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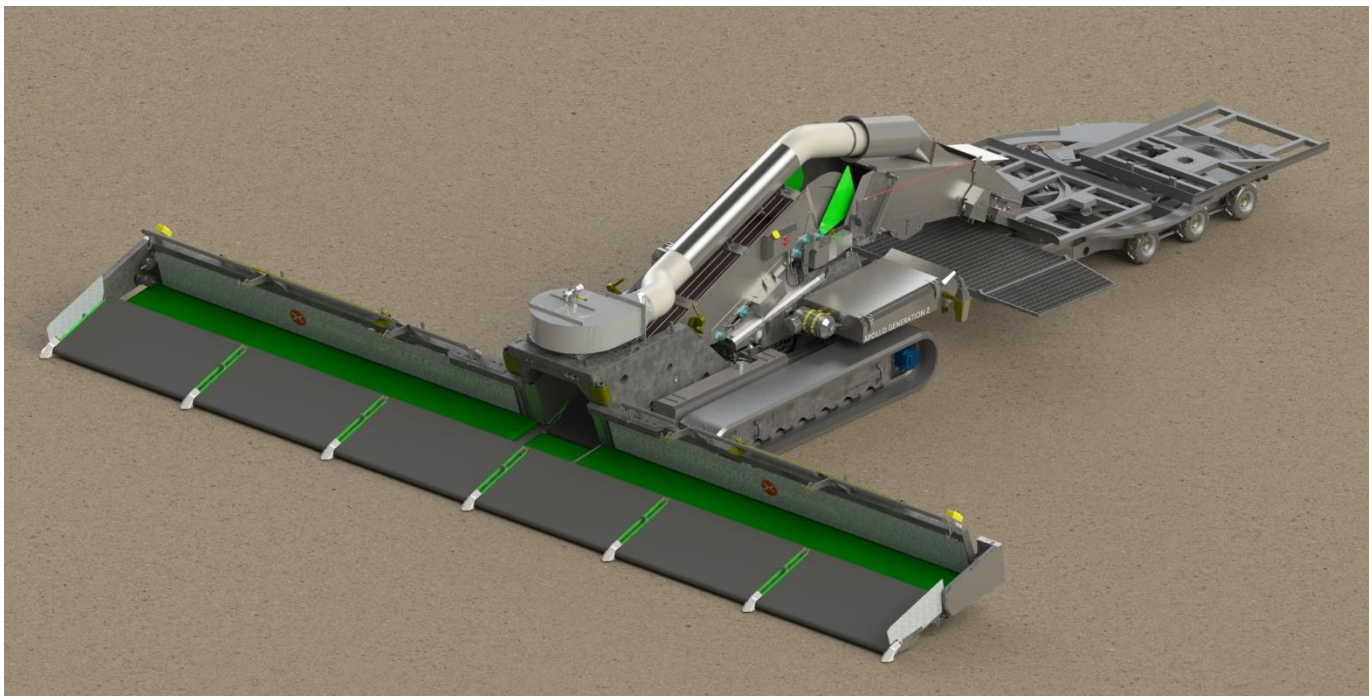

USER AND MAINTENANCE MANUAL

Apollo Generation 2 electro-hydraulic Chicken Loader With Blower

The logo below is the property of Ciemmecalabria s.r.l.

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Documents written in compliance with section 1.7.4 of directive **2006/42/EC** (concerning the harmonisation of the laws of the Member States relating to machinery).

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Consultation of this manual is facilitated by the inclusion of the general index and the layout of the Manual on the front page that allows you to instantly locate your topic of interest.

The chapters are organised in a structure that facilitates the search for the desired information.

Each chapter is always preceded by the index.

An explicit indication at the beginning of the chapter indicates the topics and information of specific interest for qualified personnel that will be discussed in that chapter.

The documents provided with the machine consists of the User and Maintenance Manual and the manuals of the components listed in Chapter 9 that are an integral part of this manual.

LAYOUT OF THE DOCUMENTS

The diagram that follows summarises the structure and layout of the documents relating to the manual.

Manuale istruzioni per l'uso

Capitolo 0 Sommario	- Sommario della manualistica
Capitolo 1 Informazioni generali	- Organizzazione della manualistica - Garanzia - Terminologia e sigle utilizzate - Note generali
Capitolo 2 Specifiche tecniche	- Specifiche tecniche - Layout macchina - Dettagli dotazione macchina
Capitolo 3 Descrizione	- Descrizione della macchina e delle parti installate. Configurazione per tipologia
Capitolo 4 Sicurezza	- Norme tecnice applicate - Certificazione della macchina - Sicurezze applicate alla macchina - Sezionamento delle energie - Rischi residui e targhe monitorie
Capitolo 5 Trasporto ed installazione	- Imballo e Trasporto - Montaggio e Posizionamento - Allacciamenti - Controlli e Verifiche dopo l'installazione
Capitolo 6 Uso e funzionamento	- Informazioni Preliminari - Procedure per la conduzione - Dispositivi di interfaccia operatore
Capitolo 7 Manutenzione	- Informazioni generali di manutenzione - Personale addetto alla manutenzione - Piano di manutenzione - Pulizia - Interventi di manutenzione
Capitolo 8 Diagnostica	- Anomalie - Cause e rimedi
Capitolo 9 Elenco allegati	- Riferimenti a schemi e manuali di uso e manutenzione dei principali componenti che costituiscono la macchina
Capitolo 10 Liste Ricambi	- Liste ricambi consigliati per la macchina dal costruttore.

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1. GENERAL INFORMATION

CHAPTER 1

GENERAL INFORMATION

1.1 WARNINGS FOR THE PURCHASER

The manual, like the CE certificate of conformity, is an integral part of the machine and must always accompany the machine in its every movement or resale. The user is in charge of keeping these documents intact to allow them to be consulted during the entire lifespan of the machine.

They must be kept in place to maintain their integrity, always on board the machine, for immediate availability in case of consultation.

In case of loss or destruction, it is possible to request a copy from CIEMMECALABRIA S.r.l, specifying the exact model, serial number (Manufacturing No.) and year of production.

The manual reflects the state of the art at the time of supply; the company reserves the right to make any changes to its products deemed useful, without having to update manuals relating to previous production units.

The Manufacturing company will not be held liable for production anomalies or damage caused by the machine to objects, persons or animals in the following cases:

- Improper use of the machine or with operations different than those for which it was built
- Use by unsuitable or unauthorised personnel.
- Use by part of minors or inexperienced persons
- Use by persons with reduced physical, sensory or mental capacities
- Use of the machine to lift persons
- Defects in the power, hydraulics, and diesel supply etc.
- Non-compliance with the specifications described in Chapter 2
- Lack or inadequate routine maintenance as described in section 7 and in manuals that came with the machine that are an integral part of this manual
- Modifications or interventions not agreed upon and authorised by manufacturer
- Use of non-original spare parts or spare parts not specific for the model
- Total or partial failure to comply with these instructions
- Failure to fill out or sign the assistance form

The responsibility of implementing the safety requirements described below is to be borne by the user, who must ensure that authorised personnel:

- are qualified to perform the required activities
- know and scrupulously observe the prescriptions contained in this document
- know and apply the general safety standards applicable to the machine
- know and apply the safety standards in force in the country or location of use of the machine
- know the safety standards relating to risks arising from the treatment/processing for which the machine is intended.
- **It is mandatory for maintenance personnel to have read and understood this manual, to know and have the basics of mechanics, hydraulics and electricity, as well as the practical principles of mechanical, electrical and hydraulic maintenance,**

electrical components and symbols used in diagrams and to be experts in the use of equipment and machinery intended for lifting goods/materials.

Failure to follow safety rules may cause injury to employees and damage to the components and the machine control unit.

Even the thorough reading of this manual cannot, under any circumstances, replace adequate experience of personnel in charge of and authorised to conduct the machine and of personnel in charge of carrying out machine maintenance.

The customer and/or the maintenance personnel may, at any time, contact the manufacturer to request further information in addition to what is contained herein, as well as to point out suggestions for improvements.

DANGER

Improper installation and use of the machine, depending on the processing features, causes substantial risk and is prohibited.

!

IMPORTANT WARNING

Please note that the documents provided by CIEMMECALABRIA refer only to the machine supplied to the user.

!

WARNING

It is the user's responsibility to integrate the instructions contained herein with any operational procedures present at the site of machine use and to provide all the information to the appointed operator.

All manuals and documents contained in Chapter 9 are integral part of this manual.

1.2 INTRODUCTION

In order to ensure maximum operating reliability, CIEMMECALABRIA Srl has made a careful choice of materials and components used in machine construction, subjecting it to regular testing prior to delivery.

Good machine performance over time depends on correct use and proper preventive maintenance according to the instructions in these documents and in the documents supplied with the machine provided.

All manufacturing elements and connection and control components have been designed and manufactured with a degree of safety that can withstand abnormal stresses or, in any case, higher than those indicated.

The materials are of the best quality and their introduction into the company, storage and use in the workshop is constantly controlled in order to guarantee the absence of damage, deterioration and malfunctioning.

Despite the design and constructive measures, following the manufacturer's instructions and using and maintaining the same in accordance with these guidelines and the requirements of the laws in force in the country of use is of fundamental importance for the proper use, safety, durability and reliability of the machine.

The purpose of this manual is to provide technical information to the personnel appointed to the use and servicing of the machine produced by CIEMMECALABRIA S.r.l.

The instructions contained herein are intended for machine operators and maintenance workers with adequate knowledge in mechanical, electrical, electronic and hydraulic fields.

The User and Maintenance manual contains all the information required to understand how to correctly install, operate and use the machine, in particular: the technical description of the various functional units, the safety equipment and systems, operation, use of the instruments and interpretation of any diagnostics messages, the main procedures, and information on routine maintenance.

For correct use of the machine, the working environment is presumed to be adapted to current safety and hygiene standards.

Any calibrations, adjustments and extraordinary maintenance operations are not covered in this text, being the exclusive responsibility of the field service engineer, who must act on the machine in accordance with the specifications and design features for which it was built.

! **WARNING**

Before proceeding with the installation of the machine or making it operational, using it or performing maintenance on the machine, read this manual carefully and faithfully follow the provided instructions and directions.

This manual must be delivered to the machine users and to those who have to perform routine maintenance. Both should carefully read, several times, what is described in this manual so as to be clear on the operating conditions, the running and maintenance requirements and risks associated with the machine.

A training course for the above-mentioned staff is also recommended in order to guarantee perfect familiarity and knowledge of the machine.

! **WARNING**

If, after reading this manual, doubts or uncertainties still persist regarding machine use, please contact CIEMMECALABRIA, who will be at your disposal to ensure prompt and accurate assistance for better operation and maximum performance of the machine provided.

DANGER

CIEMMECALABRIA cannot foresee every circumstance that might cause a potential danger when using the machine; for this reason, the information included in the manual and on the warning notices, may not include all possible safety precautions.

You are, therefore, asked to alert CIEMMECALABRIA immediately if, during machine use, you should encounter potentially hazardous situations or tasks not described in the manual.

1.3 MANUFACTURER'S ADDRESS

INSTRUCTIONS TO REQUEST ASSISTANCE

The machine is a product assisted worldwide with direct coordination of technical assistance by the manufacturer.

For any information or clarification concerning the acquisition, use, maintenance, installation, etc., the undersigned Company is deemed always available for Customer requests.

On the part of the latter, it is appropriate to ask questions clearly, referencing this manual and always indicating the data shown in the identification plate of the machine.

Any requests for information or customer service assistance at the Customer's premises or clarification regarding technical aspects of this document should be addressed to:

CIEMMECALABRIA SRL

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URL: www.cmcindustries.com

e-mail: info@cmcindustries.com

In particular, the customer should provide the manufacturer with the following information:

- machine type, serial number, year of installation
- defects encountered
- exact address of the establishment where the machine is installed
- contact person.

1.4 SAFETY STANDARDS PROVIDED IN MANUAL

The requirements, instructions, rules and related safety notes, which are described in the various chapters of the manual, are meant to define a number of behaviours and obligations to observe when performing various activities, in order to operate in safe conditions for staff, equipment and the surrounding environment.

The safety standards provided are intended for all personnel authorised, trained and delegated to perform various activities and operations concerning:

- transportation
- installation/incorporation
- operation
- use
- management
- maintenance
- cleaning
- decommissioning and dismantling which constitute the rules for use intended for the machine in question.

ADDITIONAL INFORMATION

For further information related to training courses, see Chap.4.

The various safety systems are identified in Chapter 4.

1.5 SYMBOLS USED

The manual makes use of some symbols to draw the reader's attention and to highlight certain important points.

The following table describes the meaning of the different symbols used.

SYMBOL	MEANING	NOTES
	Danger	Indicates a danger with risk of injury, even fatal, for the user. Pay the utmost attention to text blocks indicated by this symbol.
	Warning	Represents a warning of possible deterioration or damage to the machine, equipment or other personal objects of the user. Pay attention to text blocks indicated by this symbol.
	Warning Note	Indicates a warning or note concerning key functions or useful information. Pay attention to text blocks indicated by this symbol.
	Additional information	Blocks of text containing additional information are introduced by this symbol. This information is not directly related to the description of a function or the development of a procedure. It could be a reference to other complementary documents, such as attached instruction manuals, technical documents or other sections of this manual.
	Do not damage the material	Indications concerning a strong risk of damaging a piece, for example by using a wrong tool or performing an assembly following an incorrect procedure.
	Special tool	Indicates that it is operationally necessary to use a special tool or equipment.
	Visual observation	Tells the reader that he/she must proceed with a visual observation. This symbol is also found in operating instructions. The user is asked to read a measurement value, to check a signal, etc.
	Auditory observation	Tells the reader that he/she must proceed with an auditory observation. This symbol is also found in operating instructions. The user is asked to listen to an operating noise.
SYMBOL	MEANING	NOTES

SYMBOL	MEANING	NOTES
	Danger of crushing upper limbs	Indicates a danger with risk of injury for the user. Pay the utmost attention to signals and areas where this symbol is present.
	Danger of crushing lower limbs	Indicates a danger with risk of injury for the user. Pay the utmost attention to signals and areas where this symbol is present.
	Danger moving parts	Indicates a danger in zones where moving parts are present. The user must pay the utmost attention to signals and areas where this symbol is present and comply with safety distances.
	Danger of voltage.	Indicates a danger with risk of injury, even fatal, for the user. Pay the utmost attention to signals and areas where this symbol is present and do not access areas thus signalled without having cut power from that area beforehand.
	It is forbidden to remove protective casings	Prohibits the user from removing guards installed on the machine. It is strictly forbidden to operate the machine without the protective casing provided with the machine. Pay the utmost attention to signals and areas where this symbol is present.
	It is forbidden to smoke or use open flames near the machine, motor or electric control units.	Prohibits the user from smoking in the vicinity of motors or electric control units and, in any case, in any area where this signal is present. All prohibitions in force in the country where the machine is used and internal regulations of the establishment or plant laid down by the employer remain valid.
	Do not lubricate moving parts.	Prohibits the user from lubricating moving parts of the machine. Pay the utmost attention to signals and areas where this symbol is present.
	Do not spray electric equipment with water.	Prohibits using or directing water jets towards electric equipment and, in any case, in all areas where this signal is present. Pay the utmost attention to signals and areas where this symbol is present.

SYMBOL	MEANING	NOTES
	Do not access the working area of the machine	Indicates not to access the working area of the machine.
	Danger of entanglement	Indicates a danger with risk of injury for the user. It is mandatory to use adequate clothing such as shoes, work overalls, gloves, etc. Pay the utmost attention to signals and areas where this symbol is present.
	Danger of shearing, cutting	Indicates a danger with risk of injury for the user. It is mandatory to use adequate clothing such as shoes, work overalls, gloves, etc. Pay the utmost attention to signals and areas where this symbol is present.
	Dangerous temperature	Indicates a danger with risk of injury for the user. It is mandatory to use adequate clothing such as shoes, work overalls, gloves, etc. Pay the utmost attention to signals and areas where this symbol is present.
	Danger of scalding	Danger of scalding. Indicates a risk of injury for the user. In the case of endothermic motor trolleys, maintain safe distances. Pay the utmost attention to signals and areas where this symbol is present.
	Danger, liquids under pressure	Risk of injury from liquids under pressure. Indicates a danger with risk of injury for the user. Before disconnecting the hydraulic tubes, make sure that the circuit is not under pressure; replace the tubes according to wear and at the time indicated on the user and maintenance manual. For fork lift trucks systems, remember that fork oil inputs and the machine quick couplings must bear an identification code.
	Danger of aerial power lines	Danger of contact with overhead power lines. Indicates a danger with risk of injury for the user. It is compulsory to keep a safe distance from overhead lines. Risk of contact during the raising of the forklift. Pay the utmost attention to signals and areas where this symbol is present.

SYMBOL	MEANING	NOTES
	Safety Distance Required	Indicates a danger with risk of injury for the user. It is compulsory to keep a safe distance from the range of the machine. Pay the utmost attention to signals and areas where this symbol is present.
	Greasing Point	Indicates the requirement to apply lubrication as reported in Chapter 7 of this manual and as indicated by the relevant pictogram located on the machine. It is compulsory to observe the directions and the frequency indicated in Chapter 7 Maintenance.
	Danger of getting hit by masts in movement	Risk of getting hit by moving masts. Indicates a danger with risk of injury for the user. Always use the locking devices when performing maintenance, especially when the user is positioned beneath lifted moving elements. Pay the utmost attention to signals and areas where this symbol is present.
	Exhaust gas inhalation hazard	Inhalation hazard of exhaust gas from trolleys with endothermic motor. Indicates a danger with risk of injury for the user. In confined environments and for short periods, provide suitable air exchange. Pay the utmost attention to signals and areas where this symbol is present.
	Carrying out maintenance without having removed the key is prohibited	Before working on the machine, stop the motor and remove the key.
	Carefully read the user and maintenance manual	Read and carefully observe what is indicated on the user manual provided by the manufacturer to be able to evaluate: - periodic maintenance of the components of the chicken loader (*control and tightening of bolts and pins, lubrication, replacement of manifolds, hydraulic oil, etc.*) - fastening mode and load transport - machine stability depending on ground conditions - the nature and causes of possible vehicle imbalance - manoeuvring spaces - visibility conditions and obstacles

1.6 TERMINOLOGY AND SYMBOLS USED

DANGER: (Annex I, 1.1.1 Directive 2006/42/EC).
a potential source of injury or hazard to health;

DANGER ZONE: (Annex I, 1.1.1 Directive 2006/42/EC).
Any zone within and/or near the machinery in which the presence of an exposed person represents a risk to the safety and health of that person

EXPOSED PERSON: (Annex I, 1.1.1 Directive 2006/42/EC).
any person wholly or partially found in a danger zone;

OPERATOR: (Annex I, 1.1.1 Directive 2006/42/EC). The person/s responsible for installing, operating, adjusting, maintaining, repairing and transporting the machine.

RISK: (Annex I, 1.1.1 Directive 2006/42/EC).

combination of the probability and severity of an injury or hazard to health that can arise in a hazardous situation;

GUARD: (Annex I, 1.1.1 Directive 2006/42/EC).

part of the partly completed machinery used specifically to provide protection in the form of a physical barrier;

PROTECTION DEVICE: (Annex I, 1.1.1 Directive 2006/42/EC).

device (other than a guard) which reduces the risk, either alone or in conjunction with a guard;

INTENDED USE: (Annex I, 1.1.1 Directive 2006/42/EC).

use of the machine in accordance with the information provided in the instructions for use;

RESIDUAL RISK:
Danger that was not possible to eliminate or reduce by design, against which the protections are not (partially or totally) effective.

The manual (Chapter 4) shows the residual risks and information, instructions and warnings/requirements to manage residual risks that must be taken on by the user (REF. UNI EN ISO 12100-1 Chapter.3).

1.7 MACHINE MANAGEMENT

Machine management is allowed only to authorised personnel, properly trained or at least equipped with sufficient knowledge and technical expertise.

Personnel in charge of operating and servicing the machine must be aware that knowledge and application of the safety standards is an integral part of their job.

DANGER

Unauthorised personnel must not have access to the operating area of the machinery and to the control system.

Before starting the machine, you must:

- Carefully read this operating instruction manual.
- Know what protections and stop devices are available on the machine, their installation and operation.

DANGER

It is forbidden to disarm or partially remove the protections and safety devices fitted to protect hazardous parts.
The same rule applies to notices (warning, danger, prohibition plates etc..).
It is strictly forbidden to open the motor compartment or machine parts that are protected by casings during operation or immediately after its shutdown.

DANGER

The protections and safety devices must be kept in perfect working order so that they operate properly. In case of failure or malfunction, they must be immediately repaired or replaced.

DANGER

Unauthorised use of commercial parts and accessories making up the guards and safety devices can cause malfunctioning and the onset of dangerous situations for operating personnel.

2. TECHNICAL SPECIFICATIONS

CHAPTER 2

TECHNICAL SPECIFICATIONS

2.1 PERMITTED USE

The supply consists of a machine called a Chicken Loader consisting of a series of main components installed on or connected to the base frame of the machine.

The machine provided by CMCALABRIA S.r.l. is intended only for the purpose of collecting and caging live chickens lined up next to each other on the ground.

The Chicken loader is intended to be used only outdoors or in barns with large fixed openings in which **abundant air circulation must be ensured** and provided that, in any case, no inconveniences to staff present or fixed workstations are created because this machine has no filters for outlet exhaust fumes. The most hazardous gas is carbon monoxide which, being odourless, cannot be smelt and, when it reaches a high concentration in the bloodstream, can lead to death.

DANGER

Carbon monoxide is the most hazardous gas produced during machine use.

This gas, being odourless, cannot be smelt and, when it reaches a high concentration in the bloodstream, can lead to death.
Avoid standing near the exhaust pipe of the machine.

The use of these machines must be entrusted exclusively to trained and authorised staff with knowledge and skills to ensure a successful and appropriate use of the machine in safety.

Training and awareness of the operator must be carried out by technical experts able to develop qualified theoretical and practical training, allowing the operator to be able to properly perform all those technical operations and behaviours that are decisive for the purposes of their own safety and the safety of people who work in the areas of machine use.

2.2 NOT PERMITTED USE

The machine must be used **solely** for the purposes expressly provided for by the manufacturer.
In particular:

- do not use the machine in spaces and for uses other than those indicated in section 2.1
- do not use in areas classified in whole or in part as flammable or explosive
- do not use the machine if you have not been properly trained and authorised to use it
- do not use the machine to lift or transport people.
- do not use the machine in violation of the provisions contained in Chapter 4 "Safety"
- do not use the machine outside of expected operating temperatures
- do not use the machine with interchangeable equipment other than the one provided, and for which the machine has been built
- the Chicken loader is designed to be used by two operators in the caging and by one who controls the direction of the machine and the work area, and must not be driven on public roads.
- the Chicken loader should not be used for either pushing or towing loads of any kind, nor for bumping against things in order to move them, nor to tow or push heavy carts or wagons, etc. An exception is made for the trucks designed and manufactured by Ciemmecalabria s.r.l. solely for use in combination with the chicken loader. The sole purpose of these trucks is to weigh the containers full of chickens and to exchange these with the ones to be filled.

The machine provided by CMCALABRIA S.r.l. consists of the following main components:

1. Main machine body
2. Hydraulic Lift Frame for the collection head
3. Head with collection belts
4. Central channel
5. Caging conveyor belt
6. Diesel Engine
7. Crawler drive hydraulic motor
8. Gear pump and piston pumps for hydrostatic transmission.
9. Caging platform
10. Battery
11. Protective Casing
12. Truck to move the cages

2.2.1 RUNNING DIRECTION INDICATED IN THIS MANUAL.

The direction described in this manual as forward, backward, right and left are all referred to as the direction the operator, facing the control console looking forward, must drive.

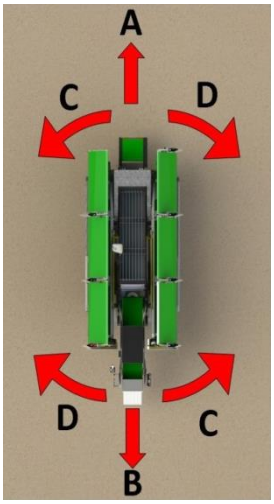


Fig. 1

A- Forward Movement

B- Reversing or reverse gear

C- Steering left

D- Steering right

2.2.2 BREAKING-IN THE MACHINE:

All machines built and manufactured by CIEMMECALABRIA are assembled, adjusted, tested and checked qualitatively and functionally by the manufacturer's technicians before being sold.

However, the first break-in cycle of the machine (first 100 hours) is of fundamental importance in order to preserve its performance as well as the entire life cycle of the machine.

To this end, it is essential to verify/observe the following minimum requirements in the first hours of machine use:

1) Avoid sudden and brusque changes in engine speed.
2) Avoid abrupt swerving.
3) Use the machine within the intended limits and preferably at less than the maximum permitted caging rate, at least initially.
4) Frequently check the hydraulic hoses to make sure that there are no oil leaks.

After this period:

- Check the electrolyte level in the battery when a maintenance-free battery is not installed.
- Check the engine oil level
- Check the cooling circuit level
- Clean the filter and pre-filter
- Check the tightening torque of wheel nuts and of the main parts of the machine
- Check the hydraulic circuit and fuel supply line to make sure that there are no leaks.

2.3 GENERAL TECHNICAL SPECIFICATIONS

Machine for loading chickens in containers (modular cages) for transport by road.

The machine is designed to collect chickens on the floor of the barn where they are kept and to transfer them in as careful a manner as possible to the modular containers that are used to transport them by road. Collection and transfer is carried out by means of a set of conveyor belts, one of which is movable, for filling the various modules of the cages.

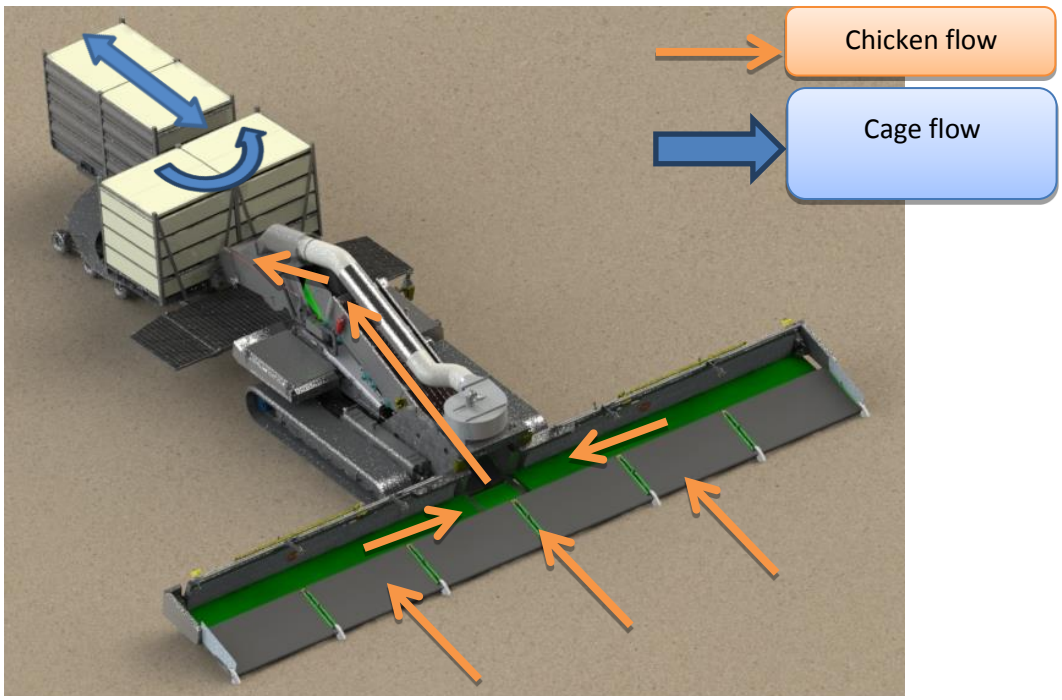


Fig. 2

The machine is compatible with all the various types of cages used in the poultry sector.

