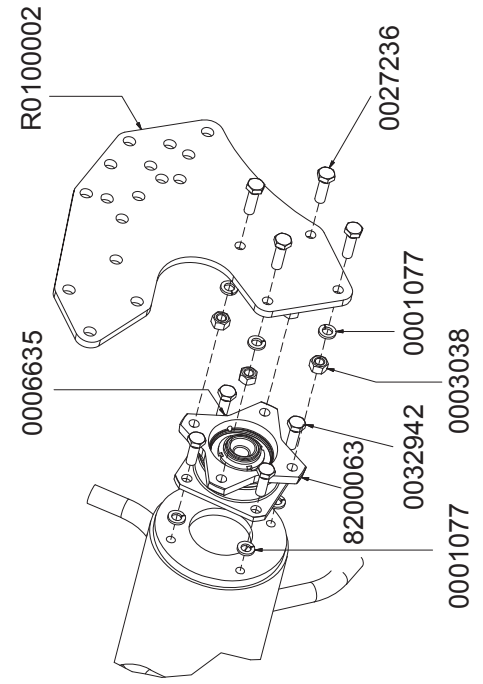
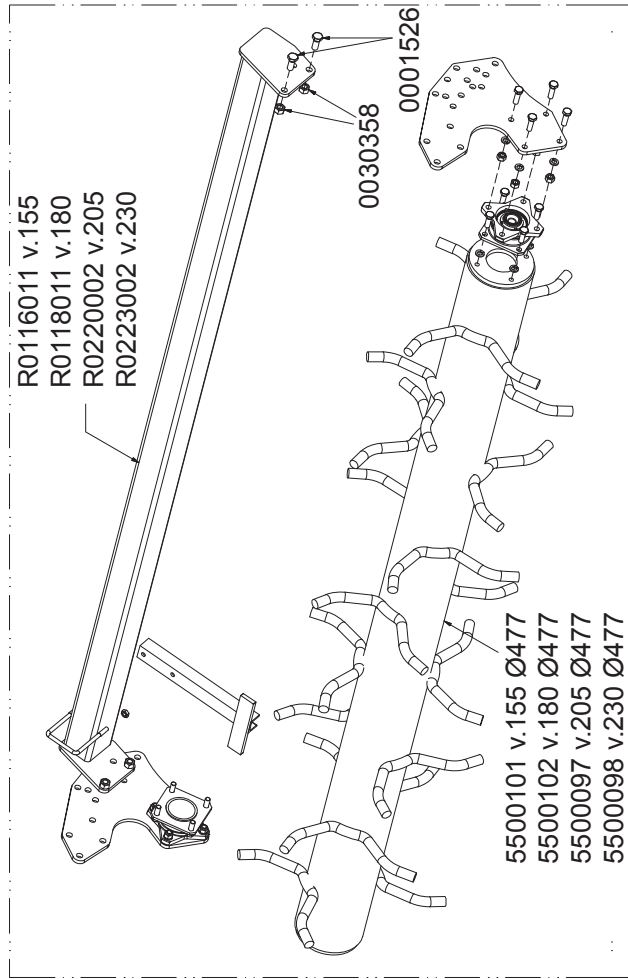
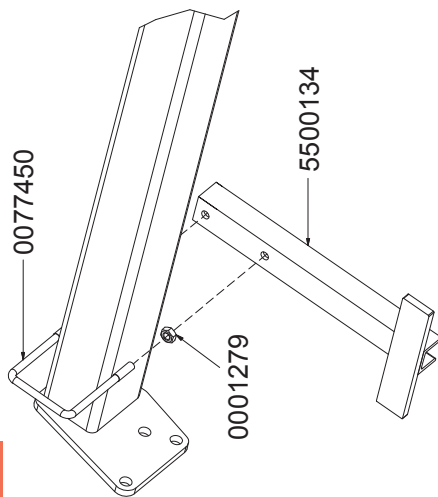


