PIATTAFORME AEREE SEMOVENTI
SELF-PROPELLED WORK-PLATFORMS
PLATES-FORMES DE TRAVAIL AUTOMOTRICES
SELBSTFAHRENDE HUBARBEITSBÜHNEN
PLATAFORMAS ELEVADORAS AUTOPROPULSADAS
ZELFRIJDENDE HOOGWERKERS
SJÄLVGÅENDE ARBETSPLATTFORMAR
SAMOKRETNE RADNE PLATFORME

SERIES „A“

A12 JRTD A15 JRTD

USER'S MANUAL

ENGLISH TRANSLATION OF THE ORIGINAL USER MANUAL IN ITALIAN

AIRO is a division of ***TIGIEFFE SRL***
Via Villa Superiore, 82 - 42045 Luzzara (RE) ITALY -
☏ +39-0522-977365 - 🖷 +39-0522-977015
WEB: **www.airo.com**

Review date	Description of revision
01-2010	• Manual issue.
11-2010	• Instructions for use of bio oil has been added. • Oil temperature and oil list updated.
12-2010	• Instructions for emergency towing using an optional pump have been added.
05-2011	• Amended information on “Commissioning and first inspection, subsequent inspections and title transfer report”. • Additions to the Technical Data: “Total quantity of battery electrolyte” • "Max. power" diesel engine changed and "Regulated Power" added
2013-10	• Instruction details have been added relative to harness anchoring points.
2014-09	• Added information on the maximum manual forces. • Changed Name and Surname of CEO.
2015-01	• CE Statement of Compliance updated • Additional instructions on hand position have been added.
2015-10	• The list of recommended hydraulic oils was updated. • A paragraph was added stating strictly original spare parts should be used or alternatively the approval of the manufacturer should priory obtained. • The whole paragraph “Deboarding the platform off the ground” is new.
2015-11	• Tilt alarm operation description updated.
2018-05	• Data sheets were added with units of measurement of the international system and US unit of measurement. • Changed Name and Surname of CEO. • Unified First and Second Part.
2019-07	• Statements of successful commissioning of machine in Italy description updated.
2020-01	• “OPTIONAL load control system for engines TIER4F/STAGE5” has been added. • Regulatory references and certifying agency have been updated.

Tigieffe thanks you for purchasing a product of its range, and reminds you to read this manual and familiarize with its contents before using the machine. Here you can find all the necessary information for a correct use of the purchased machine; therefore, you are advised to follow the instructions carefully and to read the manual thoroughly. Please store this manual in a safe place, but at quick-reach in case of need. The contents of this manual may be modified as a result of any change or improvement done by the manufacturer. The reproduction or translation of the whole manual or parts thereof is strictly forbidden without prior written approval of the owner.

Contents:

1. INTRODUCTION.

This is a general manual applicable to all models stated on the cover page. Therefore, the description of the machine and its components, as well as control and safety systems, may include parts that are not actually available on your machine depending on model and date of purchase. In order to keep pace with the technical development, *AIRO-Tigieffe s.r.l.* reserves itself the right to modify the product and/or the user's manuals as needed and without any obligation to prior updates of already existing manuals.

1.1. Legal mentions.

1.1.1. Handover of the machine.

Deliveries to any member country of the EC (European Union) are always accompanied by the following documents:

- User's Manual in the native language of the country of use.
- CE-plate attached to the machine
- EC Statement of Compliance
- Warranty certificate
- Declaration of internal testing

Only for Italy:

- Instruction for applying to INAIL to register the commissioning of the machine and schedule the first overhaul inspection on INAIL webpage.

Please note: this manual is an integral part of the machine. The original manual or copy thereof must be available on board of the machine along with the original reports (or copies thereof) of all periodical tests conducted by the user. In the event of a transfer of ownership the machine must always be provided with its use and maintenance manual.

1.1.2. Statements of successful commissioning, first installation test, periodical functional tests and property transfers.

The legal obligations of the owner of the machine vary according to the country of commissioning. Therefore, customers are recommended to check on the safety procedures applicable in their countries and the Authorities having jurisdiction in their countries for all work-place-safety-related issues. At the end of this manual contains, you can find a section titled "Control ledger" that you should use and fill out to properly keep track of all modifications/service cases.

1.1.2.1. Statements of successful commissioning carried out by the first owner.

In ITALY the owner of the Aerial Platform must notify the use of the machine to the local competent INAIL and submit it to periodical compulsory checks. The first of such checks is performed by the INAIL within sixty days from a request being made. In the event of such time passing without the inspection being made, the employer can call in the ASL (Local Health Unit) or qualified public or private services. Subsequent tests are carried out by the already-mentioned parties within thirty days from a request being made. In the event of such time passing without these tests being made, the employer can call in qualified public or private services. The checks are on a payment basis and the employer (machine owner) will be charged for them. For these checks, the territorial inspection boards (ASL/USL or ARPA) and INAIL can be supported by qualified public or private services. The qualified private institutes acquire the qualification of responsible for the public service and refer directly to the public structure that controls this function.

To declare the commissioning of the machine in Italy, Send the form that is supplied together with other documents upon machine delivery, by registered letter with advice of receipt.

The INAIL will assign a serial number when the First Check is performed before completing the “technical identification sheet” on which it indicates only the details obtained from the already-operating machine or obtainable from the instruction manual. The “Technical Data Sheet” will form an integral part of the machine.

1.1.2.2. Periodical Functional Tests.

Yearly overhauls are compulsory. In Italy, the owners of an Aerial Platform must apply for a periodical check by sending a registered letter to the local competent inspection board (ASL/USL, or ARPA, or other qualified public or private services) at least twenty days before the expiry of the year from the last check.

PLEASE NOTE: If a machine without a valid test certificate is moved from one area to another one falling within the jurisdiction of a different inspection Authority, the owner is to apply for a new test at the new competent Authority in the new area where the machine will be used.

1.1.2.3. Transfers of ownership.

If the machine is transferred in Italy, the new owner is to notify the ownership of the machine to the local competent Authorities (ASL/USL, or ARPA, or other qualified public or private services) by supplying a copy of:

- Statement of compliance issued by the manufacturer;
- Statements of successful commissioning carried out by the first owner.

1.1.3. Operators training and information.

The employer must ensure that the workers appointed to use the equipment are adequately and specifically trained so they are able to use the Mobile Elevating Work Platform in a proper and safe way and also avoid the risks caused by other people.

1.2. Tests performed before delivery.

Before being delivered to the market, each platform undergoes the following tests:

- Braking test
- Overload test
- Operating test

1.3. Intended use.

The machine described in this manual is a self-propelled aerial platform intended for lifting persons and materials (equipment and work materials) in order to carry out maintenance, installation, cleaning, painting, de-painting, sand-blasting, welding operations, etc.
The max. capacity allowed (which varies according to the model – see paragraph “Technical features”) is divided as follows:

- 80 Kg for each person on board;
- 40 Kg for tools and equipment;
- the remaining load is represented by the materials.

NEVER exceed the maximum capacity as indicated in paragraph "Technical features”. Persons, tools and work materials can be loaded on the platform only from the initial boarding position (platform lowered). It is absolutely forbidden to load persons, tools and work materials on the platform when it is not in the boarding position.
Any load must be put inside the cage. Do not lift any load (even if within the maximum capacity) hanging off the platform or lifting structure.
Do not carry large-sized panels since they increase the resistance to wind force thus causing the machine to overturn.
Do not load anything on the platform while the platform is UP and the machine travels (operators on board are not allowed to pull wires or ropes, etc...)
An overload controller stops the machine if the load on the platform exceeds the nominal load by approx. 20% (see chapter "General Use and Operation”) and platform is lifted.
The machine cannot be used in areas where road vehicles operate. Make sure to alert the presence of the platform by means of suitable signs when the machine is used in public areas.
Do not use the machine to tow trucks or other vehicles.
Any other use different than those for which it was designed must be approved in writing by the manufacturer following a specific request on the part of the user.

Do not use the machine for purposes other than those for which it was designed, except after making a request and having obtained written permission in this sense from the manufacturer.

1.3.1. Deboarding the platform off the ground.

The risk of deboarding the Aerial Work Platform when the platform is off the ground has not been accounted in our design safety because the only possible deboarding configuration is the one with the platform completely lowered on ground. For this reason, boarding or leaving a raised platform is absolutely prohibited.
However, operators do happen to incur certain situations where they need to leave or access the platform in different positions than the initial boarding one. These situations are commonly referred to as “Deboarding the platform off the ground”.

The risks relative to “boarding a platform off the ground” depend on the configuration of the platform, but also from the risk assessment analysis carried out by the employer before authorizing any such condition. However, the following circumstances should always be taken in due account:

- Site/area characteristics;
- Use of the machine as an anchoring point for other operators and other applications, which should be prevented and never be possible for no reasons;
- Use of the machine at xx% of the its performance to prevent additional stress resulting from specific operations, or flexural bending of the chassis which may force the platform away from the landing area. In this case, it is recommendable to perform a few trials and define these limit conditions;
- Implementation of a special emergency evacuation procedure (for instance having a man on the platform; another one at the control station on ground, while a third one leaves a raised platform);
- Administration of extensive training of the persons involved (both operators and passengers);
- Installation of all implements needed at the point of deboarding to prevent falling of the persons leaving the platform.

This paragraph should not be interpreted as a formal approval by the manufacturer to deboard the platform off-the-ground, which remains a strictly prohibited action. The Employer is the ultimate person responsible for making any such decision and this paragraph is merely meant to supply additional informations and help.

1.4. Description of the machine

The machine described in this manual is a Self-Propelled Aerial Work Platform equipped with:

- A motorized wheeled chassis;
- A rotating, hydraulic turret;
- A lifting system operated by means of hydraulic cylinders and joints whose number will change based on machine type;
- An operator platform (the max. capacity of which varies based on machine type - see chapter "Technical features”).