The machine is supplied together with various types of trucks that can be adapted to the size of the barns and production areas.

The machine can work at a rate of about 7000 chickens/hour; however, this can vary according to the size of the chickens, the type of truck used to move

the cages, and the type of cage in use.

The machine built by CMCALABRIA comes in two different configurations that are:

a) Various widths for collection

b) Truck for moving 2 or 3 cages with weighing

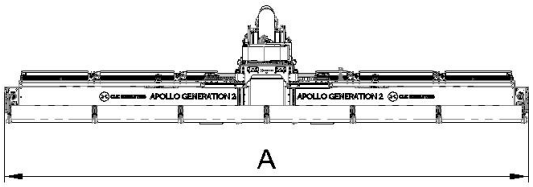
The two main types of truck differ in terms of the number of cages they can load at the same time, and in terms of their total length.

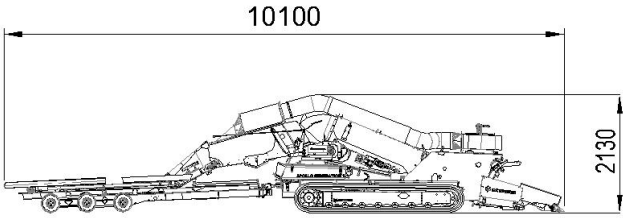
The "CR9" model, which takes two cages, is rotatable and moves the cages by turning them around a pivot like on a turntable. It is very compact in design.

The "CR2" model has a carousel and can take three cages at once. It is longer than the two-cage model but the driver can always find a free tray to place the empty cage directly, reducing dead time.

The collection heads can be either fixed or interchangeable (on request). The head is available in various widths, from 4 to 11 metres.

2.4 LAYOUT AND DIMENSIONS OF THE MACHINE





9-metre head A= 9450

8-metre head A= 8350

6-metre head A= 6450

4-metre head A= 4050

2.5 PERFORMANCE FEATURES-ENGINE-TRANSMISSION

Normally aspirated four-stroke diesel engine.

Manufacturer: _____ Perkins

Model:_____ 404T-22 Turbo

Maximum revs: _____ 2800 RPM

Power:_____ 44,7 KW @ 2800 RPM

Revs during the work cycle:_____ 2000 RPM

Liquid cooled.

3. DESCRIPTION

CHAPTER 3

DESCRIPTION

GENERAL INFORMATION AND STABILITY OF THE MACHINE

3.1 STABILITY AND CENTRE OF GRAVITY

The material supplied is a chicken loader comprising a main set of components installed on the supporting base of the machine or connected to the relative coupling device at the back.

The chicken loader is intended for the uses explained in Chapter 2.1.

The chicken loader is a self-propelled crawler vehicle which tows a trailer.

Instability can result in tipping or tilting (mainly in the event of incorrect manoeuvres when ascending and descending from the trailer or the platform of a lorry) and skidding, causing physical injury and damage.

It is essential to remember that the balance of the chicken loader depends on the gradient of the ground on which it is moved.

The centre of gravity of the chicken loader is very low. This means that if the inclination at the side is high, the greatest risk is to skid on the ground. The critical angle for skidding depends on the consistency or slipperiness of the ground.

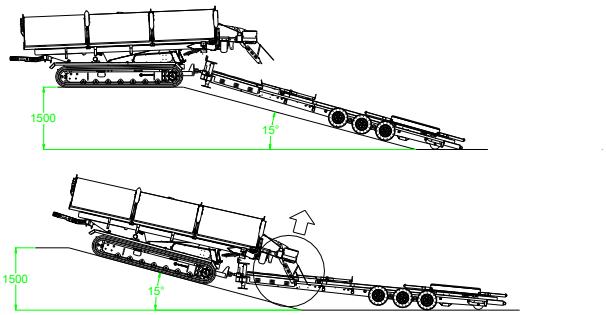
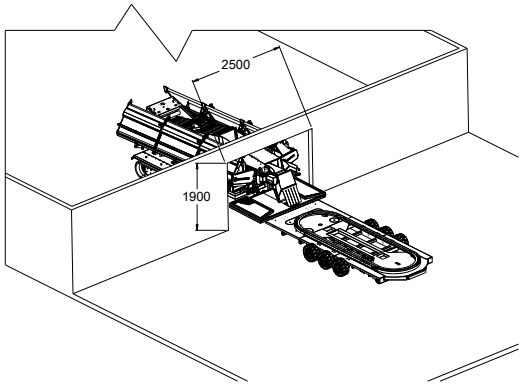
The speed of travel does not pose the risk of overturning due to centrifugal force.

There are no risks of long braking due to inertia of the machine. The machine stops the moment travel control stops.

DANGER

THE MACHINE IS INTENDED FOR USE IN FARM ENVIRONMENTS.

IMPROPER USE OF THE MACHINE, DEPENDING ON THE PROCESSING FEATURES, CAUSES SUBSTANTIAL RISKS AND IS PROHIBITED.

	Be careful when ascending and descending a ramp. Consider the angle as well as the load. It must not exceed 15° and the difference of level at this angle must not exceed 1500 mm. The travel configuration of the machine is shown in the figure. When ascending, the cage belt could collide with the truck. Raise it if necessary.
	Before entering passages or going through doors, make sure there is enough room for the chicken loader, the driver and the load. Do not drive in areas of the barn where there is gravel, sand or mud unless you are absolutely sure there is a surface beneath able to support the weight of the machine. The machine might otherwise get stuck.
	Prior to entering or exiting the chicken loader from a road vehicle or train wagon, make sure that all necessary measures to prevent the movement of the latter have been taken. When a chicken loader enters or exits a semi-trailer truck that is not attached to the drive unit, ensure that, if necessary, all supporting devices to prevent oscillation of the trailer have been properly put into place. Before entering the chicken loader in a road vehicle or train wagon, make sure that its platform is capable of withstanding the total weight of the machine and cart. You should also inspect the platform to ensure the absence of cracks, holes or other defects.
	Pay close attention to the movement of pedestrians. Always ask for colleagues to help check that there are no obstacles, animals or people in the way of the chicken loader.

WARNING

DANGEROUS POINTS, INCLUDING HEIGHT BARRIERS, MUST BE MARKED VISIBLY.
BE AWARE OF THE DISTANCE OF THE OVERHEAD HIGH VOLTAGE CABLES.
OBSERVE THE SAFETY DISTANCES REQUIRED BY THE COMPETENT AUTHORITIES.

WARNING

THE CHICKEN LOADER MUST BE HANDLED WITH CARE WHEN IT IS NEAR THE EDGES OF PAVEMENTS, RAMPS OR PRECIPICES.
THE FLOORS AND RAMPS MUST BE KEPT IN GOOD CONDITION TO AVOID DAMAGING THE BELTS OR WHEELS OF THE TRUCK ON THE GROUND AND TO AVOID COMPROMISING STABILITY.

WARNING

THE CHICKEN LOADER MUST BE STOPPED GRADUALLY. AVOID BRAKING SUDDENLY BECAUSE THIS CAN DAMAGE THE TRANSMISSION UNITS.

WARNING

WHEN PARKING THE CHICKEN LOADER, YOU MUST AVOID OBSTRUCTING ACCESS TO EMERGENCY EXITS, STAIRS AND FIRE-FIGHTING EQUIPMENT.
THE CHICKEN LOADER SHOULD ALWAYS BE PARKED IN AREAS INTENDED FOR ITS USE AND AWAY FROM VEHICLES, RAILS, AND TANKS ETC...

3.2 REFUELLING

Each chicken loader has a diesel engine; set aside an area for refuelling.
To avoid fire or explosions, the following precautions must be taken:
Before refuelling, park the machine on a level surface and turn off the engine.
It is forbidden to smoke or use flames when refuelling. Turn off any mobile phones.
Wipe up any leaks and close the fuel cap itself very tightly before starting the engine.

Diesel fuel is flammable and could be hot.

To avoid injuries and material damage, do not touch the fuel that comes out of the exhaust valve and do not expose it to open flames or matches.

Do not overfill the container. Heat (such as that of the engine) can cause the fuel to expand.

If the container is too full, the fuel could spill out and ignite, causing fires and injuries.

4. SAFETY

CHAPTER 4

SAFETY

4.1 GENERAL INFORMATION

It is the user's responsibility to train the staff on the risks of injury, on safety devices and on general rules concerning accident prevention required by Community directives and legislation of the country where the machine is installed and used.

Personnel must be aware of the position and operation of all commands and features of the machine.

They must also have read the manual and all of the manuals referred to in Chapter 9 that are an integral part of this manual.

Installation and maintenance must be carried out by qualified personnel after having properly prepared the machine.

DANGER

TAMPERING OR UNAUTHORISED REPLACEMENT OF ONE OR MORE PARTS OF THE MACHINE, THE ADOPTION OF ACCESSORIES WHICH MODIFY ITS USE AND USE OF SPARE PARTS OTHER THAN THOSE RECOMMENDED CAN BECOME A CAUSE OF ACCIDENT RISKS.

It is compulsory for all employees to know and correctly apply the general rules of good behaviour.

It is compulsory for: DL, DIR, PRE, MC, SPP, RSPP, ASSP and RLS, each for their own part, to comply with and enforce the provisions in these guidelines.

Even workers have specific safety requirements.

They must take care of their own health and that of other workers in the workplace, in accordance with training, with the given instructions and with the means and resources made available by the employer (or director), complying with the applicable requirements in addition to the information shown in this procedure.

Behaviour is the result of three factors:

- Demeanour
- Attention
- General rules or code of conduct

Demeanour

Proper demeanour and prudent behaviour (self-control) represent a defence for themselves and for other workers.
Without self-control, the laws, rules, regulations, instructions and prevention and protection measures adopted will have poor results.
In fact, maintaining incorrect demeanour and imprudent behaviour reduces your own safety conditions and those of other workers who operate in the vicinity.

Warning

Injuries and accidents are almost always due to lack of attention. In fact, the continuous control and monitoring of your own actions (attention), as well as an equal behaviour of the surrounding people, strongly reduce conditions of exposure to risks and ensures greater safety.

General rules or code of conduct

Correct demeanour and attention alone are not sufficient to ensure safety conditions.
Some accidents and injuries can also occur with no apparent reasons or warning signs, which is why you must comply with the rules, which are the result of laws, standards, recommendations, or are the result of experience and knowledge.
Workers must follow these rules or general standards of conduct in addition to those present in other provisions or procedures or training received.

1) Comply with the provisions and the instructions given by those in charge;
2) In urgent cases and in compliance with their own skills, workers strive to eliminate or reduce the dangers or deficiencies found and subsequently communicate their effort to those in charge;
3) Do not remove or modify safety, signalling or control devices without authorisation; do not take on tasks of your own initiative **that are not within your competence or that can be dangerous**;
4) Collaborate with the employer, directors and managers in performing acts necessary to protect public health or in those imposed by the competent authorities;
5) Each must know how to perform the work entrusted, namely, they must:
   - check their own workspace and figure out what problems or risks there can be;
   - take all precautions so that the performance of the tasks assigned does not represent a danger to themselves or to other workers;
   - do not operate in hazardous conditions without having taken appropriate protective measures, in particular, in the case of operation at high altitudes, use PPE such as belts or safety harnesses;
6) Correctly use means, machines, equipment and safety devices;
7) Do not use means, machines, equipment, without express permission and do not perform manoeuvres, actions or other processes that are not to perfect knowledge and not of your competence;
8) Use proper personal protective equipment (PPE) and other means of protection, in accordance with the provisions and with received training in order to ensure individual and collective protection;
9) Report immediately to the people in charge any deficiencies, equipment and/or machinery and safety devices and any hazardous conditions that may be encountered;
10) Be aware of the instructions to be followed in cases of emergency (fire, severe injury, etc.);
11) Employees appointed to work with machines, equipment with moving parts, should not wear bracelets, rings, necklaces, ties, scarves or other similar clothing while working;
12) Keep the corridors and gangways clear at all times;
13) Do not use gasoline, diesel, ethyl alcohol or solvents for cleaning or washing;
14) Keep workspaces and intervention areas always clear.
    It is essential to gather and put equipment and materials used for your work away so that they do not impede the operation of others or your own at a later time;
15) Abide by the obligations and prohibitions imposed by safety signs distributed in various areas of workplace;
16) Never use compressed air, much less oxygen, to clean work clothes from dust, dirt, etc.;
17) Do not neglect minor wounds or other injuries of slight entity, and provide immediate medication with the adequate equipment contained in first-aid boxes and advise your supervisor;
18) Do not get distracted or joke around with colleagues at work because they may cause conditions of risk and cause accidents.

4.1.1 REQUIREMENTS FOR THE DRIVER

The requirements for driving the Apollo machine are:

- physical integrity;
- good eyesight and hearing;
- quickness of reflexes;
- ability to evaluate weight, stability and balance of materials;
- exact evaluation of sizes, space, distance and speed;
- colour perception;
- coordination of movements;
- sense of responsibility and prudence;
- calm temperament and thoughtfulness

4.1.2 PERSONNEL TRAINING

WARNING

THE MACHINE IS INTENDED SOLELY FOR PROFESSIONAL USE IN OUTDOOR AREAS AND BARNS SET UP FOR CHICKEN FARMING.

The customer must ensure that the personnel involved in the installation, and/or use and/or maintenance, are properly educated and trained.

Maintenance of the machine must be carried out only by personnel trained and duly qualified in possession of technical mechanical and hydraulic power knowledge (and any regulations valid in the country of use of the machine).

For this purpose, at the commissioning of the machinery, the manufacturer provides, upon request, training by means of its qualified personnel.
During the training of personnel appointed to use and maintain the machine, you must address the following issues:

THEORETICAL ASPECTS
PROFESSIONAL FIGURES AND ROLES
MACHINE TYPE TECHNOLOGY AND CONCEPTS OF STATIC AND DYNAMIC STABILITY
THEORETICAL ASPECTS AND GENERAL OVERVIEW ON GENERAL SAFETY PROCEDURES
MACHINE INSTALLATION, COMMISSIONING AND DECOMMISSIONING
USE OF EQUIPMENT AND SAFETY RULES
DRIVING CRITERIA
INSPECTION, ROUTINE MAINTENANCE
KNOWLEDGE OF THE CONTENTS OF THIS MANUAL
PRACTICAL ASPECTS
OPERATIONAL PRACTICE
USE, TRIALS AND MAINTENANCE PRACTICE
EMERGENCY SITUATIONS

NOTE

THE RULES IN THIS MANUAL MAY NOT COVER SPECIAL SITUATIONS THAT MAY OCCUR DURING DIFFERENT STAGES OF INSTALLATION AND/OR OPERATION.

4.1.3 DIRECTIVES APPLIED AND TECHNICAL STANDARDS OF REFERENCE

The machine is designed, manufactured and tested in compliance with the following directives:

- Machinery Directive 2006/42/EC concerning the harmonisation of the laws of the Member States relating to machinery
- Directive 2000/14/EC on Noise
- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC (refers only to the use of certified material)

4.1.4 MACHINE CERTIFICATION

The machine is provided with:

- The relevant Declaration of conformity to the essential safety requirements applied to the machinery provided in accordance with Directive 2006/42/EC (annex II, point A);

The following is the **facsimile** of the identification plate on the machine.

It is the customer's responsibility to check and potentially adjust the new and/or used machinery and equipment in his possession and/or included accessories for the machine itself covered by this statement.

It is the customer's responsibility to check and potentially adjust the building/site and the circumstances in which the machine is installed as it is forbidden to make modifications of any nature and/or entity on the machine provided.

The model, serial number and year of manufacture can be found on the manufacturer plate attached to the machine.

The EC plate shall be applied to the structure of the machine bearing the data of the manufacturer together with the above-mentioned data. The plate is attached to the machine with rivets.

4.1.5 INTENDED USE AND LIMITS

The machine is intended for the purposes and uses described in Chapter 2 "TECHNICAL SPECIFICATIONS" of this manual.
Use of material which is unsuitable or not included in the machine's working range can cause serious damage and jeopardise proper operation.

WARNING

THE USE OF THE MACHINE FOR PROCESSING DIFFERENT TYPES OF USES NOT PROVIDED FOR BY THE MANUFACTURER, REPRESENTS IMPROPER USE. IN THAT CASE, THE MANUFACTURER DECLINES ALL RESPONSIBILITY IN CASE OF DAMAGE TO PROPERTY AND/OR PERSONS; FURTHERMORE, ANY KIND OF WARRANTY LAPSES.

THE MANUFACTURER DECLINES ALL LIABILITY FOR ANY TAMPERING WITH THE MACHINE FOR UNAUTHORISED CHANGES OR MAINTENANCE WORK PERFORMED BY PERSONS NOT PROPERLY INFORMED, INSTRUCTED AND TRAINED.

DANGER

IN CASE OF ABNORMAL BEHAVIOUR OF THE MACHINE, ANY KIND OF INTERVENTION IS TO BE PERFORMED BY PROPERLY INSTRUCTED MAINTENANCE PERSONNEL.

WARNING

MACHINE USE CAN ONLY BE CARRIED OUT BY AUTHORISED, TRAINED AND INSTRUCTED PERSONNEL.

TRAINING AND AWARENESS OF THE OPERATOR MUST BE CARRIED OUT BY ENGINEERS OR BY PERSONS WITH PROVEN EXPERIENCE WHO ARE ABLE TO DEVELOP BOTH A THEORETICAL AND PRACTICAL QUALIFIED TRAINING IN ORDER TO PUT THE OPERATOR IN CHARGE OF DRIVING THE CHICKEN LOADER IN ORDER TO CORRECTLY PERFORM ALL OPERATIONAL AND BEHAVIOURAL TECHNIQUES, WHICH MUST BE PERFORMED IN SAFETY BOTH FOR HIMSELF AND FOR THE PEOPLE WHO WORK AT THE SITE WHERE THE MACHINE IS USED.

WARNING

THE CHICKEN LOADER MUST BE USED OUTDOORS TO ALLOW ADEQUATE OPERATION.

IT IS ABSOLUTELY FORBIDDEN TO MAKE USE OF IT ON PUBLIC ROADS AND/OR ROADS SUBJECT TO RULES OF THE ROAD.

4.1.6 DANGEROUS AREAS AND WORK AREAS

The machine in question is meant to be installed and used only by personnel that are qualified and duly instructed for its use, who are familiar with situations/issues relating to the use of an automatic chicken loading system and are well aware of the risks present in the working environment.

The chicken loader is a means with great potential, "capable" of operating with all its power.

WARNING

THE APOLLO CHICKEN LOADER IS A LARGE AND COMPLEX MACHINE. FOR THIS REASON, IT IS NECESSARY TO MAKE SURE THERE IS NO-ONE WITHIN THE RADIUS OF THE MACHINE BEFORE OPERATING IT. POOR UNDERSTANDING OF THE MACHINE AND OF YOUR TASKS CAN RESULT IN SERIOUS ACCIDENTS.

MOST ACCIDENTS ARE CAUSED BY A LACK OF USE AND RESPECT OF SAFETY STANDARDS AND BY THE NEGLIGENCE OR CARELESSNESS OF THE OPERATORS.

General considerations for any type of vehicle apply; it is not possible to speak of absolute safety against the risk of loss of stability and its consequences (tipping and rolling over). In fact, as it can be easily understood, it is always possible for a vehicle that is not fixed permanently and stably to the ground, to find or induce situations (static, dynamic or static and dynamic together) that can determine tipping over or swerving.

The machine in question is characterised by units and parts deemed to be dangerous if used improperly and not by personnel that is duly informed, trained and equipped with the appropriate operational and technical knowledge.
The whole area of the stacking the forks and generally the machine as a whole should be considered dangerous.

DANGER

TO ACCESS DANGEROUS AREAS, IT IS NECESSARY TO OPERATE SAFELY AND PERFORM ALL OPERATIONS AND PROCEDURES LAID DOWN IN THIS CHAPTER AND IN CHAPTER 6 "USE AND OPERATION". ACCESS TO DANGER ZONES IS RESERVED TO AUTHORISED PERSONNEL TO USE THE MACHINE AND SPECIALISED IN CARRYING OUT INTERVENTIONS.

Adequate prevention and protection measures have been taken to limit risks in the danger zones. Respect the indications provided in this manual, both procedural and concerning "Personal Protective Equipment". Refer to chapters 5 and 6 on safe operating procedures. In particular, the work area must be set up in such a way as to prevent access by anyone who is not involved in the collection of the chickens, in the interest of their safety. The diagram below shows the hazardous areas and work areas, and the layout of the workplace.

-ZP1 Hazardous area for collection and automatic movement of the machine.

-ZP2 Work area of the forklift truck for loading and unloading the cages.

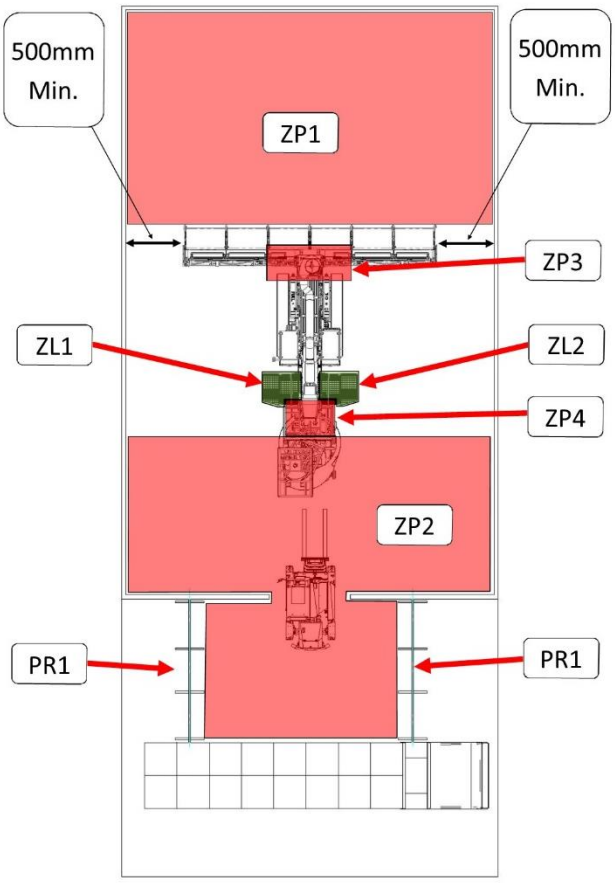


Fig. 3

-ZP3 Hazardous area where the chickens are put in cages. People must not enter this area or introduce their hands or arms.

-ZL1 Work area of the cager assistant.

-ZL2 Work area of the cager head.

-PR1 Protective devices at least 2 metres high cordoning off the work area. If necessary, lock any other doors that give access to the work area.

ADDITIONAL INFORMATION

THE VARIOUS RISK FACTORS DURING USE AND MAINTENANCE PHASES HAVE BEEN ASSESSED WHEN DESIGNING THE MACHINE AND THE RELATIVE MEASURES FOR PREVENTION AND PROTECTION WERE ADOPTED. HOWEVER, RESIDUAL RISKS REMAIN WHICH ARE LISTED IN PARAGRAPH 4.5.

4.1.7 ENVIRONMENTAL OPERATING CONDITIONS

The environment in which the machine is used is an outdoor environment sheltered from external agents such as aggressive corrosive vapours or sources of excessive heat.

In particular, the machine must operate in specific environmental conditions which include:

Environmental temperature range:	between -10°C and +45°C; Specific adjustments need to be made for operating outside this range.
Relative humidity.	between 5% and 85% without condensation
Altitude	2000 m maximum above sea level;

The use of the machine, of the associated control systems and the equipment operated under conditions other than those listed are not allowed.

In particular, the installation and operation environment must not present:

- Exposure to corrosive fumes;
- Exposure to excessive humidity (greater than 85%) and rapid changes in relative humidity (greater than 0.005 p.u./h);
- Exposure to excessive dust;
- Exposure to abrasive dust;
- Exposure to oily vapours;
- Exposure to explosive mixtures of dust or gas;
- Exposure to salt air;
- Exposure to vibrations, bumps or abnormal shocks,
- Exposure to adverse weather conditions exceeding limits or dripping;
- Exposure to unusual conditions of transport or storage (other than what is reported in Chapter 5);
- Exposure to high or rapid temperature variations (over 5 k/h);
- Presence of nuclear radiation.

If the chicken loader must operate under special environmental conditions, contact the manufacturer.

4.1.8 VIBRATIONS

Depending on the operating mode, the vibrations produced by the machine are not hazardous to the operator's health.

WARNING

EXCESSIVE VIBRATION CAN ONLY BE CAUSED BY A MECHANICAL FAILURE, WHICH MUST BE IMMEDIATELY REPORTED AND ELIMINATED, SO AS NOT TO JEOPARDISE THE SAFETY OF MACHINE OPERATORS.

The root mean square value of assessed acceleration rate is:

- Entire unit: aw = 0,4 +/-0,1 m/s^2 (according to UNI EN 1032)
- hand - arm: aha = 2,1 +/- 0,2 m/s^2 (according to EN ISO 5349)

The machine complies with vibration exposure limits.

The vibrations produced by the machinery, depending on the method of operation of the same, when used in accordance with the requirements of use and in compliance with current regulations, they are not hazardous to the operator's health.

4.1.9 NOISE

The determination of the sound pressure level at the operator position and the sound power level of the chicken loader is over 78 dB(A).

It is **the user's responsibility to apply preventive and protective measures, in accordance with the legislation of the country of installation.**

The use of personal noise protective equipment (earmuffs) for the operator of the machine is recommended.

WARNING

IT IS THE RESPONSIBILITY OF THE USER TO PERFORM NOISE RISK ASSESSMENT AND APPLY PREVENTIVE AND PROTECTIVE MEASURES, IN ACCORDANCE WITH THE LEGISLATION OF THE COUNTRY OF INSTALLATION.

DANGER

DURING ADJUSTMENTS ON THE MACHINE, IT IS NECESSARY TO USE HEARING PROTECTION DEVICES.

4.1.10 ELECTROMAGNETIC EMISSIONS

The machine contains electronic components subject to regulations on Electromagnetic Compatibility, affected by radiated and conducted emissions.

Emission values conform to regulatory requirements through the use of components that comply with the EMC Directive, appropriate connections and installation in accordance with the requirements of component suppliers.

The machine is therefore subject to the directive on Electromagnetic Compatibility (EMC).

WARNING

ANY MAINTENANCE ACTIVITIES ON ELECTRICAL EQUIPMENT BUILT IN SUCH A WAY THAT DOES NOT CONFORM OR INCORRECT REPLACEMENT OF PARTS MAY IMPAIR THE EFFECTIVENESS OF THE SOLUTIONS ADOPTED.

4.2 DISPOSAL OF WASTE MATERIAL

The machine, after its installation and during normal operation, does not cause environmental contamination but during the entire period of use, some types of waste or exhausted materials are nevertheless produced under certain conditions such as the replacement of filters or filling/refilling with oil.

To dispose of these materials, specific regulations for the protection of the environment exist in each country.

It is compulsory for the customer to be aware of the laws in force regarding their country and operate in such a way as to comply with these laws in accordance with the indications given on the technical specifications of the products used. Technical datasheets annexed to this manual Chapter 9.

WARNING

REMEMBER TO COMPLY WITH LAWS IN FORCE CONCERNING DISPOSAL OF MINERAL OILS.

Additional **INFORMATION**

FURTHER INFORMATION CONCERNING DISPOSAL OF OILS AND OTHER SUBSTANCES CAN BE FOUND ON THE SAFETY SHEETS OF THE SUBSTANCES THEMSELVES. Chapter 9

Disposal of toxic waste during collection, transportation and treatment phases, intended as a transformation operation necessary for recovery, as well as the deposit and dumping in the ground, constitutes an activity of public interest subject to the observance of the following general principles:

a) **Any damage or risk for the health, protection and safety of the collectivity and of individuals must be avoided.**

b) **The respect of hygiene and sanitary requirements must be guaranteed and any risk of pollution of air, water, soil and subsoil must be avoided**.

