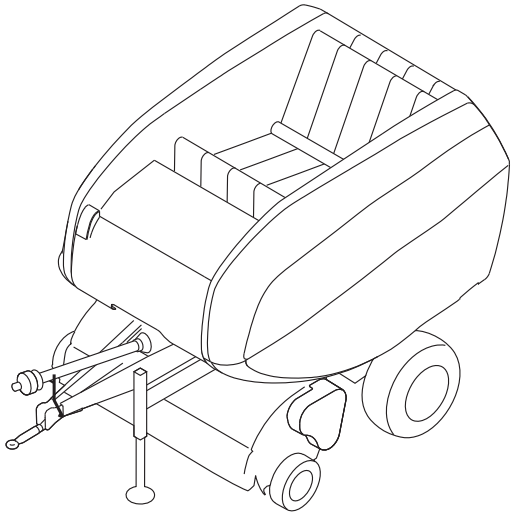

# RV 4116 - RV 4118

## Operation and maintenance manual

| | |
|---|---|
| Edition | 11/2010 |
| Printing date | xxx |
| Language | GB |
| Series | xxx |
| Serial number | xxx |
| Code | 9820D11GB |

# RV 4116 - RV 4118

## ROUND BALERS

**Keep this manual in a well-known and easily accessible place, in order to have it always at disposal when you need to read it.**

**The user and maintenance information, which is an integral part of agricultural machinery, MUST ALWAYS BE KEPT IN THE DRIVER'S SEAT of the tractor to which the machine is combined.**

***IMPORTANT: The text of the document is the translated version of the Italian manual (original language), identified by code number 9820D11IT.***


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| Cod. 9820D11GB | Ed. 11/2010 |
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| Per approvazione..... | |


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| | | | | |
|---|---|---|---|---|
| 1 | **Kverneland Group Kerteminde AS** Taarupstrandvej 25, DK-5300 KERTEMINDE, Denmark | | | |
| 2 | **RF3120 - RF3150 - RF3225 - RF3250 - RF3255 - RF3325**<br>**RV4116 - RV4118 - RV4216 - RV4220**<br>**SB1100 - SB1200 - SB1300** | | | |
| 3 | **160000- 163000** | | 4 | **Mr. Claus Udengaard Thomsen** |

**Mr. Claus Udengaard Thomsen**-CEO of Kverneland Group Kerteminde AS

Kerteminde, 01/10/2010

## IT DICHIARAZIONE CE DI CONFORMITÀ

L'Azienda **(1) dichiara** sotto la propria responsabilità che la macchina agricola con funzione di **PRESSA RACCOGLITRICE** realizzata nei modelli elencati **(2)** ognuno dei quali identificabile da un numero di serie compreso fra i valori **(3)** **è conforme** alle **Direttive Europee**: **2006/42/CE** e successive modifiche - **2004/108/CE** e successive modifiche - **2002/96/CE** e successive modifiche - **97/23/CE** e successive modifiche

**Norme Armonizzate applicate**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Specifiche Tecniche applicate**: **ISO 11684:1995**

**Responsabile (4)**, autorizzato a costituire il **Fascicolo Tecnico**

## EN EC DECLARATION OF CONFORMITY

The Company **(1) declares**, under its sole responsibility, that the agricultural machinery with the function of, **PICK-UP BALER** manufactured in the listed models **(2)** each of them is identified by a serial number included between values **(3) complies with** the following **European Directives**: **2006/42/EC** and subsequent amendments - **2004/108/EC** and subsequent amendments - **2002/96/EC** and subsequent amendments - **97/23/EC** and subsequent amendments

**Applied harmonised standards**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Applied technical specifications**: **ISO 11684:1995**

**Responsible (4)**, authorised to manufacture the **Technical File**

## FR DECLARATION DE CONFORMITE CE

L'Entreprise **(1) déclare** sous sa seule responsabilité que la machine agricole faisant fonction de **RAMASSEUSE-PRESSE** réalisée selon les modèles spécifiés **(2)** chacun desquels se caractérise par un numéro de série compris entre les valeurs **(3) est conforme** aux **Directives Européennes** suivantes: **2006/42/CE** et ses modifications successives - **2004/108/CE** et ses modifications successives - **2002/96/CE** et ses modifications successives - **97/23/CE** et ses modifications successives

**Normes Harmonisées appliquées**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Consignes Techniques appliquées**: **ISO 11684:1995**

**Responsable (4)** autorisé à rédiger le **Dossier Technique**

## DE EU-KONFORMITÄTSERKLÄRUNG

Die Firma **(1) erklärt** unter eigener Verantwortung, dass die landwirtschaftliche Maschine mit den folgenden Funktionen **AUFSAMMELPRESSE** in den aufgeführten Modellen **(2)**, die jeweils durch eine Seriennummer zwischen den Werten **(3)** gekennzeichnet sind, **entsprich**[illegible] den folgenden **Europäischen Richtlinien**: **2006/42/EG** und den darauffolgenden Abänderungen - **2004/108/EG** und den darauffolgenden Abänder[illegible]n - **2002/96/EG** und den darauffolgenden Abänderungen - **97/23/EG** u[illegible]n darauffolgenden Abänderungen

**Gültige Harmonisierte Norme[illegible]N 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Gültige Techni[illegible] Spezifikationen**: **ISO 11684:1995**

**Bevollmächtigter (**[illegible]r Erst[illegible]ung der **technischen Unterlagen**

## DA EF-OVERENSSTEMMELSESERKLÆRING

Firmaet **(1) erklærer** under eget ansvarat landbrugsmaskinen med funktionen **BALLEPRESSER** produceret i følgende modeller **(2)** og som hver især identificeres af et serienummer indenfor værdierne **(3) opfylder** følgende **Europæiske Direktiver**: **2006/42/EF** og senere ændringer - **2004/108/EF** e successive modifiche - **2002/96/EF** og senere ændringer - **97/23/EF** og senere ændringer

**Anvendte Harmoniserede Standarder**: **UNI EN 704:2001 / EN ISO 425[illegible]:2009 / UNI EN ISO 3767-2:1998**

**Anvendte Tekniske Specifikationer**: **ISO 11684:1995**

**Ansvarlig (4)**, bemyndiget til udarbejdelsen af det **tekniske dossier**

## ES [illegible]CLARACIÓN DE CONFORMIDAD CE

La emp[illegible]sa **declara** bajo su responsabilidad que la máquina agrícola con [illegible]ne[illegible]le **P[illegible]ENSA RECOGEDORA** realizada en los modelos indicados **(2)**, [illegible]nad[illegible] modelo se puede identificar mediante un número de serie incluido en[illegible]los valores **(3) cumple** las siguientes **Directivas Europeas**: **2006/42/CE** y suce[illegible]as modificaciones - **2004/108/CE** y sucesivas modificaciones - **[illegible]02/96/CE** y sucesivas modificaciones - **97/23/CE** y sucesivas modificaciones

**N[illegible]rmas armonizadas aplicadas**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Especificaciones técnicas aplicadas**: **ISO 11684:1995**

**Responsable (4)**, autorizado para realizar el **Expediente Técnico**

## ET EÜ VASTAVUSDEKLARATSI[illegible]ON

Ettevõte **(1) deklareerib** omal vastutusel, et põllumaja[illegible]smasin[illegible]lle funktsioon on **PRESSKOGUR** mida valmistatakse loend[illegible]d mudelitena, millest igaüks on identifitseeritav seerianumb[illegible]mis jääb väärtuste **(3)** vahele, **vastab** järgmistele **Euroopa direktiividele**: [illegible]muudetud kujul) - **2004/108/EÜ** (muudetud kujul) - **2002/96/EÜ** [illegible]tud kujul) - **97/23/EÜ** (muudetud kujul)

**Kohaldatavad ühtlustatud stand[illegible]did**: **UNI EN [illegible]:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Kohaldatavad tehnilised kirjeldu[illegible]ISO 11684:1995**

**Vastutav isik (4)**, kellel on volitused t[illegible]ilise dokumentatsiooni koostamiseks

## FI EY:N DIREKTIIVIEN

Yritys **(1) vakuuttaa** omalla vastuullaan, että maatalouskone, jonka käyttötarkoitus on **KOKOOJAPAALAIN** josta on valmistettu luettelossa mainitut mallit **(2)**, joista jokainen on tunnistettavissa sarjanumerosta, joka on arvoltaan välillä **(3)**, **noudattaa** seuraavien **eurooppalaisten direktiivien** vaatimuksia: **2006/42/EY** ja myöhemmät muutokset - **2004/108/EY** ja myöhemmät muutokset - **2002/96/EY** ja myöhemmät muutokset - **97/23/EY** ja myöhemmät muutokset

**Sovelletut harmonisoidut standardit**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Sovelletut tekniset eritelmät**: **ISO 11684:1995**

**Teknisen asiakirja**-aineiston laatimiseen valtuutettu **henkilö (4)**

## NL EG-CONFORMITEITSVERKLARING

Het Bedrijf **(1) verklaart** geheel onder eigen verantwoordelijkheid dat de landbouwmachine met de functie van **VERGAARPERS** vervaardigd in de vermelde modellen **(2)** waarvan elk model geïdentificeerd kan worden aan de hand van een serienummer tussen de waarden **(3) in overeenstemming** is met de volgende **Europese Richtlijnen**: **2006/42/EG** en latere wijzigingen daarop - **2004/108/EG** en latere wijzigingen daarop - **2002/96/EG** en latere wijzigingen daarop - **97/23/EG** en latere wijzigingen daarop

**Toegepaste Geharmoniseerde Normen**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Toegepaste Technische Specificaties**: **ISO 11684:1995**

**Verantwoordelijke (4)** die bevoegd is het **Technische Dossier** samen te stellen

## PT DECLARAÇÃO CE DE CONFORMIDADE

A empresa **(1) declara** sob a sua responsabilidade que a máquina agrícola com função de **ENFARDADEIRA** realizada nos modelos enumerados **(2)**,cada um dos quais identificável por um número de série, compreendido entre os valores **(3)**, **está conforme** com as seguintes **Directivas Europeias**: **2006/42/CE** e sucessivas alterações - **2004/108/CE** e sucessivas alterações - **2002/96/CE** e sucessivas alterações - **97/23/CE** e sucessivas alterações

**Normas Harmonizadas aplicadas**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Especificações Técnicas aplicadas**: **ISO 11684:1995**

**Responsável (4)**, autorizado a preencher o **Processo Técnico**.

## BG ДЕКЛАРАЦИЯ НА ЕО ЗА СЪОТВЕТСТВИЕ

Фирмата **(1) декларира** на собствена отговорност,че селскостопанската машина работеща като **СЪБИРАТЕЛНА ПРЕСА** произведена в изброените модификации **(2)** всяка от които се различава по сериен номер в рамките на стойностите **(3) отговаря** на следните **Европейски Директиви**: **2006/42/CE** и последващите промени - **2004/108/CE** и последващите промени - **2002/96/CE** и последващите промени - **97/23/CE** и последващите промени

**Приложени Хармонизирани Нормативи**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Приложени Специфични Техники**: **ISO 11684:1995**

**Отговорно лице (4)**, упълномощено да състави **техническото досие**.

## CS PROHLÁŠENÍ O SHODĚ PODLE EC

Firma **(1)** na vlastní zodpovědnost **prohlašuje**, že zemědělský stroj s funkcí **SBĚRNÝ LIS** vyrobený v uvedených modelech **(2)**, z nichž každý je označen sériovým číslem o hodnotě mezi **(3), je v souladu** s následujícími **evropskými směrnicemi**: **2006/42/ES** v platném znění - **2004/108/ES** v platném znění - **2002/96/ES** v platném znění - **97/23/ES** v platném znění

**Aplikované harmonizované předpisy**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Aplikované technické specifikace**: **ISO 11684:1995**

**Zodpovědná osoba (4)** zmocněná vypracováním **technické složky**

| | | | | |
|---|---|---|---|---|
| 1 | **Kverneland Group Kerteminde AS** Taarupstrandvej 25, DK-5300 KERTEMINDE, Denmark | | | |
| 2 | **RF3120 - RF3150 - RF3225 - RF3250 - RF3255 - RF3325**<br>**RV4116 - RV4118 - RV4216 - RV4220**<br>**SB1100 - SB1200 - SB1300** | | | |
| 3 | **160000- 163000** | | 4 | **Mr. Claus Udengaard Thomsen** |

## SL IZJAVA ES O SKLADNOSTI

Podjetje **(1) izjavlja** pod lastno odgovornostjo, da je kmetijski stroj s funkcijo **ZBIRALNE PREŠE** v navedenih modelih **(2)**, ki jih je mogoče identificirati na podlagi serijske številke med vrednostmi **(3) v skladu** s sledečimi **evropskimi direktivami**: **2006/42/CE** in s kasnejšimi spremembami - **2004/108/CE** in s kasnejšimi spremembami - **2002/96/CE** in s kasnejšimi spremembami - **97/23/CE** in s kasnejšimi spremembami

**Uporabljeni harmonizirani standardi**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Uporabljene tehnične specifikacije**: **ISO 11684:1995**

**Odgovorna oseba (4)**, pooblaščena za sestavo **Tehničnega zvezka**

## NO EF-SAMSVARSERKLÆRING

Selskapet **(1) bekrefter** under dets ansvar at landbruksmaskinene med funksjonene **RUNDBALLPRESSE** realisert med modellene som er oppført **(2)** som hver kan identifiseres av et serienummer blandt verdiene **(3) i samsvar** med følgende **EU-direktiv**: **2006/42/EF** og senere endringer - **2004/108/EF** og senere endringer - **2002/96/EF** og senere endringer - **97/23/EF** og senere endringer

**Harmoniserte standarder som er brukt**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Tekniske spesifikasjoner som er brukt**: **ISO 11684:1995**

**Ansvarlig (4)**, som er autorisert til å endre og opprette de **tekniske dokumenter**.

## HU EK MEGFELELŐSÉGI NYILATKOZAT

A Cég **(1) saját** felelőssége tudatában kijelenti, hogy a mezőgazdasági gép, a **PRÉSELŐ, ARATÓ** a **(2)** felsorolt tipusokban készített amelyeknek mindegyike a **(3)** értékei közötti sorozatszámmal azonosítható **konformis** a következő **Európai Irányelvekkel**: **2006/42/EK** és következő módosításai - **2004/108/EK** és következő módosításai - **2002/96/EK** és következő módosításai - **97/23/EK** és következő módosításai

**Alkalmazott Harmonizáló Szabványok**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Alkalmazott Speciális Módszerek**: **ISO 11684:1995**

A **Műszaki Dokumentáció** összeállításáért **Meghatalmazott (4)**

## LT EB ATITIKTIES DEKLARACIJA

Įmonė **(1)** prisiimdama atsakomybę **pareiškia**, kad žemės ūkio mašina, kurioje yra šios funkcijos **RINKIMO PRESAS** pagaminta išvardytais modeliais **(2)**, kurių kiekvienas identifikuojamas serijos numeriu, atitinkančių šias vertes **(3)**, **atitinka** šias **ES direktyvas**: **2006/42/CE** ir jų pakeitimus - **2004/108/CE** ir jų pakeitimus - **2002/96/CE** ir jų pakeitimus - **97/23/CE** ir jų pakeitimus

**Taikomos harmonizuotos normos**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Taikomos techninės specifikacijos**: **ISO 11684:1995**

**Techninę bylą** sudarymą galiotas atsakingas **asmuo (4)**

## LV EK ATBILSTĪBAS DEKLARĀCIJA

Uzņēmums (1) **deklarē** zem savas atbildības, ka lauksaimniecības mašīna ar funkciju **SAVĀCĒJPRESE** kas ir izveidota uzrādītajos modeļos (2), katrs no kuriem ir atpazīstams ar sērijas numuru starp vērtībām (3) **atbilst** sekojošām **Eiropas Direktīvām**: **2006/42/EK** un talākām izmaiņām - **2004/108/EK** un talākām izmaiņām - **2002/96/EK** un talākām izmaiņām - **97/23/EK** un talākām izmaiņām

**Piemērotā Harmonizētā Norma**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Piemērotā Tehniskā Īpatnība**: **ISO 11684:1995**

**Atbildīgā persona (4)**, kurai ir atļauts sastādīt **Tehnisko Mapi**.

## SV FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

Företaget **(1)** försäkrar under eget ansvar att jordbruksmaskinen med funktion som PRESS SAMLARE tillverkats i de nämnda modellerna **(2)** som var och en kan identifieras med ett serienummer som innefattas mellan värdena **(3)** överensstämmer med följande **Europeiska Direktiv**: **2006/42/CE** och senare tillägg - **2004/108/CE** och senare tillägg - **2002/96/CE** och senare tillägg - **97/23/CE** och senare tillägg

**Tillämpbara Harmoniserade Standarder**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Tillämpbar Teknisk Specifikation**: **ISO 11684:1995**

**Ansvarig (4)**, auktoriserad att sammanställa den **Tekniska Specifikationen**

## EL ΔΗΛΩΣΗ ΣΥΜΜΌΡΦΩΣΗΣ ΕC

Η Επιχείρηση **(1) δηλώνει** με δική της ευθύνη ότι η γεωργική μηχανή με λειτουργία **ΧΟΡΤΟ-ΣΥΛΛΕΚΤΟ-ΔΕΤΙΚΗ ΜΗΧΑΝΗ** πραγματοποιημένη στα αναφερόμενα μοντέλα **(2)** καθένα από τα οποία προσδιορίζεται με έναν αριθμό σειράς μεταξύ των τιμών **(3) συμφωνεί** στις παρακάτω **Ευρωπαϊκές Οδηγίες**: **2006/42/ΕΚ** και επόμενες τροποποιήσεις - **2004/108/ΕΚ** και επόμενες τροποποιήσεις - **2002/96/ΕΚ** και επόμενες τροποποιήσεις - **97/23/ΕΚ** και επόμενες τροποποιήσεις

**Εφαρμοσμένα Εναρμονισμένα πρότυπα**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Εφαρμοσμένες Τεχνικές προδιαγραφές**: **ISO 11684:1995**

**Υπεύθυνος (4)**, εξουσιοδοτημένος να πραγματοποιήσει το **Τεχνικό Φυλλάδιο**

## PL DEKLARACJA ZGODNOŚCI WE

Firma **(1) deklaruje** na własną odpowiedzialność, że maszyna rolnicza działająca jako **PRASA ROLNICZA** wykonana w wymienionych modelach **(2)**, z których każdy można zidentyfikować dzięki numerowi seryjnemu zawaremu między wartościami **(3) spełnia wymogi** następujących **Dyrektyw Europejskich**: **2006/42/WE** i ich kolejnych poprawek - **2004/108/WE** i ich kolejnych poprawek - **2002/96/WE** i ich kolejnych poprawek - **97/23/WE** i ich kolejnych poprawek

**Zastosowane Normy Zharmonizowane**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Zastosowane Rozwiązania Techniczne** : **ISO 11684:1995**

**Osoba (4)**, upoważniona do sporządzania **Dokumentacji Technicznej**

## RO DECLARAȚIE DE COMFORMITATE CE

Firma **(1) declară** pe propria răspundere că maşina agricolă cu funcția de **PRESĂ DE RECOLTAT** realizată în modelele enumerate **(2)** fiecare identificabil printr-un număr de serie cuprins între valorile **(3) este conform** următoarelor **Directive Europene**: **2006/42/CE** şi modificărilor succesive - **2004/108/CE** şi modificărilor succesive - **2002/96/CE** şi modificărilor succesive - **97/23/CE** şi modificărilor succesive

**Standarde Armonizate aplicate**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Specificații Tehnice aplicate**: **ISO 11684:1995**

**Responsabil (4)**, autorizat să constituie **Dosarul Tehnic**

## SK PREHLÁSENIE O ZHODE S ES

Firma **(1)** na vlastnú zodpovednosť **prehlasuje**, že poľnohospodársky stroj s funkciou **ZBERNÝ LIS** vyrobený v uvedených modeloch **(2)**, z ktorých každý je označený sériovým číslom s hodnotou medzi **(3)**, **je v súlade** s nasledujúcimi **európskymi smernicami**: **2006/42/ES** v platnom znení - **2004/108/ES** v platnom znení - **2002/96/ES** v platnom znení - **97/23/ES** v platnom znení

**Aplikované harmonizované predpisy**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Aplikované technické špecifikácie**: **ISO 11684:1995**

**Zodpovedná osoba (4)** zmocnená vypracovaním **technickej zložky**

## TR AT UYGUNLUK BEYANI

Üretici Firma **(1)** kendi sorumluluğu altında aşağıdaki işlevlere sahip **BALYA MAKİNESİ** her biri **(3)** değerleri arasında bir seri numarası ile tanımlanabilen ve listelenen modellerde **(2)** üretilen tarım makinesinin - **2006/42/CE, 2004/108/CE, 2002/96/CE, 97/23/CE Avrupa Direktiflerine** ve takip eden değişikliklerine **uygun olduğunu beyan eder**.

**Uygulanan Uyumlaştırılmış Standartlar**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**Uygulanan Teknik Şartnameler**: **ISO 11684:1995**

**Teknik Fasikül'ü** hazırlama yetkisine sahip **yetkili (4)**

## MT DIKJARAZZJONI TA' KONFORMITÀ TAL-KE

Il-Kupanija **(1) tiddikjara** fuq ir-responsabbiltà unika tagħha li l-makkinarju agrikolu li jintuża bhala **BALER** indikat fil-mudelli elenkati **(2)** kull wieħed minnhom identifikabbli b'numru tas-serje bejn il-valuri **(3) huwa konformi** mad-**Direttiva Ewropea**: **2006/42/KE** u emendi sussegwenti - **2004/108/KE** u emendi sussegwenti - **2002/96/KE** u emendi sussegwenti - **97/23/KE** u emendi sussegwenti

**Normi Armonizzati applikati**: **UNI EN 704:2001 / EN ISO 4254-1:2009 / UNI EN ISO 3767-2:1998**

**L-Ispeċifikazzjonijiet Tekniċi applikati**: **ISO 11684:1995**

**Responsabbli (4)**, awtorizzat li jikkostitwixxi l-**Fajl Tekniku**

## GENERAL AND SAFETY INFORMATION



## GENERAL INFORMATION ABOUT THE MACHINE



## FAILURE INFORMATION



## PICK-UP UNIT (WIDE TYPE)



## PICK-UP UNIT (EXTRA-LARGE TYPE)



## FEEDING UNIT (ROTOR)



## PRODUCT FEEDING UNIT (WITH SIMPLE FEEDER)



## NET BINDER UNIT (ELECTRONIC)

**TWINE BINDER UNIT (ELECTRONIC)**



**ATTACHMENTS**

## PURPOSE OF THIS MANUAL

– This manual, which is an integral part of the machine, was made by the manufacturer to supply the information that is necessary for the operator (driver of the tractor to which the machine has been coupled), who is authorised to interact with the machine during all uses (operation, maintenance, etc.).

– All pieces of information are supplied in the Manufacturer's mother tongue (Italian) and they can be translated into other languages to meet trading and/or legislative needs.

– The translations in the language of the country of utilisation, provided by the manufacturer, have been carried out directly from the "ORIGINAL INSTRUCTIONS".
If the translations are realised by the mandatory agent or whoever issues the machine in the linguistic zone in consideration, they must carry out the translation starting from the original instructions and the following writing must be shown: "TRANSLATION FROM THE ORIGINAL INSTRUCTIONS".

– The information aims at awakening the users to be extremely careful to prevent possible risks. Caution is always irreplaceable. Safety is also put in the hands of the personnel who work with the machine during its operating period.

**Carefully read the instructions that are specified in the supplied manual and the ones that have been directly stuck on the machine; make sure that you understand them well, especially safety instructions.**

– Dedicate a bit of time to read the instructions to prevent unpleasant accidents. When an accident occurs, it is too late to remember that you had to behave differently.

**Keep this manual in a well-known and easily accessible place, in order to have it always at disposal when you need to read it.**

**Keep this manual in a well-known and easily accessible place, in order to have it always at disposal when you need to read it.**
**The user and maintenance information, which is an integral part of agricultural machinery, MUST ALWAYS BE KEPT IN THE DRIVER'S SEAT of the tractor to which the machine is combined.**

**To easily find out the specific topics of interest, read the table of contents and the index.**

– The manual is structured into parts, which are collected according to the layout of the reference machine.
Some pieces of information that are mentioned in the manual may not completely match the real layout of the delivered machine. This does not influence the relevant understanding and does not compromise their safety level.

– The manufacturer reserves the right to modify the manual without the duty to previously communicate it, provided that it does not compromise the health and the safety of operators.

– To highlight certain essential parts of the text and to indicate important specifications, several symbols have been adopted.

**Danger**
**Warning**
**Indicates extremely dangerous situations that, if disregarded, may seriously endanger the health and safety of persons.**

**Caution**
**Precaution**
**Indicates that suitable practices must be adopted to avoid the risk of injuries and damages.**

**Important**
**Indicates particularly important technical information that should not be disregarded**

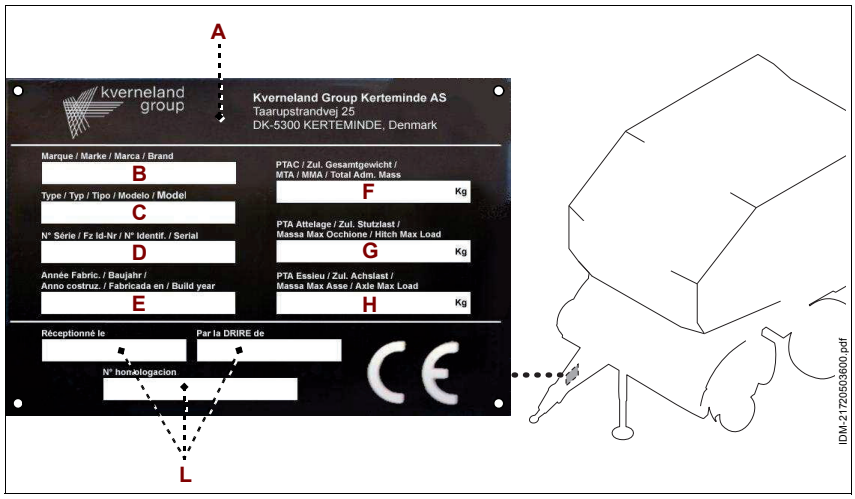
## USER'S MANUAL

The manual is structured into parts, which are collected according to the layout of the reference machine.
The list shows a brief description of the units that, coupled together, form the layout of the machine.

- **General and safety information (part 1):** it includes the information to consult the manual and the safety details.
- **General machine information (part 2):** it includes the information about the functionalities, the main features and the different intervention modes (handling, coupling to the tractor, adjustment, maintenance, etc.) of the machine.
- **Information about failures (part 3):** it includes the information about the irregularities of all working units (tabular structure), which can occur during the normal operation.
- **Pick-up unit (part 4):** it includes the information about the functionalities, the main features and the different intervention modes (adjustment, maintenance, etc.) for the type of unit that has been installed in the machine.
- **Feeding unit (part 5):** it includes the information about the functionalities, the main features and the different intervention modes (adjustment, maintenance, etc.) for the type of unit that has been installed in the machine.
- **Net binder unit (part 6):** it includes the information about the functionalities, the main features and the different intervention modes (adjustment, maintenance, etc.) for the type of unit that has been installed in the machine.
- **Twine binder unit (part 7):** it includes the information about the functionalities, the main features and the different intervention modes (adjustment, maintenance, etc.) for the type of unit that has been installed in the machine.
- **Attachments (part 8):** it includes the information (structured as diagrams) about thee functionalities and the features of the systems (electric, hydraulic, etc.).
- **Specialised interventions (booklet 9):** contain the information on the various intervention procedures (setting, maintenance, etc.) of the types of units installed on the machine, reserved exclusively for specialised technicians.
- **Electronic control system:** it is delivered together with the user and maintenance manual, and includes the information about the functionalities, the features and the programming modes.

## MANUFACTURER AND MACHINE IDENTIFICATION

The displayed identification plate is directly stuck on the machine. It lists traceability details and references to be used when asking for technical support and/or ordering spare parts.
The plate also specifies the minimum instructions that are necessary for the coupling to the tractor.




**A)** Manufacturer ID

**B)** Machine mark

**C)** Machine model

**D)** Serial number

**E)** Year of fabrication

**F)** Total weight (kg)

**G)** Mass on lifting eye (kg)

**H)** Mass on axle (kg)

**L)** Approval data

## PROCEDURE TO REQUEST TECHNICAL ASSISTANCE.

In case of need, call the After-Sales Service of the manufacturer, of the local dealer or an authorised workshop.
If you ask for technical support concerning the machine, specify the data listed in the identification plate, the approximate work hours and the type of problem being detected.

## GLOSSARY AND TERMINOLOGY

A few terms which are widely used in the manual are described below to better explain their meaning.

– **Routine maintenance:** set of operations that are necessary to keep the functionality, the efficiency and the safety requirements of the machine. The manufacturer establishes the intervals between the interventions and, if necessary, also establishes the performance modes for those operations that imply particular procedures.

– **Operator:** person that has been selected and authorised among the personnel who have the qualifications, the competences and the knowledge that are necessary to drive the tractor to which the machine is coupled, and who are also capable of performing the production activity autonomously, as well as in an adequate, correct and riskless way.

## ATTACHED DOCUMENTATION

The specified documentation is supplied together with the manual and/or as an attachment.

– Declaration of conformity

– Test certificate

– Declaration of conformity to the type of machine that is approved for road use (only in Italy)
The declaration of conformity to the approved type must be used to ask for the vehicle registration document to the Driver and Vehicle Licensing Centre.

– Documentation about the installed commercial components (for example, the documentation about the cardan shaft)

– Wiring diagrams

– Hydraulic diagrams

– User manual of the electronic control system.

## GENERAL SAFETY RULES

– When designing and manufacturing the machine, the Manufacturer paid special attention to the aspects that may endanger the safety and health of the people working with the machine.
Besides the compliance with the laws in force, the Manufacturer applies all "code of practice rules".

– Carefully read the instructions that are specified in the supplied manual and the ones that have been directly stuck on the machine; make sure that you understand them well, especially safety instructions.

– Dedicate a bit of time to read the instructions to prevent unpleasant accidents. When an accident occurs, it is too late to remember that you had to behave differently.

– Pay attention to the information signs that are directly stuck to the machine.
Information signs can have different colours and shapes to warn about dangers, obligations, prohibitions and instructions.

– Information signs must be kept readable and the instructions specified in them must be complied with.

– Do not tamper with, escape, remove or bypass the safety devices that are installed in the machine. If this requirement is not met, people's safety and health may be seriously compromised.

– The personnel that, during the entire operating life of the machine, perform any type of intervention in the same machine must have recognised competences and skills in the specific sector. If the aforesaid requirements are missing, damages to the health and safety of people may occur.

## SAFETY RULES ABOUT LOADING AND TRANSPORT OPERATIONS

– The personnel in charge of loading, unloading and handling the machine must be competent and skilled according to the specific sector and must be in command of the means to be used.

– If, during the life of the machine, it is necessary to load and unload it on a means of transport, the personnel in charge must comply with the pieces of information that are directly specified on the machine, on its package and in the user manual.

– Lift and transport the machine by using suitable means having an adequate capacity.

– Before loading the machine by using a tractor, disconnect the cardan shaft from the tractor and the feeding systems (electric power, hydraulic system, etc.).

– Before disconnecting the machine from the tractor, position the support in a suitable way to make the following connection easier.

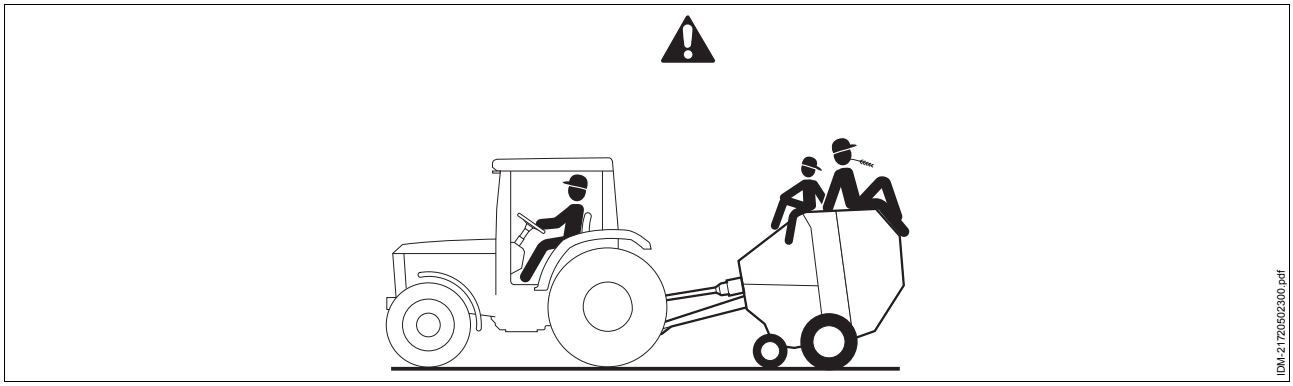
– Before transferring the machine onto a means of transport, make sure that the machine and its components are suitably fastened, and that their loading gauge does not exceed the maximum overall dimensions being provided for. If necessary, prearrange suitable signs.

## SAFETY RULES ABOUT USE AND OPERATION

– The operator of the machine (driver) must have competences and skills that are suitable to the type of work to be performed, and his/her conditions must be appropriate to perform the activity in a safe way.

– The operator must be suitably trained and documented about the use of the machine, and the first time the machine is used, (s)he must simulate some test manoeuvres to identify main controls and functions.

– During normal working conditions, the machine must be driven by a single operator (driver) in the tractor's driver seat. The operator is in charge of driving the machine and to operate the different controls to activate its functions.




– **During normal working conditions, it is absolutely forbidden to transport people on the machine or make them get in to check its operation.**

– The machine has been designed and manufactured in order to meet all operating conditions indicated by the Manufacturer. Tampering with any device in order to obtain a different performance from its original one may compromise people's health and safety and lead to economic losses.

– The machine must be used only for the purposes provided for by the Manufacturer. An improper use of the machine can endanger people's safety and lead to economic losses.

– Do no use the machine if the safety devices are not perfectly installed and efficient. If this requirement is not met, people's safety and health may be seriously compromised.

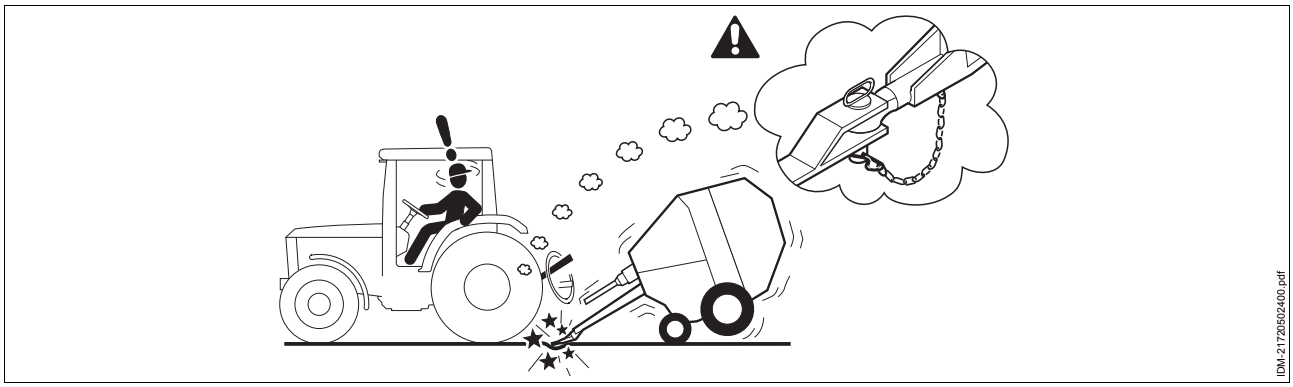
– Do not go on using the machine in case irregularities are detected. Immediately stop the machine, and then restart it only when the normal operating conditions have been restored.

– During the pick-up of the products, evaluate their typology (short, dry, etc.) and hold to the indications specified in the operation manual to avoid clogging.

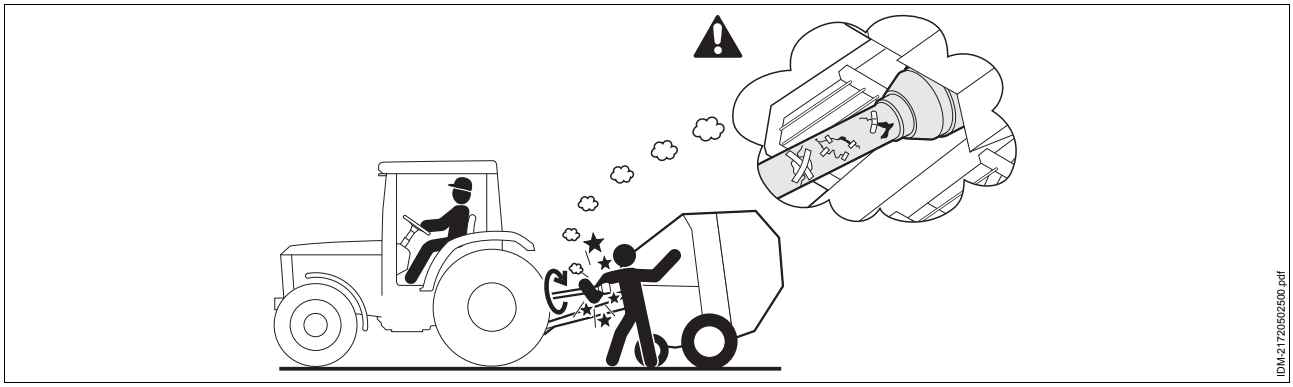
– Prevent unauthorised persons, especially children, old people and domestic animals from approaching the operating area when the machine is used. If it is necessary, immediately stop the machine and make people leave hazardous areas.

– Do not leave the machine unattended when the tractor is running.

– Couple the machine to tractors whose category and features are suitable; they have to be equipped with pressurised cab in order to prevent the driver from being exposed to dust.
If the tractor is not equipped with a pressurised cab, use suitable personal protective devices (goggles, masks, etc.).




**– Connect the machine to the tractor's towing bar in a way to prevent it from accidentally uncoupling during normal working conditions.**




**– Connect the cardan shaft in a correct way and with perfectly efficient safety protections. The incorrect installation and inefficiency of safety protections cause the majority of accidents (even lethal accidents).**

**– To connect the cardan shaft, the PTO must be disengaged, tractor's engine must be turned off and the ignition key must be removed and kept by the driver.**

**– First, connect the cardan to the splined shaft of the reduction gear in the machine, and then connect it to tractor PTO. Properly couple it to prevent the protections from rotating.**

**– Use only the cardan shaft supplied with the machine or rather use an original spare part. Do not use the shaft supplied with other machines.**

**If the cardan shaft supplied with the machine is equipped with the safety bolt and the latter has to be replaced, use an original spare part having the same features that are specified in the technical data table.**

– Make sure that the cardan shaft complies with the laws in force about safety.

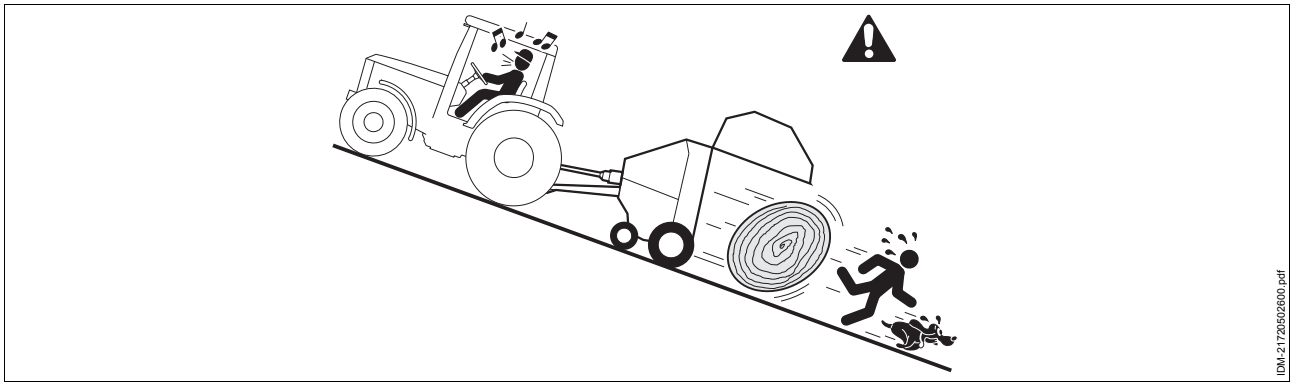
– Before activating the PTO, make sure that the cardan shaft is correctly installed, that the rotation direction and the maximum rate comply with machine working parameters.

**Further information regarding the cardan shaft is shown in the manual issued by its manufacturer.**

– Never activate the PTO when the tractor engine is turned off and the cardan shaft is connected. In case of accidental start-up of the engine, the operating conditions will not be suitable to guarantee the safety of the people who are close to the machine.

– Before operating the machine, check that all protection devices are correctly installed and in working order and that all connections (oil-pressure, electric, etc.) are performed in a suitable way. Furthermore, warning and information devices must be perfectly efficient and visible.

– Do not try to unflood the machine or remove the clogging when the tractor is running, but stop it in safe conditions with a deactivated power take-off, the motor OFF and the ignition key being disconnected.

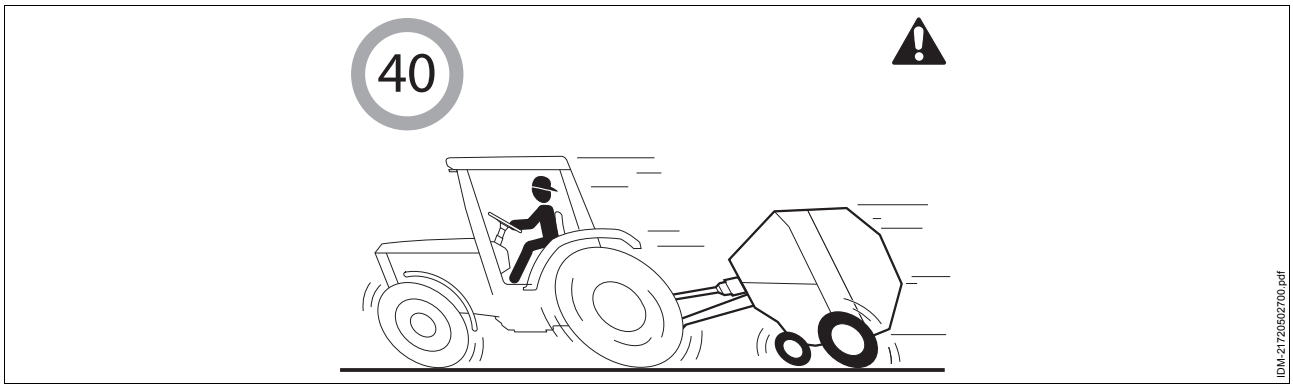



– **In case of steep soils, adapt the speed of the machine according to the slope and the stability of the soil.**

– In case of soils whose slope can cause risks of sudden and uncontrolled movements of the bale, unload the bale crosswise to the slope. Use this precaution especially when the machine is equipped with the bale kicker.

– Use the machine with the personal protective devices that are specified in the manual and the ones that are provided for by the laws in force about safety at work.

## SAFETY RULES ABOUT ROAD CIRCULATION



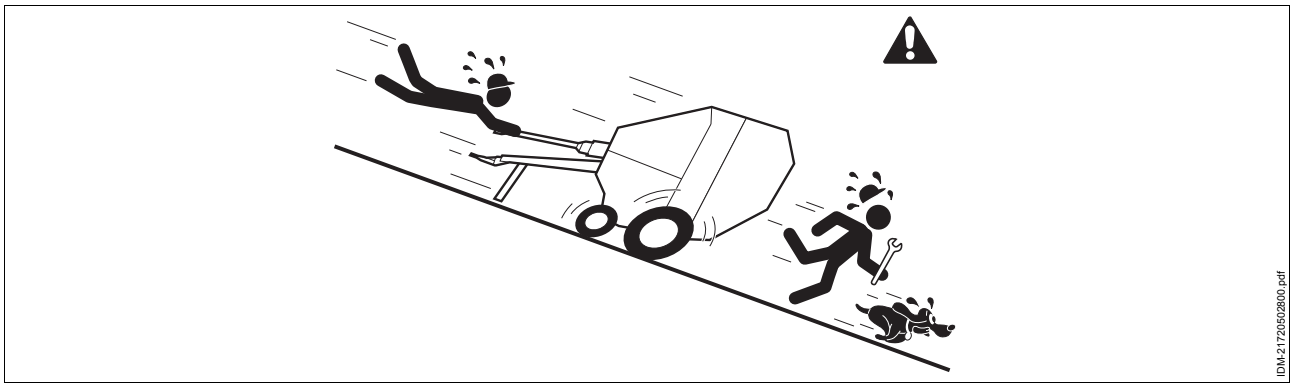

– **The machine is approved for road use over the Italian national territory.**
**In case of road circulation, the driver must check the pressure and the wearing condition of the tyres; furthermore, the driver must check that warning and information devices are perfectly efficient and visible.**
**In case of road circulation, the driver must comply with the traffic regulations in force in the country where the machine is used and, furthermore, (s)he must suitably drive it to assure the safety of all other road users.**

– Comply with the speed limits being provided for and adapt the speed according to the general conditions (busy road traffic, tortuous streets, etc.).

– Do not use the machine as a means to transport people or things.
  During road use, the baling chamber must be closed and empty (without bale).
– Before road use, check that the cardan shaft is correctly connected to the power take-off, which must be disconnected and that the pick-up unit is lifted and locked in safe conditions.

## SAFETY RULES ABOUT MAINTENANCE AND ADJUSTMENTS

– Keep the machine in maximum efficiency conditions and carry out the scheduled maintenance recommended by the Manufacturer. Good maintenance ensures the best performance, a longer work life and the constant maintenance of the safety requirements.
  Good maintenance will allow, moreover, to avoid fire risks during the operative phases of the machine.
– Before performing any maintenance and adjustment intervention, activate all safety devices of the machine.
– Before performing any maintenance intervention in areas of the machine that are hazardous or not easily accessible, prearrange suitable safety conditions in compliance with the laws in force about occupational safety.




– **Perform maintenance and adjustment operations with the machine placed in a level area; the wheels must be locked by using the specific supplied wedges, the power take-off must be deactivated, the motor OFF and the ignition key disconnected.**
– During adjustment and maintenance operations in the machine, use only the clothes and/or the personal protective devices that are specified by the Manufacturer and established by the laws in force about occupational safety.
– Replace worn components with original spare parts. Use oils and greases recommended by the manufacturer. This will ensure the perfect operation of the machine and the safety level required.
– Do not throw away any polluting material in the environment. Carry out their disposal in compliance with the relevant legislation in force.
– Only authorised personnel will have to perform extraordinary maintenance operations; the personnel will have to prearrange all necessary safety conditions and comply with the specified procedures.

**Do not perform checks and adjustments when the machine is moving and with an operator being transported. This situation was not provided for when designing and manufacturing the machine.**

## SAFETY RULES FOR THE ENVIRONMENTAL IMPACT

– The Waste of Electrical and Electronic Equipment may contain dangerous substances with potentially harmful effects on the environment and on people. It is recommended to correctly dispose them.

– When the machine is dismantled, select all components according to their chemical characteristics and collect them separately in compliance with the relevant laws.

– With reference to the WEEE directive (Waste of Electrical and Electronic Equipment), during dismantling, the user must separate the electrical and the electronic components and dispose them in the appropriate authorized collection centres or give them back as they are to the seller, when a new purchase is made.

All the components, which must be separated and disposed of in a specific manner, are marked with a special mark.

– The unauthorized disposal of Waste of Electrical and Electronic Equipment (WEEE) is subject to fine according to sanctions regulated by the laws in force in the territory where the infraction has been verified.

– As implementation of the European directives (2002/95/CE, 2002/96/CE, 2003/108/CE) in the Italian territory, for example, a law decree (n. 151 dated July 25 2005) has been enacted, thus providing for an administrative fine of 2000÷5000.

## DESCRIPTION OF SAFETY SIGNS

The figures represent the safety and information signals applied to the machine. The meaning of each signal is explained beside the machine.

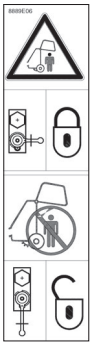
**General danger:** carefully read the operator's manual prior to starting the machine operations. Observe the norms and the safety instructions during operation.

**General danger:** prior to carrying out maintenance or repair work, stop the motor and remove the ignition key.

**General danger:** prior to carrying out maintenance or repair work on the pick up unit, stop the motor and remove the ignition key.

**General danger:** lifting point with hook tool.

**General danger:** lifting point with fork tool.



**Danger of body crushing:** prior to intervening in zones of potential danger, within the machine and with the gate open, insert the safety block.

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**Danger of body crushing:** prior to intervening in zones of potential danger, insert the safety block.

**Danger of body crushing:** when the motor of the tractor is running, stay clear of the zone where the gate opens.

**Danger of body crushing:** upload the bale in order to prevent the risk of sudden and uncontrolled movements (for example, in case of extremely steep soils).

**Danger of body crushing:** stay at a safe distance from the raised gate, if the safety block is not inserted.

**Danger of body crushing:** when the motor is running, stay clear of the articulations.

**Danger of body crushing:** when the lifter is in operation stay outside the working range of the three-point tool.

**Danger of body crushing:** prior to unhooking or parking the machine, put the wedges in place.

**Danger of catching:** do not go near any components of the pick-up, while the tractor's motor is running and the PTO is inserted.

**Danger of catching:** when the motor is running, do not open or remove the protections.

**Danger of catching:** when the motor is running, do not open or remove the protections.

**Danger of catching:** prior to starting the machine, close the safety protections.

**Danger of catching:** when the motor is running, do not open or remove the protections.

**Danger of catching:** when the motor is running, do not open or remove the protections.

**Danger of shearing:** remain far from the machines work range.

**Danger of pouring out of fluids:** avoid spills of fluids under pressure. For maintenance procedures, see the technical manual.

**Danger of explosion:** the hydraulic accumulators contain gas and oil under pressure. For their removal or repair, follow the instructions contained in the technical manual.

**Danger of electrocution:** remain at a sufficient distance from the electrical lines.

**Danger of falling:** do not stand on the platform or the steps when the machine is in operation.

**No parking:** it is forbidden to stop within the range of action of the machine.
Prevent unauthorised persons, especially children, old people and domestic animals from approaching the operating area when the machine is used. If it is necessary, immediately stop the machine and make people leave hazardous areas.

**Perching not allowed:** do not utilise the zone in which the signal is applied as a perch for reaching higher parts of the machine.

**safety devices**

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## GENERAL DESCRIPTION OF THE MACHINE

– The variable chamber round baler is a towed machine, which was designed and manufactured for agricultural purposes and, more precisely, to pick windrows of different stem plants (fodders, straw, etc.), in order to press them into round bales.

– According to the different production needs, the machine can be set up with different versions and models (See "Technical Data").

– The electronic control system , which is positioned close to the driver's seat in the tractor, manages and enables work parameters (bale diameter, binding type, etc.), operating conditions and operation irregularities of the machine.

– The machine allows manufacturing "soft core" or "solid core" bales, with different density and diameter.

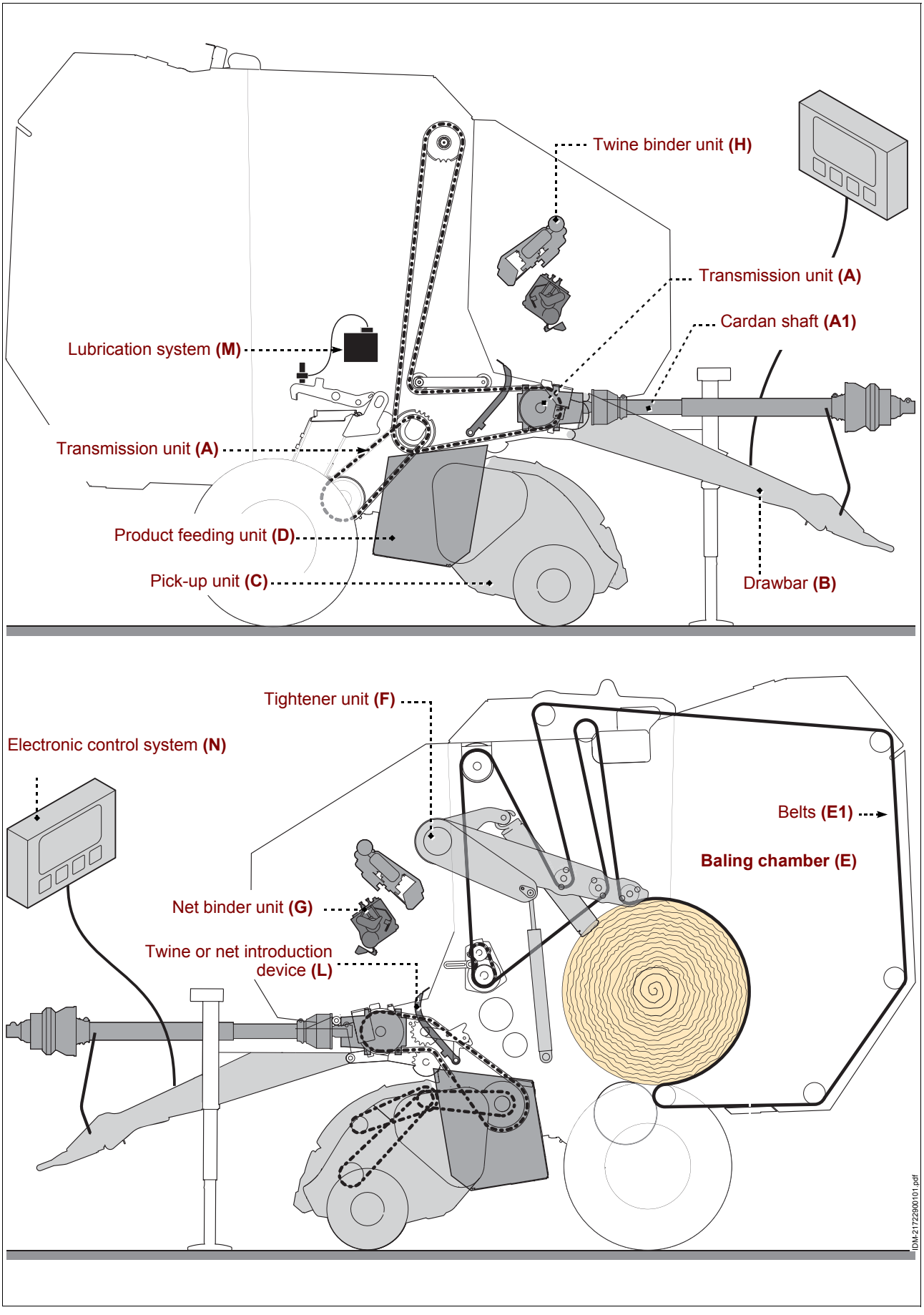
– Only one operator is requested on the tractor (driver) for the use and operation of the machine. The driver must meet the necessary requirements and be suitably trained by the dealer for the safe drive and use of the machine.

– The machine can pick different stem plants, such as straw, hay, and fodder to be ensiled, as well as poles (maize, soybean, Indian millet, etc.). For normal works, the machine must be towed by a tractor whose category and power are appropriate, and it must also be equipped with PTO to drive the main devices.

– The tractor must be equipped with couplings for PTO, electric and hydraulic systems.

– The tractor should be equipped with driver's seat pressurised cabin in order to prevent the driver from wearing personal protective devices (dust mask, noise-reduction headset, etc).

## Main components



- **Transmission unit (A)**: it is mechanical type (with reduction gear and cardan shaft ) and conveys motion to the main operating units of the machine by means of a kinematic mechanism that is formed by pinions and chains.
- **Cardan shaft (A1):** the shaft that is supplied with the machine is homocinetic and can be equipped with a safety bolt.
  The cardan shaft supplied with the machine complies with the provisions of the directives and standards in force about this matter.
- **Drawbar (B)**: it connects the machine to the tractor and its height can be adjusted to adapt to the towing eye of the tractor.
- **Pick-up unit (C)**: it picks the windrow product and conveys it into the feeding unit.
  The machine, depending upon the conformation of the ground and the width of the windrow, may be equipped with a pick-up unit of various types.(1)
  The pick-up unit is equipped with a safety bolt , which, in case of product clogging, gets sheared to prevent damages to units or parts of the machine.
- **Product feeding unit (D)**: it transfers the product into the baling chamber.
  The machine, depending upon the type of product to pick up, may be equipped with a feeding unit of various types. (¹)
- **Baling chamber (E)**: it is "variable volume" type and creates the bale by means of belts **(E1)** and rollers.
- **Tightener unit (F)**: it tightens the belts **(E1)** of the baling chamber **(E)**.
- **Net binder unit (G)**: it quickly binds the bale up to the edges, so that the bale becomes solid and compact. (¹)
- **Twine binder unit (H)**: it binds the bale with spiral twine winding, so that the bale becomes solid and compact. (¹)
- **Net or twine introduction device (L)**: it introduces the binding element into the baling chamber.
- **Centralized lubrication system (M)**: it automatically lubricates the transmission chains.
- **Electronic control system (N)**: it is used to display and set production parameters. (¹)

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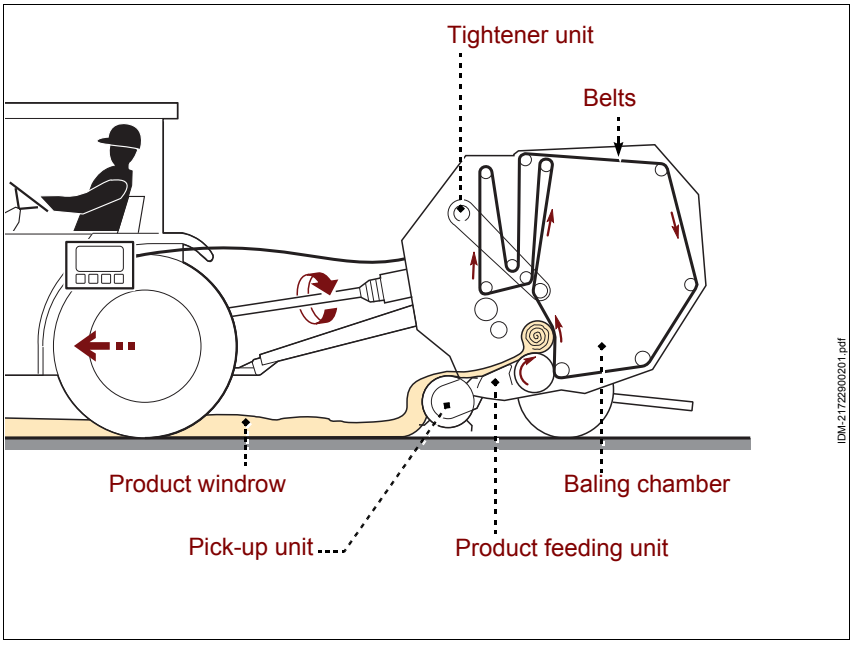
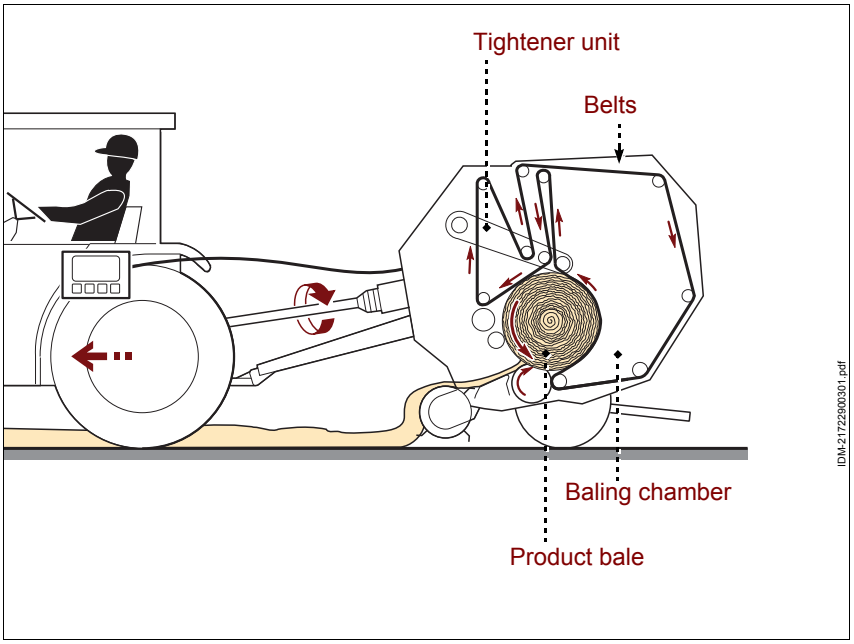
(1) To know the features and the functionalities of the operator unit installed in the machine, see the relevant part.

## OPERATION CYCLE

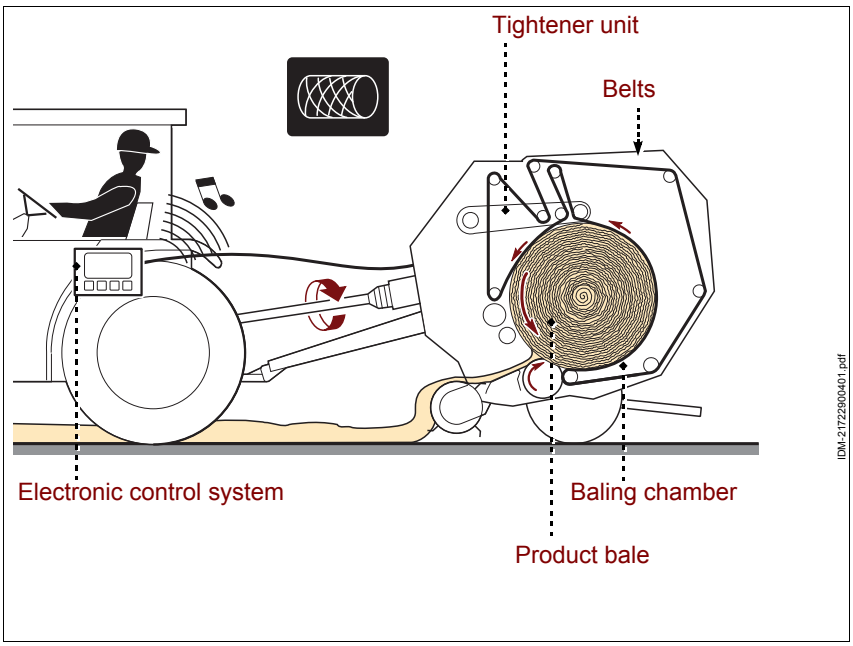
– The machine goes straight along the windrow; the pick-up unit takes the products, and then transports it into the feeding unit.
The feed unit conveys the product into the baling chamber.



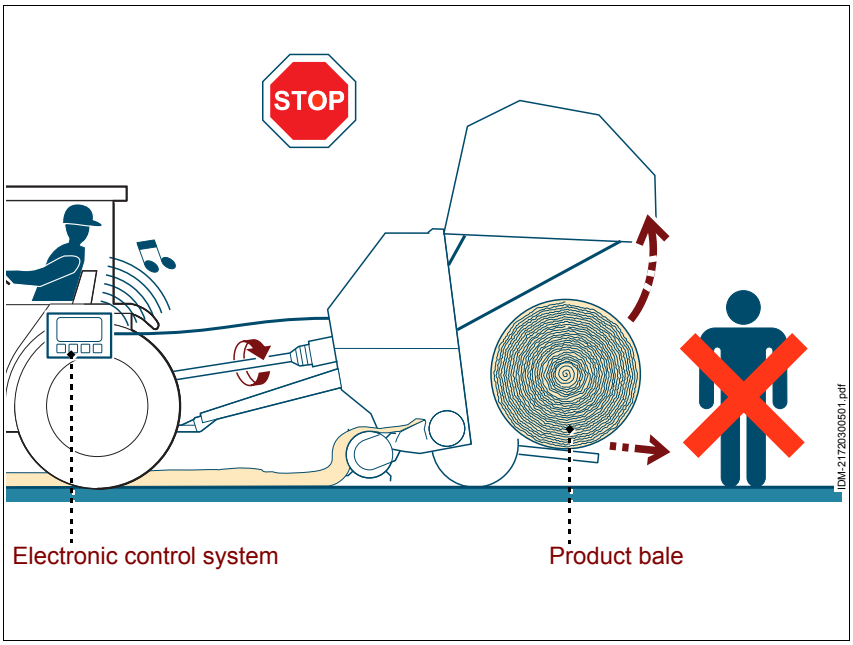

– The baling process starts inside the baling chamber thanks to the operation of the belts. The tightener unit keeps the belts tightened to constantly adapt to the varying bale diameter.



– When the bale achieves the set diameter, the electronic control system emits a sound signal to warn the operator that it is necessary to interrupt the forward movement of the tractor.
According to the selected type of binding (twine, net or mixed) and the operating mode set in the electronic control system (manual or automatic), the binder unit starts the bale binding operation.




– At the end of the binding process, the electronic control system emits another sound signal to warn the operator that it is possible to open the tail gate for bale unloading.
If the machine is equipped with the bale kicker , you can restart working without the need to perform any additional manoeuvre.




**If the machine is not equipped with the bale kicker , the operator will have to move the machine backwards of about 4÷5 m, and then unload the bale. At the end of the unloading operation, in order to prevent the tail gate from bumping against the bale during the closing operation, the operator must take the machine back to the beginning of the windrow; the work can be continued by applying the specific procedures.**

**Caution**
**Precaution**

**In case of soils whose slope can cause risks of sudden and uncontrolled movements of the bale, unload the bale crosswise to the slope. Use this precaution especially when the machine is equipped with the bale kicker.**
**If it is not possible to unload the bale in a safe way, transfer the machine into a suitable area, and then unload the bale.**

## IMPROPER USE

The use of the machine for operations that are different from the purposes being provided for by the manufacturer must be considered as IMPROPER USE.

- Do not circulate in public roads with machines that are not type-approved and not correctly prearranged to assure its own safety, as well as the safety of the other users of the street.
- Do not use the machine as a means to transport people or things.
- Do not couple the machine to tractors whose category and features are not suitable.
- Do not use the machine to pick up products that are different from the established ones.
- Do not use the machine to pick up the product (straw, hay, ensiled products and maize poles) if it has not been prepared in windrows.
- Replace the shorn "safety bolts" ONLY with original spare parts that comply with the provisions.

**In case of improper use of the machine, the operator assumes the responsibilities (moral, civil and criminal) for the damages caused to people or things.**

## RESIDUAL RISKS

Even though the manufacturer complies with the laws in force and adopts the "code of practice", the listed residual risks still remain.

- Danger of lethal "whiplash" if the PTO is accidentally started during the connection of the cardan shaft, which is not performed according to the correct procedures and sequences.

  **Do not engage the cardan shaft when the engine of the tractor is on, the ignition key is engaged and the PTO is activated.**
  **Engage the cardan shaft first to the PTO of the machine, and then to the PTO of the tractor.**

- Danger of catching and dragging with serious consequences (even mortal) if the operator tries to unflood the machine without using the procedures that are described in the user and maintenance manual, and without using the relevant devices.

  **Do not try to remove product clogging in the machine when the engine of the tractor is on, the ignition key is engaged and the PTO is activated.**
  **Product clogging removal operations must be performed according to the specific procedures (See booklet 4).**

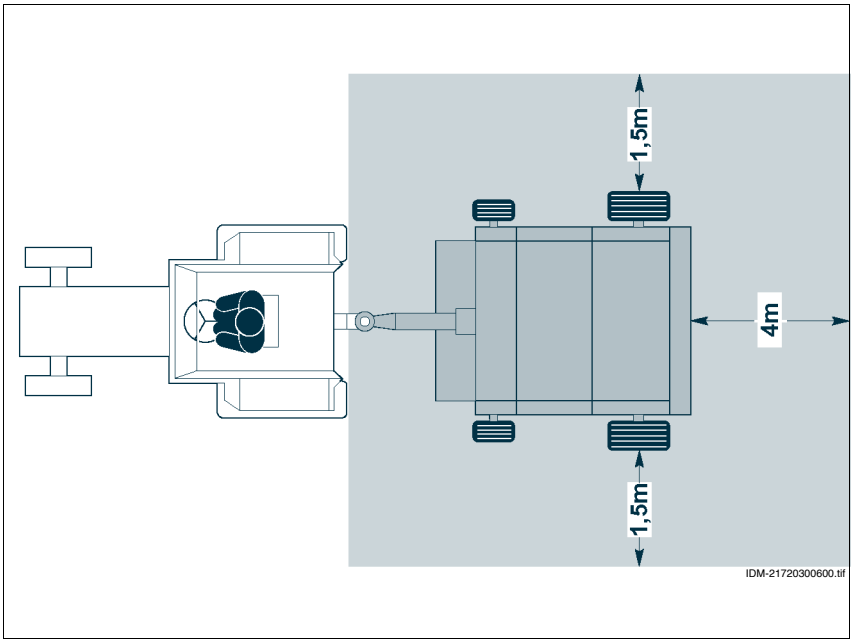
- If the operator uses the machine at speeds that are not suitable to the ground (steep slopes) and/or with slopes that exceed the maximum allowed levels, the machine may become unstable and/or capsize.

  **Do not use the machine in soils that are characterised by risks of instability and/or overturning, such as for example: close to ditches, precipices, loose soil, steep slopes, etc. If the aforesaid conditions are present, employ all necessary measures to prevent possible risks.**

- Danger of running into people, animals or things during reverse motion, opening/closing of the tail gate and bale unloading caused by a reduced visibility from the driver's seat of the area behind the machine.
- Danger of contact between the upper limbs or parts of the body and parts of the machine during those maintenance operations in which it is necessary to perform some checks with machine devices being moving.
- Danger of fire if machine maintenance and check procedures are not performed correctly, especially if there is a bale (partial or complete) inside the baling chamber.
- Danger of catching into the cardan shaft if the protective devices are damaged or are not installed in a correct way.