The chassis is motorised to allow the machine to be moved even with the raised platform (see "Operating instructions”) and has two rear driving wheels and two front steering idle wheels. The rear wheels are equipped with parking brakes, positive logic type (when drive controls are released brakes are automatically activated).
The turret rests on a turntable fixed to the chassis and can be oriented (rotated) by 370° non-continuously around the central axle of the machine by means of irreversible endless screw.
The lifting system, with articulated boom, can be divided into three main structures:

- The first, with vertical extension, consists of a “double parallelogram” system named “pantograph”;
- The second is an articulated boom lift with telescopic extension;
- The third, consists of a terminal boom called "Jib" (the Jib is fixed as a standard, as an option it is rotating of about 180° totally).

The hydraulic cylinders which move the articulated structure are provided with solenoid valves or safety valves directly flanged on them. This construction detail allows the keeping of the booms in the same position even if one of the pipes accidentally breaks.
The platform is hinged to one end of the “jib” and can be swivelled by 180° (90° to the right and 90° to the left) by means of a rotary actuator fitted with over centre valve. The platform has also got guard rails and toe boards of a predefined height ≥ (1100 mm /433 in for the guard rails and ≥150 mm /59 in for the toe boards; in the boarding area, the toe board is ≥100 mm /39 in high).

The platform levelling is automatic and is ensured by mechanical ties and two cylinders in closed circuit. A manual adjustment is strictly possible by means of a special control on condition that the boom is fully DOWN (closed) and the “Jib” inclination against the plane ranges between +10° and –70°.

1.5. Operator's stations.

The machine is equipped with two control stations:

- on the platform for normal operations;
- and on the tower (or on ground). The latter contains the emergency controls (to lower or stop the machine in case of emergencies), a key-selector to select the active control panel and to start the machine.

1.6. Power supply.

All machines are powered by a diesel engine.
Both the hydraulic and the electric power systems are equipped with all necessary protections (see electric and hydraulic wiring diagrams attached to this manual).

1.7. Machine life, demolition and decommissioning.

The machine has been designed to last for 10 years in normal operating conditions, if properly used and serviced. Within this period, the manufacturer must carry out a complete inspection/overhaul.
If disposal of the unit is necessary, comply with current local regulations.
In Italy, the demolition/decommissioning must be notified to the local ASL / USL or ARPA.
The machine is made from metal parts which are easy to be identified (steel for the most parts, and aluminium for the hydraulic blocks); thus, we can state that the machine is 90% recyclable.

⚠ **European standards and those transposed by the member countries relating to respect for the environment and the disposal of wastes envisage heavy administrative and penal fines in case of infringement.**
Decommissioning or disposal of the machine should strictly comply with the provisions applicable in the country of disposal on disposal of hydraulic oils and batteries.

1.8. Identification.

When asking for technical service or spare parts, make sure to have the ID serial number of the machine. You will be asked about it, so make a note of it and keep it with you. Should this plate (as well as the various stickers applied on the machine) be lost or illegible, it is to be replaced as soon as possible. In order to identify a machine without a plate or a label, please check the production number punched underneath the chassis. The exact location of the plate and the number punched on the chassis is shown on the following label. Please check and copy them here below for your easier convenience in future.

MODEL: _____	**CHASSIS: _____**	**YEAR: _____**

Fig.1

1.9. Location of main components.

The picture shows the machine and its own components:

1) Control panel
2) On-ground controls
3) Electric control unit
4) Hydraulic oil tank;
5) Diesel (fuel) tank
6) Diesel engine
7) Hydraulic pump to power travelling
8) Hydraulic pump to power the machine operations
9) Hydraulic drive motors
10) Hydraulic motor for turret rotation;
11) (Optional) 230V outlet;
12) (Optional) Spirit level for the visual control of the machine levelling;
13) Lifting cylinders
14) Starter battery
15) Power assisted steering
16) Inclinometer
17) Platform load limiter sensor (load cell);
18) Turntable.

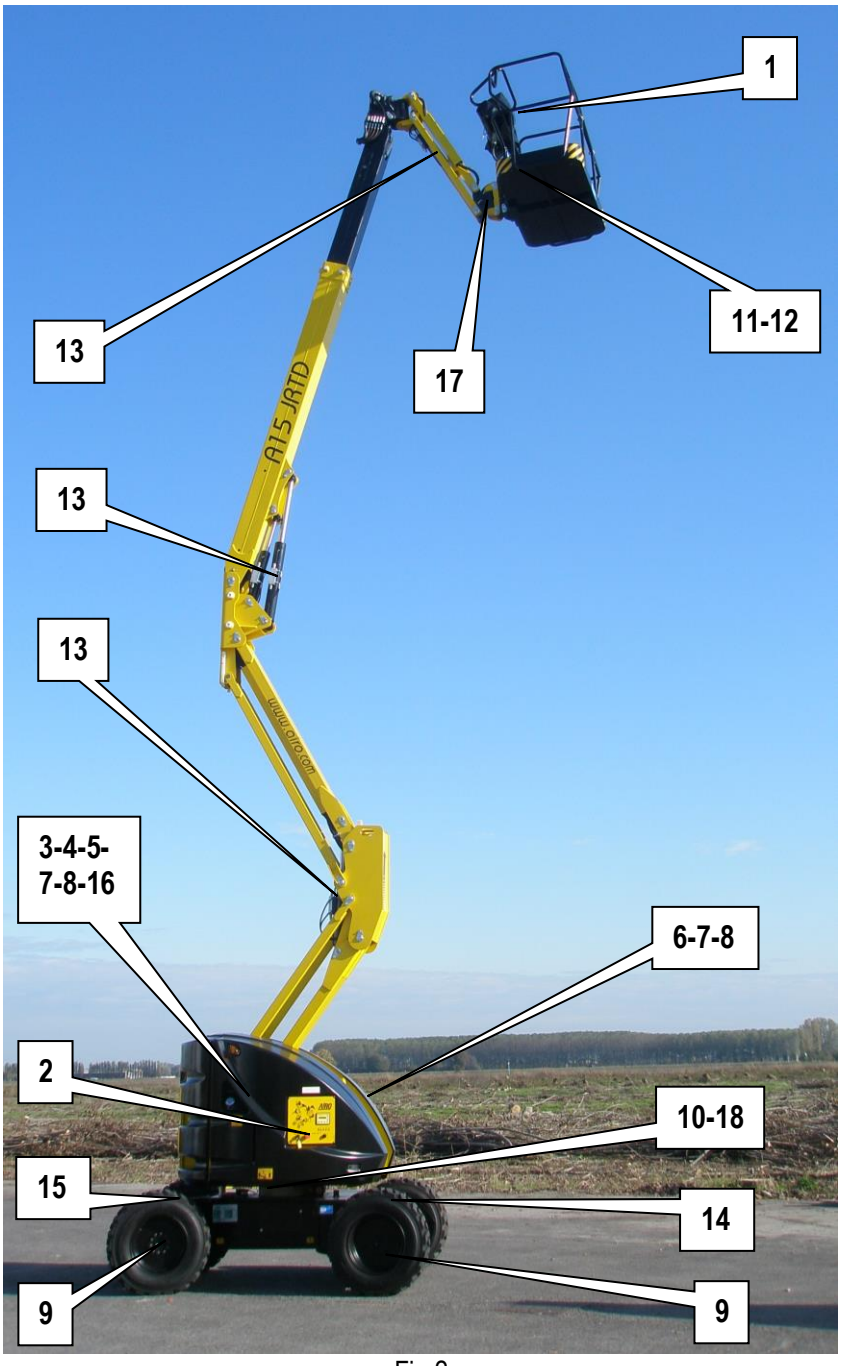


Fig.2

2. TECHNICAL FEATURES OF THE STANDARD MACHINES.

THE TECHNICAL FEATURES OF THE PRODUCTS IN THE FOLLOWING PAGES CAN BE MODIFIED WITHOUT PRIOR NOTICE

2.1. Model A12 JRTD.

		A12 JRTD			
Dimensions:					
	Maximum working height	12.2	m	*40"*	*ft*
	Max. height of the platform floor	10.2	m	*33 '5"*	*ft*
	Ground clearance	250	mm	*9.8"*	*in*
	Max. outreach from turntable centre	7.1	m	*23'3"*	*ft*
	Turret rotation (not continuous)	370	°	*370*	°
	Platform rotation	180	°	*180*	°
	Platform height for safety speed activation	< 3	m	*<9' 10"*	*ft*
	Internal steering radius	1.25	m	*4 '1"*	*ft*
	External steering radius	3.6	m	*11 '9"*	*ft*
	Maximum Capacity (m)	230	Kg	*500*	*lbs*
	Max. number (n) of people on the platform – indoors	2		*2*	
	Mass weight of tool and material (me) (**) – outdoors	70	Kg	*154.5*	*lbs*
	Max. number of people on the platform (n) – outdoors	2		*2*	
	Tool and material mass weight (me) (**) – outdoors	70	Kg	*154.5*	*lbs*
	Maximum height during drive	Max		*Max*	
	Maximum platform dimensions (*****)	0.8 x 1.4	m	*2' 7" x 4' 7"*	*ft*
	Maximum hydraulic pressure	380	Bar	*5511*	*psi*
	Max. pressure of lifting circuit	250	Bar	*3625.9*	*psi*
	Tire dimensions (****)	Ø 730 x 230	mm	*Ø28.9"x 9.0"*	*in*
	Tire type (****)	10 x 16.5		*10 x 16.5*	
	Transport dimensions	5.6 x 1.8 x 2.09	m	*18' 4" x 5' 9" x 6' 10"*	*ft*
	Transport dimensions with retracted jib	4. x 1.8 x 2.45	m	*13'1" x 5' 9" x 8' 0"*	*ft*
	Machine weight w. no load (*)	5800	Kg	*12786.12*	*lbs*
Stability limits:					
	Longitudinal inclination	4	°	*4*	°
	Lateral inclination	4	°	*4*	°
	Maximum wind speed (***)	12.5	m/s	*27.9*	*mph*
	Maximum manual load (***)	400	N	*89.9*	*lbf*
	Max. load per wheel	2600	Kg	*5700*	*lbs*
Specifications:					
	Driving wheels	4	N	*4*	*N*
	Max. drive speed	6	km/h	*3.7*	*mph*
	Safety drive speed	0.6	km/h	*0.4*	*mph*
	Oil tank capacity	90	l	*23.7*	*gal*
	Maximum admissible gradient	38	%	*38*	*%*
	Max. operating temperature	+50	°C	*122*	*°F*
	Min. operating temperature	-15	°C	*5*	*°F*