Systems for the recovery and recycling of materials and energy should be promoted, with the observance of economic criteria and efficiency.

4.2.1 INDICATIONS FOR SPECIAL WASTE

Special waste is residue resulting from industrial processing and materials coming from the demolition of deteriorated and obsolete machinery and equipment.

Producers of special waste, even toxic and harmful, are obliged to dispose of it, either directly or through authorised companies or bodies or by conferring the waste to subjects who manage the public service with which a specific convention has been stipulated.

Each town/city is obliged to provide the region with all the information available concerning waste disposal in the territory.

IMPORTANT INFORMATION FOR THE USER IN COMPLIANCE WITH THE "WEEE" DIRECTIVE 2002/96/EC AND SUBSEQUENT AMENDMENT 2003/108/EC ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT.

In compliance with the "WEEE" Directive 2002/96/EC and subsequent amendment 2003/108/EC, **if** purchased equipment is marked with the following symbol of the crossed-out wheeled waste bin, it means that the product must be collected separately from other waste at the end of its useful life.

Separate collection of this equipment/component having reached end-of-life is organised and managed by the manufacturer. Users who wish to dispose of the present appliance must therefore contact the manufacturer and abide by the system that has been chosen to allow separate collection of the appliance when reaching the end of its life.

Adequate differentiated waste collection for subsequent recycling, treatment and environmentally compatible disposal contributes to prevent negative effects on the environment and on human health and favours the reuse and/or recycling of the materials making up the appliance.

WARNING

ILLICIT DISPOSAL OF THE PRODUCT BY THE USER ENTAILS THE APPLICATION OF ADMINISTRATIVE SANCTIONS FORESEEN BY STANDARDS IN FORCE.

IMPORTANT

IN THE CASE THE CROSSED-OUT WHEELIE BIN SYMBOL IS NOT PRESENT ON THE EQUIPMENT, THIS MEANS THAT THE DISPOSAL OF THE PRODUCT ITSELF DOES NOT DEPEND ON THE MANUFACTURER. IN THIS CASE, STANDARDS IN FORCE CONCERNING WASTE DISPOSAL APPLY.

4.3 SAFETY DEVICES FITTED ON THE MACHINE

The following safety devices are therefore supplied with the machine:

- Extractable key lock-out so as not to allow any manoeuvres when the key is extracted. When the chicken loader is not in operation, the ignition key should be removed and kept by the driver or consigned to the Department Manager.
- Automatic parking brake
- Blocked descent of the collection head
- Automatic return to the neutral position of the control levers
- Drive system and control lever protection to prevent any start-ups from accidental impacts
- Reversing buzzer
- Front and rear work lights.

4.3.1 STOPPING

The machine is stopped by immediately releasing the control devices (manipulators, pedals) which return to neutral position causing the power outage of the hydraulic circuits.
In this way, the immediate stop of all machine movements is ensured.
The arrest can also be done by turning the starter key to the "OFF" position.

DANGER

IT IS ABSOLUTELY FORBIDDEN TO TAMPER WITH, REMOVE, BY-PASS THE DESCRIBED DEVICES.

PERIODICALLY, CHECK THE CORRECT OPERATION OF THESE DEVICES.

We suggest that you record, on the proper form, the periodic verification procedure of such devices.

4.3.2 FIXED GUARDS

Fixed-type protection is formed by fixed guards, which have the function of preventing access to the movements of the various parts of the machine during the operating cycle.

The machine is equipped with fixed protection guards installed in areas with exclusive access during maintenance procedures. These require special tools for removing them.

DANGER

IT IS STRICTLY PROHIBITED TO RESTART THE MACHINE AFTER MAINTENANCE, WITHOUT MOUNTING THE FIXED GUARDS PROPERLY.

Periodically check the integrity of the fixed guards and their fixing to the structure, paying special attention to the casings accessing machine mechanics.

4.4 PERSONAL PROTECTIVE EQUIPMENT

Personnel in charge of operation, use and maintenance who perform the various activities allowed on the machine must use personal protective equipment, allowing them to reduce all possible risks deriving from the execution of these activities, such as:

- helmet for head protection;
- safety goggles or mask to protect against chips or dust resulting from the machine work environment;
- masks to protect from any fumes, inhalation, etc. if this risk is present on the machine and/or arising from the risk of machine cleaning cycles;
- gloves, safety shoes or boots according to need and compliant with the types of products used in the process in question;
- ear protection.

WARNING

CLOTHING OF THOSE OPERATING OR PERFORMING MAINTENANCE ON THE MACHINE MUST COMPLY WITH THE ESSENTIAL SAFETY REQUIREMENTS DEFINED BY EU DIRECTIVES 89/656/EEC AND 89/868/EEC AND BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.

DANGER

DURING MANAGEMENT AND MAINTENANCE OPERATIONS, PERSONNEL MUST WEAR ADEQUATE WORK CLOTHING TO BE ABLE TO PREVENT ACCIDENTS FROM OCCURRING.

IN ORDER TO AVOID RISKS OF A MECHANICAL NATURE SUCH AS DRAGGING, ENTRAPMENT ETC., IT IS FORBIDDEN TO WEAR OBJECTS SUCH AS BRACELETS, WATCHES, SCARVES, RINGS OR CHAINS DURING THE WORK CYCLE AND MAINTENANCE OPERATIONS.

DANGER

WHEN PERFORMING TASKS THAT MAY GIVE RISE TO THE PROJECTION OF CHIPS OR HAZARDOUS MATERIALS FOR HIM/HERSELF OR FOR OTHERS WHO OPERATE AT CLOSE RANGE, THE OPERATOR MUST PROVIDE, OR REQUIRE FROM THOSE IN CHARGE, SCREENS OR OTHER APPROPRIATE SECURITY MEASURES.

WARNING

IT IS THE PRECISE RESPONSIBILITY OF THE END USER TO ENSURE THAT THE APPOINTED PERSONNEL IS DULY INSTRUCTED ON RESIDUAL RISKS ASSOCIATED WITH THE USE OF THE MACHINE AND USE OF THE PPE PROVIDED IN ADDITION TO EVALUATING ANY NEEDED INTEGRATIONS.

SYMBOL	MEANING	NOTES
	It is compulsory to use a protective helmet.	It indicates a requirement for staff to use a helmet. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance.
	It is compulsory to use a protective shield.	It indicates a requirement for staff to use a protective shield. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance. The use of protective shield is prescribed in the case of risk of ejection of objects or material.
	It is compulsory to use a safety goggles.	Indicates a requirement for staff to use protective goggles. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance.
	It is compulsory to protect respiratory airways.	It indicates a requirement for staff to use respiratory protection. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance. The use of respiratory protection is prescribed in the case of risk due to the environment in which it operates and in the presence of dust or gas.
	It is compulsory to protect your hearing.	It indicates a requirement for staff to use headphones or ear plugs to protect the hearing apparatus. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance.
	It is compulsory to wear protective and insulating gloves.	Indicates a requirement for staff to use protective insulating gloves. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance.
	It is compulsory to wear safety footwear.	It indicates a requirement for staff to use protective footwear. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance.

SYMBOL	MEANING	NOTES
	It is compulsory wear appropriate work clothing.	It indicates a requirement for staff to use protective footwear. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance.
	Safety belts and protective devices are compulsory for all work at height.	It indicates a requirement for staff to use safety belts and protective devices for all work at height or in positions which cannot be reached from the ground. PPE to be used whenever you are working with the machine and/or at the processing site or during maintenance in positions which cannot be reached from the ground. Also ladders or platforms etc. must comply with the legal provisions in force.
	It is compulsory to use approved ropes and chains	It indicates a requirement for the equipment used. Always inspect ropes and chains before their use and in any case carry out periodic checks on a regular basis.
	It is compulsory to use warning vests	It indicates a requirement for staff to wear appropriate work clothes during the use of forklifts.

NOTE

THE PPE SHOWN ARE TO BE INTEGRATED BY THE USER DEPENDING ON THE WORK SITE, (TYPE AND MATERIALS OBJECT OF PROCESSING ETC.) OF THE REQUIREMENTS AND IN ACCORDANCE WITH THE PROVISIONS IN FORCE IN THE COUNTRY OF USE.

4.5 RESIDUAL RISKS

In the design phase of the machine, zones or parts at risk were assessed and were therefore all necessary precautions to avoid any risk to people and damage to components of the machine have been taken as indicated in the previous paragraphs.

WARNING

PERIODICALLY CHECK THE FUNCTIONING OF ALL THE SAFETY DEVICES.

DO NOT REMOVE THE FIXED OR MOBILE GUARDS OF THE MACHINE.

DO NOT INTRODUCE FOREIGN OBJECTS OR EQUIPMENT IN THE OPERATION AND WORK AREA OF THE MACHINE.

Although the machine is equipped with the safety systems mentioned above, some risks that cannot be eliminated remain but are reducible by corrective actions by the final user and by correct operational procedures mandatory for anyone working on the machine.

The following is a summary of the risks which remain in the machine during:

- Normal operation
- Adjustments and fine tuning
- Maintenance
- Cleaning.

4.5.1 IMPACT AND CRUSHING:

- The machine in question is self-propelled, so it has moving parts:
  - Tracks;
  - Conveyor belts;
  - Mobile structures, actioned by hydraulic pistons;
  - Rollers and cylinders;
- Crushing between the machine and/or the walls of the farm.
- Before performing any manoeuvres and/or handling, ensure that the task that you are performing does not determine risk of impact or crushing to the operator or to the staff on the site of use.
- Before applying the electrical energy and water supplies, make sure that there are no maintenance tasks being performed on the machine.
- On the pressure regulator valve and on the filters, there may be a residual pressure which, in case of interventions on the component, could cause dangerous situations. Before maintenance, it is necessary to always check that the fluid circuit is empty and depressurised.
- When moving, lifting and lowering the head, people working nearby run the risk of being crushed by the machine also as a result of accidental activation of the controls.
- During loading, the cager belt moves automatically to get nearer the module to be filled with chickens, so operators must keep away from the area between the belt and the modules. If you need to intervene manually in order to clear the unloading area, stop the machine and secure the area before accessing it. The danger area is highlighted in the drawing on Fig. 3 page 4-8 and Fig. 4 page 4-18 and indicated as "ZP4".

Fig. 4

4.5.2 SHEARING:

Risk of shearing can occur mainly as a result of the operator approaching the machine with moving parts only if the protections guards on these moving parts such as couplings, carter, etc. have been removed

This risk is also posed by the moving parts of the cager belt during the loading process, when one of the two operators activate swinging of the belt.

In particular, the risk is present in the work areas and each part of the farm or maintenance workshop where the machine is operated. A risk of shearing which must be avoided by setting up panels or mesh screens to cordon off areas, and closing any passageways to prevent unauthorised access.

- Before applying the electrical energy and water supplies, make sure that there are no maintenance tasks being performed on the machine.

WARNING

IT IS ABSOLUTELY FORBIDDEN TO REMOVE THE SAFETY GUARDS OR OPEN MACHINE PARTS WITH INSPECTION DOORS EQUIPPED WITH CLAMPING SCREWS WITHOUT FIRST HAVING ISOLATED THE POWER SUPPLY OF THE MACHINE.

DO NOT INTRODUCE FOREIGN OBJECTS OR EQUIPMENT IN THE OPERATION AND WORK AREA OF THE MACHINE.

4.5.3 ELECTROCUTION:

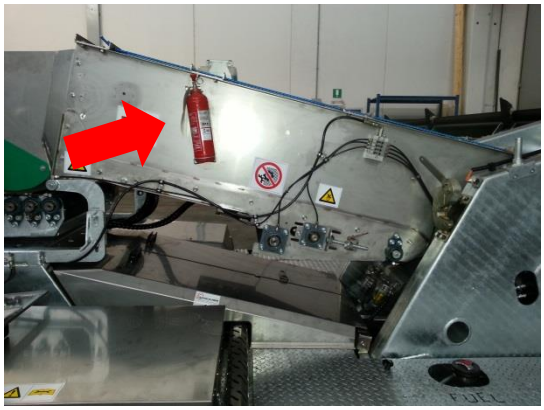
- Risk of breakage or damage, with possible lowering of the security level, of the components of the electrical equipment as a result of a short circuit.
- Before connecting the power supply, make sure there are no ongoing maintenance tasks and that no one is working on the machine.

WARNING

IT IS STRICTLY PROHIBITED TO MAKE ANY ALTERATIONS IN ORDER NOT TO CREATE UNINTENDED ADDITIONAL HAZARDS AND RISKS.

4.5.4 FIRE:

In the event of faults or damage, the plastic material used (i.e. sheaths, electrical cables) is self-extinguishing and compliant with regulations.
An extinguisher is provided in the most accessible area of the machine, which must be used to allow operators to reach the nearest place of safety. Always consider the safety of people first and foremost. Do not attempt to put out a fire with the extinguisher provided if this can endanger the life of the people present.



- The user must assess the need for an adequate fire protection system for the machine/site where the machine is used, in compliance with current safety standards and fire prevention in the country of the user and the internal regulations of the site/plant.
- Do not use open flames or smoke near the machine in operation.
- The machine is not equipped with a first aid box. It is the user's responsibility to evaluate the need to supply it.

DANGER

IN THE EVENT OF FIRE, ALWAYS STOP THE MACHINE AND DISCONNECT ALL POWER SOURCES.

4.6 EXPLOSIVE ATMOSPHERE:

The machine **is not fit to work in explosive or classified environments**.

- It is strictly forbidden to use it in explosive or partly explosive atmosphere.

The machine **is therefore not suitable to operate in the following environments:**

- **explosive or partly explosive**
- **classified as so**
- **where there are corrosive atmospheres**
- **where there are high concentrations of dust**
- **in which there is a high concentration of suspended oils**.
- **with risk of fire that can be set by any materials or source**

- It is strictly forbidden to use the same in all environments listed above.

4.6.1 BLINDING:

Risk present in all phases of maintenance and cleaning.

- When cleaning the machine with compressed air, personnel must wear the specific protective goggles.

WARNING

THE USE OF EYE AND FACE PROTECTION IS COMPULSORY.

4.6.2 FALLING OR EXPULSION OF OBJECTS:

- Avoid leaving, even temporarily, tools and items along and above the machine to avoid the fall thereof.
- Use the machine in accordance with the requirements given in this manual and rules of good conduct.

WARNING

THE USE OF PROTECTIONS FOR THE OPERATOR'S HEAD (PROTECTIVE HELMETS) AND FACE (PROTECTIVE SCREEN) AND BODY IS COMPULSORY.

IT IS THE RESPONSIBILITY OF THE USER/CLIENT TO PROVIDE FOR OTHER ALTERNATIVE PROTECTION SYSTEMS BUT OF EQUAL EFFICACY TO THOSE SHOWN.

4.6.3 SLIPPING:

Any leakage of lubricants and/or residue can cause slipping of personnel appointed for use and operation.

WARNING

ACCESS WORK AREAS WITH NON-SLIP SHOES AND ALWAYS KEEP THEM CLEAN. CARRY OUT ROUTINE INSPECTIONS DEPENDING ON THE USE.

4.6.4 WHIP EFFECT:

The breaking or damaging of hoses or piping under pressure of fluidic systems can cause pipe whipping motions.

- It is compulsory to carry out checks and periodical replacement of anchors and pipe work.
- Do not use rigid or flexible fluid piping as footholds.
- All hydraulic hoses must be laid down in points close together to avoid "the bullwhip effect" or protected by other guards that avoid or retain the "jet" leakages.

4.6.5 TRIPPING:

Disorderly cluttering of material can entail the risk of tripping and partial or total limitation of the escape ways when needed.

- Keep operational and transit areas and escape routes free from obstacles and compliant with standards in force.

4.6.6 CIRCUIT FAILURE:

Due to possible faults, safety and power supply circuits/control components can lose some of their effectiveness with its lowering of the level of safety.

- Perform routine checks on the state of operation of devices/components present on the machine and at all connections.

4.6.7 RISK OF BURNS:

Due to the temperature on the engine and on the pump, there is a potential risk of getting burnt only in the case of maintenance tasks on these elements.

This risk is also posed by the fume exhaust pipe of the Diesel engine. Especially if the optional fume exhaust is installed on the side. In order to avoid any accidental contact, a protection plate is installed with a sticker warning about this risk. See fig.: **Errore. 'origine riferimento non è stata trovata.** on page **Errore. Il segnalibro non è definito.**

- Inform the personnel appointed for maintenance activities or those who access the diesel engine, the pump and the exhaust pipes.
- • Access these zones by waiting for the cooling of such parts and with appropriate protective gloves paying the utmost attention.
- There are plates on the machine warning operators of the risk of superheated surfaces.

4.6.8 LIGHTNING:

- Inform the personnel appointed to maintenance activities and make sure they are instructed to perform the activity and be aware of the risks present.
- It is forbidden to perform outside any activity on the machine in case of adverse weather conditions (risk of lightning or thunderstorms).
- Always use protective clothing appropriate to the maintenance task to be carried out, with particular attention in the case of electrical works (see also **EN50110-1**)

4.6.9 NOISE:

Staff who will have access to the machine while it is running are required to use the appropriate noise protection devices. The noise level is above 78 db.

4.6.10 VIBRATIONS:

During normal operation, the machine does not present conditions of dangerous vibrations for the operator.
Any conditions of abnormal or excessive vibration may be caused by a malfunction of the rotating parts of devices such as pumps, motors etc.

Under these circumstances, maintenance personnel must be immediately alerted and stop the machine to check/repair.

4.6.11 LOSS OF STABILITY:

There is a risk of tipping or sliding when the ground is uneven and on a slope.
The gradient of the ground must not exceed 15°, i.e. 25%.

4.6.12 TIPPING OR SLIDING:

Tipping over may result in the operator being crushed between the machine and the ground or surrounding structures. Sliding may result in the operator's legs getting crushed between the tracks and the ground. If this happens, immediately ask the other operator part of the team for help - the machine is in fact designed to be operated by at least 2 people.

Use the machine in accordance with the requirements given in this manual and rules of good conduct.

4.6.13 FALLING WHILE GETTING UP/DOWN FROM THE DRIVER'S SEAT:

Although the work station on the platforms of the trucks is not particularly high above the ground, cager workers can still run the risk of falling when filling the cages for transporting the animals. Pay close attention when ascending and descending the machine, grab onto three support points and use the machine in accordance with the requirements given in this manual and rules of good conduct.

4.7 ADDITIONAL RECOMMENDATIONS AGAINST DANGER

DANGER

THE HIGH PRESSURE FLOW ON THE HYDRAULIC PIPING CAN CAUSE SERIOUS INJURIES.

ALWAYS CUT POWER TO THE MACHINE BEFORE ANY MAINTENANCE WORK AND NEVER TOUCH THE PIPING UNDER PRESSURE.

DANGER

ONLY USE PARTS, PIPING AND FITTINGS FOR THE HIGH PRESSURE SIDE THAT ARE APPROVED FOR A SERVICE PRESSURE HIGHER THAN THE MAXIMUM PRESSURE FORESEEN WITH DUE SAFETY FACTORS.

DANGER

NEVER EXCEED THE PRESSURE AND OPERATING SETTINGS ESTABLISHED BY THE MANUFACTURER..

4.8 ADDITIONAL WARNINGS

WARNING

MAKE SURE THAT ALL PERSONNEL APPOINTED TO MAINTENANCE AND THE USE OF THE MACHINE IS ADEQUATELY TRAINED ACCORDING TO PROPER SAFETY PROCEDURES AND OPERATIONS.

MAKE SURE THAT ALL THE PERSONNEL ARE AWARE OF THE RISKS ASSOCIATED WITH USE OF THE PUBLIC WORKS VEHICLES FOR THE AUTOMATIC LOADING OF CHICKENS.

WARNING

NEVER PERFORM MAINTENANCE ON THE EQUIPMENT WHILE RUNNING.

WARNING

IT IS PROHIBITED TO STAND OR MOVE UNDER THE CAGER BELT OR IN FRONT OR NEXT TO THE COLLECTION BELTS DURING THE COLLECTION PROCESS. IT IS PROHIBITED TO ENTER OR STAND IN THE AREA WHERE THE ANIMAL TRANSPORT CAGES ARE BEING LOADED AND UNLOADED.

WARNING

MAKE SURE THAT ALL SAFETY DEVICES ARE CONNECTED AND IN GOOD WORKING CONDITIONS. NEVER MODIFY OR BY-PASS ANY SECURITY DEVICES.

WARNING

DURING BOTH PHASES OF MAINTENANCE AND OPERATIONS, IT IS RECOMMENDED TO PAY ATTENTION TO THE TEMPERATURE OF THE DIESEL ENGINE, OF THE PUMP AND EXHAUST PIPE; THESE PARTS CAN REACH TEMPERATURES HIGHER THAN 50°C IN NORMAL OPERATION, SO CONTACT MUST BE AVOIDED.

WARNING

- **NEVER PUT YOUR HANDS AND FEET IN FRONT OF THE BELTS OR BETWEEN THE MUD GUARDS AND THE BELTS.**
- **NEVER BRING YOUR HANDS OR ARMS CLOSE TO THE CONVEYOR BELTS WHEN THE MACHINE IS RUNNING.**
- **THE AREA MUST BE CORDONED OFF WHILE THE CAGES ARE BEING FILLED. TAKE APPROPRIATE MEASURES TO PREVENT ALL UNAUTHORISED ACCESS.**
- **THE MACHINE MUST BE USED ONLY BY PERSONNEL TRAINED IN ITS USE AND IN POSSESSION OF THE NECESSARY PPE, NAMELY GLOVES, SAFETY GLASSES AND EAR PROTECTION.**

WARNING

OPERATING ON SNOWY, ICY OR DANGEROUS SURFACES: WHEN WORKING ON ICY OR SNOWY ROADS, EVEN A SLIGHT SLOPE CAN CAUSE THE LATERAL SLIPPING OF THE MACHINE, THEREFORE, YOU SHOULD ALWAYS MOVE AT LOW SPEEDS AND AVOID STARTS, STOPS, OR SUDDEN ABRUPT STEERING.

AVOID USING THE MACHINE ON BORDERS, COASTLINES, PROTRUSIONS OR EDGES OF DITCHES.

THESE SURFACES MAY MAKE THE MACHINE COLLAPSE, DROP OR TIP OVER CAUSING SERIOUS INJURY OR DEATH.

WARNING

ASCENT AND DESCENT FROM THE MACHINE:

DO NOT JUMP OFF OR ON THE MACHINE BOTH WHEN STOPPED AND WHEN IT IS MOVING.

TO GET ON OR OFF FROM THE MACHINE, USE THE PROVIDED ACCESS; GET ON OR OFF FROM THE MACHINE CALMLY AND CAREFULLY.

DO NOT CLING OR LEAN ON THE CONTROL LEVERS FOR BOTH THE ASCENT AND DESCENT FROM THE MACHINE; ALWAYS MAINTAIN THE THREE-POINT CONTACT (OR SOCKETS) TO MAKE SURE YOU DO NOT LOSE YOUR BALANCE AND THEN FALL.

4.9 WARNING PLATES

Depending on the risks of various nature identified for the machine, CMCALABRIA Srl has equipped the machine with warning, recommendation and obligation plates defined in accordance with the European legislation on graphical symbols for use on equipment (Directive 92/58/EEC).
The plates in question are in clearly visible positions as shown in the layout below.

WARNING

IT IS STRICTLY FORBIDDEN TO REMOVE THE WARNING PLATES PRESENT ON THE MACHINE. CMCALABRIA SRL DECLINES EVERY RESPONSIBILITY OVER THE SAFETY OF THE MACHINE IN CASE OF NON-OBSERVANCE OF THAT PROHIBITION.

WARNING

AS A RESULT OF THE USE OF THE MACHINE WITHIN A PRODUCTION SITE, THE CUSTOMER/END USER WILL INSTALL, DEPENDING ON THE RISKS, REQUIRED SIGNS.

ATTENTION

THE USER IS OBLIGED TO REPLACE THE WARNING PLATES THAT, AS A RESULT OF WEAR AND TEAR, ARE ILLEGIBLE.

NOTE

FOR THE TYPE AND LOCATION OF WARNING PLATES PLACED ON THE MACHINE, REFER TO THE NEXT SECTION OF THIS CHAPTER IN WHICH THE SAME ARE SHOWN.

4.10 LAYOUT POSITION OF WARNING PLATES

Fig. 5

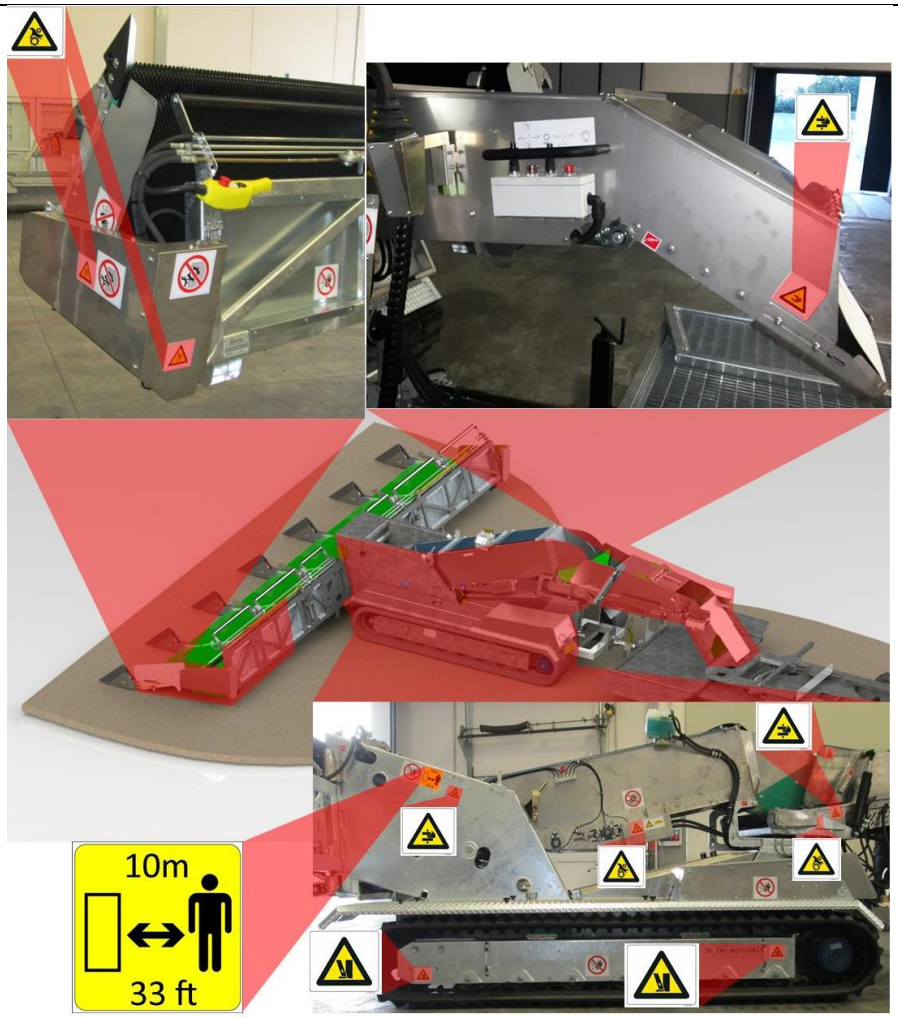


Fig. 6

Fig. 7

4.11 ACTIVE SAFETY DEVICES, EMERGENCY STOP

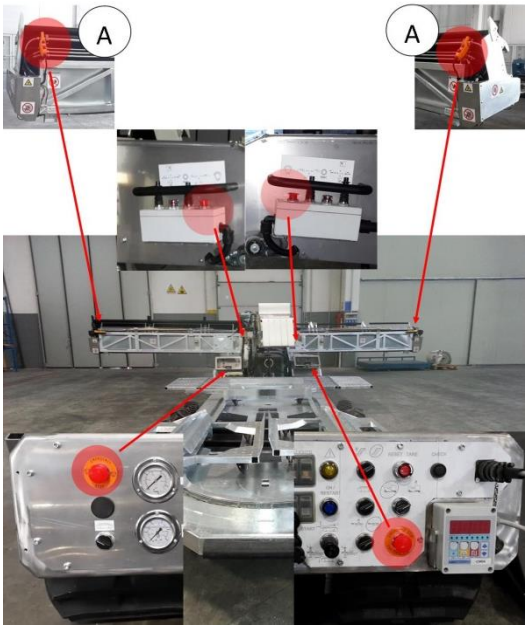


Fig. 8

-"A"- With option of steering devices on wings only.