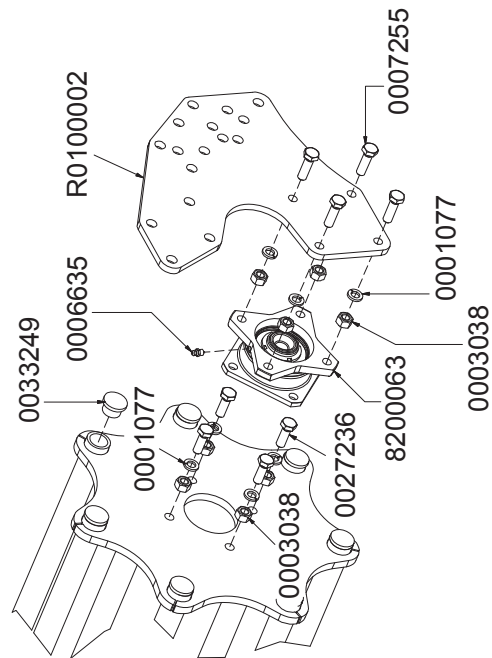
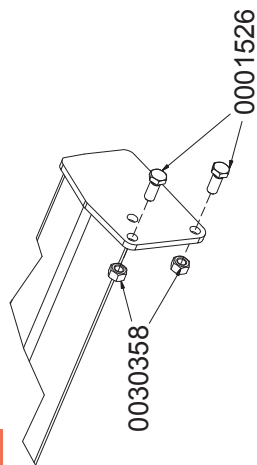
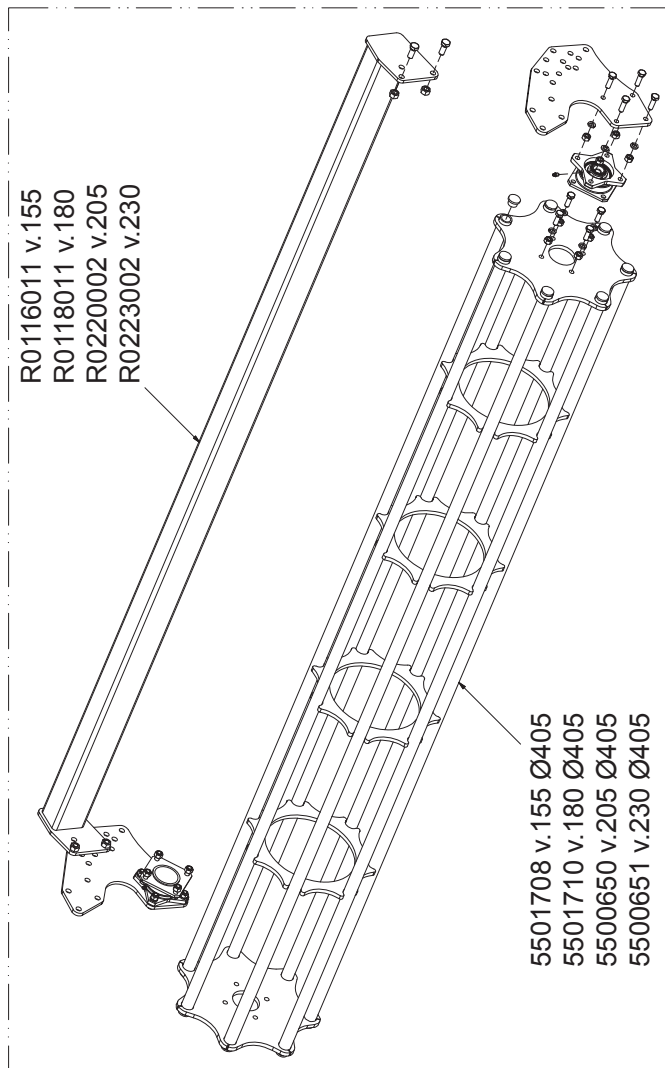