## AREAS OF DANGER

The figure illustrates the danger zones where no-one should be when the machine is in use. It is the operator's duty to keep such zones out of bounds; if necessary, (s)he should turn the engine off and clear out the danger zone.




## NIGHT WORK

The machine can be used during night hours, too. The work in such conditions implies an increased number of risks. In order to avoid endangering the health and safety of people, all lighting devices that are installed in the tractor and in the machine must be effective and efficient.
If the work area conditions require it, you have to perform a preliminary inspection in order to identify hazardous areas (steep soils, closeness to precipices, etc.) and mark them adequately.

**Caution**
**Precaution**

**All adjustment, maintenance and check operations of the machine can be performed during night hours only if the safety and lighting conditions are suitable.**

## TECHNICAL DATA RV 4116 F

**Table 1:** Technical data of the machine

| Description | Unit of measurement | Model | | |
|---|---|---|---|---|
| | | RV 4116 FT | RV 4116 FN | RV 4116 FNT |
| **Features of the machine** | | | | |
| Total length of the machine | mm | 4480 | 4480 | 4480 |
| Total width of the machine | mm | 2470 | 2470 | 2470 |
| Total height of the machine | mm | 2700 | 2700 | 2700 |
| Weight | kg | 2600 | 2600 | 2660 |
| Bale hourly output | n. | 18÷35 | 18÷35 | 18÷35 |
| **Features of the tyres** | | | | |
| Dimensions of machine tyres | | 11.5/80-15" | 11.5/80-15" | 11.5/80-15" |
| inflation pressure | bar | 2,5 | 2,5 | 2,5 |
| Dimensions of machine tyres (optional) | | a - 15.0/55-17"<br>b - 19.0/45-17" | a - 15.0/55-17"<br>b - 19.0/45-17" | a - 15.0/55-17"<br>b - 19.0/45-17" |
| inflation pressure | bar | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 |
| Dimensions of pick-up wheel tyres | | 16x6,50-8 6 PR | 16x6,50-8 6 PR | 16x6,50-8 6 PR |
| inflation pressure | bar | 1,5 | 1,5 | 1,5 |
| Tightening torque for machine wheel columns | Nm | 310 | 310 | 310 |
| **Lubrication system** | | | | |
| Tank capacity | lt | 2 | | |
| Lubrication type | | Automatic lubrication | | |
| **Features of the baling chamber** | | | | |
| Rollers | n. | 3 | 3 | 3 |
| Belts | n. | 5 | 5 | 5 |
| **Feeding unit** | | | | |
| Type | | Simple feeder | Simple feeder | Simple feeder |
| **Net binder unit** | | | | |
| Type | | Electronic binder (Optional). | Electronic binder | Electronic binder |
| **Twine binder unit** | | | | |
| Type | | Electronic binder | Electronic binder (Optional). | Electronic binder |
| Quantity of twines | n. | 2 | 2 | 2 |
| **Features of the net reel** | | | | |
| Maximum diameter of the reel | mm | 320 | | |
| Maximum width of the reel | mm | 1300 | | |
| Net type | gr/m | 14÷18 | | |
| **Features of the twine reel** | | | | |
| Maximum diameter of the reel | mm | 250 | | |
| Maximum height of the reel | mm | 240 | | |

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**Table 1:** Technical data of the machine

| Description | Unit of measurement | Model | | |
|---|---|---|---|---|
| | | RV 4116 FT | RV 4116 FN | RV 4116 FNT |
| Twine type (synthetic) | m/kg | 500÷1000 | | |
| Twine type (vegetal) | m/kg | 200÷400 | | |
| **Features of the bale** | | | | |
| Diameter | mm | 600÷1650 | 600÷1650 | 600÷1650 |
| Width | mm | 1200 | 1200 | 1200 |
| Max volume | m³ | 2,5 | 2,5 | 2,5 |
| **Pick-up unit** | | | | |
| Type | | "Large" pick-up | "Large" pick-up | "Large" pick-up |
| Maximum pick-up width | mm | 2000 (1820 DIN standard). | 2000 (1820 DIN standard). | 2000 (1820 DIN standard). |
| Tines bars | n. | 4 | 4 | 4 |
| Pick-up tines (for each bar) | n. | 28 | 28 | 28 |
| Distance between pick-up tines | mm | 60 | 60 | 60 |
| Safety bolt | | M8x40 UNI 5739 R=80 Kg/mm² (8.8) | | |
| Lubrication type | | Lubrication from centralised system | | |
| **Tractor requirements** | | | | |
| Minimum power to the pto | CV (kW) | 55 (38) | 55 (38) | 55 (38) |
| Recommended power to the pto | CV (kW) | 64 (45) | 64 (45) | 64 (45) |
| PTO rotation rate | rpm | 540 | 540 | 540 |
| Splined profile of the PTO shaft | | 1"3/8 z=6 | | |
| Tow bar | | Rotating, with "U" hook | | |
| Diameter of towing coupling pivot of the tractor | mm | 35 - 40 - 50 | | |
| Hydraulic system | | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position |
| Quick-release couplings for hydraulic system | | ISO 7241-1 series "A", size 081/2; max. pressure 180 bar | | |
| Electrical system | | 1 electric socket 3-poles 12 V<br>1 electric socket 7-poles 12 V | | |
| **Noise level** | | | | |
| sound level that is detected at the driver's seat | dbA | 89 | 89 | 89 |
| **Cardan shaft** | | | | |
| Safety bolt | | M8x60 UNI 5737 R=80 Kg/mm² (8.8) | M8x60 UNI 5737 R=80 Kg/mm² (8.8) | M8x60 UNI 5737 R=80 Kg/mm² (8.8) |
| Torque limiter | Nm | - | - | - |

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## TECHNICAL DATA RV 4116 R

**Table 2:** Technical data of the machine

| *Description* | *Unit of measurement* | *Model* | | |
|---|---|---|---|---|
| | | ***RV 4116 RT*** | ***RV 4116 RN*** | ***RV 4116 RNT*** |
| **Features of the machine** | | | | |
| Total length of the machine | mm | 4480 | 4480 | 4480 |
| Total width of the machine | mm | 2520 | 2520 | 2520 |
| Total height of the machine | mm | 2700 | 2700 | 2700 |
| Weight | kg | 2850 | 2850 | 2910 |
| Bale hourly output | n. | 18÷35 | 18÷35 | 18÷35 |
| **Features of the tyres** | | | | |
| Dimensions of machine tyres | | 15.0/55-17" | 15.0/55-17" | 15.0/55-17" |
| inflation pressure | bar | 2,5 | 2,5 | 2,5 |
| Dimensions of machine tyres (optional) | | a - 19.0/45-17"<br>b - 550/45-22.5" | a - 19.0/45-17"<br>b - 550/45-22.5" | a - 19.0/45-17"<br>b - 550/45-22.5" |
| inflation pressure | bar | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 |
| Dimensions of pick-up wheel tyres | | 16x6,50-8 6 PR | 16x6,50-8 6 PR | 16x6,50-8 6 PR |
| inflation pressure | bar | 1,5 | 1,5 | 1,5 |
| Tightening torque for machine wheel columns | Nm | 310 | 310 | 310 |
| **Lubrication system** | | | | |
| Tank capacity | lt | 2 | | |
| Lubrication type | | Automatic lubrication | | |
| **Features of the baling chamber** | | | | |
| Rollers | n. | 3 | 3 | 3 |
| Belts | n. | 5 | 5 | 5 |
| **Feeding unit** | | | | |
| Type | | Rotor | Rotor | Rotor |
| **Net binder unit** | | | | |
| Type | | Electronic binder (Optional). | Electronic binder | Electronic binder |
| **Twine binder unit** | | | | |
| Type | | Electronic binder | Electronic binder (Optional). | Electronic binder |
| Quantity of twines | n. | 2 | 2 | 2 |
| **Features of the net reel** | | | | |
| Maximum diameter of the reel | mm | 320 | | |
| Maximum width of the reel | mm | 1300 | | |
| Net type | gr/m | 14÷18 | | |
| **Features of the twine reel** | | | | |
| Maximum diameter of the reel | mm | 250 | | |
| Maximum height of the reel | mm | 240 | | |

**Table 2:** Technical data of the machine

| Description | Unit of measurement | Model | | |
|---|---|---|---|---|
| | | RV 4116 RT | RV 4116 RN | RV 4116 RNT |
| Twine type (synthetic) | m/kg | 500÷1000 | | |
| Twine type (vegetal) | m/kg | 200÷400 | | |
| **Features of the bale** | | | | |
| Diameter | mm | 600÷1650 | 600÷1650 | 600÷1650 |
| Width | mm | 1200 | 1200 | 1200 |
| Max volume | m³ | 2,5 | 2,5 | 2,5 |
| **Pick-up unit** | | | | |
| Type | | "Extra-large" pick-up | "Extra-large" pick-up | "Extra-large" pick-up |
| Maximum pick-up width | mm | 2200 (2060 DIN standard). | 2200 (2060 DIN standard). | 2200 (2060 DIN standard). |
| Tines bars | n. | 5 | 5 | 5 |
| Pick-up tines (for each bar) | n. | 32 | 32 | 32 |
| Distance between pick-up tines | mm | 60 | 60 | 60 |
| Torque limiter | | - | | |
| Lubrication type | | Lubrication from centralised system | | |
| **Tractor requirements** | | | | |
| Minimum power to the pto | CV (kW) | 60 (45) | 60 (45) | 60 (45) |
| Recommended power to the pto | CV (kW) | 70 (52) | 70 (52) | 70 (52) |
| PTO rotation rate | rpm | 540 | 540 | 540 |
| Splined profile of the PTO shaft | | 1"3/8 z=6 | | |
| Tow bar | | Rotating, with "U" hook | | |
| Diameter of towing coupling pivot of the tractor | mm | 35 - 40 - 50 | | |
| Hydraulic system | | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position |
| Quick-release couplings for hydraulic system | | ISO 7241-1 series "A", size 081/2; max. pressure 180 bar | | |
| Electrical system | | 1 electric socket 3-poles 12 V<br>1 electric socket 7-poles 12 V | | |
| **Noise level** | | | | |
| sound level that is detected at the driver's seat | dbA | 89 | 89 | 89 |
| **Cardan shaft** | | | | |
| Safety bolt | | - | - | - |
| Torque limiter | Nm | 2000 | 2000 | 2000 |

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## TECHNICAL DATA RV 4118 F

**Table 3:** Technical data of the machine

| *Description* | *Unit of measurement* | *Model* | | |
|---|---|---|---|---|
| | | *RV 4118 FT* | *RV 4118 FN* | *RV 4118 FNT* |
| **Features of the machine** | | | | |
| Total length of the machine | mm | 4480 | 4480 | 4480 |
| Total width of the machine | mm | 2470 | 2470 | 2470 |
| Total height of the machine | mm | 2780 | 2780 | 2780 |
| Weight | kg | 2800 | 2800 | 2860 |
| Bale hourly output | n. | 18÷35 | 18÷35 | 18÷35 |
| **Features of the tyres** | | | | |
| Dimensions of machine tyres | | 11.5/80-15" | 11.5/80-15" | 11.5/80-15" |
| inflation pressure | bar | 2,5 | 2,5 | 2,5 |
| Dimensions of machine tyres (optional) | | a - 15.0/55-17"<br>b - 19.0/45-17" | a - 15.0/55-17"<br>b - 19.0/45-17" | a - 15.0/55-17"<br>b - 19.0/45-17" |
| inflation pressure | bar | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 |
| Dimensions of pick-up wheel tyres | | 16x6,50-8 6 PR | 16x6,50-8 6 PR | 16x6,50-8 6 PR |
| inflation pressure | bar | 1,5 | 1,5 | 1,5 |
| Tightening torque for machine wheel columns | Nm | 310 | 310 | 310 |
| **Lubrication system** | | | | |
| Tank capacity | lt | 2 | | |
| Lubrication type | | Automatic lubrication | | |
| **Features of the baling chamber** | | | | |
| Rollers | n. | 3 | 3 | 3 |
| Belts | n. | 5 | 5 | 5 |
| **Feeding unit** | | | | |
| Type | | Simple feeder | Simple feeder | Simple feeder |
| **Net binder unit** | | | | |
| Type | | Electronic binder (Optional). | Electronic binder | Electronic binder |
| **Twine binder unit** | | | | |
| Type | | Electronic binder | Electronic binder (Optional). | Electronic binder |
| Quantity of twines | n. | 2 | 2 | 2 |
| **Features of the net reel** | | | | |
| Maximum diameter of the reel | mm | 320 | | |
| Maximum width of the reel | mm | 1300 | | |
| Net type | gr/m | 14÷18 | | |
| **Features of the twine reel** | | | | |
| Maximum diameter of the reel | mm | 250 | | |

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**Table 3:** Technical data of the machine

| Description | Unit of measurement | Model | | |
|---|---|---|---|---|
| | | RV 4118 FT | RV 4118 FN | RV 4118 FNT |
| Maximum height of the reel | mm | 240 | | |
| Twine type (synthetic) | m/kg | 500÷1000 | | |
| Twine type (vegetal) | m/kg | 200÷400 | | |
| **Features of the bale** | | | | |
| Diameter | mm | 600÷1800 | 600÷1800 | 600÷1800 |
| Width | mm | 1200 | 1200 | 1200 |
| Max volume | m³ | 3 | 3 | 3 |
| **Pick-up unit** | | | | |
| Type | | "Large" pick-up | "Large" pick-up | "Large" pick-up |
| Maximum pick-up width | mm | 2000 (1820 DIN standard). | 2000 (1820 DIN standard). | 2000 (1820 DIN standard). |
| Tines bars | n. | 4 | 4 | 4 |
| Pick-up tines (for each bar) | n. | 28 | 28 | 28 |
| Distance between pick-up tines | mm | 60 | 60 | 60 |
| Safety bolt | | M8x40 UNI 5739 R=80 Kg/mm² (8.8) | | |
| Lubrication type | | Lubrication from centralised system | | |
| **Tractor requirements** | | | | |
| Minimum power to the pto | CV (kW) | 64 (45) | 64 (45) | 64 (45) |
| Recommended power to the pto | CV (kW) | 70 (52) | 70 (52) | 70 (52) |
| PTO rotation rate | rpm | 540 | 540 | 540 |
| Splined profile of the PTO shaft | | 1"3/8 z=6 | | |
| Tow bar | | Rotating, with "U" hook | | |
| Diameter of towing coupling pivot of the tractor | mm | 35 - 40 - 50 | | |
| Hydraulic system | | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position |
| Quick-release couplings for hydraulic system | | ISO 7241-1 series "A", size 081/2; max. pressure 180 bar | | |
| Electrical system | | 1 electric socket 3-poles 12 V<br>1 electric socket 7-poles 12 V | | |
| **Noise level** | | | | |
| sound level that is detected at the driver's seat | dbA | 89 | 89 | 89 |
| **Cardan shaft** | | | | |
| Safety bolt | | M8x60 UNI 5737 R=80 Kg/mm² (8.8) | M8x60 UNI 5737 R=80 Kg/mm² (8.8) | M8x60 UNI 5737 R=80 Kg/mm² (8.8) |
| Torque limiter | Nm | - | - | - |

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## TECHNICAL DATA RV 4118 R

**Table 4:** Technical data of the machine

| *Description* | *Unit of measurement* | *Model* | | |
|---|---|---|---|---|
| | | ***RV 4118 RT*** | ***RV 4118 RN*** | ***RV 4118 RNT*** |
| **Features of the machine** | | | | |
| Total length of the machine | mm | 4480 | 4480 | 4480 |
| Total width of the machine | mm | 2470 | 2470 | 2470 |
| Total height of the machine | mm | 2780 | 2780 | 2780 |
| Weight | kg | 3050 | 3050 | 3110 |
| Bale hourly output | n. | 18÷35 | 18÷35 | 18÷35 |
| **Features of the tyres** | | | | |
| Dimensions of machine tyres | | 15.0/55-17" | 15.0/55-17" | 15.0/55-17" |
| inflation pressure | bar | 2,5 | 2,5 | 2,5 |
| Dimensions of machine tyres (optional) | | a - 19.0/45-17"<br>b - 550/45-22.5" | a - 19.0/45-17"<br>b - 550/45-22.5" | a - 19.0/45-17"<br>b - 550/45-22.5" |
| inflation pressure | bar | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 | a - 2,5<br>b - 2,5 |
| Dimensions of pick-up wheel tyres | | 16x6,50-8 6 PR | 16x6,50-8 6 PR | 16x6,50-8 6 PR |
| inflation pressure | bar | 1,5 | 1,5 | 1,5 |
| Tightening torque for machine wheel columns | Nm | 310 | 310 | 310 |
| **Lubrication system** | | | | |
| Tank capacity | lt | 2 | | |
| Lubrication type | | Automatic lubrication | | |
| **Features of the baling chamber** | | | | |
| Rollers | n. | 3 | 3 | 3 |
| Belts | n. | 5 | 5 | 5 |
| **Feeding unit** | | | | |
| Type | | Rotor | Rotor | Rotor |
| **Net binder unit** | | | | |
| Type | | Electronic binder (Optional). | Electronic binder | Electronic binder |
| **Twine binder unit** | | | | |
| Type | | Electronic binder | Electronic binder (Optional). | Electronic binder |
| Quantity of twines | n. | 2 | 2 | 2 |
| **Features of the net reel** | | | | |
| Maximum diameter of the reel | mm | 320 | | |
| Maximum width of the reel | mm | 1300 | | |
| Net type | gr/m | 14÷18 | | |
| **Features of the twine reel** | | | | |
| Maximum diameter of the reel | mm | 250 | | |

**Table 4:** Technical data of the machine

| Description | Unit of measurement | Model | | |
|---|---|---|---|---|
| | | RV 4118 RT | RV 4118 RN | RV 4118 RNT |
| Maximum height of the reel | mm | 240 | | |
| Twine type (synthetic) | m/kg | 500÷1000 | | |
| Twine type (vegetal) | m/kg | 200÷400 | | |
| **Features of the bale** | | | | |
| Diameter | mm | 600÷1800 | 600÷1800 | 600÷1800 |
| Width | mm | 1200 | 1200 | 1200 |
| Max volume | m³ | 3 | 3 | 3 |
| **Pick-up unit** | | | | |
| Type | | "Extra-large" pick-up | "Extra-large" pick-up | "Extra-large" pick-up |
| Maximum pick-up width | mm | 2200 (2060 DIN standard). | 2200 (2060 DIN standard). | 2200 (2060 DIN standard). |
| Tines bars | n. | 5 | 5 | 5 |
| Pick-up tines (for each bar) | n. | 32 | 32 | 32 |
| Distance between pick-up tines | mm | 60 | 60 | 60 |
| Torque limiter | | - | | |
| Lubrication type | | Lubrication from centralised system | | |
| **Tractor requirements** | | | | |
| Minimum power to the pto | CV (kW) | 70 (52) | 70 (52) | 70 (52) |
| Recommended power to the pto | CV (kW) | 75 (56) | 75 (56) | 75 (56) |
| PTO rotation rate | rpm | 540 | 540 | 540 |
| Splined profile of the PTO shaft | | 1"3/8 z=6 | | |
| Tow bar | | Rotating, with "U" hook | | |
| Diameter of towing coupling pivot of the tractor | mm | 35 - 40 - 50 | | |
| Hydraulic system | | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position | N.1 single-acting control valve + N.1 double-acting control valve with floating position |
| Quick-release couplings for hydraulic system | | ISO 7241-1 series "A", size 081/2; max. pressure 180 bar | | |
| Electrical system | | 1 electric socket 3-poles 12 V<br>1 electric socket 7-poles 12 V | | |
| **Noise level** | | | | |
| sound level that is detected at the driver's seat | dbA | 89 | 89 | 89 |
| **Cardan shaft** | | | | |
| Safety bolt | | - | - | - |
| Torque limiter | Nm | 2000 | 2000 | 2000 |

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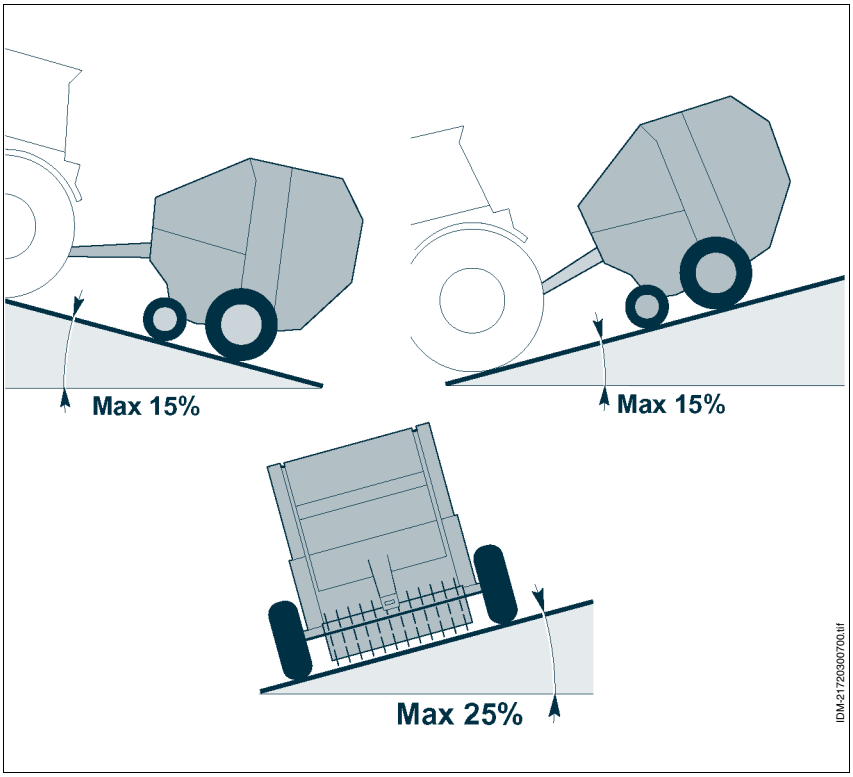
## ALLOWABLE SLOPES

The image shows the maximum permissible slope in hard grounds, free from hollows and obstacles, with the machine in running order.

**Danger Warning**

**Danger of overturning: do not use the machine in soils whose slope exceeds the allowed limit or in the presence of other hazards (rises, hollows, etc.), which could limit the stability of the machine.**
**In case of steep soils, adapt the speed of the machine according to the slope and the stability of the soil.**



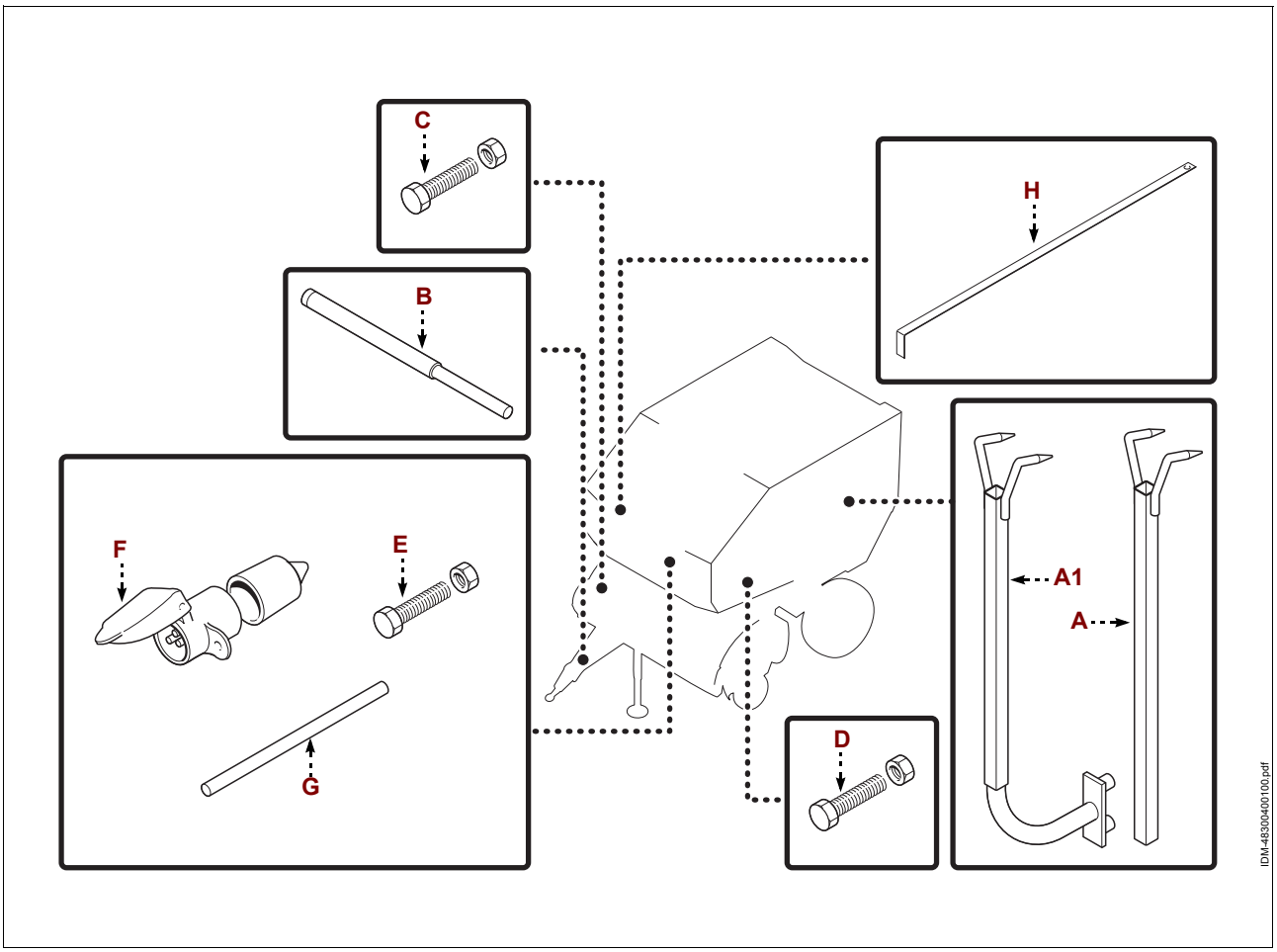

## EQUIPMENT

The following equipment is supplied with the machine.

- **Tool for product clogging removal (A)**: it is a safety device that is used to remove the blockages and/or clogging in the zone of the pick-up unit and/or of the feeding unit (SIMPLE FEEDER).
- **Tool for product clogging removal (A1)**: it is a safety device that is used to remove the blockages and/or clogging in the zone of the pick-up unit and/or of the feeding unit (ROTOR).
- **Pivot (B)**: used for facilitating the mounting of the safety shear pin of the pick-up unit.
- **Safety bolt of the pick-up unit (C)**: in case of product clogging, it gets sheared to prevent damages to assemblies or parts of the machine (Only for narrow or wide pick-up unit).
- **"Double feeder" feeding unit safety bolt (D)**: in case of flooding, it must be shorn to prevent damages to units or parts of the machine.
- **Cardan shaft safety bolt (E)**: in case of flooding, it must be shorn to prevent damages to the cardan shaft or parts of the machine.

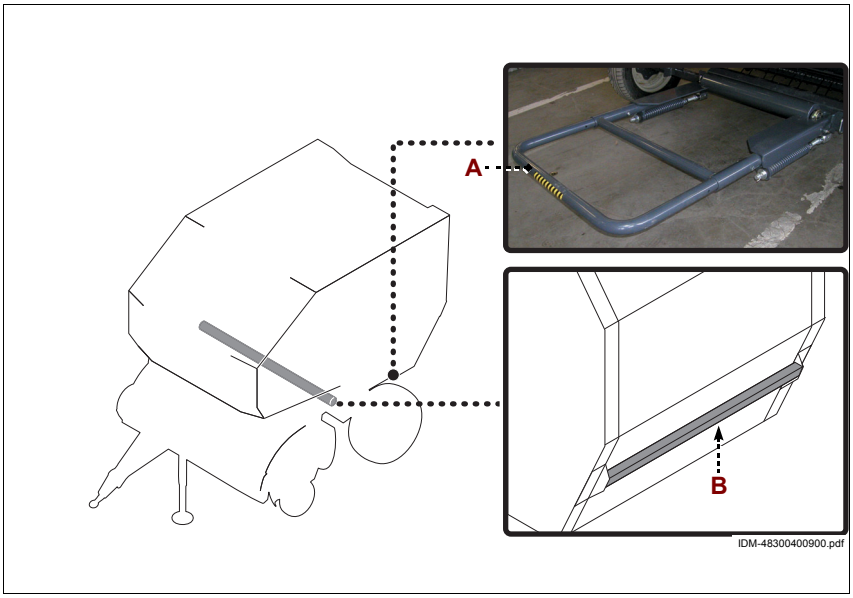
  **Replace the shorn "safety bolts" ONLY with original spare parts that comply with the provisions.**

- **Socket (F)**: it is 3 pole and must be installed on the tractor if the latter is not equipped with a socket.
- **Bar (G)**: it is used during the repairs of the rollers in the baling chamber.
- **Bar (H)**: it is used to introduce the twine into the twine guides.



## FITTINGS ON DEMAND

The machine can be equipped with some fittings, upon demand in the order or later.




**Important**

**The mounting of the accessories, when requested after the purchase of the machine, has to be carried out by personnel with precise technical competency, in repair shops that are adequately equipped and authorised by the manufacturer.**
**Whoever carries out the installation of an accessory should issue a document that certifies that the mounting has been carried out in a repair shop that has been authorised by the manufacturer.**

**The listed accessories can be installed ONLY in the models of machines that are built in that way by the manufacturer.**
**DO NOT attempt to tamper with the accessories to adapt them to models of machines that are not built for it and/or to obtain performance that is different from what is allowed.**

– **Bale kicker (A)**: it is used to move the bale away from the machine during the unloading operation. This way, you can close the tail gate without the need to perform additional manoeuvres (forward and backward movements) to restart the pick-up operation from the point in which it was interrupted.

**Caution**
**Precaution**

**In case of soils whose slope can cause risks of sudden and uncontrolled movements of the bale, unload the bale crosswise to the slope. Use this precaution especially when the machine is equipped with the bale kicker.**
**If it is not possible to unload the bale in a safe way, transfer the machine into a suitable area, and then unload the bale.**

– **Straw baler device (B)**: it is used to compress dry, short and friable products (for example, straw). It is particularly suitable when the pick up is performed in the hottest hours and/or seasons.

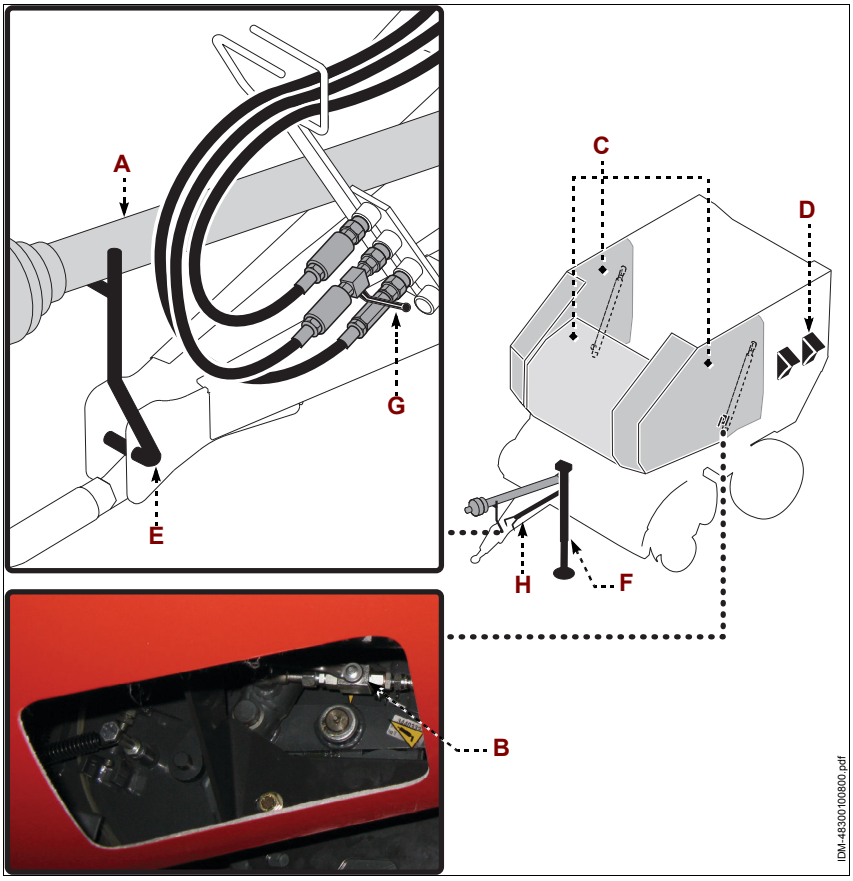
**Important**

**Do not utilise the device to compress damp products.**

– **"Brakes" kit:** it is pneumatically or hydraulically controlled, and improves the braking ability of the machine.

– **Cardan shaft with pawl-type torque limiter:** homocinetic, in case of clogging and/or flooding of the machine, the movement will disconnect.

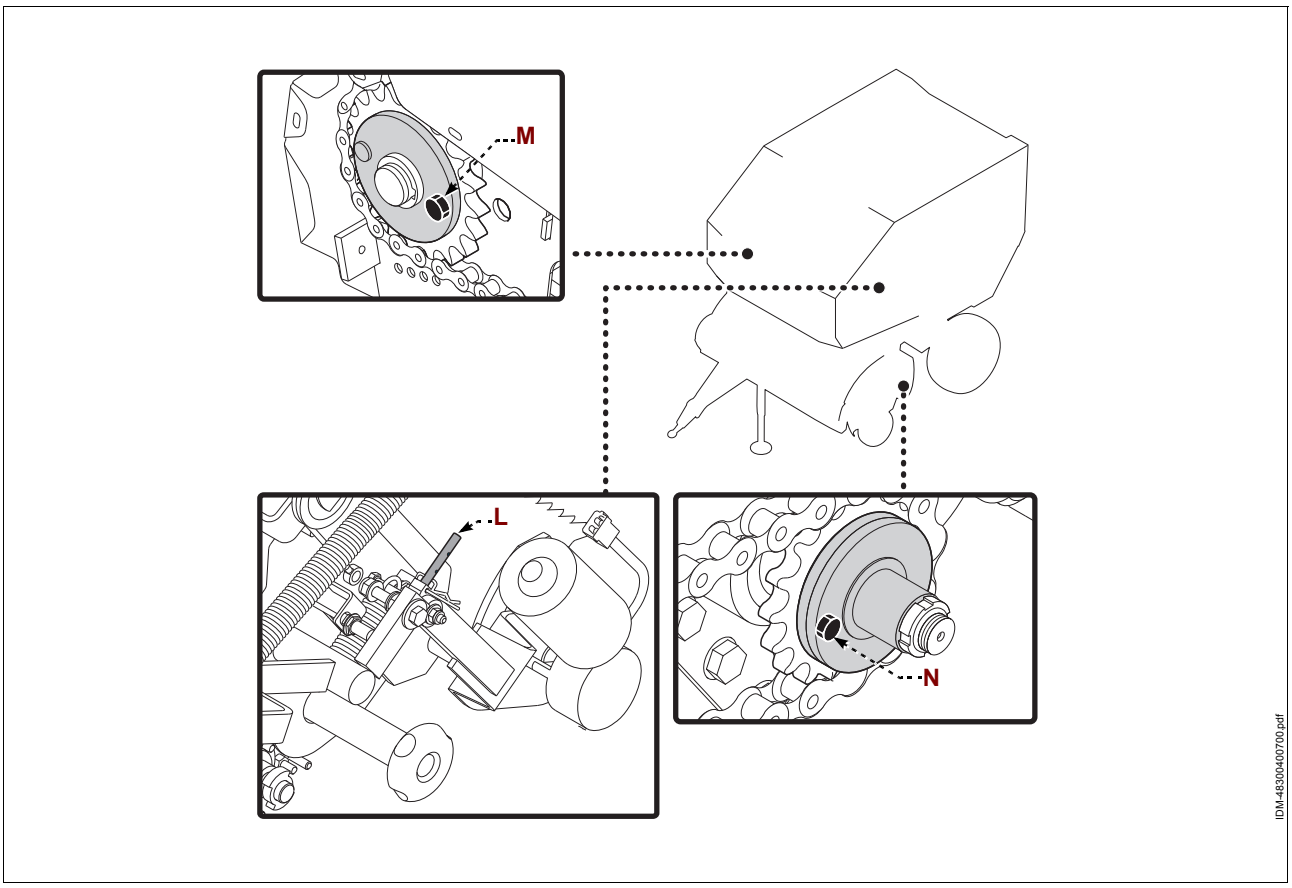
## SAFETY DEVICES




- **Cardan shaft (A)**: the shaft that is supplied with the machine is constant-velocity type and can be equipped either with a safety bolt or with a pawl-type torque limiter.
  With cardan shaft equipped with pawl-type torque limiter, in case of clogging and/or flooding of the machine, the movement will disconnect.
  With cardan shaft equipped with safety bolt, in case of clogging and/or flooding of the machine, the bolt will be shorn to interrupt the movement.
- **Cock (B)**: it is used to lock the tail gate in "open" position, so that the maintenance works inside the baling chamber can be carried out in safe conditions.
- **Fixed guard (C)**: it prevents the access to the moving devices of the machine. It can be opened only by means of an intentional action and with the aid of a tool.
- **Wheel chocks (D)**: they are used to prevent accidental displacements when the machine is parked and uncoupled from the tractor.
- **Support (E)**: it supports the cardan shaft and prevents its protections from breaking when it is disengaged from the tractor PTO.
- **Support leg (F)**: it keeps the drawbar of the machine in position when the machine is uncoupled from the tractor, and than makes its coupling easier.
- **Cock (G)**: it is used to lock the pick-up unit in "lifted" position, so that the transfer of the machine (during road use) can be carried out in safe conditions.
- **Unflooding tool (H)**: it is used to remove the clogging and/or the flooding in the area of the pick-up unit and/or of the feeding unit.

- **Safety lock (L)**: it is used to deactivate the cutter mechanism of the net binder unit in order to perform maintenance works in safe conditions.
- **Safety bolt of the pick-up unit (M)**: in case of product clogging, it gets sheared to prevent damages to assemblies or parts of the machine (Only for narrow or wide pick-up unit).
- **Safety bolt of feeding unit with "simple feeder" (N)**: in case of flooding, it must be shorn to prevent damages to units or parts of the machine.

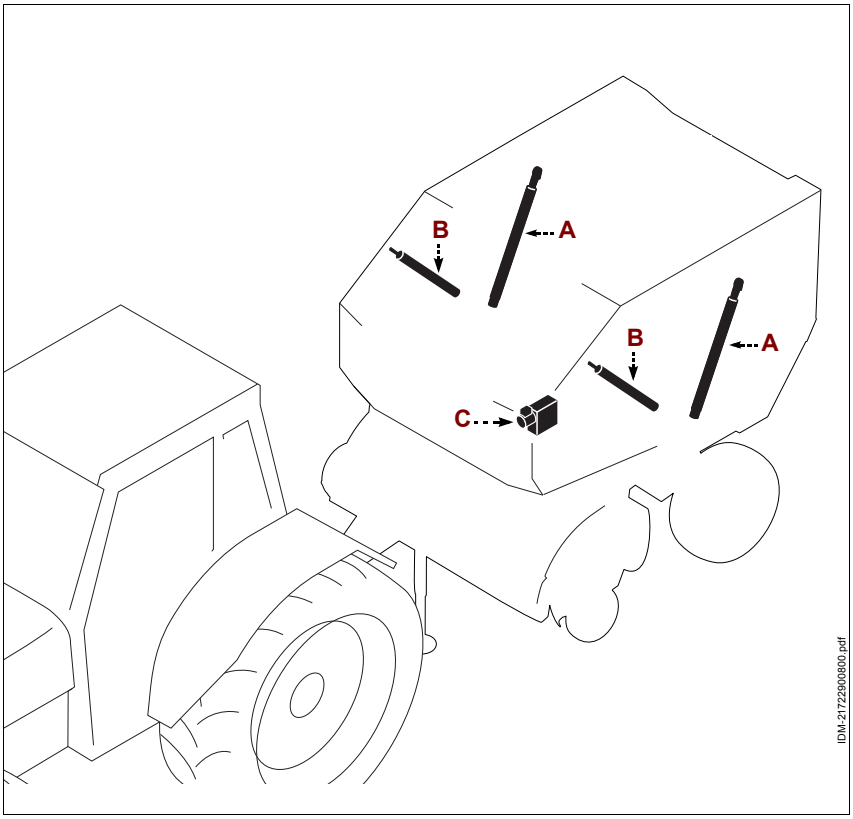
**Replace the shorn "safety bolts" ONLY with original spare parts that comply with the provisions.**



## OIL-PRESSURE DEVICES

The list shows the description and the functionality only of some hydraulic devices.
For further details, see the booklets about the functional assemblies that are installed in the machine in paragraph "Oil-pressure devices".

– **Hydraulic cylinder (A)**: it is single acting type; furthermore, it opens and closes the tail gate.
– **Hydraulic cylinder (B)**: it drives the belt tightener to create a bale with the density that was set by means of the electronic control system.
– **Maximum pressure valve (C)**: it is used to control the maximum working pressure of the tightener unit , and it calibrated by means of the electronic control system.

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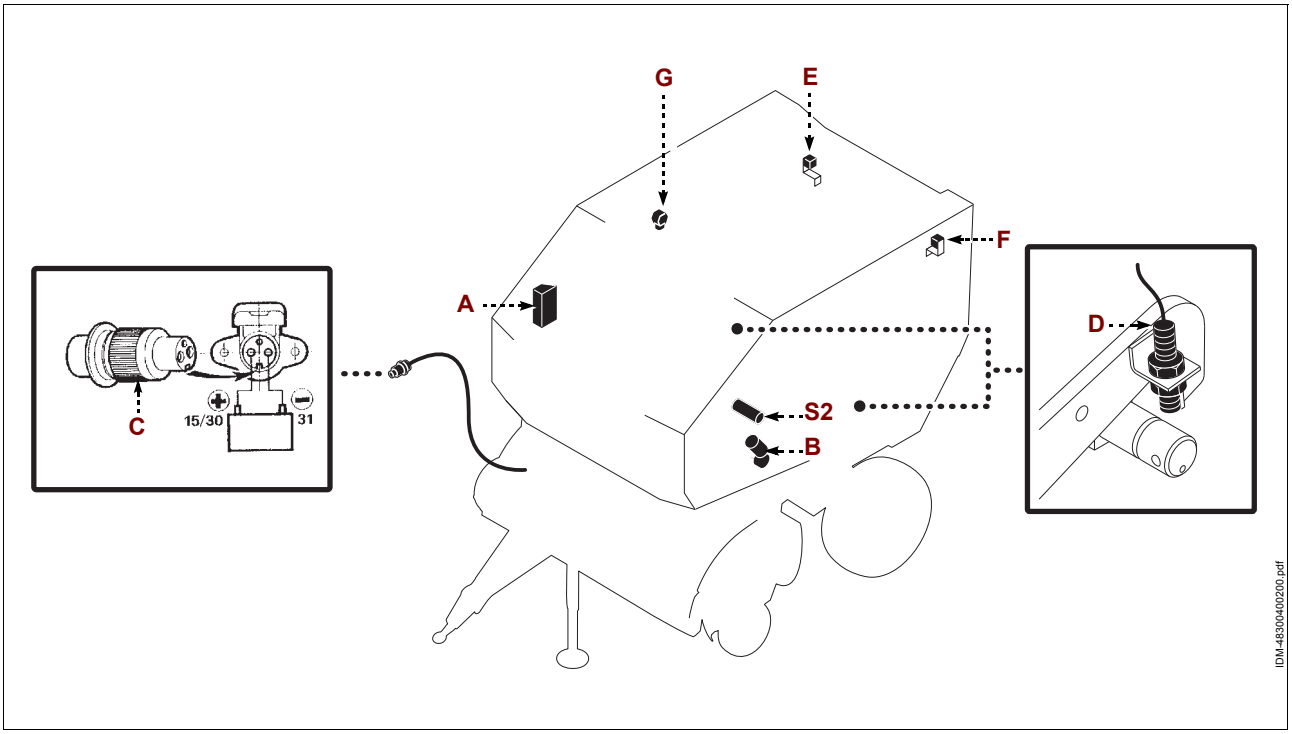
## ELECTRONIC AND ELECTRIC DEVICES

The list shows the description and the functionality only of some electric and electronic devices.
For further details, see the booklets about the functional assemblies that are installed in the machine in paragraph "Electronic and electric devices".

- **Secondary electronic control unit ECU (A):** manages the processes of operation of all the mechanisms installed on the machine (feeding unit, binding unit, etc.).
- **Electric motor (B)**: it drives the net/twine introduction device.
- **3-pole plug (C)**: it is used to connect the electric system of the binder unit to the tractor.
- **Sensor (D)**: it detects the position of the hooks to close the tail gate.
- **Potentiometer (E)**: it detects an excessive accumulation of product on the right side of the bale being pressed. The information is shown on the display of the electronic control system, so that the operator can modify the trajectory of the tractor.
- **Potentiometer (F)**: it detects an excessive accumulation of product on the left side of the bale being pressed. The information is shown on the display of the electronic control system, so that the operator can modify the trajectory of the tractor.
- **Potentiometer (G)**: it detects the diameter achieved by the bale.
- **Sensor (S2):** detects the position of the wire/net inserting device (front end of stroke), enables the stop of the electric motor **(B)** and resets the system

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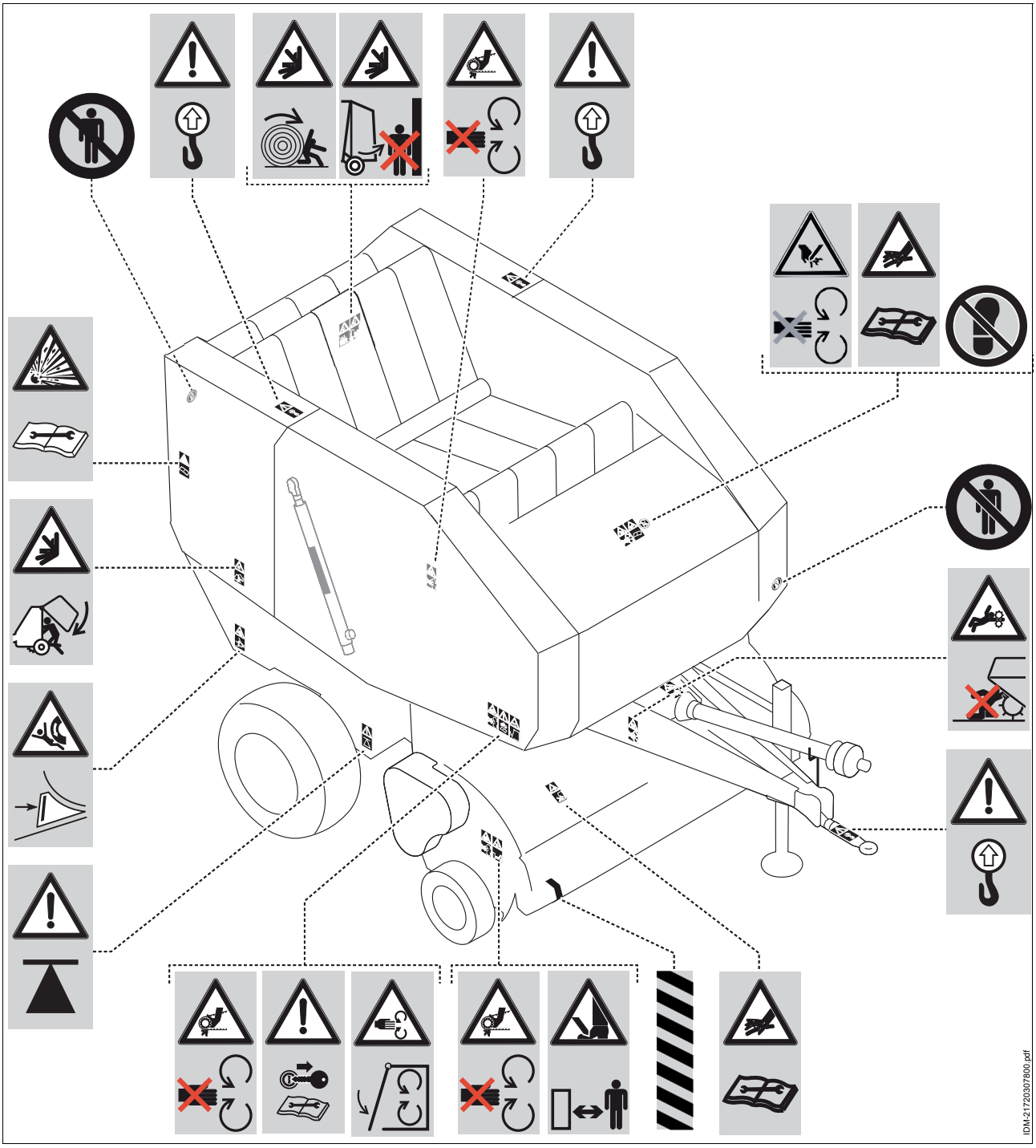
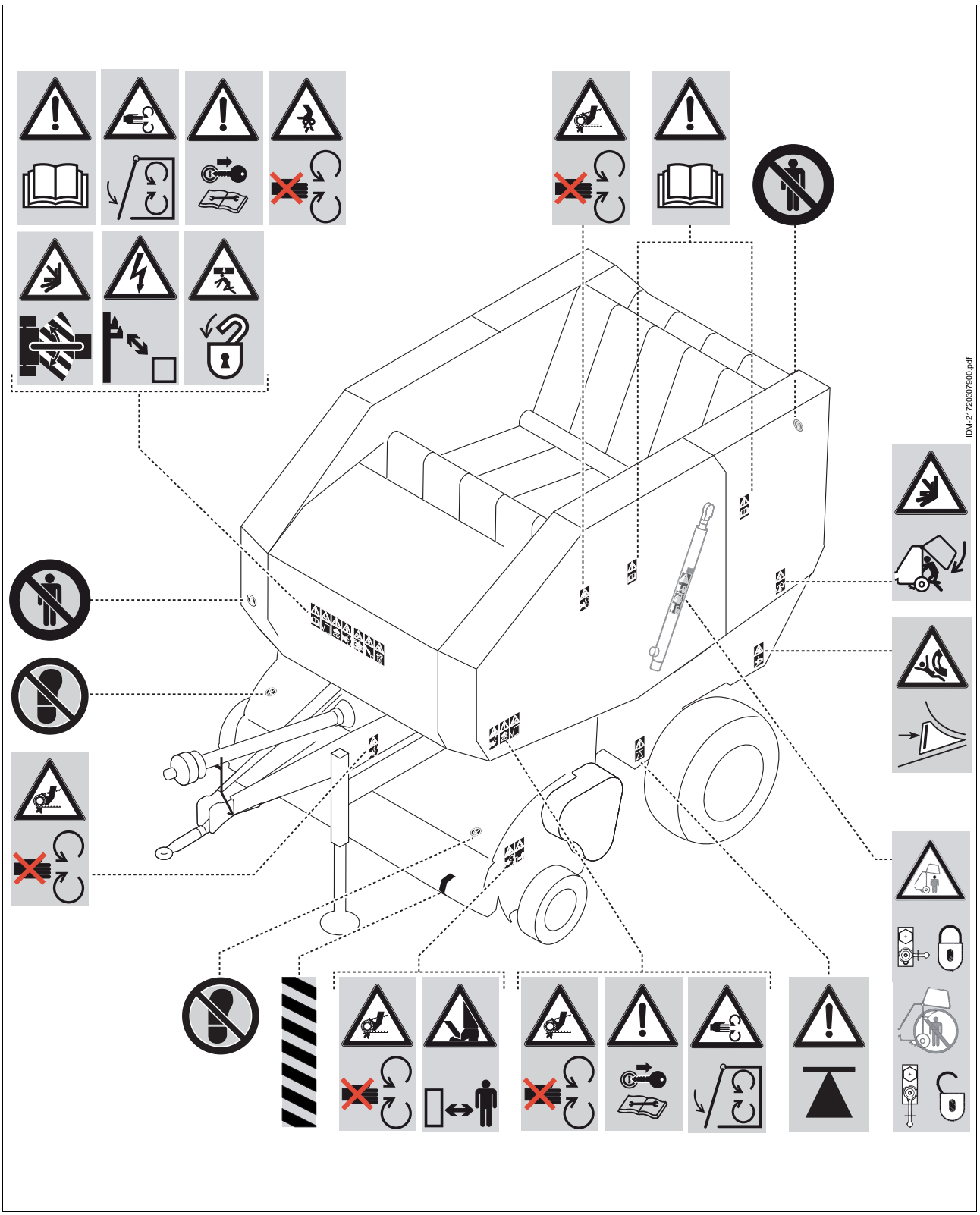
## POSITION OF INFORMATION AND SAFETY PLATES

The figure shows the location of all safety plates, while their meaning is explained in booklet 1.

**Important**

**Make sure that all plates are legible. If they are not, clean or replace, if necessary, ensuring the new ones are placed in the original position.**

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## INSTRUCTIONS FOR HANDLING AND LOADING

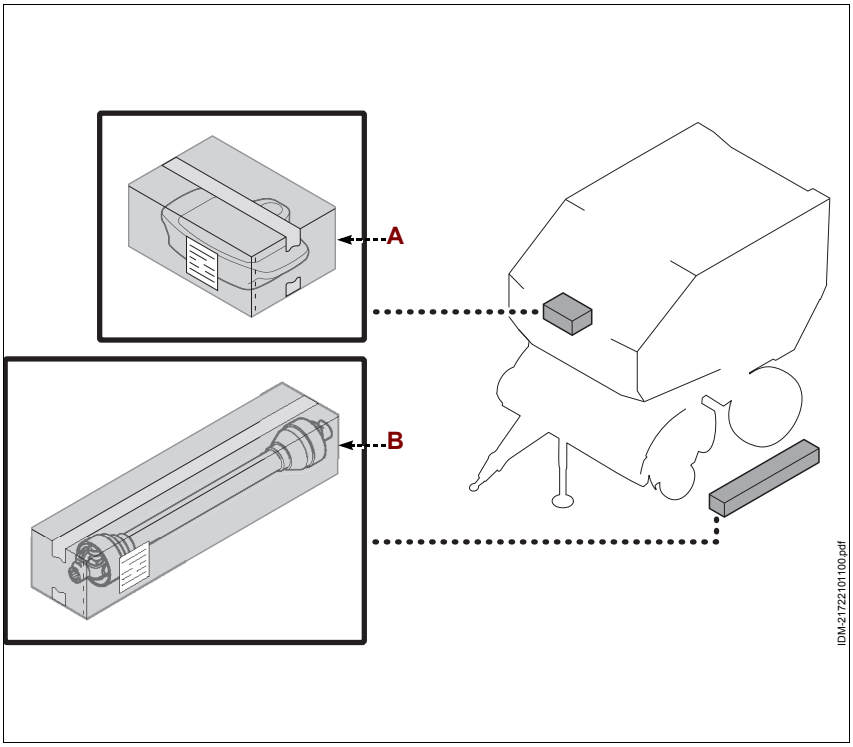
**Important**

**Perform handling and loading operations by complying with the information supplied by the manufacturer, which is to be found in the machine and in user instructions. The people who are authorised to perform these operations, if necessary, will have to establish a "safety plan" to protect the safety of directly involved people.**

## PACKING AND UNPACKING

Depending on the destination, loading and transport can be carried out with different means.
The machine is shipped without packaging, except for some components.

- **Electronic control system (A)**: it is packed into a box, which is placed into the reel-holding container (twine).
- **Cardan shaft (B)**: it is packed into a box, which is fastened to a part of the machine.




**Important**

**Upon receipt, check that the machine and its components are not damaged. In case of damages or lack of some parts, call the manufacturer or the local dealer to agree upon the procedures to be used.**

## LOADING AND UNLOADING

The machine can be loaded on the means of transport in different ways.

- Loading of the machine by using the tractor
- Loading of the machine by using a hook-type lifting device

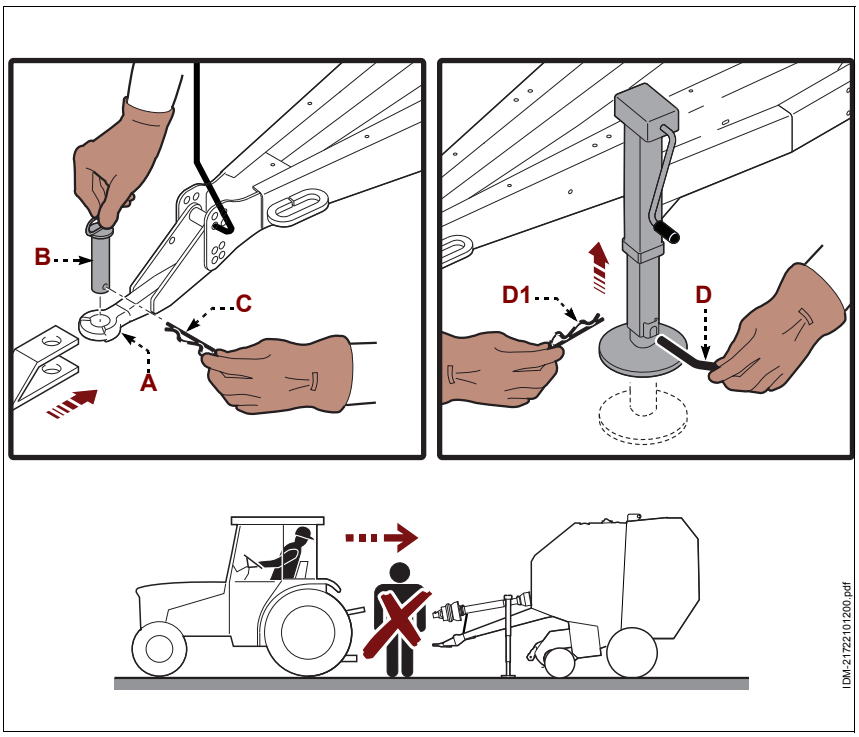
**Caution**
**Precaution**

**The personnel in charge of loading, unloading and handling the machine must be competent and skilled according to the specific sector and must be in command of the means to be used.**

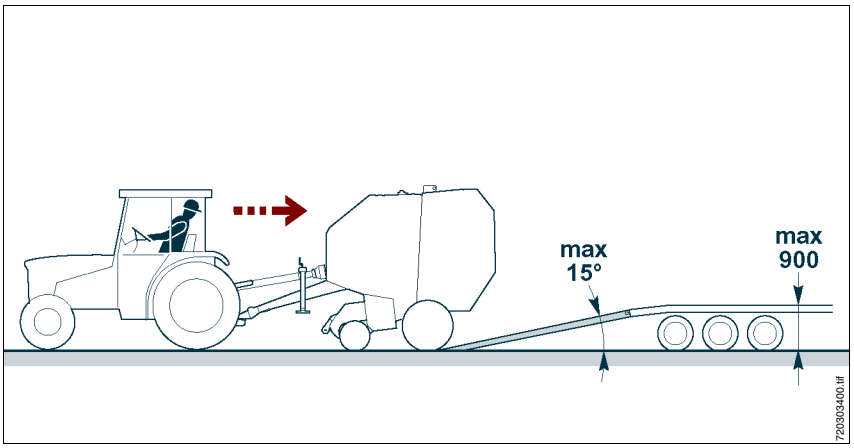
**Loading of the machine by using the tractor**

Follow the instructions.

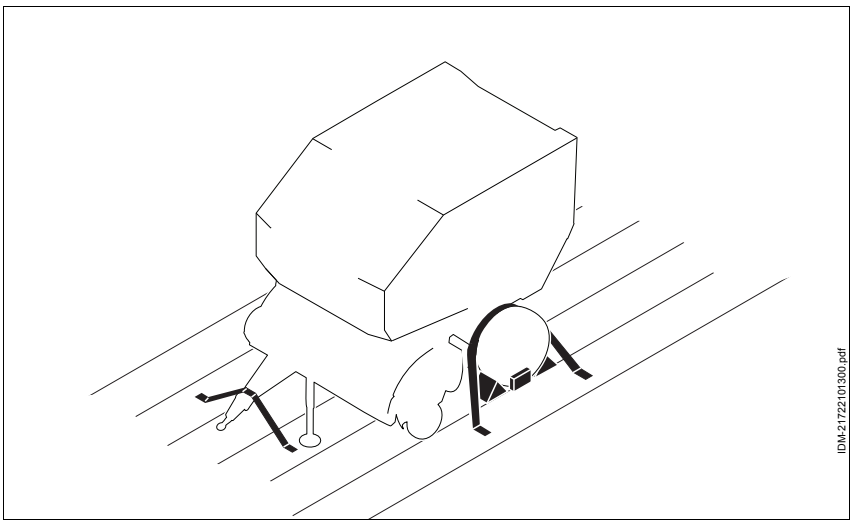
1. Move the tractor backwards until approaching and aligning the towing eye **(A)**.
2. Adapt the height of the drawbar to the height of the towing hitch (See "How to set the height of the drawbar").
3. Stop the engine, apply the parking brake and disengage the ignition key.
4. Insert the hitch pin **(B)** and its locking pin **(C)**.
5. Remove the locking pin **(D1)** and the hitch pin **(D)**, lift the leg , and then fasten it again.
6. Lift the pick-up unit , and then lock it in "lifted" position by using the specific cock.




7. Load the machine on the means of transport, as shown in the figure.
   Use ramps with suitable gradient and loading capacity.
8. Remove the locking pin **(D1)** and the hitch pin **(D)**, lower the leg , and then re-introduce the hitch pin with the plug.
9. Remove the locking pin **(C)** and the hitch pin **(B)** to disengage the tractor from the machine.



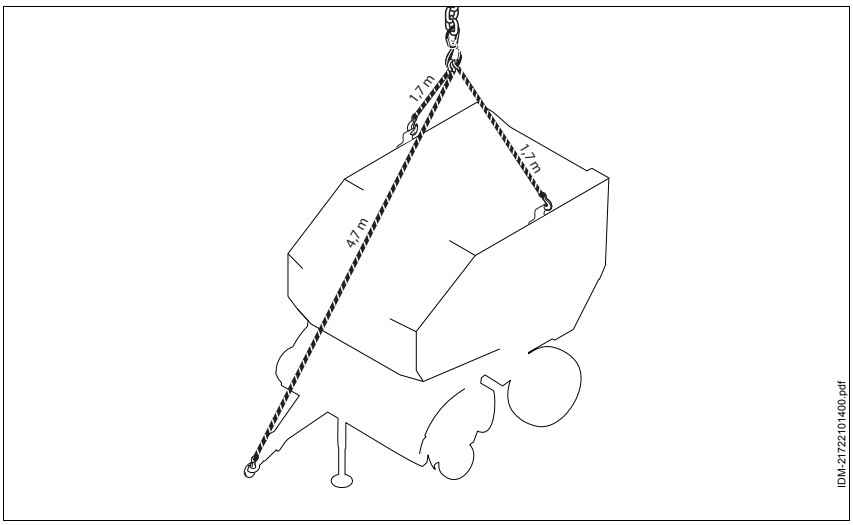

10. Suitably fasten the machine to the means of transport by means of ropes and chocks (see figure).



**Loading of the machine by using a hook-type lifting device**

Follow the instructions.

1. Visually control that the locking hooks of the tail gate are completely and correctly closed.
2. Prearrange a hook-type lifting device with suitable capacity, and then connect it to the machine by means of the specific ropes (see figure).
3. Slowly lift the machine, and then handle it with extreme care to prevent dangerous swinging.
4. Suitably fasten the machine to the means of transport by means of ropes and chocks.




## MACHINE-TRACTOR COMBINATION

– When receiving the machine, you must check the relevant category and the features of the tractor to which it must be coupled, so that you can assure its stability and correct operation.

– After having checked the features of the tractor, you must adapt the height of the drawbar and the length of the cardan shaft (See "How to set the height of the drawbar" - "How to set the length of the cardan shaft").

– The length of the cardan shaft supplied with the machine meets any type of machine-tractor combination. The operator has the duty to cut the cardan shaft in a correct way.

**The cardan shaft must be long enough so that it does not jam at its minimum extension or slip out at maximum extension.**

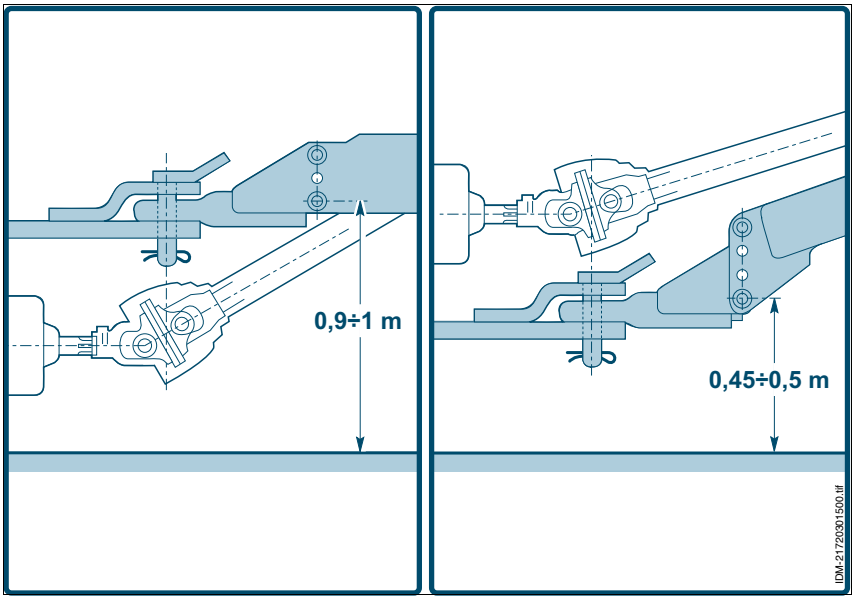
**Important**

**The cardan shaft must be equipped with a constant-velocity joint. Consult the manufacturer's manual for further details concerning the cardan shaft.**

## HOW TO SET THE HEIGHT OF THE DRAWBAR

You can set the height of the drawbar according to the type of tractor towing.
The standard heights of the towing eye in the tractors equal 450÷500 mm or 900÷1000 mm.

– **Height 450÷500 mm:** the drawbar must be fastened in the hole **(I)** by using the screw **(C)**.
– **Height 900÷1000 mm:** the drawbar must be fastened in the hole **(II)** by using the screw **(C)**.

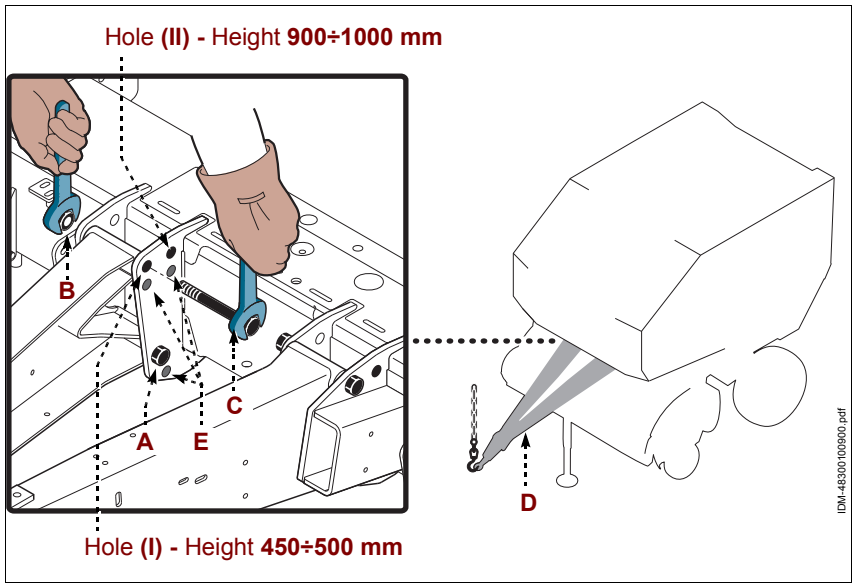



To modify the height of the drawbar, follow the instructions.

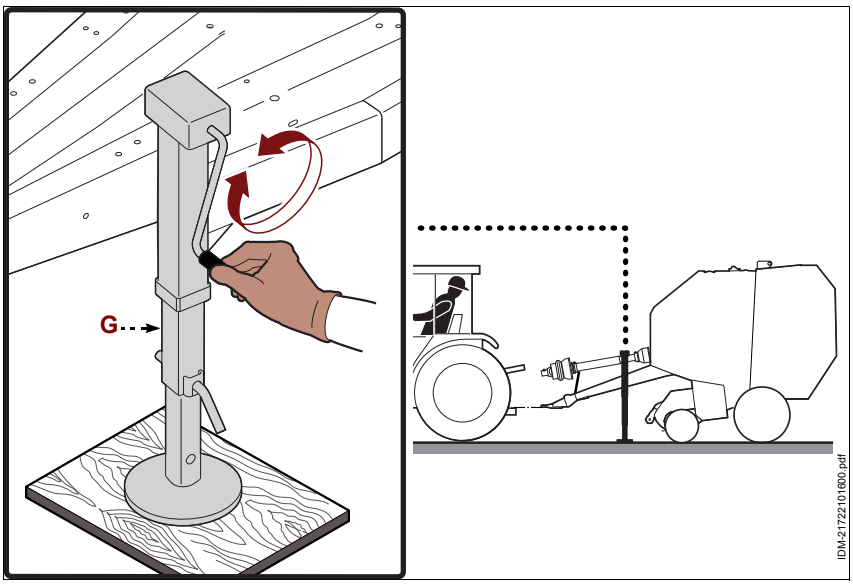
1. Fasten the drawbar by using a lifting device (lifting beam) with a suitable capacity.
2. Loosen screws **(A)**.
3. Unscrew the nuts **(B)**, and then remove the screws **(C)**.
4. Lift or lower the drawbar **(D)** until aligning the hole **(I)** or the hole **(II)**.
5. Introduce and tighten the screws **(C)**.
6. Tighten screws **(A)**.
7. Remove the lifting device.