Emergency button test procedure:

- Make sure that the environment is well ventilated, and follow the instructions in section 4.1.7.
- Make sure that the battery is engaged by inserting and turning the battery release key. Turn the key in the direction of the arrow, as shown in the picture, as far as it will go.

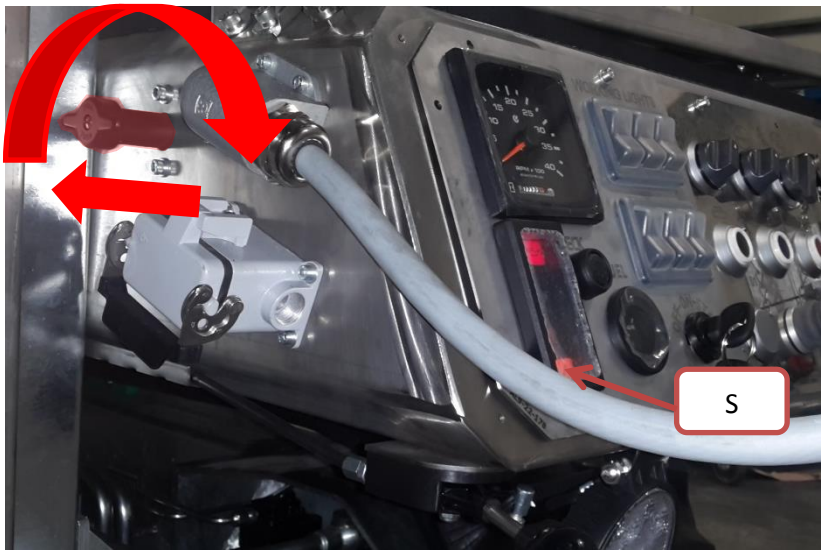


Fig. 9

- Turn the engine ignition key to the first "click" and wait 10-15 seconds for the engine to pre-heat.

If the "S" lights on the electrical panel in Fig. 9 do not switch on, it means the battery is low.
To turn the engine on, you can use an external battery connected to the socket indicated in the side figure.

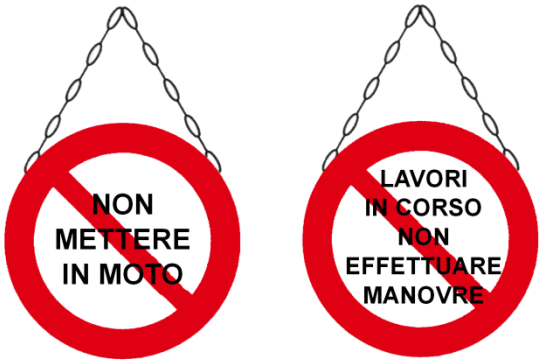
- Turn the key completely to start up the engine.

Do not touch any of the controls on the various panels if you are not qualified to run the machine.

- Press the nearest emergency button and check that the machine turns off, then reset the button.
- Restart the machine and press each button on the machine in turn. The Fig. 8 on page 4-28 will help you identify them.
When you are sure to have checked all the buttons, turn the battery release key Fig. 9 anticlockwise.

If even just one button does not stop the machine, you should put up a "maintenance in progress" sign and ask an electrician to locate and resolve the problem.

An example of a suitable sign is shown in the picture.



5. INSTALLATION

CHAPTER 5

INSTALLATION

5.1 GENERAL INFORMATION

WARNING

CONSIDERING THAT INSTALLATION OPERATIONS (INCLUDING INSTALLATION AND COMMISSIONING) CAN PRESENT RISKS FOR UNSKILLED PERSONNEL AS THEY REQUIRE SPECIFIC KNOWLEDGE OF THE MACHINE, THE MANUFACTURER DECLARES THAT THE MACHINERY MUST BE MOVED AND INSTALLED AT THE CUSTOMER'S SITE EXCLUSIVELY BY TRAINED AND INSTRUCTED PERSONNEL.

5.2 CONDITIONS OF SUPPLY

5.2.1 PACKAGING

The machine is shipped by CIEMMECALABRIA S.R.L., from the production plant to the end user.

Depending on the distance of transportation and according to the customers' specific requests, the shipment of the machine takes place in the following ways:

- standard protective packaging for short and medium distances
- special protective packaging for long distances.

Shipping must be performed with covered and canvassed transportation vehicles depending on the type of load.

5.2.2 TRANSPORTATION OF THE MACHINE ON A VEHICLE - LOADING AND UNLOADING

5.2.2.1 LOADING THE MACHINE ON A TRAILER FOR ROAD TRANSPORT

Loading and unloading of the machine on the vehicle always involve dangerous conditions; be very cautious throughout these operations
Loading and unloading of the machine must take place on level ground and at a safe distance from the edges of ditches, objects, equipment or the road.
Block the machine with wedges in front of and behind each wheel.
Make sure the ramps are sufficiently strong.
Use ramps that are able to withstand the weight of the machine and with adequate width, placed parallel with the longitudinal axis, perpendicular to the load side by checking that they have a wheel base appropriate to the machine. Below are given the measures and the load distribution data of the machine and various trucks.

Make sure the ramps are firmly anchored to the loading plane and that they have the same length.
Position the ramps with a maximum angle of 15°.
Check that the ramps are free from traces of oil, grease, dirt and ice; remove any dirt from the wheels of the machine before starting the load.
Do not change direction on ramps; if some corrections are needed, drive the machine down from ramps again and find the exact trajectory.
The machine should go up on ramps with the implement aiming below the drive and lifted from the ground with or without the implement or with optional accessories.

5.2.2.2 TRANSPORTATION OF THE MACHINE ON A VEHICLE - LOADING AND UNLOADING

Once loading is over, stop the engine and remove the ignition key. Unhook the battery.
Block the machine with chains as indicated in pictures "A and B".
Immobilise the wings with ratchet straps as indicated in picture "C"

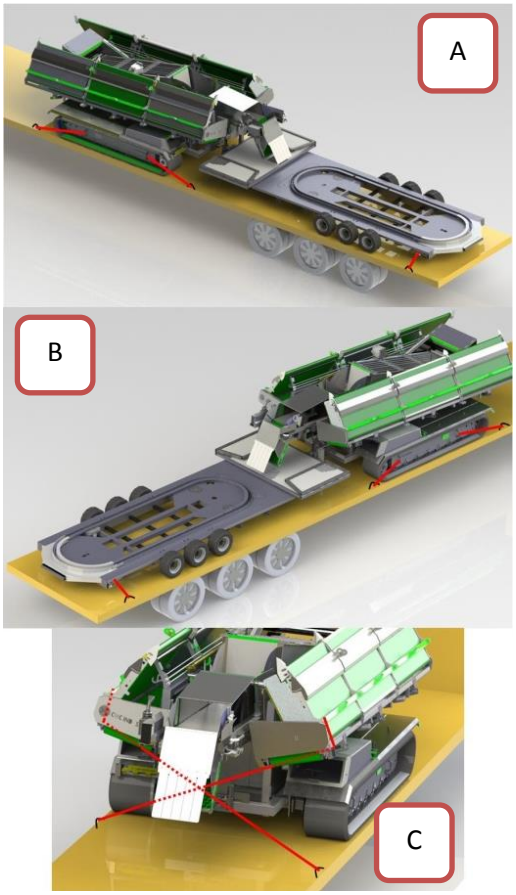


Fig. 10

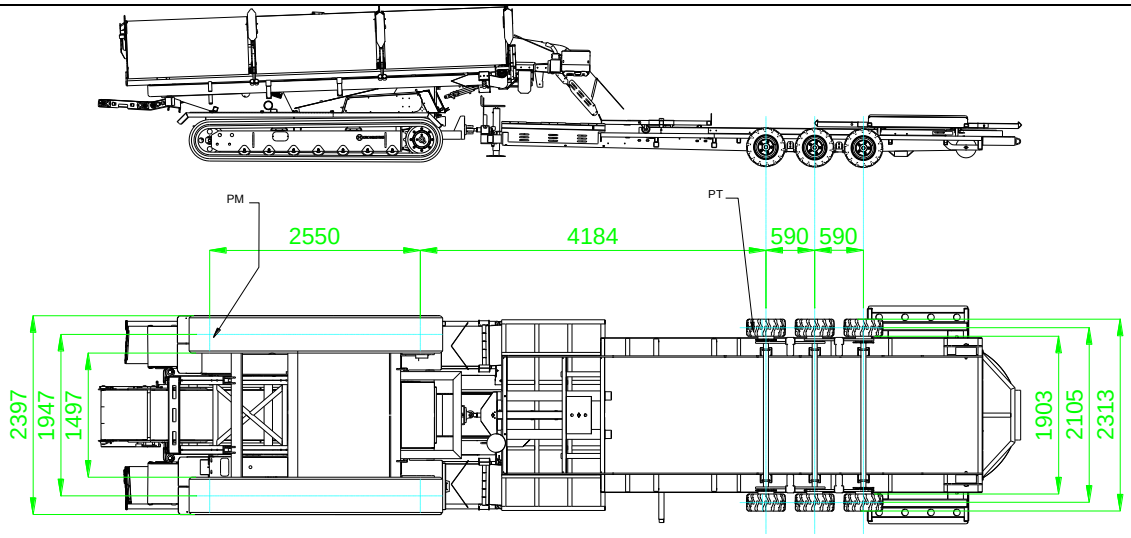


Fig. 11

PM: Weight of machine = 5310 kg
PT: Weight of just the CR2 truck and trays = 2600 kg

To unload the machine at the user's or other site, carry out exactly the reverse procedure above

WARNING

IN THE CASE OF ENCUMBRANCES, AND/OR OPERATIONAL SITUATIONS DO NOT ALLOW A PERFECT VIEW OF THE OPERATOR, THE PRESENCE OF STAFF IS EXPECTED TO ASSIST OPERATIONS LOCATED OUTSIDE THE RANGE OF THE MACHINE, WITH THE TASK OF CARRYING OUT REPORTS.

WARNING

THE LIFTING OF THE MACHINE WITH A CRANE OR BRIDGE CRANE OR OTHER LIFTING TRUCKS IS NOT ALLOWED SINCE THE MACHINE IS NOT EQUIPPED WITH LIFTING AND/OR ANCHORING ELEMENTS SUCH AS BOLTS OR STUDS HAVING THIS PURPOSE.

All the necessary information for the correct handling is provided in the documentation supplied with the machine such as:

- dimensions (length, width, height)
- gross weight
- notes and pictograms (e.g. fragile, high, etc.)
- address of receiver and sender

DANGER

BEFORE USE, CHECK THE STATUS AND CORRECT FASTENING OF THE MEANS AND DEVICES DESIGNED FOR LOADING AND UNLOADING SUCH AS RAMPS ETC. AND USE APPROPRIATE EQUIPMENT AND HARNESSES (APPROPRIATE PPE).

It is mandatory to wear safety gloves

It is mandatory to wear accident-prevention shoes

Always check ropes and chains before using them and in any case check them periodically.

- As far as possible, the operational area must be free of materials that can prevent or obstruct your view, limit escape routes, create obstacles or stumbling.

WARNING

PLEASE NOTE THE PRECAUTIONS AND WARNINGS LISTED BELOW IN ORDER TO ENSURE STABILITY AND AVOID THE RISKS ASSOCIATED WITH THE HANDLING OF THE MACHINE:

- do not improvise any manoeuvre if not officialised by skilled personnel.
- **Important**: the ramps and slides must be suited to the size of the machine.
- be careful not to stand under the ramps or in the immediate vicinity during loading and unloading.

Delegate these operations to trained personnel only.

5.3 PREPARATION OF OPERATIONAL ENVIRONMENT

5.3.1 GENERAL INFORMATION

With the proper exceptions accepted at the signing of the contract, the customer will have to provide for:

- the appropriate loading and unloading means (ramps etc.) suitable for the loads to be handled.

The above data are described in the previous paragraphs.

NOTE

CMCALABRIA SRL WILL NOT RESPOND TO ABNORMAL FUNCTIONING WHERE THE SUPPLY OF ENERGY, OIL, AND FUEL DOES NOT CORRESPOND TO THE SPECIFICATIONS REQUIRED FOR THE MACHINE.

The installation is performed by qualified personnel on the basis of the documentation provided by the manufacturer to the customer who must provide all necessary documentation for the preparation of the necessary infrastructure.

WARNING

IT IS THE RESPONSIBILITY OF THE CUSTOMER TO ENSURE THAT RAMPS, FLOOR/SURFACE SUPPORTS THE STATIC/DYNAMIC LOADS OF THE MACHINE AS A WHOLE.

ENVIRONMENTAL WORKING CONDITIONS ARE DESCRIBED IN CHAPTER 4 TO WHICH REFERENCE IS MADE FOR INFORMATION.

5.3.2 CHOOSING THE SITE AND VERIFYING REQUIREMENTS

Please note that the area of use of the machine must be wide enough for compliance with:

- technical clearances
- passages
- escape ways.

The final assessment in accordance with the provisions in force is however the sole responsibility of the customer.

The floor of the site chosen for the installation must be smooth, level and compliant to application specifications and able to withstand the weight of the machine.

The site must be set up in accordance with the domestic safety regulations in force.

The site must be equipped in accordance with the safety standards in force in the country. It is the responsibility of the buyer/customer, depending on the risk analysis carried out according to the intended end-use of the complete machine, to assess the minimum spaces necessary for all activities such as maintenance, inspection, and any passage areas, escape routes etc. in accordance with the regulations in force at the site of installation and the laws applicable in the country of use.

WARNING

DISPOSE OF ANY PACKAGING MATERIAL OF THE SUPPLIED MATERIALS IN ACCORDANCE WITH THE RULES IN FORCE IN THE COUNTRY OF INSTALLATION.
DISPOSAL OF PACKAGING IS AT THE CUSTOMER'S EXPENSE.

5.4 LUBRICATION OF MACHINE PARTS

Before starting up the machine, check whether any of its components require lubrication.
For the operations listed above, you must consult this manual at Chapter 7 "MAINTENANCE" in the section dedicated to the "Lubrication Plan".

5.5 CHECKS AND CONTROLS BEFORE COMMISSIONING

Before starting machine commissioning operations described in Chapter 6 "USE AND OPERATION" you need to run a series of general checks and controls.

DANGER

RUNNING THESE TESTS AND PREPARING FOR THE FIRST COMMISSIONING OF THE MACHINE MUST BE CARRIED OUT BY STAFF WITH APPROPRIATE SKILLS.

5.5.1 GENERAL CHECKS

Carry out general checks of the mechanical parts and in particular:

- perform a general visual inspection of the units that make up the machine, making sure that there are no particular mechanical anomalies, foreign bodies in the areas of work and that all components (electro-mechanical actuators, proximity switches, etc.) are properly attached and firmly positioned as expected by the design drawings.
- check that the mechanical units are perfectly fitted and aligned, connected and attached to its structure.
- check the tightness of the nuts and screws of the main components of the machine.
- check that the moving parts are greased and can move freely.
- Check that the area is suitable for installation of the machine: all the troughs measure more than 1800 mm in height. The entrance of the barn must measure more than 2500 mm in width and 1900 mm in height. It must be possible to cordon off the area to prevent unauthorised access.

Before starting the forklift truck, check the perfect functioning verifying:

- The fuel level.
- Electrolyte level in the battery: The batteries installed do not need maintenance, but they have an electrolyte level indicator which should be checked at least once a month! In case the indicator shows that the electrolyte level is low, refill with distilled water.
- Oil level in the engine and hydraulic tank.
- Level of coolant in the cooling system and the status of the belts.
- The status of the radiator. Clean if necessary.
- Any leakages of the engine, transmission, hydraulic system and fuel tank.
- The condition of the tracks, tyres and wheels of the trucks. Check the air pressure.

As reported in the respective manuals (which are an integral part of this use and maintenance manual) carry out all verifications relating to:

13. The diesel engine
14. Hydraulic pump
15. Belt transmission gears.

DANGER

THE CHECKS AND INSPECTIONS TO BE CARRIED OUT ON MECHANICAL UNITS MUST BE CARRIED OUT WITH THE MACHINE POWER OFF.

WARNING

PLEASE USE EXTREME CAUTION WHEN PERFORMING THE CHECKS ENSURING THAT THE WORKING AREA OF THE MACHINE IS FREE OF VARIOUS TOOLS AND FOREIGN OBJECTS AND THAT ALL RESIDUAL ENERGIES HAVE BEEN PREVIOUSLY DOWNLOADED.

WARNING

IF THE FORKLIFT DRIVER ASCERTAINS ANY TRUCK DEFICIENCY AND ITS CONTROL ELEMENTS AND FUNCTIONING, THE ISSUE MUST BE REPORTED TO THE PERSON IN CHARGE

DO NOT USE A FAULTY TRUCK.

IN THE EVENT THAT THE TRUCK NEEDS REPAIRING OR MAINTENANCE, POSITION THE SIGN "MACHINE UNDERGOING MAINTENANCE" AND REMOVE THE IGNITION KEY.

WARNING

BEFORE MAKING ANY MOVE, MAKE SURE THERE ARE NO FAULTS IN ORDER TO AVOID DAMAGING THE MACHINE.

5.5.2 WARNING IN CASE OF FROST

In case of frost, it is absolutely essential to prevent the formation of ice within the engine cooling circuit.

WARNING

Ice formation can result in serious damage.

To prevent the formation of ice, it is necessary to use antifreeze in the radiator of the diesel engine.

Dilution should be carried out according to the outside temperature, as indicated on the coolant container used.

When using antifreeze, remember to refer to the MSDS sheets concerning the proper use of the liquid and the PPE to use.

5.5.3 CHECKING THE SAFETY SYSTEMS

Before operating the machine, check that the machine is ready to be used and that fixed guards and safety devices are correctly installed and functioning properly.

The safety devices and their verification procedures are described in Chapter 4, "SAFETY."

NOTE

THIS PROCEDURE SHOULD BE ADOPTED AS A STANDARD MAINTENANCE PROCEDURE.

WARNING

WE DO NOT GUARANTEE THE SAFETY OF THE MACHINE IF SAFETY DEVICES HAVE BEEN REMOVED OR TAMPERED WITH.

5.6 PUTTING OUT OF SERVICE

The following paragraph contains some advice and indications for decommissioning, dismantling and removal of the machine at the end of its operational life.

For decommissioning, the following operations, as well as the instructions in the manuals of the components used and referred to in Chapter 9, should be taken into consideration.

The materials which make up the machine are essentially:

1) painted, galvanised or plasticised carbon steel (common iron);
2) 300/400 series stainless steel;
3) polyethylene plastic material;
4) elastomers, PTFE, graphite.
5) gear oil;
6) diesel engines;
7) centrifugal pump;
8) hydraulic pump, distributor;
9) electrical cables with sheath;
10) hydraulic cylinders;
11) glass;
12) electronic devices for monitoring and implementation.
13) etc.

Operations described below are allowed only to authorised personnel and appointed for this purpose:

- create sufficient space around the machine to perform all movements without risk to personnel.
- make sure that the machine is sufficiently cooled with particular reference to the pipes to fumes evacuation.
- disconnect the machine's power energy supply and lock in the open position.
- disconnect the hydraulic pipes having first downloaded any existing pressure.
- Always use appropriate PPE for these operations as indicated in chapter 4.

- only after all the above activities have been performed, proceed with the disassembling of the machine going from top to bottom and paying particular attention to units/machine parts subject to fall by gravity and all parts where traces of water can be found.
- for the disassembling of the motors, pump, heat exchanger, etc., refer to the manuals of these components present in the annexes.

DANGER

PAY UTMOST ATTENTION BECAUSE THE POSSIBLE FALL OF PARTS OR COMPONENTS DURING THE DECOMMISSIONING PHASE MAY REPRESENT A SERIOUS DANGER FOR THE PERSONNEL.

After having disassembled the machine according to the previous disassembling procedure, it is necessary to isolate the different materials in accordance with prescribed regulations of the country in which the machinery must be eliminated.

The machine does not contain dangerous substances or components which require special removal procedures.

- Remove the movable parts and separate the various components, as best as possible, according to type of material. SEPARATE the parts according to the type of material (plastic, metal, etc.) for the purpose of recycling.
- Entrust the waste disposal of the materials resulting from demolition to companies in charge of this.
- Remove and handle the various machine parts from the workspace by taking all the necessary precautions
- Before lifting parts of considerable size, verify the correct fitting of lifting devices and use only slings and suitable equipment.

NOTE

DISPOSAL OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LEGISLATION OF THE COUNTRY IN WHICH IT IS USED. IT IS THE USER'S OBLIGATION TO OPERATE WITHIN REGULATIONS IN THEIR OWN COUNTRY.

NOTE

IN CASE OF DIFFICULTY IN THE DISMANTLING, DEMOLITION AND DISMANTLING OF THE COMPONENTS THAT MAKE UP THE MACHINE, CONSULT THE TECHNICAL DESIGN OFFICE THAT WILL INDICATE THE OPERATING MODE IN ACCORDANCE WITH THE PRINCIPLES OF ENVIRONMENTAL SAFETY.

WARNING

KEEP IN MIND THAT SOME CONSIDERABLY LARGE AND HEAVY PARTS CAN ONLY BE HANDLED WITH ADEQUATE LIFTING EQUIPMENT.

WARNING

ALL DECOMMISSIONING ACTIVITIES SHOULD BE PERFORMED BY QUALIFIED AND TRAINED PERSONNEL WITH INDIVIDUAL PROTECTIONS EQUIPMENT (PPE).

Refer also to Chapter 4 in relation to section "**4.2.1 "SIGNS FOR SPECIAL WASTE"**

6. USE AND OPERATION

CHAPTER 6

USE AND OPERATION

This chapter is intended to provide the customer/purchaser general information concerning the proper management of the machine for the purposes of use and operation.

Further detailed information on the operation and use of the individual units that make up the machine are indicated in the documents annexed to this manual (Chapter 9).

6.1 GENERAL INFORMATION

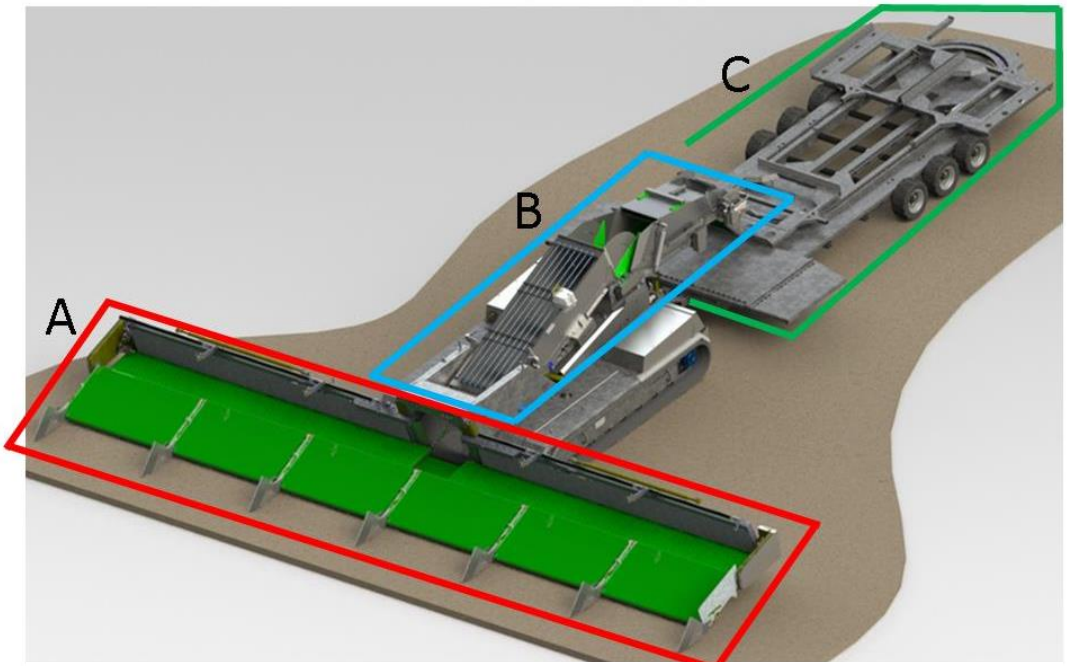


Fig. 12

"A" Collection head.
"B" Machine body.
"C" Cage holder cart. The cage holder cart can be different from the one in the picture. Different types are produced according to the cages used or the type of barns in which the animals will be placed.

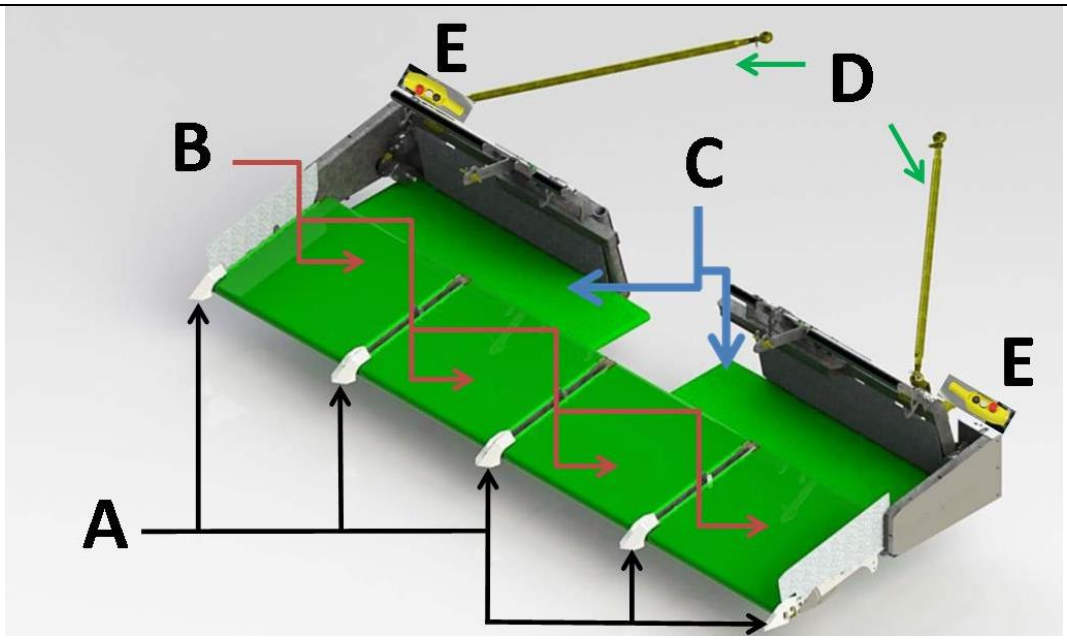


Fig. 13

"A" Collection belt tips.
"B" Collection belts.
"C" Transverse belts.
"D" Third point (Hold the collection heads in position).
"E" Track speed push button board (Optional).