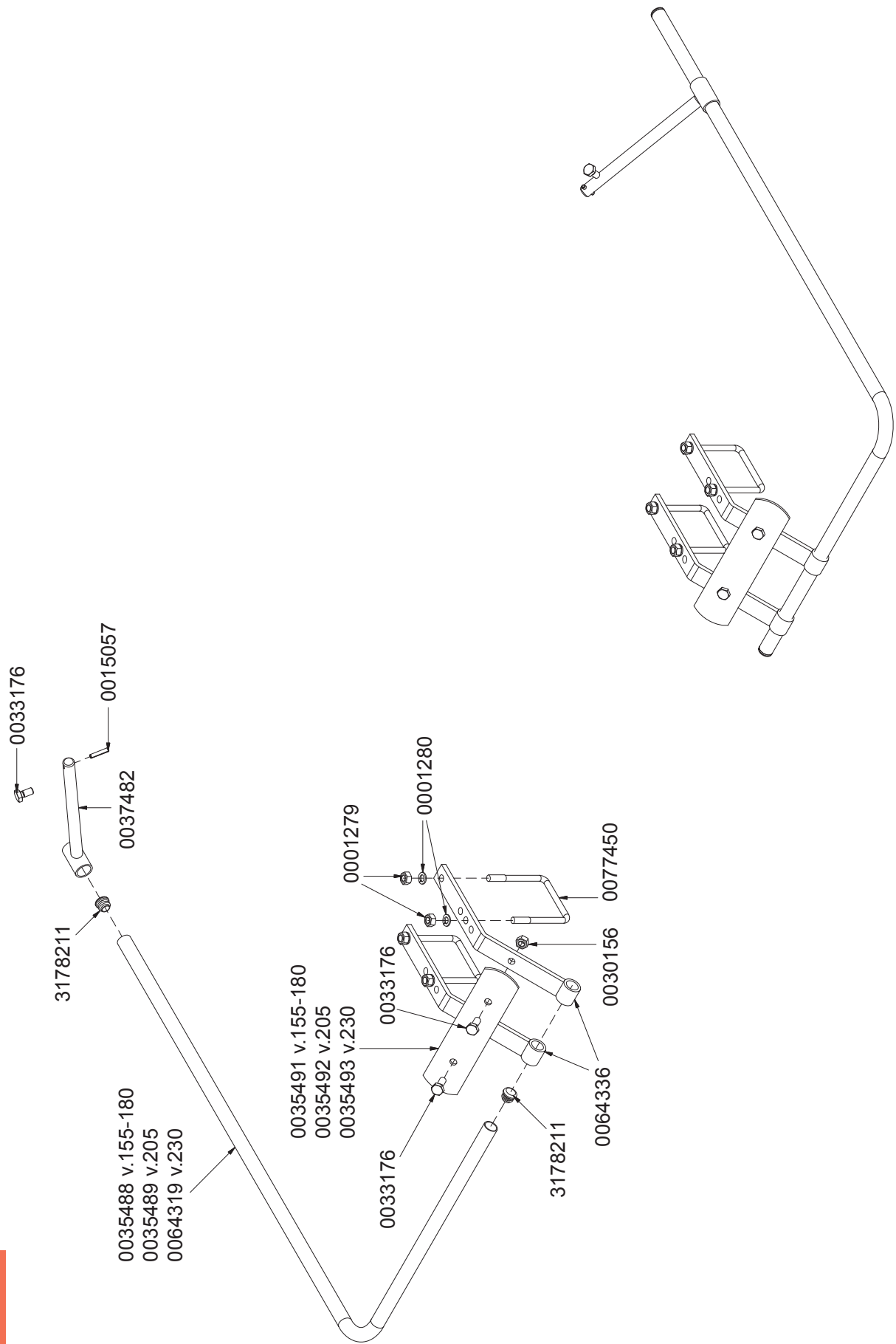












Tav. 8







Tav. 11


SCHEDA DI MANUTENZIONE - maintenance card - fiche de maintenance - Wartungskarte - Ficha de mantenimiento					DATA									
					8hr	20hr	100hr	500hr						
Controllo del fissaggio di tutte le protezioni Check fastening of all guards Contrôle du fixation de toutes les protections Kontrolle der Befestigung aller Schutzvorrichtungen Control del cierre de protecciones					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Verifica / ripristino presenza e collegamento di perni, copiglie e fermi Check/reset the existence and connections of pins, split pins and retainers Vérification de la présence des axes, des goupilles et des arrêts. Kontrolle der Verbindung der Pins, Splinte und Verriegelungen Verificar/restablecer presencia y conexión de pernos, pasadores y cierres					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Controllo perdite di lubrificante Check lubricant leaks Contrôle pertes de lubrifiants Kontrolle des Ölverlustes Control pérdida de aceite					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Ingrassaggio Greasing Graissage Schmierung Engrasado					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Controllo serraggio delle viti di fissaggio degli utensili Check that the hoes screws are fully tightened Contrôle des vis de fixation des houes Kontrolle der Spannschrauben der Werkzeuge Control de tornillos de fijación de utensilios					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Controllo usura degli utensili Check wear of the hoes Contrôle usure des houes Kontrolle des Werkzeugver-schleißes Control desgaste de utensilios					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Ingrassaggio dell'albero cardanico Greasing of the PTO shaft Graissage de l'arbre à cardan Schmierung der Gelenkwelle Engrasado del eje					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Controllo livello olio nel carter laterale Check oil level in the side gearcase Contrôle le niveau d'huile dans le carter Kontrolle den Ölstand im Seitengehäuse Control nivel de el aceite en el cárter lateral					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Controllo / sostituzione olio nella scatola del cambio Check/change oil in the gearbox Contrôle/vidange huile dans la boîte de vitesse Kontrolle/Ersetzen des Öls im Getriebegehäuse Control/sustituir aceite en caja cambio					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				
Sostituzione olio scatola del cambio e nel carter laterale Change oil in the gearbox and in the gearcase Vidange d'huile dans le boîte de vitesse et dans le carter latéral Ersetzen des Öls im Getriebegehäuse und im Seitengehäuse Substituir aceite caja de cambio y de cárter lateral					1	2	3	4	5	6				
					7	8	9	10	11	12				
					13	14	15	16	17	18				
					19	20	21	22	23	24				
					25	26	27	28	29	30				



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