**Important**

**If machine is equipped with tyres of size 500/50-17" - 550/45-22.5", holes (E) can be used to fasten drawbar (D) .**



8. Adjust the support **(G)** so that the eye of the drawbar is at the same height of the towing eye of the tractor.




9. Unscrew the nuts **(H)**, and then remove the screws **(L)**.

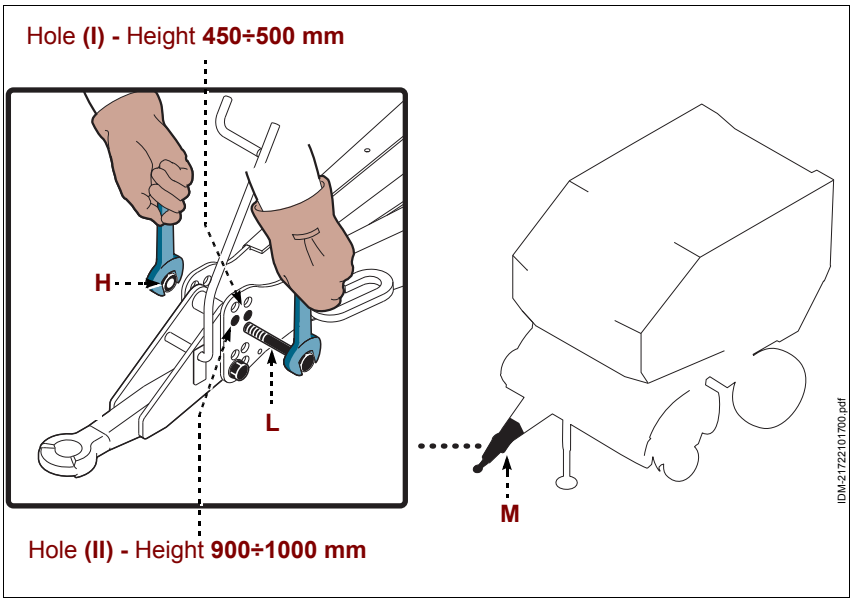
**Important**

**One screw (L) must be left inside in order to use it as fulcrum for the eyelet, and thus make operations easier.**

10. Place the eyelet **(M)** in horizontal position.
11. Introduce and tighten the screws **(L)**.

**Important**

**At the end of the operation, check that the locking screws are correctly tightened to prevent the risk of detachment between the drawbar and the eye.**




## HOW TO SET THE LENGTH OF THE CARDAN SHAFT

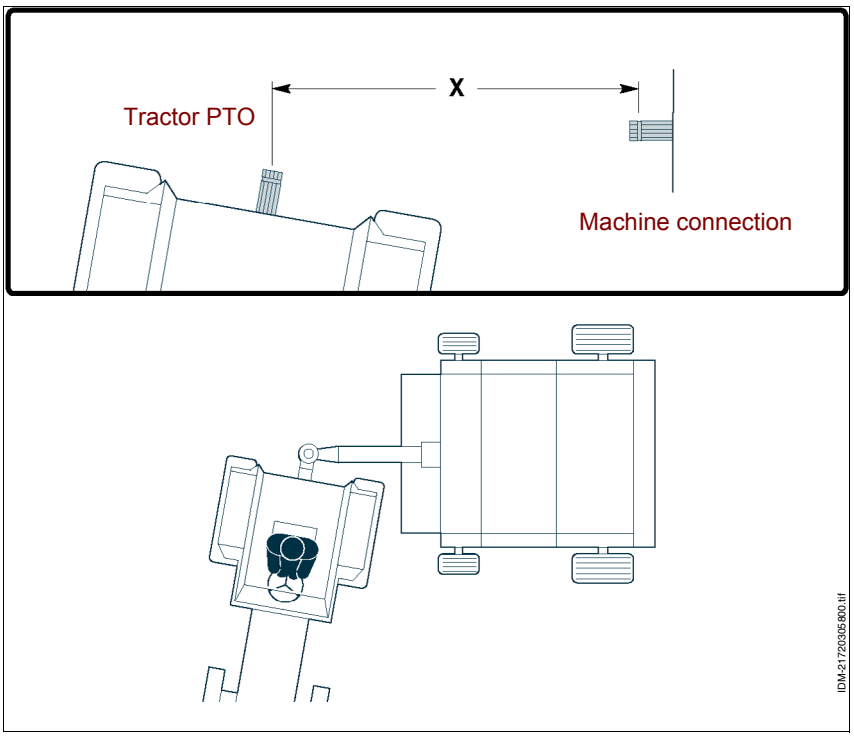
Follow the instructions.

1. Check the length of the cardan shaft only after having decided the tractor to which the machine has to be coupled to.

   **The cardan shaft must be long enough so that it does not jam at its minimum extension or slip out at maximum extension.**

2. Couple the machine to the tractor without assembling the cardan shaft (See "How to couple the machine to the tractor").

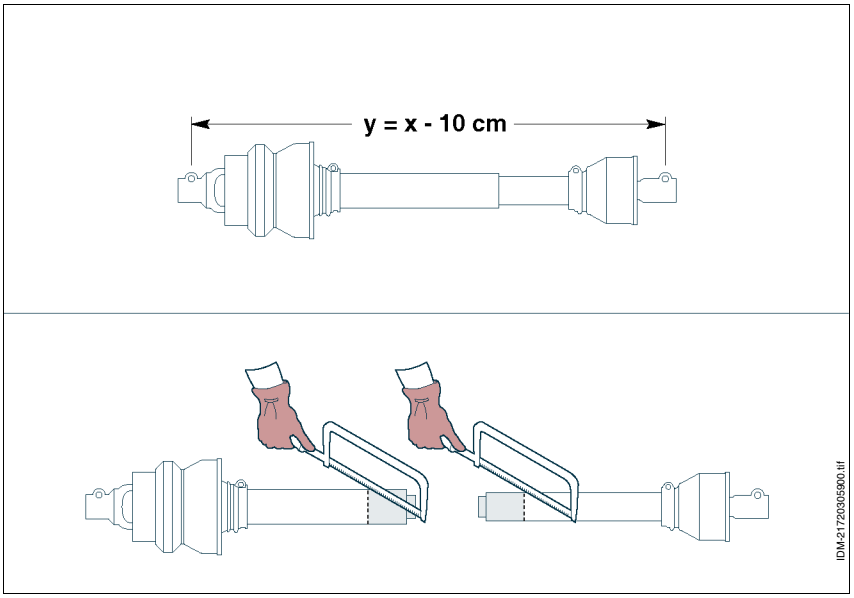
3. Steer the tractor of 80° with respect to the machine.
4. Make sure tractor PTO is disengaged.
5. Stop the engine, apply the parking brake and disengage the ignition key.
6. Measure the distance **(X)** between tractor PTO and the connection point of the cardan shaft in the machine.




7. Measure the length **(Y)** of the cardan shaft.

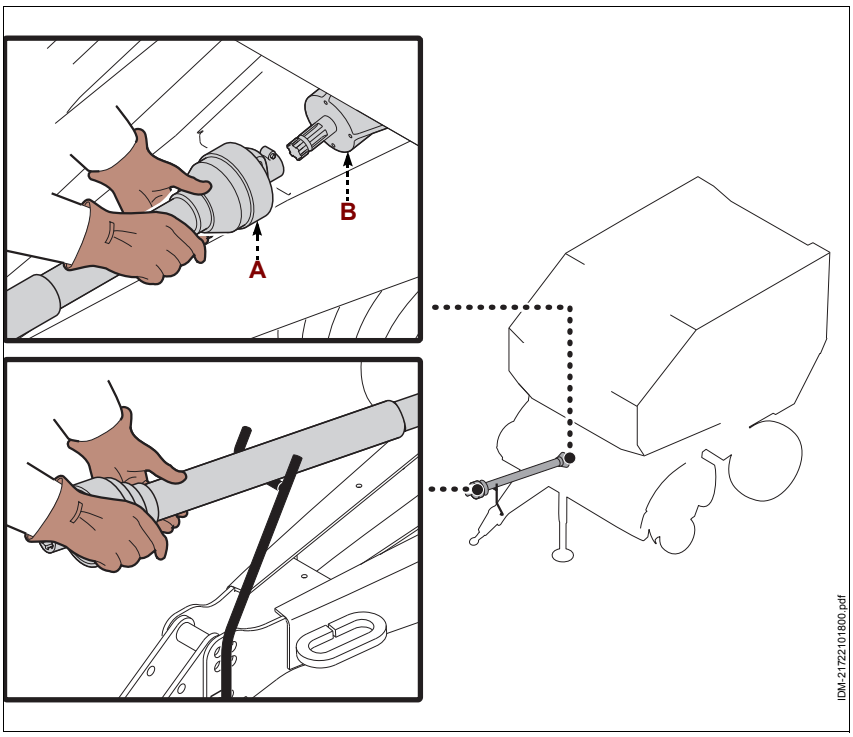
**Important**

**The length (Y) of the cardan shaft (completely closed) must be smaller than 10 cm at the distance (X). If not so, cut the exceeding part from the side of the "female" hose and on the side of the "male" hose. Cut the protective hoses in the same way.**




8. After having cut the exceeding part, remove burrs and cutting debris.
9. Carefully lubricate "male" and "female" hoses, and then assemble them to re-create the cardan shaft.

10. Introduce the cardan shaft **(A)** into the splined shaft of the reduction gear **(B)** in the machine.




**Danger Warning**

**The cardan shaft must be connected first to machine PTO, and then to tractor PTO. This allows preventing a lethal "whiplash" in case of tractor PTO unexpected start.**
**The constant-velocity joint of the cardan shaft must direct towards tractor PTO.**

11. Connect the safety chains of the protections: one to a component of the machine and the other to a component of the tractor.
12. Perform a test to check that the length of the cardan shaft is suitable not to "stick" in the condition of minimum extension or not to "remove" in the condition of maximum extension.

**Important**

**Consult the manufacturer's manual for further details concerning the cardan shaft.**

## INSTRUCTIONS FOR USE AND OPERATION

The incidence of accidents that are caused by the use of machines depends on many factors, which cannot be prevented and controlled all the times. Some accidents can depend on unforeseeable environmental factors, while others mainly depend on the conduct of the operator.
Besides being authorised and properly documented, if necessary, the operator must simulate some manoeuvres to identify the main functions and controls when using the machine for the first time. Before usage, the operator must check that the safety devices are perfectly installed and effective. Besides undertaking to meet the aforesaid requirements, the operator must apply all safety standards in force.
The operator must read and understand the entire content of the user manual in order to know the controls and all details about the operation of the machine.
The user manual must be kept in a well known place, which can be easily accessed; this way, the manual is always at disposal when you have to read it.
Even though the machine was designed and manufactured to work in hard environmental conditions, you have to carry out scheduled maintenance interventions. Correct maintenance will allow achieving the best performance, a longer duration of work and a constant preservation of safety requirements.
To improve the safety conditions when the machine is working, besides personal experience and knowledge of all details about safety, you have to consider the reported instructions and recommendations, as well.

– Check that the cardan shaft is correctly installed; furthermore, all protections must be undamaged and effective.

The cardan shaft must be connected first to machine PTO, and then to tractor PTO. This allows preventing a lethal "whiplash" in case of tractor PTO unexpected start.

– Never use the cardan shaft as a support leg in order to perform any type of intervention in the machine.
– Always deactivate the PTO to stop the functions of the machine during excessive steering and transfer operations, especially during road circulation.
– Periodically check the tightening of the fastening screws in the main components (drawbar, towing eye, wheels, and wheel axes), the wear conditions and the pressure of the tyres.
– Check that the oil-pressure system feeding hoses are undamaged: there must be no oil leaks.
– Check the working area in order to assess the most suitable conditions (slope, roughness of the ground, etc.) to operate in a safe way.
– Check that all lighting devices being installed in the machine and in the tractor are effective and efficient in order to be able to operate even in reduced visibility conditions, at night time and during road use.
– Do not try to remove clogging when the machine is running: remove product clogging only after having stopped the machine in safe conditions.

– In case of collision against foreign bodies, stop the machine and switch off the tractor motor in safe conditions; after that, check the suffered damages and perform the necessary repairs.
– Prevent strangers from approaching the working area when the machine is in use. Should it become necessary, stop it immediately and make the people found in the risk area move away.

## HOW TO COUPLE THE MACHINE TO THE TRACTOR

Follow the instructions.

1. When receiving the machine, you must check the relevant category and the features of the tractor to which it must be coupled, so that you can assure its stability and correct operation.

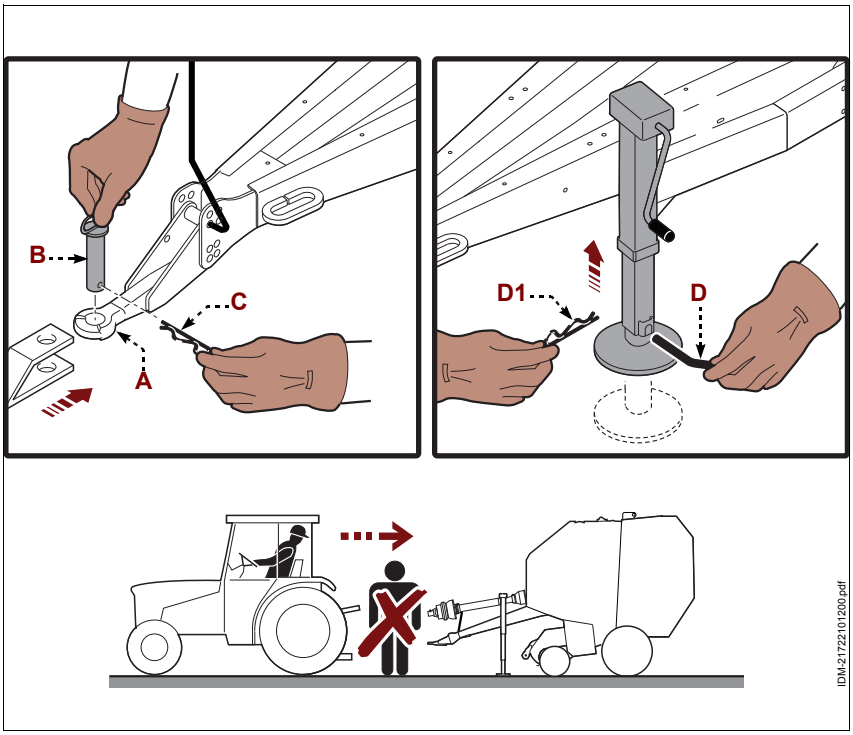
**Danger Warning**

**After having prearranged the necessary safety measures, only an operator must perform the operations to couple the machine from the tractor.**

2. Remove the safety pin and the pivot **(B)** from the towing eye of the tractor.
3. Reverse the tractor until the towing hitch lines up with the eyelet **(A)**.
4. Adapt the height of the drawbar to the height of the towing hitch (See "How to set the height of the drawbar").
5. Adapt the length of the cardan shaft supplied with the machine. See "How to set the length of the cardan shaft"

**How to connect the towing eye to the eye of the machine**

1. Stop the engine, apply the parking brake and disengage the ignition key.
2. Insert the hitch pin **(B)** and its locking pin **(C)**.
3. Remove the locking pin **(D1)** and the hitch pin **(D)**, lift the leg , and then fasten it again.



**Cardan shaft connection**

1. Make sure tractor PTO is disengaged.
2. Check that the connection of the cardan shaft and of the tractor PTO are undamaged. Clean them in a thorough way, and then lubricate them with grease.
3. Connect the cardan shaft to the tractor PTO.

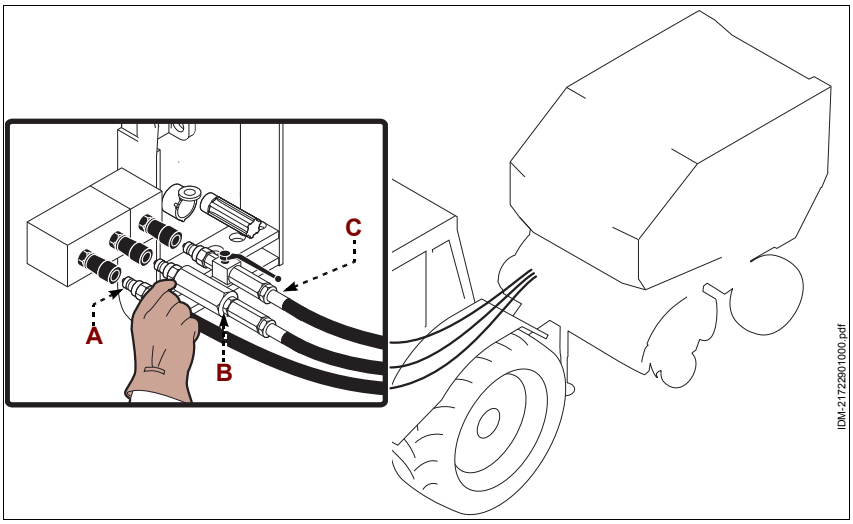
**Danger Warning**

**The cardan shaft must be connected first to machine PTO, and then to tractor PTO. This allows preventing a lethal "whiplash" in case of tractor PTO unexpected start.**
**The constant-velocity joint of the cardan shaft must direct towards tractor PTO.**

4. Connect the safety chains of the protections: one to a component of the machine and the other to a component of the tractor.

**How to connect the oil-pressure system**

1. Thoroughly clean the quick couplings.
2. Connect the hoses **(A-B)** to the couplings of the double acting control valve in the tractor.
   The hoses **(A-B)** connect the tail gate opening/closing hydraulic system and the bale density hydraulic system.
3. Connect the hose **(C)** to the couplings of the single acting control valve in the tractor.
   The tube **(C)** connects the hydraulic system of the pick-up/feeding devices.

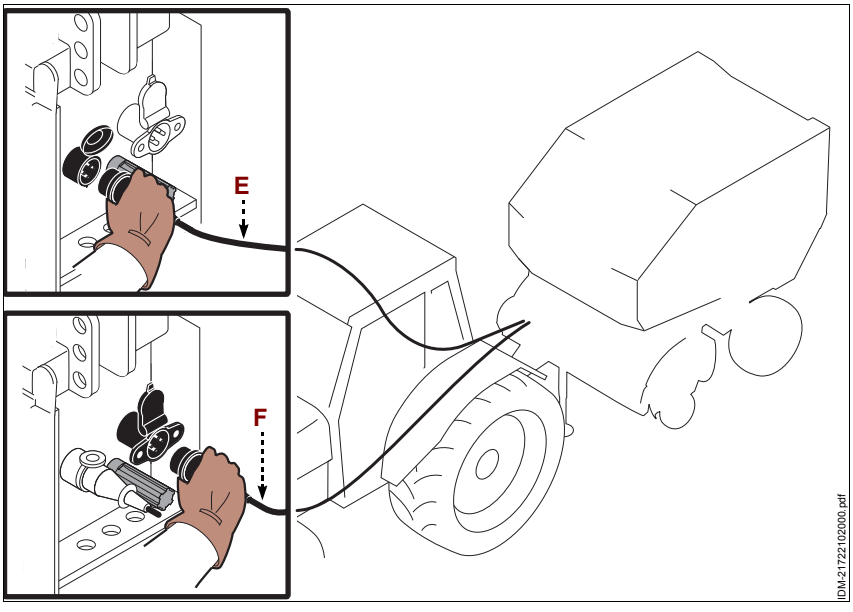



**Important**

**Use only original quick couplings that assure a correct connection.**
**Do not use "push-pull" type quick couplings.**

**How to connect the electric system**

1. Connect the cable **(E)** that feeds electricity to the warning devices.
2. Connect the cable **(F)** that feeds electricity to the binders.

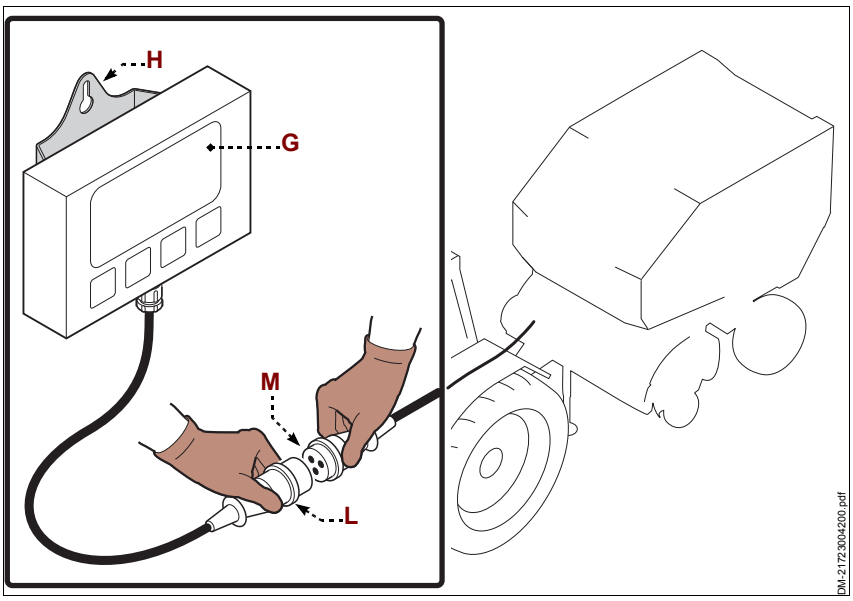



**Important**

**If the tractor is not equipped with an electric socket for the binders, an expert operator will have to install the socket that is supplied in the standard equipment. The socket must be protected by means of a 20 A fuse.**
**When connecting the feeding systems, prevent the cables and/or the hoses from being twisted.**
**The terminal boards (+ and -) of the 3-pole socket must be directly connected to pole (+) of the battery, through a cable of at least 5 mm² section.**

**How to connect the electronic control system**

1. Install the electronic control system **(G)** (complete with support **(H)**) inside the tractor cab.
2. Connect the plug **(L)** to the socket **(M)** of the main electric cable of the machine.



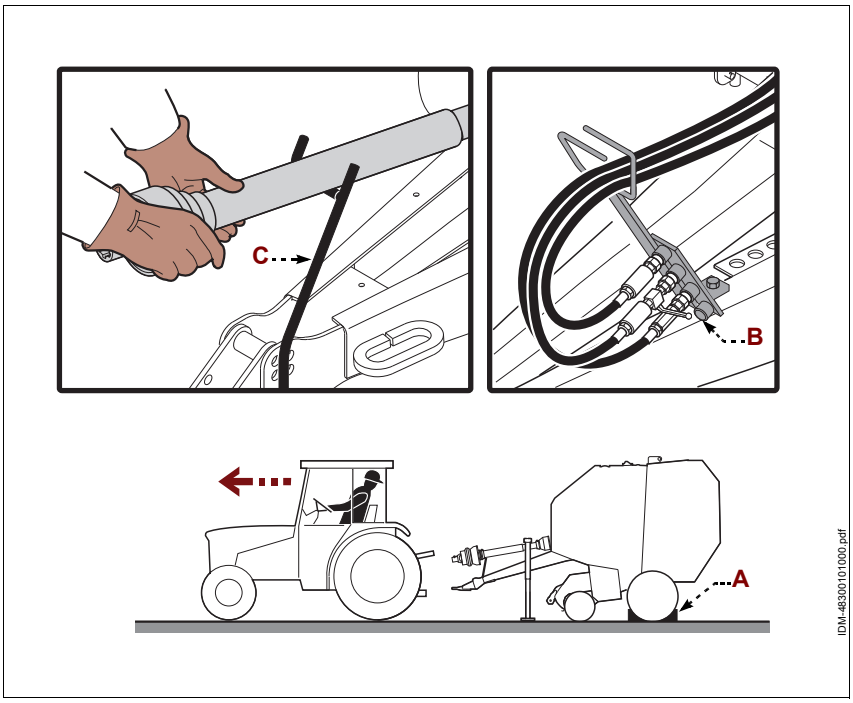

## HOW TO UNCOUPLE THE MACHINE FROM THE TRACTOR

Follow the instructions.

1. Stop the engine, apply the parking brake and disengage the ignition key.

**Important**

**Disconnect the machine in a level and stable area that can be accessed area only by authorised operators, in a way not to create obstacles. The re-connection of the machine to the tractor will be easier if the disconnection is performed in such a way as to always assure the height of the eye from the ground.**




2. Introduce the safety wedges **(A)**.
3. Disengage the power cables.
4. Disengage the electronic control system.
5. Disengage the hoses of the oil-pressure system from the quick couplings.
6. Connect the rapid hitches to the specific support **(B)** to avoid damage and the introduction of foreign matter.
7. Wind the electric cables and the hydraulic hoses, and then hang them on the specific support **(B)**.

**Important**

**Prevent the cables and/or the hoses from being twisted.**

8. Disconnect the chain from the cardan shaft (tractor side).
9. Disconnect the cardan shaft from the tractor, and then position it on the support **(C)**.

**Danger Warning**

**The cardan shaft must be disengaged only from the tractor PTO.**

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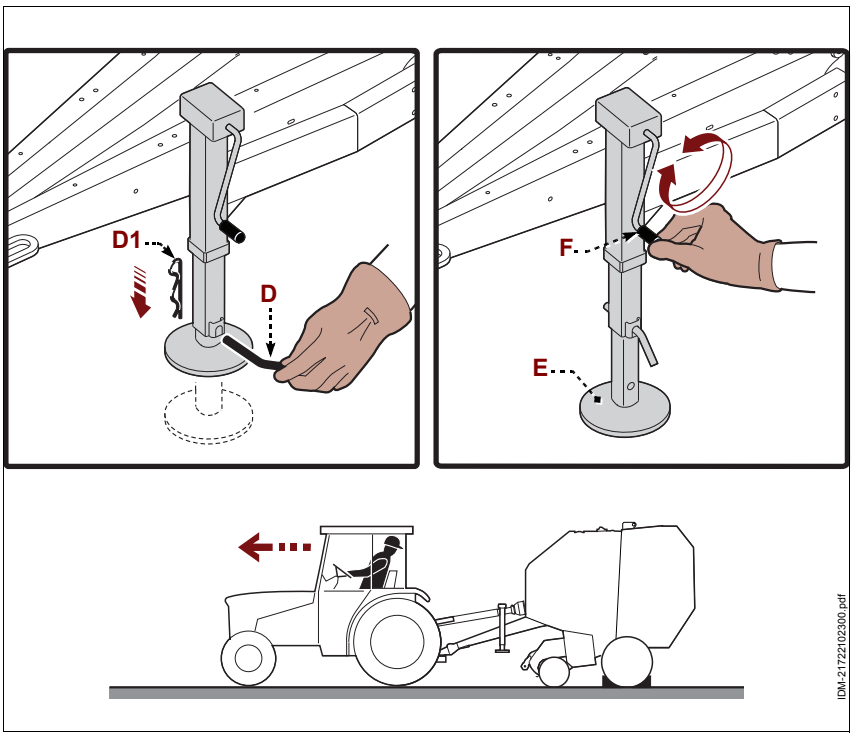
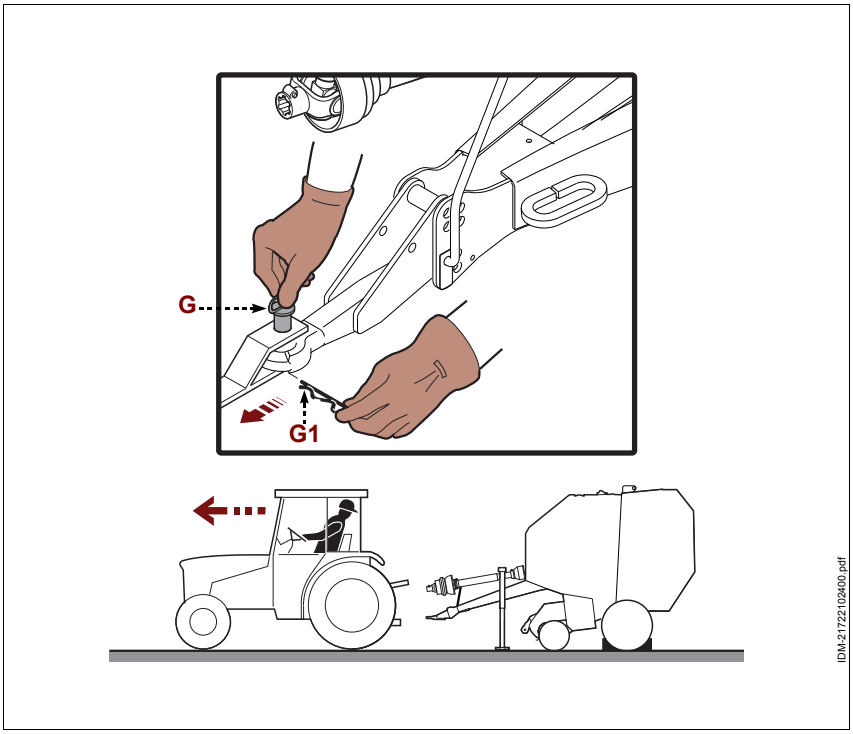
10. Remove the locking pin **(D1)** and the hitch pin **(D)**, lower the leg , and then re-introduce the hitch pin with the plug.
11. Adjust the height of the support leg **(E)** using the handle **(F)**.



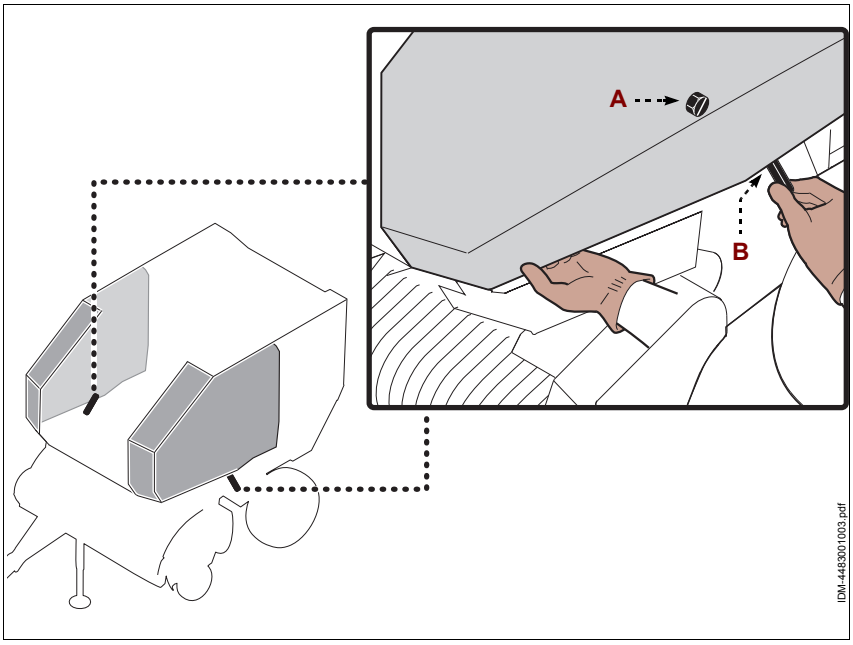

12. Remove the locking pin **(G1)** and the hitch pin **(G)** to disengage the tractor from the machine.
13. Slowly move the tractor forward in order to uncouple it from the machine.



## HOW TO OPEN THE GUARDS

Follow the instructions.

1. Stop the engine, apply the parking brake and disengage the ignition key.
2. Turn the screw **(A)** to unblock the guard.
3. Act on the lever **(B)** to unhook the guard and raise it.
4. To carry out closing, lower the guard until hooking it into the specific blocking devices (correct closure takes place when one hears the mechanical release and when the guards stay blocked even should one attempt to pull on them manually).




**Danger Warning**

**Before using the machine, make sure that the guards are perfectly installed and that both blocking devices are properly hooked.**

## INSTRUCTIONS AND SUGGESTIONS FOR USE

Before operating the machine, perform some preliminary checks in order to assure the performances of the machine.

- Set the diameter, the density of the bale and the binding parameters according to the type of product to be baled (See "Electronic control system").
- Check that the machine is supplied with a sufficient number of net reels. If not so, provide for them (See "Net binder unit (electronic)").
- Check that the machine is supplied with a sufficient number of twine reels. If not so, provide for them (See "Twine binder unit (electronic)").

To better exploit the potential of the machine and obtain good bale pressing, follow the listed instructions.

- **Bales that are uniform and correctly bound:** to obtain bales with these features, follow the direction instructions displayed by the LEDs in the electronic control system , then adapt the trajectory and the forward speed of the machine according to the operating conditions.
- **Products that are not much dry:** during the pick-up of products with these features, check that in the upper part of the machine there are no product leakages. If not so, point the trajectory of the tractor to the opposite part compared to the product leakage area.
- **Short and/or dry products:** during the pick up of products with these features, reduce the speed of the power take-off and increase the forward speed to prevent flooding.

The quality of the produced bales also depends on the type of windrow (dimensions, humidity, type of product, etc.), some features of which are shown in the list.

**Dimensions of the windrow**

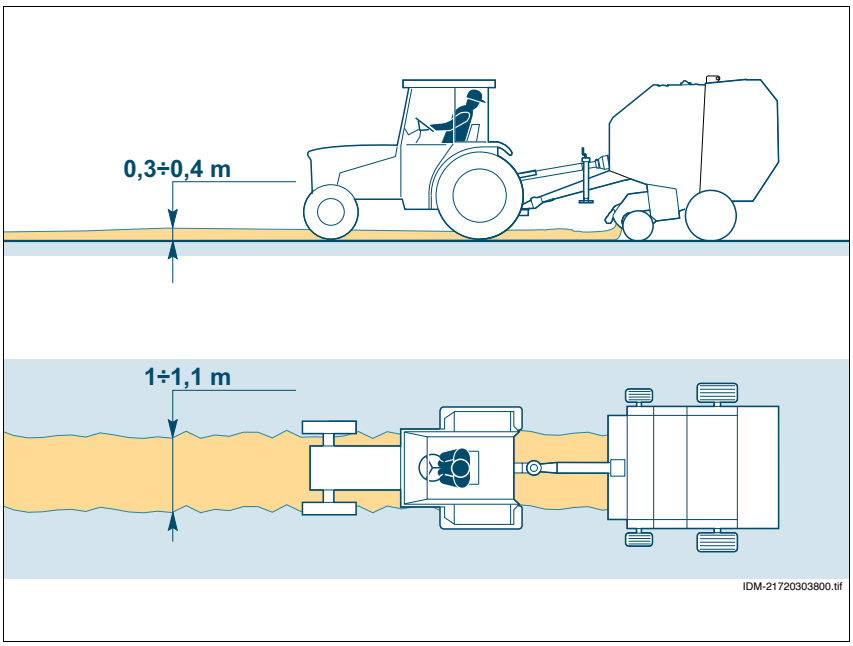
– Width 1÷1,1 (m)

– Height 0,3÷0,4 (m)

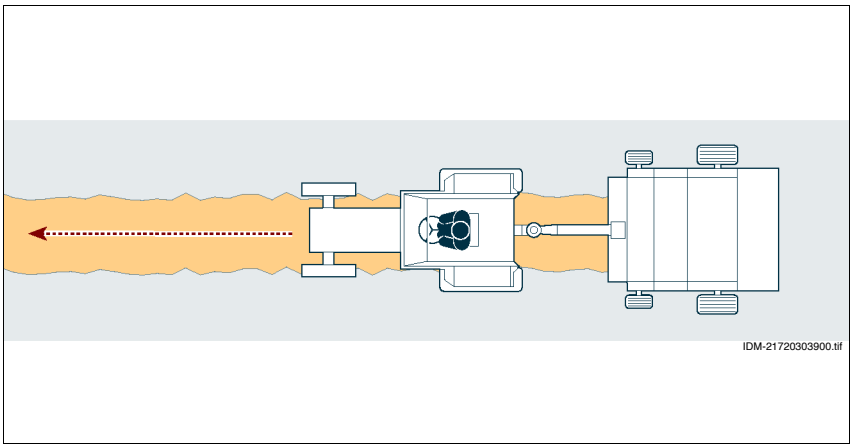
**Humidity**

– HAY: percentage of humidity ≈20%

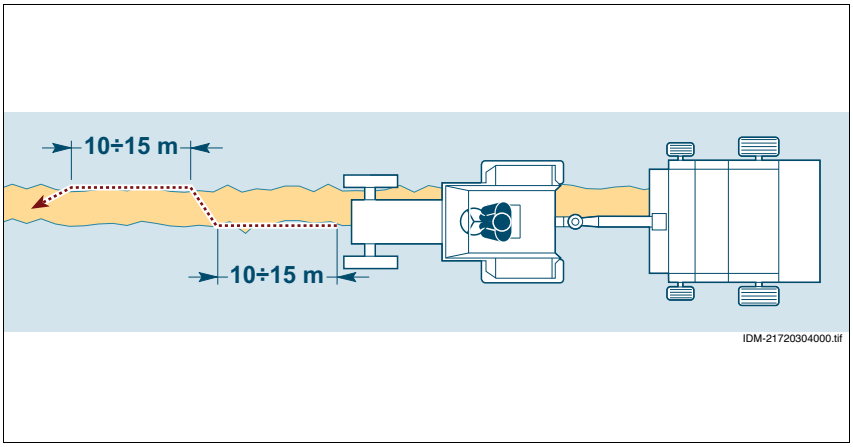
– SILAGE: percentage of humidity ≈40÷55%




– **Windrow prepared in a correct way:** keep a straight trajectory, as shown in the picture.




– **Narrow windrow:** apply the trajectory that is shown in the picture to uniformly feed the baling chamber.




At the end of the checks, act as specified.

1. Position the machine in the windrow.
2. Adjust the pick-up unit (See the "Pick-up unit").
3. Adapt the rate of the tractor so that the rate of the power take-off approaches 540 rev/min as much as possible.
4. Start the product pick-up operation.

5. Interrupt the forward movement of the tractor when the electronic control system emits a sound signal to warn that the bale has reached the set diameter.
   The binder unit starts the bale binding operation (net, twine or mixed).

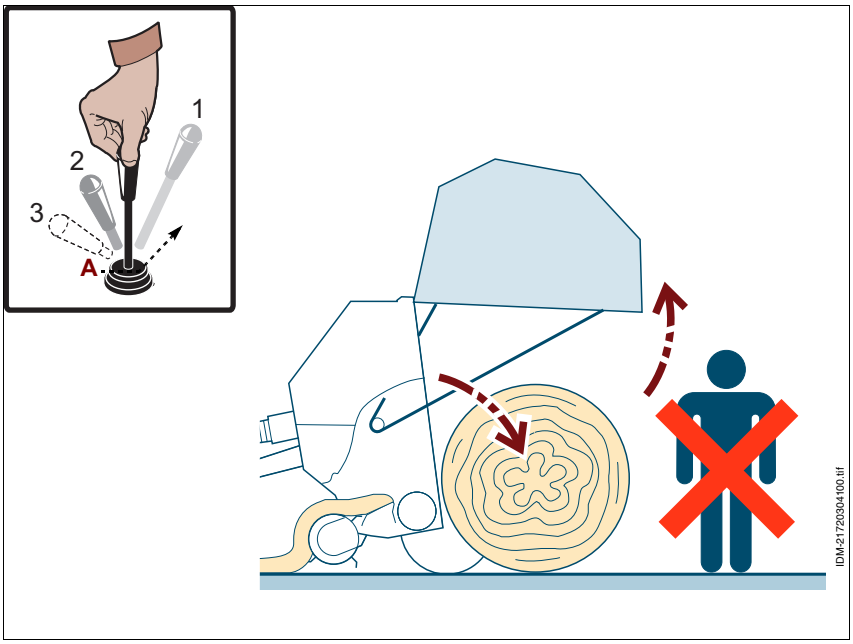
**If the binding is net type, during this operation, it is advisable to keep the rate of the power take-off at 400÷450 rev/min.**

At the end of the binding process, the electronic control system emits another sound signal to warn the operator that it is possible to open the tail gate for bale unloading.

1. Make sure that there are no people and/or obstacles within the range of action of the tail gate and in the bale unloading area.

2. Adjust the lever **(A)** of the double-acting control valve with floating position, into the position **1** and do not release it before the completion of the bale unloading operation.

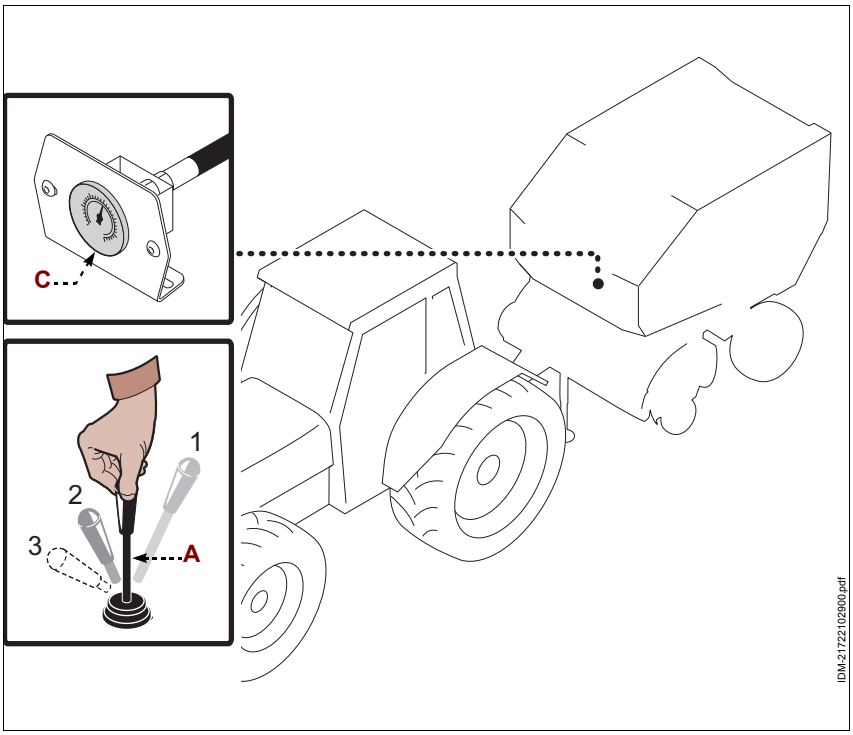
   **In case of soils whose slope can cause risks of sudden and uncontrolled movements of the bale, unload the bale crosswise to the slope. Use this precaution especially when the machine is equipped with the bale kicker.**




A bale can be unloaded with one of the listed modes.

**Machine "without bale kicker" (standard)**

1. During the binding operation, make the machine go backwards by 4÷5 m into the area where the bale will be unloaded. This operation will allow making up for time.
2. Unload the bale and make the machine go forward up to the beginning of the windrow.
   During the forwarding movement, adjust the lever **(A)** in position **2** to close the tail gate back.

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3. Release the lever **(A)** when the pressure signalled in the pressure gauge **(C)** starts to increase. It means that the bale density device has reached the set working pressure.

**Caution**
**Precaution**

**If the electronic control system warns that the tail gate has not closed correctly, place lever (A) again in position 2, and then repeat the tail gate closing operation.**

4. Adjust the lever **(A)** in position **3** (floating position) until the electronic control system signals that the machine is correctly closed and ready for the following baling operation; keep it in the position for the entire duration of the bale pressing operation.

**Machine "with bale kicker" (optional)**

**When the bale kicker is installed, the bale unloading operations (opening and closing of the tail gate) must be carried out directly in the point where the bale has been completed, without further additional manoeuvres.**

1. Adjust the lever **(A)** in position **2** to close the tail gate back.
2. Release the lever **(A)** when the pressure signalled in the pressure gauge **(C)** starts to increase. It means that the bale density device has reached the set working pressure.

**Caution**
**Precaution**

**If the electronic control system warns that the tail gate has not closed correctly, place lever (A) again in position 2, and then repeat the tail gate closing operation.**

3. Adjust the lever **(A)** in position **3** (floating position) until the electronic control system signals that the machine is correctly closed and ready for the following baling operation; keep it in the position for the entire duration of the bale pressing operation.

## HOW TO SET BALE DIAMETER

To perform bale diameter setting, the tractor must be stopped with engine on, the parking brake must be applied and the PTO must be disengaged.
Bale diameter must be set by means of the electronic control system, which can also display the increase during pressing (See "Electronic control system").

## HOW TO SET BALE DENSITY

Bale density depends on the tension of the belts in the baling chamber, and it must be set according to the type of product to be baled, the weight of the bale and the speed of the forward movement of the machine.
The bigger the value of the set working pressure, the bigger the bale density.

**Caution**
**Precaution**

**A working pressure that exceeds the maximum recommended values can cause damages to the machine, while an insufficient working pressure will create unstable and defective bales.**

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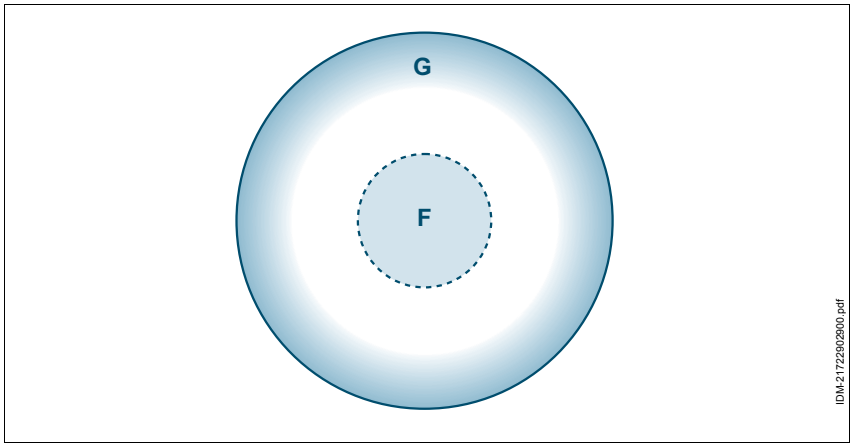
The table specifies the recommended pressure values according to the different types of product.

**Table 5:** recommended working pressures

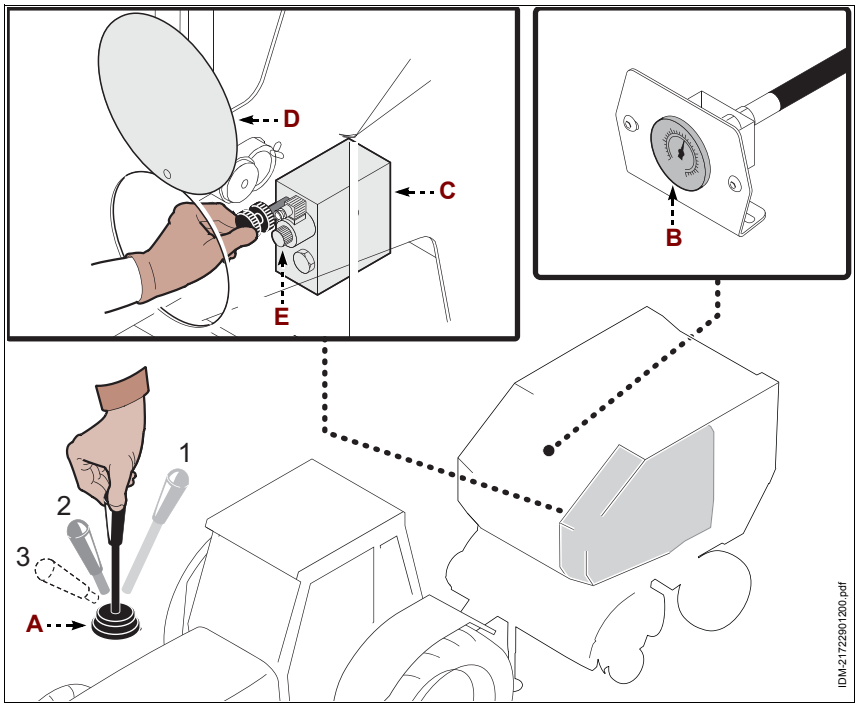
| *Type of product* | *Working pressures (bar)* |
|---|---|
| Straw | 160÷230 |
| Hay | 80÷180 |
| Ensiled product | 50÷150 |

The values of the core diameter **(F)** and of the external diameter **(G)** can be selected on the control unit (See "Electronic control system").
The pressure / density in the core area **(F)** and in the external area **(G)** can be activated **(ON)** or deactivated **(OFF)** according to the type of product and / or requirements of the user (See "Electronic control system").




To establish bale density, follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the machine; the engine of the tractor must be on and the parking brake must be applied.
3. Place lever **(A)** of the hydraulic control valve in the tractor in position **1** to open the tail gate.
4. Adjust the lever **(A)** of the tractor hydraulic control valve into the position **2** in order to close the tail gate and keep it in position until the pressure displayed on the pressure gauge **(B)** reaches the set value.
   If the value that is detected in the manometer is not suitable, you will have to adjust the working pressure of the valve **(C)**.




5. Stop the engine, apply the parking brake and disengage the ignition key.
6. To adjust the working pressure of the valve, open the door **(D)**.

**Important**

**Since the valve is not equipped with reference notches that allow its adjustment to the selected value, you have to repeat the tail gate opening and closing procedures in order to adjust it properly.**

7. To increase or reduce the working pressure, use the ring nut **(E)** in the valve.

**Important**

**The bigger the value of the set working pressure, the bigger the bale density.**
**If valve pressure is calibrated at a value that is higher than the maximum working pressure of the tractor, the manometer specifies the value of the latter.**

8. Start the engine of the tractor from the driver's seat.
9. Set the minimum value of the bale diameter by means of the electronic control system; when this value is reached, the operating pressure set on the valve operates.

## ROAD CIRCULATION

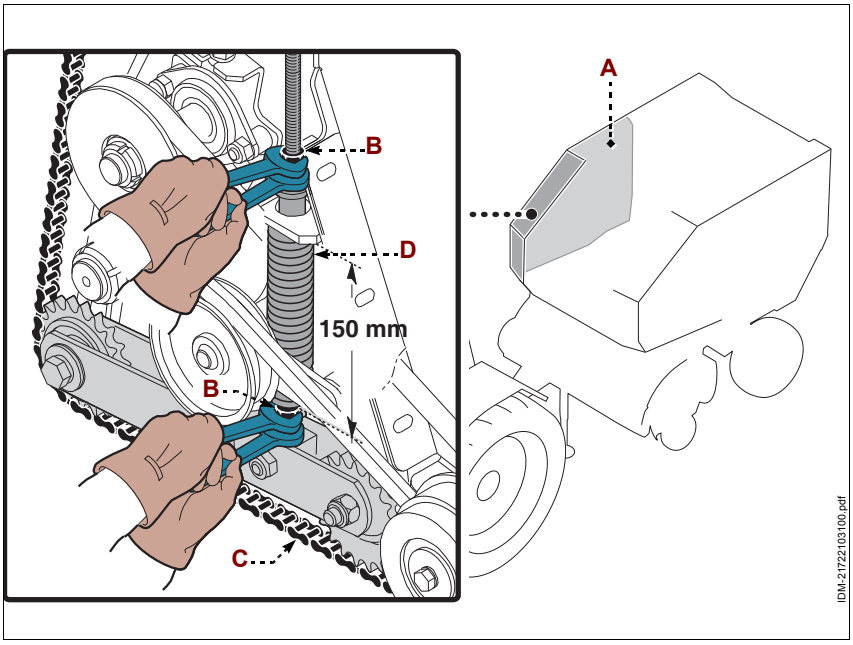
Road circulation is allowed only for type-approved machines, which are towed by a tractor with suitable features and category.
The driver of the tractor, which tows the machine, must comply with the requirements that are established by the laws in force.
Before using the machine in public roads, check that its conditions are suitable (non-worn tyres and with suitable pressure, efficient lighting and signalling devices, compliant documents, etc.) in order to comply with the rules of the road in force.
To improve safety conditions, besides personal experience, you have also to consider the reported instructions and suggestions.

- Unload the bale from the machine.
- Make sure the tail gate is closed in a complete and correct way.
- Make sure that the machine is correctly coupled to the tractor.
- Lift the pick-up unit , and then lock it by using the specific chain.
- Close the cock of the oil-pressure circuit that drives the pick-up.
- block the parts which could cause sudden unexpected movements.
- Clean the machine from remains of the picked product to prevent them from being spread along the path.
- Check that all road signalling devices are perfectly efficient and visible.
- Evaluate the wearing condition and the pressure of the tyres.
- Make sure tractor PTO is disengaged.
- Drive carefully, and in detail, reduce the speed in case of irregular soils. Curve carefully not to compromise the stability of the machine.
- Every adjustment, except when it is expressly specified, must be performed with disengaged PTO, and tractor engine off. Furthermore, the ignition key must be disengaged and kept by the driver.
- The personnel that are authorised to perform the adjustments must comply with all precautions that are necessary to operate in a correct way and in compliance with the laws in force about occupational safety.
- At the end of the operations, before re-starting the machine, check that no tool, cloth or other material has been left close to the moving devices or in hazardous areas.

## HOW TO ADJUST TRANSMISSION CHAINS

Follow the instructions.

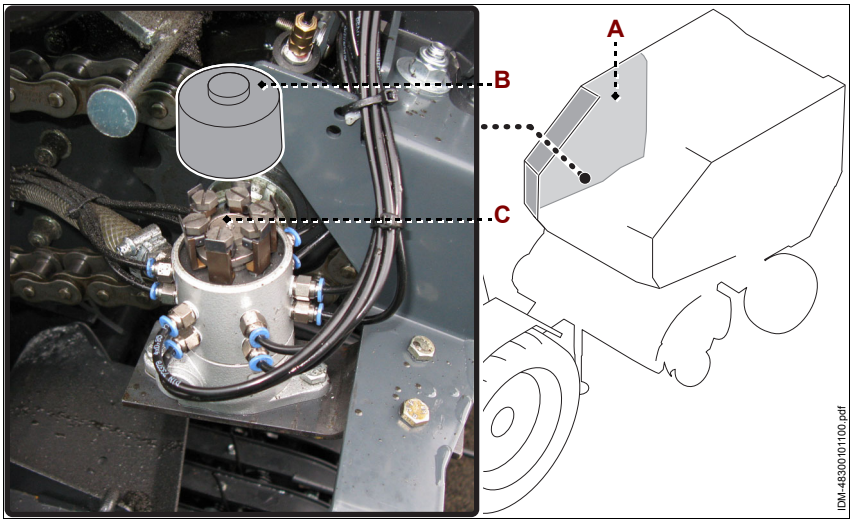
1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. To evaluate if the chains are tightened in a correct way, the length of the spring **(D)** must equal 150 mm.
5. Adjust the length of the spring (and, as a consequence, the tensioning of the chain **(C)**) by means of the nuts **(B)** and the locknuts.
6. Close the cover **(A)**.




## HOW TO ADJUST CENTRALISED LUBRICATION

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. Unscrew the plug **(B)**.
5. Adjust the quantity of oil.
   - TIGHTEN the screws **(C)** to increase the quantity.
   - LOOSEN the screws **(C)** to diminish the quantity.
6. Screw again the plug **(B)**.
7. Close the cover **(A)**.



## HOW TO ADJUST BELT ALIGNMENT

Follow the instructions.

Check that a finished bale is to be found inside the machine.

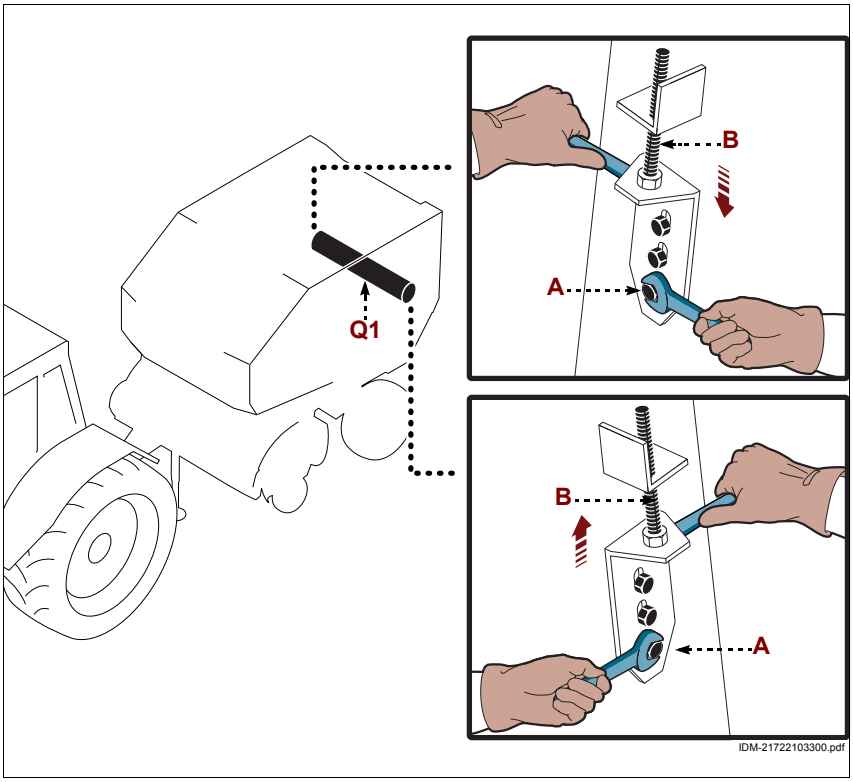
1. Make sure the tail gate is closed in a complete and correct way.
2. Make sure tractor PTO is disengaged.
3. Stop the engine, apply the parking brake and disengage the ignition key.
4. Check the direction (right or left) in which the belts have moved. During bale creation, the belts could move laterally towards the corresponding divisions, and thus wear them out to an excessive extent.

**Caution**
**Precaution**

**During design and manufacturing, no measure was adopted to allow the operator to access the upper areas of the machine. If it becomes necessary to access the upper areas, prearrange suitable safety measures to prevent dangers, especially the danger of fall from height.**

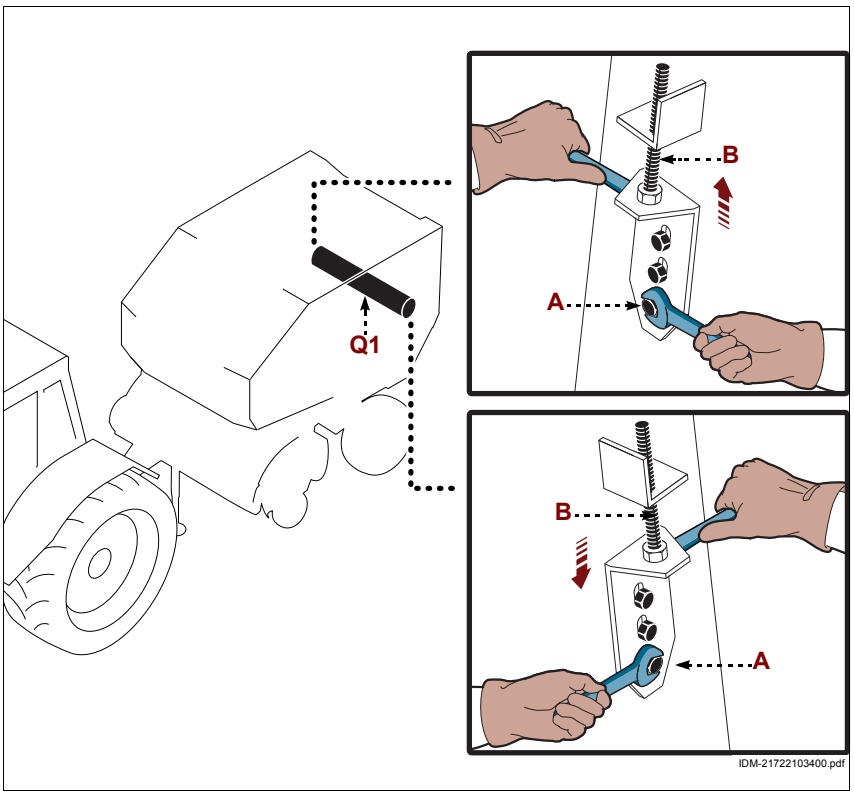
**Belts that are moved to the right side.**

1. On the right side of the machine, loosen the screws **(A)** and lower the roller **(Q1)** by using the adjustment screw **(B)**.
   As an alternative, you can perform a different operation.
   On the left side of the machine, loosen the screws **(A)** and lift the roller **(Q1)** by using the adjustment screw **(B)**.



**Belts that are moved to the left side.**

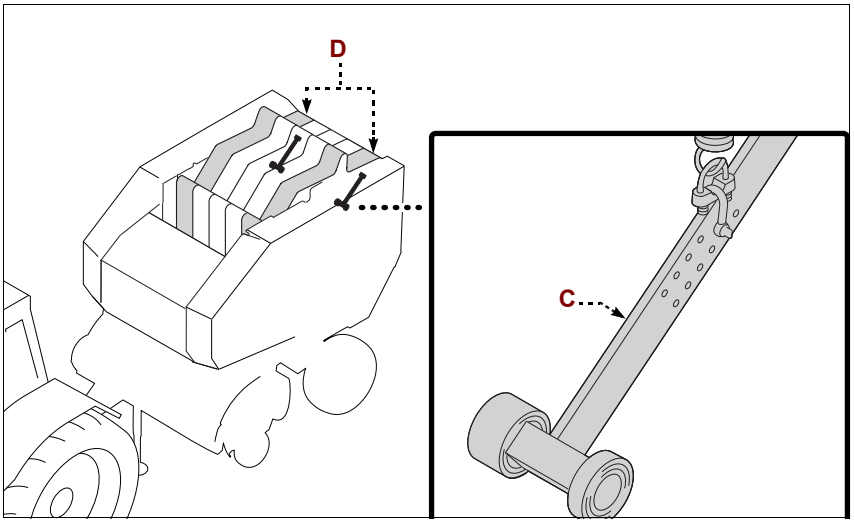
1. On the right side of the machine, loosen the screws **(A)** and lift the roller **(Q1)** by using the adjustment screw **(B)**.
   As an alternative, you can perform a different operation.
   On the left side of the machine, loosen the screws **(A)** and lower the roller **(Q1)** by using the adjustment screw **(B)**.
2. Start the engine of the tractor, activate the PTO and adjust it to its minimum rate.
3. Check the alignment between the belts and, if necessary, repeat the adjustment.




4. If it is necessary, correct the alignment only of side belts **(D)**, "twist" the arms **(C)** of tighteners in one direction.

**Important**

**Do not modify the position of the tightener springs. Only the manufacturer can perform the adjustment during machine manufacturing.**

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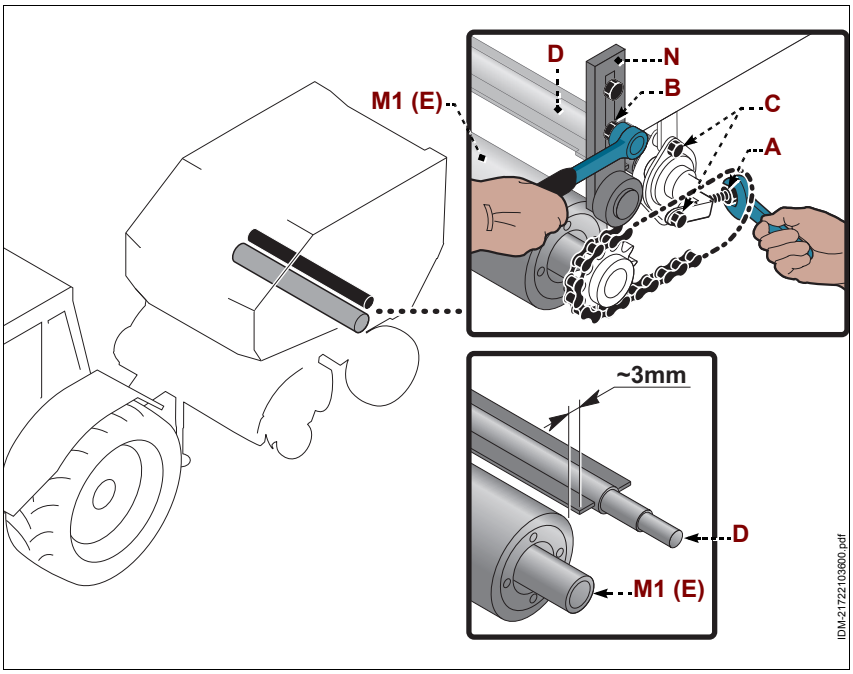
## HOW TO ADJUST THE CLEANING ROLLERS

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.

**Bladed roller to clean roller "M1"**

3. Adjust the screws **(B)** to loosen the tightener **(N)**.
4. On both sides, slightly loosen the nuts **(C)** that fasten the bearings.
5. Adjust the screw **(A)** and the locknut to position the blade-type roller **(D)**.
   Adjust the position of the bladed roller **(D)** at a 3 mm distance from roller "M1" **(E)**.




**Important**

**During the adjustment, the bladed roller must be kept in parallel position to roller "M1".**
**To prevent damaging the roller "M1" , do not position the blade-type roller at a distance that is smaller than the one specified in the picture.**

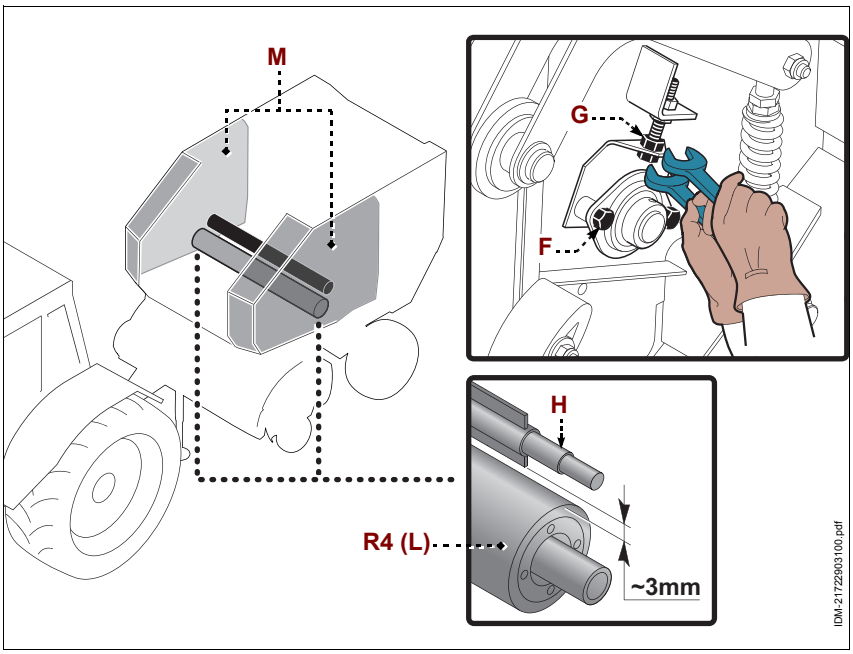
6. Tighten the nuts **(C)** on both sides.
7. Adjust the screw **(A)** and the locknut to lock the blade-type roller **(D)**.
8. Manually adjust tensioner **(N)** to regulate the tension of chain and, at the same time, tighten screws **(B)**.

**Important**

**Do not tension the drive too much in order not to damage the rotating devices.**

**Bladed roller to clean roller "R4"**

1. Open guards **(M)**.
2. On both sides, slightly loosen the screws **(F)** that fasten the bearings.
3. Equally adjust the screw **(G)** and the locknut on both sides to set the position of the blade-type roller **(H)**.




**Important**

**During the adjustment, the bladed roller must be kept in parallel position to roller "R4" (L).**
**To prevent damaging the roller "R4" , do not position the blade-type roller at a distance that is smaller than the one specified in the picture.**

4. Tighten the screws **(F-G)** on both sides.
5. Close guards **(M)**.

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## INSTRUCTIONS FOR MAINTENANCE

– Even though the machine was designed and manufactured to work in hard environmental conditions, you have to carry out scheduled maintenance interventions. Correct maintenance will allow achieving the best performance, a longer duration of work and a constant preservation of safety requirements.

– Before carrying out any maintenance operation, activate all safety devices and, if necessary, instruct the staff working on the machine or nearby. In detail, adequately mark the surrounding areas, and prevent the access to all devices that could cause unexpected hazardous conditions, as well as risks for the health and safety of people.

– Except what is expressly specified, every intervention has to be performed with disengaged PTO, and tractor engine off; furthermore, the ignition key must be removed and kept by the driver. The personnel that are authorised to perform the aforesaid interventions must comply with all precautions that are necessary to assure the safety of all people involved, and in compliance with the requirements of the laws in force about occupational safety.