Diesel Power YANMAR "Stage III					
	Diesel engine type	3TNV-88		3TNV-88	
	Max. engine power	28.2	kW	37.8	hp
	Rated Power	25	kW	33.5	hp
	Starter battery	12 / 132	V/Ah	12 / 132	V/Ah
	Total electrolyte quantity in the battery	7	l	1.8	gal
	Diesel tank capacity	70	l	18.4	gal
Diesel Power YANMAR "Stage V / Tier 4 final"					
	Diesel engine type	3TNV-88		3TNV-88	
	Max. engine power	27.5	kW	37.4	hp
	Rated Power	25	kW	33.5	hp
	Starter battery	12 / 135	V/Ah	12 / 135	V/Ah
	Total electrolyte quantity in the battery	7	l	1.8	gal
	Diesel tank capacity	60	l	15.6	gal
380V three-phase electrical pump (optional)					
	Diesel engine power	NA	kW	NA	hp
	Max. absorbed current	NA	A	NA	A
	Max. drive speed	NA	km/h	NA	mph
230V single-phase electric pump (Optional)					
	Diesel engine power	NA	kW	NA	hp
	Max. absorbed current	NA	A	NA	A
	Max. drive speed	NA	km/h	NA	mph

(*) In certain cases, different limitations may be set. It is recommended to comply with the data shown on the machine plate.

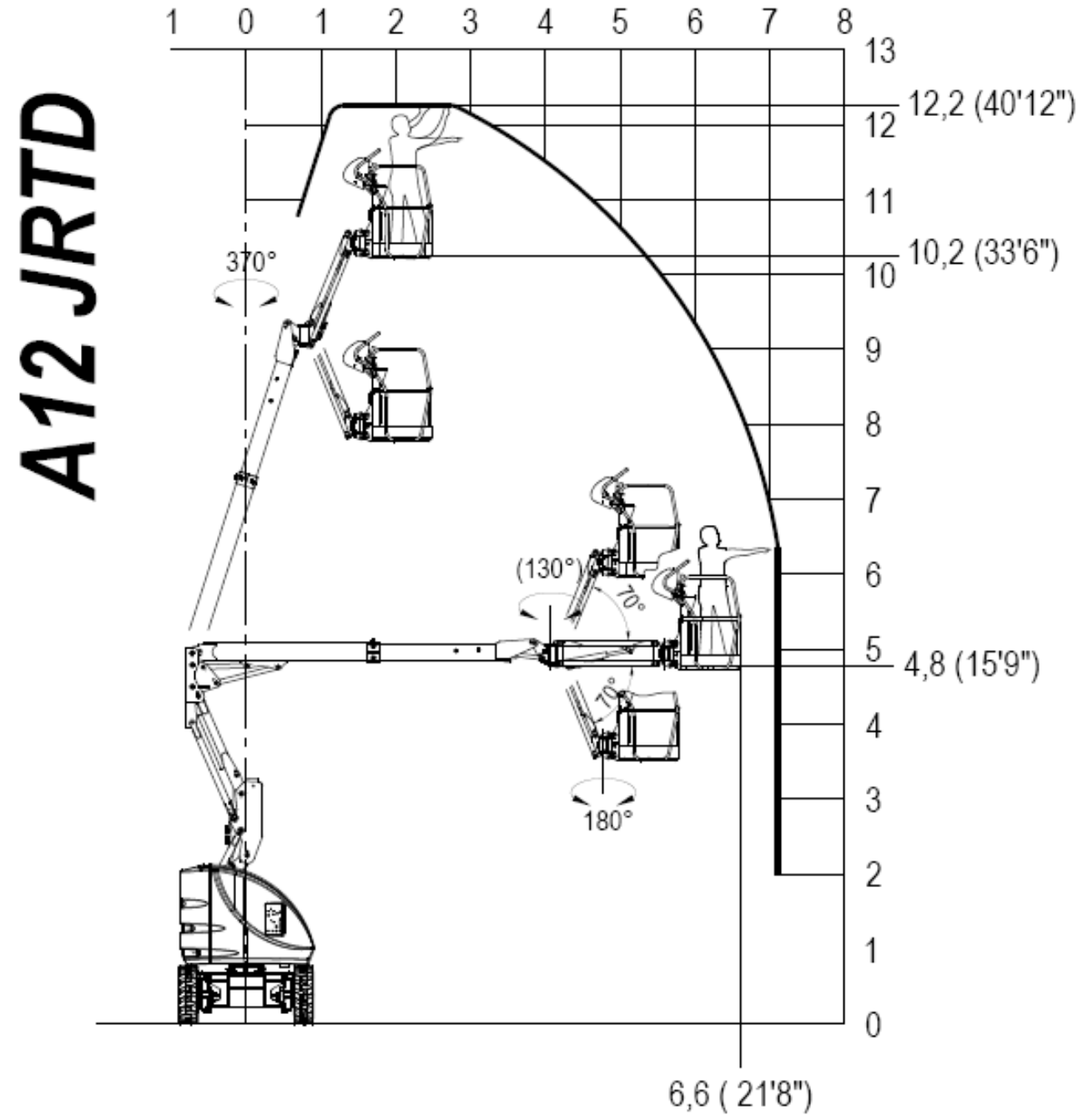
(**) me = m – (n x 80).

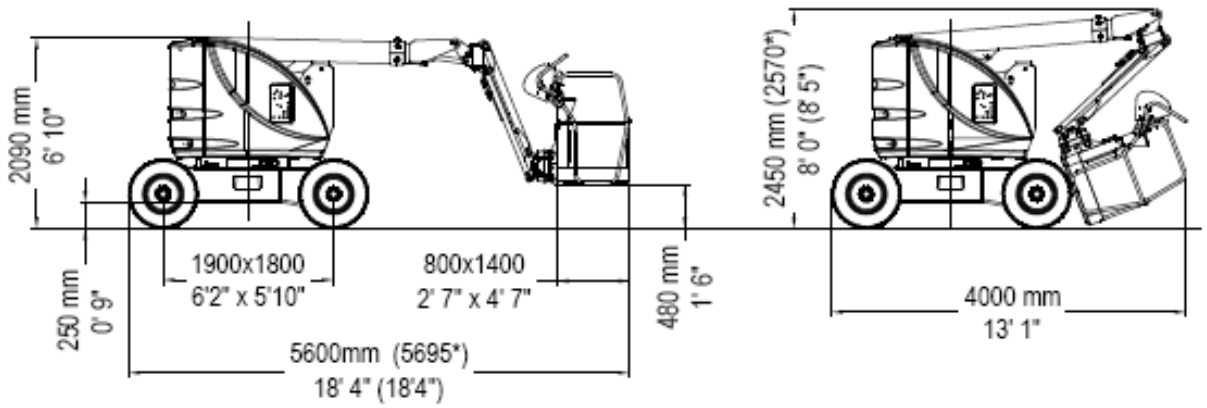
(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) Standard off-road tires 10x116.5 filled with polyurethane foam.

(*****) Standard steel platform: 800x1400 mm (26x46 ft); Optional extra-large steel platform: 800x1800 mm (26x59 ft).

A12 JRTD





* = CON JIB ROTANTE

2.2. Model A15 JRTD.

		A15 JRTD			
Dimensions:					
	Maximum working height	15.1	m	*49'6"*	*ft*
	Max. height of the platform floor	13.1	m	*42'11"*	*ft*
	Ground clearance	250	mm	*0'9"*	*in*
	Max. outreach from turntable centre	8.8	m	*28 '9"*	*ft*
	Turret rotation (not continuous)	370	°	*370*	°
	Platform rotation	180	°	*180*	°
	Platform height for safety speed activation	< 3	m	*<9' 10"*	*ft*
	Internal steering radius	1.25	m	*4 '1"*	*ft*
	External steering radius	3.6	m	*11'9"*	*ft*
	Maximum Capacity (m)	230	Kg	*500*	*lbs*
	Max. number (n) of people on the platform – indoors	2		*2*	
	Mass weight of tool and material (me) (**) – outdoors	70	Kg	*154*	*lbs*
	Max. number of people on the platform (n) – outdoors	2		*2*	
	Tool and material mass weight (me) (**) – outdoors	70	Kg	*154.5*	*lbs*
	Maximum height during drive	Max		*Max*	
	Maximum platform dimensions (*****)	0.8 x 1.4	m	*2' 7" x 4' 7"*	*ft*
	Maximum hydraulic pressure	380	Bar	*5511*	*psi*
	Max. pressure of lifting circuit	250	Bar	*3626*	*psi*
	Tire dimensions (****)	Ø 730 x 230	mm	*Ø28.7" x9.0"*	*in*
	Tire type (****)	10 x 16,5		*10 x 16,5*	
	Transport dimensions	6,50 x 1,8 x 2,09	m	*21' 3" x 5' 10" x 6' 10"*	*ft*
	Transport dimensions with retracted jib	4,70 x 1,8 x 2,40	m	*15' 5" x 5' 10" x 7' 10"*	*ft*
	Machine weight w. no load (*)	6630	Kg	*14617*	*lbs*
Stability limits:					
	Longitudinal inclination	3.5	°	*3.5*	°
	Lateral inclination	3.5	°	*3.5*	°
	Maximum wind speed (***)	12.5	m/s	*27.9*	*mph*
	Maximum manual load (***)	400	N	*90*	*lbf*
	Max. load per wheel	3000	Kg	*6600*	*lbs*
Specifications:					
	Driving wheels	4	N	*4*	*N*
	Max. drive speed	6	km/h	*3.7*	*mph*
	Safety drive speed	0.6	km/h	*0.4*	*mph*
	Oil tank capacity	90	l	*24*	*gal*
	Maximum admissible gradient	35	%	*35*	*%*
	Max. operating temperature	+50	°C	*122*	*°F*
	Min. operating temperature	-15	°C	*5*	*°F*