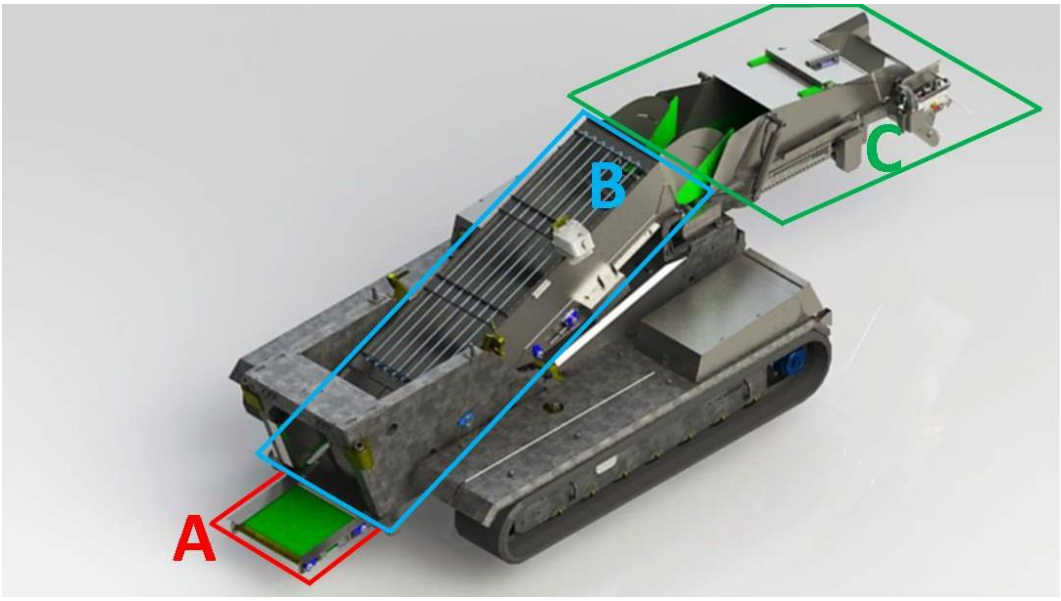


Fig. 14

"A" Front connection tape.
"B" Central channel.
"C" Caging Conveyor Belt.

CONTROL PANEL LOCATION

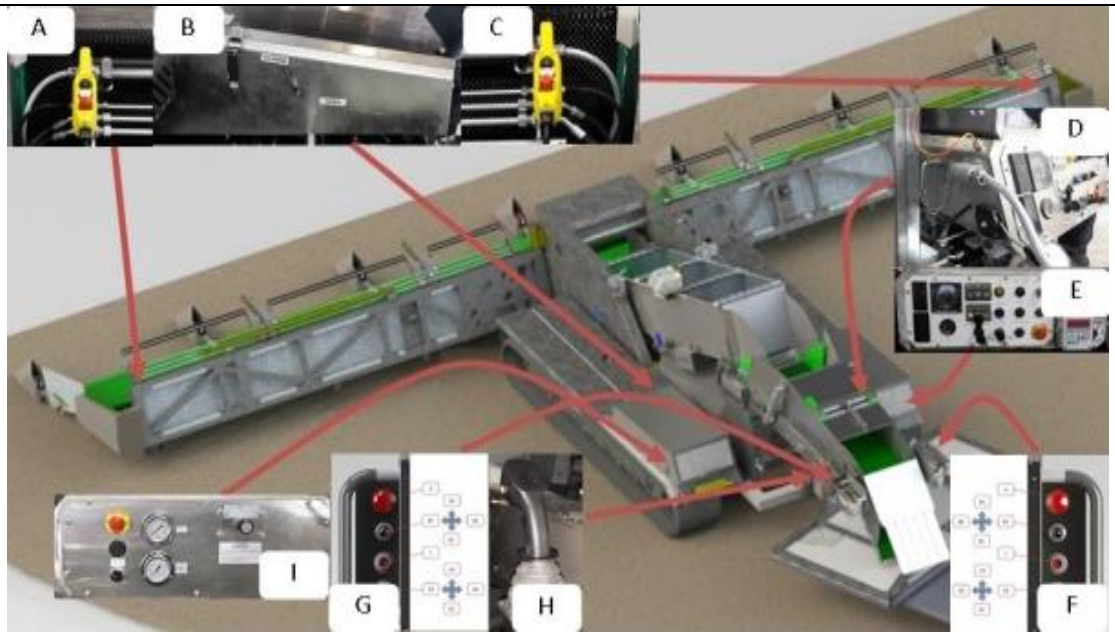
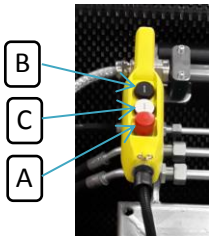


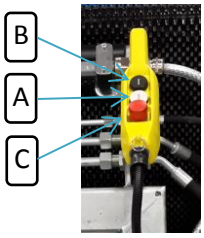
Fig. 15

A- Left steering push button board (Optional) Fig. 15 and Fig. 17
B- Hydraulic work station, head lowering safety valve
C- Right steering push button board (Optional) Fig. 15 and Fig. 16
D- Battery disconnecter left work station: it disconnects the "electric" mass of the battery during down time. Does not allow start-up if turned off. Warning: do not disconnect during machine operation.
E- Electric work station panel (THE MAIN CONTROL PANEL, EMERGENCY FUSES AND PROPORTIONAL EXCLUSION SELECTOR OF THE BELT ELECTRONIC CONTROL ARE INCLUDED)
F- Right cager push button board
G- Left cager push button board
H- Joystick.
I- Hydraulic work station panel (HYDRAULIC SOLENOID VALVES INCLUDED)



A- Emergency
B- Steer left
C- Steer right

Fig. 17



A- Emergency
B- Steer right
C- Steer left

Fig. 16

➢ NOTE If the steer left and right buttons are pressed at the same time, the tracks stop until they are released.

BUTTON AND JOYSTICK DESCRIPTION:

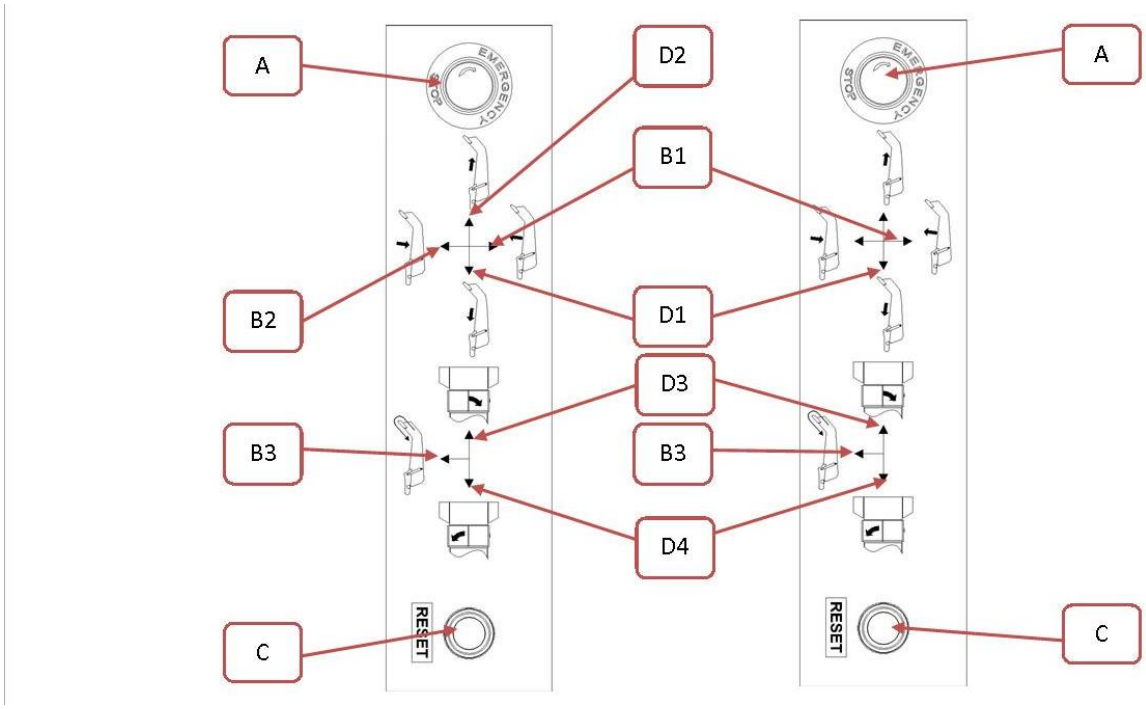


Fig. 18

A- Emergency button

B1- Lower cager channel

B2- Lift cager channel

B3- Cager channel belt start

B4- No function.

C- Tare Reset

D1- Distance cart from Apollo

D2- Bring cart near Apollo

D3- Anticlockwise chain rotation

D4- Clockwise chain rotation

OPERATOR PANEL CONTROL AND MESSAGE DESCRIPTION

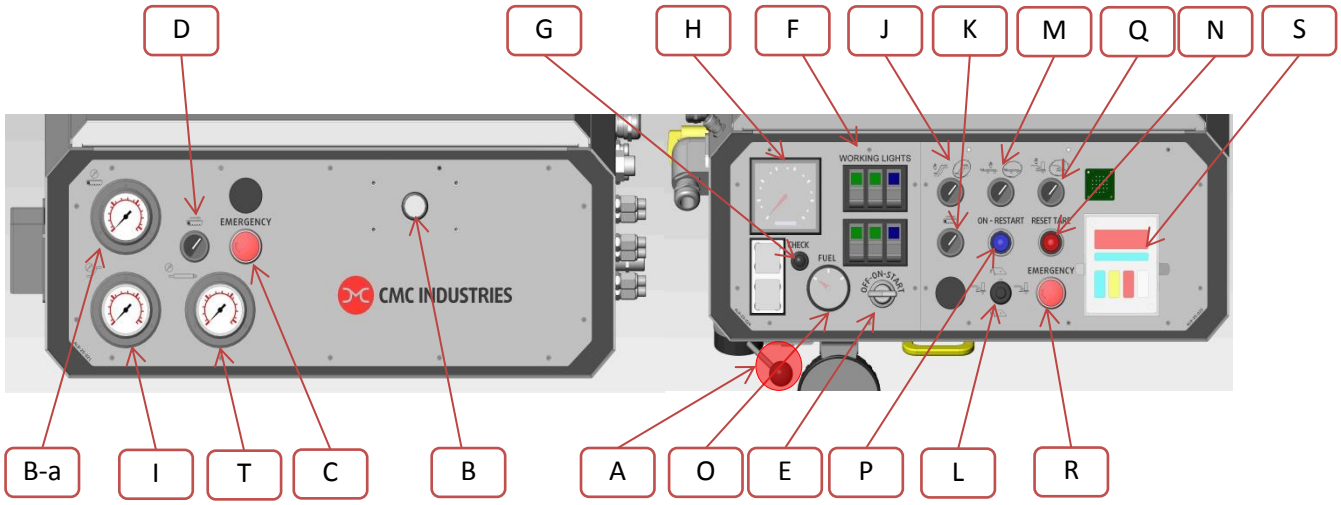


Fig. 19

A- Accelerator;
B- Machine progress regulation during work cycle;
B-a - Displays the regulated track speed percentage;
C- Emergency button;
D- Automatic progress selector during loading;
E- Control panel and Diesel engine ignition key;
F- Working light switches;
G- Broken light control button;
H- Diesel engine rev counter;
I- Conveyors working pressure;
J- Automatic belt functioning selector;
K- Automatic track functioning during loading selector;
L- Joystick to lift and lower the collecting head and adjust the travel cylinder of the cager belt inside the crates during filling;
M- Selector to activate or deactivate the automatic moving of the cage container towards or away from the cager belt;
N- Button to reset the scales;
O- Fuel level display;
P- Auxiliary circuit start;
Q- Selector to enable the entrance of the crates into the cager belt;
R- Emergency button;
S- Electronic control to set loading data and crate filling by weight;
T- Cylinders working pressure;

Diesel engine warning and emergency lights: "G-a" Fig. 19 page 6-4.

1. Battery;
2. Water temperature;
3. Clogged low-pressure oil filter;
4. Low fuel;
5. Engine temperature;
6. Engine oil pressure,
7. Clogged air filter
8. Clogged high-pressure oil filter;
9. Spark plugs pre-heat;
10. Emergency on

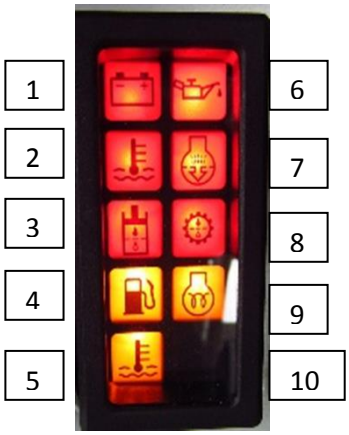


Fig. 20

6.2 LOADING PROCEDURE

WARNING

TO PERFORM THE PROCEDURE IN THIS PARAGRAPH, YOU MUST FIRST READ AND UNDERSTAND PARAGRAPH 6.3 ON PAGE 6-12, RUNNING. A SAFE RUNNING OF THE MACHINE DEPENDS MAINLY ON THIS.

1. Place the machine inside the barn.
   To turn on and drive the machine refer to paragraph: 6.3 on page 6-12: Running. (If necessary move the chickens towards one end of the barn to make room for the machine and the cart)

   If you are loading during the day, we advise using a dark tunnel as shown in the picture.

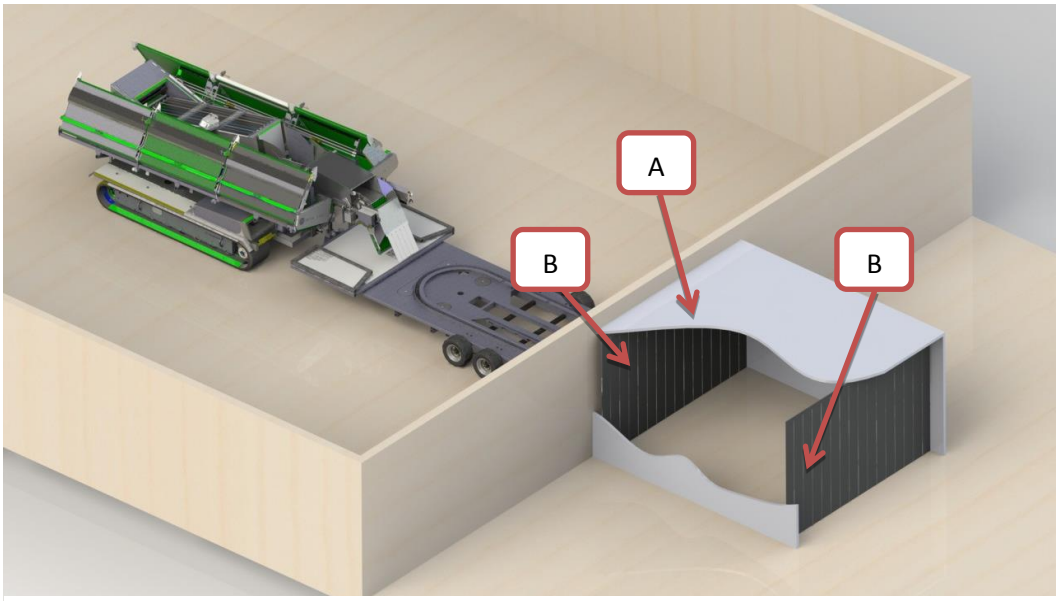


Fig. 21

   A- Dark tunnel.
   B- Thick rubber curtains.
2. Arrange the protections necessary to prevent unnecessary personnel from entering the operating area: See Chapter 4 paragraph 4.1.6 Dangerous areas: “ZP1” and “ZP2”.
3. Open the collection wings according to the following procedure:

DANGER

THIS OPERATION MUST BE CARRIED OUT BY TWO PEOPLE. ONE UNBLOCKS THE WING AND THE OTHER OPENS IT SLOWLY WITH THE HELP OF THE PERSON WHO UNBLOCKED IT. OPEN ONE WING AT A TIME. NOBODY MUST STAND IN FRONT OF THE MACHINE AS THERE ARE MOVING PARTS THAT CAN CAUSE SERIOUS INJURIES.

WARNING: THE MACHINE MUST BE ON LEVEL GROUND.

Perform the operation on one wing at a time. The first person unblocks the wing using the lever as indicated by "1" in Fig. 22, in the meantime the other person holds the wing in place.

- Both people will then bring the wing in position slowly as indicated by "2" in Fig. 22 . Two people are needed to neutralise the risk of letting the wing loose during opening. If the wing is left loose, it gains speed while opening and gets damaged when it reaches the final position.

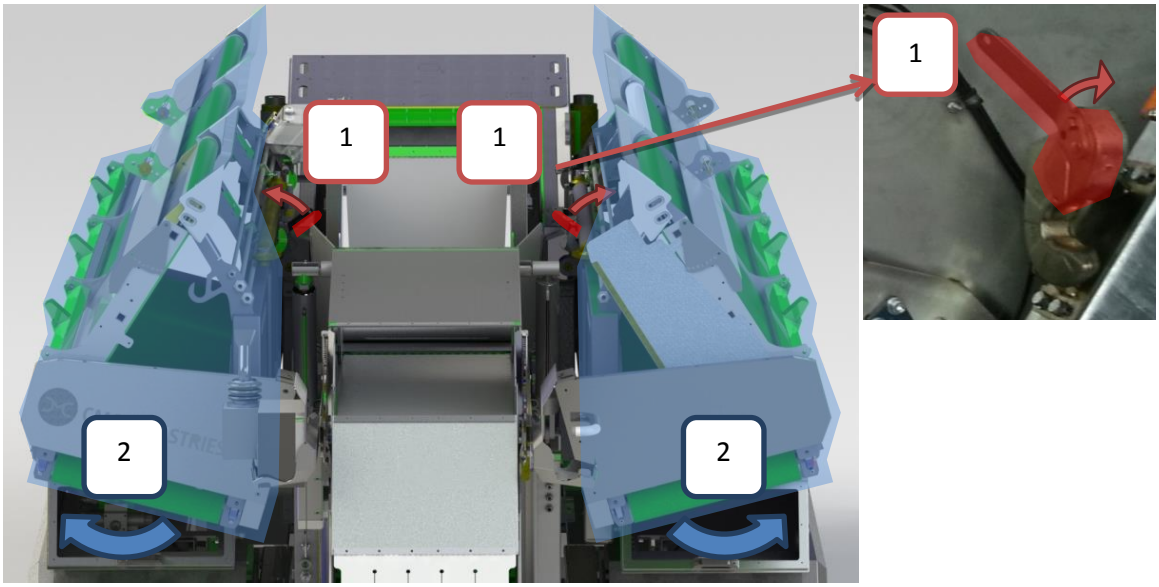


Fig. 22

4. Remove the collection belt locking plugs and place them in a safe place. Collection belts are indicated with letter "B" in Fig. 23 on page

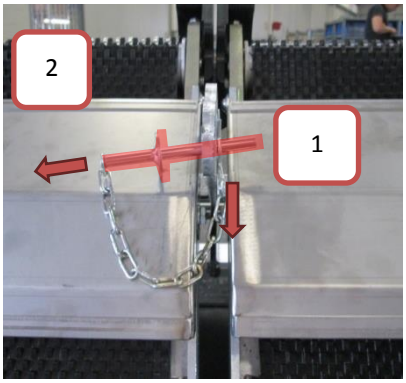


Fig. 23

5. Lower the collection belts indicated with letter "B" in Fig. 13 page 6-2

6. Block the wings using the third point indicated with letter "D" in Fig. 13 on page 6-2. Make sure the two wings are aligned.

7. Move the lever indicated with letter "B" in Fig. 24 on page 6-3 and place it horizontally, as shown in the photo below:

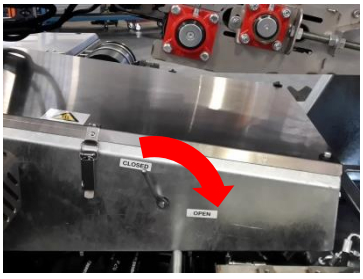


Fig. 24

8. Make sure that the area below the head is free. Lower the collection head by moving the joystick shown in Fig. 27 outwards (arrow "1") and downwards (arrow "2"):

9. Bring the telescopic rudder indicated as "T" in Fig. 25 into operating position. The telescopic rudder moves via the joystick in Fig. 27-a in the indicated positions. Pull the joystick outwards to unlock it.

The cart can be positioned also using the push button boards of the cager channel Fig. 15 on page 6-3. The movements of the joysticks are indicated with letters "D1" and "D2" in Fig. 18 on page 6-4.

Fig. 27-a

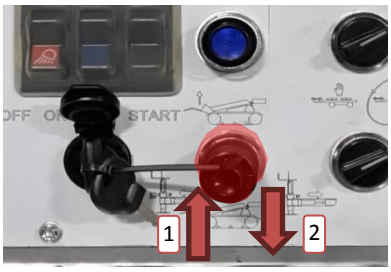


Fig. 27

10. Remove the cager belt locking plug and place it in a safe place. It must be reinserted once loading is over. See following picture:

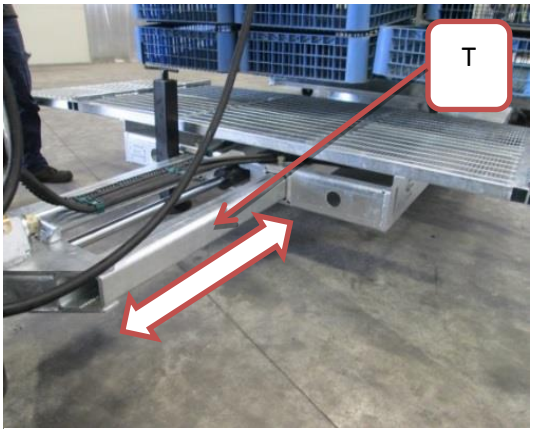


Fig. 25

11. Open the cart platform's wings. See Fig. 29.

12. Insert data concerning load:

- Number of chickens per crate;
- Average weight per chicken;
- Number of crates per cage module;

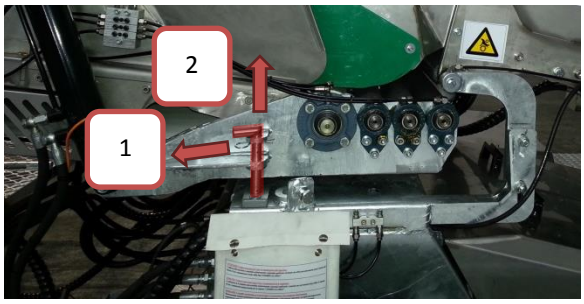


Fig. 28

To avoid making a lengthy description of the procedure, the procedure to insert these data is described in paragraph: 6.4.1 on page 6-15.

13. The machine operating modes are described below. Choose the most suitable for the loading conditions:

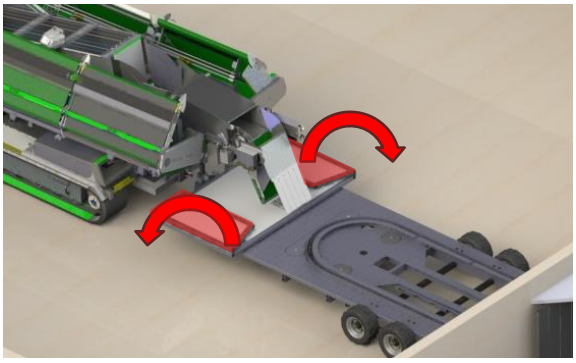


Fig. 29

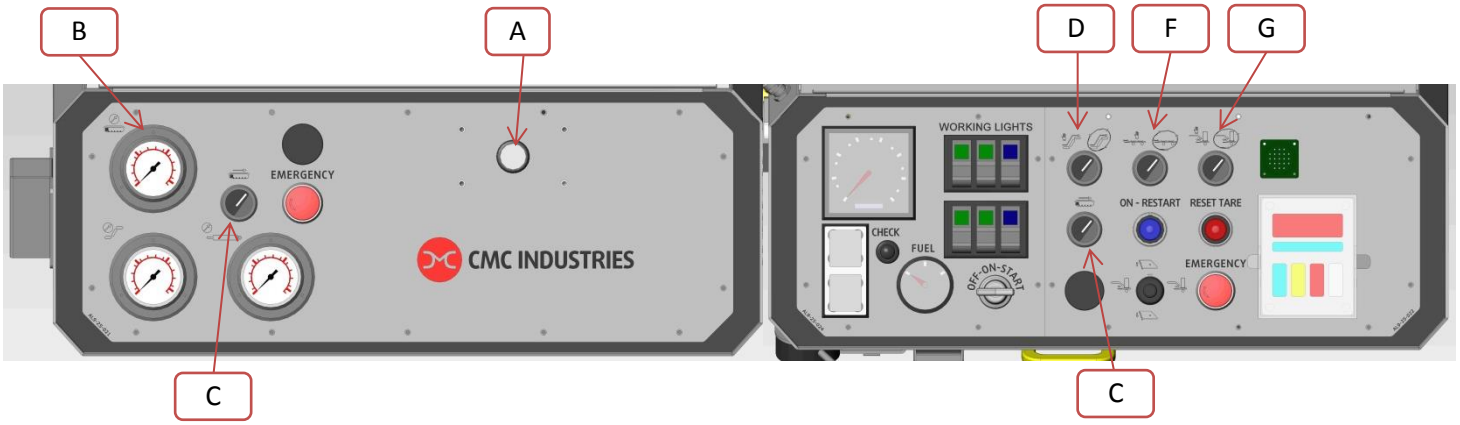


Fig. 30

In the following procedure we intend position “Zero” as the left side of a selector and the position “One” as the right position.

a- MANUAL MODE:

Selectors "D, F and G" in Fig. 30 must be placed on "the left side" (Zero); If running the loading cycle the machine tracks moves automatically, change the position of one of the two selectors “C” in Fig. 30.
In this mode, the machine must be controlled solely by the operator.
The weighing of the chickens does not stop the cager belt, so the operator must stop it by moving joystick "B" towards "B3"; see Fig. 18 on page 6-4.

b- LOADING WITH AUTOMATIC BELT STOP (AUTOMATIC WEIGHING), MANUAL TRACKS, MANUAL CAGER BELT:

Selectors "F and G" must remain on "the left side" (Zero);
Selector "D" must be put on "the right side" (One).
When joystick "B" is moved towards "B3" see Fig. 18 on page 6-4, the cager belt mat starts moving. You can then release the joystick and wait for the belt to stop when the desired weight is reached.
In this case the tracks do not move, so the machine must be moved manually by the operator if needed.
If running the loading cycle the machine tracks moves automatically, change the position of one of the two selectors “C” in Fig. 30.

c- LOADING WITH AUTOMATIC WEIGHING AND AUTOMATIC TRACK MOVEMENT:

Selector "D" in Fig. 30 must be placed on "1"; Selectors "F" and "G" must be placed on "0" (Zero); One of the selectors "C" in Fig. 30 must be moved in the opposite position.

When joystick "B" is moved towards "B3" see Fig. 18 on page 6-4, the cager belt mat starts moving and the tracks move at the speed set using knob "A" in Fig. 30. Pressure gauge "B" indicates the speed selected. (the value refers to the engine running at 1800rpm minimum).

d- LOADING WITH AUTOMATIC WEIGHING, AUTOMATIC TRACK MOVEMENT, AUTOMATIC HOLD OF THE POSITION OF THE UNLOADING POINT OF THE CAGER BELT WITH RESPECT TO THE CAGER:

Selector "G" must remain on "0" (Zero); Selectors "D and F" must be placed on "1".

Change the position of one of the selectors “C” in Fig. 30 if starting the loading cycle the tack are non moving automatically.