## PROGRAMMED MAINTENANCE INTERVALS CHART

**Table 6:** Intervals of periodic maintenance

| *Frequency* | *Component* | *Type of intervention* | *Reference* |
|---|---|---|---|
| **Each working day** | Machine lubrication parts | Check that all greasing points of the machine are lubricated at specific intervals. | See "lubrication points diagram" |
| | Transmission unit | Check that the cardan shaft is correctly installed; furthermore, all protections must be undamaged and effective. | |
| | | Lubricate the cardan shaft. | See "lubrication points diagram" |
| | Centralised lubrication system (optional) | Check the oil level in the tank and, if necessary, fill it up. | See "Oil supply for centralised lubrication" |
| | | Check that all components are undamaged and, if necessary, replace them with original spare parts. | |
| | Hydraulic system | Check for possible oil leakages and tighten the couplings if necessary. | |
| | Tyres | Check the wearing condition and the pressure of the tyres. | |

**Table 6:** Intervals of periodic maintenance

| *Frequency* | *Component* | *Type of intervention* | *Reference* |
|---|---|---|---|
| **Each working day** | Baling chamber | Check the wearing condition of the belts. | |
| | | Check the alignment of the belts. | See "Check of belt alignment" |
| | | Check the wearing condition of belt junctions and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| | | Check that there is no product accumulation between the rollers and the belts; if necessary, remove the residues. | See "How to clean the belt guiding rollers" |
| | Signalling and lighting devices | Check the efficiency of the lamps and, if necessary, replace them. | |
| **After 20 hours (since the first operation)** | Transmission unit | Check the oil level in the reduction gear and, if necessary, fill it up. | See "Change of reduction gear oil" |
| **Every 20 hours** | Transmission unit | Check and, if necessary, adjust the chain tensioning. | See "How to adjust transmission chains" |
| | Closure devices for the lateral permanent guards | Check the efficiency and, if necessary, replace it | |
| | Twine or net introduction device | Clean and remove product residues. | |
| | | Carefully clean the driving chain and lubricate it. | See "lubrication points diagram" |
| **Every 50 hours** | Transmission unit | Check the wearing condition of pinions and chains. | |
| | Oil-pressure system | Check the efficiency of tail gate opening and closing operations. | |
| | Towing drawbar and eyelet | Make sure the fixing screws of the main parts are tightened properly. | |
| | wheel rims | Check the tightening of the fastening screws. | |
| **Every year** | Transmission unit | Change the oil of the reduction gear. | See "Change of reduction gear oil" |
| | Moving devices and machine structure | Check the wearing condition of bearings and, if necessary, replace them with original spare parts. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| | | Make sure the fixing screws of the main parts are tightened properly. | |
| **Net binder unit (electronic)** | | | |
| **After 10 hours (since the first operation)** | Cutting device | Control and, if necessary, adjust the tightening of the device reset rope. | See "Net binder unit (electronic)" § "How to adjust the cut reset device" |
| **Every 50 hours** | Net drive rollers | Clean and remove possible net and/ or product residues. | See "Net binder unit (electronic)" § "How to clean the net driving rollers" |
| **Every 6 months** | Net drive rollers | Check the efficiency of the rollers and, if necessary, replace damaged rollers | Contact the Technical Assistance Centre that is authorised by the manufacturer |

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**Table 6:** Intervals of periodic maintenance

| *Frequency* | *Component* | *Type of intervention* | *Reference* |
|---|---|---|---|
| **Every 12 months** | Cutting device | Check the wearing condition and the cut efficiency of the blades and, if necessary, have the blades replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| | Electro-clutch belt | Check the tightening and, if necessary, adjust it | See "Net binder unit (electronic)" § "How to replace the electro-clutch belt" |
| | | Check the wearing condition and, if necessary, replace it | See "Net binder unit (electronic)" § "How to replace the electro-clutch belt" |
| | Rubber roller | Clean with compressed air and spread the rubber roller with talcum powder. | |
| **Twine binder unit (electronic)** | | | |
| **Every 8 hours** | Transmission unit | Clean with a water jet | |
| **Every 100 hours** | Transmission unit | Check and, if necessary, adjust the chain tensioning. | See "Twine binder unit (electronic)" § "How to adjust the chains of the twine guiding arms" |
| | Cutting arm | Check the wear and the efficiency of blade cut and, if necessary, replace the blade. | See "Twine binder unit (electronic)" § "How to replace the blade" |
| **At season end** | Transmission unit | Clean and lubricate | |
| **Product feeding unit** | | | |
| **Every 8 hours** | Feeding forks. | Check that there is no product accumulation between the feeding forks and the pick-up and, if necessary, remove the residues. | see "Product feeding unit § "How to unflood the feeding unit" |
| **Every 50 hours** | Safety bolt | Check the efficiency and, if necessary, replace it | see "Product feeding unit" § "How to replace the safety bolt" |
| | Transmission | Check tightening of the transmission chain | |
| **Every 6 months** | Transmission | Clean and remove product residues. | |
| **Pick-up unit** | | | |
| **Each working day** | Reel | Check that the clamps are efficient and undamaged and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| | | Check that the tines bars are efficient and undamaged and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| | | Check that the tines are efficient and undamaged and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |

**Table 6:** Intervals of periodic maintenance

| *Frequency* | *Component* | *Type of intervention* | *Reference* |
|---|---|---|---|
| **After 10 hours (since the first operation)** | Auger transmission (left side) | Check and, if necessary, adjust the tensioning of the chain. | see "Pick-up unit § How to adjust the pick-up transmission chain" |
| **Every 20 hours** | Shock absorbers | Check pick-up unit balancing | see "Pick-up unit § How to balance the pick-up unit " |
| **Every 50 hours** | Safety bolt | Check the efficiency and, if necessary, replace it | see "Pick-up unit § "How to replace the safety bolt" |
| | Hydraulic system | Check that all pick-up unit driving components are undamaged and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| | Auger transmission (left side) | Check and, if necessary, adjust the tensioning of the chain. | see "Pick-up unit § How to adjust the pick-up transmission chain" |
| **Every 100 hours** | Reel | Check the efficiency of the bearings and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **Every 12 months** | Reel | Check the efficiency of the cams and, if necessary, have them replaced. | Contact the Technical Assistance Centre that is authorised by the manufacturer |

## LUBRICANT TABLE

Use oils and lubricants whose features are the same as the ones that are specified in the chart.

**Table 7:** Features of the lubricants

| *Suggested lubricants* | *Parts to lubricate* | *Quantity* |
|---|---|---|
| oil AGIP F1 - EP 90 (SAE 80W90) | Reduction gear | 2,3 l |
| oil AGIP F1 - ROTRA THT | Hydraulic cylinder of the tightener unit | 5 l |
| oil SAE 20W - ISO VG 46 - ISO VG 68 | Automatic lubrication system | 2 l |
| grease AGIP LF1 | Greasers | - |
| | Driving rollers | - |

## DRIVING TORQUE TABLE

Check all the elements of the fastening of the various components of the machine with a dynamometric key. Respect the driving torque indicated in the table.

**Danger Warning**

**Substitute the fastening elements that have deteriorated.**

**Table 8:** Tightening torque for standard screws

| *Screw sizes* | *Driving torque (Nm)* | | | | | |
|---|---|---|---|---|---|---|
| | *Resistance class 8.8* | | *Resistance class 10.9* | | *Resistance class 12.9* | |
| | *Nm* | *ft-lb* | *Nm* | *ft-lb* | *Nm* | *ft-lb* |
| M3 | 1,3 | 0,9 | 1,8 | 1,3 | 2,1 | 1,5 |
| M4 | 2,9 | 2,1 | 4,1 | 3,0 | 4,9 | 3,6 |
| M5 | 5,7 | 4,2 | 8,1 | 6,0 | 9,7 | 7,1 |
| M6 | 9,9 | 7,3 | 14,0 | 10,3 | 17,0 | 12,5 |
| M8 | 24,0 | 17,7 | 34,0 | 25,0 | 41,0 | 30,3 |
| M10 | 48,0 | 35,4 | 68,0 | 50,2 | 81,0 | 59,8 |
| M12 | 85,0 | 62,7 | 120,0 | 88,6 | 145,0 | 107,0 |
| M14 | 135,0 | 99,6 | 190,0 | 140,0 | 225,0 | 166,0 |
| M16 | 210,0 | 155,0 | 290,0 | 214,0 | 350,0 | 258,0 |
| M18 | 290,0 | 214,0 | 400,0 | 295,0 | 480,0 | 354,0 |
| M20 | 400,0 | 295,0 | 570,0 | 421,0 | 680,0 | 502,0 |
| M22 | 550,0 | 406,0 | 770,0 | 568,0 | 920,0 | 679,0 |

**Important**

**Such values have been obtained experimentally and for serial applications, one is advised to check them with field tests.**

## LUBRICATION POINTS DIAGRAM

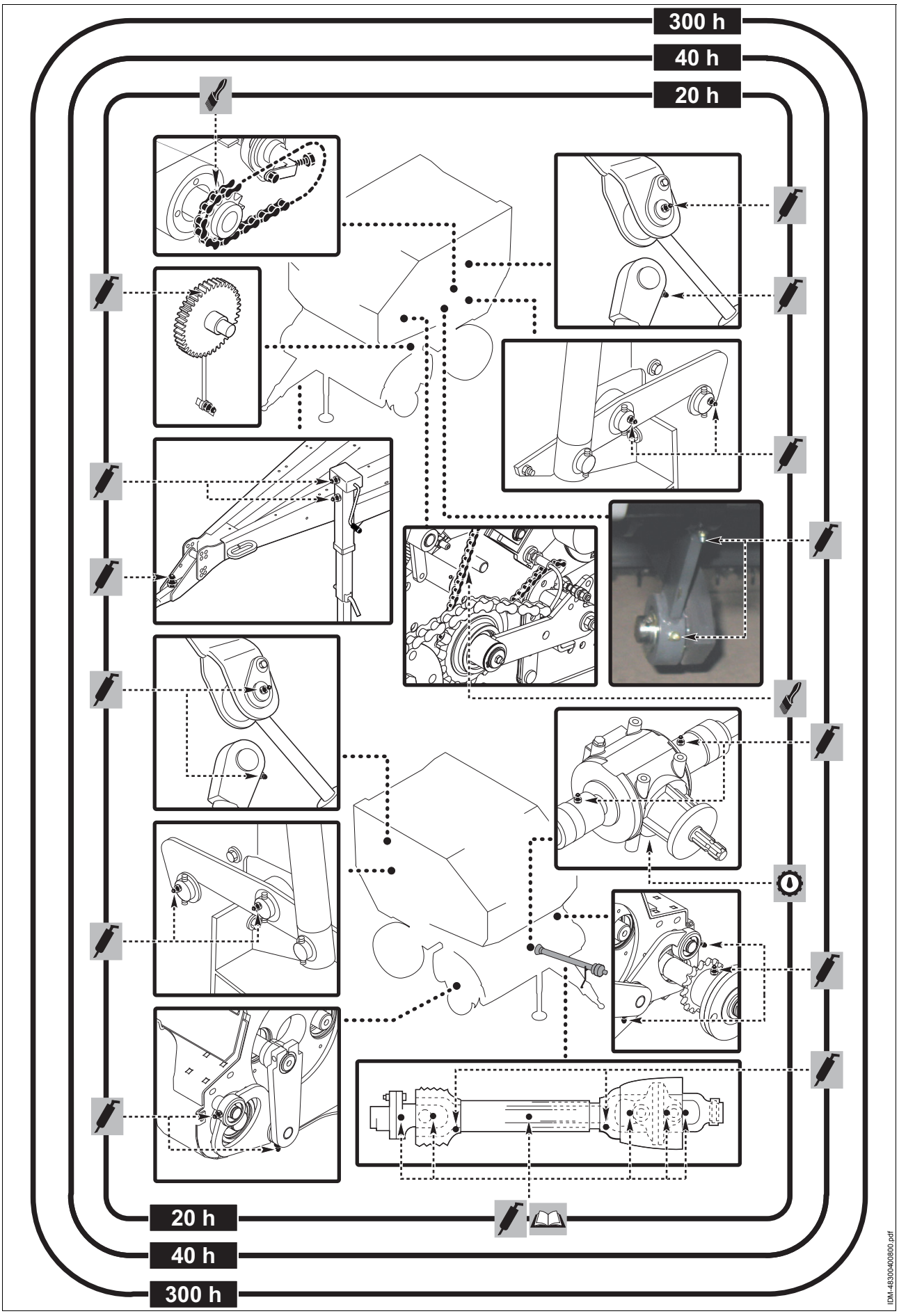
**Caution Precaution**

**Make sure tractor PTO is disengaged.**
**Stop the engine, apply the parking brake and disengage the ignition key.**

Lubricate the devices in the points and at the specified intervals.

**Important**

**Before lubricating, thoroughly clean the implied devices and the greasers to prevent impurities from being mixed with the lubricant.**




| Legend | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Inject grease | | oil | | Read cardan shaft i nstructions carefully. | | Spread with grease |



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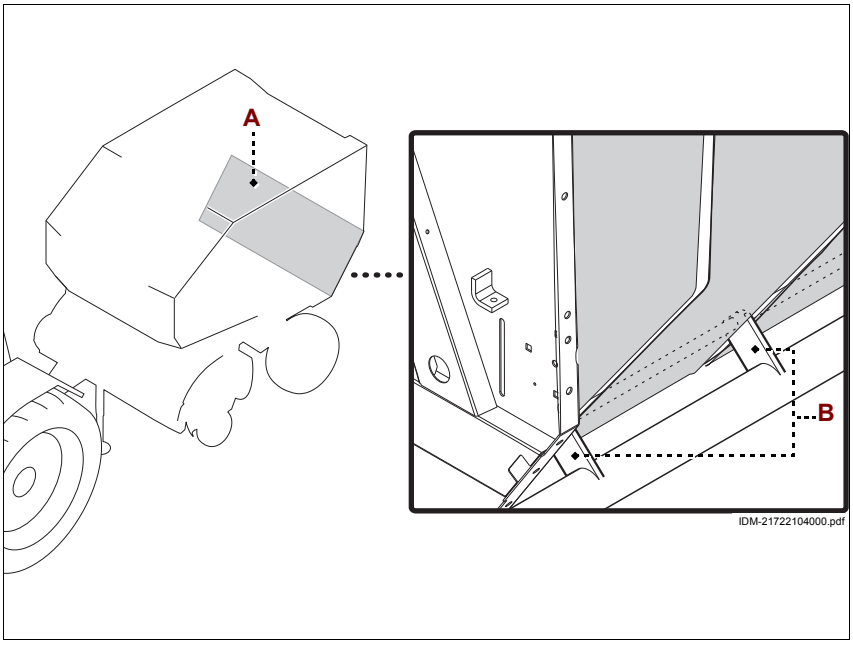
## CHECK OF BELT ALIGNMENT

Follow the instructions.

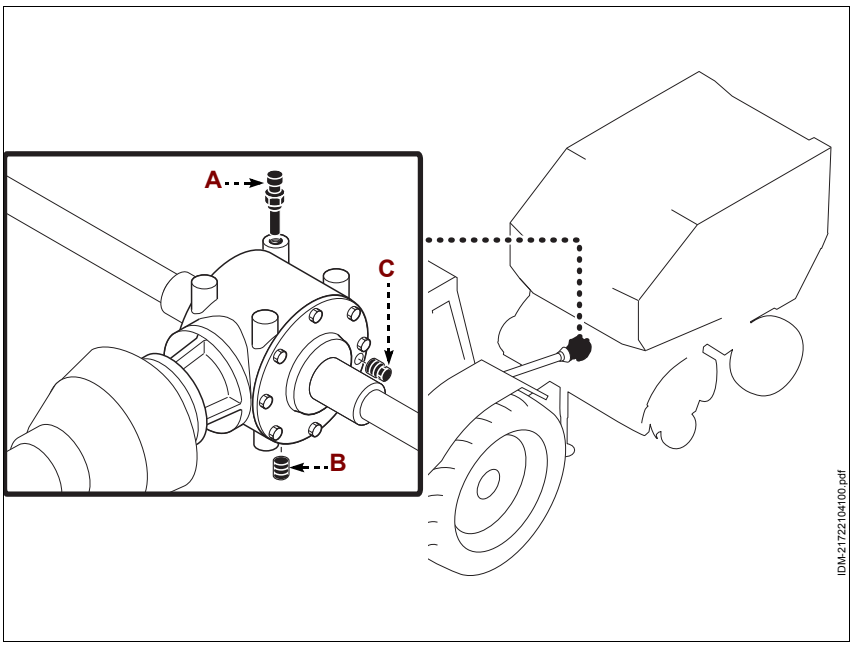
1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Check that a finished bale is to be found inside the machine.
4. Unscrew the screws to disassemble the guard **(A)**.
5. Check if the wearing condition of the divisions **(B)** is uniform on both sides. If the divisions are worn more on one compared to the other side, you have to align the belts (See "How to adjust belt alignment").
6. Assemble the guard **(A)**, and then fasten it by using the screws.




## CHANGE OF REDUCTION GEAR OIL

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Prepare a container with suitable capacity.
4. Unscrew the filling cap **(A)**.
5. Unscrew the drain plug **(B)** and drain the oil in the container completely.
6. Screw the drain plug **(B)** back on.
7. Unscrew the plug **(C)**.
8. Pour the new oil through the filling plug **(A)**.
9. Stop pouring the oil before it starts leaking from the plug hole **(C)**.
10. Screw again the plug **(C)**.
11. Retighten the filler plug **(A)** and check for leaks.




**Caution**
**Precaution**

**Use oils whose features are similar to the ones that are specified in the "Lubricant table".**

**Important**

**Do not throw away any polluting material in the environment. Carry out their disposal in compliance with the relevant legislation in force.**

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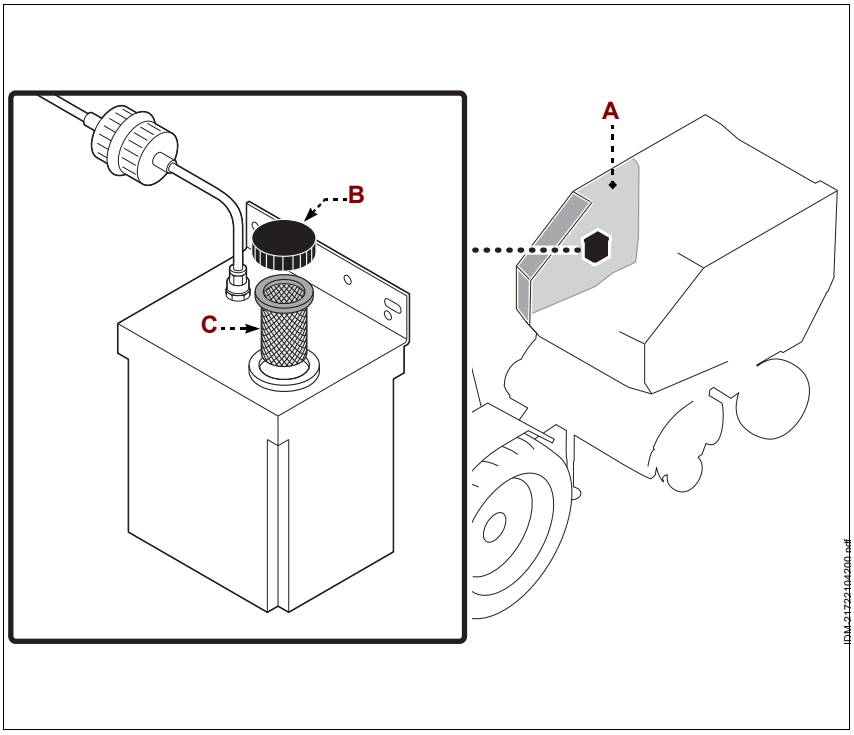
## OIL SUPPLY FOR CENTRALISED LUBRICATION

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. Thoroughly clean the area so that no dust or residues can enter the tank.
5. Unscrew the filling cap **(B)**.
6. Check the conditions of the filter **(C)** and carefully clean it in case of clogging.
7. Pour new oil into the tank.
8. Tighten the filling cap **(B)**.
9. Close the cover **(A)**.

**Caution Precaution**

**Use oils whose features are similar to the ones that are specified in the "Lubricant table".**



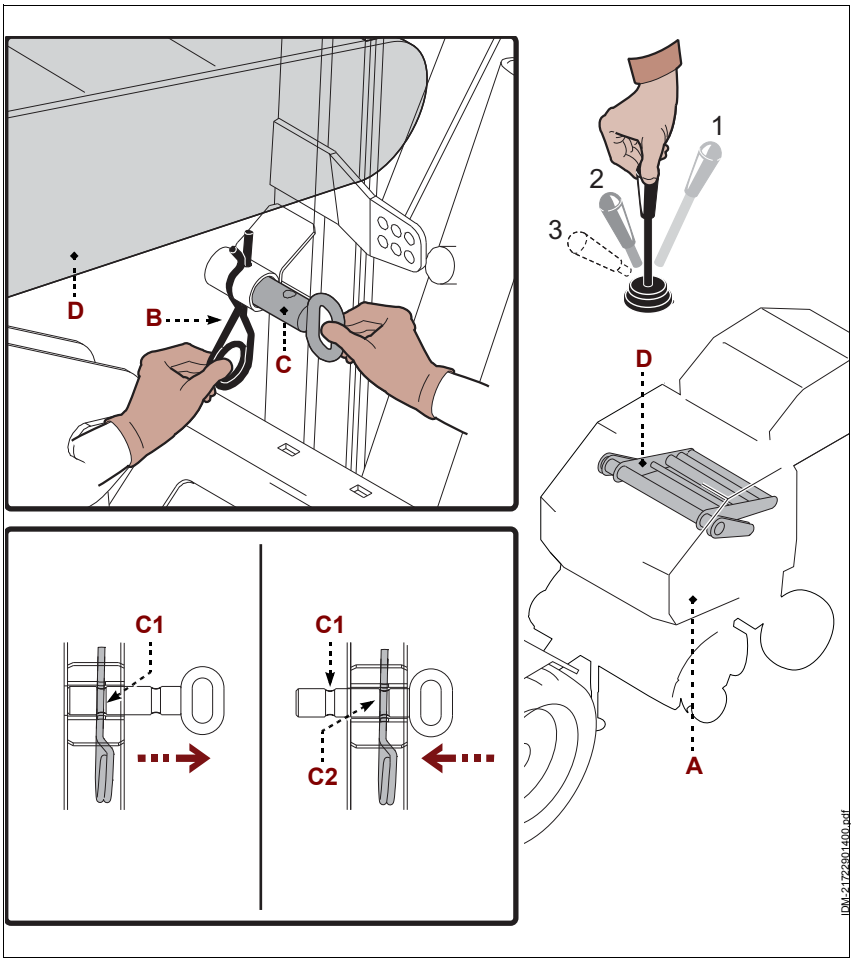

## HOW TO CLEAN THE BELT GUIDING ROLLERS

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the machine; the engine of the tractor must be on and the parking brake must be applied.
3. Open the cover **(A)**.
4. Place the lever of the hydraulic control valve in the tractor in position **1** to fully open the tail gate.
5. Remove the safety pin **(B)** from the hole **(C1)** of the pin **(C)**, push the pin inside and introduce the safety pin **(B)** into hole **(C2)**.

**Important**

**In order to prevent pin (C) from breaking, it can be introduced only after the tail gate is completely open.**

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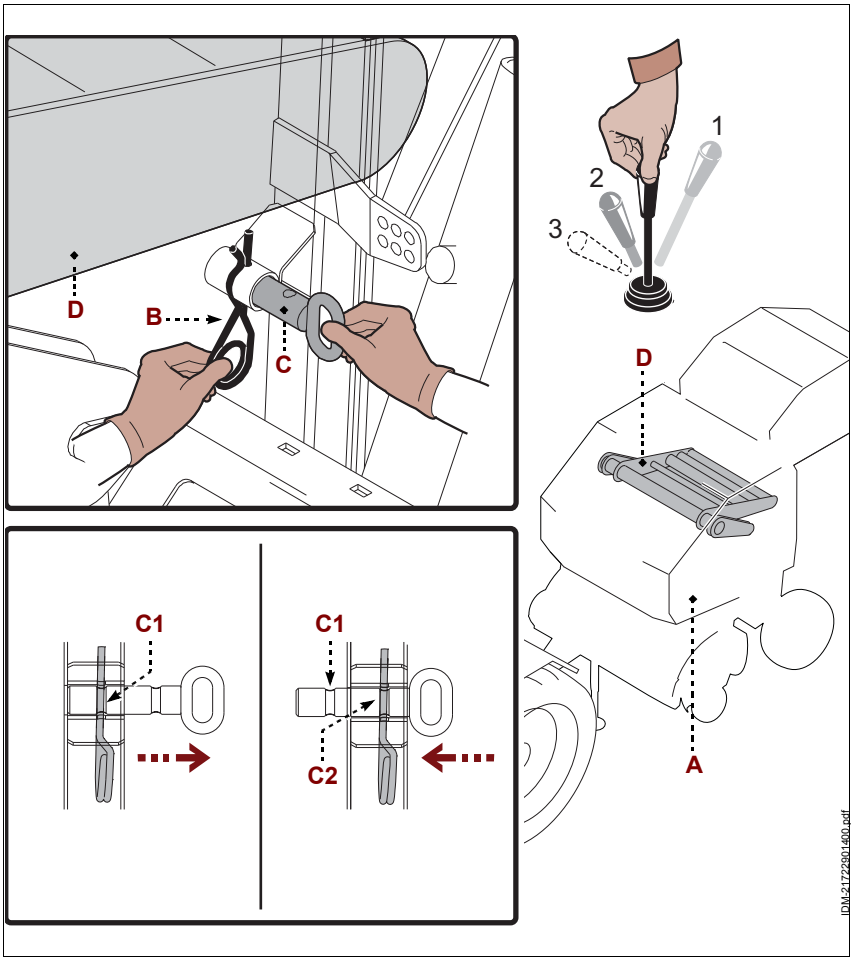
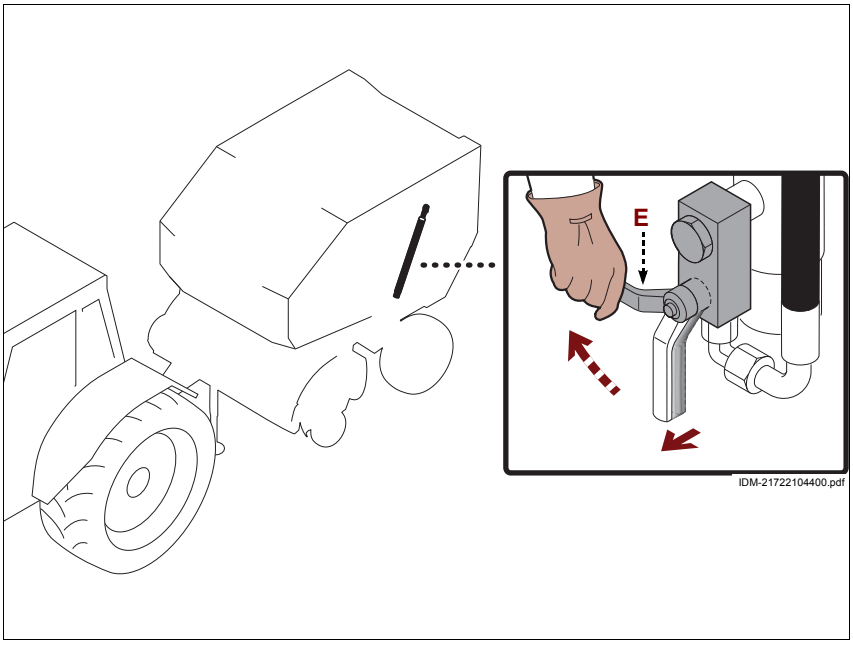
**Caution Precaution**

**Make sure that the hitch pin (C) is fully introduced to assure that the tightener unit rests on the hitch pin.**
**If it is not possible to completely introduce the pin (C), contact the Manufacturer's or the local dealer's After-Sales Service.**

6. Adjust the lever of the tractor hydraulic control valve in position **2**, and then release it when the tightener unit **(D)** leans on the component **(C)**. This way, the belts will loosen.




7. Close the cock **(E)** to assure safety conditions.
8. Switch off the engine of the tractor, and then disengage the ignition key.
9. Clean and remove product residues between the rollers and the belts.
10. Check the general conditions of the devices in the baling chamber.
11. Open the cock **(E)**.




**Caution Precaution**

**Before opening the cock , make sure that the cleaning operations have been completed.**

12. Start the engine of the tractor from the driver's seat.
13. Place lever of the hydraulic control valve in the tractor in position **1** to open the tail gate.
14. Remove the locking pin **(B)** and the hitch pin **(C)**; after that, re-introduce the plug into the hole **(C1)**.
15. Place the lever of the hydraulic control valve in the tractor in position **2** to close the tail gate.
16. Close the cover **(A)**.

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## HOW TO STORE THE MACHINE AT SEASON END

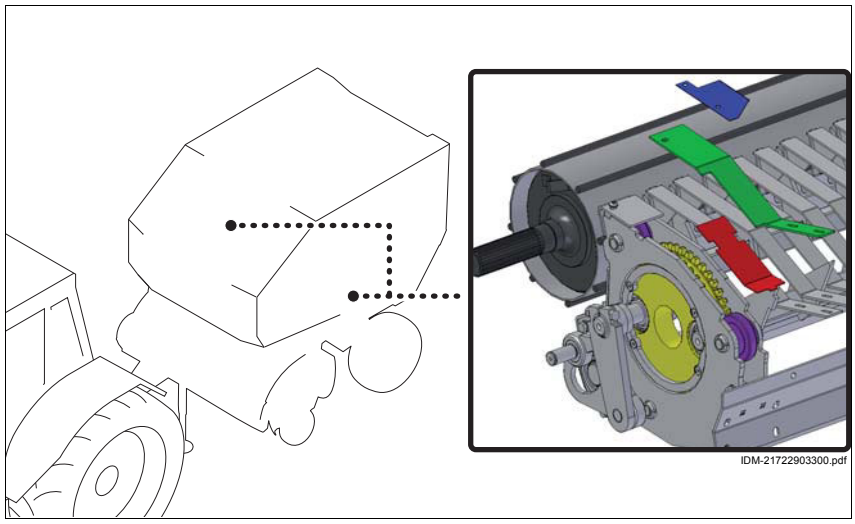
Before storing the machine, it is necessary to perform some general maintenance operations, which will help in ensuring its perfect operation as soon as the new harvesting campaign starts.
Follow the instructions.

- Uncouple the machine from the tractor (See "How to uncouple the machine from the tractor").
- Disconnect the electronic control system, and then store it in a dry and sheltered place.
- Remove product and dust residues from all parts of the machine, especially from the baling chamber.

**Important**

**Prevent spraying pressure water jets against the bearing seals.**

- Check the efficiency of all machine devices and, if necessary, replace them with original spare parts.
- Check that the cardan shaft is correctly engaged to the machine and that it rests on the specific support; all protections must be undamaged and efficient.
- In the models with double feeder , remove the lateral closures of the platform and clean the product feeding unit internal drive (see picture).
- Thoroughly clean the transmission chains, and then abundantly lubricate them.
- Grease the components provided with greaser.
- Lubricate all sliding surfaces, especially the rods of oil-pressure cylinders.
- Apply an anti-rust treatment on all non-painted parts.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- Keep the belts of the baling chamber tightened in order to reduce the risk of deformations and to extend their duration.
- Spread the driving rollers of the net binder unit with a specific product (for example, talc) to prevent the deterioration of rubber surfaces.
- Protect the connectors of the electric wiring by using the specific plugs.
- Protect the quick couplings of the oil-pressure hoses by using the specific plugs.
- Store the machine in a sheltered place (preferably in indoor premises) that can be accessed only by authorised personnel.

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## PUTTING THE MACHINE INTO SERVICE

Before using the machine after a long period of inactivity, carefully check that the main components are working correctly.
In particular:

- Check the wearing condition and the pressure of the tyres.
- Check possible loss of liquids.
- Check the general conditions of the hydraulic hoses.
- Check the efficiency of all safety devices.
- Check the oil level in the centralised lubrication system and, if necessary, fill it up.
- Lubricate all greasing points.
- Carry out all the necessary maintenance operations.
- Check that the cardan shaft is correctly installed; furthermore, all protections must be undamaged and effective.
- Check the tightening of the fastening screws for the main devices (drawbar, towing eye, and wheel fastening nuts).
- Couple the machine to the tractor (See "How to couple the machine to the tractor").
- Simulate some test manoeuvres to check coupling, correct operation of the controls and functionality of operator units.

## SPECIAL MAINTENANCE

- Although the machine was designed and built to work in difficult environmental conditions, after a few years special maintenance must be carried out to preserve perfect efficiency and guarantee general safety.
- The aforesaid interventions must be carried out by personnel with precise technical skills, in workshops that are suitably equipped and authorised by the manufacturer.
- The flexible hoses in the hydraulic system must be replaced every 6 years from the date of production. These components are subjected to stress due to ageing.

## INSTRUCTIONS FOR PART REPLACEMENT

**Caution**
**Precaution**

**Except in case it is expressly specified, every intervention must be performed with disengaged PTO and tractor engine off; furthermore, the ignition key must be removed and kept by the driver. The personnel that are authorised to perform the interventions must comply with all precautions that are necessary to assure the safety of the people involved, in compliance with the requirements established by the laws in force about occupational safety.**

Before carrying out any replacement operation, activate all safety devices and, if necessary, instruct the staff working on the machine or nearby.

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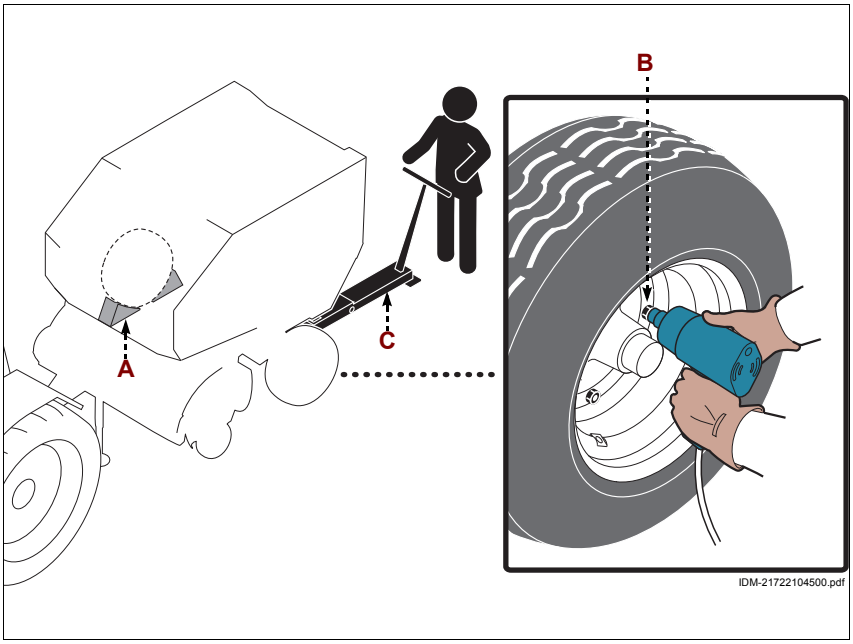
If it is necessary to replace worn components, only use original spare parts. The manufacturer disclaims all responsibility for damages to people or components, which are caused by the use of non-original spare parts and special interventions that can modify the safety requirements without being authorised by the manufacturer. To order the spare parts, follow the instructions that are specified in the spare parts catalogue.

## HOW TO REPLACE THE TYRES

Follow the instructions.

1. Position the machine on a compact and level ground to assure the stability of the lifting devices.
2. Stop the machine in safe conditions.
3. Stop the engine, apply the parking brake and disengage the ignition key.




**Caution**
**Precaution**

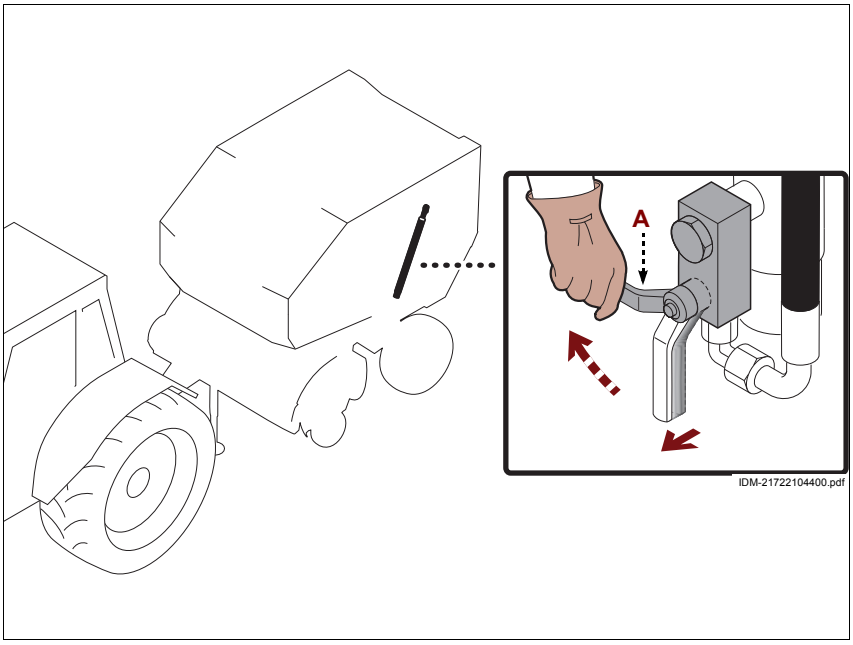
**The tyre replacement operation can cause risks, also considering the total weight of the machine.**
**To prevent risks (even serious), it is advisable to make the operation be performed by expert personnel (for example, a tyre man), who are capable of performing the intervention a correct and safe way.**
**If it is not possible to make the operation be performed by expert personnel, it is crucial to implement all safety conditions that are necessary to prevent sudden and uncontrolled displacements of the machine or parts of it.**

4. Place two safety chocks **(A)** opposite to the tyre to be replaced, as shown in the figure.
5. Slightly loosen the nuts **(B)**.
6. Introduce the lifting device **(C)** into the point that is specified by the proper plate, which is installed close to the tyre to be replaced.
7. Lift the machine to allow wheel disassembly.
8. Fully unscrew the nuts **(B)**, and then assemble the wheel.
9. Replace the tyre.
10. Assemble the wheel once more, and then screw the nuts in a symmetrical way.
    Tighten the nuts with a tightening torque equalling 310 Nm.
11. Lower the machine, and then tighten the nuts **(B)**.
12. Inflate the tyre until reaching the pressure that is specified in the chart (See "Technical Data").
13. Remove the lifting device **(C)** when the operation is complete.
14. Remove the safety wedges **(A)**.
15. Check nut tightening after 2-3 working hours.

## HOW TO REPLACE THE BELTS OF THE BALING CHAMBER

Follow the instructions.

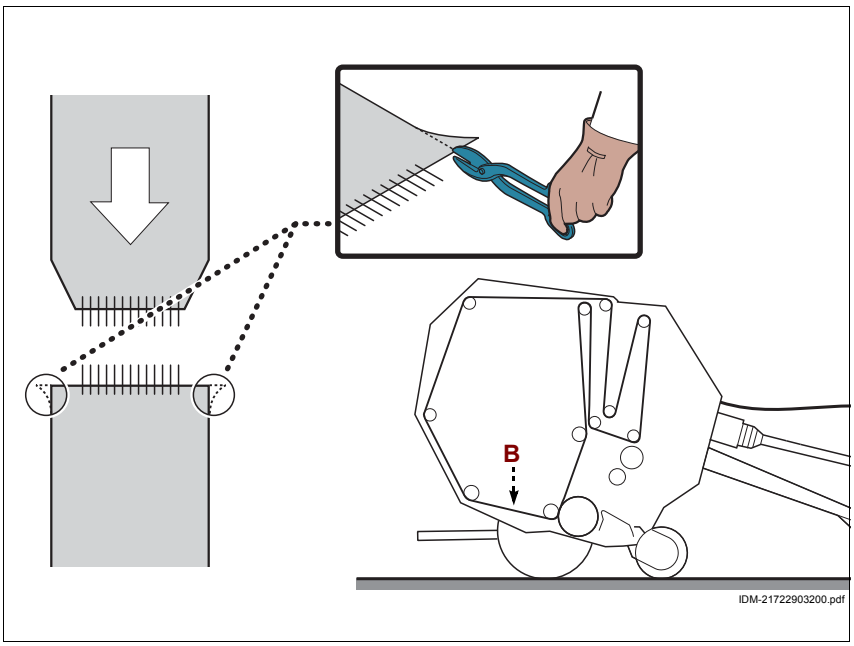
1. Make sure tractor PTO is disengaged.
2. Stop the machine; the engine of the tractor must be on and the parking brake must be applied.
3. Place the lever of the hydraulic control valve in the tractor in position **1** to fully open the tail gate.
4. Close the cock **(A)** to assure safety conditions.
5. Loosen belts (See "How to clean the belt guiding rollers").
6. Switch off the engine of the tractor, and then disengage the ignition key.




7. Remove the pivot from the connection of the belt **(B)**.
8. Remove the belt **(B)**.

**If more belts are removed, mark some references so that you will be able to reinstall the belts in the original position.**

9. Assemble a new or repaired belt **(B)**. Install the belt on the guide pulleys and pay attention to the direction of the belt bevel relating to the forward direction of the same belt (see the figure).
   During the re-assembly of the belt , pay attention that the copper plated iron round-bar is on the side of the belt on contact with the bale.

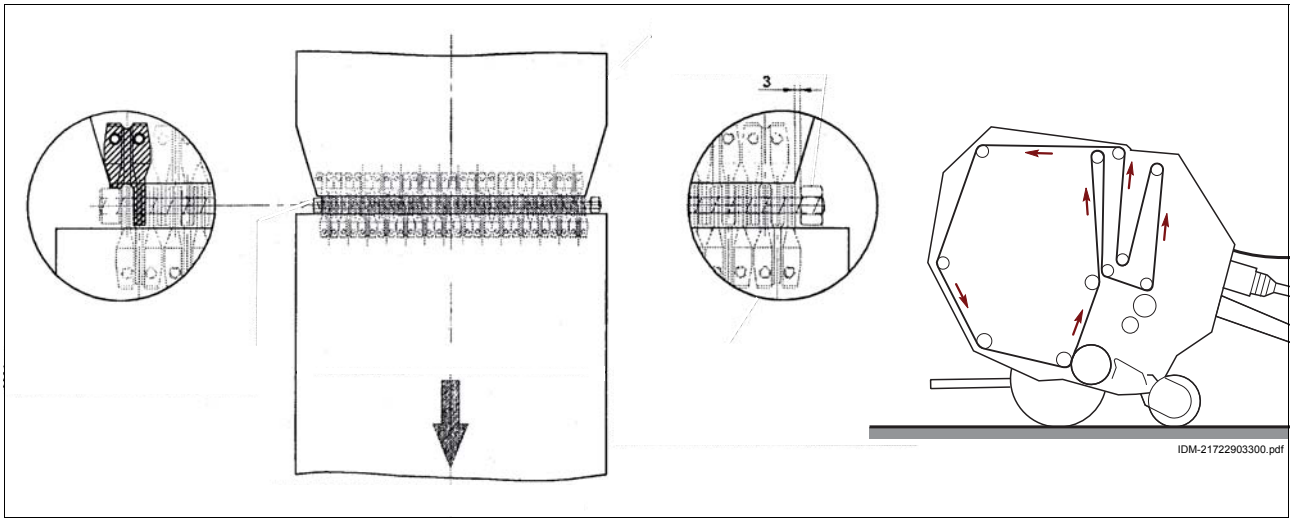



**Important**

**If it is necessary to restore the junction, trim the edges of the belt with a cutter in the ends without bevels to prevent an unwanted enlargement due to the assembly of the same junction.**
**It is advisable to assemble the new belts in central position.**
**The difference in length of the belts that are installed on the machine has never to exceed 30 mm.**

10. On the bevelled part of the belt, cut the external hook closest to the edge of the belt.
    This way, the side hooks on the bevelled part of the belt keep inside the hooks on the non-bevelled part.

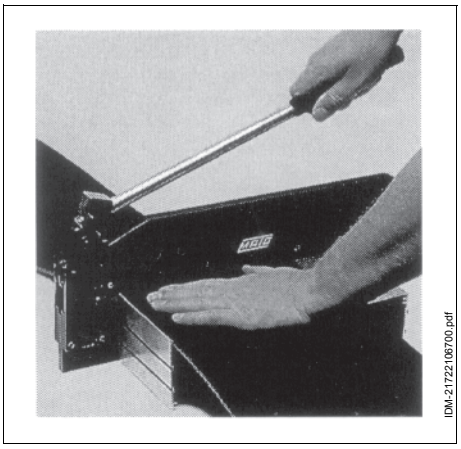
11. Assemble the pivot with welded hook , as shown in the picture.
12. Start the engine of the tractor from the driver's seat.
13. Open the cock **(A)**.
14. Place the lever of the hydraulic control valve in the tractor in position **2** to close the tail gate.



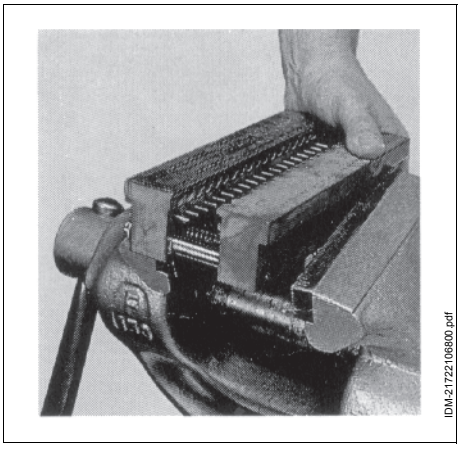

## MANUAL EQUIPMENT FOR VICE ("MATO" TYPE JUNCTIONS)

Follow the instructions.

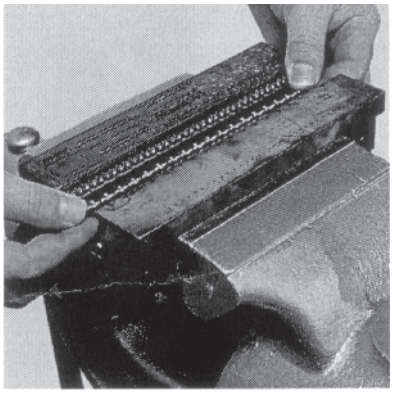
1. Square the end of the belt.



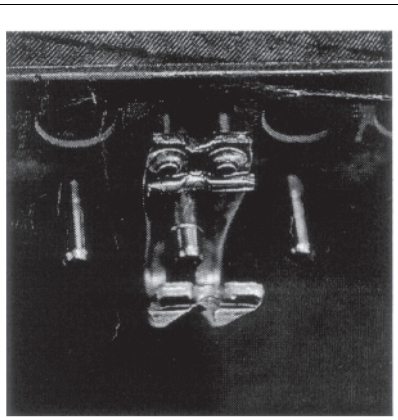

2. Position and tighten the equipment "Profi 19", which is completely open, in a bench vice with the holes pointing forward.



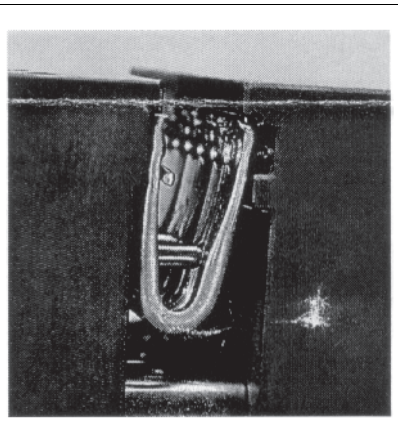
3. Introduce the junctions into the holes of the equipment. Start the operation from the left holes.



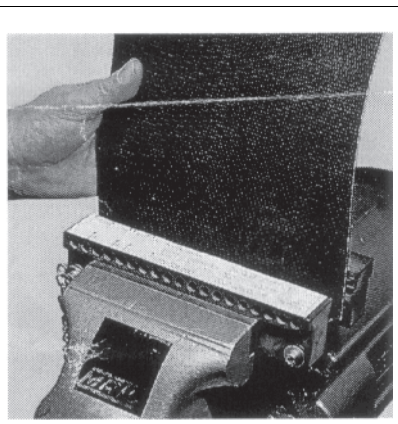

4. Introduce two pivots at a time into a single hole.



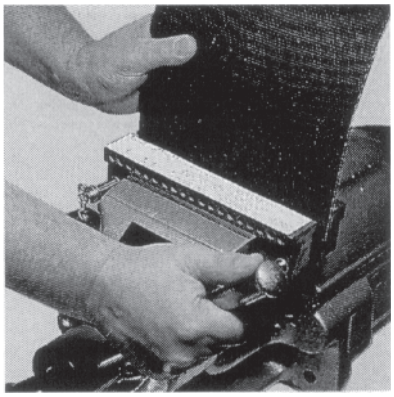

5. Before introducing the belt, tighten the vice until the junctions are slightly tightened and the belt can be easily introduced.



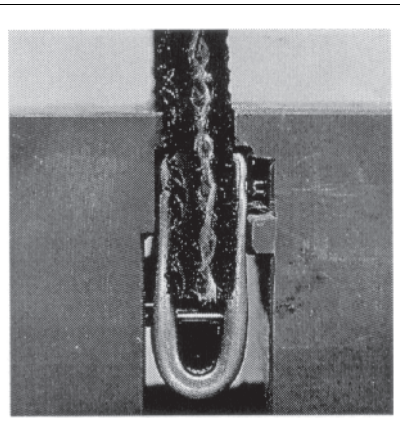

6. Introduce the first end of the belt. Position the edge of the belt close to the mark (width of the belt or number of the couplings).



7. Press the belt downwards in a uniform way up to the stop pins, and then tighten the vice until the junctions are slightly tightened.



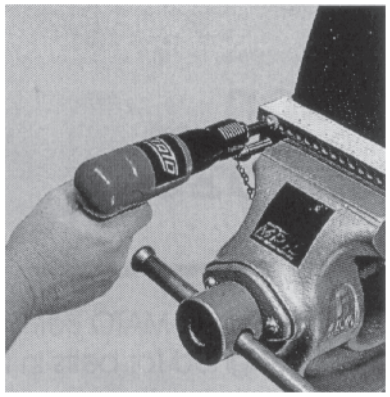

8. The belt must lean on the stop pins. Close the junction until it touches the surface of the belt.



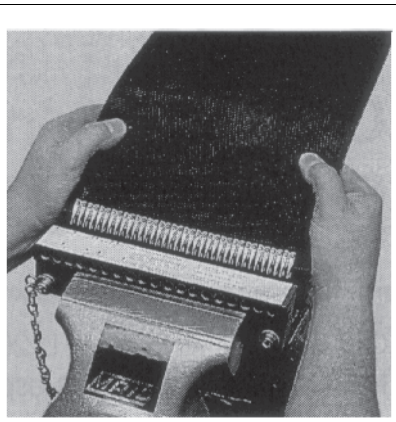

9. By using a hammer, introduce the punch into the left hole until its side touches the equipment. Hit the punch other 3 times to create the head of the nail.


10. By using a hammer, introduce all nails into the belt (proceed from the right to the left).

**This procedure can be simplified if you use a hammer drill with a special body.**

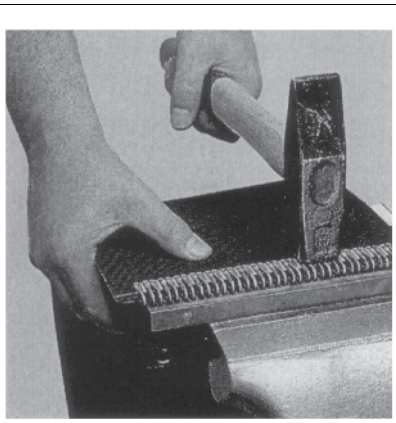



11. Open the vice and slightly press the belt backwards to remove it.

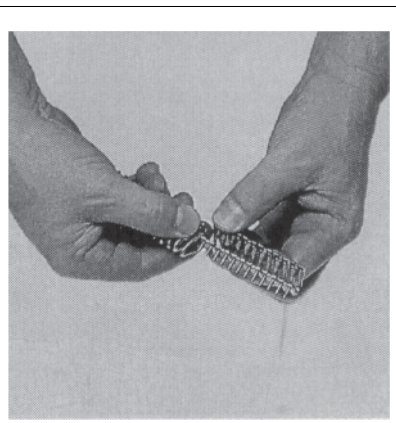



12. Crush the nails on a solid base.

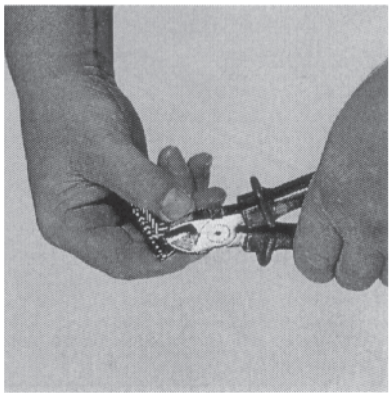
**Pay attention not to hit or damage the circular part of the coupling.**



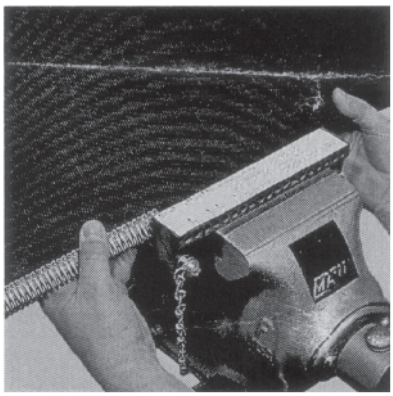

13. In case of belts having a different width, twist and remove the exceeding hooks.



14. Cut off the protruding weld bead.



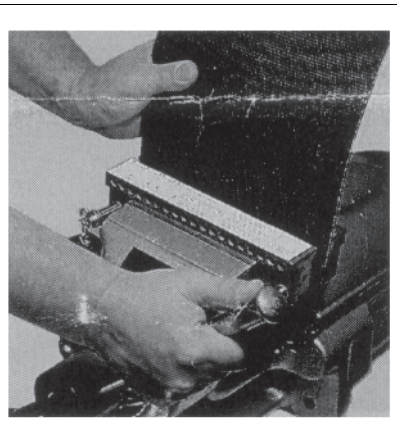

**The same connection method can be applied to belts of any width.**



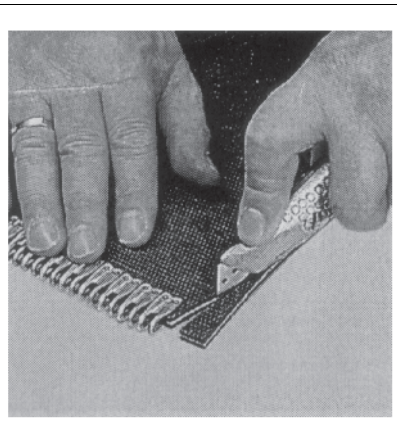

15. Repeat the whole procedure for the other end of the belt.

**Important**

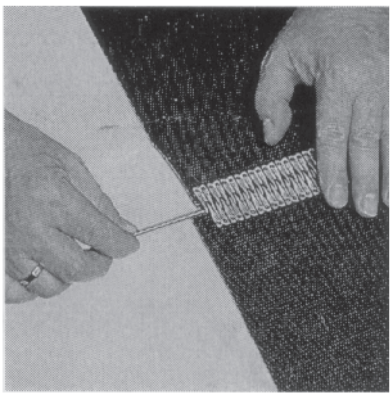
**The same side of the belt must be turned forward.**



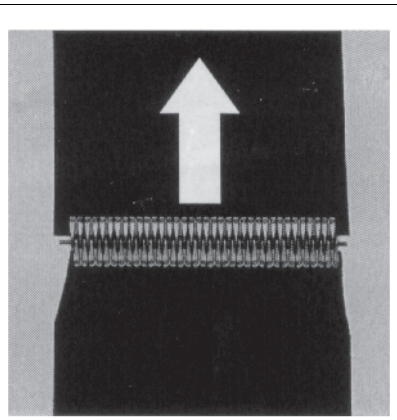

16. Bevel the corners of a single end of the belt. Leave 1 mm of belt adjacent to the coupling, and then cut ~25 mm.



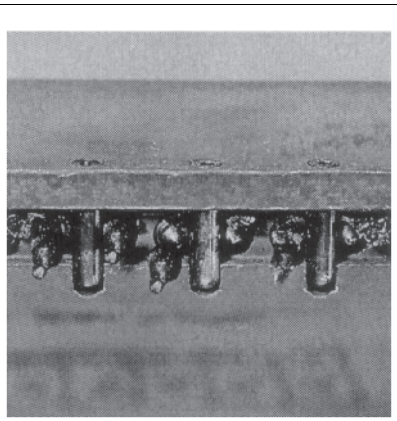
17. To join the ends of the belt, connect the junctions together and make sure that the ends of the belt are aligned; after that, introduce the junction pivot.




**The bevelled end must move forward in the driving direction.**




18. For a perfect assembly, remove the rubber particles that have been trapped by the tool using a small metal brush.



## MACHINE DISPOSAL

In phase of abandonment, it is necessary to carry out a series of interventions so that the machine and all of its devices do not constitute an obstacle and so that they are not easily accessible.
To avoid that the machine might constitute dangers for persons and the environment, it is necessary to disconnect and render all the feeds unusable (electric, pneumatic, hydraulic, etc.) and to remove any possible liquids (lubrication, oils, etc.) that might be present.
Deposit the machine in a suitable zone, not easily accessible and opportunely bounded so as to prevent anyone having access to it.

## MACHINE DEMOLITION

Whoever is authorised to carry out the demolition of the machine has to, if necessary, enable a "safety plan" to safeguard the safety of the persons directly involved and to rigorously apply all the norms in force on safety in the workplace and mobile work yards.
During the demolition phase, divide all the components according to their chemical characteristics and carry out the separated waste treatment according to relevant norms in force.

**Important**

**Do not dispose of non-biodegradable products, lubricating oils and non-ferrous materials (rubber, PVC, resins, etc.). The materials must be disposed in accordance with the current regulations in force.**

## TROUBLES, CAUSES, REMEDIES

The purpose of the following information is to identify and correct possible faults and malfunctions that may occur when using the machine.
The various irregularities that may occur were divided into tables, according to the reference operator unit. It is advisable to examine all tables to know the possible irregularities in a more thorough way.
In case of irregularities that are not specified in the table, the operator can signal them to the manufacturer in order to actively contribute in developing new solutions, as well as construction and technical improvements.
Some faults can be solved by the operator; others need a specific technical competence or particular skills, and must be carried out only by qualified personnel with well-known experience and acquired within the specific sector of intervention.
In case of need, call the After-Sales Service of the manufacturer, of the local dealer or an authorised workshop.

**Table 1:** Product defects

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **Light bale.** | The windrow was not prepared correctly. | Correct the preparation of the windrow. | see "How to prepare the product windrow" in booklet 2 |
| | The speed of the forward movement is too high | Decrease the speed of the forward movement. | |
| | The PTO rotation rate is too low. | Increase the PTO rate. | |
| | The path of the forward movement is not correct. | Modify the path of the tractor. | see "Instructions about product pick-up" in booklet 2 |
| | The density pressure of the bale is insufficient. | Increase the set pressure. | see "How to adjust the solenoid valve for bale density " in booklet 2 |
| | Presence of air inside the hydraulic circuit for bale density. | Bleed the air from the circuit. | |
| **Too heavy bale.** | The windrow was not prepared correctly. | Correct the preparation of the windrow. | see "How to prepare the product windrow" in booklet 2 |
| | The forward movement speed is too low. | Increase the speed of the forward movement. | |
| | Bale density pressure is too high. | Reduce the set pressure. | see "How to adjust the solenoid valve for bale density " in booklet 2 |
| | Product whose humidity percentage is too high. | Reduce the humidity percentage. | |
| **Conical bale.** | The forward movement path is not correct: excessive feeding on one side. | Modify the path of the tractor. | see "Instructions about product pick-up" in booklet 2 |

**Table 1:** Product defects

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **Barrel-shaped bale.** | The forward movement path is not correct: excessive feeding at the centre. | Modify the path of the tractor. | see "Instructions about product pick-up" in booklet 2 |
| **Surface of the bale with rolled and chopped product.** | The product is too dry. | Pick up the product when cooler. | |
| | Bale density pressure is too high. | Reduce the set pressure. | see "How to adjust the solenoid valve for bale density " in booklet 2 |
| | The PTO rotation rate is too high. | Reduce the PTO rate. | |
| **The bale compressed with twine binding breaks down.** | The product is too dry. | Pick up the product when cooler.<br>Perform the binding operation with the net binder (if installed). | |
| | Bale density pressure is too high. | Reduce the set pressure. | see "How to adjust the solenoid valve for bale density " in booklet 2 |
| | The PTO rotation rate is too high. | Reduce the PTO rate. | |

**Table 2:** Operation irregularities of the machine

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **The machine gets clogged with the product** | Too big or irregular bale. | Correct the windrow dimension | see "How to prepare the product windrow" in booklet 2 |
| | The speed of the forward movement is too high | Decrease the speed of the forward movement. | |
| | The path of the forward movement is not correct. | Modify the path of the tractor. | see "Instructions about product pick-up" in booklet 2 |
| | The PTO rotation rate is too low. | Increase the PTO rate. | |
| | The baffle plate is not adjusted in a correct way. | Lower the position of the baffle plate. | see "How to adjust the baffle plate" in booklet 4 |
| **The tail gate does not close correctly.** | Product debris between the fixed part of the machine and the tail gate. | Remove product debris from the baling chamber. | see "How to clean belt guide rollers" in booklet 2 |
| | The side hooks are not coupled to gate side rollers. | After hatch closing wait for the hooks to close before releasing the hydraulic control. Avoid counter-pressures on the hydraulic circuit that could operate the hydraulic cylinders. | |

**Table 2:** Operation irregularities of the machine

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **As soon as the pressurization and closing operations have ended, the hooks of the tail gate accidentally disconnect.** | There is a residual pressure within the oil return hydraulic circuit to the tank. | Connect the return hose to an element of the tractor hydraulic control valve (floating position). | see "How to couple the machine to the tractor" in part 2 |
| **Excessive noise of the transmission.** | The chains are not adjusted correctly | Adjust chain tension | see "How to adjust the transmission chains" in booklet 2 |
| **During the unloading operation, with the machine being equipped with kicker, the bale keeps inside the baling chamber.** | The roller of the bale kicker is not positioned in a correct way. | Position the roller in the first hole of the bale kicker. | |
| **The augers do not operate correctly.** | Too narrow windrow. | Modify the path of the tractor with movements to the left and to the right. | see "Instructions about product pick-up" in booklet 2 |
| **The belts do not work correctly and their duration is limited.** | The path of the forward movement is not correct. | Modify the path of the tractor. | see "Instructions about product pick-up" in booklet 2 |
| | the guide rollers are not positioned in a correct way | adjust the position of the rollers | see "How to adjust belt alignment" in booklet 2 |
| | Product accumulation and/or twine in the rollers. | Remove the accumulation of material. | see "How to clean belt guide rollers" in booklet 2 |
| | The windrow was not prepared correctly. | Correct the preparation of the windrow. | see "How to prepare the product windrow" in booklet 2 |
| | Product whose humidity percentage is too high. | Reduce the humidity percentage. | |
| | Irregular and excessive extension of some belts. | Level the length of the belts. | Operations to be performed by specialised personnel at authorised workshops |

**Table 3:** Operation irregularities of the pick-up unit

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **Irregular product pick-up** | Too high pick-up. | adjust the position of the wheels in the pick-up unit. | see "How to adjust the height of the pick-up unit" in booklet 4 |
| | Balancing is not correct. | Adjust the suspension spring. | see "How to balance the pick-up unit" in booklet 4 |
| | The baffle plate is not adjusted in a correct way. | Adjust the position of the baffle plate. | see "How to adjust the baffle plate" in booklet 4 |

**Table 4:** Operation irregularities of the net binder unit

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **The net driving rollers in the net binder unit do not rotate.** | Product accumulation between the driving rollers. | Clean the surface of the net driving rollers and remove product debris, if any. | see "How to clean the net driving rollers" in booklet 6 |
| | The contact pressure between the net driving rollers is too high. | Adjust the contact pressure of the net driving rollers. | see "How to adjust the pressure of the net driving rollers" in booklet 6 |
| **The net driving rollers in the net binder unit rotate, but the net reel is not drawn.** | Net meshes are too wide. | Use a suitable net reel. | see "Technical data" in booklet 2 |
| | The contact pressure between the net driving rollers is insufficient. | Adjust the contact pressure of the net driving rollers. | see "How to adjust the pressure of the net driving rollers" in booklet 6 |
| **The net gets too much narrow during ball winding.** | The net reel is not assembled correctly. | Assemble the net reel according to the correct path. | see "How to supply the net reel" in booklet 6 |
| | The reel brake is not adjusted in a correct way. | Adjust the reel brake. | see "How to adjust the reel brake" in booklet 6 |
| | Net meshes are too wide. | Use a suitable net reel. | see "Technical data" in booklet 2 |
| | The contact pressure between the net driving rollers is too high. | Reduce the contact pressure between the net driving rollers at the side ends, and then increase it at the centre, if necessary. | see "How to adjust the pressure of the net driving rollers" in booklet 6 |
| **The cutting device is not reset when the tail gate opens.** | The reset device is not adjusted in a correct way. | Adjust the reset device. | see "How to adjust the reset device" in booklet 6 |

**Table 5:** Operation irregularities of the twine binder unit

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **During twine binding, the twine comes out on the side of the bale.** | A barrel-shaped bale is caused by an incorrect forward movement path, with excessive feeding at the centre. | Modify the path of the tractor. | see "Instructions about product pick-up" in booklet 2 |
| | The product is too dry. | Pick up the product when cooler. | |
| | Bale density pressure is too high. | Reduce the set pressure. | see "How to adjust the solenoid valve for bale density " in booklet 2 |
| | The twine is not tightened in a sufficient way. | Adjust the twine tightening clamps. | see "How to adjust the twine tightening clamps" in booklet 7 |

**Table 5:** Operation irregularities of the twine binder unit

| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **The twine guiding arms are not positioned correctly.** | The transmission chain is dirty. | Clean using compressed air and re-position the right twine guiding arm. | See "How to adjust the twine guiding arm chains" in part 7 |
| | The transmission chain is worn. | Get the chain repaired or replaced by the nearest authorized Technical Assistance Centre. | |
| | Faulty potentiometer | Get the potentiometer repaired or replaced by the nearest authorized Technical Assistance Centre. | |
| **The twine guiding arms do not move.** | Blown fuse | Replace the fuse | |
| | Damaged electric motor | Get the motor repaired or replaced by the nearest authorized Assistance centre. | |
| **One or both twines are not drawn by the bale at the start of the binding operation.** | The twine is not assembled correctly | Assemble the twine according to the correct path. | see "How to introduce the twine" in booklet 7 |
| | Twine braking is excessive. | Adjust the twine tightening clamps. | see "How to adjust the twine tightening clamps" in booklet 7 |
| | The twine does not sufficiently go out of the twine guiding arm | Make the twine go out of the twine guiding arm of about 25÷30 cm. | see "How to introduce the twine" in booklet 7 |
| | The binding element introduction unit does not operate | Check and contact a Technical Assistance Centre that is authorised by the Manufacturer | |
| | The machine has run out of twine reels | Supply twine reels into the twine case. | see "How to supply the twine reels" in booklet 7 |
| **Twine binding is not performed.** | The machine has run out of twine reels | Supply twine reels into the twine case. | see "How to supply the twine reels" in booklet 7 |
| | The knot that joints the twine reels was not performed correctly. | Check the joint knots and, if necessary, knot them again. | see "How to supply the twine reels" in booklet 7 |
| | The cutting arm was not adjusted correctly | Check and contact a Technical Assistance Centre that is authorised by the Manufacturer | |
| **The twine is not cut correctly** | Cutting blades are worn. | Sharpen the blades or replace them<br>**Important**<br>**Wear protective gloves for this operation.** | see "How to replace the blades" in booklet 7 |
| | The cutting arm was not adjusted correctly | Check and contact a Technical Assistance Centre that is authorised by the Manufacturer | |

**Table 5:** Operation irregularities of the twine binder unit

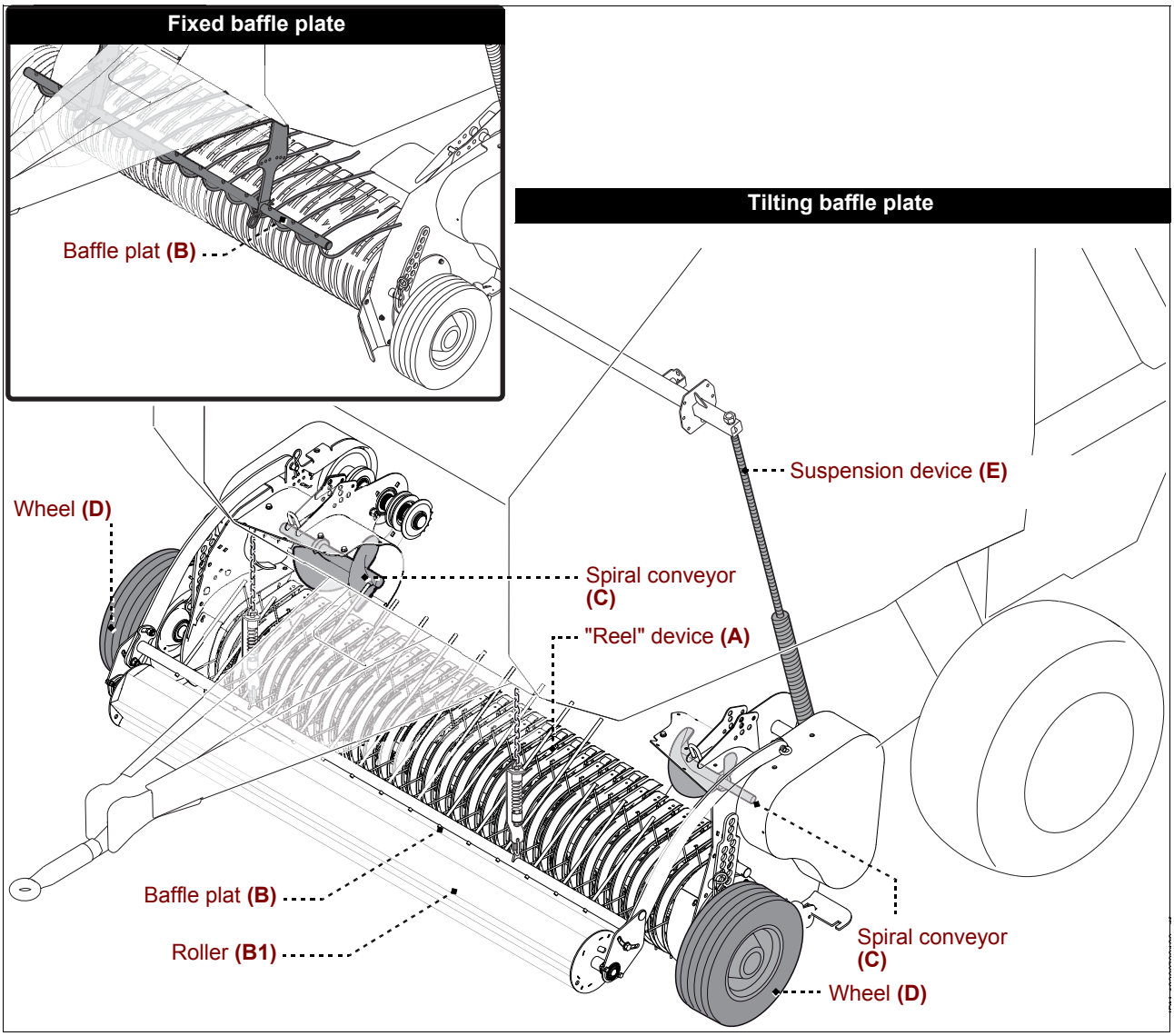
| *Trouble* | *Cause* | *Cure* | *Reference* |
|---|---|---|---|
| **The twine is not cut correctly** | Product accumulation in the cutting arm. | Remove the accumulation of material. | |
| | The springs that operate over the clamps during the final phase of the binding process do not press sufficiently. | Replace the springs | |
| **The twine guiding arms get stuck.** | Faulty potentiometer | Get the potentiometer repaired or replaced by the nearest authorized Technical Assistance Centre. | |
| | The PTO rotation rate is too low. | Increase the PTO rate. | |

## GENERAL DESCRIPTION

The pick-up unit picks the product in the windrow and conveys it into the machine feeding area.
The functions of the unit parts are activated by the main motor drive of the machine where it is installed.
**The pick-up unit is equipped with a safety bolt , which, in case of product clogging, gets sheared to prevent damages to units or parts of the machine.**

**If it is necessary to replace the safety bolt, use an original spare part.**

- **"Reel" device (A)**: it makes the product pick-up operation easier, and is equipped with two cams that guide the tine-holder rods.
- **Baffle plate (B)**: it allows a more regular feeding of the product, even in case of short and chopped products.
  The baffle plate can be fixed or tilting.
  In the machines equipped with balancing baffle plate and rotor or cutting device roller **(B1)** is also installed, which further improves the feeding of the product.
- **Auger (C)**: there are two augers (one on each side), which convey and adapt the product to the width of the baling chamber.
- **Wheel (D)**: there are two wheels (one on each side) and, thanks to a shock absorber system **(E)**, they allow the pick-up unit to adapt itself to the different conformations of the ground.