Diesel Power YANMAR "Stage III"					
	Diesel engine type	3TNV-88		3TNV-88	
	Diesel engine power	28	kW	*38*	*hp*
	Starter battery	12 / 132	V/Ah	*12 / 132*	*V/Ah*
	Total electrolyte quantity in the battery	7	l	*2*	*gal*
	Diesel tank capacity	70	l	*18*	*gal*
Diesel Power YANMAR "Stage V / Tier 4 final"					
	Diesel engine type	3TNV-88		3TNV-88	
	Max. engine power	27.5	kW	37.4	hp
	Rated Power	25	kW	33.5	hp
	Starter battery	12 / 135	V/Ah	12 / 135	V/Ah
	Total electrolyte quantity in the battery	7	l	1.8	gal
	Diesel tank capacity	60	l	15.6	gal
380V three-phase electrical pump (optional)					
	Diesel engine power	NA	kW	NA	*hp*
	Max. absorbed current	NA	A	*NA*	*A*
	Max. drive speed	NA	km/h	NA	*mph*
230V single-phase electric pump (optional)					
	Diesel engine power	NA	kW	NA	*hp*
	Max. absorbed current	NA	A	*NA*	*A*
	Max. drive speed	NA	km/h	NA	*mph*

(*) In certain cases, different limitations may be set. It is recommended to comply with the data shown on the machine plate.

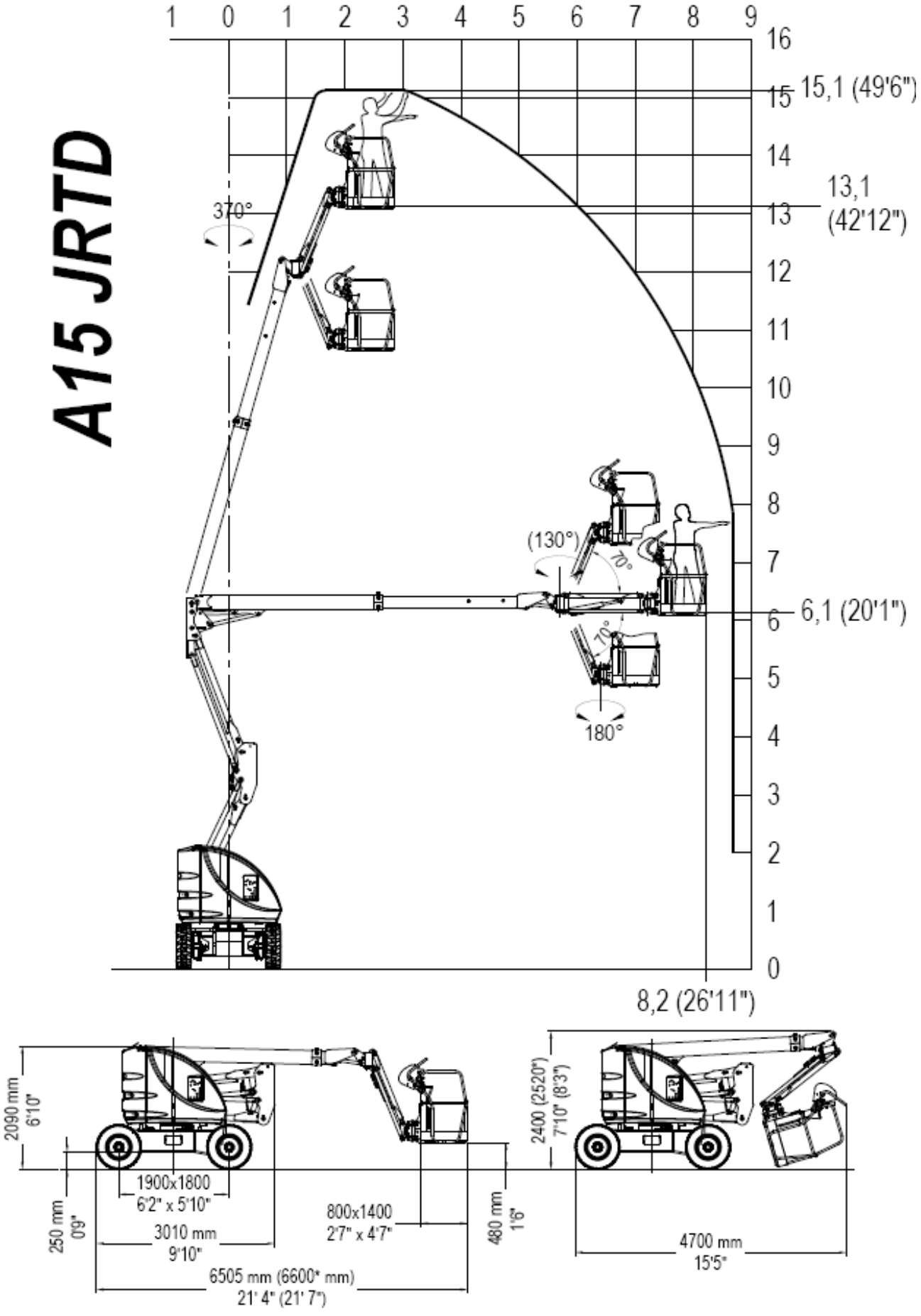
(**) me = m – (n x 80).

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) Standard off-road tires 10x116.5 filled with polyurethane foam.

(*****) Standard steel platform: 800x1400 mm (26x46 ft); Optional extra-large steel platform: 800x1800 mm (26x59 ft).

A15 JRTD



* = CON JIB ROTANTE

2.3. Vibrations and noise.

Noise tests have been carried out under the most unfavourable conditions to study the effects on the operator. The level of acoustic pressure weighed (A) at work places does not exceed 70dB(A) for each electric model.

For models with Diesel engine the level of acoustic pressure weighed (A) at work places does not exceed 106dB(A), the level of acoustic pressure at ground control panel does not exceed 85dB(A), the level of acoustic pressure at platform control panel does not exceed 78bD(A).

As to vibrations in ordinary working conditions:

- The average weighted quadratic value in frequency of the acceleration which the upper members have to withstand is less than **2.5 m/sec²** for each of the models to which this manual refers.
- The average weighted quadratic value in frequency of the acceleration which the upper members have to withstand is less than **0.5 m/sec²** for each of the models to which this manual refers.

3. SAFETY SIGNS.

3.1. Personal protective equipment (PPE).

Always wear personal protective equipment according to current regulations concerning industrial health and safety (in particular, hard hat and safety shoes are **COMPULSORY**).
It is the operator or safety manager's responsibility to choose the personal protective equipment (PPE) depending on the activity to be carried out. For their correct use and maintenance, refer to the equipment manuals themselves.
The use of safety harness is not compulsory except in certain countries with specific regulations. In Italy, the wearing of safety harness is mandatory in accordance with the Sole Law on worker safety **Dlgs 81/08.**
The harness attaches to one of the anchors shown by the labels, as in the following picture.

Fig. 3

3.2. General safety norms.

- Only adults (18 years old), after carefully reading this manual, are allowed to use the machine. The employer is responsible for training.
- The platform is designed to carry persons on board; therefore, compliance with the current local regulations relevant to this class of machines (see paragraphs 1) must be ensured.
- The machine is a two-men operation unit. This means at least one man must be on the ground and assigned to all emergency operations as described in this handbook.
- Always keep the machine at a safety distance from power lines as indicated in the next chapters.
- Use the machine according to the capacity values indicated in the technical features section. The identification plate shows the maximum number of people allowed on the platform, the maximum capacity and the mass weight of tools and ancillary materials. Never exceed these figures.
- Do NOT use the platform steelwork or any of its parts for grounding applications while welding on platform.
- NEVER board/deboard passengers and NEVER load/unload any materials if the platform is not in the initial boarding position.
- The owner and/or safety manager are liable and responsible for due maintenance and repair operations to be carried out strictly by skilled and qualified labours.

3.3. Use instructions.

3.3.1. General.

The electric and hydraulic systems are provided with safety devices, calibrated and sealed by the manufacturer:

DO NOT TAMPER WITH AND MODIFY THE CALIBRATION OF ANY COMPONENT OF THE ELECTRIC AND HYDRAULIC SYSTEMS.