With respect to the condition described in point "c" of this paragraph, activating selector "F" in Fig. 30 will enable the function that maintains the distance between the unloading point of the cager belt and the edge of the cage crate constant. Lifting or lowering the cage cart on the cager belt moves it so as to reach the best unloading point.

e- LOADING WITH AUTOMATIC WEIGHING, AUTOMATIC TRACK MOVEMENT, AUTOMATIC HOLD OF THE POSITION OF THE UNLOADING POINT OF THE CAGER BELT WITH RESPECT TO THE CAGER AND ENTRANCE OF THE CAGER BELT INSIDE THE CAGE:

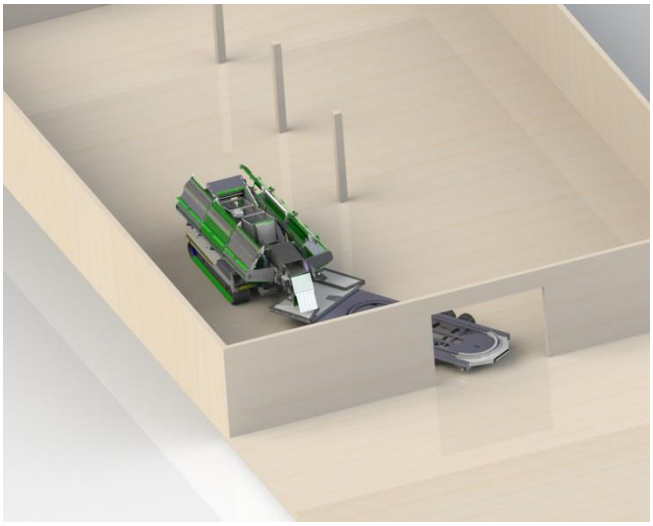
DANGER

THIS FUNCTION IS ACTIVATED PLACING SELECTOR "G" IN Fig. 30 ON PAGE 6-9 ON "1" AND MOVES THE CAGER BELT BY 100-150 MM TOWARDS THE CAGE. THIS MOVEMENT IS COMPLETELY AUTOMATIC, SO MAKE SURE NOBODY IS STANDING NEAR THE CAGER BELT WHEN ACTIVATING IT.

THE FOLLOWING PICTURE HIGHLIGHTS THE DANGER AREA IN RED:

WARNING

THIS FUNCTION MUST NOT BE ACTIVATED IF THE CART IS NOT ALIGNED WITH THE MACHINE, AS SHOWN IN THE FOLLOWING PHOTO. THE CAGER BELT COULD IN FACT HIT THE SIDES OF THE CAGE.

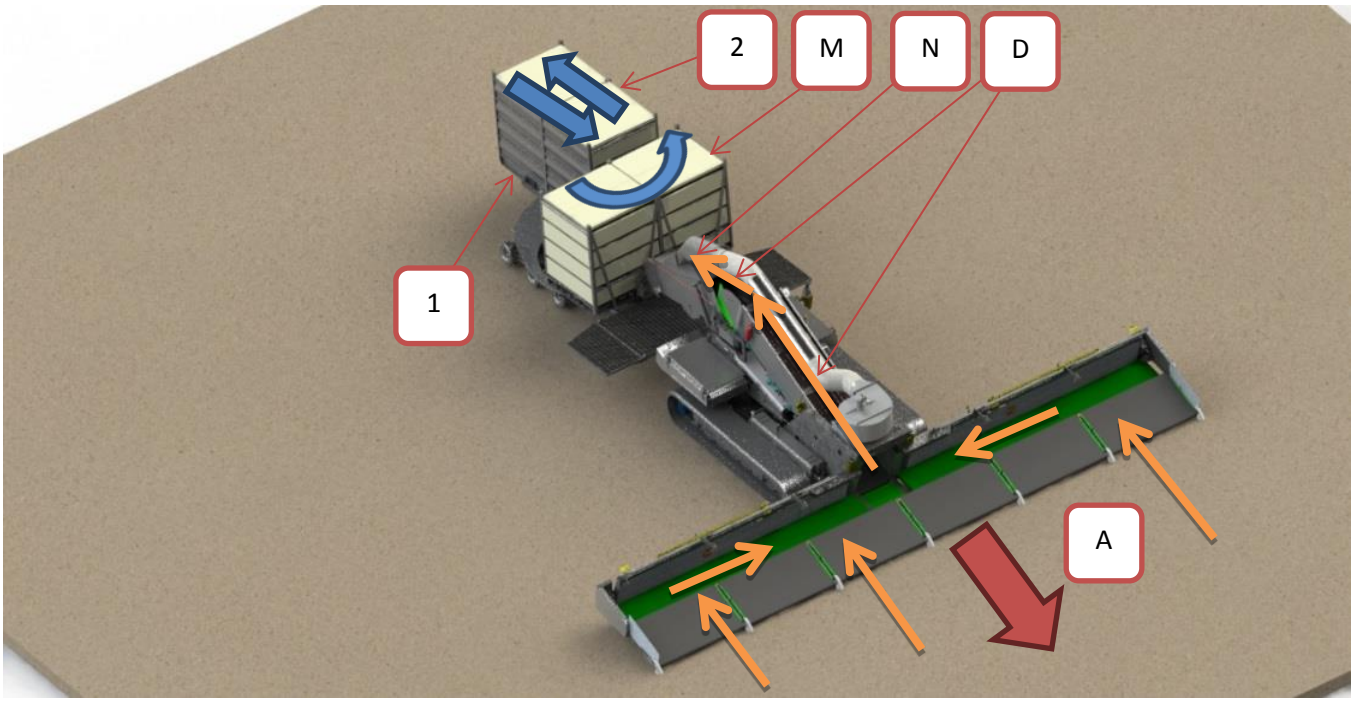


Selectors "D and F" of Fig. 30 on page 6-9 must be placed on "1" just like for mode "d";

Selector "G" must be placed on "1".

With respect to the condition described in point "d", activating selector "G" in Fig. 30 enables the functions that inserts the cager belt in the cage crate at the beginning of each weighing. During the weighing, the caging belt moves backwards to better arrange the chickens in the crate.

14. Please refer to the following description to see the loading cycle of the modules:



a- Belt "N" is directed towards the first of the "C" crates to fill.
b- The filling cycle activates and the machine moves towards "A".
c- The chickens follow the directions indicated by arrows "D" and reach the crate until the weight is reached.
d- When the crate is full, belt "N" moves to the following crate.
e- The filling cycle is repeated until all crates in module "M" are full.
f- In the meantime, the fork lift driver must have prepared the empty module in position "1", so that the module change can be activated so the full module can reach position "2".
g- The fork lift driver picks up the full module.
h- The cycle starts again.

The machine, once verified as described in previous chapters and equipped with sufficient fuel is ready for the functional cycle.

NOTE

THE DESCRIPTION SAFETY REGULATIONS IS CONTAINED IN CHAPTER 4, "SAFETY."

Before moving the machine, be sure to perfectly know the function of all commands that the machine features.
The machine is controlled by means of a joystick on the left-hand side. The operator must follow the machine by walking along on the left-hand side.

During the automatic cycle, the machine automatically moves in a straight line. It may happen that, because of the conditions of the ground, the machine moves slightly with respect to its initial trajectory. Specific buttons exist to slightly modify the direction and speed of the machinery.

At the back of the machine there is a truck for loading the cages to be filled. There are also platforms on which two operators manoeuvre the cager belt so that the chickens reach the various crates.

6.3 ENGINE IGNITION AND RUNNING

Check that the area around the chicken loader is free of obstacles and holes and that there are no people within 10 metres of the machine.
Before starting the engine or conducting any checks.

Check the condition of these parts:
Be careful during checks.

- Joystick.
- Control elements
- Acoustic signalling devices
- Lighting devices
- The "Emergency buttons" and protective devices

WARNING

DO NOT RUN THE ENGINE IN A LIMITED AREA (SUCH AS THE GARAGE OR CLOSED BUILDINGS WITH LITTLE VENTILATION) UNLESS YOU NEED TO MOVE THE EQUIPMENT OUTDOORS. BEFORE STARTING THE MACHINE, OPEN THE DOORS OF THE BUILDINGS TO VENTILATE THE AREA.

EXHAUST GASES CONTAIN CARBON MONOXIDE, WHICH IS ODOURLESS AND TASTELESS.

CARBON MONOXIDE IS A DANGEROUS GAS. IT CAN CAUSE LOSS OF CONSCIOUSNESS AND CAN BE DEADLY.

a- DIESEL ENGINE IGNITION

Make sure that the acceleration lever is not at maximum speed. Slightly above the minimum is enough. See Fig. 31.

Rotate the lever of the battery release as in Fig. 32 to connect the device to the electrical circuit.

Before starting the engine from cold, turn the "C" key of Fig. 32 to the "ON" position and wait a maximum of 30 seconds if the ambient air is very cold. This allows the electric current to run to the spark plugs and pre-heating chamber. Next, turn the key to START to start the engine.

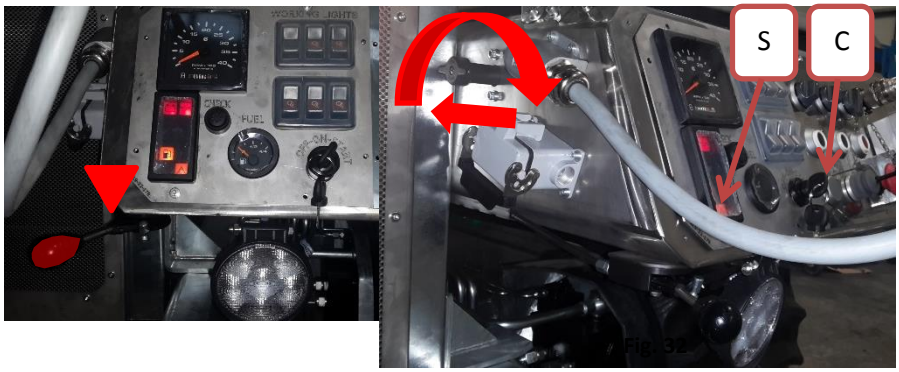


Fig. 31

If after placing key "C" on "ON" (by rotating it clockwise) the lights indicated with "S" in Fig. 32 do not turn on, it means the battery is low.

In this case, you can connect the machine to an external battery using the socket indicated in the picture below:

Between two warm ups, there should be an interval of at least 20 seconds.

Do not leave the key in the "START" position while the engine is running; otherwise you may damage the starter.
If after four attempts the engine fails to start, ask the intervention of authorised personnel.

If after four attempts the engine fails to start, ask the intervention of authorised personnel.

- **Warning!** The engine will not start if one of the emergency buttons is pressed.

When the engine is running, check the indicators to see that everything works properly (for descriptive details, see paragraph Fig. 20 on page6-5). After checking the instrumentation, after warming the engine and the oil of the hydraulic circuit, the machine is ready for use. The chicken loader is equipped with hydraulic motors driven by a hydraulic pump which, in turn, is driven by the diesel engine. There is a hydraulic engine on each belt that provides the power. At the front there are two idler wheels that keep the belts taut. When the Chicken loader is running, the engine runs steadily at the speed set with the accelerator lever located at the right-hand work station of the main body of the machine.

! WARNING

Before moving the machine:

1. Check that the engine can run at a minimum of 1800 RPM and a maximum of 2000 RPM. If necessary, turn the accelerator lever to correct the speed. See Fig. 31 on page 6-12.
2. Refer to paragraph 6.3.1 before moving the machine
3. Make sure that the rest of the parameters are correct and that there are no alarms that can affect the functioning of the machine.

6.3.1 HOW TO USE THE JOYSTICK

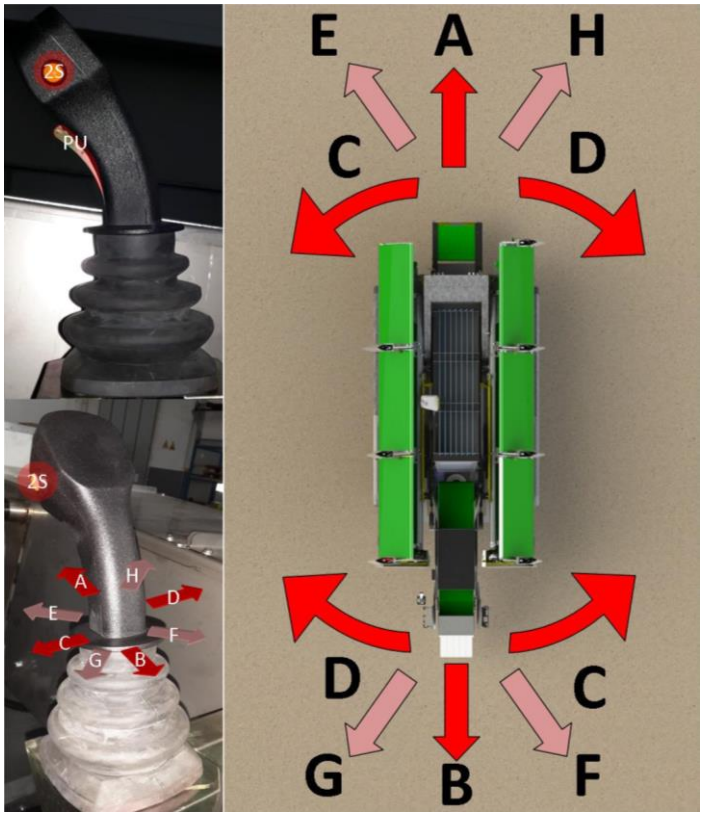


Fig. 33

Press the trigger on the joystick marked "PU", as shown in Fig. 33, to enable travel. Move the joystick in the required direction of travel and at low speed. The effects of moving the joystick in the various directions are shown in Fig. 33

Press one of the "2S" buttons on the joystick, as shown in Fig. 33, to travel fast at a second speed.

The machine is guided from the ground. It is advisable to first practise with short movements in order to familiarise yourself with the joystick.

The machine gradually builds up speed as you increase pressure on the joystick. This allows you to have better control over the manoeuvres.

Always act with extreme caution. The machine has a large blind spot, so you must always ask a colleague to check that there are no unauthorised people or obstacles in the work area of the machine.

Avoid changing direction while the second speed button is pressed.

WARNING

IN MEDIUM/HIGH MANOEUVRING SPEED IN ONE DIRECTION (I.E. FORWARD), A CHANGE IN DIRECTION SHOULD ALWAYS BE AVOIDED (SUCH AS REVERSING) BECAUSE IT COULD DAMAGE THE TRANSMISSION.

6.4 PROGRAMMING THE WORK PARAMETERS

6.4.1 PROGRAMMING LOADING DATA

Setting is carried out using the display ("2", left work station):

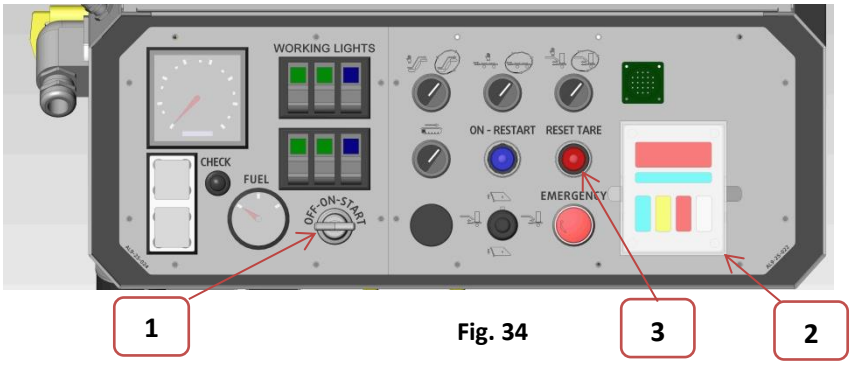


Fig. 34

1. Insert the battery unhook lever and turn it clockwise, see Fig. 36;
2. Switch on the control panel with the START switch ("1", left work station); rotate it clockwise;
3. Reset it by pressing ZERO TARE ("3", right work station). Now the computer is ready for setting and number "0" (Zero) is displayed;
4. Press "CALC" ONCE ("1"Fig. 35) and set the number of animals to load in a create with buttons **+** and **-** ("4"Fig. 35).

   The caption 

alternates with the value set;

Fig. 36

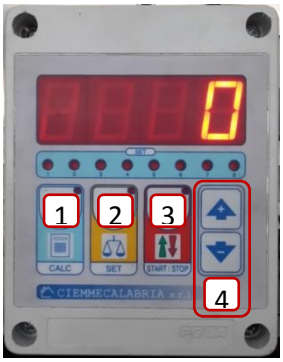


Fig. 35

5. Press "CALC" AGAIN ("1"Fig. 35) and set the weight of the single chickens with buttons **+** and **-** ("4"Fig. 35).

   The caption 

alternates with the value set;

INDICATION

For correct operation of the machine, the weight of the single chickens is rounded down by 0.03 Kg.

WE ADVISE WEIGHING A NUMBER OF CHICKENS BY PLACING THEM IN THE CAGE TRAY AND CALCULATING THE AVERAGE WEIGHT AFTER READING THE TOTAL WEIGHT. THE AVERAGE WEIGHT MUST BE SET IN THE "P.CAP" PARAMETER. REPEAT THE OPERATION AT LEAST ONCE WHEN HALF THE BARN HAS BEEN EMPTIED. REPEAT SEVERAL TIMES IF THE DENSITY OF THE CHICKENS IS VARIED.

6. Press "CALC" AGAIN ("1" Fig. 35) and adjust the number of crates to fill for each container using buttons **+** and **-** ("4" Fig. 35).

   The caption 

alternates with the value set;

7. Press "CALC" AGAIN ("1" Fig. 35) and choose the type of display using **+** and **-** ("4 Fig. 35):

   Set 0 to display the loaded weight while the chickens are being loaded;

   Set 1 to display the number of animals while the chickens are being loaded;

The caption  alternates with the value set;

8. Press "CALC" AGAIN ("1" Fig. 35) to confirm, "PROG." will appear for a short time confirming storage of this data;
9. Verify that the set values are the ones you wanted using the procedure below:
   a- Press "SET" ("2"Fig. 35) once: the value of the first crate will appear (and the machine will stop) alternating with the  caption.

   ☞ The value can be expressed either in weight or number of animals, depending on the setting of the "DISP" parameter;

   b- Press "SET" ("2" Fig. 35) a second time: the sum of the weight or number of chickens of the first and second crates will appear alternating with the  caption.

   c- Press "SET" ("2"Fig. 35) to display the number of the following crate and the total weight of the crates. Repeat "b" until all crates are completed.
10. Place the empty container on the loading position and press "ZERO TARE" ("3"Fig. 34).

6.4.1.1 DISPLAY AND RESET OF THE TOTAL LOADED WEIGHT

The weight reader can display the total loaded weight (in quintals). The data displayed refers to the last reset.

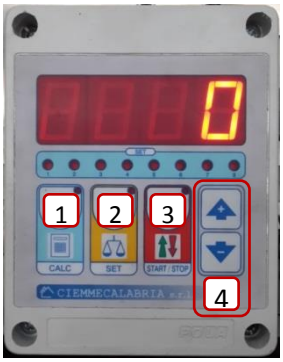


Fig. 37

   a- To display the total weight, keep button "1" of Fig. 37 pressed for over 3 seconds:
   Press any button to go back.
   b- Press button "-" ("4"Fig. 37) for over 9 seconds to reset. "CLEAR" will appear on the display to confirm.

6.4.1.2 STARTING AND STOPPING THE WEIGHING CYCLE

Press "START/STOP" ("3" Fig. 37) to start and stop the weighing cycle. This button has the same function as the joystick on the cager belt.

6.4.2 OFFSET FUNCTION: IT MODIFIES THE WEIGHT OF A SINGLE CRATE

The weight of each create to be filled can be modified if needed. Perform the following procedure:

a. Press "SET" ("2"Fig. 37) once: the value of the first crate will appear (and the machine will stop) alternating with the  caption.

Use the buttons indicated with "4" to adjust the value.

   ☞ The value can be expressed either in weight or number of animals, depending on the setting of the "DISP" parameter;

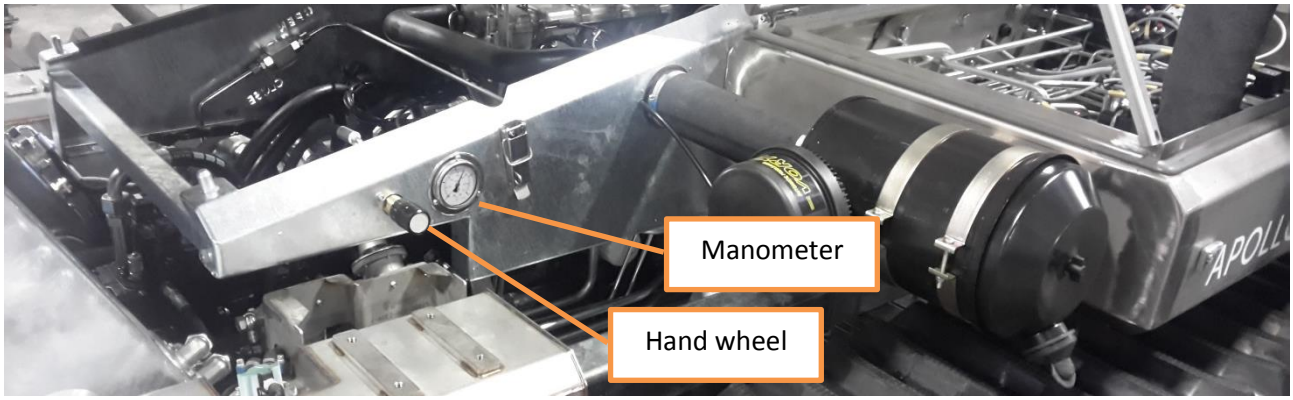
b. Press "SET" ("2" Fig. 35) a second time: the sum of the weight or number of chickens of the first and second crate will appear alternating with the  caption.

Use the buttons indicated with "4" to adjust the value.

c. Press "SET" ("2"Fig. 35) to display the number of the following crate and the total weight of the crates. Repeat "b" until all crates are completed.

6.4.3 BLOWER FLOW ADJUSTMENT

To adjust the blower flow there is a hand wheel on the side of the machine. The following picture is showing the position. The manometer on the side is to show the fan motor oil pressure. This data helps to set the flow always in the desired set.



7. MAINTENANCE

CHAPTER 7

MAINTENANCE

7.1 GENERAL INFORMATION

This chapter, addressed to maintenance technicians and **TECHNICAL ASSISTANCE CENTRES** of **CMCALABRIA Srl** (hereinafter referred to as T.A.C.), describes the maintenance operations to be performed on the machine.

The following maintenance operations help to keep the machine efficient and in good working conditions, with the purpose of preventing failures or breakage.

The term maintenance includes the following activities:

- **Preventive maintenance**
  The series of tasks carried out at predetermined intervals or according to the prescribed criteria and aimed at reducing the probability of failure or the degradation of the functioning of a machine; preventive maintenance includes inspection, checks, adjustments, cleaning and lubrication.

- **Special maintenance**
  Specialist maintenance is defined as the series of interventions carried out at predetermined intervals or in response to faults and failures in order to restore the functioning of a machine. Specialist maintenance interventions include reconditioning, repair, restoration of the nominal operating conditions or the replacement of a faulty, defective or worn unit.

NOTE

PREVENTIVE AND SPECIALIST MAINTENANCE OPERATIONS CAN BE IMPLEMENTED, ACCORDING TO THE DIRECTIONS ON THE SCHEDULES, BY THE USER OR BY TECHNICAL ASSISTANCE CENTRES (T.A.C.) OF CMCALABRIA S.R.L.
SOME SPECIAL MAINTENANCE OPERATIONS, DUE TO THEIR COMPLEXITY, HAVE BEEN DELIBERATELY OMITTED FROM THE MANUAL AND ARE TO BE CARRIED OUT EXCLUSIVELY BY THE T.A.C. WHICH HAVE THE TECHNICAL KNOWLEDGE, DOCUMENTATION AND EQUIPMENT REQUIRED TO PERFORM TASKS.

Directive 2006/42/EC (Directive on Machinery) defines **Operator** as the **"Qualified person to install, operate, adjust, clean and carry out maintenance tasks on the machine"**.

NOTE

THE FREQUENCY OF REPAIR WORK MUST BE:

A) DEPENDING ON THE STATE OF WEAR:
A REPAIR JOB IS PERFORMED AFTER HAVING ASSESSED THE RESULTS OF A PRELIMINARY OVERHAUL IN ORDER TO AVOID DAMAGING THE UNIT IN QUESTION.

B) ENSUING A FAILURE OR DETERIORATION:
AN OVERHAUL, DURING WHICH THE FAILURE OR DETERIORATION IS DETERMINED, PRECEDES THE REPAIR.

THE REPAIR MUST BE CARRIED OUT AFTER THE RESULTS OF THE OVERHAUL HAVE BEEN ASSESSED.

Remember that maintenance interventions performed correctly can reduce downtimes to a minimum.

A repair performed at appropriate times prevents further deterioration.

Use original spare parts and repair the broken components accurately to restore them to their nominal state.

Use original spare parts and perform the indicated maintenance operations accurately. In case of failure or malfunction, contact the manufacturer CMCALABRIA Srl that will intervene with its specialised personnel (references in Chapter 1 "GENERAL INFORMATION").

NOTE

CMCALABRIA SRL WILL NOT RESPOND TO FAILURES OR MALFUNCTION DURING THE WARRANTY PERIOD OF THE MACHINE IF DEFICIENCIES, LACK OF MAINTENANCE, LACK OF LUBRICATION, REPLACEMENT OF MACHINE PARTS THAT ARE NOT ORIGINAL OR LICENSED BY CMCALABRIA SRL ARE FOUND AND IF MACHINE USE IS DIFFERENT FROM THAT SPECIFIED IN THIS INSTRUCTION MANUAL.

7.2 MAINTENANCE PERSONNEL

The maintenance operator in particular must:

- Have knowledge of the directives in force in the country of use concerning the prevention of accidents during the work carried out on the machine, and be able to apply them.
- Have read and understood this instruction manual entirely.
- Know how to correctly use and read the technical plan documentation, including schematics, manuals, components, basic specifications, mechanical diagrams, wiring diagrams and fluidics systems.
- Perform tasks involving his own skills (Mechanical, Electrical, Fluidic) for which he is authorised to intervene.
- To be capable of using the most suitable and adequate tools for troubleshooting and to know the most suitable equipment to perform maintenance.

WARNING

ONLY DULY TRAINED STAFF CAN PERFORM MAINTENANCE, ADJUSTMENTS AND FINE TUNING.

WARNING

THE NEED TO HAVE THE MACHINE IN WORKING CONDITIONS WITH THE SAFETY DEVICES DISABLED, REQUIRES ADEQUATE EXPERTISE AND KNOWLEDGE AND A GREAT ATTENTION FROM THE MAINTAINER.

WARNING

IF DURING NORMAL OPERATING CYCLE, MALFUNCTIONS OR DEFECTS ARE DETECTED ON GROUPS OR EQUIPMENT, IT IS OBLIGED TO STOP THE MACHINE AND IMMEDIATELY NOTIFY THE SERVICE CENTRE.

7.3 GENERAL SAFETY PRECAUTIONS

Personnel in charge of performing maintenance on the machine must be well trained and have thorough knowledge of the accident-prevention standards. Unauthorised personnel must remain outside of the work area during these operations.

The accident-prevention measures contained in this paragraph must always be strictly observed while servicing the machine in order to avoid injuries to personnel and damage to the equipment.

The staff responsible for machine use and, specially, in charge for its maintenance must be aware of the risks arising from the use of the forklifts.

7.3.1 DANGER NOTES

The following is a series of danger notes to be considered during maintenance.
They indicate a danger with risk of an injury, even mortal, for the person.

HAZARD

TO PERFORM CERTAIN MAINTENANCE TASKS, IT WILL BE NECESSARY TO HAVE PROTECTION AND SAFETY DEVICES DISABLED AND PROTECTION GUARDS OPENED.

IN THIS CASE, THE MAINTENANCE PERSONNEL WILL BE FOUND IN DANGEROUS CONDITIONS AND IT IS THEREFORE NECESSARY TO STRICTLY OBSERVE THE FOLLOWING RULES:

THE STAFF RESPONSIBLE FOR THE IMPLEMENTATION OF MAINTENANCE ACTIVITIES MUST BE AUTHORISED AND TRAINED ON SAFETY AND OPERATIONAL PROCEDURES TO OBSERVE, ON DANGEROUS SITUATIONS THAT MIGHT ARISE AND ON THE CORRECT METHODS IN ORDER TO AVOID THEM AND ON THE PROVISIONS OF THE COUNTRY IN WHICH THE MACHINE IS USED.