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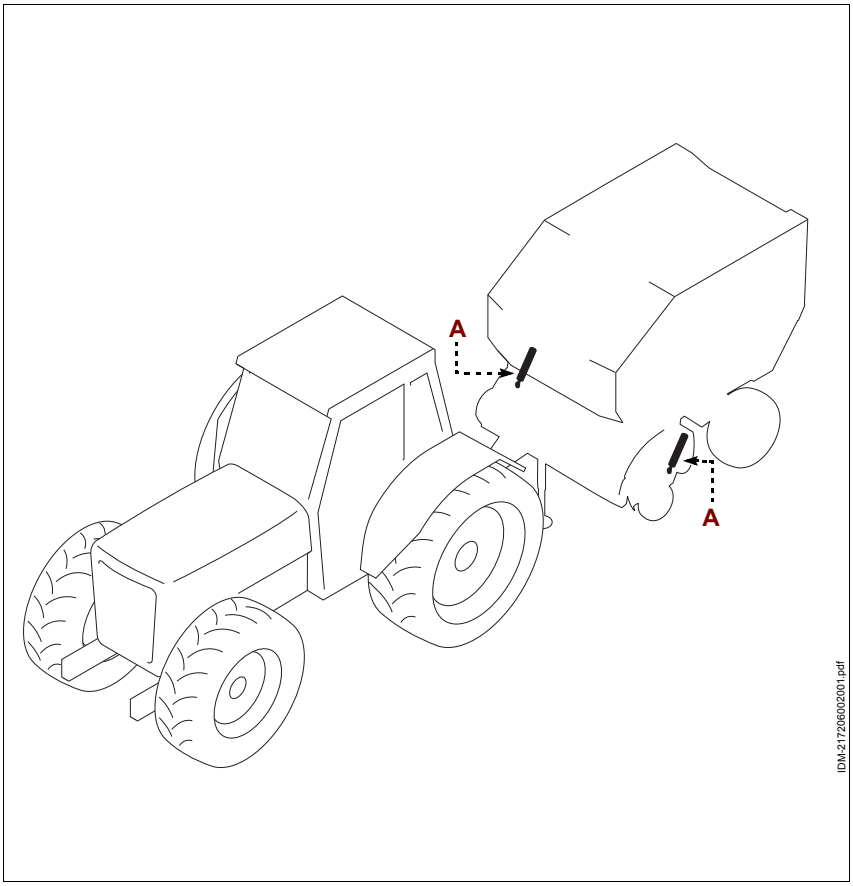
## OIL-PRESSURE DEVICES

– **Hydraulic cylinder (A)**: it lifts and lowers the pick-up unit.

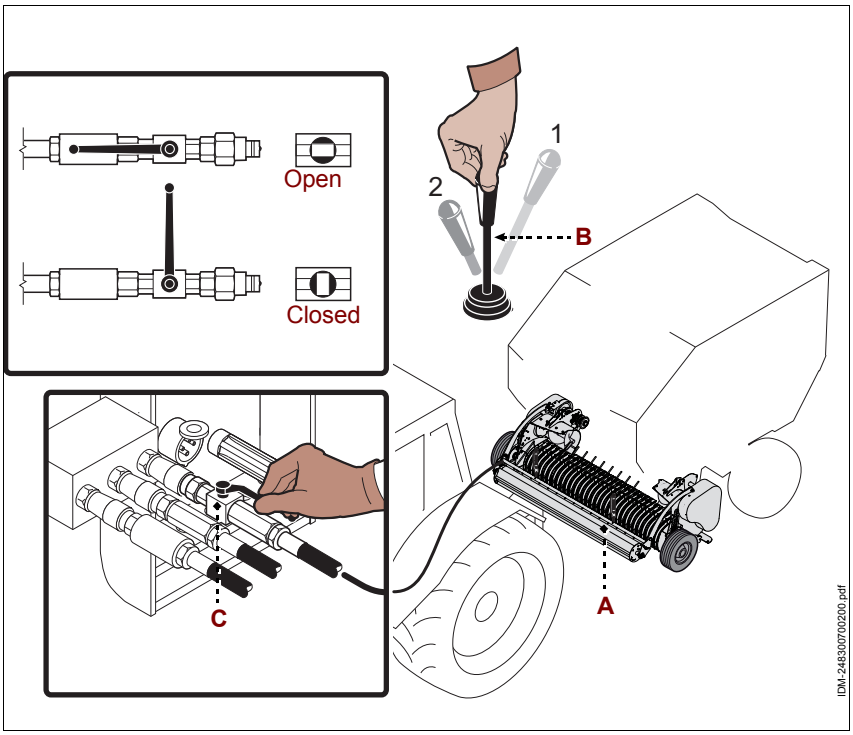



## HOW TO HANDLE THE PICK-UP UNIT

1. During the normal working conditions, keep the cock **(C)** open in order to be able to lift and lower the pick-up unit.
2. Place the lever **(B)** of the hydraulic control valve in the tractor in position **1** to lift the pick-up unit **(A)**, or rather in position **2** to lower it.

**Important**

**In case the machine must be transferred, close the cock (C) to keep the pick-up unit lifted in safe conditions.**
**Fasten the pick-up unit by using the specific chain.**

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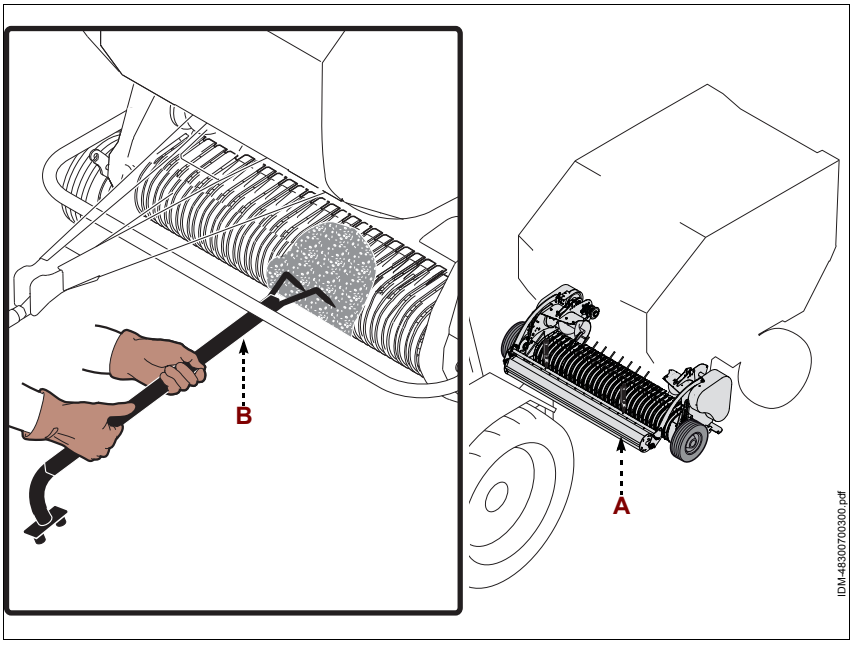
## HOW TO REMOVE PRODUCT CLOGGING IN THE PICK-UP UNIT

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Remove the product that clogs the pick-up unit **(A)** by using the specific tool **(B)**.
4. Disassemble the baffle plate , if necessary, to make the product removal easier.
5. Restart the motor, and then activate the power take-off to check if the pick-up unit has unlocked.
   If not so, open the tail gate and activate the bale unloading to make the product removal operation easier.




## HOW TO BALANCE THE PICK-UP UNIT

Balancing has to be performed according to the speed of the forward movement of the machine, as well as to the conformation of the ground. A correct balancing allows the pick-up unit to keep resting on the ground with the wheels, and to lift correctly when it knocks against an obstacle.

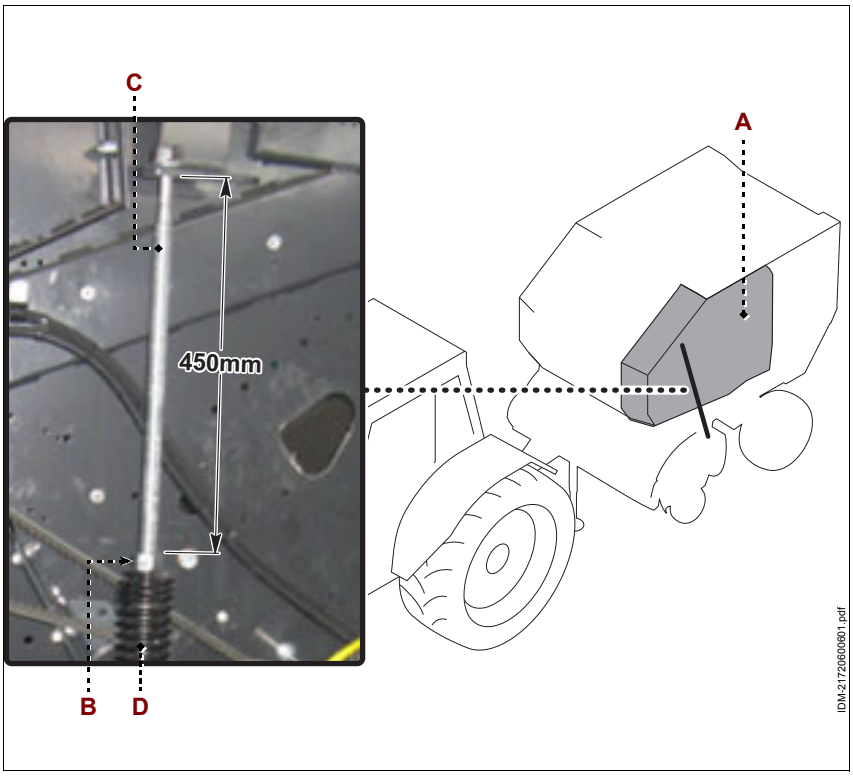
**Important**

**The pick-up unit must be balanced in such a way as to exercise a force of approximately 300÷400 N (30÷40 kg) over the soil.**

To perform balancing, follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. Adjust the compression of the spring **(D)** by means of the lock nut **(B)** and the tightener **(C)**.
   - Screw the tightener **(C)** to reduce spring **(D)** loading.
   - Loosen the tightener **(C)** to increase spring **(D)** loading.
5. Tighten the lock nut **(B)** when the operation is completed.
6. Close the cover **(A)**.

**The dimension shown in the picture is approximate. Its value may vary according to the position and the work conditions of the pick-up unit.**

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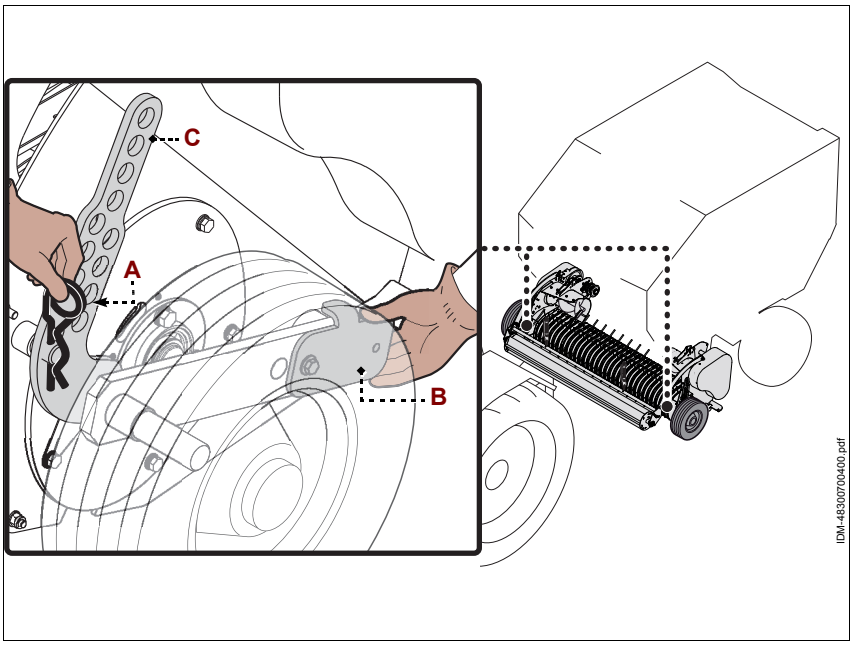
## HOW TO ADJUST THE HEIGHT OF THE PICK-UP UNIT

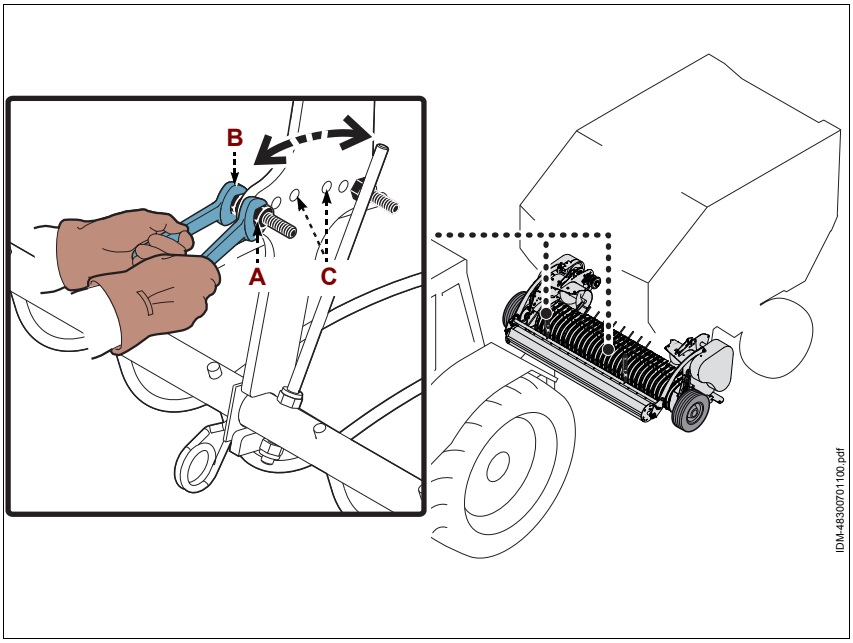
The height of the pick-up unit must be adjusted according to the product to be picked up and to the conformation of the windrow.
During the pick-up operations, the tines of the pick-up unit have not to knock against the ground.
To perform the adjustment, follow the instructions.




1. Make sure tractor PTO is disengaged.
2. Lift the pick-up unit in such a way as to detach the wheels from the ground.
3. Stop the engine, apply the parking brake and disengage the ignition key.
4. Fasten the pick-up unit by using the specific chain.
5. Remove the safety pin **(A)**.
6. Disconnect the safety plate **(B)**.
7. Slightly extract the wheel-holder arm **(C)**, and then rotate it to obtain the desired height.
8. Re-introduce the arm into the new hole.
9. Reintroduce the safety plate **(B)**.
10. Place the safety pin **(A)**.
11. Repeat the same operation on the other side and make sure to use the same hole.

## HOW TO ADJUST THE FIXED BAFFLE PLATE

Follow the instructions.




1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Unscrew the nuts **(A)**.
4. Modify the position of the hitch pins **(B)** to adjust the baffle plate in the desired position.

**Important**

**For optimal adjustment, insert the pins into the holes.**

5. Re-screw the nuts **(A)**.
6. Repeat the same operation on the other side and make sure to use the same holes.

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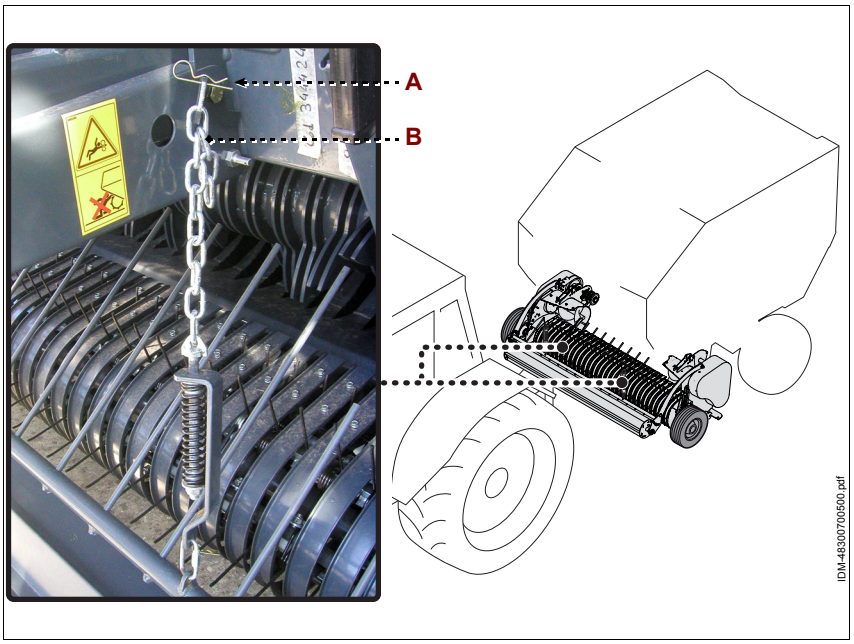
## HOW TO ADJUST THE TILTING BAFFLE PLATE

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.

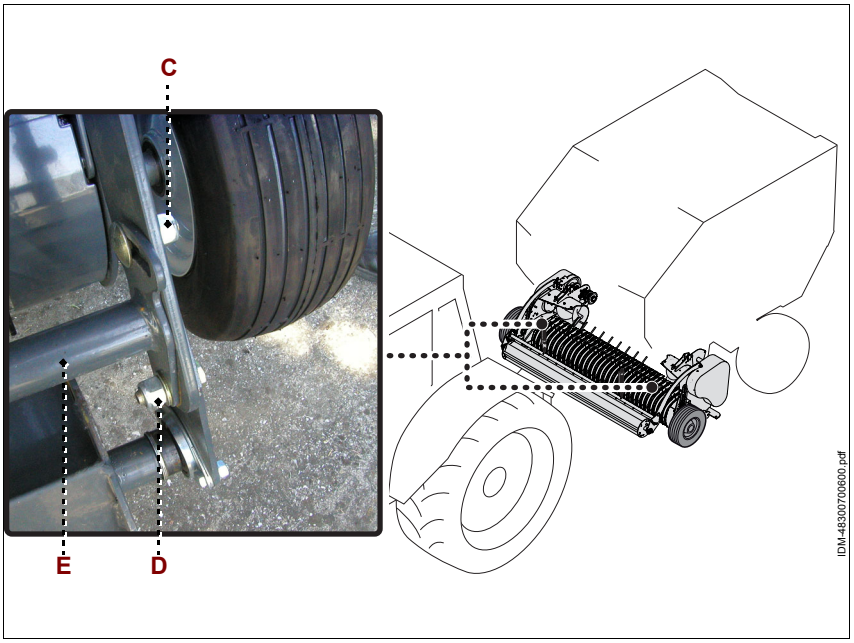
**How to adjust the height of the baffle plate**

3. Remove the safety pin **(A)**.
4. Release the chain **(B)**, and then reconnect it in such a way as to position the baffle plate at the desired height.
5. Place the safety pin **(A)**.
6. Repeat the same operation on the other side and make sure to use the same holes.



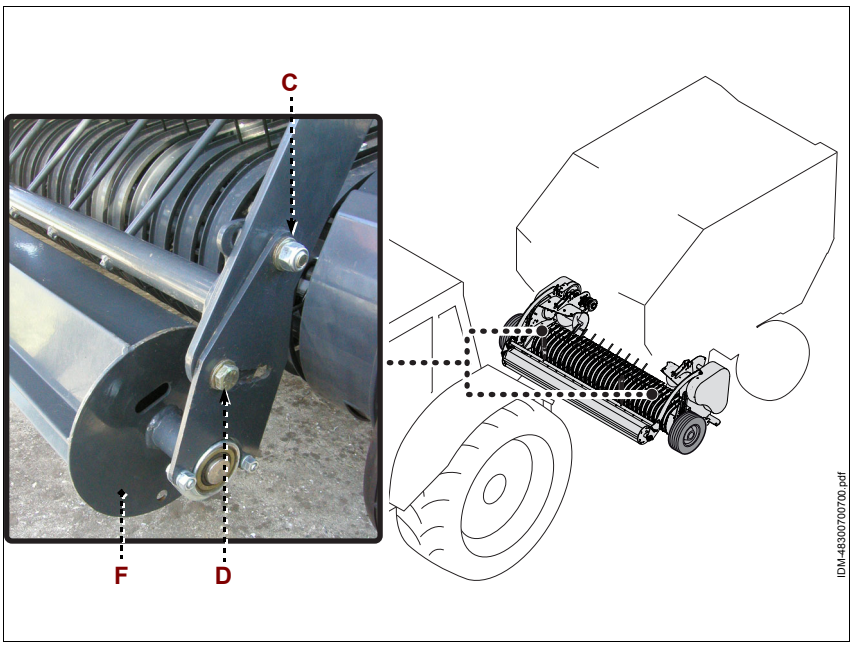

**How to adjust the baffle plate inclination**

7. Loosen the nuts **(C-D)** on both sides.
8. Set the inclination of the baffle plate **(E)** and lightly tighten the nuts **(C)**.
9. Tighten nuts **(C-D)**.



**How to adjust the feed roller position**

10. Loosen the nuts **(C-D)** on both sides.
11. Adjust the position of the roller **(F)**, and then slightly tighten the nuts **(D)**.
12. Tighten nuts **(C-D)**.



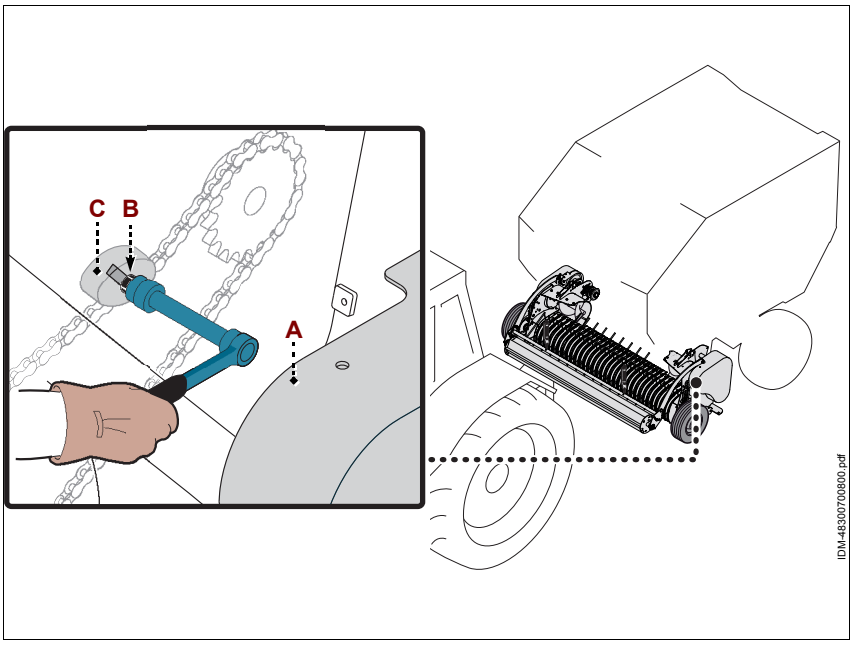

## HOW TO ADJUST THE PICK-UP TRANSMISSION CHAIN

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Unscrew the screws to disassemble the guard **(A)**.
4. Loosen the nut **(B)**, displace the tightener **(C)** to adjust the tension of the chain , and then tighten the nut **(B)**.
5. Assemble the guard **(A)**, and then fasten it by using the screws.

**Important**

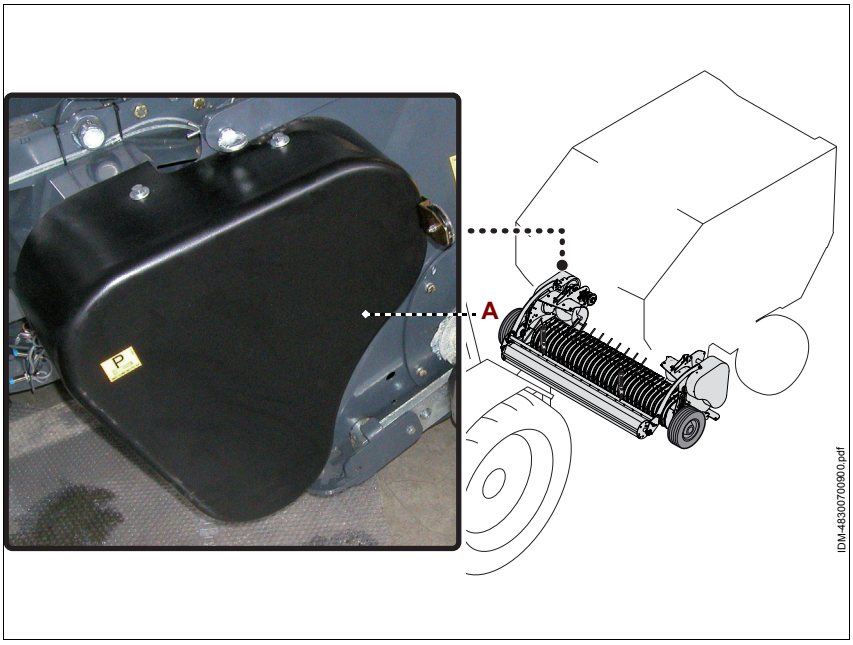
**Control the chain every 50 working hours and, if necessary, perform the adjustment to prevent it from coming out of the pinion.**



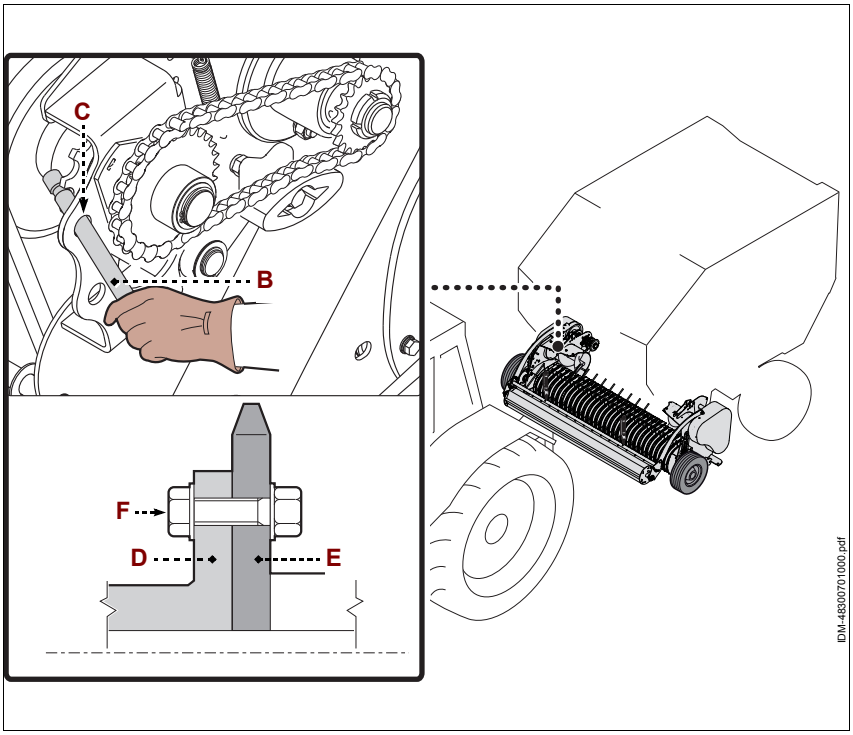
## HOW TO REPLACE THE SAFETY BOLT

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Remove the product that clogs the pick-up unit by using the specific tool (See "How to remove product clogging in the pick-up unit").
4. Unscrew the screws to disassemble the guard **(A)**.




5. Remove the damaged parts of the safety bolts **(F)**.
6. Introduce the tool **(B)** into the hole **(C)**.
7. By using the tool , lever it to align the hole of the flange **(D)** to the holes of the pinion **(E)**.
8. Assemble the new safety bolt **(F)**.
9. Assemble the guard **(A)**, and then fasten it by using the screws.

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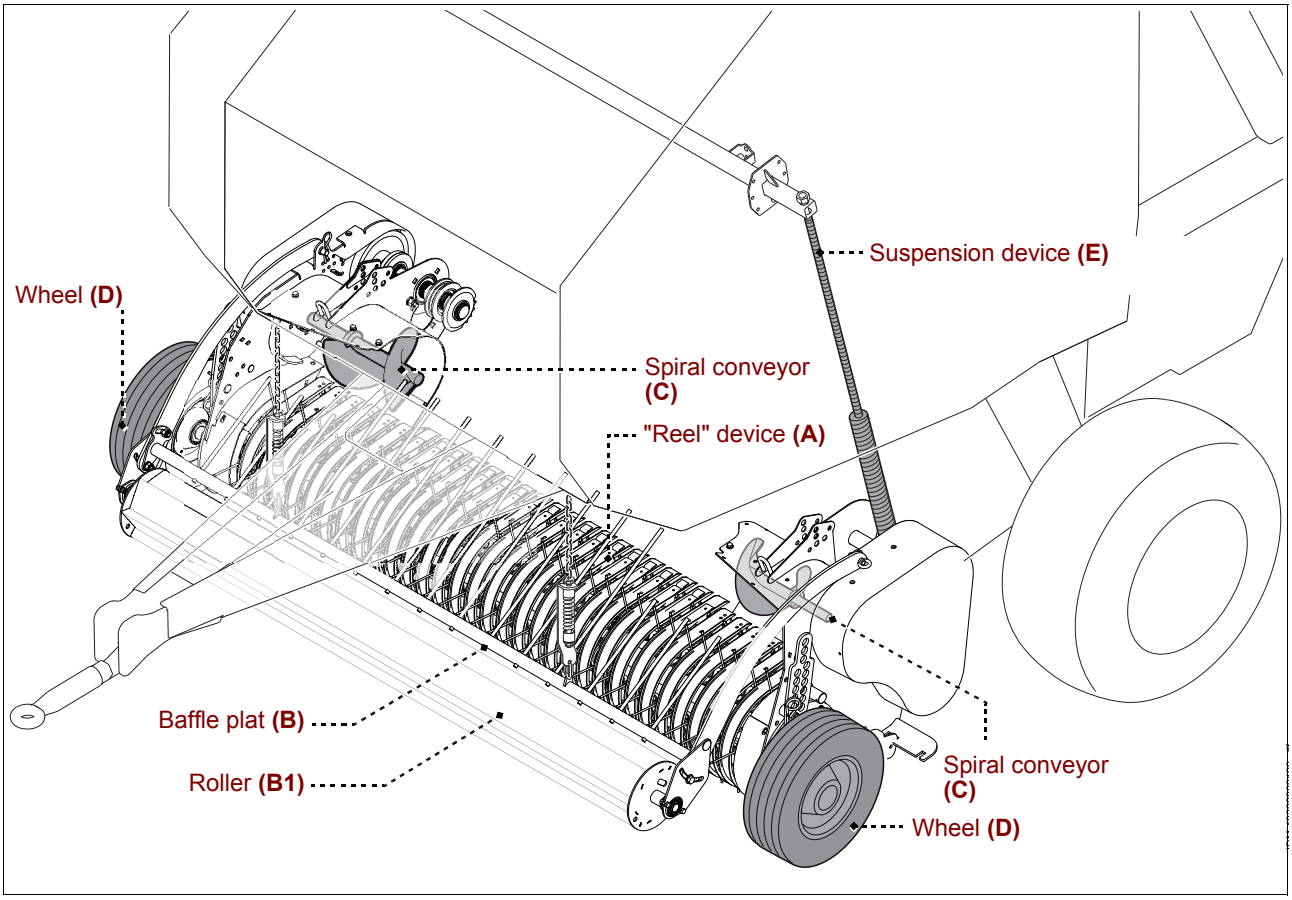
## GENERAL DESCRIPTION

The pick-up unit picks the product in the windrow and conveys it into the machine feeding area.
The functions of the unit parts are activated by the main motor drive of the machine where it is installed.

**Unit is equipped with clutch that, in case of clogging, automatically releases itself to avoid damaging the machine.**
**After having restored normal working conditions of the unit, the clutch automatically re-inserts itself.**

- **"Reel" device (A)**: it makes the product pick-up operation easier, and is equipped with two cams that guide the tine-holder rods.
- **Baffle plate (B)**: it allows a more regular feeding of the product, even in case of short and chopped products.
  In the machines equipped with a rotor or cutting device , roller **(B1)** is also installed, which further improves the feeding of the product.
- **Auger (C)**: there are two augers (one on each side), which convey and adapt the product to the width of the baling chamber.
- **Wheel (D)**: there are two wheels (one on each side) and, thanks to a shock absorber system **(E)**, they allow the pick-up unit to adapt itself to the different conformations of the ground.

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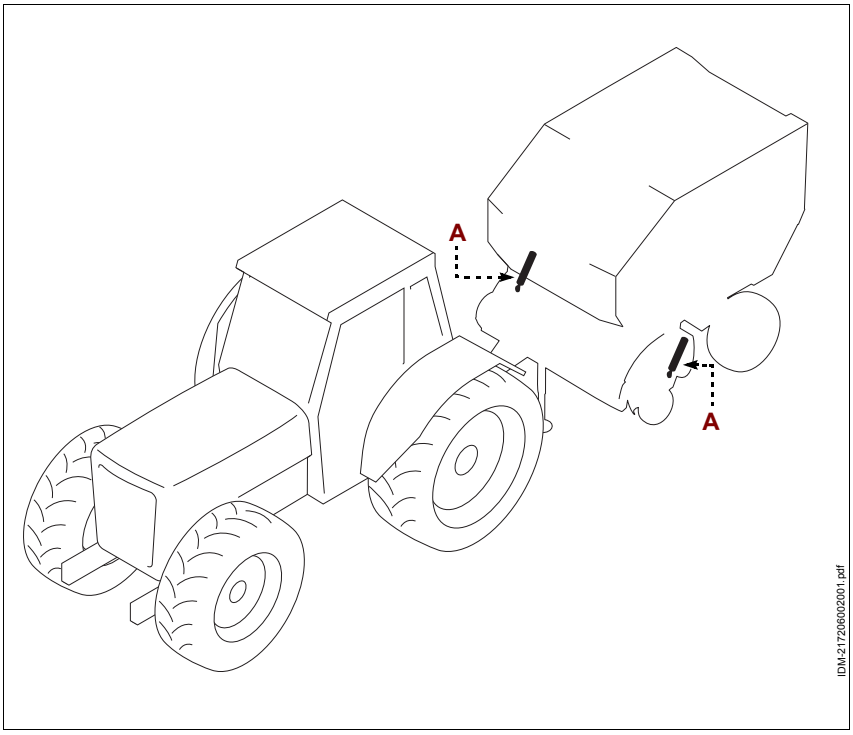
## OIL-PRESSURE DEVICES

– **Hydraulic cylinder (A)**: it lifts and lowers the pick-up unit.

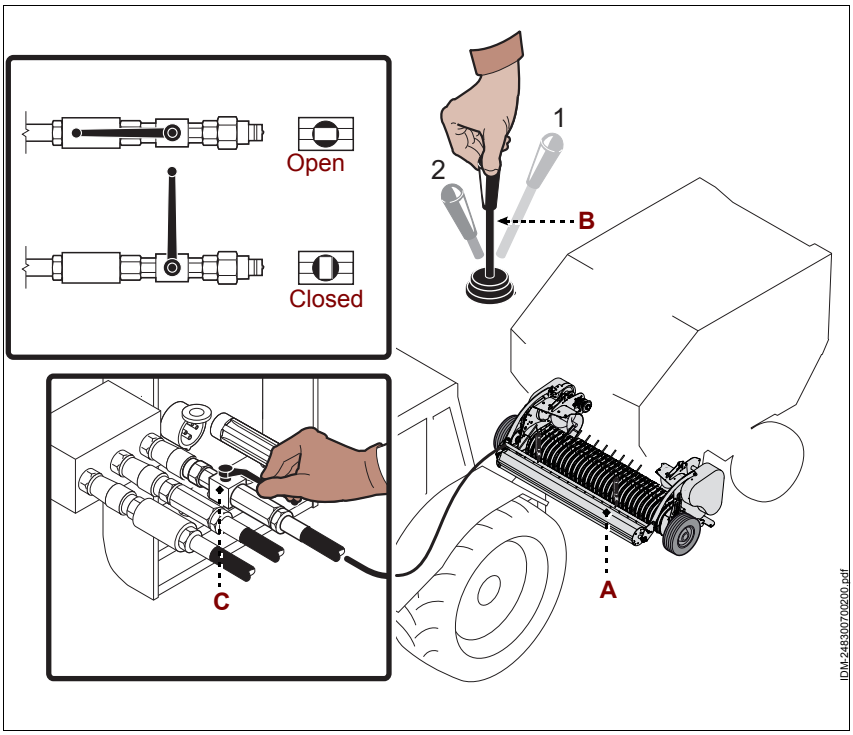



## HOW TO HANDLE THE PICK-UP UNIT

1. During the normal working conditions, keep the cock **(C)** open in order to be able to lift and lower the pick-up unit.
2. Place the lever **(B)** of the hydraulic control valve in the tractor in position **1** to lift the pick-up unit **(A)**, or rather in position **2** to lower it.

**Important**

**In case the machine must be transferred, close the cock (C) to keep the pick-up unit lifted in safe conditions.**
**Fasten the pick-up unit by using the specific chain.**

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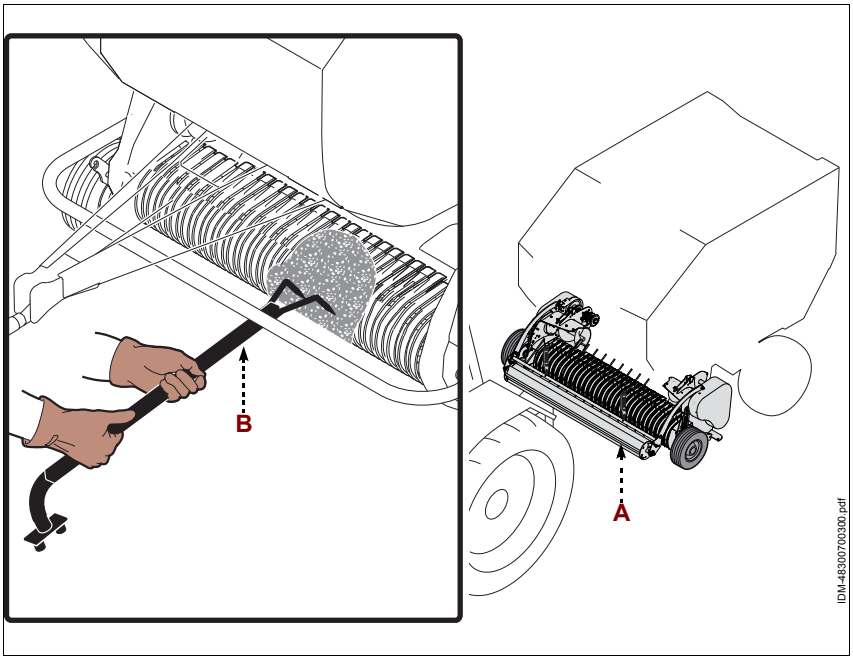
## HOW TO REMOVE PRODUCT CLOGGING IN THE PICK-UP UNIT

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Remove the product that clogs the pick-up unit **(A)** by using the specific tool **(B)**.
4. Disassemble the baffle plate , if necessary, to make the product removal easier.
5. Restart the motor, and then activate the power take-off to check if the pick-up unit has unlocked.
   If not so, open the tail gate and activate the bale unloading to make the product removal operation easier.




## HOW TO BALANCE THE PICK-UP UNIT

Balancing has to be performed according to the speed of the forward movement of the machine, as well as to the conformation of the ground. A correct balancing allows the pick-up unit to keep resting on the ground with the wheels, and to lift correctly when it knocks against an obstacle.

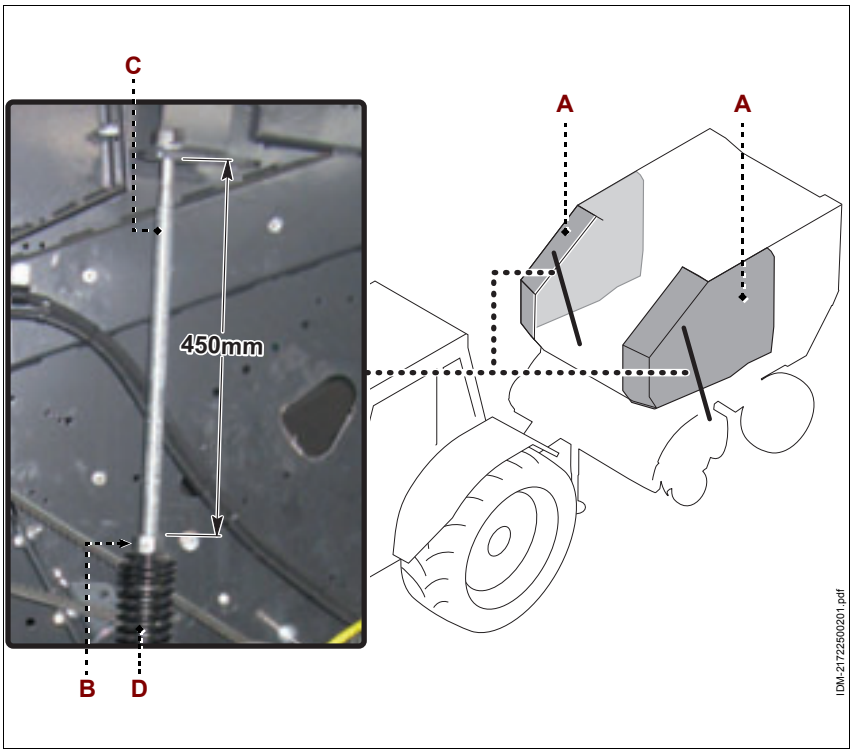
**Important**

**The pick-up unit must be balanced in such a way as to exercise a force of approximately 300÷400 N (30÷40 kg) over the soil.**

To perform balancing, follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. Adjust the compression of the spring **(D)** by means of the lock nut **(B)** and the tightener **(C)**.
   - Screw the tightener **(C)** to reduce spring **(D)** loading.
   - Loosen the tightener **(C)** to increase spring **(D)** loading.
5. Tighten the lock nut **(B)** when the operation is completed.
6. Close the cover **(A)**.

**The dimension shown in the picture is approximate. Its value may vary according to the position and the work conditions of the pick-up unit.**

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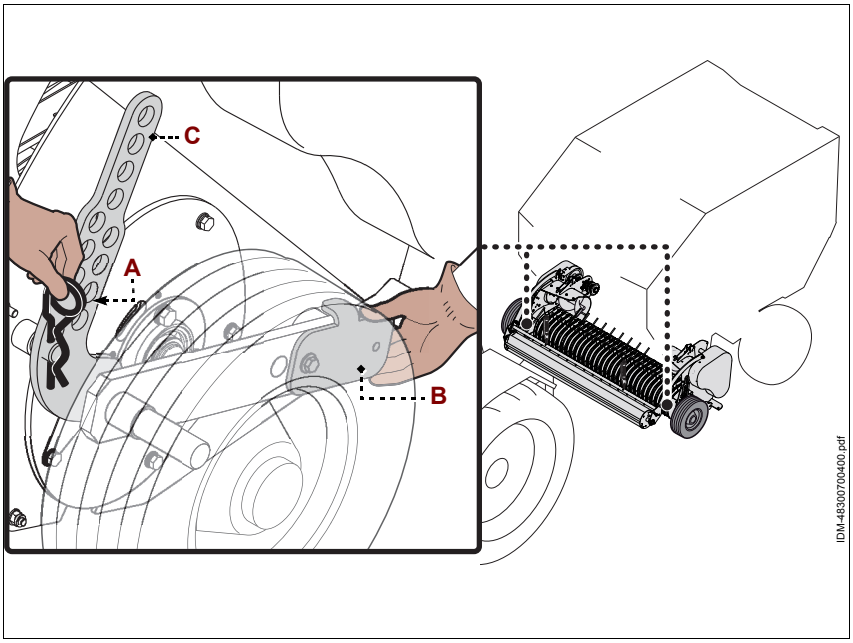
## HOW TO ADJUST THE HEIGHT OF THE PICK-UP UNIT

The height of the pick-up unit must be adjusted according to the product to be picked up and to the conformation of the windrow.
During the pick-up operations, the tines of the pick-up unit have not to knock against the ground.
To perform the adjustment, follow the instructions.



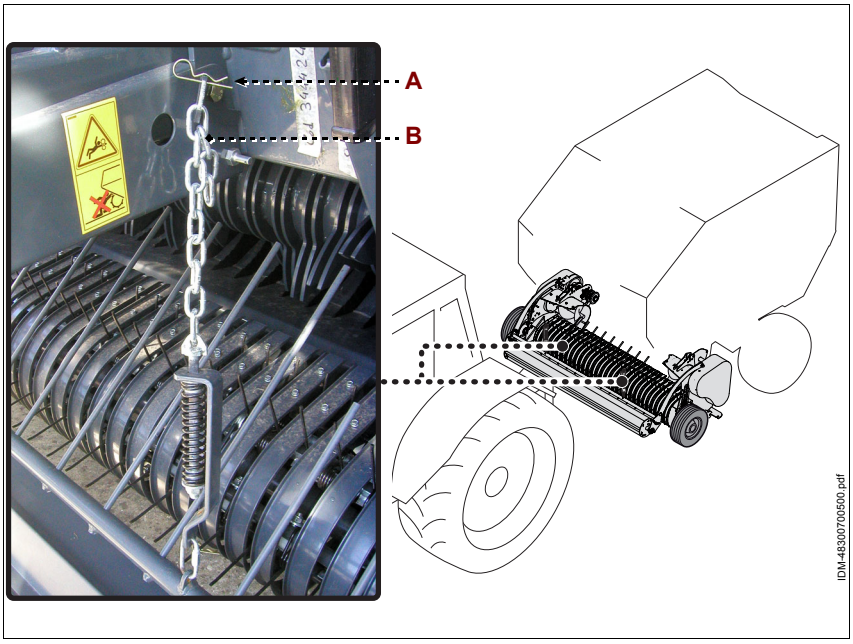

1. Make sure tractor PTO is disengaged.
2. Lift the pick-up unit in such a way as to detach the wheels from the ground.
3. Stop the engine, apply the parking brake and disengage the ignition key.
4. Fasten the pick-up unit by using the specific chain.
5. Remove the safety pin **(A)**.
6. Disconnect the safety plate **(B)**.
7. Slightly extract the wheel-holder arm **(C)**, and then rotate it to obtain the desired height.
8. Re-introduce the arm into the new hole.
9. Reintroduce the safety plate **(B)**.
10. Place the safety pin **(A)**.
11. Repeat the same operation on the other side and make sure to use the same hole.

## HOW TO ADJUST THE TILTING BAFFLE PLATE

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.

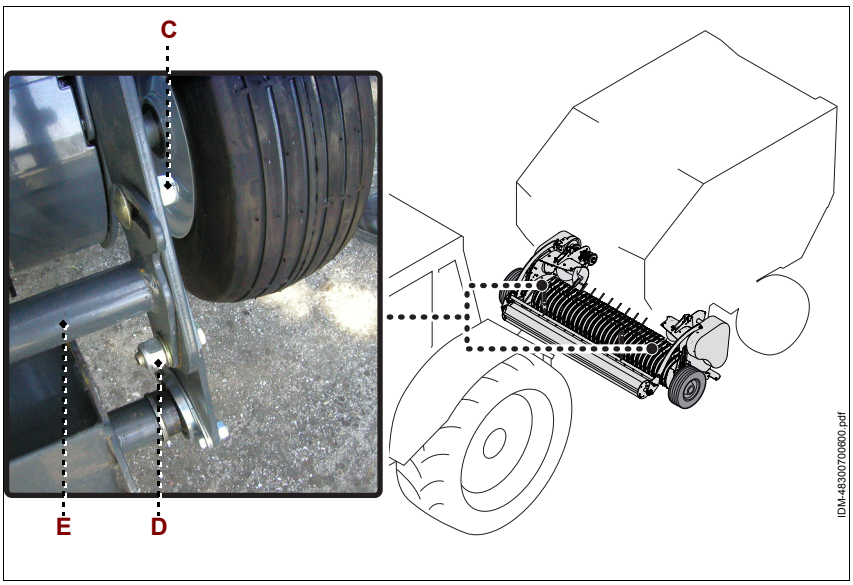
**How to adjust the height of the baffle plate**




3. Remove the safety pin **(A)**.
4. Release the chain **(B)**, and then reconnect it in such a way as to position the baffle plate at the desired height.
5. Place the safety pin **(A)**.
6. Repeat the same operation on the other side and make sure to use the same holes.

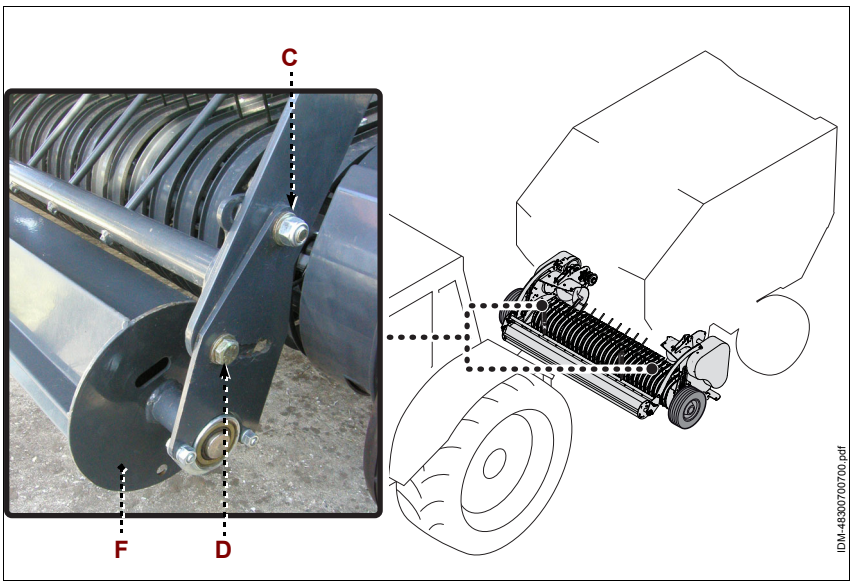
**How to adjust the baffle plate inclination**

7. Loosen the nuts **(C-D)** on both sides.
8. Set the inclination of the baffle plate **(E)** and lightly tighten the nuts **(C)**.
9. Tighten nuts **(C-D)**.




**How to adjust the feed roller position**

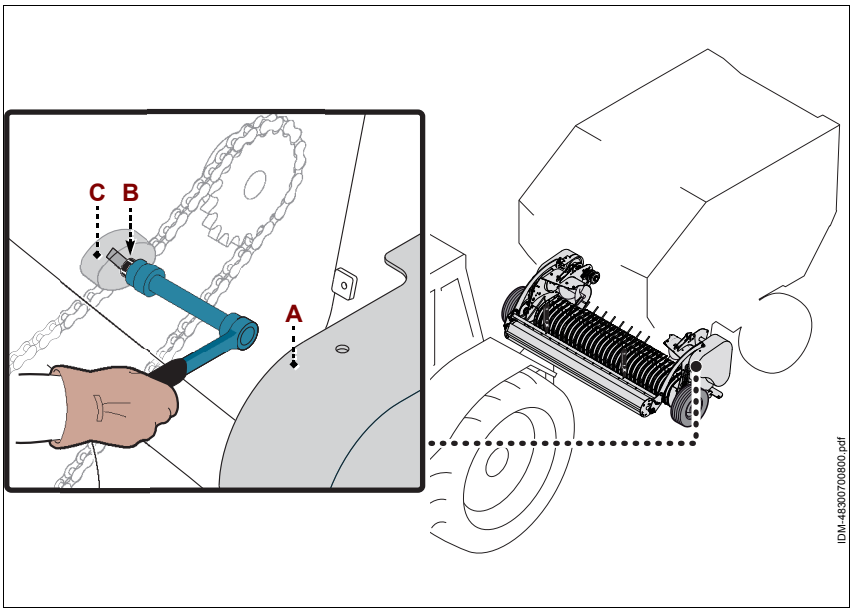
10. Loosen the nuts **(C-D)** on both sides.
11. Adjust the position of the roller **(F)**, and then slightly tighten the nuts **(D)**.
12. Tighten nuts **(C-D)**.




## HOW TO ADJUST THE PICK-UP TRANSMISSION CHAIN

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Unscrew the screws to disassemble the guard **(A)**.
4. Loosen the nut **(B)**, displace the tightener **(C)** to adjust the tension of the chain , and then tighten the nut **(B)**.
5. Assemble the guard **(A)**, and then fasten it by using the screws.




**Important**

**Control the chain every 50 working hours and, if necessary, perform the adjustment to prevent it from coming out of the pinion.**

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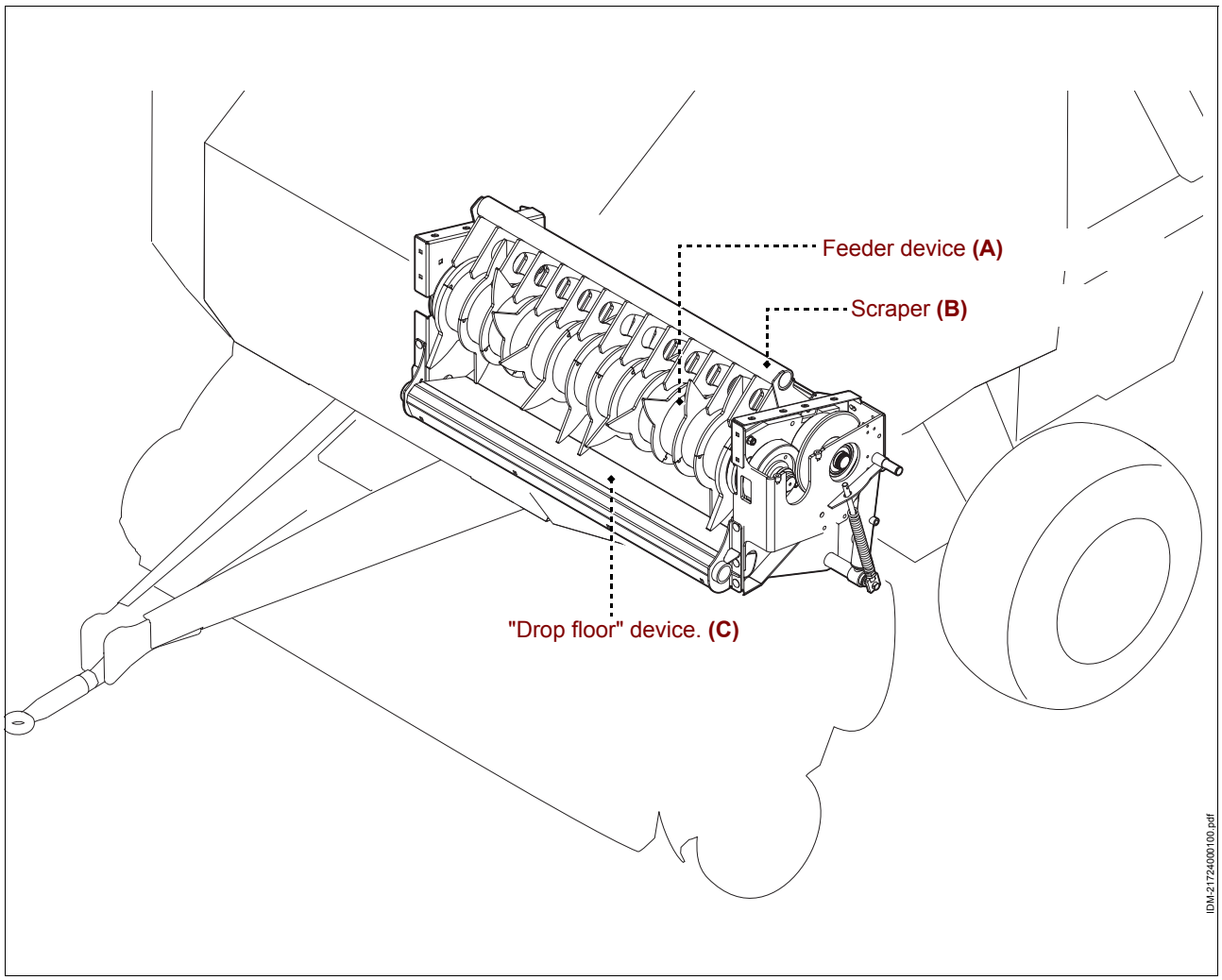
## GENERAL DESCRIPTION

The "ROTOR" feeding unit transfers the product to the baling chamber. The functions of the unit parts are activated by the main motor drive of the machine where it is installed.

– **Feeder device (A)**: it receives the product from the pick-up unit and transfers it to the baling chamber.

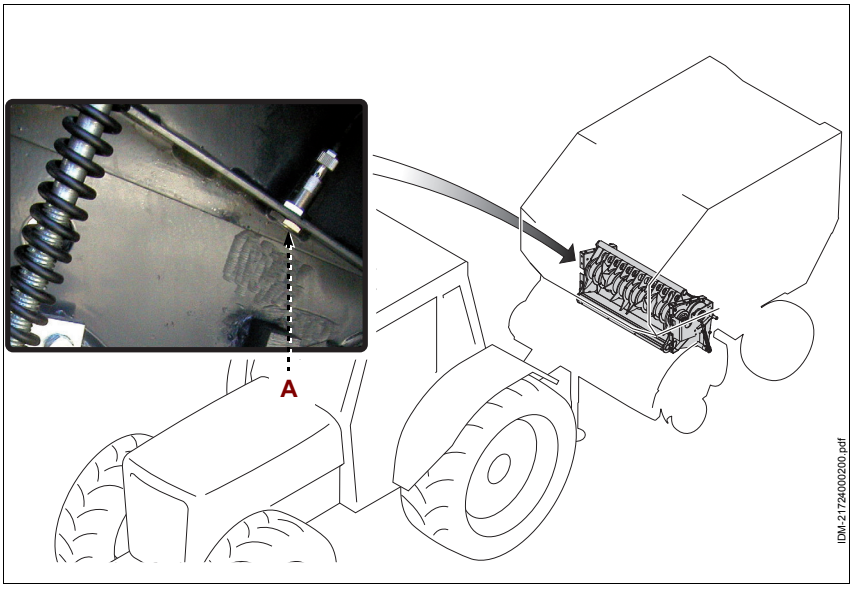
– **Scraper (B)**: prevents the backflow and the product from wrapping around feeding device.

– **"Drop floor" device (C)**: used to unblock the feeding unit in case of clogging.



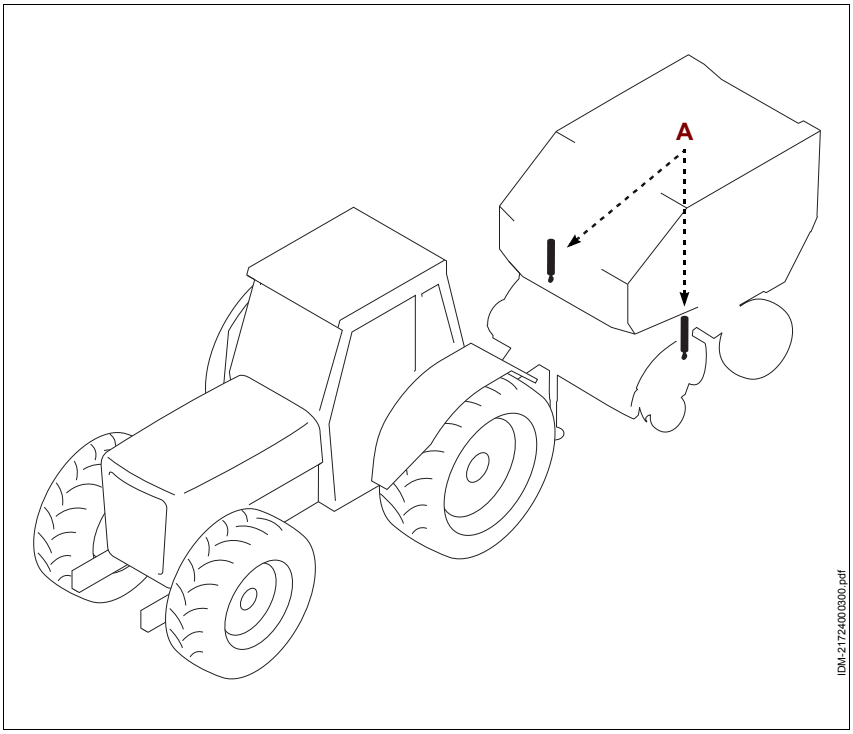
## ELECTRICAL DEVICES

– **Sensor (A)**: indicates the deck of the "Drop floor" device in the "raised" position.




## OIL-PRESSURE DEVICES

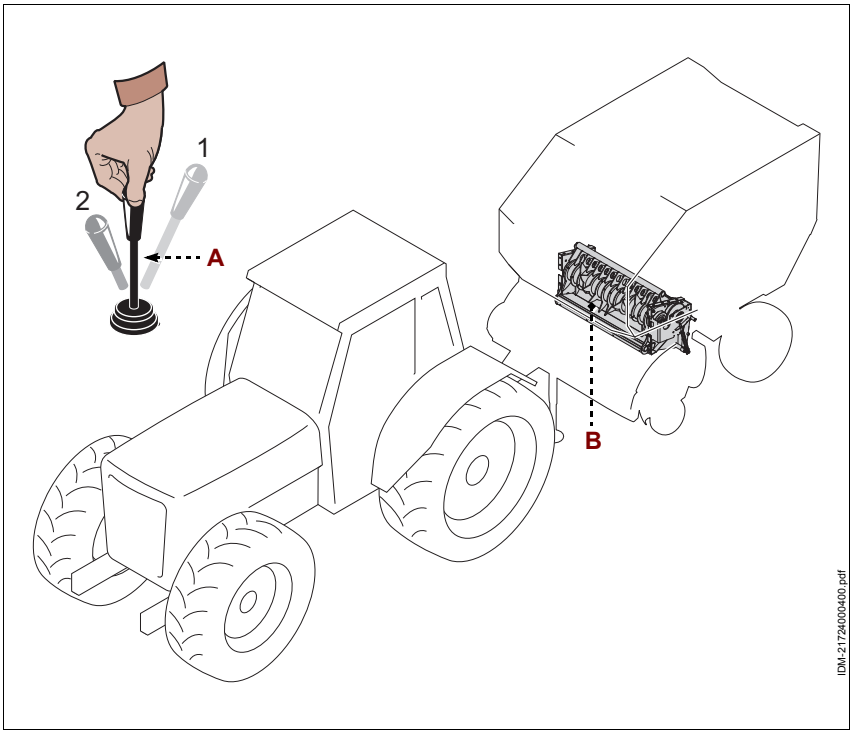
– **Hydraulic cylinder (A)**: raises and lowers the deck of the "Drop floor" device.



## HOW TO UNFLOOD THE FEEDING UNIT

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Act on the controls of the electronic control system to activate the controls of the "Drop floor" device.
3. Activate the lever **(A)** of the tractor's hydraulic control valve (from position **1** to position **2**) to lower the deck of the "Drop floor" device **(B)** and obtain the clogging removal of the feeding unit.
4. Activate the lever **(A)** to bring the deck of the "Drop floor" device to the "high" position.
   The electronic control system will signal when the position has been reached.
5. Act on the controls of the electronic control system to de-activate the controls of the "Drop floor" device.
6. Activate the PTO to check if the feeding unit has unclogged.



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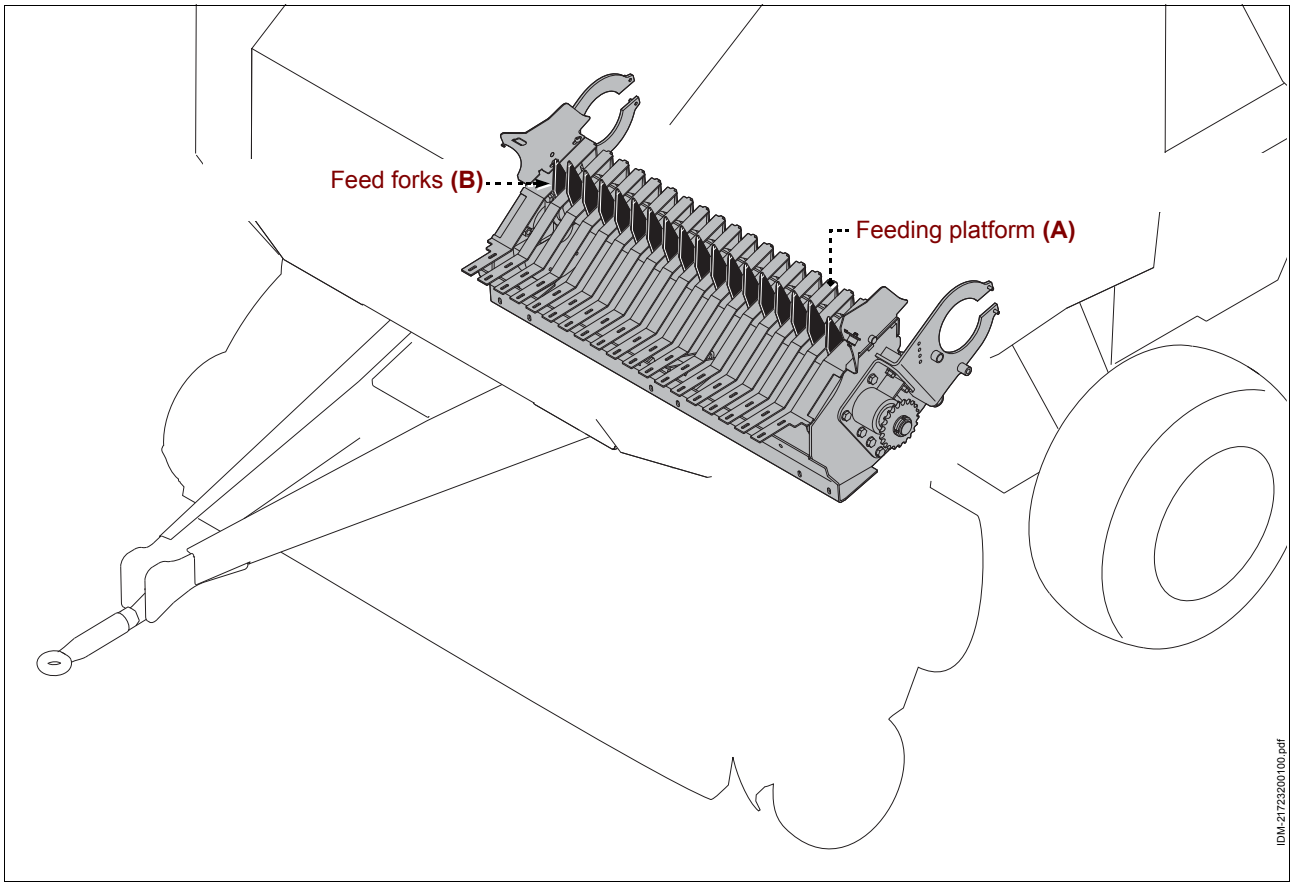
## GENERAL DESCRIPTION

The feeding unit "with simple feeder" conveys the harvested product into the baling chamber. It is particularly suitable for harvesting fine-limbed and high-grade products, where it is necessary to protect the leaf structure.