- The machine must be used only in areas well lit up, checking that the ground is flat and firm. Do not use the machine in situations of poor illumination. The machine is not equipped with any lightening system.
- Before using the machine check its integrity and good, functional preservation state.
- During maintenance operations do not dispose of any waste materials in the environment, but comply with current regulations.
- Do not carry out any service or maintenance operations when the machine is connected to power supply. Follow the instructions given in the following paragraphs.
- Do not near any part of the electric and hydraulic systems to heat or flame sources.
- Do not try to reach higher than the max. admissible height, especially using scaffolding, ladders, or other tools.
- With the machine lifted, do not fasten the platform to any structure (beams, pillars or wall).
- Do not use the machine as a crane, hoist or lift.
- Protect the machine (in particular the platform control panel by means of the specially provided cover - optional) and the operator when working in adverse environmental conditions (painting, de-painting, sand-blasting, washing, etc.).
- Using the machine in bad weather conditions is forbidden; In particular, wind speeds must not exceed the limits indicated under “Technical Features” (to measure speeds, see following chapters).
- Machines with a wind speed limit of 0 m/s are to be used indoors only.
- In the event of rain or when the machine is parked, always cover the platform control panel by means of the special hood or guard (optional).
- Do not use the machine in any room or place at deflagration or fire risk.
- Do not use pressurized water jets (high-pressure cleaners) to wash the machine.
- Overloading the work platform is forbidden.
- Avoid knocks and/or contacts with other vehicles and fixed structures.
- Leaving or accessing the work platform is forbidden unless this is in the position required for access or leaving (see the “Accessing the platform” chapter).

3.3.2. Handling.

- Before moving the machine make sure that all connections are disconnected from the power supply source. Always check the position of the cable during handling, if the machine is powered with a 230V electric pump.
- To avoid any instability, strictly use the machine on regular and firm grounds. To prevent the machine from overturning, comply with the max. gradeability values indicated in the Technical data section under paragraph "Stability limits". However, movements on inclined grounds are to be carried out with the utmost caution.
- As soon as the platform is lifted (the tolerance varies from model to model) the safety drive speed is automatically activated (all models of this handbook have passed the stability tests in compliance with standard EN280).
- Drive the machine with lifted platform only on flat grounds, verifying the absence of holes or steps on the floor and bearing in mind the overall dimensions of the machine.
- While the machine is being displaced with lifted platform, no horizontal loads can be loaded onto the platform (operators on board are not allowed to pull wires or ropes, etc.).
- The machine must not be used directly for road transport. Do not use the machine for transporting any materials (see paragraph “Application Field”).

- Make sure that there are no obstacles or impairment within the site area.
- Pay particular attention to the area above the machine during lifting to avoid any crushing and collisions.
- While handling or operating, make sure your hands never infringe a dangerous area. Drivers should keep their hands as shown in picture A or B, whilst passengers should hold their hands as in C.

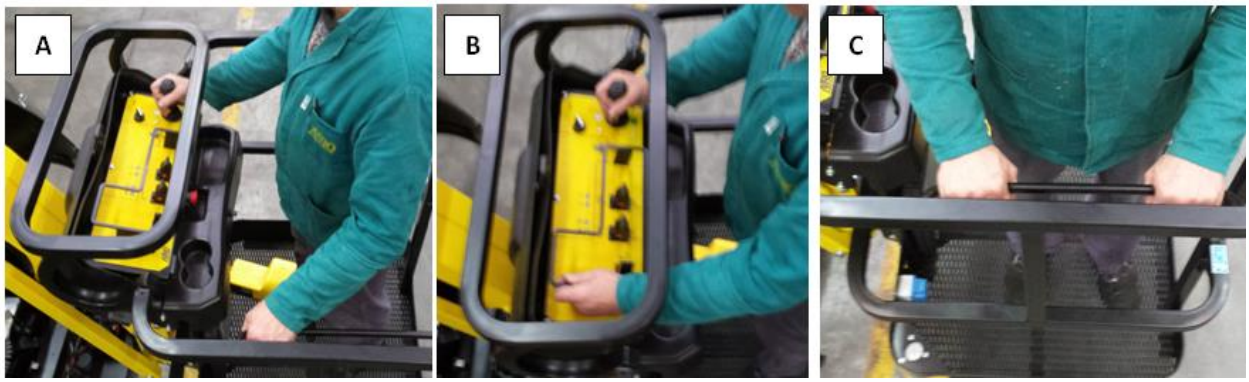


Fig. 4

3.3.3. Operating procedure.

- The machine is equipped an inclination sensor detecting the rake angle of the platform and disabling lifting operations in case of instability. Working operations can be only resumed after setting the machine back into stability. If the acoustic alarm (only if the platform is raised up), and the red pilot light on the control board are triggered, the machine is not in the right position (see section “Operating instructions”). In this case, you need to set the machine back into start position (all the way down) before you can start working. When the rake-angle alarm trips and the platform is raised, the operator may still perform the operations needed to bring the platform down.
- The machine is equipped with an overload controller stopping the platform operation in case of overloading. If overloading occurs with the platform raised, driving and travelling functions will be disabled. Platform operation can be resumed only after removing the exceeding load. Should the alarm and the red light located on the platform control panel turn on, then the machine is overloaded (see chapter "Red warning light overload"). Remove the exceeding load before starting operations again.
- Electric power machines are fitted with a device for checking the state of battery charge (battery protection). When the battery charge is as low as 20%, a red flashing light goes on to alert the operator on the platform of the low-battery status. In this condition, lifting is disabled, and the battery should be immediately recharged.
- NEVER lean over the safety railing of the platform.
- Make sure that no people other than the operator, are standing in the operation area of the machine. While moving, the operator on board of the platform should pay particular attention to the travel in order to avoid impacting the personnel on the ground.
- When working in public areas, make sure to prevent other people than your skilled personnel from approaching the machine and getting trapped with its various mechanisms. Always prevent access to the site by means of effective all-round barriers or other suitable signage.
- Avoid working in bad weather conditions and, in particular, very windy days.
- Do not lift the platform, unless the machine is resting on a solid and horizontal surface (following chapters).
- Do not perform any self-propelled travelling with the platform raised up unless ground is very solid and flat.
- Do not use diesel or gasoline powered engines indoors or in insufficiently ventilated areas.
- After each work session, always take the keys out of the control panels and keep them in a safe place to prevent unauthorized people from using the machine.
- Make sure to load ancillary working tools and hardware in a safe position to prevent them from falling and hurting people on the ground.

When deciding where to stop with the chassis, make sure to account for each and every possible obstacle and keep well in mind the clearance of the platform and the machine as shown in the pictures of this manual (Chapter 2).

3.3.4. Wind speed according to the Beaufort scale.

You can use the table below for a simple assessment of the wind speed. We remember that the max. limit for each machine model is indicated in the table TECHNICAL FEATURES OF STANDARD MACHINES.

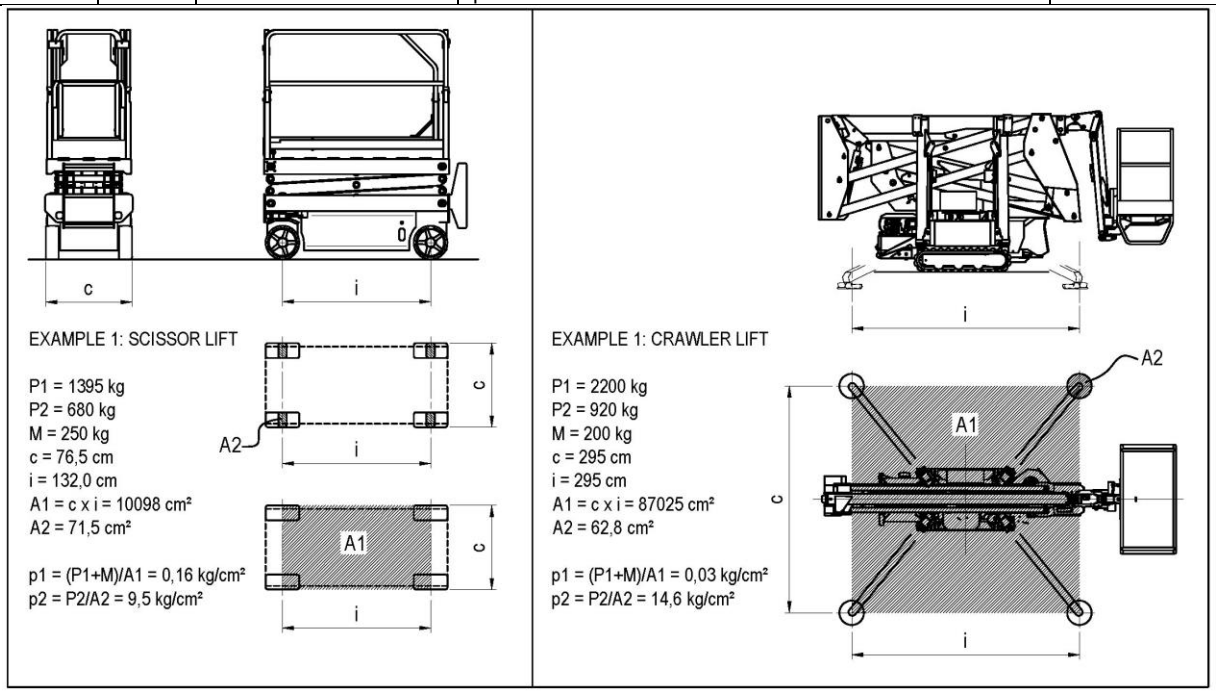
The machines for which the max. wind limit is 0 m/s must be used indoors only. Do not use them outdoors even if there is no wind. Danger!