THE STAFF DURING SUCH OPERATIONS, MUST STILL WORK WITH GREAT CARE AND OPERATE WITH EXTREME CAUTION.

Apply specific warning signs such as: **EQUIPMENT UNDERGOING MAINTENANCE** - **DO NOT CONNECT THE POWER SUPPLY, WORK IN PROGRESS - NO MANOEUVRING** or **DO NOT START** (seeFigure 7-1) at the machine access areas and in every part of the same where maintenance is being performed paying attention that these signs are well visible.

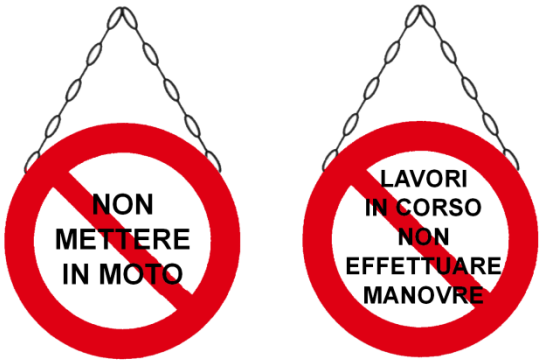


Figure 7-1 - Example signs indicating maintenance operations

DANGER

BEFORE BEGINNING MAINTENANCE OPERATIONS, PLACE SIGNS INDICATING THE MAINTENANCE STATUS OF THE MACHINE.

- Voltage can cause death on contact. Always operate with the utmost caution and according to the accident-prevention standards in force
- Contact with toxic or harmful products can cause damage to people and the environment. Always operate with the utmost caution and according to the accident-prevention standards in force
- When the machine is running it has moving parts which can cause serious personal injuries. In this regard, the maintenance operations relating to controls, dismantling or replacement of components on the machine or on the control unit **must be carried out with the machine turned off and with the power supplies disconnected and locked.**
- Make sure, before performing maintenance operations on components, **that the fluid circuits are not pressurised**. The staff responsible for maintenance, before intervening, should check that the fluidic power supplies are dissected and pressure systems have been depressurised. To do this, before working on components under pressure, you must reduce the value of the internal pressure of the object of the intervention to the value of ambient pressure.
- Make sure that hot parts including the diesel engine, pumps, and fumes exhaust piping of the diesel engine are cooled before performing maintenance. **Risk of burns. Use appropriate PPE.**

DANGER

BEFORE STARTING MAINTENANCE OPERATIONS OR THE REMOVAL OF JAMMED UNITS AND MACHINE PARTS, DISCONNECT AND PADLOCK ALL ENERGY SOURCES AND DISCHARGE ALL FLUID CIRCUITS.

- Keep away from bleeding holes and cocks while discharging pressure from the systems.
- Keep away from any component that can be put in motion by fluid pressure when the latter has not been completely discharged..
- Make sure that all the fittings and junctions are well tight before pressurising the systems after having performed repairs.
- Make sure that the vertically moving units are placed at the down rest position, or else supported by adequate lifting systems in order to prevent accidental movements or falls, especially when replacing the actuators or devices which move them.
- Before performing maintenance operations on moving parts, make sure that the shutters are properly installed.

DANGER

BEFORE STARTING MAINTENANCE OPERATIONS, PUT VERTICAL UNITS AT RISK OF HANDLING OR FALLING (IF PRESENT) IN CONDITIONS OF SAFETY.

- Never exclude the safety and protective devices installed on the machine. Should this be necessary, indicate this condition with appropriate warning signs and operate with the utmost caution. Restore all the safety and protective devices as soon as possible.
- Always make sure, before starting the machine after maintenance, that the maintenance personnel is at a safe distance and that tools or materials have been removed in the vicinity of the machine.
- The installation of the equipment must always be maintained in accordance with safety standards. All moving parts and transmission organs should be protected against accidental contact. Always make sure that all the protections are present, properly placed and closed before operating the equipment.
- Prolonged overloads or damage may cause overheating of the electrical equipment with the development of harmful fumes; immediately dissect power supplies and do not approach equipment if not having dispersed these fumes through proper ventilation and that the same are cool. Avoid inhaling the fumes still within the area of equipment during repair.
- Do not use jets of water in the event of fire, and in particular not on the electrical equipment: turn off all power supplies immediately and use **CO_2** extinguishers. Inform the establishment's fire prevention service or the Fire Brigade.
- During maintenance operations, wear appropriate clothing and personal protection equipment (shoes, glasses and protective gloves, etc. in accordance with the instructions provided in Chapter 4), depending on the type of activities. When working on high parts, use the anti-fall safety devices.
- It is forbidden to wear clothes and personal items such as ex. necklaces, bracelets, etc. because they can get caught in the equipment, devices and act as conductors.
- It is forbidden to remove the installed sound-absorbing pads.

DANGER

PERSONNEL MUST WEAR ALL THE NECESSARY PERSONAL PROTECTIVE EQUIPMENT TO AVOID INJURIES.

DANGER

THE MAINTENANCE AND REPAIR OPERATIONS ON COMPONENTS IN CONTACT WITH THE PRODUCTS MUST BE CARRIED OUT BY QUALIFIED AND TRAINED PERSONNEL PROVIDED WITH PPE AND KNOWLEDGE OF THE MSDS (MATERIAL SAFETY DATA SHEET).

- Make sure that electrical power tools are in perfect condition and are equipped with insulated handles. Make sure that the insulation of cables and conductors of test equipment for the slightest sign of breakage or damage.
- Tighten all screws and nuts with the correct tightening torques. Improper tightening may cause malfunctions and dangerous situations.
- Troubleshooting activities should, whenever possible, be carried out while remaining outside the protected area. Where necessary, during the course of troubleshooting, perform actions with the control unit and the machine connected to the power supply and all precautions required by safety standards must be taken.
- At the end of the maintenance and troubleshooting, disabled safety devices (panels, carters, safety end of travel, safety switches, interlocks, etc.) must be restored.
- Maintenance, repair and troubleshooting should be concluded with the verification of the correct functioning of the machine and all its safety devices.

HAZARD

BEFORE REACTIVATING THE MACHINE, PAY THE UTMOST ATTENTION AND MAKE SURE NO ONE IS STILL OPERATING INSIDE THE MACHINE'S WORK AREA, INDICATED BY THE DANGER SIGNS.

DANGER

BEFORE OPERATING THE MACHINE, RE-CHECK THE ENTIRE SYSTEM IN ACCORDANCE WITH THE STARTING PROCEDURES IN COMPLIANCE WITH THE SAFETY STANDARDS IN FORCE IN THE COUNTRY OF USE.

7.3.2 WARNING NOTES

The following is a series of general warning notes to be considered during maintenance.
They represent a warning of possible deterioration or damage to the machine, to the equipment or to another personal object of the user.

- Scrupulously following the planned maintenance and inspection program during the entire lifespan of the machine results in its maximum reliability and minimum maintenance costs. Strictly respect the set maintenance intervals.

- Check to make sure that machine parts are lubricated properly. Insufficient or faulty lubrication can cause damage and malfunctioning.

- Before beginning control operations and maintenance, you may want to remove debris and dirt in general that are present on the machine through cleaning with water or air.

- When using compressed air, pay special attention to the ejection of liquid or dry material and always use protective goggles and facemasks. For this purpose the company suggests using a suction device as an alternative to cleaning with compressed air.

- When disassembling the machine, mark the individual parts with an identification tag to make sure they are remounted correctly. After each maintenance operation that involves disconnecting wiring and/or fixed parts and finishing, carry out the consistency check of the number/plate on stationary and moving parts.

- When using the manometer to control the isolation of electrical equipment, make sure that all electronic control equipment is disconnected to prevent damage to the components.

- Always use air completely dry during cleaning and pressure not exceeding **0.2 MPa (2 bar)**.Please note that suction systems are preferable.

- Always use tools in perfect working conditions and specifically made for the operation to be performed. Use of unsuitable or inefficient equipment can cause serious damage.

- Perform repairs in clean environments, and, as far as possible, dust-free. Protect all connection gaps with plastic caps and carefully cover all process surfaces of disassembled pieces until they are reassembled on the machine.

- Replace all machine parts with original spare parts.

7.4 TIPS CONCERNING MAINTENANCE

7.4.1 OPERATIONS RELATED WITH PROLONGED STANDSTILL PERIODS

Should the machine need to be shut down for a long amount of time, the maintenance technician must set it up according to the following procedure:

- Clean the machine from processing material residues or filth.
- Thoroughly clean the machine using rags and specific products.
- Sprinkle the worked surfaces and moving parts with specific oil.
- Clean and dry all the remaining painted surfaces of the machine.
- Periodically operate the machine for short periods and examine, before starting, that there are no operational problems.
- Storage of the machine must be in a covered environment in the event of prolonged storage and cover all organs of movement to protect them from dust.

For additional information, please refer to the manuals of the individual parts that make up the machine (Chapter 9).

7.4.2 MACHINE CONTROL PROCEDURE WITH THE ENGINE OFF.

Place the chicken loader on a flat surface and make sure accidental movements cannot occur.

Open the hood of the engine compartment and make sure there are no leaks in the engine nor on hydraulic connections and that all parts are in good condition.

Control indications for the various machine parts will follow that must be carried out only with the engine off and under the conditions described above.

7.4.2.1 MOTOR OIL

With forklift truck at a standstill, wait a few minutes before checking the oil level. The oil level should be within the "Min" and "Max" levels as indicated on the measuring rod indicated as "L" in the following figure.

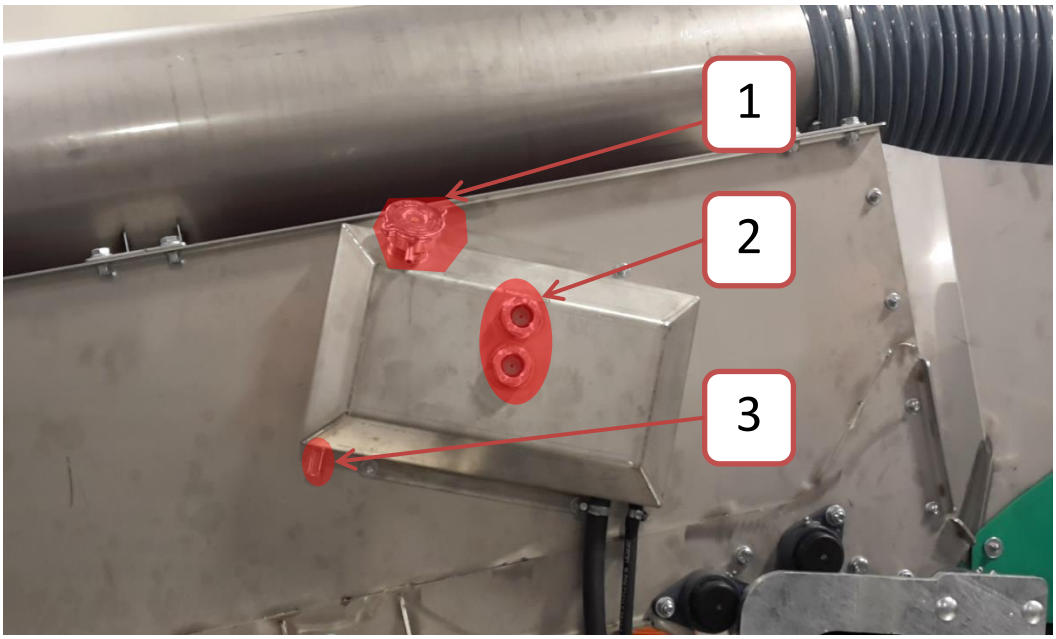
The type of oil that can be used is indicated on the specific plate on the frame of the machine, which must be filled through the cap indicated as "T" in the following figure.

7.4.2.2 LEVEL CHECK AND DIESEL ENGINE COOLANT TOP-UP

a- Check the liquid level through the display indicated as "2" in the previous figure.

b- Top-up through the cap indicated as "1" in the previous figure. Always use a compatible anti-freeze liquid.

c- If necessary, empty the bowl through the unloading cap indicated as "3" in the previous picture.



7.4.2.3 ENGINE OIL FILTER

The following picture shows the location of the engine oil filter:

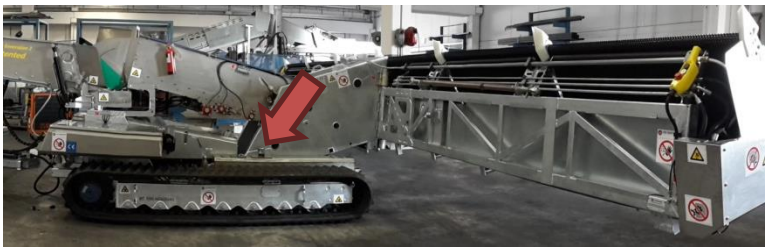
7.4.2.4DIESEL OIL FILTER

7.4.2.5 OIL OF THE HYDRAULIC SYSTEM

At operating temperature, the hydraulic oil is HOT.

Avoid contact with skin and/or body parts.

Top-up the oil in the correct tank. The cap is metal and is located on the right side of the machine. See side photo.



Be careful not to let the dirt in the system during the oil level control or during replacement of the filter.

Never operate the hydraulic pump without oil in the hydraulic circuit.

The operation of a dry hydraulic pump without oil will irreparably damage the oil pump.

The hydraulic oil level should be checked when the oil is at operating temperature and with the engine stopped.

Top-up only with suitable oil level up to the mark.

If it fills up too much, the hydraulic oil will leak from the vent during operation.

The oil level indicated by the measuring-rod is more accurate when the oil temperature is between 50° C and 90° C.

Please observe the laws regarding the disposal mineral oils.

7.4.2.6 TUBES

Periodically replace the following important components for fire prevention.

Supply system: fuel delivery and return lines.

Hydraulic system: main supply hoses of the hydraulic pump and coupling hoses to the hydraulic engines of the tracks.

Although appearing to be in good conditions, these components must be replaced periodically with new tubes. Over time, these components tend to deteriorate.

If one of these parts is faulty, replace it immediately.

Do not forget that the circuits are always working under pressure; therefore, when you must add or download hydraulic oil, service or inspect the hydraulic circuit only after downloading the residual pressure.

DANGER

THE RESIDUAL PRESSURE IS NOT JUST THE ONE INDICATED BY THE MAIN PRESSURE GAUGE OF THE MACHINE.

ALSO A PISTON THAT SUPPORTS A LOAD HAS A CHAMBER THAT GENERATES PRESSURE IN THE HOSE CONNECTED TO IT. IF YOU TRIED DISCONNECTING THE HOSE, YOU WOULD BE HIT BY HIGH-PRESSURE LIQUID OR BY THE HOSE ITSELF.

BEFORE TOUCHING THE COUPLINGS, ALSO CONSIDER THE CONDITION OF THE DEVICES CONNECTED.

Small leaks from tubes under pressure and the resulting jets are highly dangerous and harmful as they can damage the skin and enter the bloodstream or hit the eyes if it comes into contact.

For this reason, during inspections, always wear suitable gloves and safety glasses.

If you were to be hit by a jet of high-pressure oil or you get injured even only slightly, immediately consult a doctor for medications and appropriate measures.

Precautions for when you perform maintenance with high temperature and high pressure
When the machine is stopped at the end of operations, the engine coolant, oil and all parts are hot and the hydraulic circuits are under pressure.

Under these conditions, if you need to download the coolant, hydraulic oil and motor oil for the replacement of oils or to replace the filters, you will run multiple hazards, including that of serious burns.
Perform maintenance and procedures outlined in the section of this manual on maintenance, only when temperatures fall within normal parameters (30-35° C).

Manipulation of high-pressure tubes

Do not bend high pressure tubes and do not rub these with sharp or abrasive objects.

Do not use bent, cracked or rigid tubes already discarded earlier for losses or fixing defects because these can explode when in use.

Always intervene by repairing or replacing any tube of fuel or oil that is loose or defective. Any loss of fuel or oil can cause fire.

7.4.2.7 AIR FILTER

Clean or replace the air filter if necessary. The frequency of the intervention is reported in the COMBUSTION ENGINE chart of paragraph: 7.9.2 on page 7-45.

Use compressed air to clean the filter elements using the appropriate PPE such as facial protection glasses.

Air pressure should not be more than**0.2 MPa (2 bar)**.

The air jet used for cleaning must be directed from the inside to the outside of the filter element.

To control the filter element, insert a light inside the filter element and check that there are no holes or other damage.

If the filter element is damaged, replace it with a new one.

Before you insert the new filter, remember to clean the inside of the canister through a cloth with solvent.

Air filter location:

7.4.2.8 FUEL SUPPLY SYSTEM

It is absolutely forbidden to use open flames to check the fuel level or to check for leaks in the system.

All fuels are highly flammable and can burn or cause an explosion.

If a leak is detected fuel, contact the manufacturer for information about how to operate.

Do not forget that even though fuel containers are empty, as a result of fuel vapour, fumes may cause explosion hazards.

Do not operate the chicken loader if the repair has not been carried out properly.

Check the fuel system and verify that there are no leaks.

To refuel, you must turn the engine off and turn the key to the "OFF" position.

At the end of the fuel supply, make sure there are no leaks or spillages before closing the fuel cap properly and restarting the engine.

Should this happen, proceed with the drying and cleaning up of traces of fuel.

Refuelling must be carried out in places specifically designed for this purpose and equipped with safety devices (anti-fire systems etc.) prescribed by the regulations in force in the country of use of the machine.

The engine should not be restarted until the fuel dispenser has not been dismissed, until the cap of the fuel tank has not been put back in place and until eventually lost/spread fuel has not dried up.

Be sure to provide the right fuel for the engine type of the forklift truck.

7.4.2.9 FAN BELT

Verify that the fan belt has no cracks or fraying.

Check the belt tension is not too taut or too loose in order to avoid slippage.

If abnormalities are encountered, proceed with the tightening or replacement of the belt.

7.4.2.10 COOLING RADIATOR

It is absolutely forbidden to open the radiator cap of the engine coolant or the auxiliary reservoir cap when the machine is running and immediately after shutting down.

Do not remove the radiator cap when the engine is hot; wait for engine cooling.

Remember that when the radiator cap is removed, the pressure is released from the system.

If the system is hot, steam and boiling coolant can cause burns.

Avoid contact with skin and/or body parts.

The coolant level inside the auxiliary tank should be between the "Min" and "Max level".

The coolant, when the temperature is high, tends to expand therefore its level tends to rise. If you fill it too much, it will leak from the vent during operation.

If you have to add coolant, use the correct mixture of water and ethylene glycol.

If the air temperature is below 0° C, anti-freeze must be added the coolant.

The flaps of the radiator should be periodically inspected and cleaned with compressed air and water and possibly with the use of a stiff bristle brush and vacuum cleaner.

Do not use metal brushes and protect your hands with gloves.

7.4.2.11 BATTERY – ACCUMULATOR CHECK

CMCIndustries only uses batteries or accumulators that need no maintenance. Perform the periodical inspections prescribed.
Accumulators are provided with a light that indicates the electrolyte level.
If the level is too low, restore it. In this case, take all the precautions below.

Acid in the electrolyte can burn on contact with skin.

In case of contact with the electrolyte, wash thoroughly with water and clean the area.

Use a baking soda solution to neutralise the acid.

The acid in eyes should be immediately rinsed with water.

It is recommended to always wear safety glasses and gloves during tasks performed on batteries.

Don't forget that batteries produce explosive vapours.

Keep vents cover clean.

Avoid open flames, sparks or electric arcs in areas intended for battery charging.

Never run any cleaning, lubrication or maintenance task with the battery connected. Keep the top surface of the elements dry and the battery terminals clean.

With the exception of maintenance-free batteries, all others must have the electrolyte level checked and add distilled water if necessary.

Keep the electrolyte level above plates and separators only if the battery is replaced with a traditional one.

Precautions with the battery and the accumulator

When you repair the electrical system, disconnect the battery to stop the current flow.

First disconnect the negative ground cable (-) and after the positive (+) cable.

After first connect the positive (+) cable and after the negative (-) cable.

If electrical welding needs to be performed on the machine, in addition to disconnecting the battery, it is necessary to disconnect the alternator.

Precautions with the starter

Do not start the engine manipulating the terminals of the starter as the machine can move.
Accidental or sudden movements of the machine can cause serious injury or death.

7.4.2.12 TYRES

Only for towed trucks, models: CR2, CR9 and CR11.
Please note that the wheels and rims of the machine are important organs for the purposes of safety of the vehicle and of the person and require a correct use and periodic checks as well as a constant maintenance.

During mounting and dismounting of the tyre, it is necessary to comply with some safety precautions to prevent possible errors and carelessness that can cause serious injuries.

For safety and function reasons, it is prohibited to use wheels or fasteners other than those provided for by the manufacturer of the machine.

Screws and nuts are not to be lubricated; not even to facilitate the mounting and dismounting of the tyres.

Wheel hubs and tyres of the same size and capacity, and preferably by the same supplier, should be used on the machine and on the same axis.

WARNING

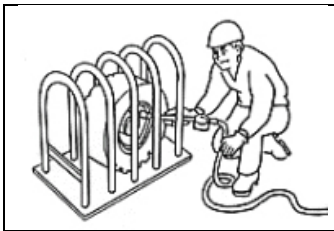
THE AIR PRESSURE IN PNEUMATIC WHEELS CAN CAUSE EXPLOSION OF PARTS THEREOF.
THE EXPLOSION OF PARTS OF THE WHEEL CAN CAUSE SERIOUS INJURIES.

Verify the integrity of the tyres and eliminate the possible presence of foreign bodies from the tread.

Check for any deformation or damages to the rims.

Check if there are any loose or missing parts.

When controlling the tyre pressure of one wheel, remember to check out all the other tyres on the same axle so you have the same pressure on all wheels.



Inflation must be made within a safety cage that is a protection when checking for tyre problems.
When inflating, stay on the side of the tyre and never facing it:
"Explosion Hazard"
Always remain on the side of the tyre to correct tyre pressure.
Restore the inflation pressure.

Completely deflate the tyre before you start removing the wheel.

Tighten the cross nuts with the indicated torque or according to the order given in the related paragraph. When the nuts are tight for ten hours, the interval for checking the torque can be extended to 200 hours.

Removing wheels

The replacement of the wheels must be performed only by qualified and authorised technical personnel.

- Handle all pieces very carefully.
- Do not place hands, fingers and limbs between pieces.
- Wear homologated PPE protective clothing such as goggles, gloves and safety shoes.
- Make sure that the tyre is fully deflated prior to dismounting.
- Position the truck on a level surface and, if it is not connected to the main machine, secure it with blocks of wedges to keep it in place.

Before proceeding to any subsequent intervention, deflate the tyre and remove the centre valve body for a more complete and safe air discharging.

With the wheel to be replaced still in contact with the ground, partly loosen the screws or nuts.

Then lift the truck until the wheel is sufficiently detached from the ground and ensure the truck upright on adequate and stable supports.

Continue with the full removal of screws or nuts and pull the wheel from the hub.

7.4.2.13 WHEEL RIMS

Mounting rims

When mounting the wheels, check for the integrity and the conformity of the components used:

- Do not use or repair damaged or deformed wheels
- Do not repair the rims by welding them
- Replace defective items with others of the same type, size and profile of the previous ones

- Clean all mating surfaces and protect them from rust.
- Use a rubber mallet to assemble the parts.
- Make sure the removable rings are reassembled on the same rim from which they were removed. Spread a liquid soap solution or specific grease for tyre mounting on the throat of the rim and on the base of the tyre.
- Never use petroleum-based lubricants or antifreeze.
- Mount a new strip of protection tape.
- Make sure that the rim is suitable to the wheel size.
- Lubricate the parts of the wheel in contact with the heel and the inner tube.

Dismounting rims from wheels

Before starting the dismounting of a wheel of the vehicle, make sure that the tyre is completely disassembled and ensure that the carcass of the tyre and/or wheel rim are not damaged.

- Remove the nuts that fix the two halves of the rim.
- Loosen the tire bead from the lateral flange.
- Remove the rim from the wheel.
- Remove the inner tube and the protective tape.

7.4.3 MACHINE CHECK PROCEDURES WITH MOTOR RUNNING.

Make sure the area around the truck is cleared before starting the engine or before doing any operational control.

Perform the checks with maximum care and on a level surface. The parking brake engages automatically unless there is a fault. For this reason, the checks must not be carried out with the machine on a downward slope.

7.4.3.1 LIGHTS, ACOUSTIC SIGNALS AND FUSES

After starting the engine, check lights with the functionality as described in Chapter 2.
Check the operation of the horn.
If the lights and horn are not working properly, check the fuses.
Fuses are located in the compartment above the left track, as indicated in the photo below:

Precautions for the headlights
Remove all traces of dirt from the headlights so you have a perfect view of the work area.

Check that all lights and the headlights are fully functional; in case, replace the faulty lamps with new bulbs and make sure the power is indicated.

7.4.3.2 CONTROL LEVERS

Control the transmission control joystick:
It must not have significant abrasions;
The machine must not move in any direction until the specific trigger is pressed;
Check the functions of the driving joystick. See paragraph: the directions reported in the figure on the left must be followed by the reactions of the machine highlighted in the photo on the right:

7.4.3.3 CONTROL OF THE PARKING BRAKE

Check the correct operation of the parking brake.

The parking works on a hydraulic circuit of the machine ensuring, once activated, its function even on sloping terrain and with the truck to its maximum capacity.

If you were to detect problems on the operating brake, check the hydraulic circuit that operates it and inform the manufacturer.

The parking break activates automatically when the machine is stationary.

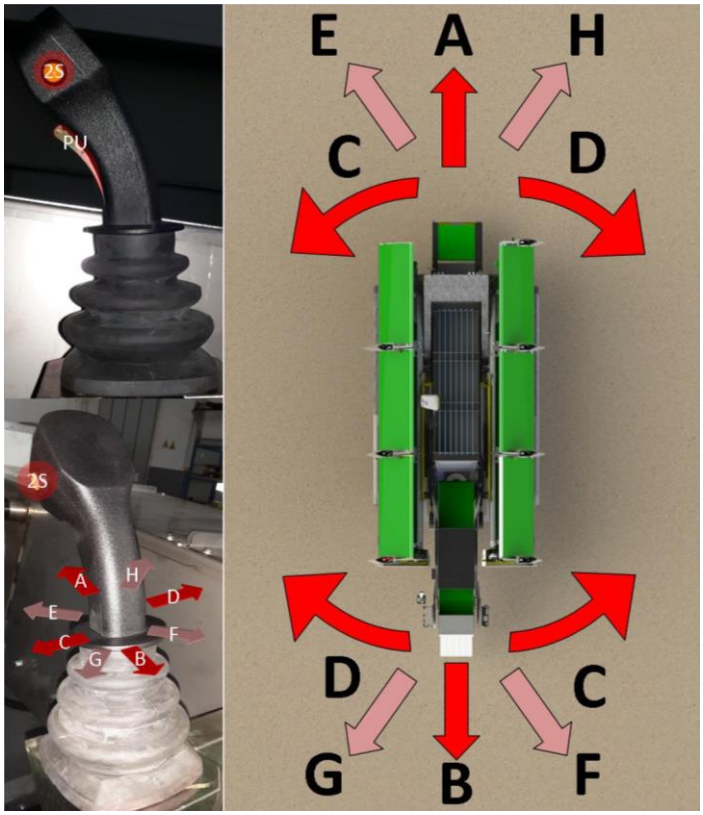
The machine is not equipped with a service braking system.

Releasing the direction pedal (forward or backward) the machine stops because equipped with progressive hydraulic motors. Therefore, removing the direction command progressively, the machine is stopped. Faster the removal action command, the faster the machine is shut down.