– Feeding platform **(A)**: the product that is transported from the pick-up unit is deposited on this platform.

– Feeding forks **(B)**: they transfer the product from the feeding platform to the baling chamber.



## PRODUCT CLOGGING REMOVAL IN THE FEEDING UNIT

Follow the instructions.

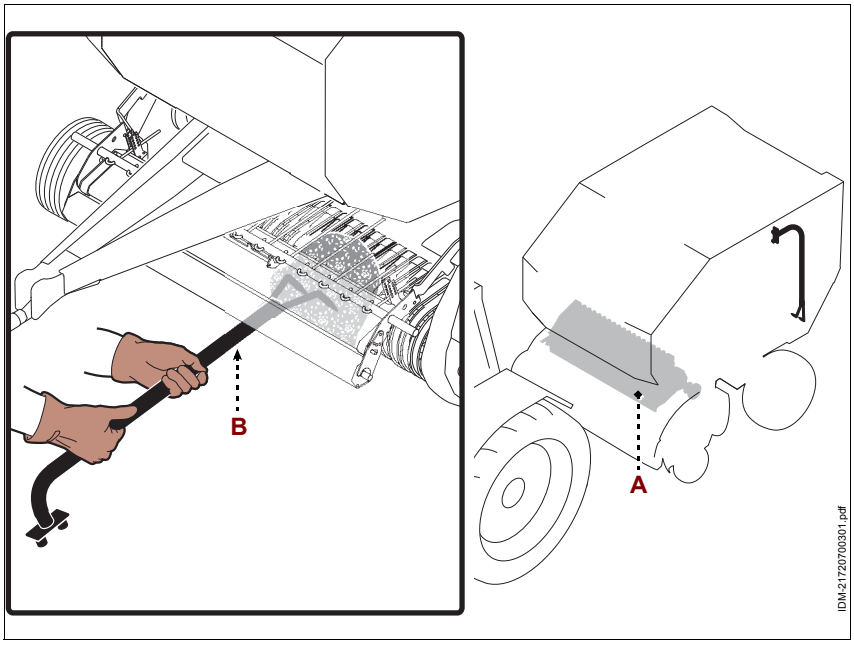
**1-** Make sure tractor PTO is disengaged.

**2-** Stop the engine, apply the parking brake and disengage the ignition key.

**3-** Remove the product that clogs the feeding unit **(A)** by using the specific tool **(B)**.

**4-** Restart the motor of the tractor.

**5-** Activate the PTO to check if the feeding unit has unclogged.
If the feeding unit has not unclogged, immediately deactivate the PTO.




**6-** Place the lever **(C)** in position **1** and do not release it until the completion of the bale unloading operation.

**7-** Switch off the engine of the tractor, and then disengage the ignition key.

**8-** Open the cover **(D)**.

**9-** Close the cock **(E)** to assure safety conditions.

**10-** Remove the product that clogs the feeding unit by using the specific tool **(B)**.

**11-** Check the condition of the safety bolt and, if necessary, replace it (See "How to replace the safety bolt").

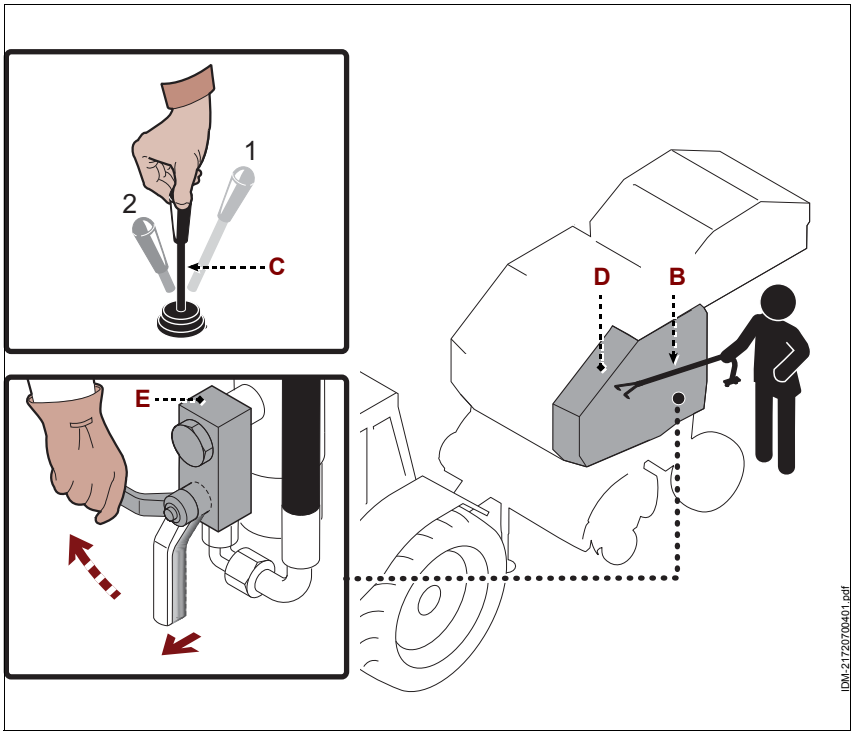
**12-** Open the cock **(E)**.

**13-** Close the cover **(D)**.

**14-** Restart the motor of the tractor.

**15-** Place the lever **(C)** of the hydraulic control valve in the tractor in position **2** to close the tail gate.

**16-** Activate the PTO to check if the feeding unit has unclogged.



## HOW TO REPLACE THE SAFETY BOLT

Follow the instructions.

**1-** Make sure tractor PTO is disengaged.

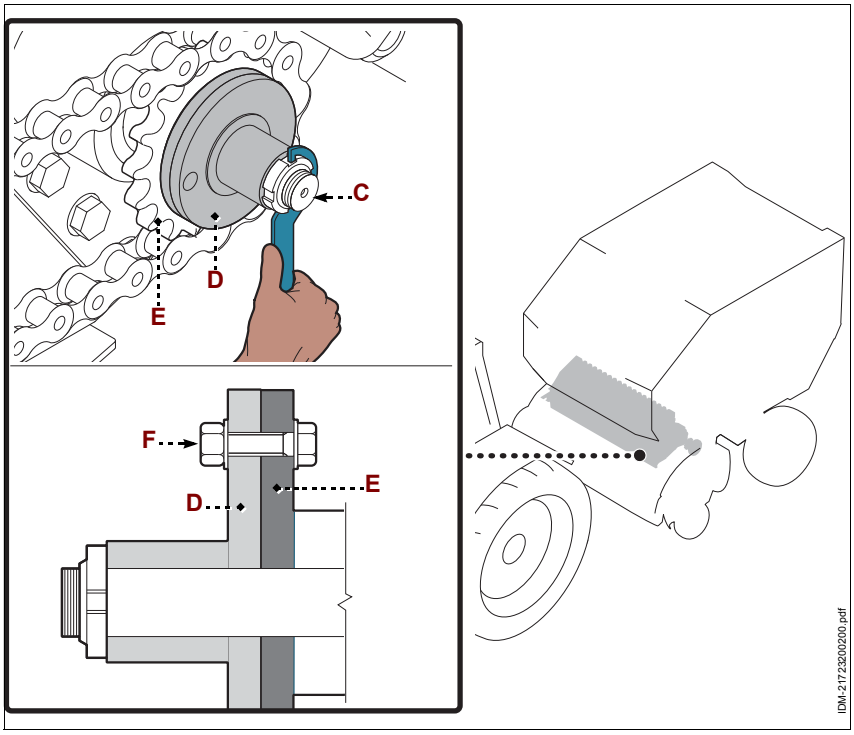
**2-** Stop the engine, apply the parking brake and disengage the ignition key.

**3-** Remove the product that clogs the feeding unit by using the specific tool (See "Product clogging removal in the feeding unit").

**4-** Remove the damaged parts of the safety bolts **(F)**.

**5-** Rotate the shaft **(C)** to align the holes in the hub **(D)** with the holes in the pinion **(E)**.

**6-** Assemble the new safety bolt **(F)**.



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## GENERAL DESCRIPTION

The net binder unit quickly winds the bale up to the edges so that it becomes solid and compact.

**For further information about programming and operation modes, etc. of the binder unit, see the part about the electronic control system.**

The figure shows the path of the net during bale binding operations.

– **Support (A)**: it supports the net reel **(A1)**.

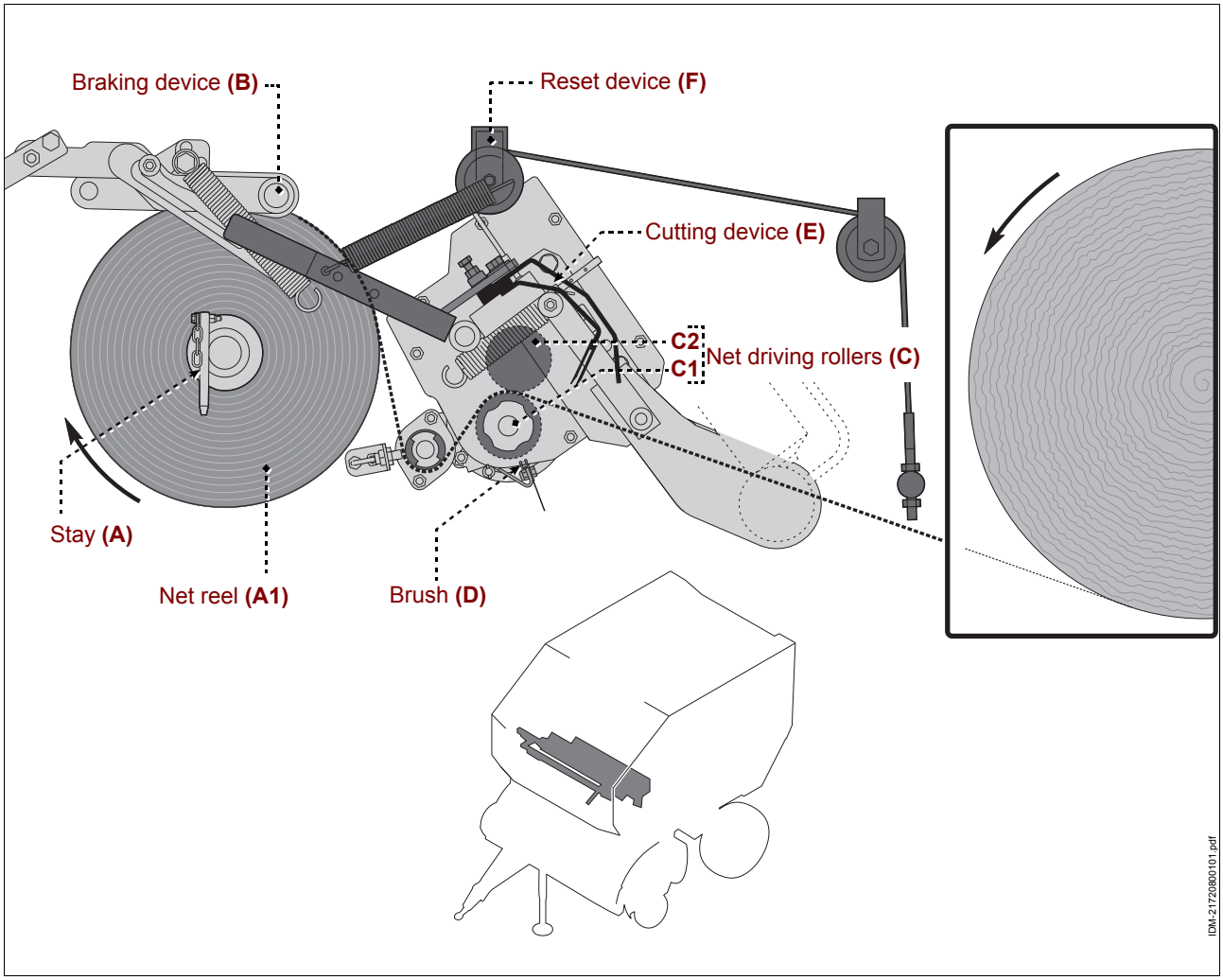
– **Braking device (B)**: it keeps the net reel **(A1)** tightened during the binding operations.

– **Net driving rollers (C)**: at the beginning of the binding operation, they introduce the net into the baling chamber.
The dancing roller **(C2)** keeps pressed against the motorised roller **(C1)** in a way to assure the correct drawing of the net.

– **Brush (D)**: it cleans the rubber roller **(C1)** from product debris.

– **Cutting device (E)**: it automatically cuts the net at the end of the binding cycle, according to the parameters that have been set by means of the electronic control system.

– **Reset device (F)**: it automatically restores the cutting device **(E)** every time the tail gate is opened to unload the bale.

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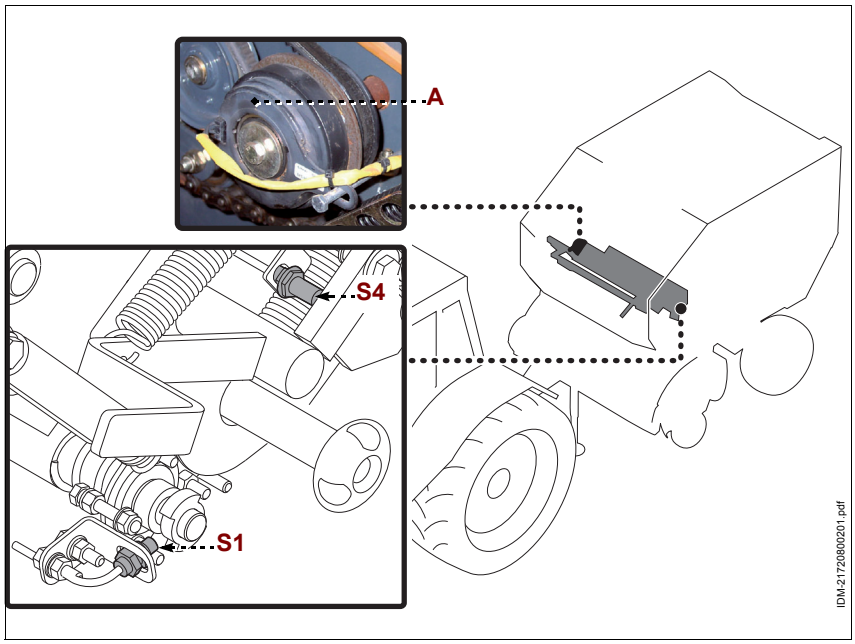
## ELECTRICAL DEVICES

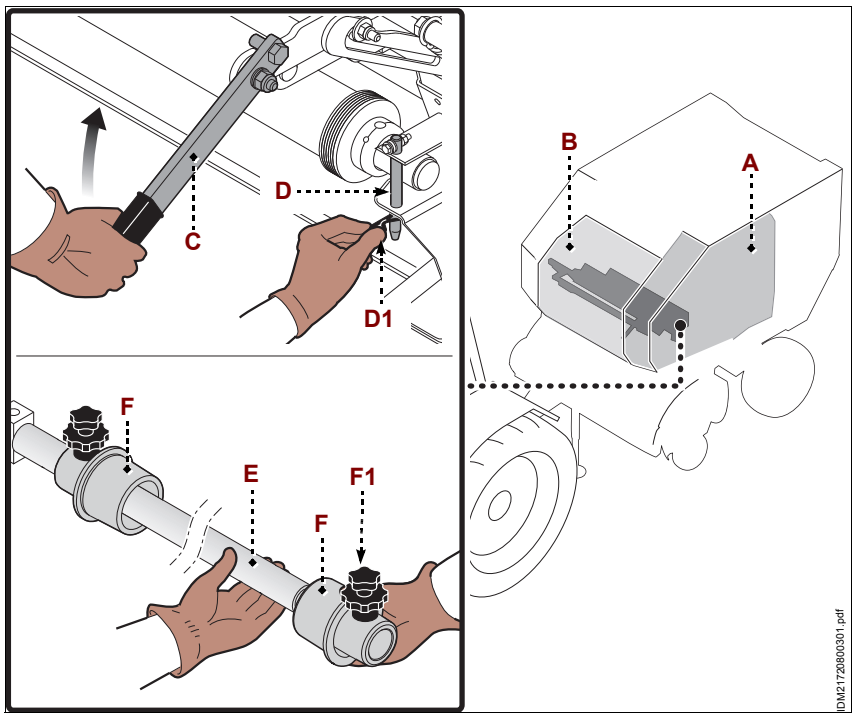
- **Electro-clutch (A)**: it drives the rubber roller to draw the net into the baling chamber.
- **Sensor (S1)**: by means of the cam , it detects the quantity of unrolled net and, after the binding cycle has begun (net taken from the bale), it will stop the electro-clutch **(A)**.
- **Sensor (S4)**: it detects the end of the binding cycle.




## NET REEL SUPPLY

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open guards **(A-B)**.
4. Lift the braking device **(C)** until it locks.
5. Remove split pin **(D1)** and remove pin **(D)**.
6. Rotate the reel support **(E)** and disengage the knob **(F1)** from the reel support **(E)** to remove the catch **(F)**.
7. Replace the reel.
8. Remove the catch **(F)** and insert the knob **(F1)**.
9. Position the support **(E)** with the new reel.
10. Reintroduce pin **(D)** and split pin **(D1)**.
11. Check that the reel is centred with respect to the baling chamber and, if necessary, adjust its position.
    To centre to reel , disengage the knobs **(F1)** from the catches **(F)**, manually move the reel and re-insert the knobs **(F1)** to block the catches **(F)**.



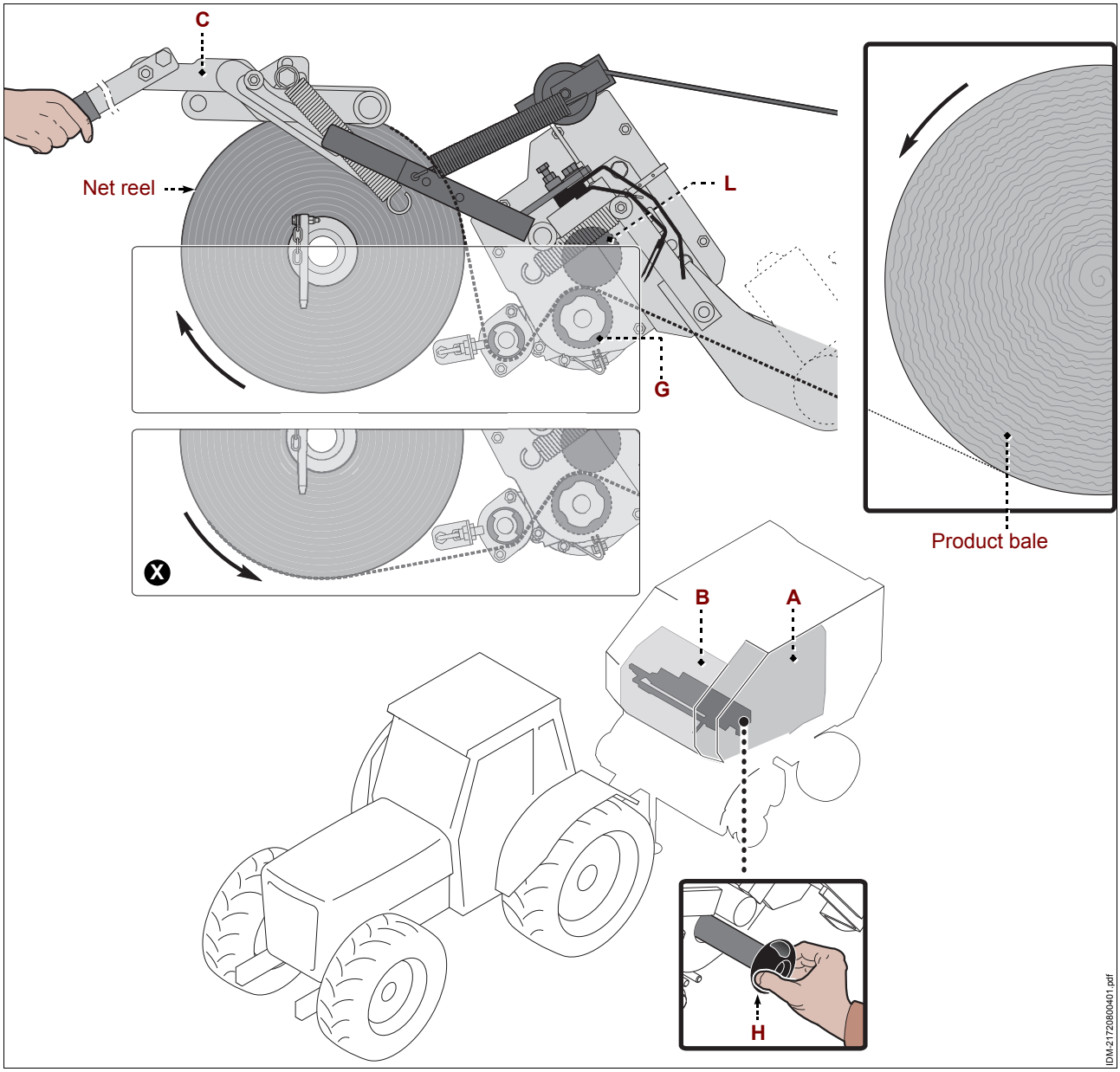

**Important**

**To make sure that the net unwinds in a correct way, check that the carton core of the reel is in good conditions (without damages and/or wet areas).**

12. Unwind the net along the path that is specified in the figure, and then introduce the net into the specific driving rollers **(G-L)**.
    To assure an effective catch of the net to the bale, stretch the initial part of the net for at least 50 cm.
13. Rotate the handle **(H)** in clockwise direction (a full turn) in order to introduce a sufficient quantity of net (about 20 cm) to assure it is caught.
14. Lower the braking device **(C)**.
15. Close guards **(A-B)**.

**Important**

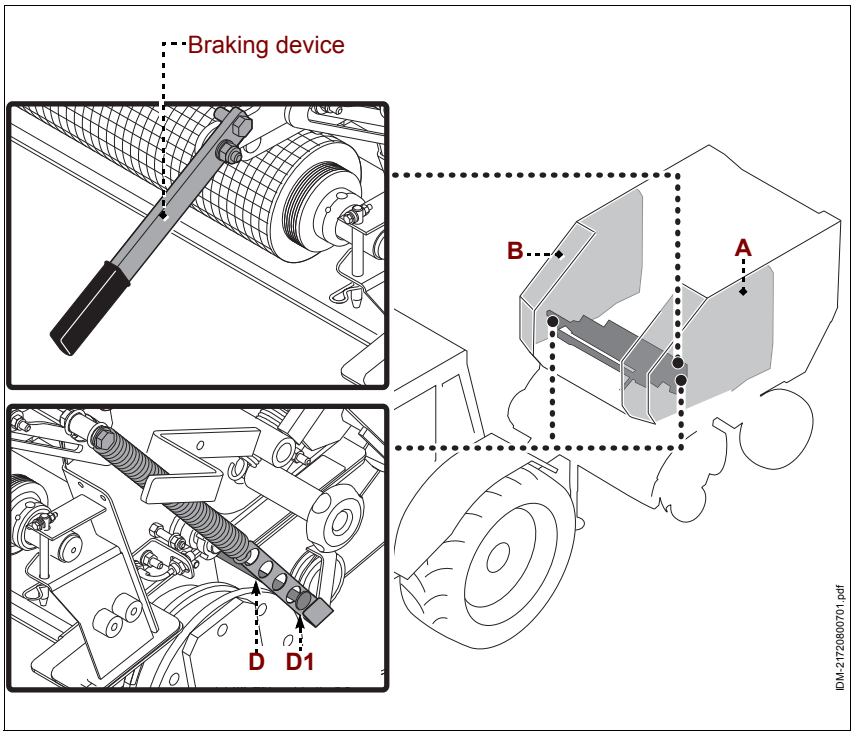
**If, during the binding operation, the net tends to spread in an excessive way, modify the unwinding direction (see the picture, path (X)).**
**If the net keeps unused between the rollers (G-L) for a long period, before restarting the working activity, it is advisable to slightly rotate the handle (H) to allow detaching the net from the rubber roller (G).**
**In these conditions, you can see a mark on the rubber roller (G), which is caused by the pressure exercised by the roller (L). This inconvenience is not worrying, as the rubber roller (G) can restore the evenness of the surface after a few binding operations.**



## HOW TO ADJUST THE BRAKING DEVICE

In order to operate properly, the braking device must be leant against the reel.
If the braking action proves to be unsuitable, follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open guards **(A-B)**.
4. Use the holes that have been pre-arranged on the bracket **(D)** with respect to the pivot **(D1)** in order to modify its position, and so achieve a different braking action.
5. Repeat the operation in the other bracket.
6. Close guards **(A-B)**.




## HOW TO ADJUST THE PRESSURE OF THE NET DRIVING ROLLERS

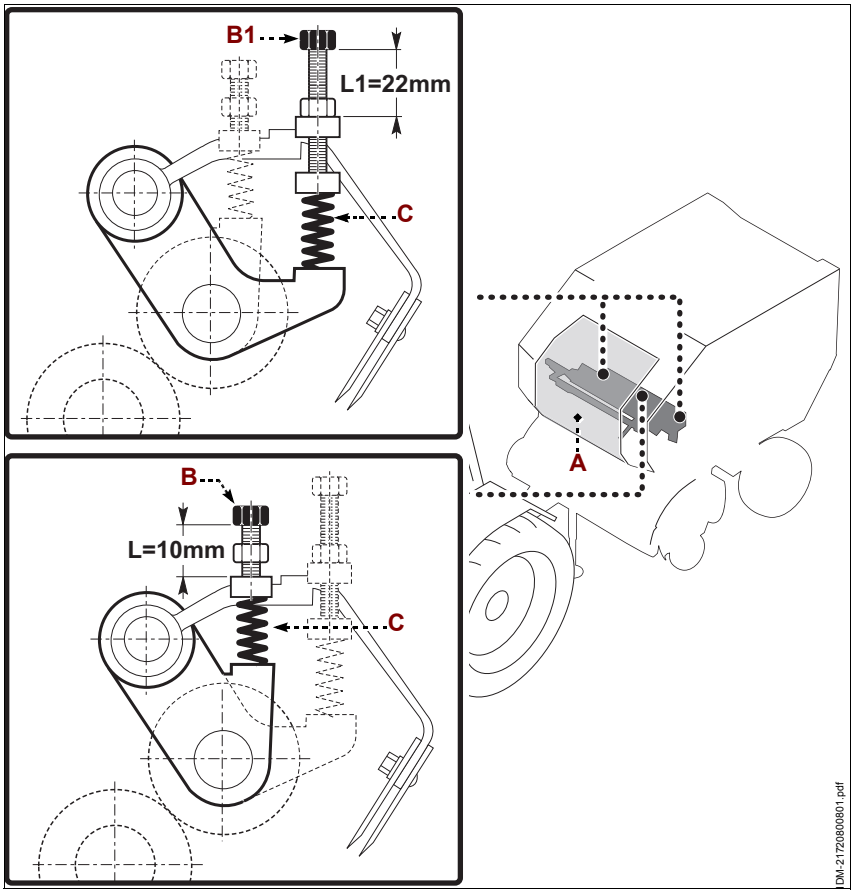
Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. By means of the screw **(B)** and the screws **(B1)** (and the relevant locknuts), adjust the pressure of the springs **(C)**.

**Important**

**To properly adjust the springs, it is advisable to set the lengths (L-L1) at the measures that are specified in the picture.**

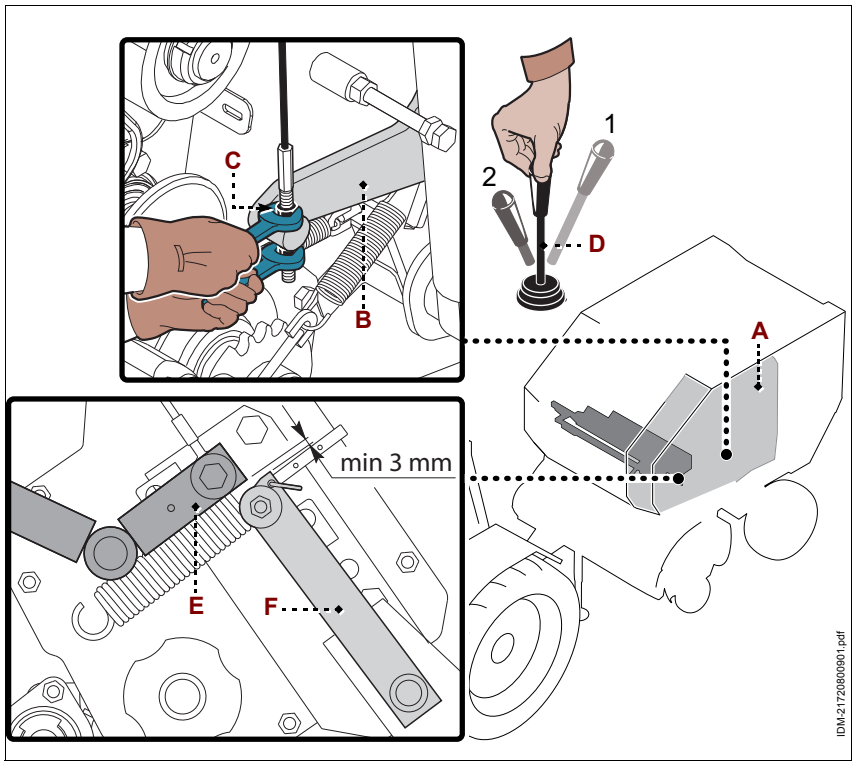
5. Close the cover **(A)**.



## HOW TO ADJUST THE CUT RESET DEVICE

Follow the instructions.

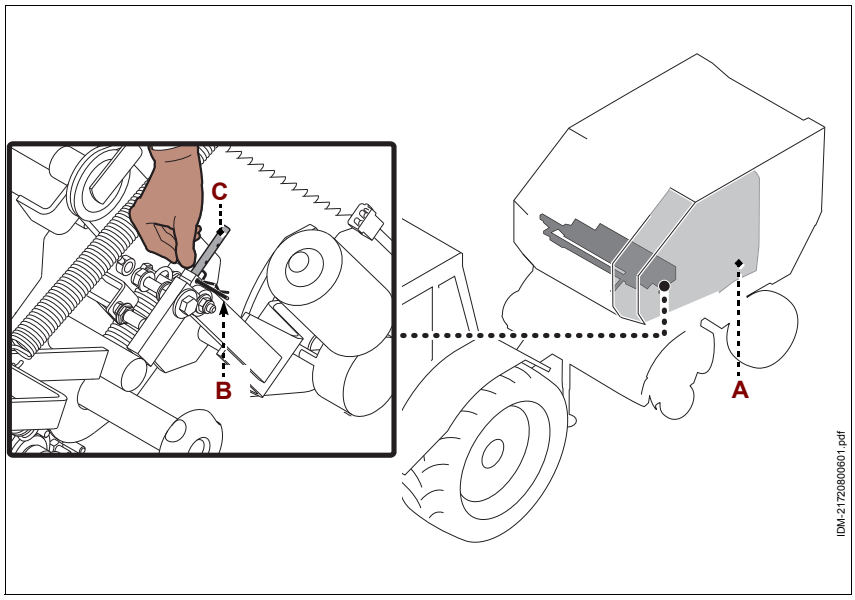
1. Stop the tractor without turning off the motor, engage the parking brake, and then disconnect the power take-off.
2. Place lever **(D)** of the hydraulic control valve in the tractor in position **1** to open the tail gate.
3. Switch off the engine of the tractor, and then disengage the ignition key.
4. Open the cover **(A)**.
   The hooks **(B)** are completely lifted.
5. Use the nuts **(C)** until the arm **(E)** and the lever **(F)** are at 3 mm (see figure).
6. Definitively tighten nuts **(C)**.
7. Close the cover **(A)**.
8. Start the engine of the tractor from the driver's seat.
9. Place the lever **(D)** of the hydraulic control valve in the tractor in position **2** to close the tail gate.



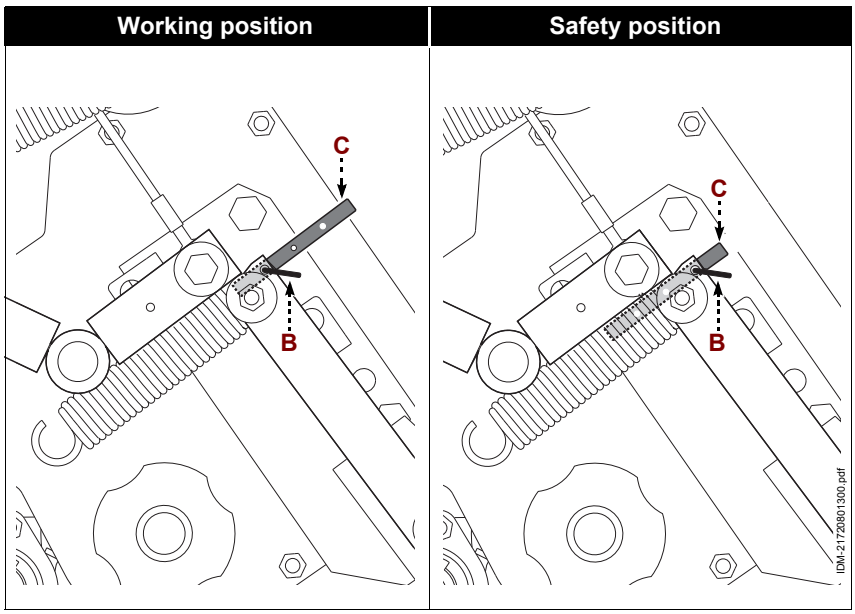

## HOW TO DEACTIVATE AND ACTIVATE THE CUTTING DEVICE

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.



4. Remove the split pin **(B)**, introduce the pivot **(C)** in the SAFETY POSITION, and then introduce the split pin.
5. Perform the necessary operations.
   To re-activate the cutting device at the end of the aforesaid operations, remove the split pin **(B)**, introduce the pivot **(C)** in the WORKING POSITION, and then introduce the split pin.
6. Close the cover **(A)**.

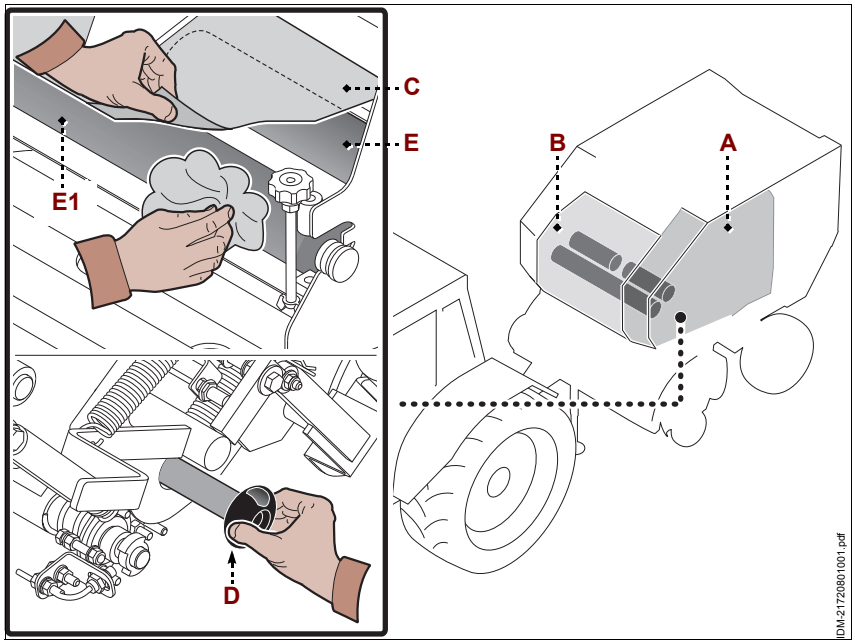



## HOW TO CLEAN THE NET DRIVING ROLLERS

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.

**Before performing operations within the binder area, deactivate the cutting device in order to avert the dangers of shearing to the upper limbs in case of accidental activation, and pay attention to the cutting devices.**




3. Open guards **(A-B)**.
4. Deactivate the cutting device (See "How to deactivate and activate the cutting device").
5. Lift the strap **(C)**.
6. Rotate the handle **(D)**.
7. Clean and remove product debris from the net driving rollers **(E-E1)**.
8. Spread a specific product (for example, talc) over the roller **(E1)** to prevent the deterioration of the surfaces and favour the detachment of the net.

**Caution**
**Precaution**

**To prevent damages to the rubber roller , do not use sharp or cutting objects.**

9. Close guards **(A-B)**.

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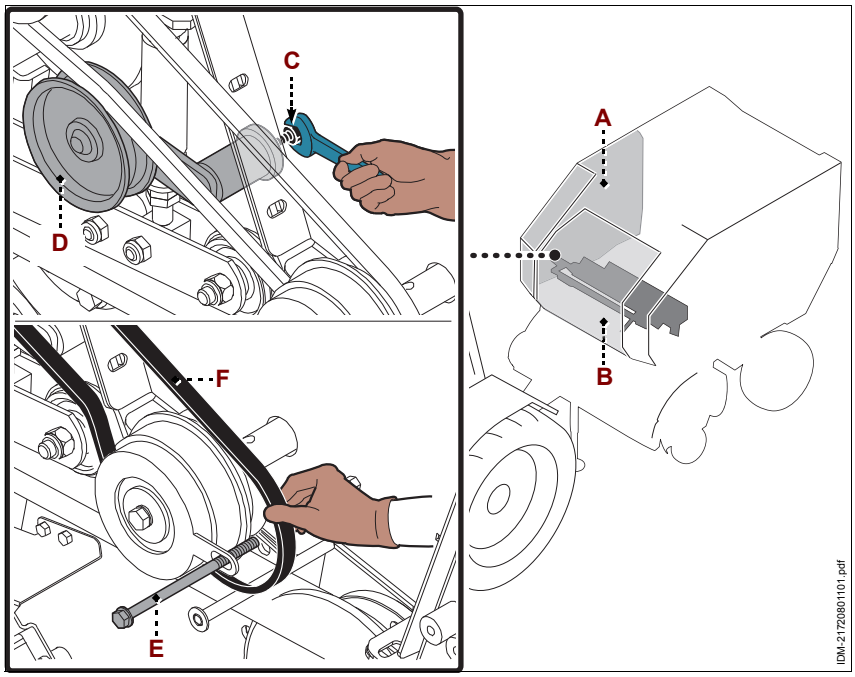
## HOW TO REPLACE THE ELECTRO-CLUTCH BELT

Follow the instructions.

**Important**

**This operation must be carried out with the help of an assistant.**

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open guards **(A-B)**.
4. Unscrew the screw **(C)** to loosen the tightener **(D)**.
5. Unscrew the screw **(E)**.
6. Remove the belt **(F)** and replace it with an original spare part.
7. Screw the screw **(E)**.
8. Regulate the tightener **(D)** to adjust the tension of the belt. Screw the screw **(C)**.
9. Close guards **(A-B)**.



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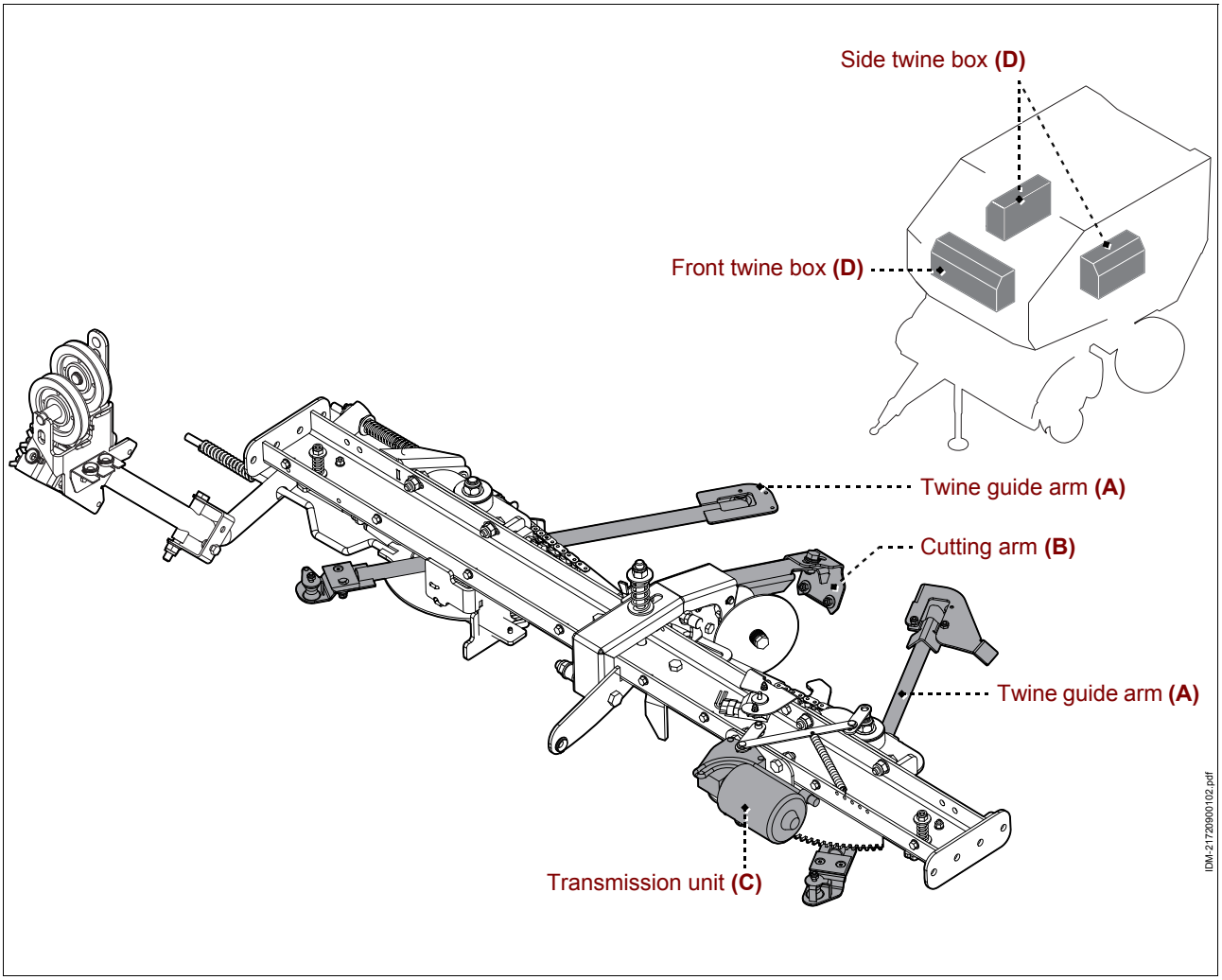
## GENERAL DESCRIPTION

The twine binder unit binds the bale with spiral-shaped twine wrapping, so that the bale becomes solid and compact.

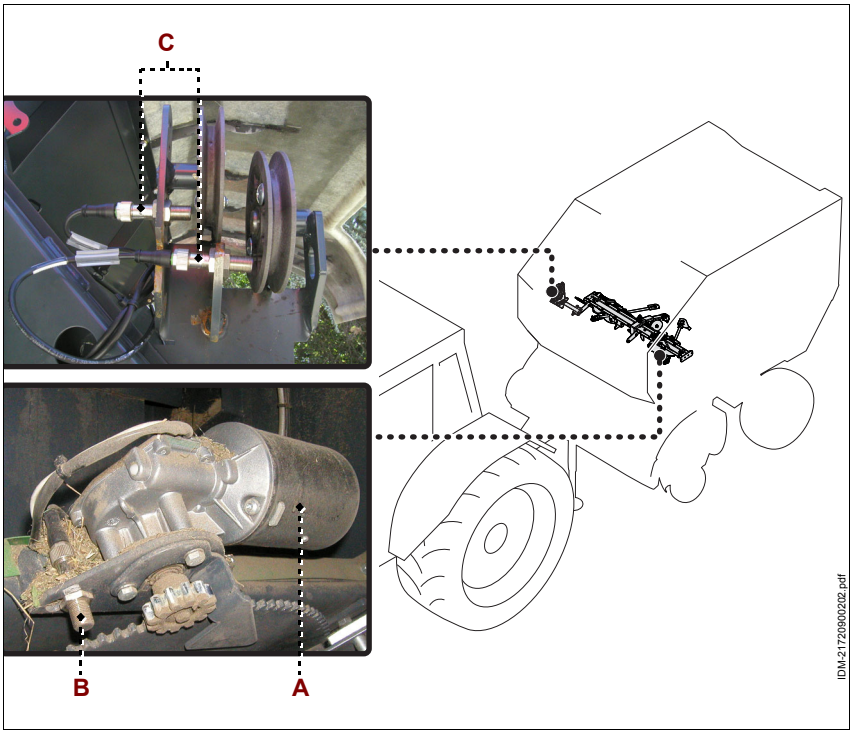
**For further information about programming and operation modes, etc. of the binder unit, see the part about the electronic control system.**

- **Twine guiding arm (A)**: it distributes the twine over the bale in simultaneous and opposed way with respect to the other twine guiding arm. The electronic control system sets the winding mode and the quantity of twine.
- **Cutting arm (B)**: it automatically cuts the twine at the end of the binding operation.
- **Transmission unit (C)**: it conveys the simultaneous and opposed motion to the twine guiding arms **(A)** by means of the gearmotor.
- **Twine case (D)**: it contains several twine reels that are connected together in a way to work with an extended operating range.



## ELECTRICAL DEVICES

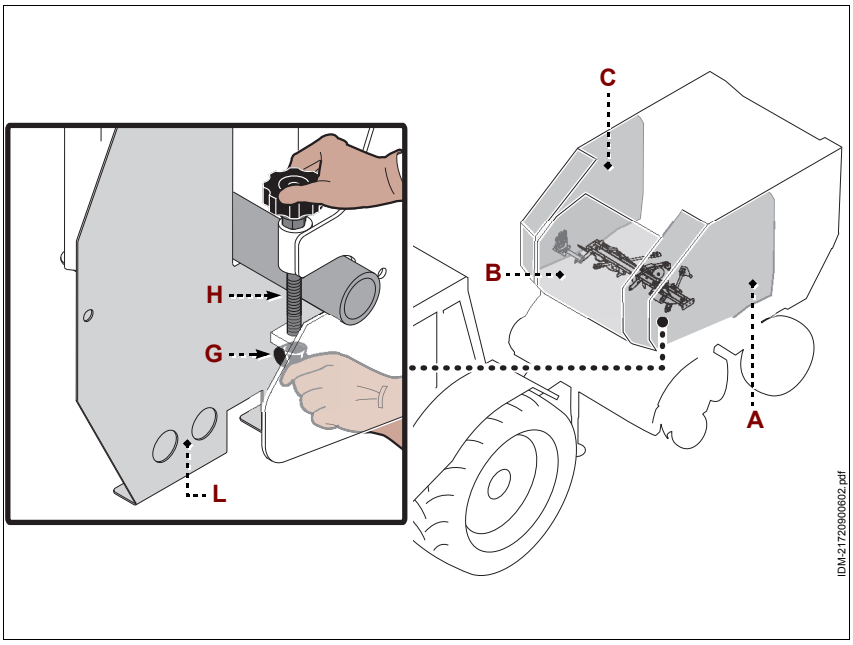
- **Electric motor (A)**: it conveys motion to the twine guiding arms.
- **Sensor (B)**: indicates the position of the twine guide.
- **Sensor (C)**: it detects the rotation of the pulley to determine the quantity of twine being wound around the bale.



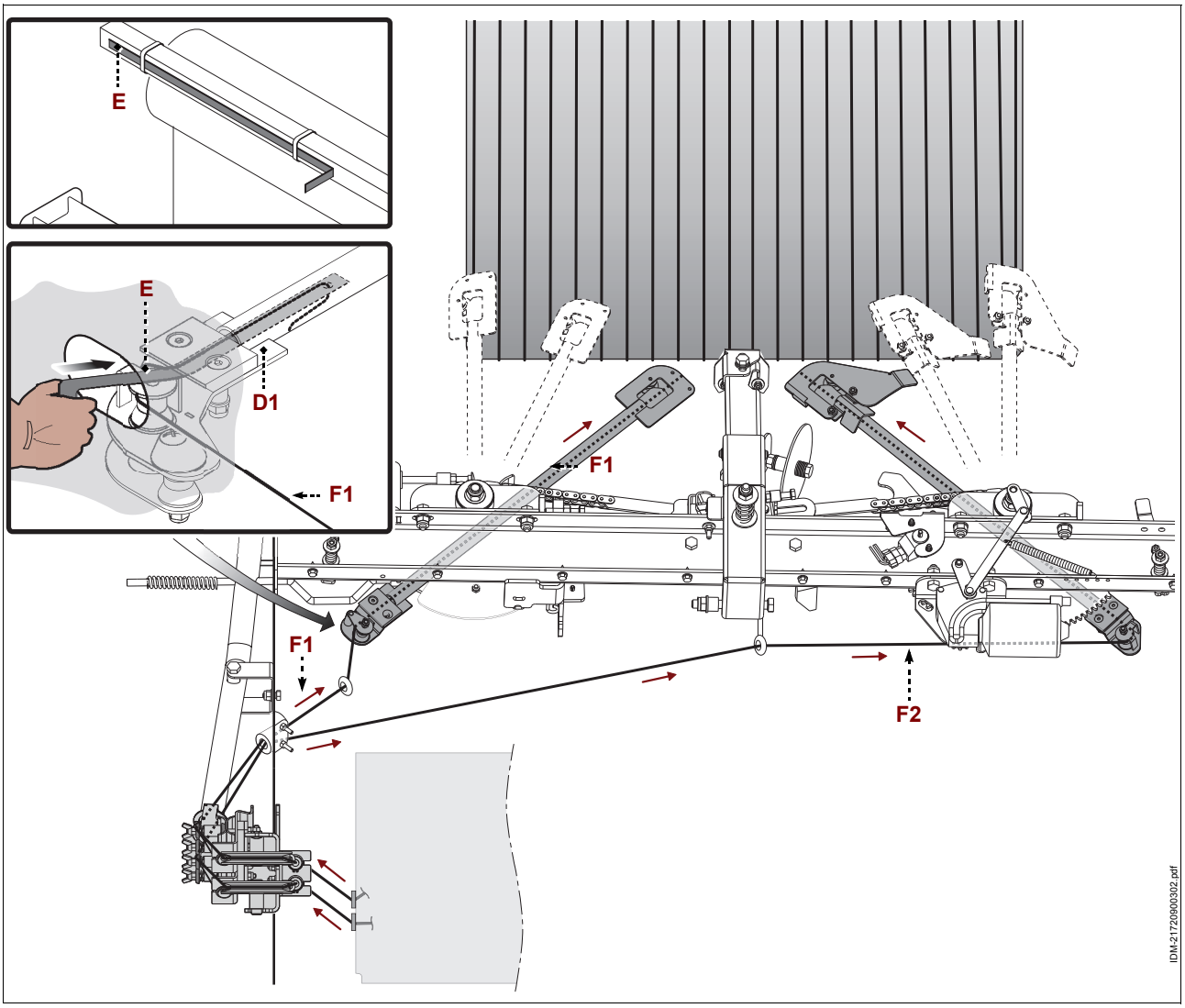

## HOW TO INTRODUCE THE TWINE

This operation should be performed only the first time that the machine is started. In order not to have to repeat this operation, supply the reels before they completely run out of twine.
Follow the instructions.

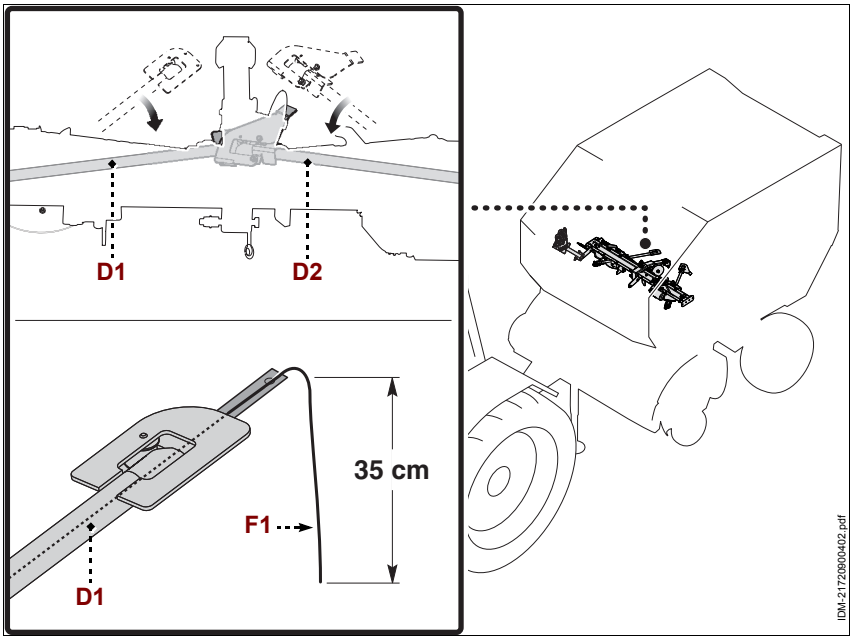
1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open guards **(A-B-C)**.
4. Unscrew the nut **(G)**, remove the hitch pin **(H)** and open the twine case **(L)** (Perform the operation only with front twine box).



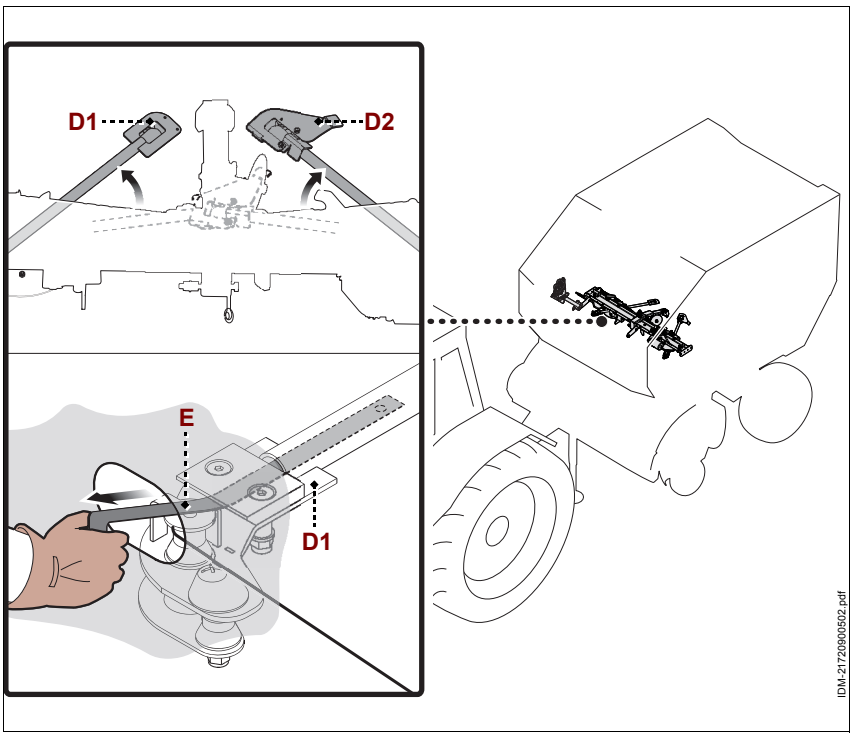
5. Unwind the twines **(F1-F2)** by following the path that is specified in the figure.
6. Introduce the twine **(F1)** into the twine guide arm **(D1)** by using the specific tool **(E)**.
   To complete the introduction of the twine, completely introduce the tool **(E)**.



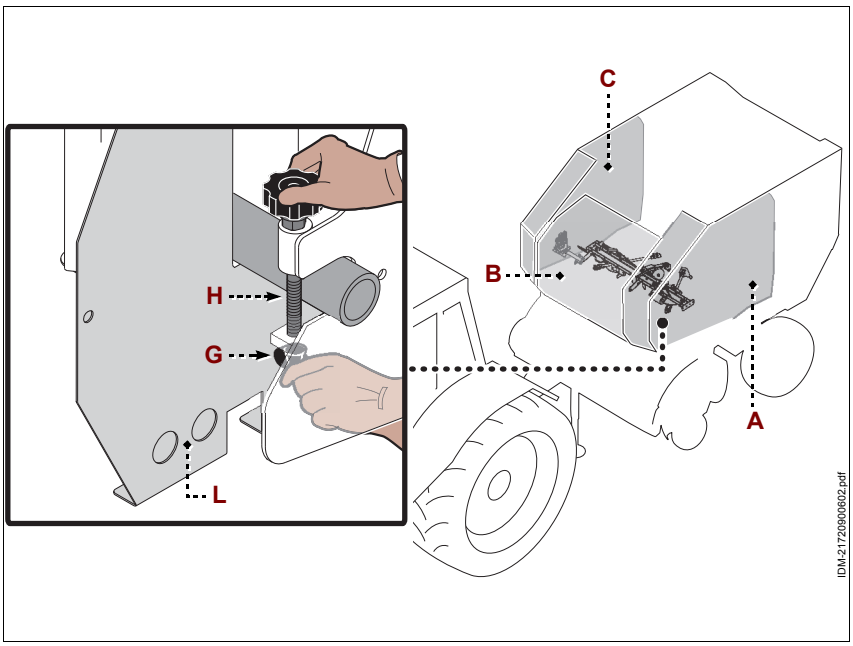

7. Overlap the twine guiding arms **(D1-D2)** one to the other (See "Electronic control system").
8. Deactivate the electronic control system.
9. Pull the twine **(F1)** and extract about 25÷30 cm from the twine guiding arm **(D1)**.
   When introducing the twine, leave about 35 cm of additional wire in the area to prevent that the twine returns and does not catch the bale during the movement of the arms.
10. Reactivate the electronic control system.



11. Adjust the twine guide arms **(D1-D2)** into the initial position (See "Electronic control system").
12. Remove the tool **(E)**.
13. Repeat the same operation to introduce the twine **(F2)** into the twine guiding arm **(D2)**.
14. Adjust the twine tightening clamps (See "How to adjust the twine tightening clamps").
15. At the end of the operation, position the twine guiding arms into the point where the binding cycle starts (See "Electronic control system").
16. Put away the tool **(E)**.




17. Close the twine case **(L)**, introduce the hitch pin **(H)**, and then screw the nut **(G)** (Perform the operation only with front twine box).
18. Close guards **(A-B-C)**.




## HOW TO SUPPLY THE TWINE REELS

**Prevent the machine from completely running out of twine reels, so that you do not have to repeat the twine introduction operation. Periodically (every 4÷6 hours or at the end of the working day), check that the twine case is supplied with twine reels.**

Follow the instructions.

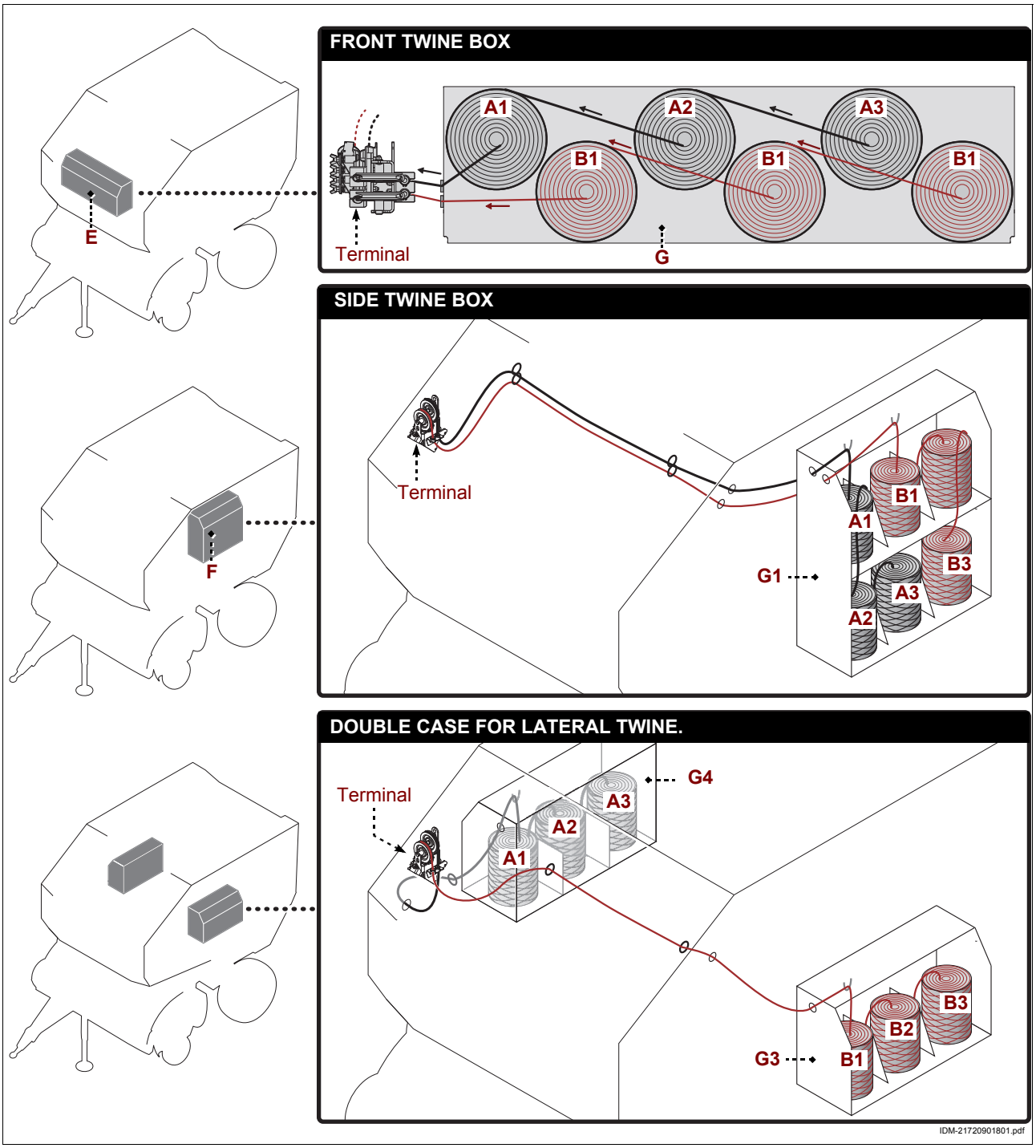
**Carry out the following procedure from the ground, without getting onto machine parts.**

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.

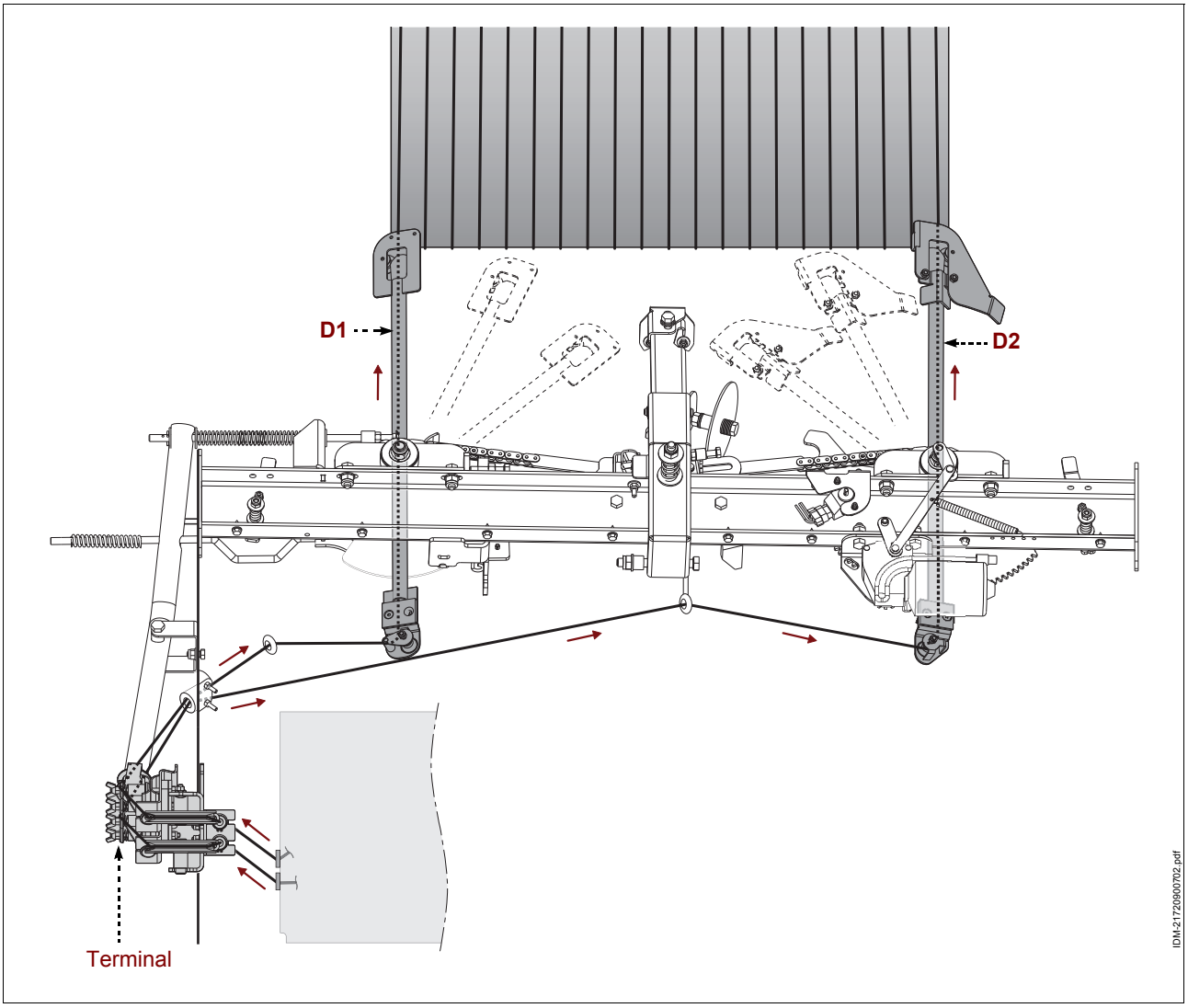
3. Open guards.
4. Introduce the new reels into the twine box **(G-G1-G2-G3)** instead of the finished ones, and then connect them together.
   The twine box can be side or front type.
   If there is a front twine box , first introduce the rear reels.

**Important**

**To prevent the twine from unwinding in a helical way, the reels must be positioned with the wordings on the package in vertical position (not overturned).**



**The reels (A1-A2-A3) feed the twine guiding arm (D1), while the reels (B1-B2-B3) feed the twine guiding arm (D2).**

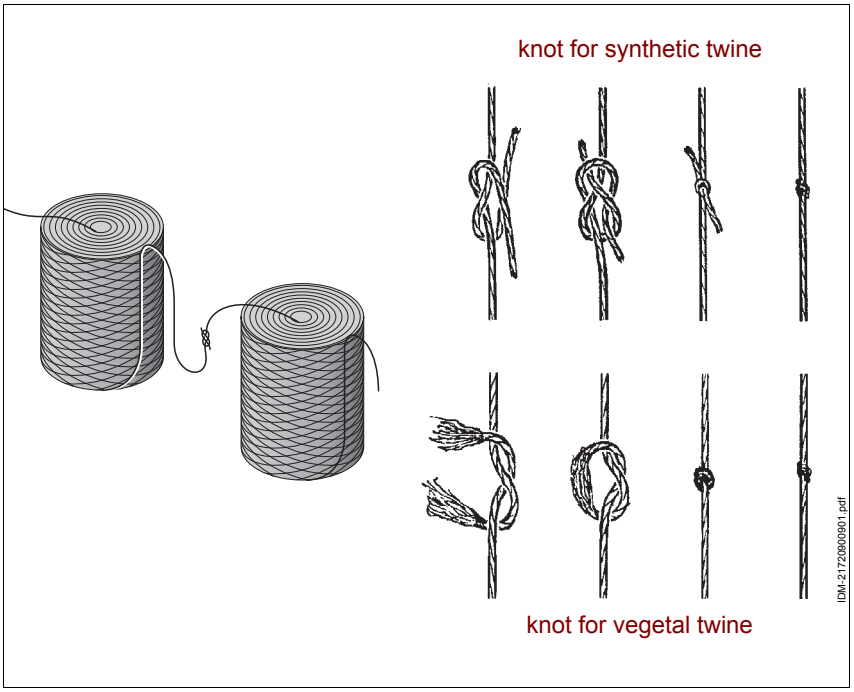



5. In order to connect them, knot the upper end of a reel with the lower end of the following reel.

**Important**

**In order to make sliding easier and to prevent entanglement, connect the end of the twine as specified in the figure, and make sure that the knot is as smaller as possible.**

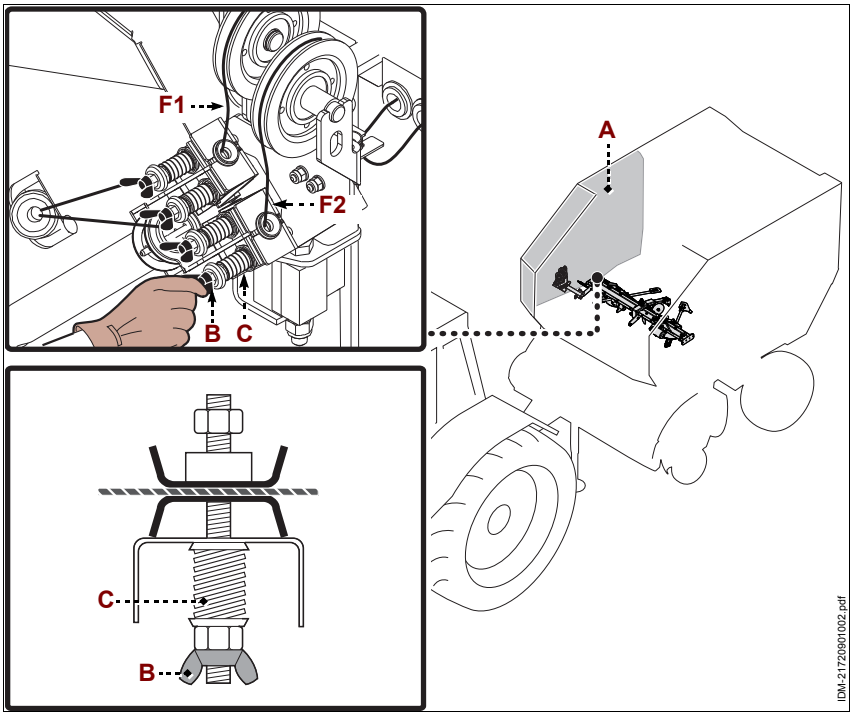
6. Close guards.