Beaufort scale	Wind speed (km/h)	Wind speed (m/s)	Wind Rating	Sea/ocean conditions	Land conditions
0	0	<0.28	Calm.	Flat	Smoke rises vertically.
1	1-6	0.28–1.7	Light breeze	Capillary waves and surface ripples No white crest generation	Wind direction detected by smoke direction
2	7-11	1.7-3	Gentle breeze	Tiny, short but visible wavelets. No breaking water waves, crests foam with glassy appearance.	Wind perception on bare skin The leaves rustle
3	12-19	3-5.3	Gentle breeze	Water waves start to break: the crest foam looks glassy. Large wavelets with scattered whitecaps.	Leaves and small twigs constantly moving
4	20-29	5.3-8	Moderate breeze	Small waves becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted Small tree branches move
5	30-39	8.3-10.8	Fresh breeze	Moderate waves taking longer form, Many whitecaps, some spray.	Small trees in leaf begin to sway. small waves start to form on inland waters.
6	40-50	10.8-13.9	Near/fresh gale (wind)	Long waves begin to form. White foam crests are very frequent. Some sprays.	Whole trees in motion. Difficulties in keeping an umbrella.
7	51-62	13.9-17.2	Strong gale/storm	Sea heaps up with moderately high waves of greater length. The edges of crests begin to break into spindrift, foam blown in streaks in the same wind direction.	Larger tree branches moving, whistling in wires Strong resistance felt walking against wind.
8	63-75	17.2-20.9	Storm	High waves, Sea begins to roll, dense streaks of foam, spray may reduce visibility	Twigs breaking off trees, generally impedes progress Walking against the wind is impossible.
9	76-87	20.9-24.2	Whole gale	Very high, heavy rolling waves Foam blown into thicker streaks	Slight structural damage occurs (slate blows off roofs)
10	88-102	24.2-28.4	Strong storm	Very high waves with overhanging crests, Sea white with densely blown foam, the water has a white appearance, heavy rolling, and reduced visibility.	trees broken or uprooted, considerable structural damage
11	103-117	28.4-32.5	Strong storm	Exceptionally high waves hiding average size vessels from the sight. Foam patches cover sea, Air filled with foam, completely white with driving spray, visibility greatly reduced.	Considerable structural damage
12	117	32.5	Hurricane	Exceptionally high waves, sea completely white with driving spray.	Heavy structural damage.

3.3.5. Ground Pressure and load-bearing capacity.

Before using the machine, the operator must make sure the floor is suitable for withstanding the specific loads and pressures on the ground with a certain safety margin.
The following chart provides the parameters in play and two examples of calculation of the average pressure on the ground below the machine and max pressure underneath the wheels or stabiliser outriggers (p1 and p2).

SYMBOL	U.M.	DESCRIPTION	EXPLANATION	FORMULA
P1	Kg	Total machine weight	Represents the weight of the machine, not including nominal load. Note: always refer to the details indicated on the plates affixed to the machine.	-
M	Kg	Design Load	The max. load allowed for the work platform.	-
A1	cm²	Ground area occupied by the machine	Surface area under the machine determined by multiplying TRACK x WHEEL BASE	A1 = c × i
c	cm	Track	Out-to-out width of machine measured outside the wheels. or: Out-to-out width of machine measured between outrigger centres.	-
i	cm	Wheel base	Front-to-back length of machine measured between wheel centres. or: Front-to-back length of machine measured between outrigger middle lines.	-
A2	cm²	Wheel or outrigger surface	Wheel or outrigger foundation The operator is to check the foundation area under each wheel; the outrigger foundation will depend on the shape of the floor plate.	-
P2	Kg	Max. load on wheels or outriggers	This is the max. load transferred to the ground by a wheel or by an outrigger with the machine in the worst position and load condition. Note: always refer to the details indicated on the plates affixed to the machine.	-
p1	Kg/cm²	Pressure on ground	Average pressure placed on the ground in idle conditions and supporting the nominal load.	p1 = (P1 + M) / A1
p2	Kg/cm²	Max specific pressure	Max. pressure which a wheel or a levelling outrigger can place on the ground when the machine is in the worst position and load conditions.	p2 = P2 / A2



The table below shows the load-bearing capacity of different types of ground.
For the max pressure on the ground by the single wheel, please refer to the data contained in the specific tables of each model (chapter 2, TECHNICAL FEATURES OF STANDARD MACHINES).

⚠ **Using the machine is forbidden if the max pressure on the ground per wheel is above the load-bearing capacity of the specific type of ground on which the machine is to be used.**

TYPES OF GROUND	BEARING CAPACITY IN Kg/ cm²
Non compact filling earth	0 / 1
Mud, peat, etc.	0
Sand	1.5
Gravel	2
Friable earth	0
Soft earth	0.4
Rigid earth	1
Semi-solid earth	2
Solid earth	4
Rocks	15 - 30

Should you have any doubts, verify the load-bearing capacity with specific tests.
For man-made constructions (concrete floors, bridges, etc.) the load-bearing capacity must be provided by the builder.

3.3.6. High-voltage lines.

The machine is not electrically insulated and is not protected in case of contact with or proximity to power lines.
A minimum distance must be kept from power lines according to applicable laws and the following table

Type of power lines	Voltage (KV)	Minimum distance (m)
Light poles	<1	3
	1-10	3.5
	10 - 15	3.5
	15 - 132	5
	132 - 220	7
	220 - 380	7
High-voltage pylons	>380	15

3.4. Hazardous situations and/or accidents.

- If, during preliminary control operations or use, the operator discovers a defect that could turn to a hazardous situation, the machine must be placed in safety conditions (confined with warning signs) and the employer must be notified immediately.
- If, during use, an accident occurs, with injury to the operators, caused by operating errors (e.g., collisions) or any structural yielding, the machine must be placed in **safety conditions** (confined and identified by effective warnings) and the employer must be notified about the fault.
- In case of an accident with injuries to one of more operators, the operator on the ground (or on a platform not involved in the accident) must:
    - **Seek help immediately**
    - Perform emergency descent of the platform only if this operation involves **absolutely no likelihood of worsening the situation.**
    - Place the machine in safety condition and notify the fault to the employer.

4. INSTALLATION AND PRELIMINARY CHECKS.

The machine is supplied completely assembled. Therefore, it can perform all functions in full safety as provided for by the manufacturer. No preliminary operation is required. To unload the machine, follow the instructions in chapter “Handling and carrying”.
Place the machine on a sturdy enough surface (see paragraph **3.3.5**) and with a gradient below max. allowed gradient (see technical features “**Stability limits**”).

4.1. Familiarizing with the machine.

Anyone wishing to use a machine with weight, height, width and length characteristics or which generally differs significantly from the training received must be updated in order to cover the differences.
The employer shall be responsible for ensuring that all operators working with the equipment are adequately trained and aware of the applicable health and safety legislation.

4.2. Preliminary controls.

Before using the machine read the instructions in this manual and the short instructions reported on the manufacturer's plate on the platform.
Visually check for perfect integrity of the machine and read the plates showing machine operating limits.
Before using the machine, the operator is to carry out a visual inspection to ensure that:

- Make sure the battery is fully charged and the fuel tank is full.
- The oil level lies between the min. and max. value (with lowered platform).
- The ground is sufficiently horizontal and solid.
- The machine carries out all operations safely.
- The wheels and drive motors are properly installed on the machine.
- The wheels are in good conditions.
- The guard railing is fastened to the platform and the gate/s are in automatic closing mode.
- The structure does not show any visible faults (visually check the welding beams of lifting structure).
- The instructions plates are perfectly readable.
- The platform control panel and the ground emergency control panel, manning detector included, are perfectly efficient.
- The anchoring points for the harness are in perfect state of conservation.

Do not use the machine for purposes different from those it was intended for.

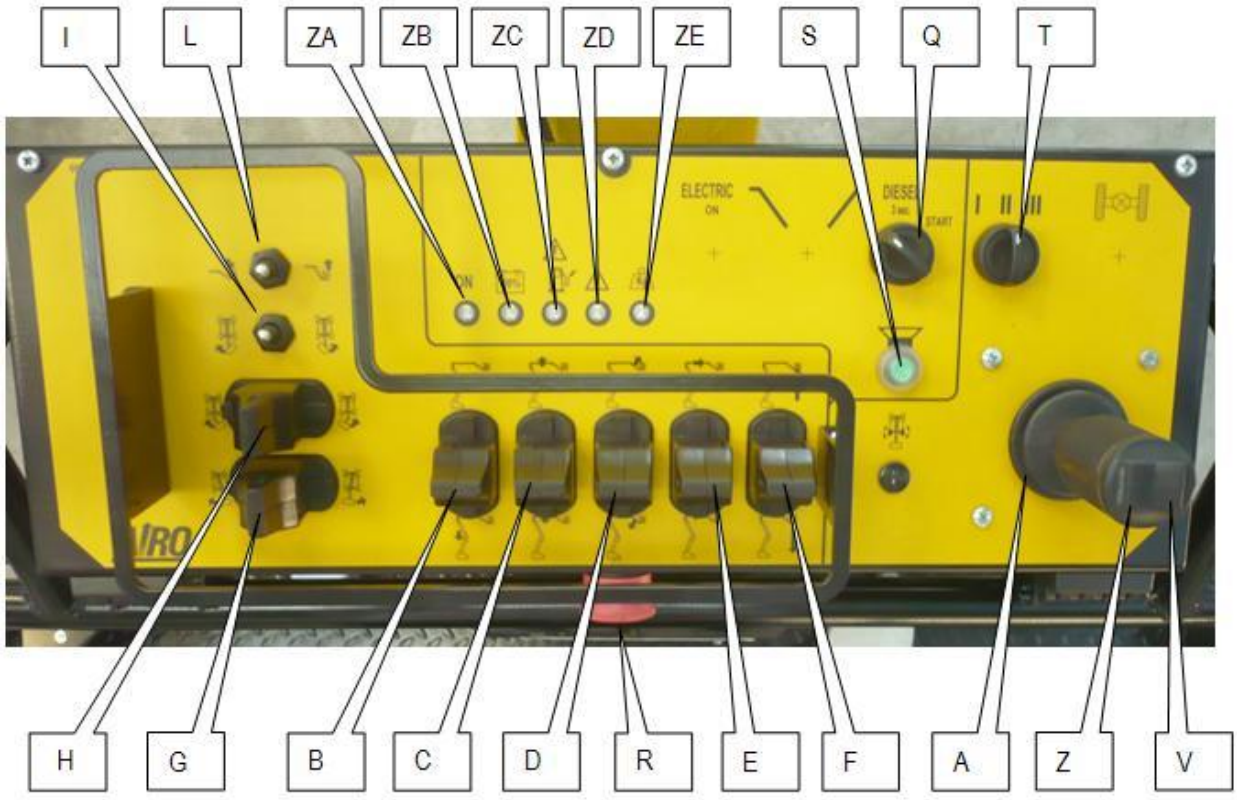
5. OPERATING INSTRUCTIONS.