7.4.3.4 STEERING SYSTEM

The chicken loader has belts that permit steering even on itself. The driver of the machine must bear in mind, however, that the towed truck only has a limited steering angle.

Check that, when moving the joystick in the directions reported in the figure on the left, the reactions are those highlighted in the right photo:



7.4.4 SCREW THREAD TORQUE

During maintenance, often different types and sizes of steel screws need to be tightened with a torque wrench.
The following tables contain, depending on the strength of the material and the size of the screw, the maximum torque value to apply.

TIGHTENING TORQUES FOR STEEL SCREWS WITH ISO COARSE THREAD PITCH

DIAMETER NOMINAL SCREW	MAX. TORQUE Ma (kgm)			
	6.6	8.8	10.9	12.9
M 4 x 0.7	0.17	0.31	0.43	0.52
M 5 x 0.8	0.33	0.60	0.84	1.01
M 6 x 1	0.58	1.03	1.46	1.75
M 7 x 1	0.94	1.69	2.36	2.83
M8 x 1.25	1.39	2.48	3.49	4.19
M 9 x 1.25	2.05	2.67	5.18	6.17
M10 x 1.5	2.83	4.97	7.0	8.37
M 12 x 1.75	4.74	8.46	11.9	14.30
M 14 x 2	7.54	13.46	18.92	22.70
M 16 x 2	11.50	20.40	28.80	34.60
M 18 x 2.5	16.0	28.40	40.0	48.0
M 20 x 2.5	22.2	39.6	55.60	66.60
M 22 x 2.5	30.0	53	74.5	90
M 24 x 3	39	70	98	117
M 27 x 3	56	101	142	170
M 30 x 3	77	138	193	232

TIGHTENING TORQUES FOR STEEL SCREWS WITH ISO FINE THREAD PITCH

DIAMETER NOMINAL SCREW	MAX. TORQUE Ma (kgm)			
	6.6	8.8	10.9	12.9
M 8 x 1	1.48	2.60	3.70	4.40
M 10 x 1.25	2.90	5.20	7.30	8.70
M 12 x 1.25	5.30	9.10	12.80	15.40
M 12 x 1.5	5	8.9	12.50	15
M 14 x 1.5	8	14.30	20	24
M 16 x 1.5	12	21.50	30	36
M 18 x 1.5	17.40	31	43	52
M 20 x 1.5	24.40	43	61	73
M 22 x 1.5	32	57.5	80.5	97

M 24 x 2	41	76.5	103	124
M 27 x 2	60	107	150	180
M 30 X 2	83	147	208	250

7.5 DESCRIPTION OF THE MAINTENANCE PLAN

The following maintenance plan consists of the collection of all the descriptions of maintenance operations organised as follows:

- **CLEANING OPERATIONS** referred to in paragraph 7.6 consisting of series of tips and tricks for maintaining the area involved by the machine's activities tidy and in order
- **LUBRICATION PLAN** referred to in paragraph 7.7 consisting of series of tips and tricks for maintaining the efficiency of moving parts that make up the machine.
- **MAINTENANCE PLAN** referred to in paragraph 7.8 consisting of a series of PREVENTIVE MAINTENANCE and DISASSEMBLY INSTRUCTIONS that mention maintenance operations to be performed on various units present in the machine.

NOTE

IN RELATION TO MAINTENANCE OPERATIONS TO BE PERFORMED ON THE MACHINE PARTS/COMMERCIAL COMPONENTS PRESENT IN THE MACHINE, CONSULT THEIR INSTRUCTION MANUAL PROVIDED IN ANNEXES CHAPTER (CHAPTER 9).

NOTE

IN RELATION TO MAINTENANCE OPERATIONS TO BE PERFORMED ON THE "HYDRAULIC PUMP", REFER TO THE MANUAL SUPPLIED WITH THE MACHINE THAT IS INTEGRAL PART OF THIS DOCUMENTATION.

NOTE

IN RELATION TO MAINTENANCE OPERATIONS TO PERFORM ON THE "DIESEL ENGINE", REFER TO THE MANUAL SUPPLIED WITH THE MACHINE THAT IS INTEGRAL PART OF THIS DOCUMENTATION.

7.6 CLEANING OPERATIONS

The machine must be cleaned at regular intervals and anyway any time it is used in the presence of animals or organic residues.
This needs to be done so as to prevent the diffusion of microbes potentially dangerous for man and animals.
The following is a series of general notes and indications to be considered during cleaning.

- If during cleaning operations you find encrusted filth difficult to remove with dry rags or brushes, use a suitable cleaning liquid which does not have harmful effects on gaskets, rubber parts and paints, non-toxic, non-flammable and the use of which is permitted.

- It is preferable to use foamy products to clean and disinfect the machine as they adhere more to surfaces, especially vertical or undercut ones.

- Avoid prolonged contact with the cleaning liquids and inhaling their vapours. Do not use them near open flames or heat sources. Make sure the room has adequate ventilation.

- During cleaning operations, the operator, aside from using the usual precautionary measures, must be equipped with adequate personal protective equipment such as work suits, goggles, gloves and shoes depending on the work carried out.

- Cleaning the machine must be done with care, especially on guides and unvarnished sliding parts; at complete operation on these unpainted machined parts, a thin layer of oil must be spread to protect against corrosive agents.

NOTE

THE MACHINE MUST BE CLEANED AT REGULAR INTERVALS DEPENDING ON ITS USE AND OPERATIONAL ENVIRONMENT.

DANGER

BEFORE STARTING CLEANING OPERATIONS, ISOLATE AND LOCK ALL POWER SOURCES AND PLACE ALL MOBILE UNITS IN SAFETY LOCKED CONDITIONS.
APPLY THE SIGN "MACHINE BEING SERVICED - DO NOT SWITCH ON" NEAR THE MAIN SWITCH.
IT IS FORBIDDEN FOR CLEANING PERSONNEL TO REMOVE GUARDS AND PROTECTIVE DEVICES FROM THE MACHINE.
WAIT FOR THE COOLING OF THE DIESEL ENGINE AND PUMP.

WARNING

THE COMPONENT PARTS OF THE MACHINE MUST BE CAREFULLY CLEANED FROM DUST OR OTHER SUBSTANCES. IT IS ADVISABLE TO USE CLEANING FLUIDS THAT HAVE GOOD PROPERTIES OF SOLVENTS AND GREASE AT THE SAME TIME AND THAT HAVE NO HARMFUL EFFECTS ON RUBBER SEALS.
DURING THESE OPERATIONS, THE PERSONNEL MUST BE EQUIPPED WITH SUITABLE PROTECTIVE CLOTHING (GLOVES, SHOES, OVERALLS AND GLASSES) AND USE AS RAGS THAT DO NOT FRAY.

WARNING

FOR CLEANING DELICATE MECHANISMS, REFERENCES AND LUBRICATING MECHANISMS, ONLY DRY SOFT CLOTHS THAT DO NOT FRAY EASILY SHOULD BE USED, OR FLEXIBLE BRISTLE BRUSHES.

NOTE

WITH REGARD TO THE USE OF CLEANING FLUIDS, FLUID TYPES AND THE LIMITS OF USE, DICTATED BY THE RESPECTIVE LAWS IN FORCE IN THE COUNTRY OF USE OF THE MACHINE IN QUESTION, MUST BE OBSERVED.

DANGER

IT IS PROHIBITED TO USE CLEANING FLUIDS THAT ARE NOT ALLOWED IN THE COUNTRY OF USE OF THE MACHINE AND COMPRESSED AIR PRESSURE THAT IS GREATER THAN 0.2 MPa FOR CLEANUP OPERATIONS.
AVOID PROLONGED EXPOSURE OF PERSONNEL TO THE CLEANING LIQUID VAPOURS AND ENSURE GOOD VENTILATION OF THE ENVIRONMENT.
FAILURE TO FOLLOW THESE RULES OF PRECAUTION MAY CAUSE HARM TO THE PERSONNEL.

7.7 LUBRICATION PLAN

IT IS easy to understand the extreme importance which adequately lubricating the machine has. The proper use of appropriate lubricants contributes considerably to the achievement of the highest efficiency of the machine and the decrease in failures.
While handling lubricants, you must comply with the following preventive measures for health protection:

- use only the required amount of lubricant to lubricate the concerned mechanism. Dry extra oil, grease or graphite with a non-fraying cloth.
- at times excessive lubricant, like its absence, can jeopardise proper machine operation
- For lubrication, only lubricants or recommended grease must be used (see also pump and engine manual) or lubricants or grease with equivalent characteristics of known quality and experience.
- avoid prolonged, excessive or repeated contact of skin with lubricants or inhaling their vapours.
- protect skin by wearing appropriate protective clothing and equipment (for example work suits, goggles and protective gloves) or applying a protective product
- in case of contact with skin, wash with plenty of water and soap or specific products

DANGER

LUBRICANTS ARE FLAMMABLE PRODUCTS. RESPECT THE INDICATIONS PROVIDED ON THE LABELS OF THE RECIPIENTS.

When disposing of used lubricants, you must comply with the following environmental protection standards:

- lubricants risk contaminating water and soil. Therefore never pour lubricants on the ground, into the water or sewage systems. Any violation of these rules can be prosecuted by law. When using lubricants, always have an oil agglomerating agent within reach
- carefully recover used lubricants, separating mineral-based products from synthetic-based. When disposing of these materials, comply with regulations in force concerning waste disposal of used oils.

Used lubricants must have good emulsion stability and be unalterable with ageing. They must not damage seal joints, parts in rubber/plastic and paint with the elements of which lubricants are made from.
You must continue using the lubricants employed during the first use or filling.

If this is not possible, only use products in accordance with the tables of reciprocity provided by various manufacturers.
Only the use of suitable quality lubricants ensures safe operation of the machine.

WARNING

IT IS PROHIBITED TO MIX LUBRICANTS OF DIFFERENT QUALITIES, SINCE THEIR COMPOSITION AND CONTAINED ADDITIVES DO NOT HAVE THE SAME FEATURES. THIS STANDARD SHOULD BE APPLIED ESPECIALLY TO A MIXTURE OF MINERAL AND SYNTHETIC LUBRICANTS.

If you plan to use other lubricants than those indicated, check beforehand if the two products are compatible.
In case of doubt, the lubricant used up to that point must be completely eliminated through a thorough circuit wash procedure.

WARNING

TO AVOID THE RISK OF CONTAMINATION, LUBRICATION PROCEDURES MUST BE PERFORMED CAREFULLY TO MAINTAIN AN ABSOLUTE CLEANLINESS.

7.7.1 RECOMMENDED LUBRICANTS

The machine has been designed to reduce the need for lubrication operations.

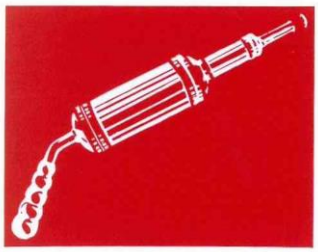
In relation to the alternative pump, to the Diesel engine and other machine components, refer to the plate on the frame of the machine.

Lubrication frequency is indicated in the charts in paragraph: 7.9.2 on page 7-45.

7.7.2 GREASING POINTS

On the machine there are labels like the one below indicating greasing points.

We recommend maintaining these labels in a good state and replacing them when they get ruined.



7.8 MAINTENANCE PLAN

Maintenance activities of machine components have been organised on technical maintenance sheets.
These partly derive from maintenance activities which the machine normally undergoes, partly from the results of systematic analyses and partly from specific databases.
This allows to also insert in just one document information taking account of the specific differences of the machine, resulting from its criticality.

NOTE

PREVENTIVE AND SPECIALIST MAINTENANCE OPERATIONS CAN BE CARRIED OUT, ACCORDING TO THE DIRECTIONS ON THE SHEETS, BY THE CUSTOMER USER OT TECHNICAL ASSISTANCE CENTRES (T.A.C.) OF CMCALABRIA SRLCMCALABRIA SRL

SOME SPECIAL MAINTENANCE OPERATIONS, DUE TO THEIR COMPLEXITY, HAVE BEEN DELIBERATELY OMITTED FROM THE MANUAL AND ARE TO BE CARRIED OUT EXCLUSIVELY BY THE T.A.C. WHICH HAVE THE TECHNICAL KNOWLEDGE, DOCUMENTATION AND EQUIPMENT REQUIRED TO PERFORM THESE TASKS.

DANGER

THE MAINTENANCE OPERATIONS DESCRIBED HEREAFTER MUST BE CARRIED OUT WITH THE MACHINE STOPPED AND POWER DISCONNECTED.
WHEN CONTROL OPERATIONS NEED TO BE PERFORMED WITH POWER CONNECTED, IT IS INDICATED SPECIFICALLY BY A HIGHLIGHTED TEXT AND DANGER SYMBOL. PAY THE UTMOST ATTENTION IN THIS CASE.

7.9 EXTRAORDINARY MAINTENANCE

7.9.1 ELECTRICAL MALFUNCTIONING

In case of electrical malfunctioning, the labels stick inside the electrical box and hydraulic valve box will help you identify the location of the electrical components that might cause the problem. Other information is reported on the electrical chematics and the hydraulic schematic.

CRITERIA FOR COMPILING

The following maintenance sheets are the sheets that require compiling.
It is suggested to use the proposed maintenance sheets in order to maintain a functional organisation of maintenance.

Maintenance sheet …….		**No.**	**Date:**
Machine		**Intervention**	
Reference drawing (if present)		**Number**	
Frequency		**Duration of intervention**	
Description of intervention			
Required spare parts			
Required equipment			
Detailed description of the required operations to perform in chronological order.			
Comments			

In particular, it is essential that for each maintenance task, the above-mentioned sheet is compiled and kept by the person responsible for maintenance in a special binder.

The data that must be reported on the sheet are:

1. Maintenance type (preventive, removal instructions, etc).
2. Maintenance sheet No.
3. Date on which maintenance was performed.
4. Machine name.
5. Type of operation.
6. Reference drawing (if present).
7. No. reference designs (if present).
8. minimum intervention frequency recommended.
9. Planned duration for the intervention.
10. Description even with the aid of drawings (if any) of the type of intervention with indication of the intervention points.
11. Indication relating to the spare parts required to perform/complete the operation.
12. Equipment required for the work in hand: spanners, compressed air, gloves, etc.
13. Detailed description of the operations to be run (in chronological order) in order to successfully perform the operation. This section also lists the suggestions, warnings, inherent dangers (if present) when performing this maintenance task.

7.9.2 MAINTENANCE AND FREQUENCY SCHEDULE

The tables below list the maintenance operations with their relative frequency:
The following tables are to be considered as valid if combined with knowledge and proper use of the machine in its entirety; therefore CIEMMECALABRIA declines any responsibility for performing tasks with wrong time limits not observing the following tables due to negligence of such prescriptions.

Key: **A** = Adjust; **C** = Check; **L** = Grease; **N** = Clean; **R** = Replace; **Ra** = Top-up; **L** = Lubricate

MACHINE BODY

No.	Article	After first 50h	Every 8 h	Every 10h	Every 50 h	Every 250h	Every 500h	Every 1000h	Every 2000h	Every 2500h	Every 3000h	Every 4000h	Over 4000h	Procedure
1	Machine frame					C								Status check
2	Wheels, condition of the tyres of the truck.				C									Status check
3	Tightness of machine nuts					C								Status check
4	Radiator Anti-resonant							C						Status check
5	Plates				C									Status check
6	Clean rollers in case of dirt			N										Clean
7	Correct positioning of the belts on the rollers			C										Status check
7	Mat tension				C									Status check
9	Mat joint wear				C									Status check
10	Collection belts	A				C				C				
11	Transverse belts	A				C					R			
12	Small belt	A				C		R						
13	Main belt	A				C			R					
14	Caging conveyor belt	A				C			R					
15	Roller bearings				L							R		
16	Supports				L							R		
17	Check wear of rollers					C								
No.	**Article**	**After first 50h**	**Every 8 h**	**Every 10h**	**Every 50 h**	**Every 250h**	**Every 500h**	**Every 1000h**	**Every 2000h**	**Every 2500h**	**Every 3000h**	**Every 5000h**	**Over 5000h**	**Procedure**
18	Transmission chains and pinions				C/ Lubricate								R	
19	Idle rollers					C						C		
20	Arnite bushes										R			

21	Hexagon bush connecting collecting belt rollers								R					
22	M16 left/right screw connecting collection belt rollers								R					
23	Track idle roller bearing status				C	L						R		
24	Reducer oil level	R				C			R					
25	Track scrolling roller bearing wear				C			L		R				
26	Track scrolling top slider					C			R					
27	Track tension	A				C								
28	Nut tightening					C								
29	* Condition of tracks					C							R	

*** The durability of the tracks is strongly affected by the following factors: frequency of machine loading/unloading from its means of transport; type of ramps used for loading/unloading and type of ground where the machine is used. Therefore, the replacement value indicated in the chart is strictly indicative.**

ELECTRICAL INSTALLATION

No.	Article	After first 50h	Every 8 h	Every 10h	Every 50 h	Every 250h	Every 500h	Every 1000h	Every 1500h	Every 2000h	Every 2500h	Every 3000h	Every 4000h	Over 4000h	Procedure
1	Wear of electrical sockets						C								
2	Condition of cable bands							C							Status check
3	Lighting and signals					C									Status check
4	Battery electrolyte check						C								Check and fill up
5	Buzzer, indicators, alarms					C									Status check

6	Mushroom head emergency button operation				C										Status check
7	Verify weighing with sample				N/C										Status check
8	Load cells					C									Status check
9	Load cell connectors					C									Status check
10	Joysticks				C					R					Check and replace if necessary

HYDRAULIC SYSTEM

No.	Article	After first 50h	Every 8 h	Every 10h	Every 50 h	Every 250h	Every 500h	Every 1000h	Every1 500h	Every2 000h	Every2 500h	Every3 000h	Every4 000h	Over 4000h	Procedure
1	Hydraulic oil level				C										Status check
2	Hydraulic oil									R					Check and fill up
3	Oil tank									N					Status check
4	Hydraulic pressure level						C								Status check

5	High pressure filter cartridge.	**R**					**R**								Status check
6	Low pressure filter cartridge.									**R**					Status check
7	Flexible hoses of hydraulic system					**C**									Status check
8	Iron tubes							**C**							Status check
9	Condition of the pistons of the cager belt.							**C**							Status check
10	Condition of the pistons that lift the head.										**C**				Status check
11	Hydraulic pump							**C**						**R**	Status check
12	Joint between the two pumps												**R**		Status check
13	Check smooth operation of the piston of the truck's telescopic extension.						**C**								Status check
14	Parking brake										**C**				Status check
15	Track pump							**C**						**R**	Status check
16	Service pump							**C**						**R**	Status check
17	Track/service pump joint												**R**		Status check

INTERNAL COMBUSTION ENGINE

For a proper maintenance, in addition to the tips above, you may also want to follow the user's manual provided with the present.

Due to the frequent washes, in addition, you may want to keep the motor in efficient conditions and, especially, the alternator. It is recommended to use air to clean the motor and electrical parts.

Key: **A** = Adjust; **C** = Check; **L** = Grease; **N** = Clean; **R** = Replace; **Ra** = Top-up; **L** = Lubricate

No.	Article	After first 50h	Every 8 h	Every 10h	Every 50 h	Every 250h	Every 500h	Every 1000h	Every1 500h	Every2 000h	Every2 500h	Every3 000h	Every4 000h	Over 4000h	Procedure
1	Coolant liquid		**C**											**R**	Check and fill up

2	Conducted equipment		C												Status check
3	Obstructed air filter indicator		C				N								Status check
4	Motor oil level		C												Check and fill up
5	Fuel filter – Water separator		S												Status check
6	Visual inspection		C												Status check
7	Fuel tank		S												Status check
8	Radiator			N											Status check
9	Fan belt & alternator				C/A/R										Status check
10	Supplemental coolant additive (SCA)						C Ra								Check and fill up
11	Internal-external filter cartridge			N			R								Status check

No.	Article	After first 50h	Every 8 h	Every 10h	Every 50 h	Every 250h	Every 500h	Every 1000h	Every1 500h	Every2 000h	Every2 500h	Every3 000h	Every4 000h	Over 4000h	Procedure
12	Motor oil						R								Check and fill up
13	Motor oil filter						R								Status check
14	Fuel filter						R								Status check
15	Flexible hoses and bands						C/R								Status check
16	Alternator							C							Status check
17	Starter							C							Status check
18	Engine supports						C								Status check

19	Water pump											R			Status check
20	Engine bell plastic joint								C			R			Status check
21	Engine support Anti-resonant							C				R			Status check
22	Check for fuel, oil, water leaks						C								Status check

In case of unfavourable machining cycles and/or high maintenance operations and, in particular, those of cleaning the air filter and radiator must be done in advance.
Please note that exceeding the frequency of lubrication/lubricating reported in these tables, these activities must be carried out even after long work cycles and/or in case of unfavourable operating conditions.

CARTS

For a proper maintenance, in addition to the tips above, you may also want to follow the user's manual provided with the present.

Due to the frequent washes, in addition, you may want to keep the motor in efficient conditions and, especially, the alternator. It is recommended to use air to clean the motor and electrical parts.

Key: **A** = Adjust; **C** = Check; **L** = Grease; **N** = Clean; **R** = Replace; **Ra** = Top-up; **L** = Lubricate

No.	Article	After first 50h	Every 8 h	Every 10h	Every 50 h	Every 250h	Every 500h	Every 1000h	Every1 500h	Every2 000h	Every2 500h	Every3 000h	Every4 000h	Over 4000h	Procedure
1	Tyres				C									R	Check and fill up
2	Cage rotation chain				C/L							R			Status check
3	Cage tray					C									

4	Cage rotation chain anti-friction screws						**C**		**R**						
5	Tray wheels					**C**						**R**			
6	Cage rotation bearing				**C/L**									**R**	
7	Polyzene wear				**C**				**R**						

CHECKS TO PERFORM FOR SAFETY PURPOSES

No.	OPERATION	FREQUENCY
1	Check that the joystick and its cable are not damaged and that they function properly	Daily
2	Check whether all control elements are marked and if signal plates are worn.	Monthly
3	Check whether the acoustic signal is working properly	Daily
4	Check whether the front and rear halogen headlights are working properly	Daily
5	Check whether all warning plates are integral	Monthly
6	Check that the buttons and joysticks of the cager belt function properly	Daily

It is a required prescription to perform the checks above before each working cycle.

8. GENERAL DESCRIPTION OF FAULTS

CHAPTER 8

FAULTS

8.1 LIST OF FAULTS – CAUSES – SOLUTIONS

The table below shows the list of potential faults that may occur on the machine provided.
The "cause" column lists the causes that generated the fault.
The "solution" column lists the corrective action to resolve the situation of the problem that occurred.

FAULT	CAUSE	SOLUTION
Excessive noise on transmission system	Gear systems or hydraulic motors are damaged or worn. Worn or damaged bearings	Replace element
	Deteriorated or insufficient lubricant.	Fill up or replace
Leaks on transmission system	Broken or worn seals	Replace
	Broken seal rings	Replace
Faulty steering	Lack of oil or level too low	Fill up
	Loose hydraulic tube fittings	Check and tighten
	Faulty driving joystick	a- Check for humidity infiltrations. b- Check the mechanical conditions. c- Check the electrical connections. In particular, check that nothing is crushed or scraped and that sheaths are intact.

FAULT	CAUSE	SOLUTION
	Damaged tubes or power steering or worn pump parts.	Replace
The pump works but oil does not circulate.	Insufficient oil level in the tank	Fill up
	Clogged filter	Replace or clean
The collection head does not lift or lower.	The manual valve on the left-hand mudguard is closed.	Turn the valve to open it.
The combustion engine does not start even when the system is live.	An emergency button is still engaged.	If it says on the screen that an emergency button is engaged and there are no alarms in progress, find and release the button concerned.
	There is no flow of fuel.	a- Check that there is fuel in the tank. b- Check the condition of the filters. c- Check that the valve on the engine fuel pump is 1/2 open.
The machine does not start up when the key is turned in the ignition.	The battery disconnector is not engaged.	Put the key in the ignition and turn it clockwise.
	The battery is dead.	Check the battery and recharge it.
The machine does not move correctly or does not move at all when the trigger on the manipulator is pressed.	Faulty connecting cable.	Check the cable and repair it.
	Humidity in the electrical contacts.	Keep the machine in a warm dry area until the humidity has evaporated.
	The hydraulic pump of the hydrostatic drive has problems.	Contact technical assistance.
Difficulty going up slopes or dealing with small obstacles.	The revs are too low.	Bring the engine up to at least 2000 rpm.

WARNING

FAULT CONDITIONS IN RELATION TO PARTS INSTALLED ON THE MACHINE SUCH AS THE ENGINE, HYDRAULIC COMPONENTS, AND AIR CONDITIONER ARE INDICATED IN THE RESPECTIVE ANNEXES TO THIS MANUAL.

9. ATTACHMENTS

CHAPTER 9

ATTACHMENTS

This chapter contains the list of OPERATING INSTRUCTION MANUALS of the main components used in the machine.

The listed MANUALS are an integral part of the COMPLETE INSTRUCTION MANUAL of the machine supplied by CIEMMECALABRIA Srl and must be used as a reference for the use, operation and maintenance of the components themselves.

Annex No.	DESCRIPTION	MANUFACTURER
Annex 1	Technical Manual if required as an optional.	CIEMMECALABRIA
Annex 2	Use and maintenance manual of the Perkins motor	Kubota
Annex 3	Wiring Diagram	CIEMMECALABRIA

10. SPARE PARTS

NOTE

The spare parts list involving commercial parts and other components used and installed by CIEMMECALABRIA on the machine are given in the related manuals available as optional.

How to place your order of spare parts:

To place an order of spare parts, a request must be sent to CIEMMECALABRIA Srl specifying the quantity and spare part code that you want to order.

In particular, every request concerning spare parts shall be submitted in writing to the following address:

CIEMMECALABRIA Srl
Headquarters and factory:
Viale Pertini, 86
I-25046 Cazzago S. Martino (BS)
Phone : +39 030 7254118
Fax: +39 030 7759992
Web: www.cmcindustries.com
e-mail: info@cmcindustries.com

In particular, it is required to specify:

- No. of machine series
- Group type as shown on the type plate installed on the machine
  (If absent give the description of the piece)
- Part Code (found on the manual of the component)
- Description
- Desired quantity

Please indicate if it is an actual order to dispatch or a request for prices, specify the delivery date and the shipping and billing address and shipping instructions.

Communicate name, telephone, fax and e-mail of the person who will be our future interlocutor for everything related to the supply of spare parts.

After receiving your order, we will send you our order confirmation with pricing, delivery date and delivery conditions.

DECLARATION OF CONFORMITY ACCORDING 2006/42/EC REGULATION

PRODUCER:

CIEMMECALABRIA SRL
Viale S. Pertini, 86
25046 Cazzago San Martino (BS)

RESPONSIBLE FOR THE TECHNICAL SHEET:

CIEMMECALABRIA SRL
Viale S. Pertini, 86
25046 Cazzago San Martino (BS)

MACHINE:

CHIKEN HARVESTER

Model ***APOLLO GENERATION 2 WITH BLOWER***

Serial number _

Year _ _ _ _ _

With attached the following accessories that are intended to be used only with this machine:

_ _ MT – WIDE HARVESTING HEAD – With serial number: _ _ _ _ _ _ _ _ _ _ _ _

2 POSITION CAROUSEL - With serial number: _ _ _ _ _ _ _ _ _ _ _ _

The machine conforms all standards covering directive 2006/42/EC.

Furthermore the machine complies with following:

Directive 2004/108/EC: ”Electromagnetic compatibility” and all the furthers integration and modifications.

Directive 2006/95/EC: "Low voltage" and all the furthers integration and modifications.

Cazzago San Martino, _ _ _/_ _ _/_ _ _ _ _

MARCO CUTTER

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