## HOW TO ADJUST THE TWINE TIGHTENING CLAMPS

Follow the instructions.

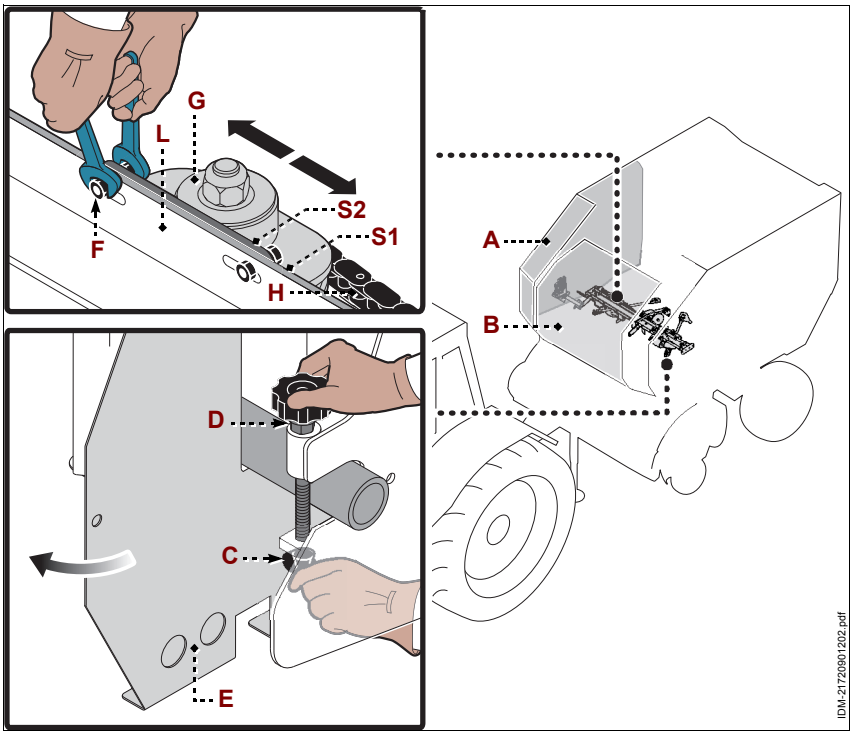
1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open the cover **(A)**.
4. Adjust the tightening of the springs **(C)** by using the nuts **(B)**.
   To make sure that the twines **(F1-F2)** slide freely, apply a force equalling 20÷30 N.
5. Close the cover **(A)**.




## HOW TO ADJUST THE CHAINS OF THE TWINE GUIDING ARMS

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.
3. Open guards **(A-B)**.
4. Unscrew the nut **(C)**, remove the hitch pin **(D)** and open the twine case **(E)** (Perform the operation only with front twine box).
5. Loosen screws **(F)**.
6. Operate on the support **(G)** to adjust the tension of the chain **(H)**.




**Important**

**To position the twine guide arms in a correct way, the supporting surfaces (S1-S2) of the support (G) and of the frame (L) must be parallel.**
**Do not tension the drive too much in order not to damage the rotating devices.**

7. Tighten screws **(F)**.
8. Close the twine case **(E)**, introduce the hitch pin **(D)**, and then screw the nut **(C)** (Perform the operation only with front twine box).
9. Close guards **(A-B)**.

**Important**

**In order to obtain good performances of the binder unit, perform periodical controls to keep all operating areas suitably clean.**

## HOW TO REPLACE THE BLADE

Follow the instructions.

1. Make sure tractor PTO is disengaged.
2. Stop the engine, apply the parking brake and disengage the ignition key.

**Caution Precaution**

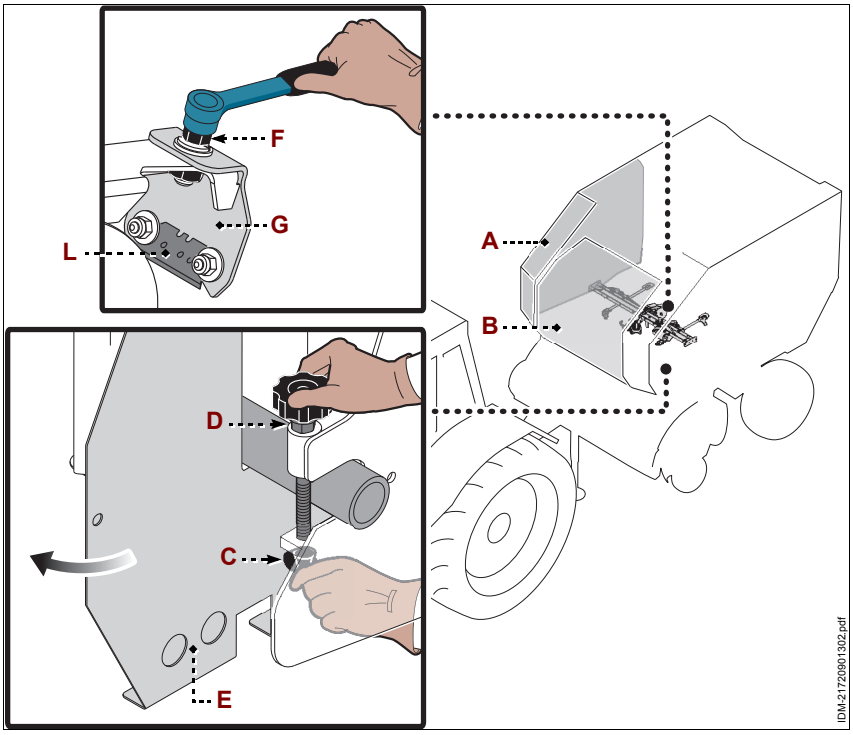
**Wear protection gloves in order to avoid the risk of cutting your hands.**

3. Open guards **(A-B)**.
4. Unscrew the nut **(C)**, remove the hitch pin **(D)** and open the twine case **(E)** (Perform the operation only with front twine box).

**Important**

**Before disassembling the support (G) of the blade, mark the area that enters into contact with the structure of the cutting arm, in such a way as to identify the position and the correct coupling during the re-assembly operations.**

5. Unscrew the screws **(F)** to remove the support **(G)**.




6. Unscrew the screws **(H)** to disassemble the worn blade **(L)**.
7. Assemble the new blade and fasten it with the screws **(H)** (comply with the dimension that is specified in the picture).
8. Assemble the support **(G)** again in the previous position, and then fasten it using the specific screws.
9. Close the twine case **(E)**, introduce the hitch pin **(D)**, and then screw the nut **(C)** (Perform the operation only with front twine box).
10. Close guards **(A-B)**.

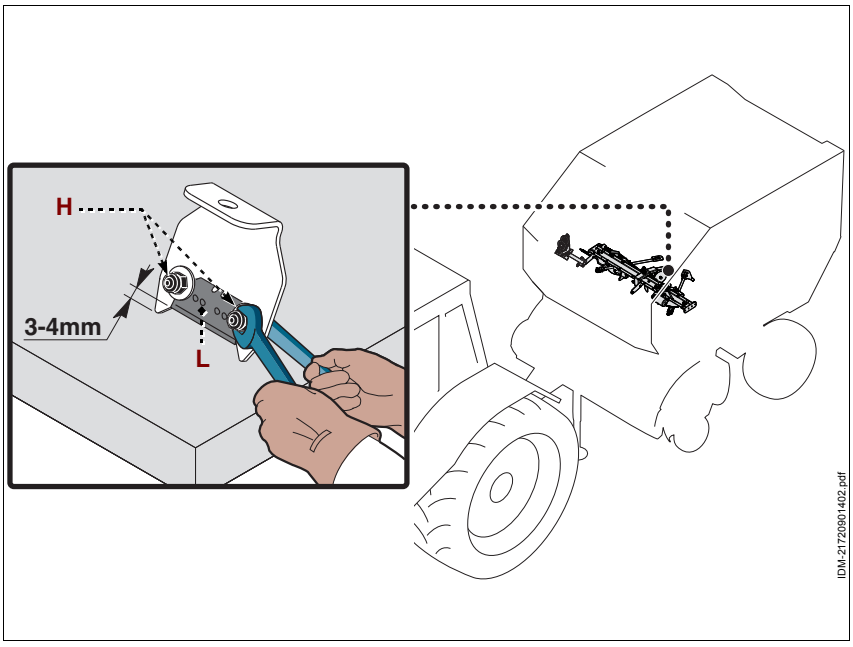


**Table 1**: components of the electrical system

| *Abbreviation* | *Name* | *photo no.* |
|---|---|---|
| **BCT** | Control unit | 1 |
| **CN** | Electro-clutch | 8 |
| **ECU** | Control unit | 2 |
| **HL** | Left hook sensor | 14 |
| **HR** | Right hook sensor | 3 |
| **MF** | Feeding motor | 11 |
| **MT** | twine binding motor | 9 |
| **PB** | Bale diameter potentiometer | 15 |
| **PF** | Potentiometer of the direction indicators | 16 |
| **S2** | Reset/start position sensor | 13 |
| **SB** | Twine binding end sensor | 9 |
| **SC** | Supercut sensor | 4 |
| **SD** | "Drop floor" sensor | 5 |
| **SF** | Feeding motor sensor | 11 |
| **SK** | Net knife sensor | 10 |
| **SM** | Bale maximum diameter sensor | 15 |
| **SN** | Net count sensor | 12 |
| **SP** | Twine binder pulley sensor | 6 |
| **ST** | Twine binder motor sensor | 9 |
| **V0** | By-pass solenoid valve | 17 |
| **VD** | "Drop floor" solenoid valve | 7 |
| **VP** | Pick-up solenoid valve | 7 |
| **VS** | Supercut solenoid valve | 7 |
| **VR** | Proportional solenoid valve for hydraulic lock | 17 |

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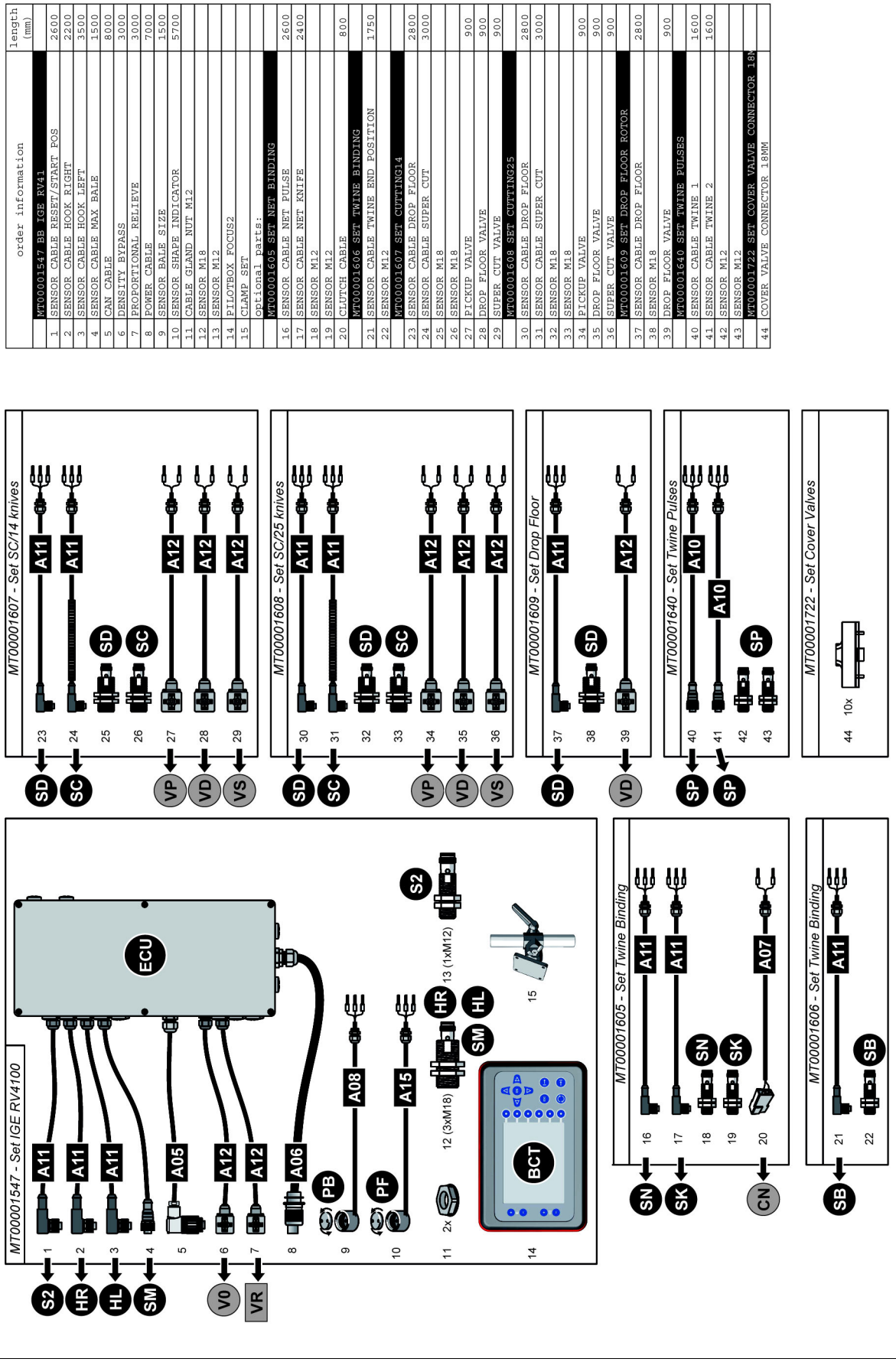
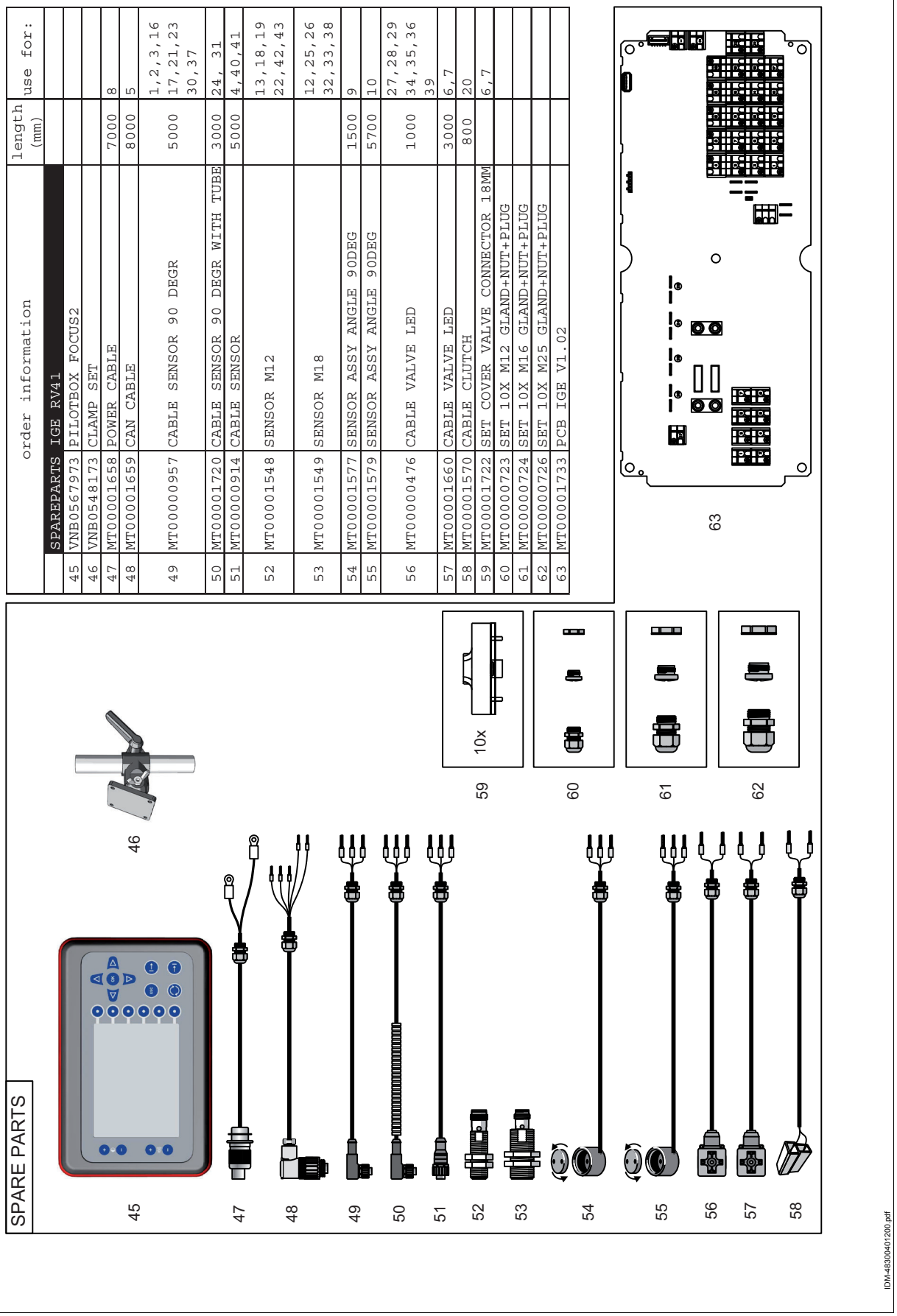
**ELECTRICAL COMPONENTS DIAGRAM**

ESD **A01**




| | order information | length (mm) |
|---|---|---|
| | **MT00001547 BB IGE RV41** | |
| 1 | SENSOR CABLE RESET/START POS | 2600 |
| 2 | SENSOR CABLE HOOK RIGHT | 2200 |
| 3 | SENSOR CABLE HOOK LEFT | 3500 |
| 4 | SENSOR CABLE MAX BALE | 1500 |
| 5 | CAN CABLE | 8000 |
| 6 | DENSITY BYPASS | 3000 |
| 7 | PROPORTIONAL RELIEVE | 3000 |
| 8 | POWER CABLE | 7000 |
| 9 | SENSOR BALE SIZE | 1500 |
| 10 | SENSOR SHAPE INDICATOR | 5700 |
| 11 | CABLE GLAND NUT M12 | |
| 12 | SENSOR M18 | |
| 13 | SENSOR M12 | |
| 14 | PILOTBOX FOCUS2 | |
| 15 | CLAMP SET | |
| | optional parts: | |
| | **MT00001605 SET NET BINDING** | |
| 16 | SENSOR CABLE NET PULSE | 2600 |
| 17 | SENSOR CABLE NET KNIFE | 2400 |
| 18 | SENSOR M12 | |
| 19 | SENSOR M12 | |
| 20 | CLUTCH CABLE | 800 |
| | **MT00001606 SET TWINE BINDING** | |
| 21 | SENSOR CABLE TWINE END POSITION | 1750 |
| 22 | SENSOR M12 | |
| | **MT00001607 SET CUTTING14** | |
| 23 | SENSOR CABLE DROP FLOOR | 2800 |
| 24 | SENSOR CABLE SUPER CUT | 3000 |
| 25 | SENSOR M18 | |
| 26 | SENSOR M18 | |
| 27 | PICKUP VALVE | 900 |
| 28 | DROP FLOOR VALVE | 900 |
| 29 | SUPER CUT VALVE | 900 |
| | **MT00001608 SET CUTTING25** | |
| 30 | SENSOR CABLE DROP FLOOR | 2800 |
| 31 | SENSOR CABLE SUPER CUT | 3000 |
| 32 | SENSOR M18 | |
| 33 | SENSOR M18 | |
| 34 | PICKUP VALVE | 900 |
| 35 | DROP FLOOR VALVE | 900 |
| 36 | SUPER CUT VALVE | 900 |
| | **MT00001609 SET DROP FLOOR ROTOR** | |
| 37 | SENSOR CABLE DROP FLOOR | 2800 |
| 38 | SENSOR M18 | |
| 39 | DROP FLOOR VALVE | 900 |
| | **MT00001640 SET TWINE PULSES** | |
| 40 | SENSOR CABLE TWINE 1 | 1600 |
| 41 | SENSOR CABLE TWINE 2 | 1600 |
| 42 | SENSOR M12 | |
| 43 | SENSOR M12 | |
| | **MT00001722 SET COVER VALVE CONNECTOR 18M** | |
| 44 | COVER VALVE CONNECTOR 18MM | |




| | order information | length (mm) | use for: |
|---|---|---|---|
| | SPAREPARTS IGE RV41 | | |
| 45 | VNB0567973 PILOTBOX FOCUS2 | | |
| 46 | VNB0548173 CLAMP SET | | |
| 47 | MT00001658 POWER CABLE | 7000 | 8 |
| 48 | MT00001659 CAN CABLE | 8000 | 5 |
| 49 | MT00000957 CABLE SENSOR 90 DEGR | 5000 | 1,2,3,16 17,21,23 30,37 |
| 50 | MT00001720 CABLE SENSOR 90 DEGR WITH TUBE | 3000 | 24, 31 |
| 51 | MT00000914 CABLE SENSOR | 5000 | 4,40,41 |
| 52 | MT00001548 SENSOR M12 | | 13,18,19 22,42,43 |
| 53 | MT00001549 SENSOR M18 | | 12,25,26 32,33,38 |
| 54 | MT00001577 SENSOR ASSY ANGLE 90DEG | 1500 | 9 |
| 55 | MT00001579 SENSOR ASSY ANGLE 90DEG | 5700 | 10 |
| 56 | MT00000476 CABLE VALVE LED | 1000 | 27,28,29 34,35,36 39 |
| 57 | MT00001660 CABLE VALVE LED | 3000 | 6,7 |
| 58 | MT00001570 CABLE CLUTCH | 800 | 20 |
| 59 | MT00001722 SET COVER VALVE CONNECTOR 18MM | | 6,7 |
| 60 | MT00000723 SET 10X M12 GLAND+NUT+PLUG | | |
| 61 | MT00000724 SET 10X M16 GLAND+NUT+PLUG | | |
| 62 | MT00000726 SET 10X M25 GLAND+NUT+PLUG | | |
| 63 | MT00001733 PCB IGE V1.02 | | |

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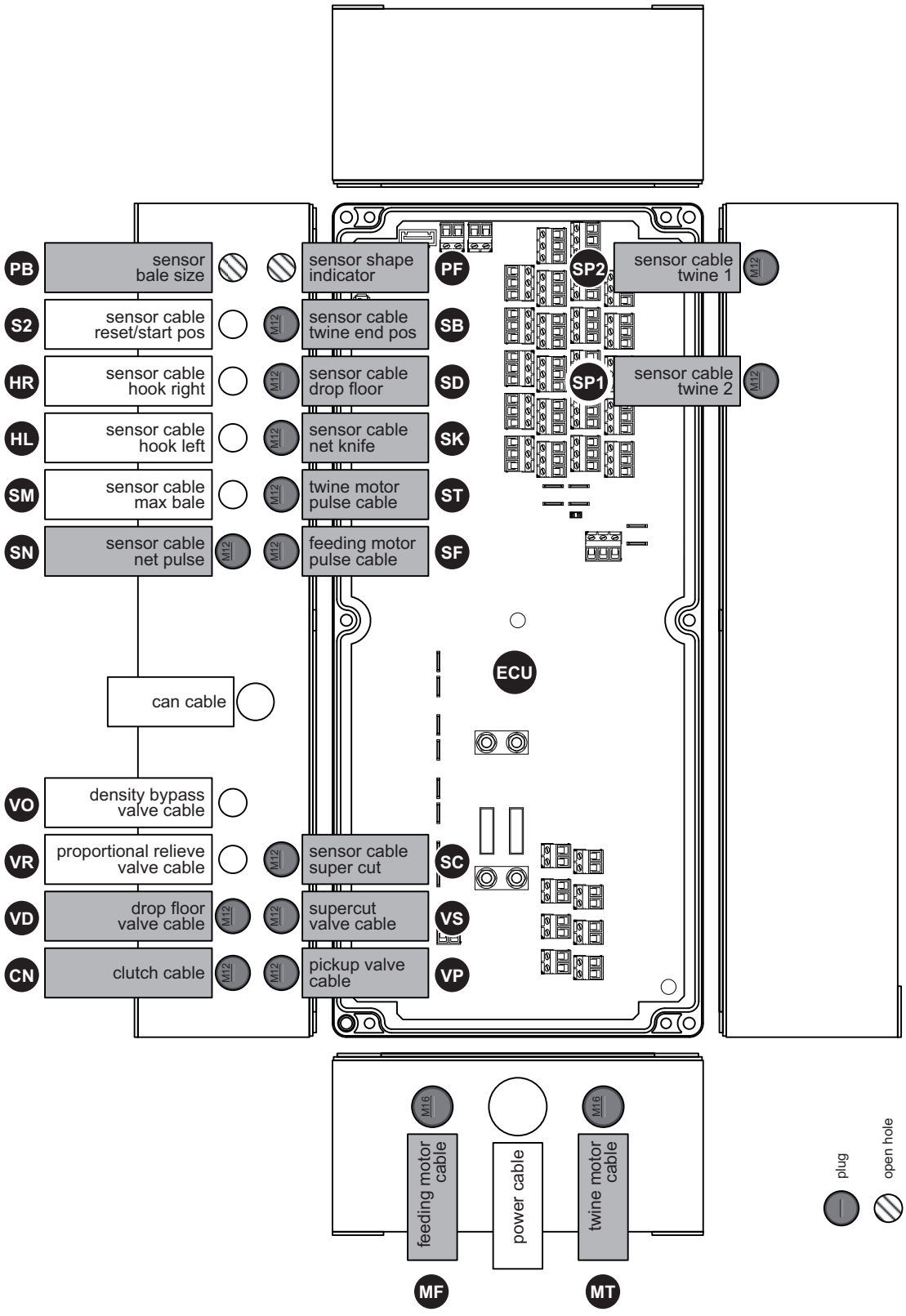
## ELECTRICAL COMPONENTS SPARE PARTS DIAGRAM

ESD **A02**

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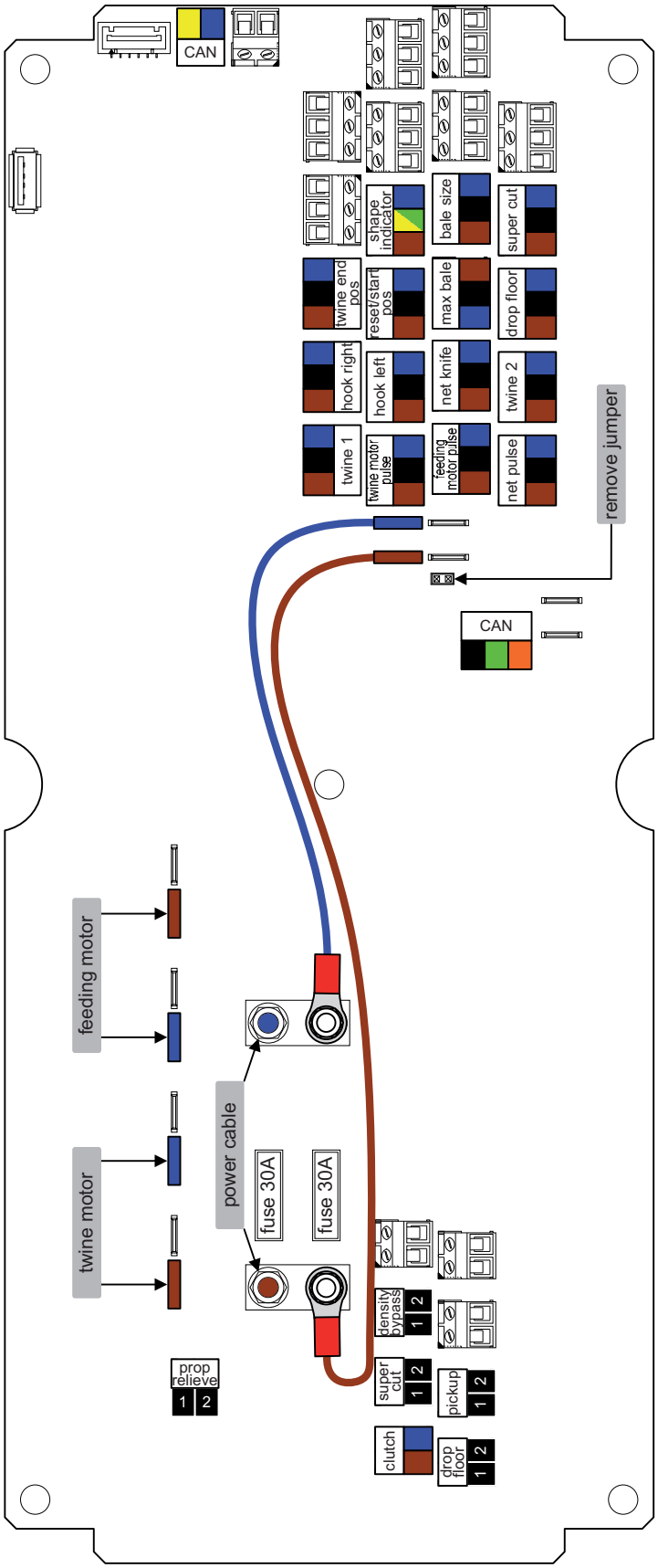
## "CONTROL UNIT" DRILLING DIAGRAM (ECU)

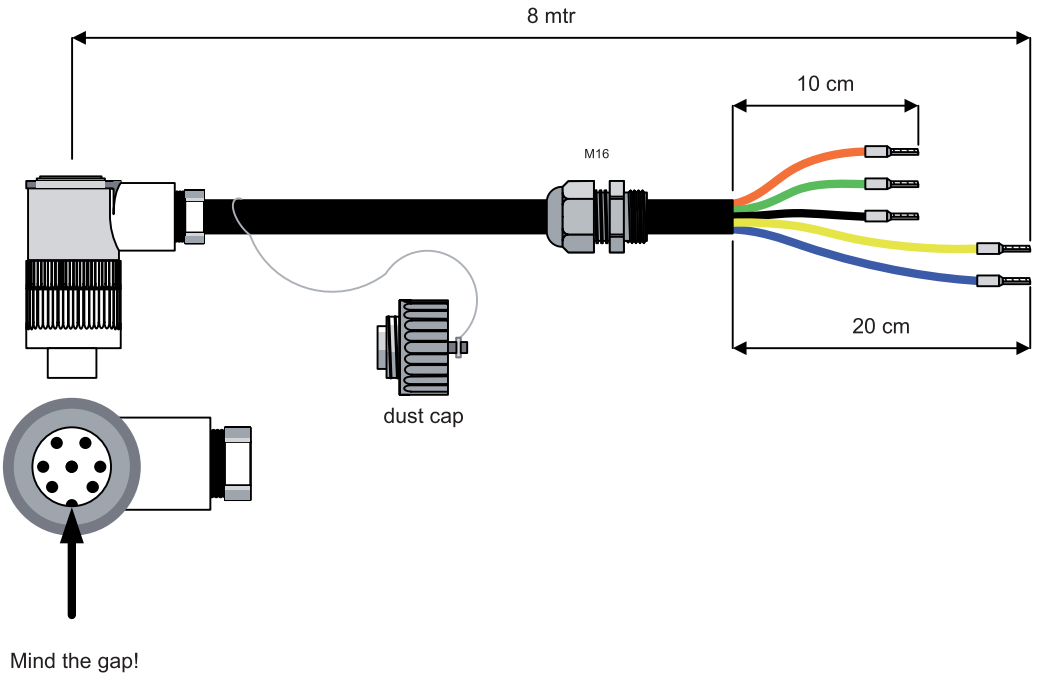
ESD **A03**

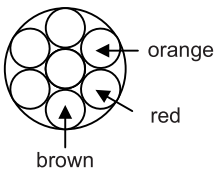



## "CONTROL UNIT" WIRING DIAGRAM AND DECALCOMANIA (ECU)

ESD **A04**

| LINKS | | | VERBINDING | | | RECHTS | |
|---|---|---|---|---|---|---|---|
| connector | pos | contact | kabel | kleur | lengte | contact | function |
| | 3 | | | orange | | | ON SW |
| | 4 | | | yellow | | | CAN H |
| | 5 | | | green | 8 mtr | | GND |
| | 6 | | | blue | | | CAN L |
| | 7 | | | black | | | PWR |

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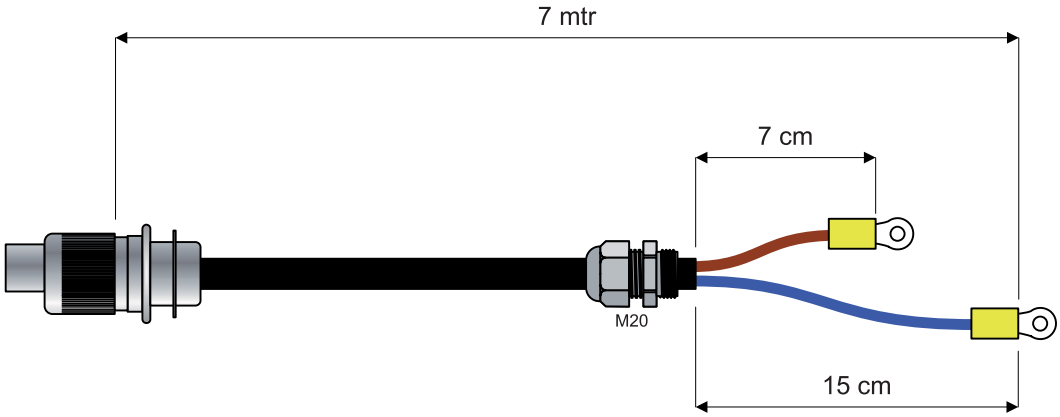
**CAN CABLE**

ESD **A05**

| LINKS | | | VERBINDING | | | RECHTS | |
|---|---|---|---|---|---|---|---|
| connector | pos | contact | kabel | kleur | lengte | contact | function |
| | + | soldeer | | brown | 7 mtr | | ACT PWR |
| | - | soldeer | | blue | | | ACT GRND |

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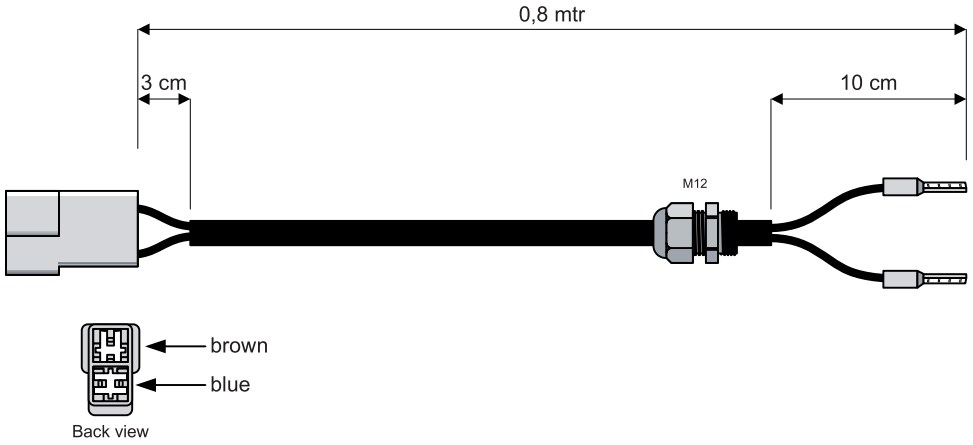
**SUPPLY CABLE**

ESD **A06**

| connector | contact | kabel | kleur | lengte | contact | function |
|---|---|---|---|---|---|---|
| | | | brown | 0,8 mtr | | power |
| | | | blue | | | ground |
| | | | | | | |

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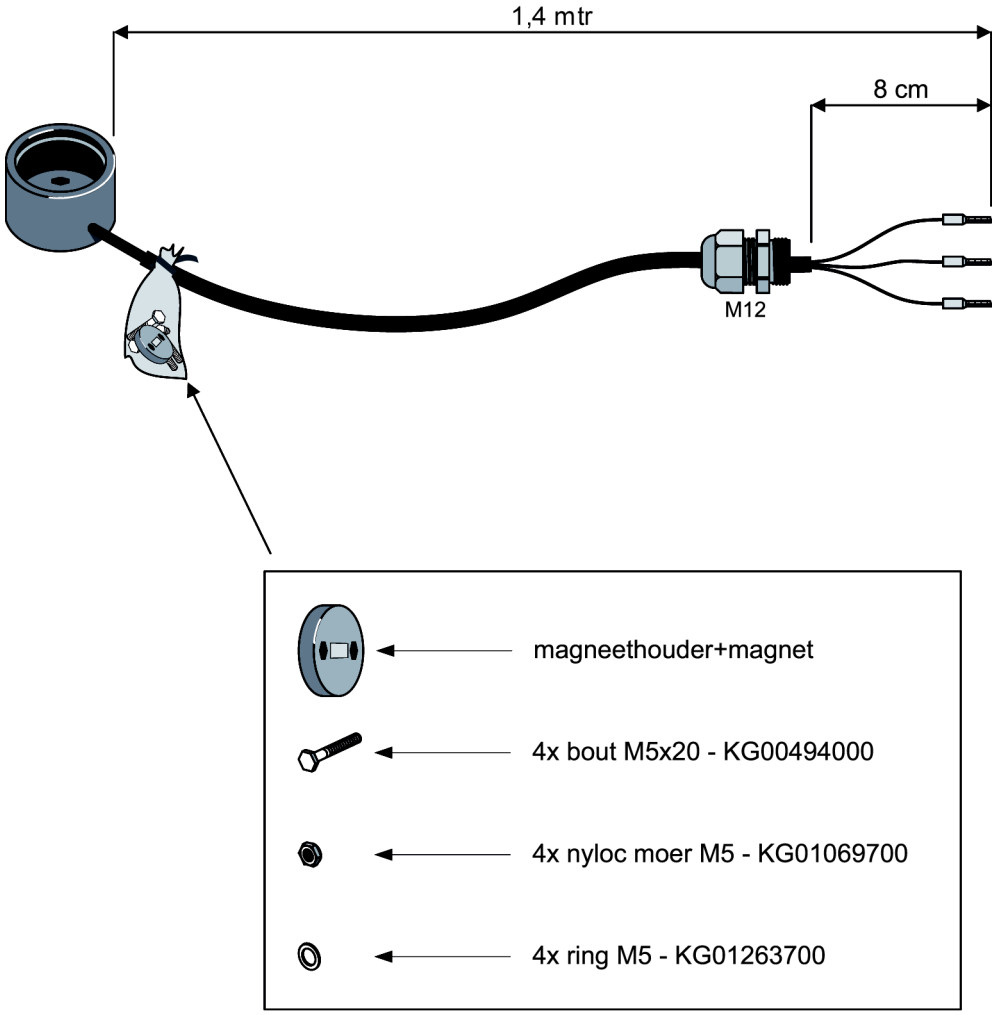
## ELECTRO-CLUTCH CABLE

ESD **A07**

| LINKS | VERBINDING | | | RECHTS | |
|---|---|---|---|---|---|
| sensor | kabel | kleur | lengte | contact | function |
| | kabel inkorten | brown | 1,4 mtr | | + |
| | | black | | | S |
| | | blue | | | - |

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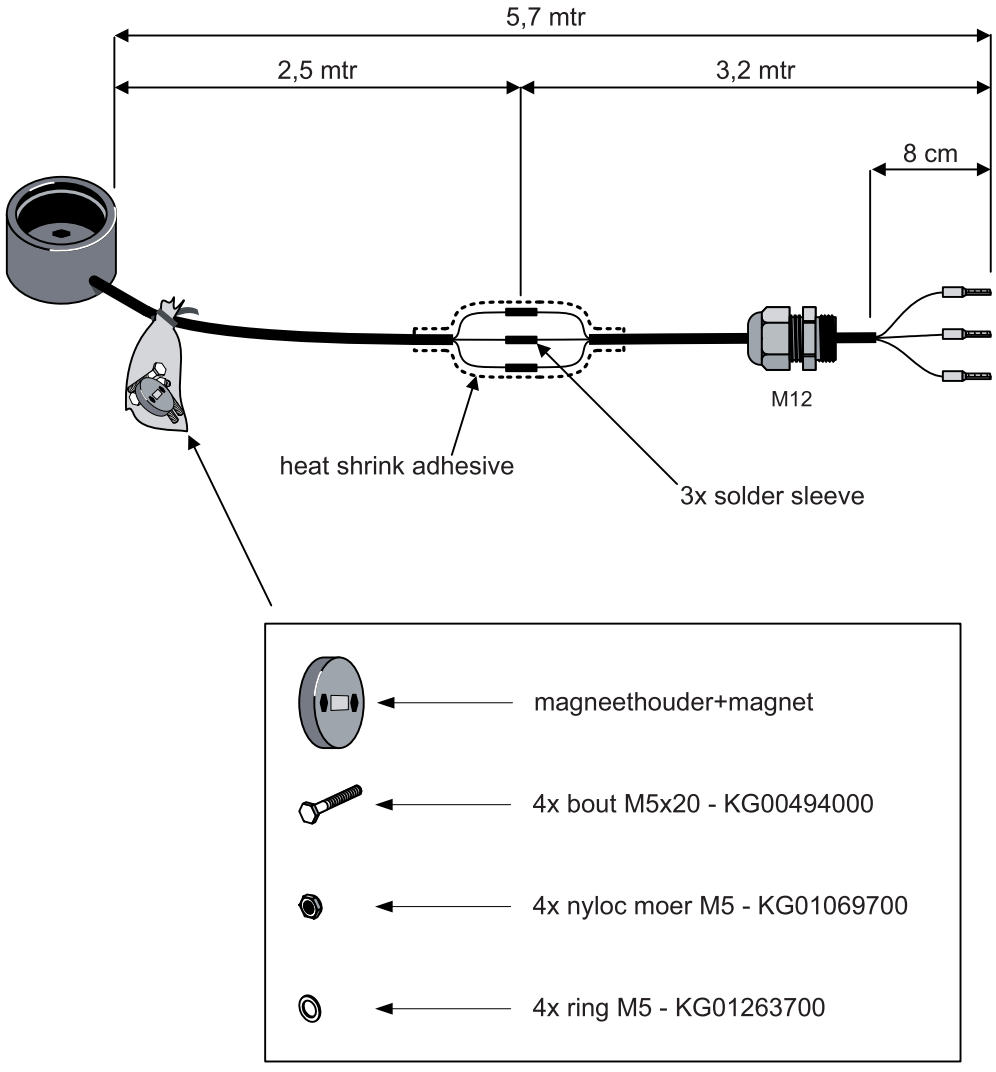
**BALE DENSITY/DIAMETER CABLE**

ESD **A08**

| | kabel A | | kabel B | | | | |
|---|---|---|---|---|---|---|---|
| sensor | lengte | kleur | kleur | lengte | kabel | contact | function |
| | 2,5 mtr kabel van de sensor | brown | brown | 3,2 mtr | | | + |
| | | black | black | | | | S |
| | | blue | blue | | | | - |

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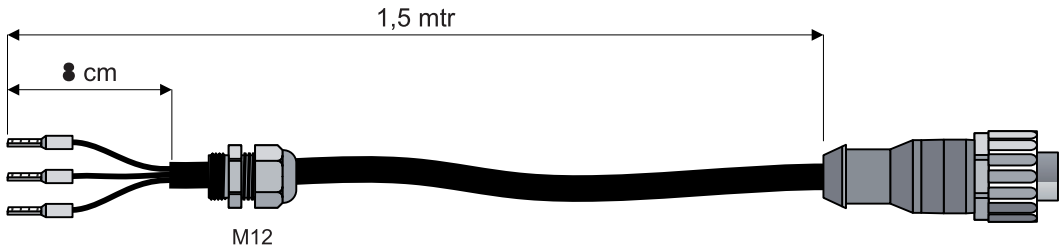
**DIRECTION INDICATOR CABLE**

ESD **A09**

| | kleur | lengte |
|---|---|---|
| power | brown | inkorten naar 1,5 mtr |
| S | black | |
| ground | blue | |

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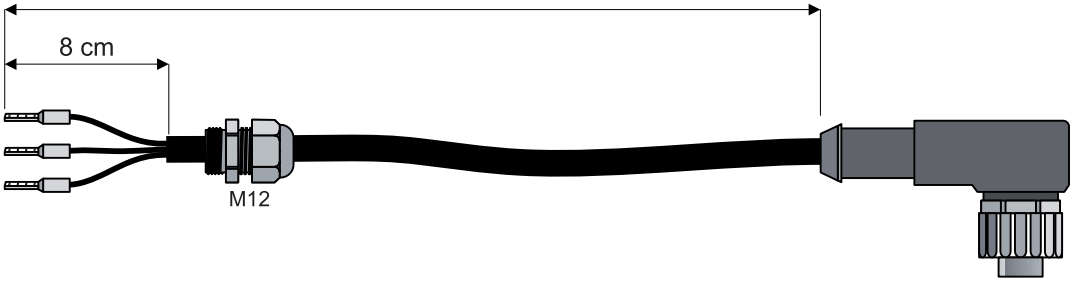
**SENSOR CABLE 0°**

ESD **A10**

| contact | kleur | lengte | sensor kabel | function |
|---|---|---|---|---|
| | brown | | | + |
| | black | | | S |
| | blue | | | - |



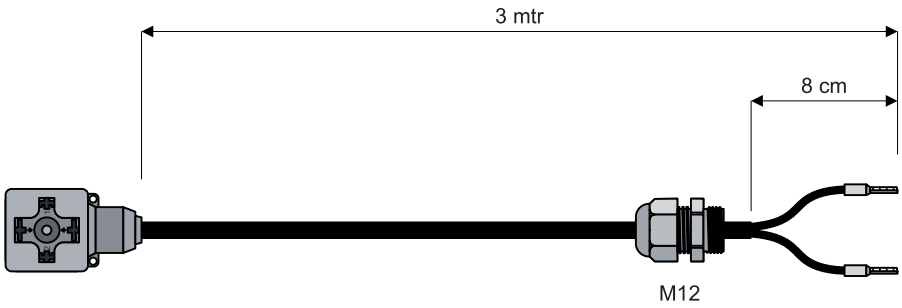

IDM-483001024/00.pdf

IDM 483-004-0 -

**SENSOR CABLE 90°**

ESD **A11**

| connector + kabel | nummer | lengte | contact | function |
|---|---|---|---|---|
| | 1 | 3 mtr | | |
| | 2 | | | |

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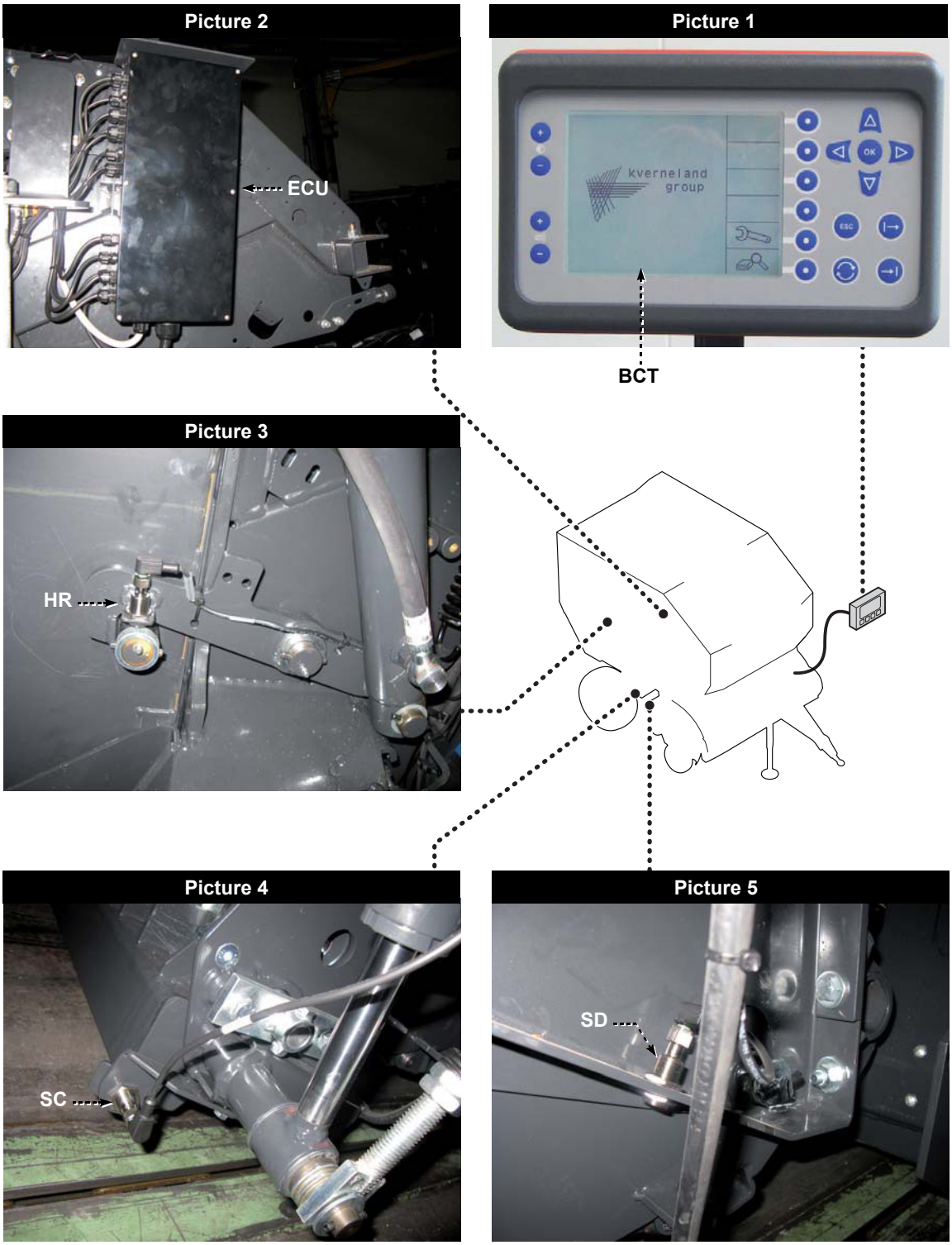
IDM 483-004-0 -

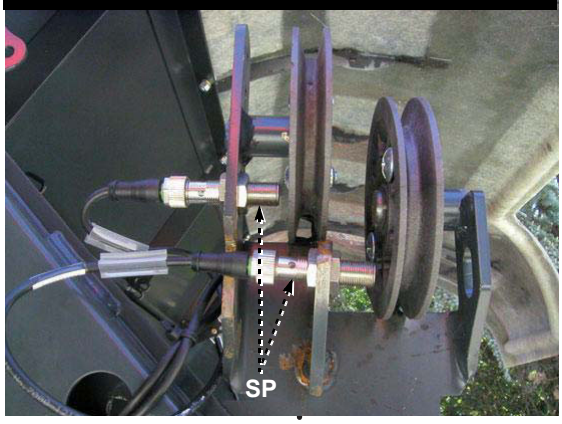
**SOLENOID VALVE CABLE**

ESD **A12**

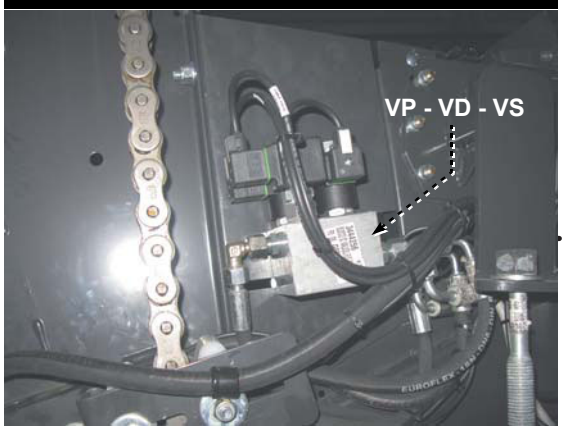

Picture 2
ECU
Picture 1
kverneland group
OK
ESC
BCT
Picture 3
HR
Picture 4
SC
Picture 5
SD
IDM-48300100400.pdf

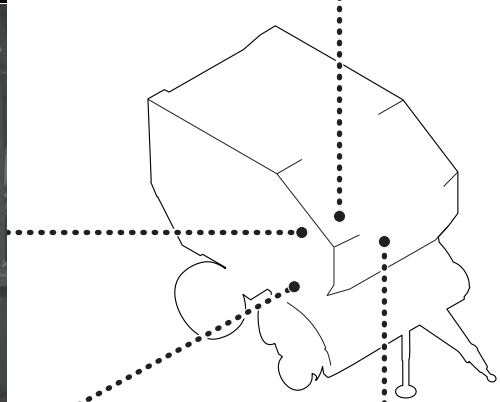
## PICTURE

Picture 6

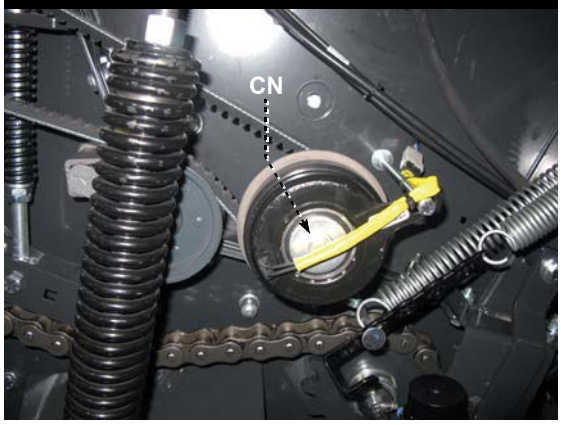



Picture 7

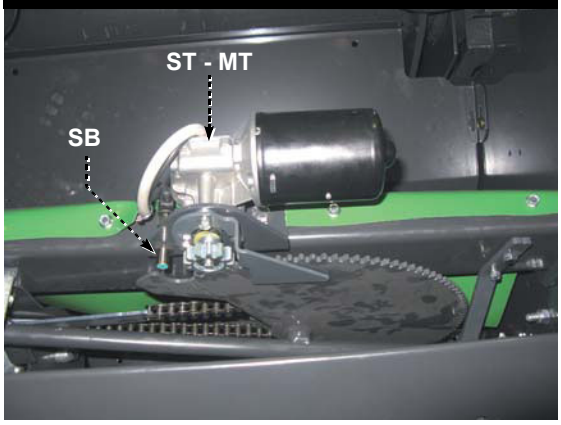


Picture 8




Picture 9

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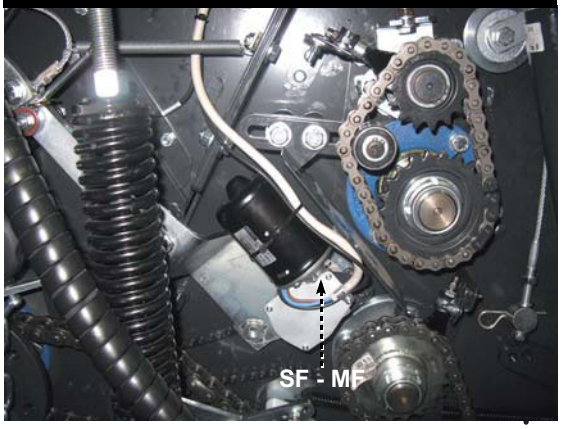
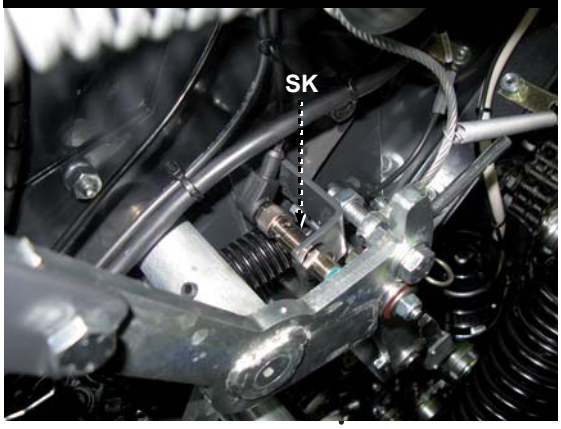
IDM 483-004-0 -

**PICTURE**

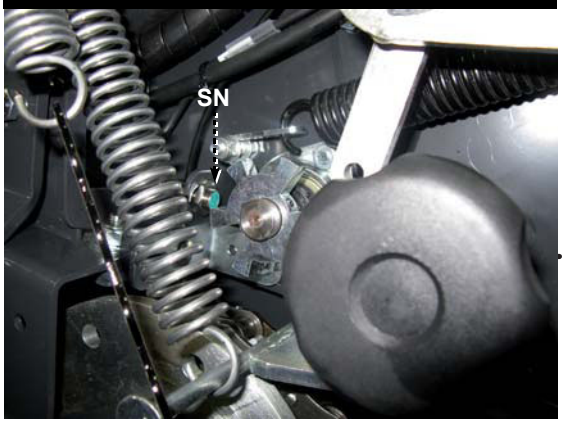
Picture 11

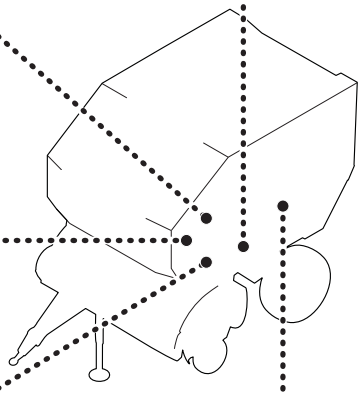



Picture 10

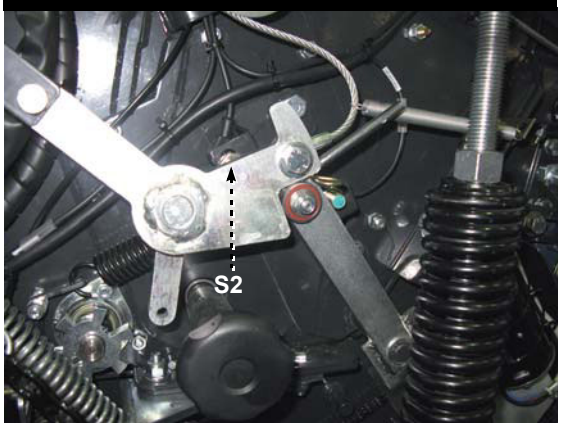



Picture 12



Picture 13




Picture 14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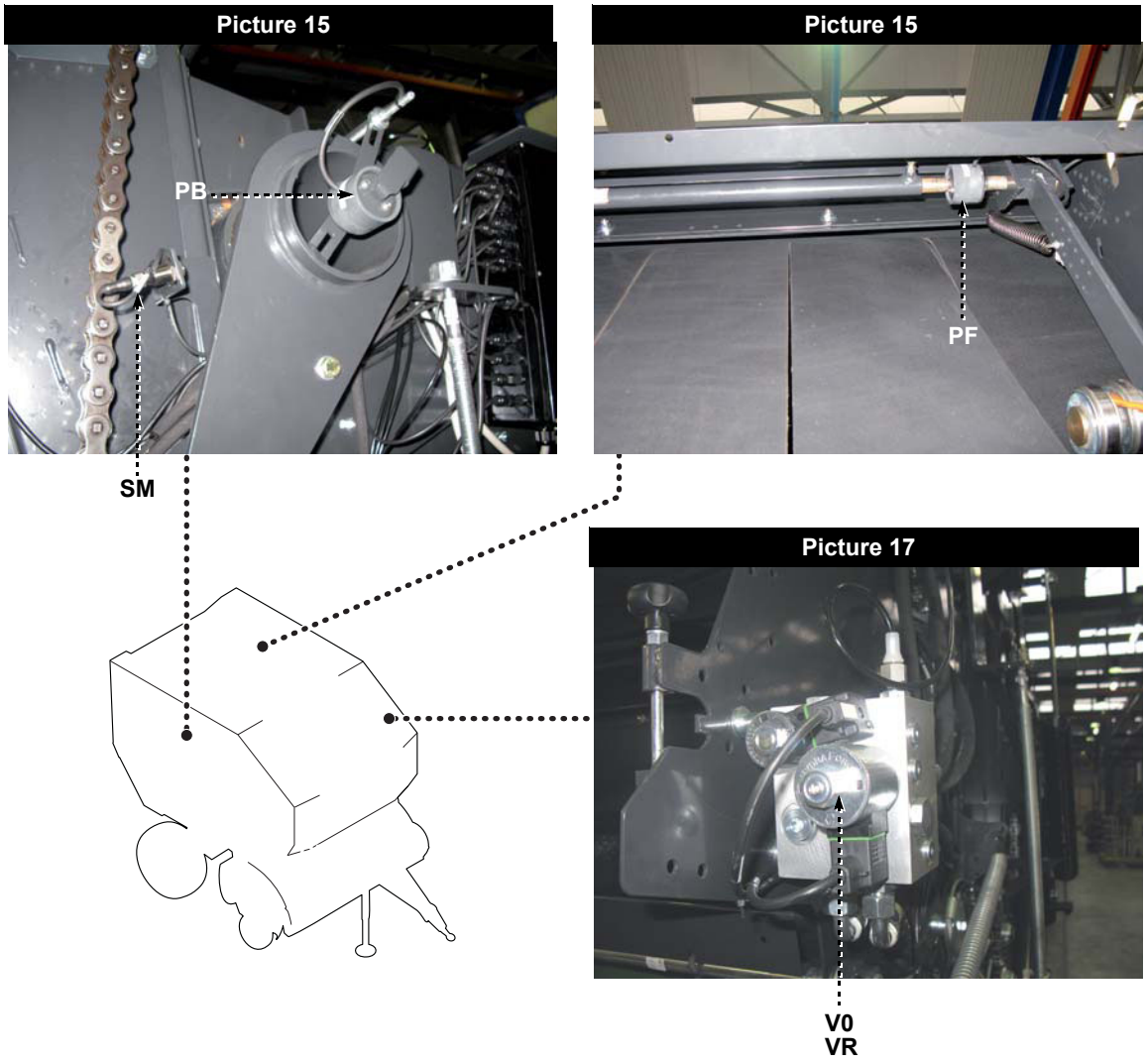
IDM 483-004-0 -

**PICTURE**


Picture 15
PB
SM
Picture 15
PF
Picture 17
V0
VR
IDM-48309401000.pdf

**PICTURE**

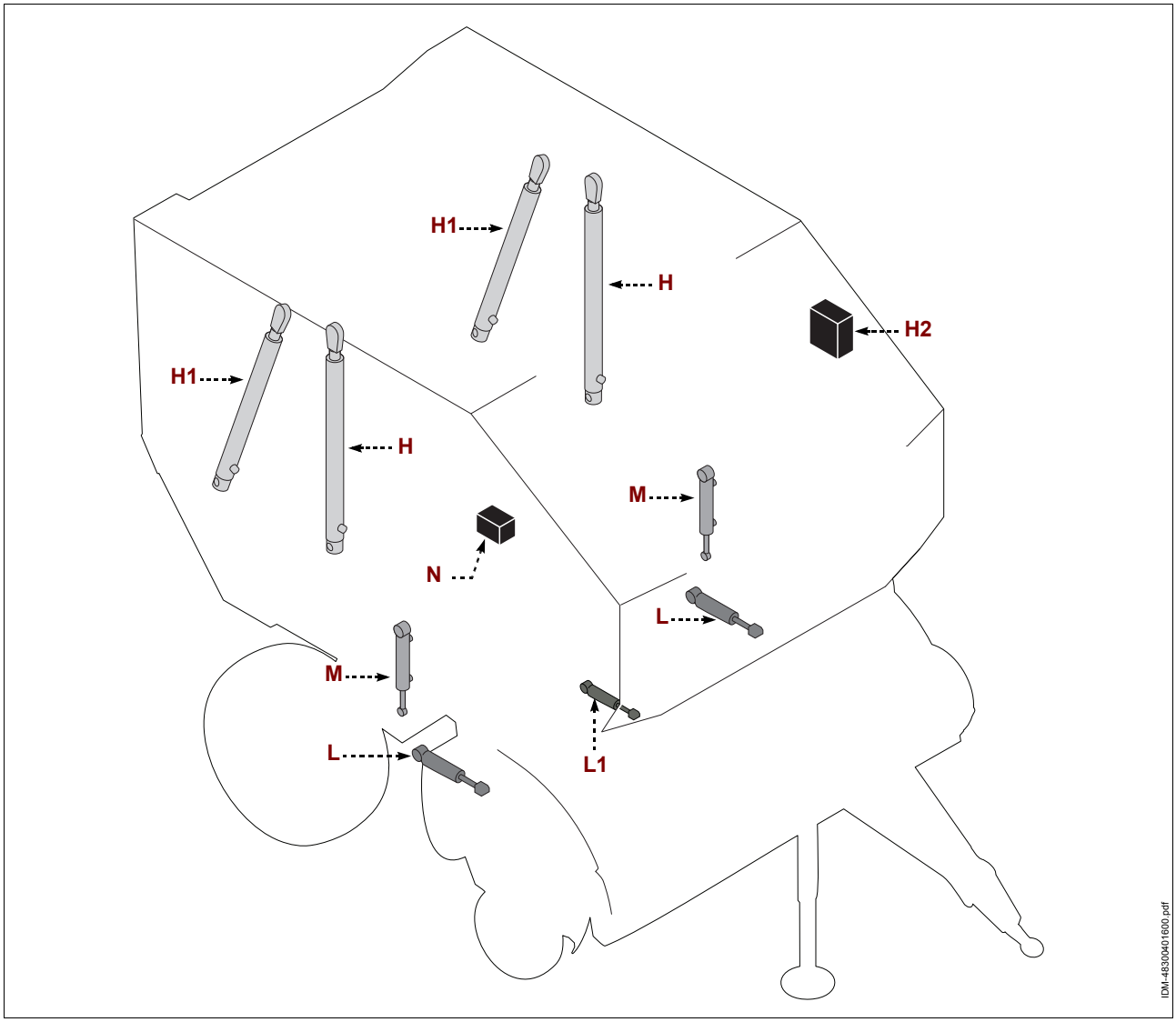



**Table 2:** hydraulic system index

| *Ref.* | *Tab.* | *Code* | *Name* |
|---|---|---|---|
| **L1** | HSD A01 | - | Hydraulic system diagram for machines with simple feeder and fixed pick-up |
| **L+M+N** | HSD A02 | - | Hydraulic system diagram of the machines with rotating feeder (with "Drop Floor") and fastened pick-up |
| **N** | HSD A03 | 3444248 | Rotor hydraulic unit with "Drop floor" |
| **H+H1+H2** | HSD A04 | - | Gate/bale density hydraulic system diagram |
| **H2** | HSD A05 | 3944256 | Hydraulic lock for tail gate/bale density |

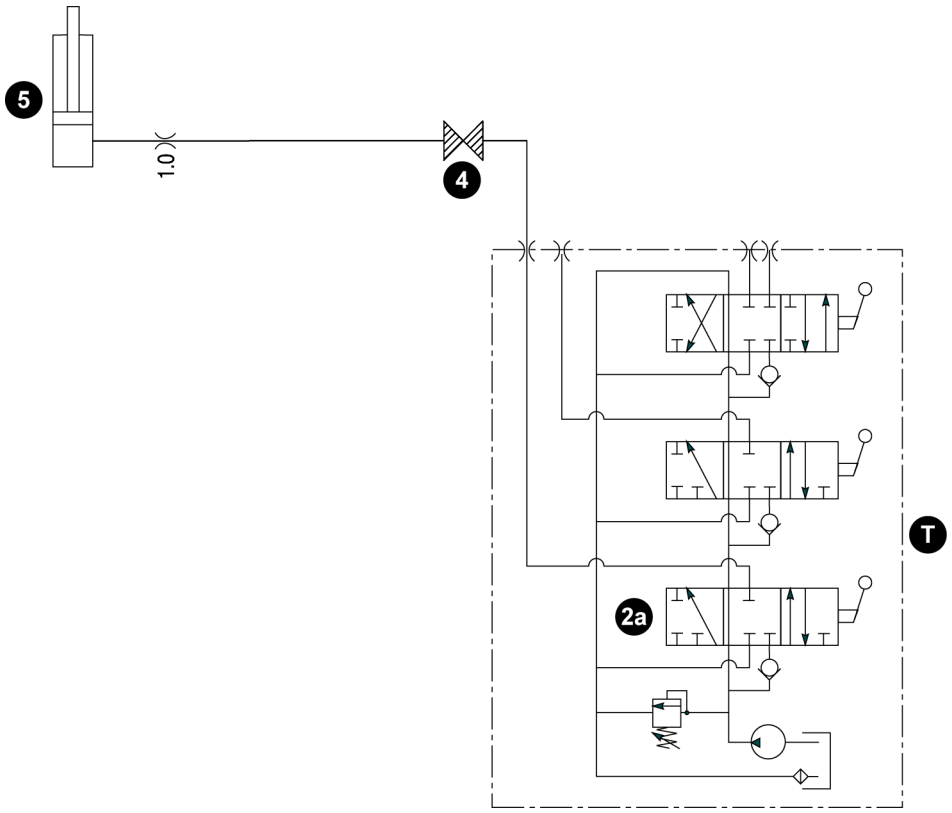
**Table 3:** components of the hydraulic system

| *Ref.* | *Technical specifications* | *Name* | *Reference to the table HSD A00* |
|---|---|---|---|
| **T** | | Tractor control valve | |
| **2a** | | Tractor single-acting control valve (pick-up) | |
| **4** | | Safety cock | |
| **5** | | Knife operating jacks | **L1** |