Before using the machine read this chapter thoroughly.

ATTENTION!

Follow exclusively the instructions given in the next paragraphs and the safety rules described both hereafter and in the previous paragraphs. Read the next paragraphs carefully in order to properly understand the starting/stopping procedures as well as all other functionalities of the machine and their correct use.

5.1. Platform control panel.



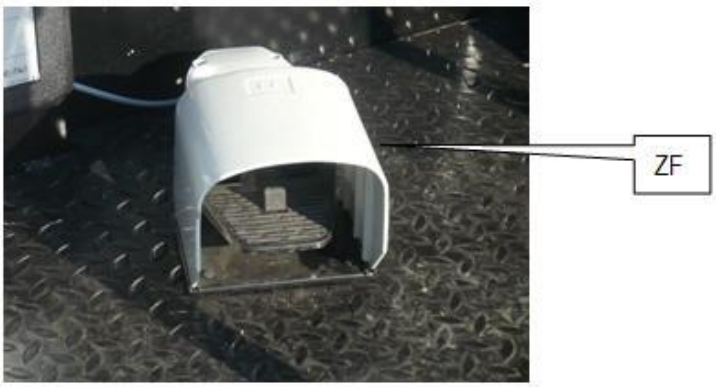


Fig.5

A) Proportional joystick for travel control
B) Proportional lever to control the arm UP/DOWN
C) Proportional lever control boom up/down.
D) Proportional lever to control the jib up/down.
E) Proportional control lever for telescopic boom extension/retraction.
F) Proportional lever control QUICK UP/QUICK DOWN (OPTIONAL)
G) Proportional control joystick for turret rotation
H) Proportional lever control jib rotation (OPTIONAL)
I) Platform rotation switch
L) Platform level, recovery switch
Q) Diesel engine starter-switch
R) Emergency STOP button
S) Manual horn
T) Drive speed selector
V) Right-steering switch
Z) Left-steering switch
ZA) Pilot light, operator's station enabled
ZB) Low battery warning light (not active for Diesel models)
ZC) Pilot light (OPTIONAL), diesel engine operation fault / low fuel
ZD) Danger warning light
ZE) Overload warning light
ZF) Dead-man detector pedal

All movements (except for platform rotation and platform level compensation) are controlled by proportional joystick /levers; it is therefore possible to adjust movement speed by means of the relative controls. To avoid sudden shakes during movements, it is advisable to operate the proportional joystick controls gradually.

For safety reasons, press the ZF manning detector pedal on the platform to operate the machine. If the manning detector pedal is accidentally released while the machine is operating, the movement is immediately stopped.

ATTENTION!

If you hold the manning detector pedal down for over 10 seconds without carrying out any operation, this will completely disable the control panel.
When the control panel is disabled the green led (ZA) starts to flash intermittently. To activate the machine again, you must release the circuit-breaker and press it again; the green pilot lamp (ZA) will light up steady and for the next 10 seconds all controls will be enabled.

5.1.1. Travelling and steering.

Before carrying out any travel, make sure that no people are in the proximity of the machine and in any case proceed with the utmost caution.

IT IS FORBIDDEN to drive the machine when the platform is lifted unless the chassis is flat and steady with no holes and steps.

The travel procedure is the following:

a) Press the **ZF** manning-detector pedal on the platform; the green pilot-lamp **ZA** will light up steady indicating that the pedal is enabled.
b) Within 10 seconds from the green pilot lamp lighting up, push the proportional joystick **A** forwards for forward drive or backward for reverse drive.

CAUTION!

Drive and steering controls can take place at the same time but they are interlocked with the platform movement controls (lifting/lowering/rotation). With the platform lowered (booms down, telescopic boom in, jib between +10° and –70°) simultaneous steering-drive-rotation of the turret are possible to facilitate the handling of machine also within narrow and confined spaces.

With the platform lowered (booms down, telescopic boom in, jib between +10° and -70°) it is possible to select different drive speeds by means of the speed selector **T**.

PLEASE NOTE: To achieve the maximum drive speed, set the speed selector (T) to position (III), and press the proportional joystick (A) down.
When travelling on a considerable uphill gradient (e.g. while loading the machine onto a truck), the speed selector (T) must be in (II) or (III).
When travelling on a considerable downhill gradient (e.g. while unloading the machine from a truck) and set the minimum speed with the lowered platform, the speed selector (T) must be in (I).

With platform lifted the safety drive speed is automatically activated.

To steer, press the **V / Z** buttons located on the proportional joystick for drive control (press the right button for steering to the right and vice versa). The steering control is also enabled by the manning-detector pedal. Therefore, steering is only possible if the green **ZA** pilot lamp lights up steadily.

5.1.2. Platform positioning movements.

To carry out all movements other than drive, use proportional levers **B, C, D, E, F, G, H** and switches **I** and **L**.
To achieve the movement, it is necessary to carry out the following operation sequence:

a) Press the manning-detector pedal located on the platform; the green **Z** pilot lamp will light up steady indicating that it is enabled;
b) within 10 seconds from the green pilot lamp lighting up, set the proportional joystick or the desired switch in the direction shown by the label screen-printed on the control panel.

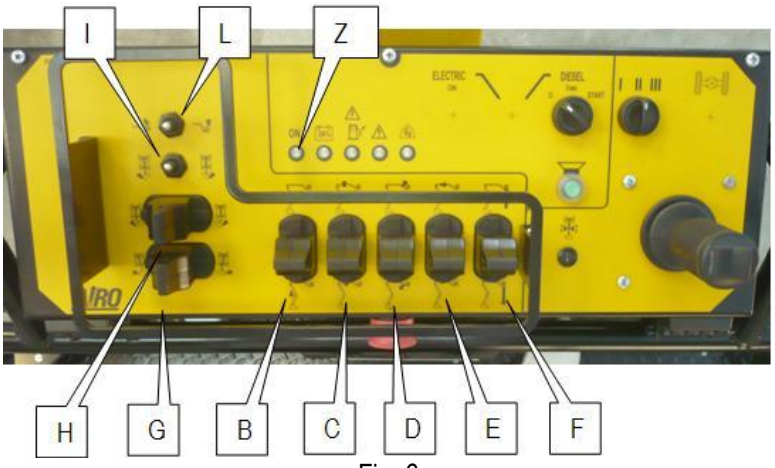


Fig. 6

NOTE: before activating the proportional joystick control or the desired switch the dead-man pedal must be pressed. Release the dead-man pedal and the manoeuvre will be immediately stopped.

Machine versions with (optional) concurrent control system (electric versions (E) - electric+diesel versions (ED) and Diesel+4 driving wheels RTD): the platform positioning controls can be used simultaneously (unless otherwise indicated). Furthermore, slewing of the turret can be performed at the same time as driving and steering when the platform is DOWN (booms lowered, telescopic boom in, jib at a height between +10° and -70°).

5.1.2.1. Lifting/lowering of the first crank arm (pantograph).

To lift/lower the pantograph (primary boom), use the proportional joystick **B**.
Set the proportional lever **B** forwards for lifting or backward for lowering.

5.1.2.2. Upper boom lifting/lowering.

To lift / lower the secondary boom, use the proportional joystick **C**.
Set the proportional joystick **C** forwards or backwards respectively to lift/lower the boom.

5.1.2.3. Jib lifting/lowering.

To lift/lower the JIB, use the proportional joystick **D**.
Set the proportional joystick **D** forwards for lifting or backwards for lowering.

5.1.2.4. Telescopic boom extension/retraction.

To extend / retract the telescopic boom, use the proportional joystick **E**.
Set the proportional joystick **E** forwards for extension or backwards for retraction.

5.1.2.5. QUICK UP/QUICK DOWN (optional)

This lever controls the quick lifting/lowering of the platform, while simultaneously controlling the following manoeuvres:

- Pantograph lifting/lowering
- Upper boom lifting/lowering
- Jib lifting/lowering
- Telescopic boom extension/retraction

To carry out the QUICK UP/QUICK DOWN manoeuvre, use the proportional joystick **F**.
Set the proportional joystick **F** forwards for quick lifting or backwards for lowering.

5.1.2.6. Turret orientation (rotation).

To slew the tower, use the proportional joystick **G**.
Set the proportional joystick **G** to the right for right rotation or to the left for left rotation.

Before carrying out this manoeuvre make sure that the mechanical lock device of the turret - if any - be deactivated (see chapter 6 "handling and transport").

With the platform lowered (booms down, telescopic boom in, jib between +10° and –70°) simultaneous steering-drive-rotation of the turret are possible to facilitate the handling of machine also within narrow and confined spaces.

5.1.2.7. Jib rotation (optional).

To rotate the JIB, use the proportional joystick **H**.
Set the proportional joystick **H** to the right for right rotation or to the left for left rotation.

5.1.2.8. Platform rotation.

To rotate the platform, use the switch **I.**
Set the switch **I** to right for right rotation, or to left for left rotation.

5.1.2.9. Platform levelling

The platform is automatically levelled. Should it be necessary to reset the correct level, use the switch **L**.
Set the switch **L** to the left for levelling backwards, or to the right for levelling forwards.

Warning!! This operation can be carried out only when booms are completely lowered. No result is achieved if these operations are carried out when the platform is lifted.