IDM 483-004-0 -

**HYDRAULIC SYSTEM DIAGRAM FOR MACHINES WITH SIMPLE FEEDER AND FIXED PICK-UP**

HSD **A01**

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IDM 483-004-0 -

HSD **A01**

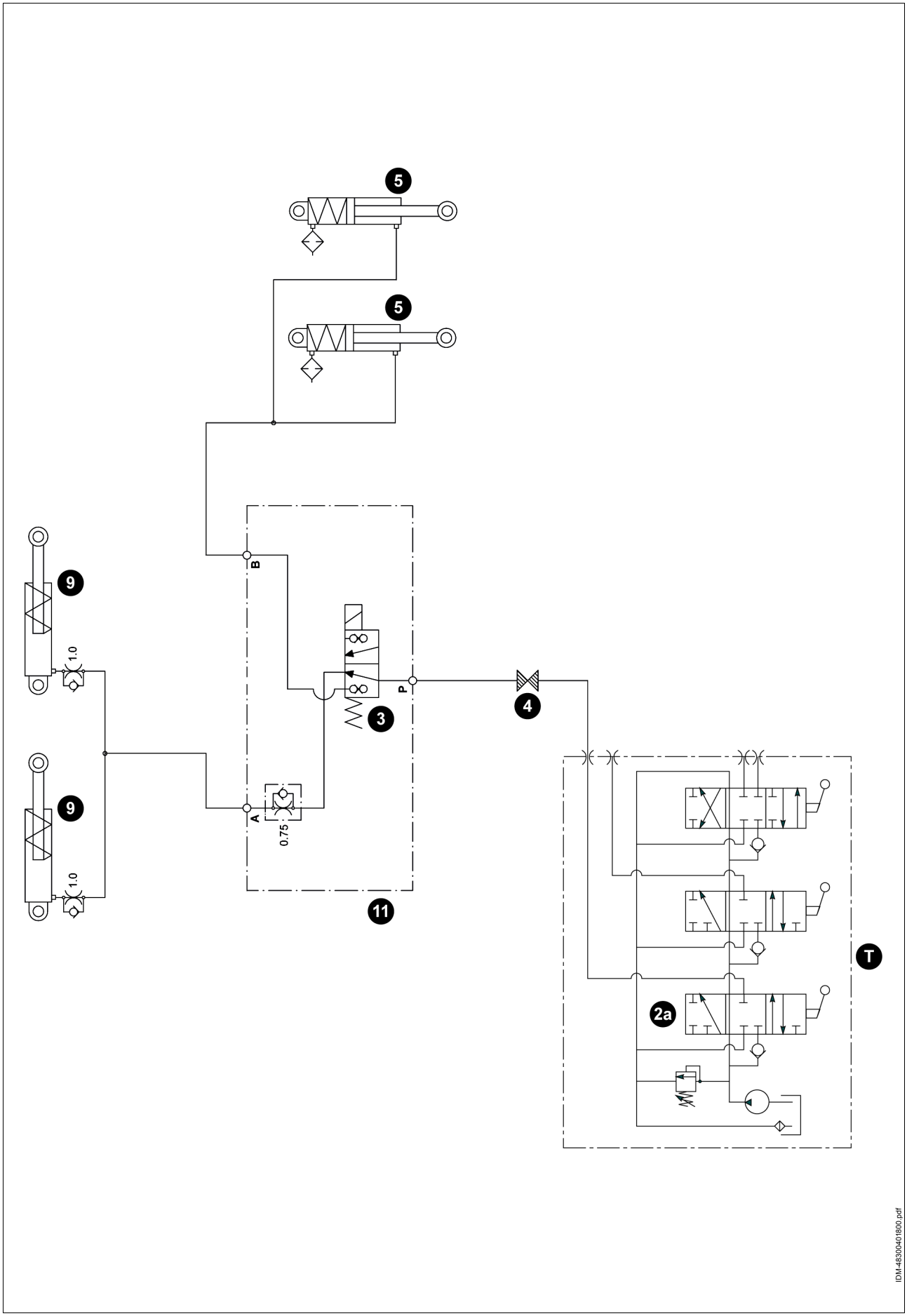
**Table 4:** components of the hydraulic system

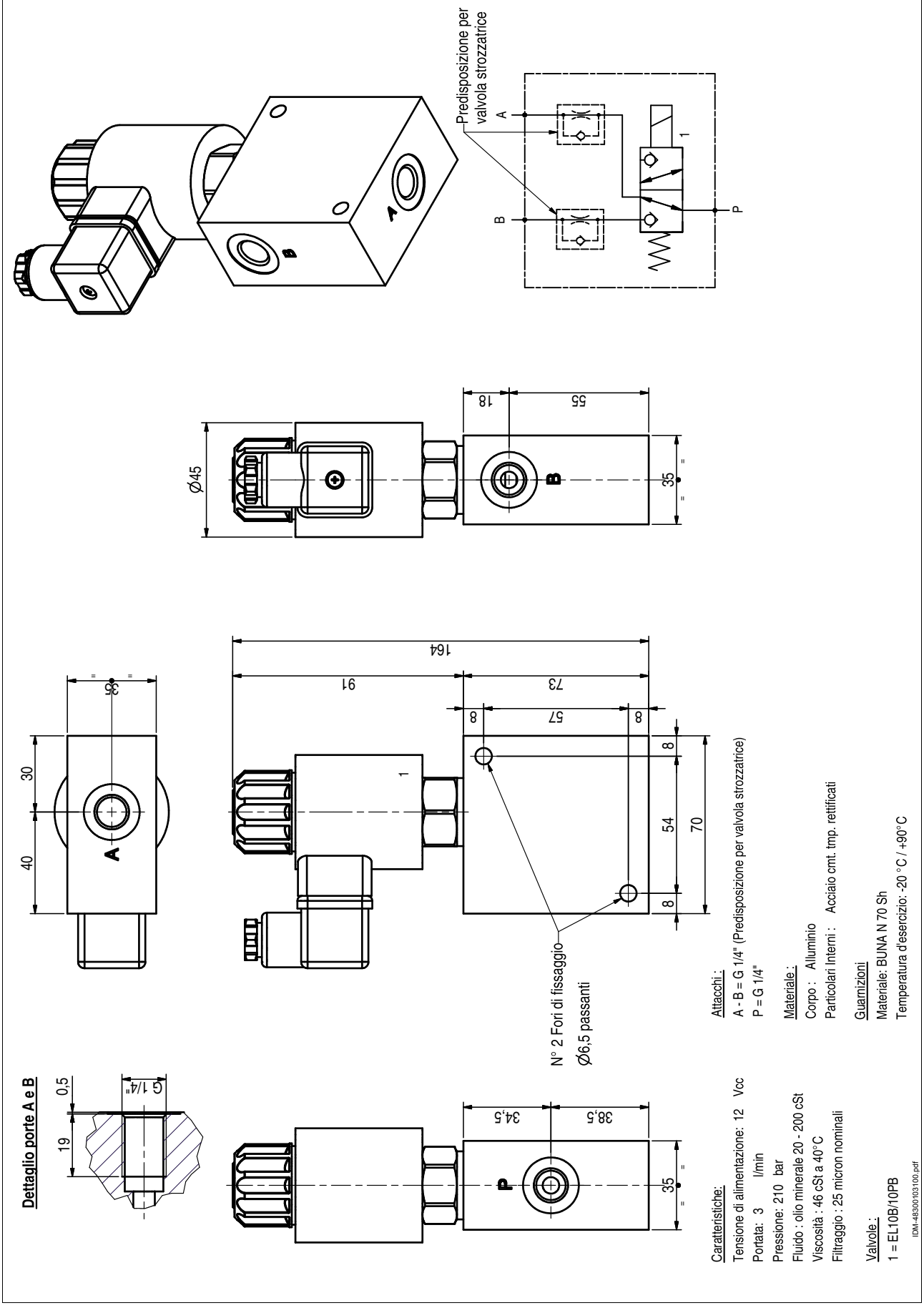
| *Ref.* | *Technical specifications* | *Name* | *Reference to the table HSD A00* |
|---|---|---|---|
| **T** | | Tractor control valve | |
| **2a** | | Tractor single-acting control valve (pick-up) | |
| **3** | | Pick-up solenoid valve | |
| **4** | | Safety cock | |
| **5** | | "Drop floor" actuating jacks | **M** |
| **9** | | Knife operating jacks | **L** |
| **11** | | Hydraulic lock (3444248) | **N** |

IDM 483-004-0 -

**HYDRAULIC SYSTEM DIAGRAM OF THE MACHINES WITH ROTATING FEEDER (WITH "DROP FLOOR") AND FASTENED PICK-UP**

HSD **A02**


5
5
9
1.0
9
1.0
B
A
0.75
P
3
4
11
T
2a
IDM-48300401800.pdf

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## ROTOR HYDRAULIC UNIT WITH "DROP FLOOR"

HSD **A03**

IDM 483-004-0 -

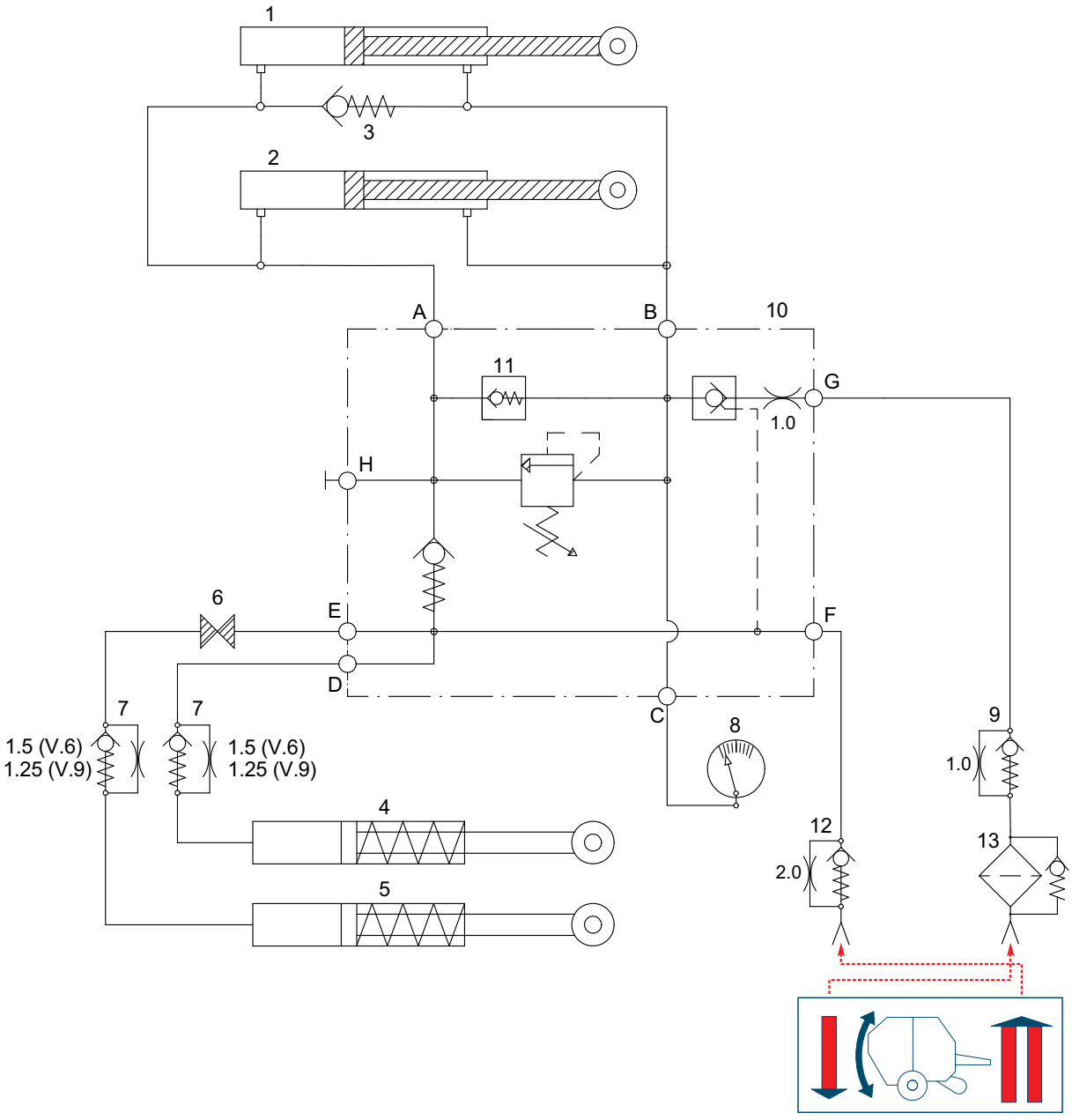
**Table 7:** components of the hydraulic system

| *Ref.* | *Technical specifications* | *Name* | *Reference to the table HSD A00* |
|---|---|---|---|
| **1** | | Bale density jack (right side) | **H1** |
| **2** | | Bale density jack (left side) | **H1** |
| **3** | | Single-acting stop valve | |
| **4** | | Gate jack (right side) | **H** |
| **5** | | Gate jack (left side) | **H** |
| **6** | | Safety cock | |
| **7** | 2,0 | Single-acting throttle valve | |
| **8** | | Pressure gauge | |
| **9** | 1,0 | Single-acting throttle valve | |
| **10** | | Hydraulic lock for tail gate/bale density | **H2** |
| **11** | | By-pass solenoid valve | |
| **12** | 2,5 | Single-acting throttle valve | |
| **13** | | Filter | |

IDM 483-004-0 -

**GATE/BALE DENSITY HYDRAULIC SYSTEM DIAGRAM**

HSD **A04**




Tractor: Double Effect
Hydraulic connection

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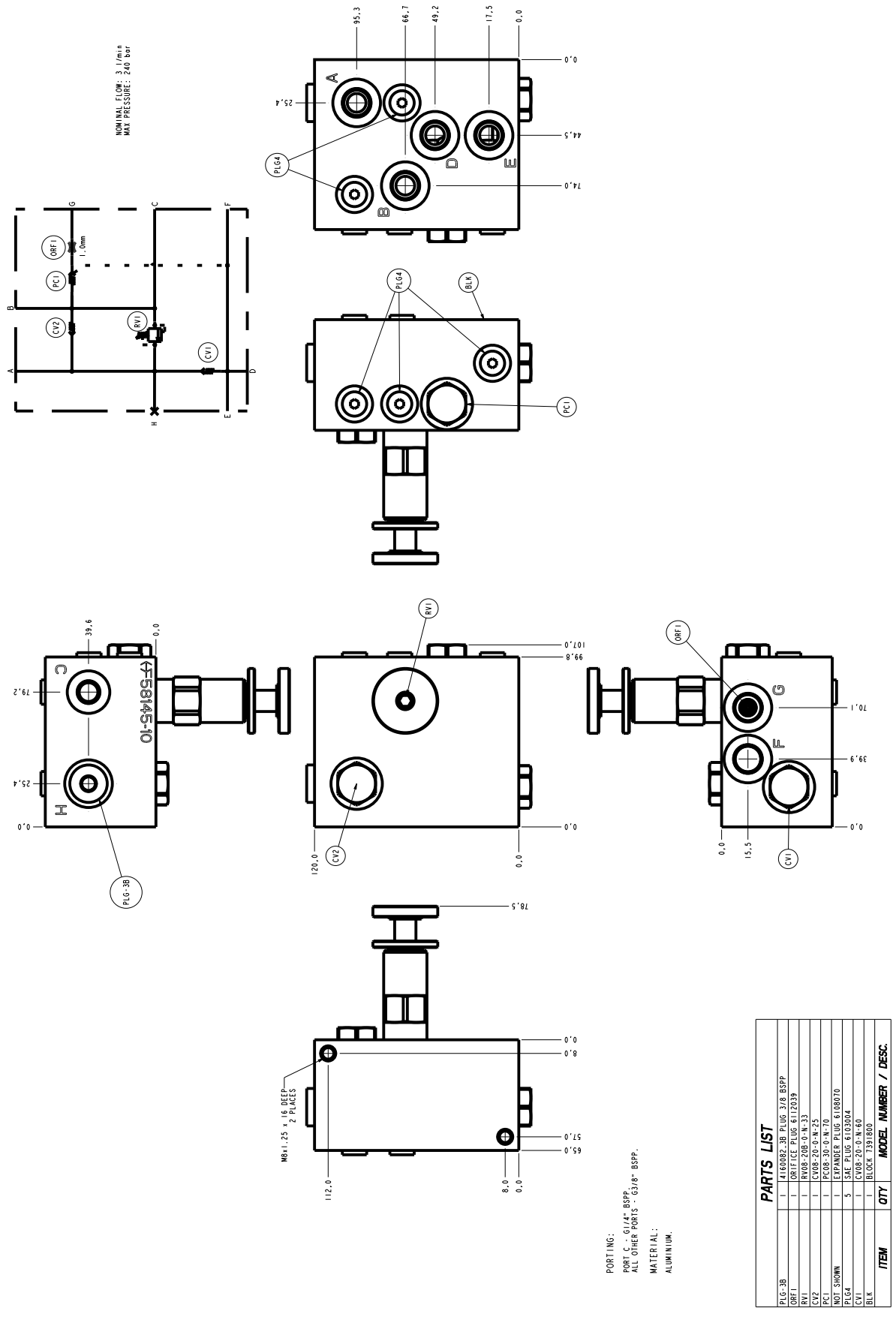
IDM 483-004-0 -

HSD **A04**




PORTING:
PORT C - G1/4" BSPP.
ALL OTHER PORTS - G3/8" BSPP.

MATERIAL:
ALUMINIUM.

**PARTS LIST**

| ITEM | QTY | MODEL NUMBER / DESC. |
|---|---|---|
| PLG-3B | 1 | 4160082-3B PLUG 3/8 BSPP |
| ORF1 | 1 | ORIFICE PLUG 6112039 |
| RV1 | 1 | RV08-20B-O-N-33 |
| CV2 | 1 | CV08-20-O-N-25 |
| PC1 | 1 | PC08-30-O-N-70 |
| NOT SHOWN | 1 | EXPANDER PLUG 6108070 |
| PLG4 | 5 | SAE PLUG 6103004 |
| CV1 | 1 | CV08-20-O-N-60 |
| BLK | 1 | BLOCK 7391800 |

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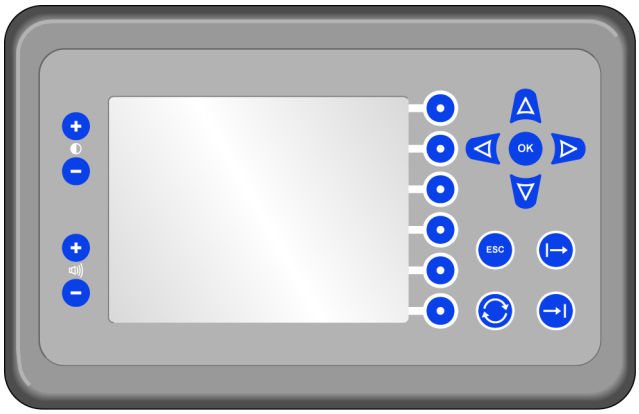
IDM 483-004-0 -

## TAIL GATE/BALE DENSITY HYDRAULIC CONTROL VALVE

HSD **A05**




# FOCUS

## Operation and maintenance manual

| | |
|---|---|
| Edition | 05/2011 |
| Printing date | xxx |
| Language | GB |
| Series | xxx |
| Serial number | xxx |
| Code | 9820D50GB |

# *FOCUS*

# ELECTRONIC CONTROL SYSTEM

**Keep this manual in a well-known and easily accessible place, in order to have it always at disposal when you need to read it.**

**The user and maintenance information, which is an integral part of agricultural machinery, MUST ALWAYS BE KEPT IN THE DRIVER'S SEAT of the tractor to which the machine is combined.**

***IMPORTANT: The text of the document is the translated version of the Italian manual (original language), identified by code number 9820D50IT***

C0483-0111-0.fm

| | |
|---|---|
| Cod. 9820D50GB | Ed. 04/2011 |
| I► n.XXXXXX | ►I |
| Per approvazione..... | |

IDM 483-011-0IX.fm

## PURPOSE OF THIS MANUAL

– This manual, which is an integral part of the equipment, has been implemented by the manufacturer to supply the information necessary to those who are trained and authorized to interact with it during its expected service life.

– The information contained in the manual must be completed with the one in the use and maintenance manual of the relating machine.

– As well as adopting good practices for use, the manual's intended readers must read it thoroughly and apply its instructions to the letter.

– All pieces of information are supplied in the Manufacturer's mother tongue (Italian) and they can be translated into other languages to meet trading and/or legislative needs.

– The translations in the language of the country of utilisation, provided by the manufacturer, have been carried out directly from the "ORIGINAL INSTRUCTIONS".
If the translations are realised by the mandatory agent or whoever issues the machine in the linguistic zone in consideration, they must carry out the translation starting from the original instructions and the following writing must be shown: "TRANSLATION FROM THE ORIGINAL INSTRUCTIONS".

– This information makes the operator aware of the need to take special care to avoid accidents. There is no substitute for caution. Safety is responsibility of all operators who use the machine during its operation life.

**Carefully read the instructions in the supplied manual and make sure you follow them thoroughly, above all those concerning safety.**

– Dedicate a bit of time to read the instructions to prevent unpleasant accidents. When an accident occurs, it is too late to remember that you had to behave differently.

**Keep this manual in a well-known and easily accessible place, in order to have it always at disposal when you need to read it.**

**To easily find out the specific topics of interest, read the table of contents and the index.**

– The manufacturer reserves the right to modify the manual without the duty to previously communicate it, provided that it does not compromise the health and the safety of operators.

– To highlight certain essential parts of the text and to indicate important specifications, several symbols have been adopted.

**Danger**
**Warning**

**Indicates extremely dangerous situations that, if disregarded, may seriously endanger the health and safety of persons.**

**Caution**
**Precaution**

**Indicates that suitable practices must be adopted to avoid the risk of injuries and damages.**

**Important**

**Indicates particularly important technical information that should not be disregarded**

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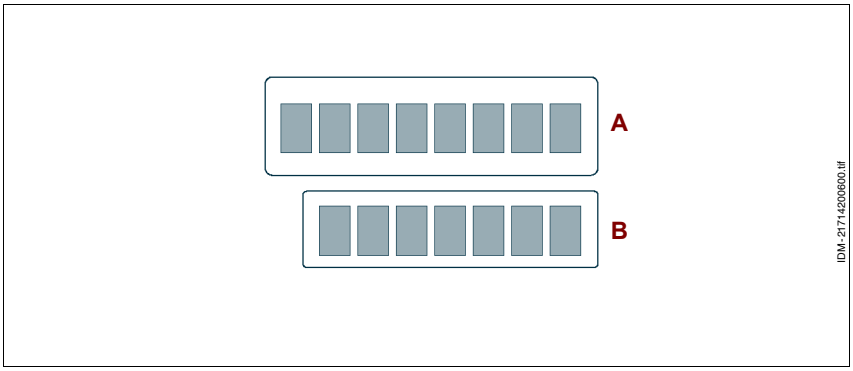
## EQUIPMENT IDENTIFICATION

The displayed identification plate is directly installed on the equipment. It specifies traceability instructions and references for the request of technical support.

**A)** Number and production lot

**B)** Equipment spare part code




## PROCEDURE TO REQUEST TECHNICAL ASSISTANCE.

In case of need, please apply to the manufacturer's Technical Assistance Service.
For each service request indicate the details carried on the identification plate, the approximate hours of use and type of defect found.

## TERMS AND DEFINITIONS

A few terms which are widely used in the manual are described below to better explain their meaning.

– **Operator:** person that has been selected and authorised among the personnel who have the qualifications, the competences and the knowledge that are necessary to drive the tractor to which the machine is coupled, and who are also capable of performing the production activity autonomously, as well as in an adequate, correct and riskless way.

– **Skilled technician:** a person authorised and chosen from those who have the requirements, skills and information necessary for handling (loading and unloading), installation, connection and precision adjustment operations of the equipment.

## SAFETY RULES

– In addition to being trained and informed on the how to use the machine, the operator must possess the necessary skills and expertise for the type of work to be carried out.

– All assembling and disassembling of the equipment from the operating machine must be carried out with the tractor turned off.

– The machine must be used only for the purposes provided for by the Manufacturer. An improper use of the machine can endanger people's safety and lead to economic losses.

– All the repair interventions must be performed exclusively by qualified personnel with certified experience, acquired in the specific intervention sector.

– To carry out tests on the output devices, which may cause sudden movements of dangerous parts, ensure that safety conditions are adequate for yourself and others in accordance with the laws in force on the subject of safety in the workplace.

## SAFETY RULES FOR THE ENVIRONMENTAL IMPACT

– The Waste of Electrical and Electronic Equipment may contain dangerous substances with potentially harmful effects on the environment and on people. It is recommended to correctly dispose them.

– When the machine is dismantled, select all components according to their chemical characteristics and collect them separately in compliance with the relevant laws.

– With reference to the WEEE directive (Waste of Electrical and Electronic Equipment), during dismantling, the user must separate the electrical and the electronic components and dispose them in the appropriate authorized collection centres or give them back as they are to the seller, when a new purchase is made.

All the components, which must be separated and disposed of in a specific manner, are marked with a special mark.

– The unauthorized disposal of Waste of Electrical and Electronic Equipment (WEEE) is subject to fine according to sanctions regulated by the laws in force in the territory where the infraction has been verified.

– As implementation of the European directives (2002/95/CE, 2002/96/CE, 2003/108/CE) in the Italian territory, for example, a law decree (n. 151 dated July 25 2005) has been enacted, thus providing for an administrative fine of 2000÷5000.

## GENERAL DESCRIPTION OF THE EQUIPMENT

– The electronic control system "FOCUS" was designed and manufactured to program and control the production activity of the reference machine.

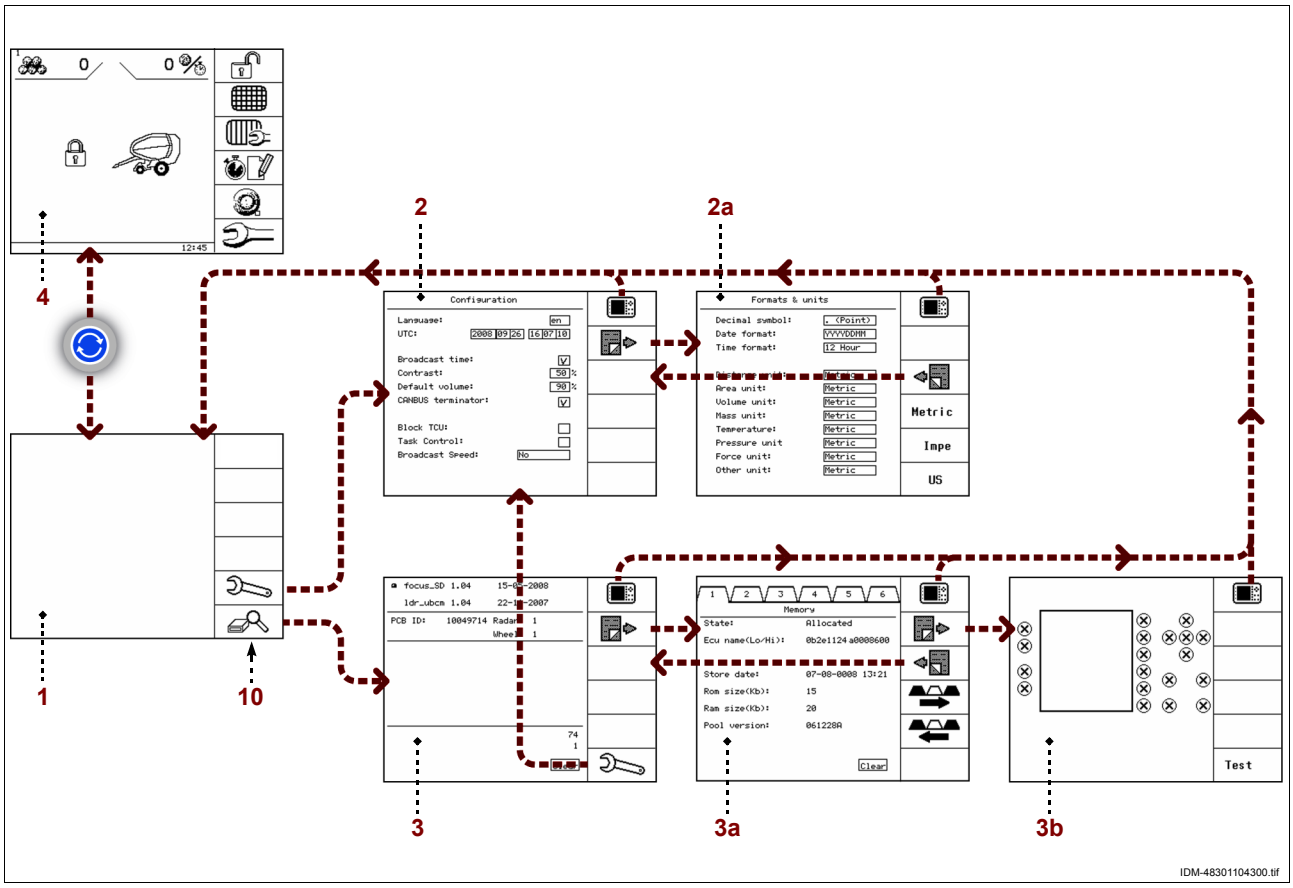
– This equipment must be properly installed in the driver's seat to be used by the driver, who must be adequately skilled to drive and use the machine in safe conditions.

**Description of the operating logic diagram**

The figure shows the screen pages that make up the operating terminal and the list includes the description of the functions that can be displayed and/or programmed.

Some screen pages of the operating logic diagram may appear in different displays.

In the screen pages that appear in different displays, the operating logic diagram is at the beginning of the paragraph.




**1) "Set-up" screen page**

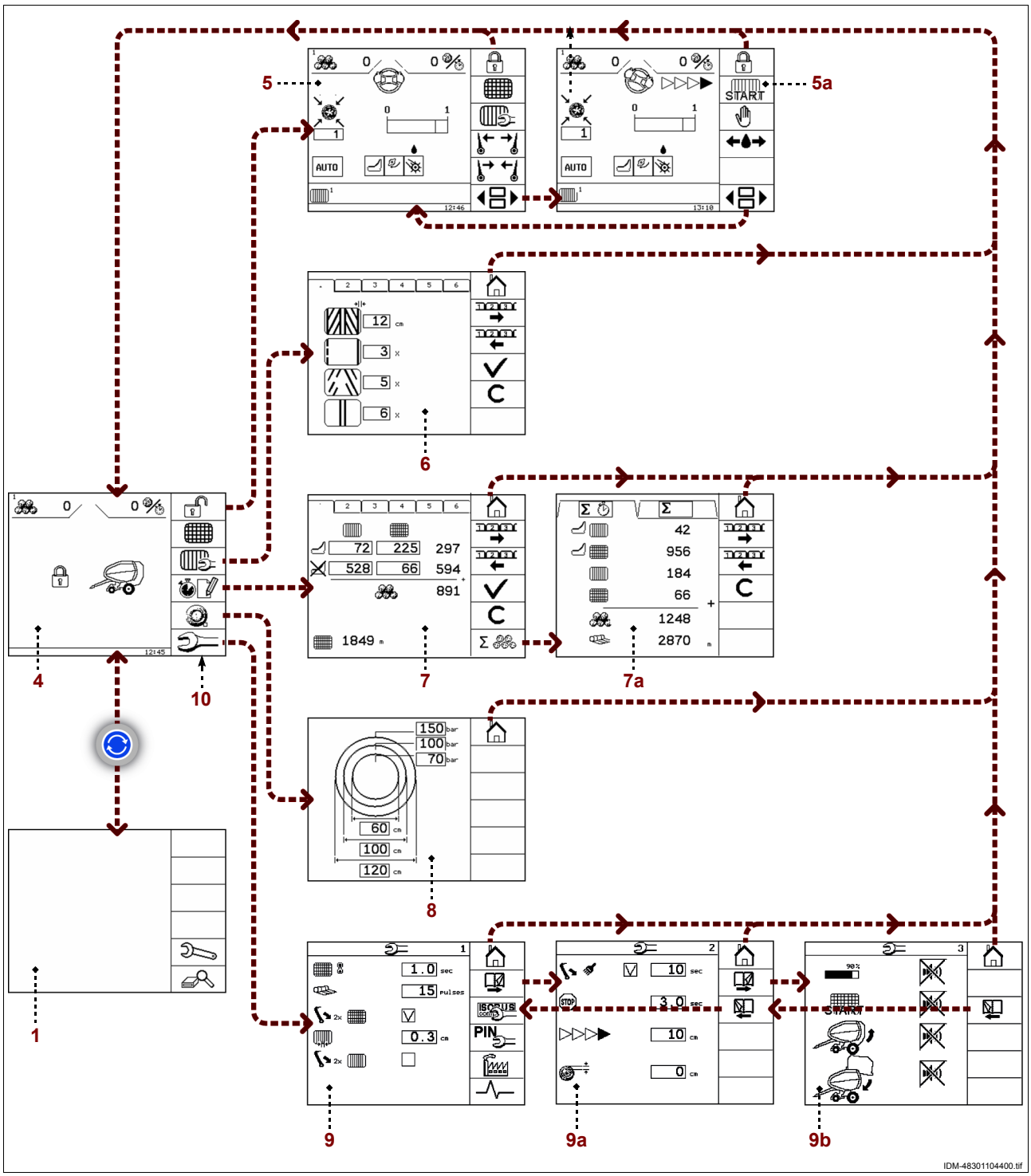
**2) "Configuration" screen page**

**2a) "Formats & units" screen page**

**3) "Troubleshooting" screen page**

**3a) "Memory" screen page**

**3b) "Test" screen page**




**4) "Lock Screen" screen page**
**5) "Work 1" screen page**
**5a) "Work 2" screen page**
**6) "Binding programmes" screen page**
**7) "Partial counter" screen page**
**7a) "Total counter" screen page**
**8) "Bale density" screen page**
**9) "Farmer 1" screen page**
**9a) "Farmer 2" screen page**
**9b) "Farmer 3" screen page**
**10) Control bar:** it is shown on all screen pages and it displays the active icons only.

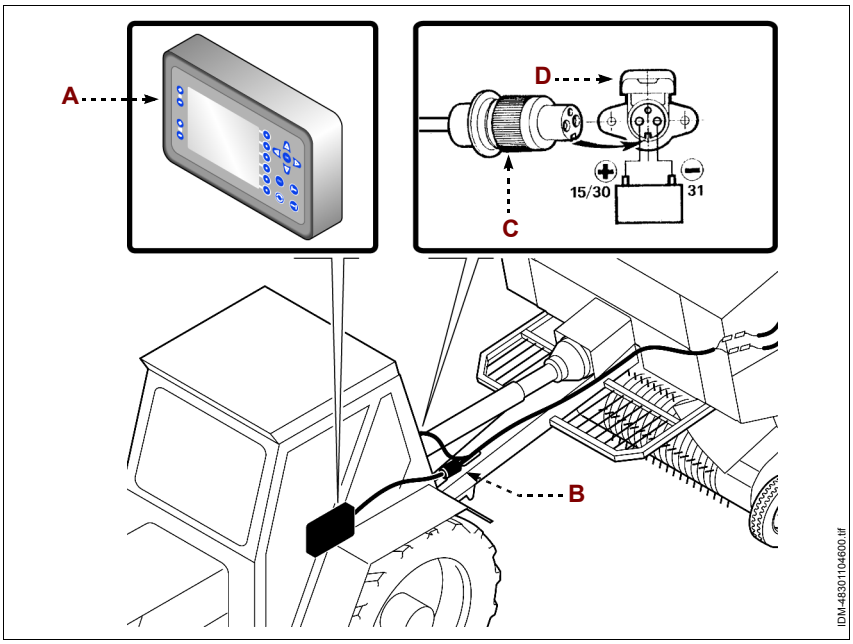
## TECHNICAL SPECIFICATIONS

**Table 1:** Technical data of equipment

| *Description* | *Unit of measurement* | *Value* |
|---|---|---|
| **Display** | | |
| Type | | LCD monochrome display |
| Size | mm (inch) | - |
| Display resolution | pixels | 320 x 240 |
| **Data transmission** | | |
| Serial type | | RS232 DB9 |
| CAN type | | CANBUS IN/OUT |
| **Technical specifications** | | |
| Size | mm | 250x160x70 |
| Weight | kg | 0,95 |
| Supply voltage | V | 9÷14 Vdc |
| Absorbed power | W | - |
| Protection degree (front) | | IP65 |
| Working temperature | °C | -10÷60 |
| Humidity (without condensate) | | 10÷90% |

## CONNECTING THE EQUIPMENT

To carry out this operation proceed as indicated.




- Install the equipment **(A)** on the special support inside the tractor cab.
- Run the cable from the tractor cab along the drawbar.
- Connect the equipment connector to the wiring **(B)** on the operating machine.
- This harness is supplied with a supply cable with a 3-pin plug **(C)** to be connected to the 3-pole socket **(D)** on the tractor, capable of providing up to 20 A of current to the equipment. Should it be lacking, the 3-pin socket supplied with the machine should be installed on the tractor. The + terminal of the 3-pin socket should be connected directly to the + pole of the battery through a cable having a section of at least 5 mm².

**Caution**
**Precaution**

**Check that the socket on the tractor is protected by a 20A fuse to prevent dangerous short circuits on the supply cable.**
**Make sure that the tractor wheels and the cardan shaft cannot damage the equipment cable.**

When the equipment is disconnected, close the wiring connectors with the special plugs supplied.

**Important**

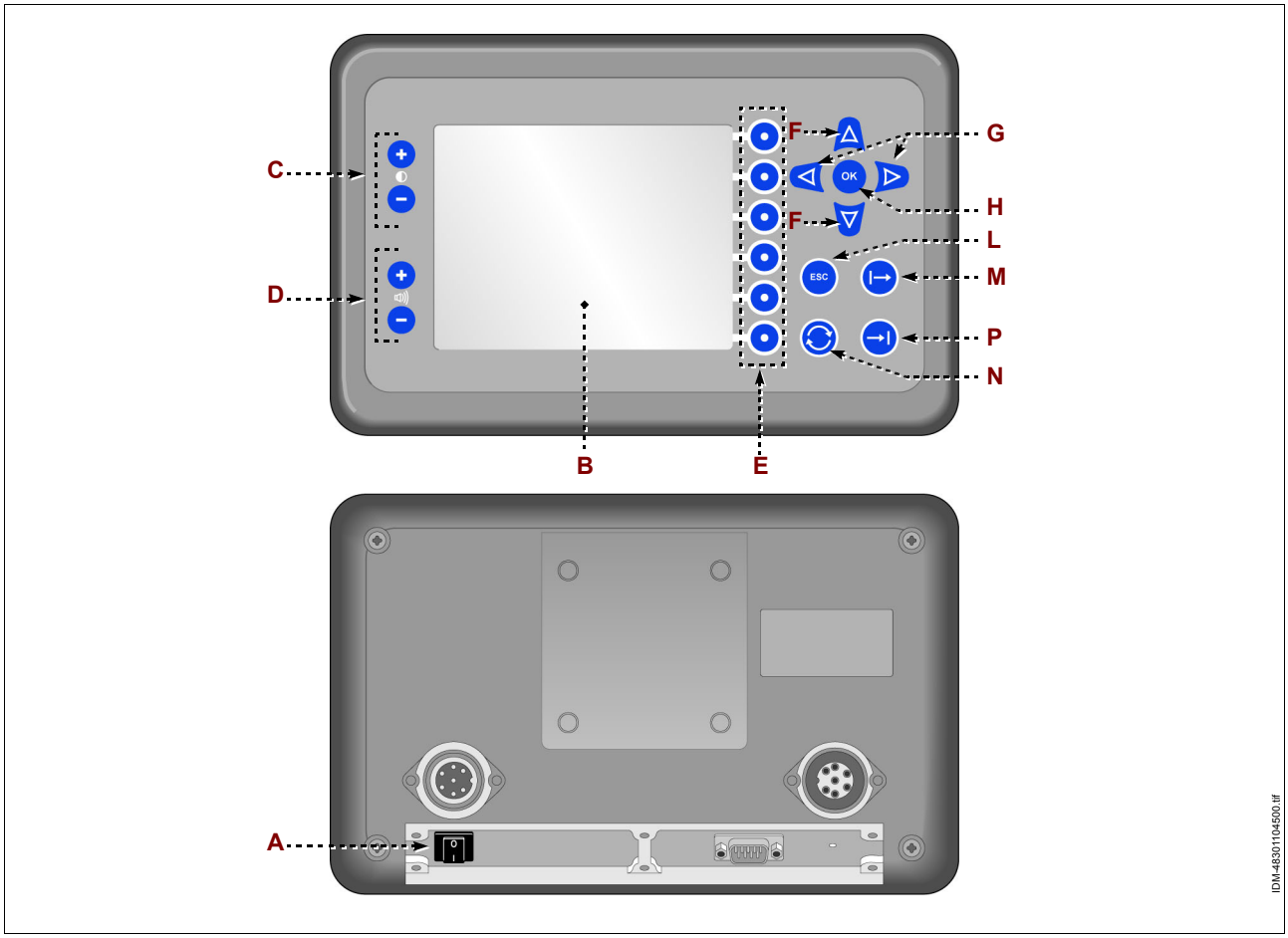
**Before starting work connect the plug to the socket on the tractor. Power must only be supplied to the machine as indicated.**

**Caution Precaution**

**Do not install non conforming fuses, do not modify the cables, and do not substitute plugs and sockets with others not similar to the original ones.**

## DESCRIPTION OF CONTROLS

The figure shows the equipment with the control devices.




The list specifies the main functions of each control and item in the equipment.

**A) Switch:** it is used to establish the operating conditions of the equipment.
- **Position 0:** the equipment is off.
- **Position 1:** the equipment is on.

**B) LCD display:** it displays the operating conditions of the production activity and the parameters that are necessary during programming operations.

**C) Buttons:** press them to regulate the contrast of display.

**D) Buttons:** press them to regulate the sound level of the acoustic signal.

**E) Buttons:** press them to activate the functions of "control bar".

**F) Buttons:** press them to programme the numeric value of the parameter and to choose among the available options programmed by the manufacturer.

**G) Buttons:** press them to select the previous or next programming area.

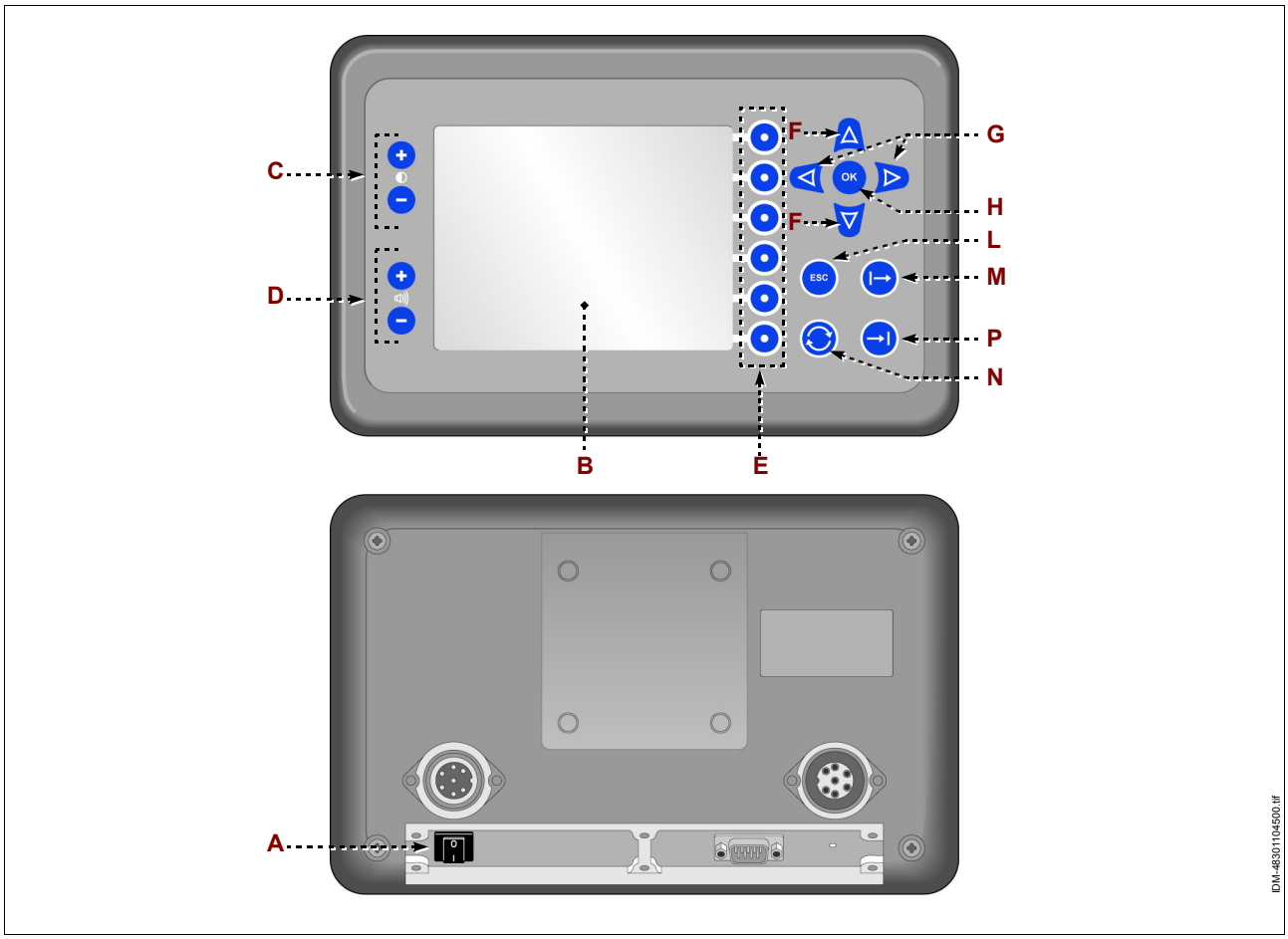
**H) "OK" button:** press it to save the programmed values and to confirm the alarm messages.

**L) "ESC" button:** press it to cancel the value modifications in programming area.

**M) Button not enabled:**

**N) Button:** press it to pass from the "Equipment set-up" screen pages to the "Equipment use" screen pages and vice versa.

**P) Button not enabled:**



## DESCRIPTION OF THE ICONS OF THE "CONTROL BAR"

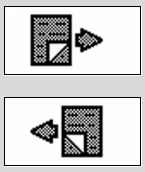
The list includes the description of the icons in the different screen pages.

**List of the "Set-up" screen page icons**

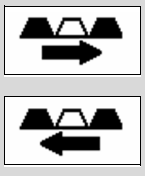
**Icon:** to display "Configuration" screen page.

**Icon:** to display " Troubleshooting" screen page.

**Icon:** to display "Set-up" screen page.



**Icons:** to display next or previous screen page.

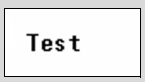


**Icons:** to display next or previous card.


**Icon:** to set the "Metric" system in all units of measurement.


**Icon:** to set the "Imperial" system in all units of measurement.


**Icon:** to set the "US" system in all units of measurement.



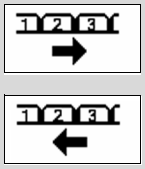

**Icon:** to activate and deactivate the "Test" mode of the equipment buttons.

**List of work screen page icons**

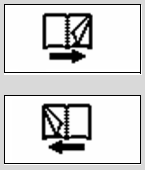
**Icon:** to display "Work screen page 1".

**Icon:** to display "Lock Screen" screen page.

**Icon:** to display "Lock Screen" screen page.



**Icons:** to display next or previous card.



**Icons:** to display next or previous screen page.

**Icon:** to display next screen page.

**Icon:** to enable twine binding.

**Icon:** to enable net binding.

**Icon:** to display "Binding programmes" screen page.

**Icon:** to reset the length counter of the net used in the binding phase.

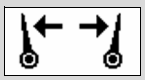

**Icon:** to start twine binding in "manual mode".


**Icon:** to start net binding in "manual mode".

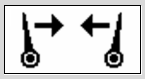
**Icon:** to display "Partial counter" screen page.

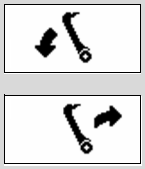
**Icon:** to display "Bale density" screen page.

**Icon:** to display "Farmer" screen page.

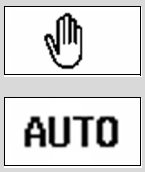


**Icons:** to activate the opening or closing of twine guide arms.

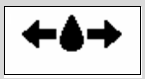




**Icons:** to activate the opening or closing of twine/net insertion devices.




**Icons:** to enable the machine operating modes.



**Icon:** to select the operating unit to be activated (Knives / Drop floor / Pick-up).

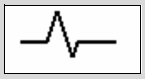
**Icon:** to save the production counters of the selected card.

**Icon:** to reset the production counters.

**Icon:** to display "Total counter" screen page.


**Icon:** to display "Dealer" screen page.

**Icon:** to display "Service" screen page.



**Icon:** to display " Troubleshooting" screen page.


**Icon:** to display "ISOBUS parameter set-up" screen page.

## DESCRIPTION OF THE SCREEN PAGE ICONS

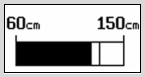
The list includes the description of the icons in the different screen pages.

**Icon:** to display the number of produced bales.

**Icon:** to display the number of produced bales in one hour.

**Icon:** to display the length of the used net.

**Icon:** to programme the bale diameter (only for machine with variable chamber).




**Graphic bar:** to display the bale diameter (only for machine with variable chamber).
The graphic bar shows the reference values (minimum, programmed and maximum value).

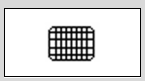
**Icon:** to programme the bale pressure (only for machine with fixed chamber).


**Graphic bar:** to display the bale pressure (only for machine with fixed chamber).
The graphic bar shows the reference values (minimum, programmed and maximum value).

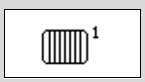
**Icon:** to display the selected operating unit (Knives / Drop floor / Pick-up).


**Icons:** to display the bale binding mode.

**Icon:** to display the driving information of the tractor to optimise bale pressing.
The higher the number of displayed arrows is, the higher the cell load unbalance of the baling chamber is.



**Icon:** to programme the number of binding turns of net binding.

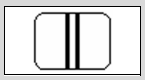



**Icon:** to display the number of the binding programme.

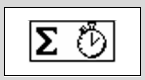
**Icon:** to programme the distance of external binding turns from the bale edge

**Icon:** to programme the number of external binding turns.

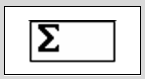
**Icon:** to programme the number of intermediate binding turns.



**Icon:** to programme the number of internal binding turns.

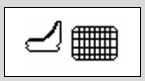


**Icon:** to display the daily production counter of the machine.



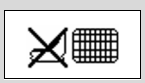
**Icon:** to display the total production counter of the machine.

**Icon:** to display the number of bales produced with twine binding and inserted knives.



**Icon:** to display the number of bales produced with net binding and inserted knives.

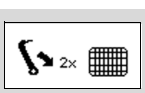
**Icon:** to display the number of bales produced with twine binding and removed knives.



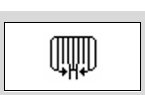
**Icon:** to display the number of bales produced with net binding and removed knives.

**Icon:** to programme the time between the end of bale pressing and the beginning of the net binding.

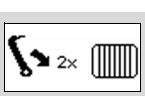
**Icon:** to programme the number of impulses in the net pre-injection phase.




**Icon:** to activate the second attempt of net insertion.



**Icon:** to programme the distance between the internal binding turns of twine binding.

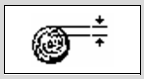



**Icon:** to activate the second attempt of twine insertion.

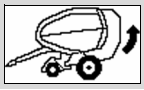
**Icon:** to activate and programme the interval between two cleaning cycles of the machine.


**Icon:** to programme the display time of the "stop" signal on display , at the beginning of the binding cycle.

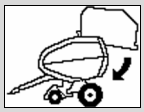
**Icon:** to programme the maximum difference between the diameters at the bale sides.



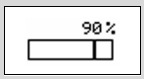
**Icon:** to programme the correction factor of the bale diameter (only for machine with variable chamber).



**Icon:** to activate or deactivate the acoustic signal during the tail gate opening.



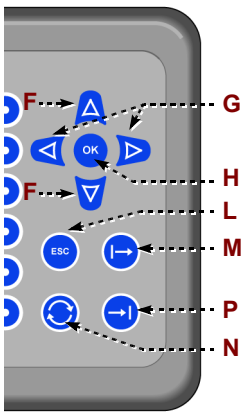
**Icon:** to activate or deactivate the acoustic signal during the tail gate closing.




**Icon:** to activate or deactivate the acoustic signal when reaching 90% of bale pressing.


**Icon:** to activate or deactivate the acoustic signal when starting the binding cycle.

## PARAMETER PROGRAMMING




Follow the instructions.

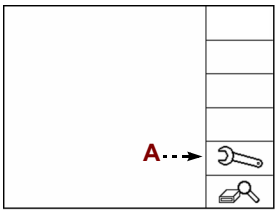
1. Check the desired screen pages (one at a time), on which programming or value change shall be carried out.
2. Press buttons **(G)** to select the values of operating parameters.
3. Press buttons **(F)** to change the parameter value.
   The value of parameter begins to blink.
4. Press button **(H)** to confirm the operation or press button **(L)** to cancel it.
   The value of parameter stops blinking and the cursor reaches the next programming area.
5. Repeat the operations described in points 2÷4 until all parameters on the screen page are programmed.

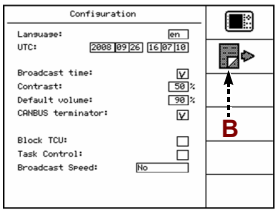
## EQUIPMENT CONFIGURATION AT THE FIRST SWITCHING ON

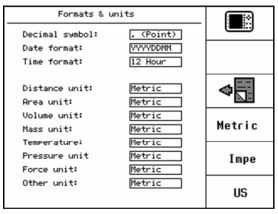
The general operating parameters of the equipment (language, date/ time, unit of measurement, etc.) are preset by the manufacturer in the equipment.

**Important**

**The language selected in these screen pages concerns the general set-ups of the equipment (unit of measurement, audio volume, etc.). The pages with the operating parameters of the machine can be displayed ONLY in English.**



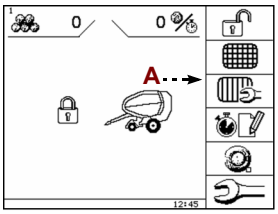



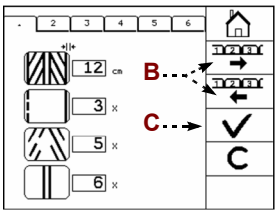




Follow the instructions.

1. Display "Set-up" screen page.
2. Press the push-button **(A)**.
3. Programme all parameters on screen page.
4. Press the push-button **(B)**.
5. Programme all parameters on screen page.
   The equipment is now ready to run.

## PROGRAMMING THE TWINE BINDING FEATURES



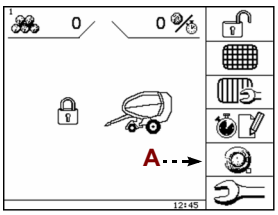



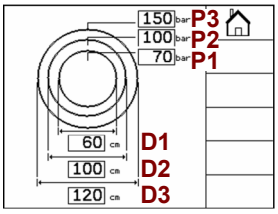

Follow the instructions.

1. Display "Lock screen" screen page.
2. Press the push-button **(A)**.
3. Press one of buttons **(B)** to display the desired binding programme.
4. Check and, if necessary, programme the parameters on screen page.
5. Press button **(C)** to activate the binding programme.
   The machine is ready to be started for production.

## PROGRAMMING THE BALE DENSITY

Bale density programming concerns only the machine version equipped with the variable chamber.




Follow the instructions.

1. Display "Lock screen" screen page.
2. Press the push-button **(A)**.
3. Programme all parameters on screen page.

**Set up bale diameters (D1-D2-D3) with a minimum difference of 20÷30 cm among the different values.**
**To activate the "soft core" function, set up the value "0" in area (P1) (Only for machines equipped with 0 bar valve).**
**The values assigned to (P1-P2-P3) represent the actual pressure of the hydraulic system for bale density, whose value is shown on the pressure gauge of the machine during work.**

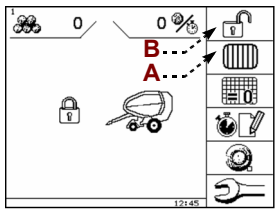
**Important**

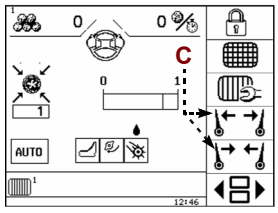
**Value (P1) shall not be higher than (P2).**
**Value (P2) shall not be higher than (P3).**

The machine is ready to be started for production.

## ACTIVATION OF BINDERS IN "MANUAL MODE"

### Activation of twine guide arms

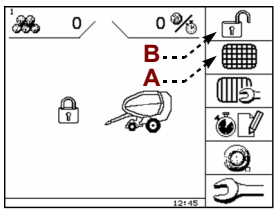


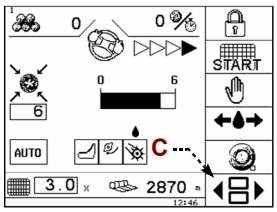



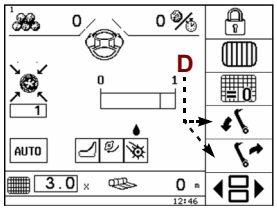

Follow the instructions.

1. Display "Lock screen" screen page.
2. Press the push-button **(A)**.
3. Press the push-button **(B)**.
4. Press buttons **(C)** to activate the opening or closing of twine guide arms.

### Activation of the twine/net insertion device



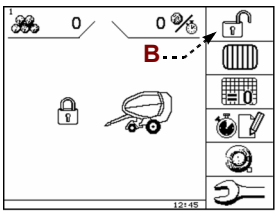



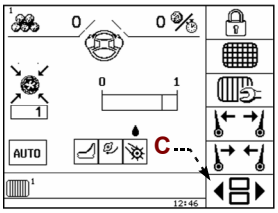



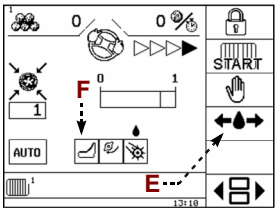

Follow the instructions.

1. Display "Lock screen" screen page.
2. Press the push-button **(A)**.
3. Press the push-button **(B)**.
4. Press the push-button **(C)**.
5. Press buttons **(D)** to activate the opening or closing of twine/net insertion devices.

## ACTIVATION OF OPERATING UNITS IN "MANUAL MODE"



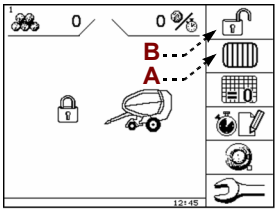



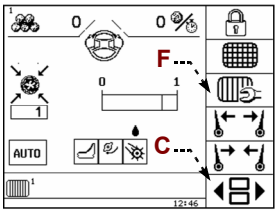

Follow the instructions.

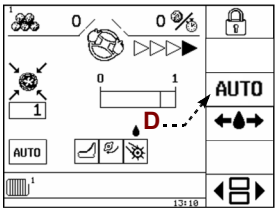
1. Display "Lock screen" screen page.
2. Press the push-button **(B)**.
3. Press the push-button **(C)**.
4. Press button **(E)** to select the desired operating unit in icon **(F)**.
5. Actuate the tractor hydraulic control valve lever and keep it in position in order to lift or lower the selected operating unit.

## BALE BINDING IN "AUTOMATIC MODE"

### Twine binding



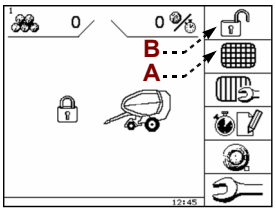

Follow the instructions.

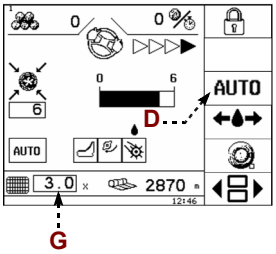
1. Display "Lock screen" screen page.
2. Press button **(A)** to activate twine binding.
3. Press the push-button **(B)**.
4. Press button **(F)** to activate the desired binding programme (See #CROSSREFTesto2#).
5. Press the push-button **(C)**.
6. Press the push-button **(D)**.

The machine is ready to be started for production.

**Bale binding will automatically start when reaching the set diameter (for machines with variable chamber) or the set density (for machines with fixed chamber).**

### Net binding




Follow the instructions.

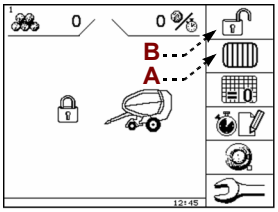
1. Display "Lock screen" screen page.
2. Press button **(A)** to activate net binding.
3. Press the push-button **(B)**.
4. Programme the number of net binding turns on field **(G)**.
5. Press the push-button **(D)**.

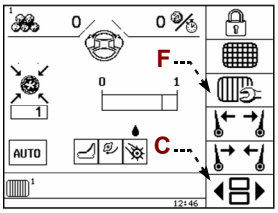
The machine is ready to be started for production.

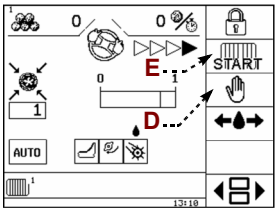
**Bale binding will automatically start when reaching the set diameter (for machines with variable chamber) or the set density (for machines with fixed chamber).**

## BALE BINDING IN "MANUAL MODE"

### Twine binding



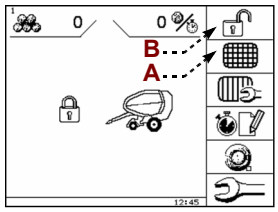



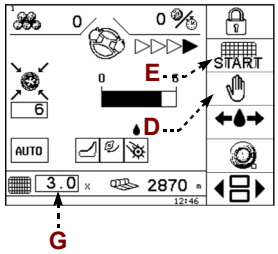




Follow the instructions.

1. Display "Lock screen" screen page.
2. Press button **(A)** to activate twine binding.
3. Press the push-button **(B)**.
4. Press button **(F)** to activate the desired binding programme (See #CROSSREFTesto2#).
5. Press the push-button **(C)**.
6. Press the push-button **(D)**.
7. When completing the bale, press button **(E)** to activate the binding phase.

### Net binding

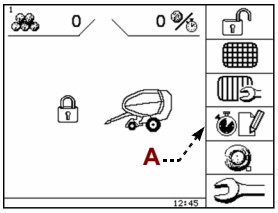


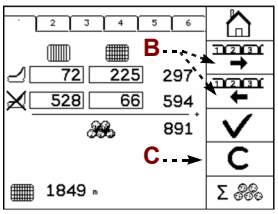




Follow the instructions.

1. Display "Lock screen" screen page.
2. Press button **(A)** to activate net binding.
3. Press the push-button **(B)**.
4. Programme the number of net binding turns on field **(G)**.
5. Press the push-button **(D)**.
6. When completing the bale, press button **(E)** to activate the binding phase.

## COUNTER RESET




Follow the instructions.

1. Display "Lock screen" screen page.
2. Press the push-button **(A)**.
3. Press one of buttons **(B)** to display the desired counter.
4. Press the push-button **(C)**.

## MAINTENANCE RECOMMENDATIONS

The equipment is not subject to any special maintenance other than normal cleaning, which should be done with a damp cloth.

**Important**

**Do not use liquid products or solvents in order not to damage the materials the equipment is made of.**

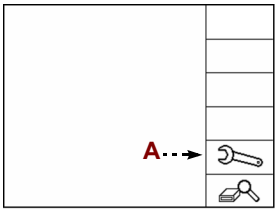
Care should also be taken to the following:

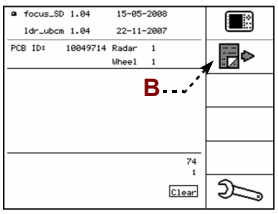
- Do not expose the equipment to driving rain or to high pressure water jet machines.
- Do not leave the equipment in damp areas or near sources of heat.
- Do not press the display with force and do not use pointed objects to press the push-buttons.
- Do not pull the power supply cable.
- During the winter or extended periods of inactivity keep the equipment in a dry area protected from atmospheric agents.

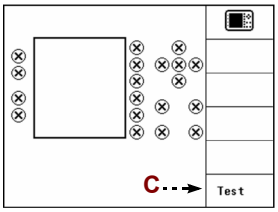
## DISMANTLING THE EQUIPMENT

Do not disperse non biodegradable products and non ferrous components (rubber, PVC, resin, etc.). into the environment. Dispose of them in full respect of the laws in force on the subject.

## EQUIPMENT OPERATION TROUBLESHOOTING




In case of a general trouble of the equipment, it is possible to check whether it is caused by the button operation.
Follow the instructions.

1. Display "Set-up" screen page.
2. Press the push-button **(A)**.
3. Press button **(B)** twice.
   The screen page displays the equipment layout
4. Press the push-button **(C)**.
5. Press the buttons of equipment (one at a time) and check whether the corresponding icon is activated on the screen page.

**In case of a trouble, refer to the assistance centre authorised by the manufacturer.**

6. Press the push-button **(C)**.
   The equipment is now ready to run.

## TROUBLES, CAUSES, REMEDIES

Any time that an irregularity about machine operation occurs, an acoustic signal turns on and the display shows an alarm message.
Some failures may be resolved by the user; others require precise technical skills or special abilities and must be exclusively resolved by qualified personnel with certified experience, achieved in the specific intervention field.
If malfunctions not included in the chart occur, the user may inform the manufacturer about them so to actively help in developing new solutions and technical and implementation improvements.
In case of need, please apply to the manufacturer's Technical Assistance Service or to an authorised workshop.
The chart lists the messages about possible irregularities, which can occur during the operation, as well as the solutions to remedy them.

**Table 1:** Operation failures

| *n°* | *Alarm description* | *Cause* | *Cure* |
|---|---|---|---|
| **E1** | Net operation operating | The net has not been cut properly or it is dragged by the bale. | Restore the proper operation of the net binder unit. |
| | | The net forward potentiometer is not properly regulated. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **E2** | Net feeding NOT operating | The net is broken or jammed. | Restore the proper operation of the net binder unit. |
| | | The net forward potentiometer is not properly regulated. | Contact the Technical Assistance Centre that is authorised by the manufacturer |

**Table 1:** Operation failures

| *n°* | *Alarm description* | *Cause* | *Cure* |
|---|---|---|---|
| **E3** | Twine feeding operating | The twine has not been cut properly or it is dragged by the bale. | Restore the proper operation of the twine binder unit. |
| | | The twine forward potentiometers are not properly regulated. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **E4** | Twine feeding NOT operating | The twine is broken or jammed. | Restore the proper operation of the twine binder unit. |
| | | The twine forward potentiometers are not properly regulated. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **E5** | Trouble of the twine binder unit motor | Electric motor faulty | Replace the faulty motor or remove the mechanical jams |
| | | The electric motor has a too high power absorption | |
| **E6** | Trouble of net/twine insertion device motor | Electric motor faulty | Replace the faulty motor or remove the mechanical jams |
| | | The electric motor has a too high power absorption | |
| **E7** | Net cutting knife operating | The net cutting knife does not function properly. | Check the proper operation of the net cutting knife. When confirming the alarm message, the twine/net insertion devices return to the rest position in order to allow the knife reset. |
| **E8** | Net NOT cut | At the end of the binding operation, the net is not cut. | Check the proper operation of the net cutting knife. |
| **E9** | Trouble of tail gate closing hook (left side) | The bale unloading tail gate has not closed correctly. | Check the correct operation of the sensor. |
| | | | Check the efficiency of the sensor and, if necessary, replace it. |
| | | | Check the correct operation of the tail gate closing system. |
| **E10** | Trouble of tail gate closing hook (left side) | The bale unloading tail gate has not closed correctly. | Check the correct operation of the sensor. |
| | | | Check the efficiency of the sensor and, if necessary, replace it. |
| | | | Check the correct operation of the tail gate closing system. |
| **E11** | Bale diameter too high | The bale diameter is higher than the maximum value allowed | Decrease the forward speed. |
| | | The bale diameter detecting potentiometer is not regulated properly. | Contact the Technical Assistance Centre that is authorised by the manufacturer |

**Table 1:** Operation failures

| *n°* | *Alarm description* | *Cause* | *Cure* |
|---|---|---|---|
| **E12** | Bale density too high | The bale pressure is higher than the maximum allowed value. | Decrease the forward speed. |
| | | The bale density potentiometers are not regulated properly. | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **E14** | Electric power of "twine/net insertion arm motor" too low | Supply voltage too weak (lower than 9 V) | Turn off the equipment<br>Check the correct operation of the battery and the electric wiring integrity |
| **E15** | Power voltage "PWR OUT" too low | Supply voltage too weak (lower than 9 V) | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **E16** | Power voltage "5V OUT" too low | Supply voltage too weak (lower than 4,5 V) | Contact the Technical Assistance Centre that is authorised by the manufacturer |
| **E17** | Overheating or overload of electronic card | The temperature of the electronic card is higher than 70°C | Cool down electronic card<br>If the problem persists, refer to the assistance centre authorised by the manufacturer. |
| **E18** | Reset of the default values | The default values of the system have been reset. | Contact the Technical Assistance Centre that is authorised by the manufacturer |