This manoeuvre cannot be carried out when other operations are taking place.

5.1.3. Other functions of the platform control panel.

5.1.3.1. Manual horn.

Horn to warn that the machine is moving. The horn is manually operated by means of the press-button **S**.

5.1.3.2. Emergency stop button.

By pressing the red emergency STOP button **R** all machine functions are stopped. Normal functions are retrieved by rotating the button 1/4 turn clockwise.

5.1.3.3. Warning lights.

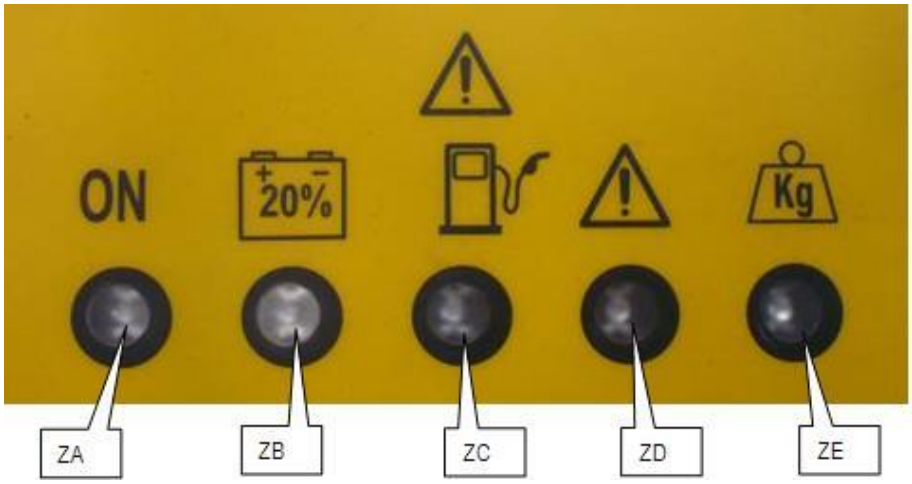


Fig. 7

5.1.3.3.1. Green pilot lamp (ZA), operator's station enabled.

The pilot is ON with flashing light when the machine is switched on. If you enabled the control panel on the basket, and this pilot flashes it means that the controls are not active because the dead-man pedal has not been pressed, or it was pressed for over 10 seconds without performing any operation.
On steady with machine on and dead-man pedal pressed for less than 10 seconds. With platform controls, all controls are enabled (unless triggering of other alarms – see next paragraphs).

5.1.3.3.2. Red pilot lamp (ZB): warns when battery is out of charge - (Only available on electrical models).

Flashing when the battery charge is down to 20% (only models "E" or "ED" with DC electric pump). In this condition lifting operations and extension of the telescopic boom are disabled. Batteries should be immediately recharged.

5.1.3.3.3. Red pilot light (ZC): diesel engine fault or low fuel.

This pilot indicates a malfunction of diesel engine or low fuel.
On with steady light when: the machine is on; platform controls are activated and Diesel power is selected. Diesel Engine off ready for start-up. Insufficient engine oil pressure.
Slow flashing when: the engine head is overheated. If on, it stops the diesel engine; if off, it prevents the diesel engine from starting.
Quickly flashing when the fuel is running low (only approx. 10 l fuel left in the tank). This warning is active only when the engine is running.

5.1.3.3.4. Danger red warning light (ZD).

Quickly flashing for 4 seconds together with the acoustic alarm at start-up in case of fault during safety test on controls (pedal, joystick control, switches, etc).
Steady lit with activation of an acoustic alarm (only if the platform is up) when the chassis inclination exceeds the maximum limit. All lifting operations and telescopic extension are disabled (except JIB lifting). If the machine is UP, driving is disabled. It is necessary to lower the booms completely and then place the machine onto a flat surface.

CAUTION! The activation of this indicator together with the audible alarm warns of a dangerous situation since the machine or the platform have reached a dangerous inclination level for the machine stability.
When the chassis exceeds the admissible inclination value, the operator on the platform should retract the telescopic boom first and then lower it down to avoid increasing the risk of tipping over,

5.1.3.3.5. Red pilot: Overload (ZE).

Lit up steady with activation of an acoustic alarm with a platform overload exceeding 20% the nominal load. If platform is lifted, the machine is completely locked. If the platform is lowered all driving/steering operations are still possible but lifting/slewing are disabled. Remove the excess load before reusing the machine again.
Fast flashing in case of fault in the overload control system. With lifted platform the machine is completely deactivated and stopped. After reading the manual instructions, trained staff can carry out an emergency manoeuvre for lowering the platform.

CAUTION! The activation of this indicator is an alert of a possible danger due to excess platform load or no active load control is at the time of the activation.
For adjustment or activation in emergency situations read the MAINTENANCE chapter.

5.2. Ground control panel and electric control unit.

The on-ground control panel (or electric control unit - fig. 6) contains the main electronic boards needed to operate the machine and carry out safety checks.

The control unit (or electronic control board) is inside the cowling (on the tank).

The on-ground control panel is located on the rotating turret (see paragraph "Location of main components") and should be used to:

- Turn the machine ON/OFF.
- Select the control panel (ground or platform).
- Operate the platform in emergency cases.
- Display some operation parameters (working hours; Diesel engine operational faults; battery charger operation; etc.).

DO NOT
use the on-ground control panel as a workstation when personnel is on the platform.

Strictly use the on-ground control panel to start/stop the machine, to select the control panel or in emergency situations to allow the platform to be recovered.

Give the keys to authorized persons only and keep a duplicate in a safe place.
Always remove the on/off key at the end of work shifts.

Access to the controllers is allowed to specialized personnel only for maintenance and/or repair purposes. Access the electric control unit only after the machine has been disconnected from any 230V or 380V power sources.

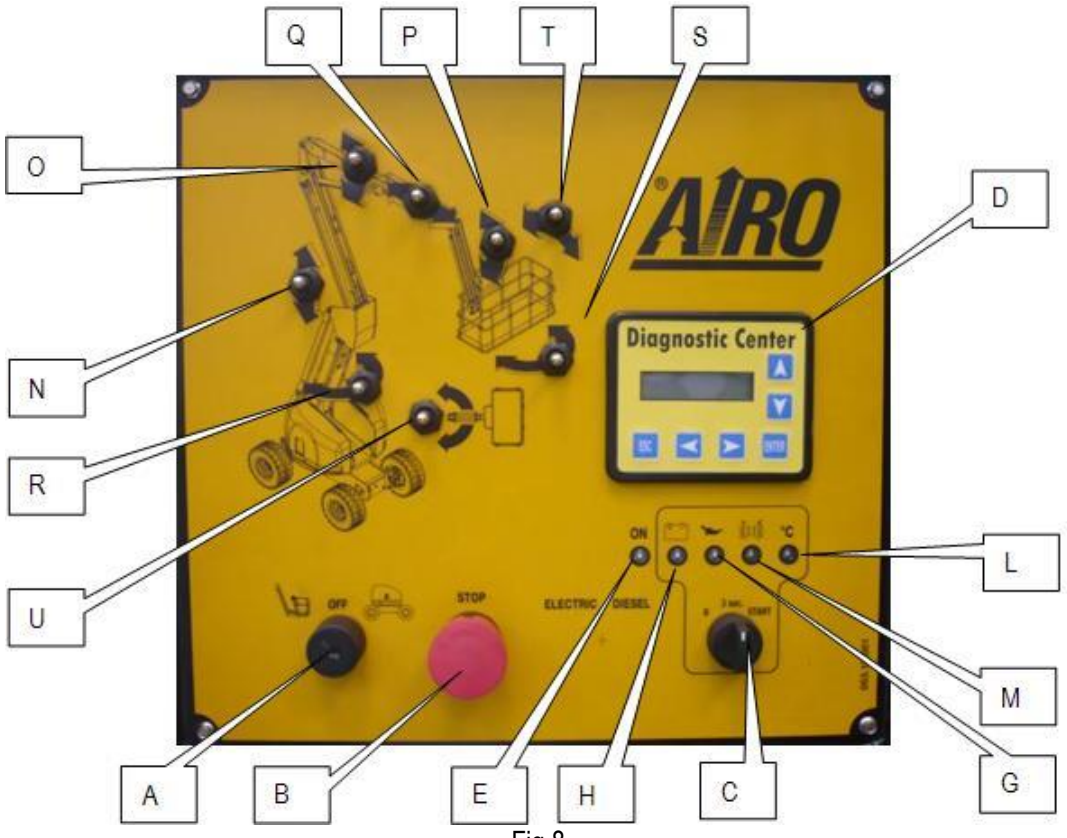


Fig.8

A) ON-OFF key and control panel selector (ground/platform)
B) Emergency STOP button
C) Diesel engine, start button
D) User interface display.
E) Pilot light: machine ON and running.
G) Oil warning light
H) Alternator warning light
L) Engine head temperature, warning pilot lamp
M) Air filter alarm
N) PANTOGRAPH LIFTING/LOWERING joystick
O) BOOM LIFTING/LOWERING joystick
P) JIB LIFTING/LOWERING joystick
Q) TELESCOPIC BOOM OUT/IN joystick
R) TURRET ROTATION joystick
S) PLATFORM ROTATION joystick
T) PLATFORM LEVEL adjustment joystick
U) JIB ROTATION joystick (OPTIONAL)

5.2.1. Ground control panel and electric control unit (OPTIONAL) for TIER 4 FINAL and STAGE 5 engines

OPTIONAL ground control panel (Fig. 9) has the same features as the STANDARD ground control panel, with a different interface display equipped with MURPHY DISPLAY that manage the regeneration DPF (Diesel Particulate Filter), in some countries, in accordance with latest regulations on air emissions (Tier 4 final /Stage V), is COMPULSORY. Also, the OPTIONAL panel has the warning lights only on the platform control panel.

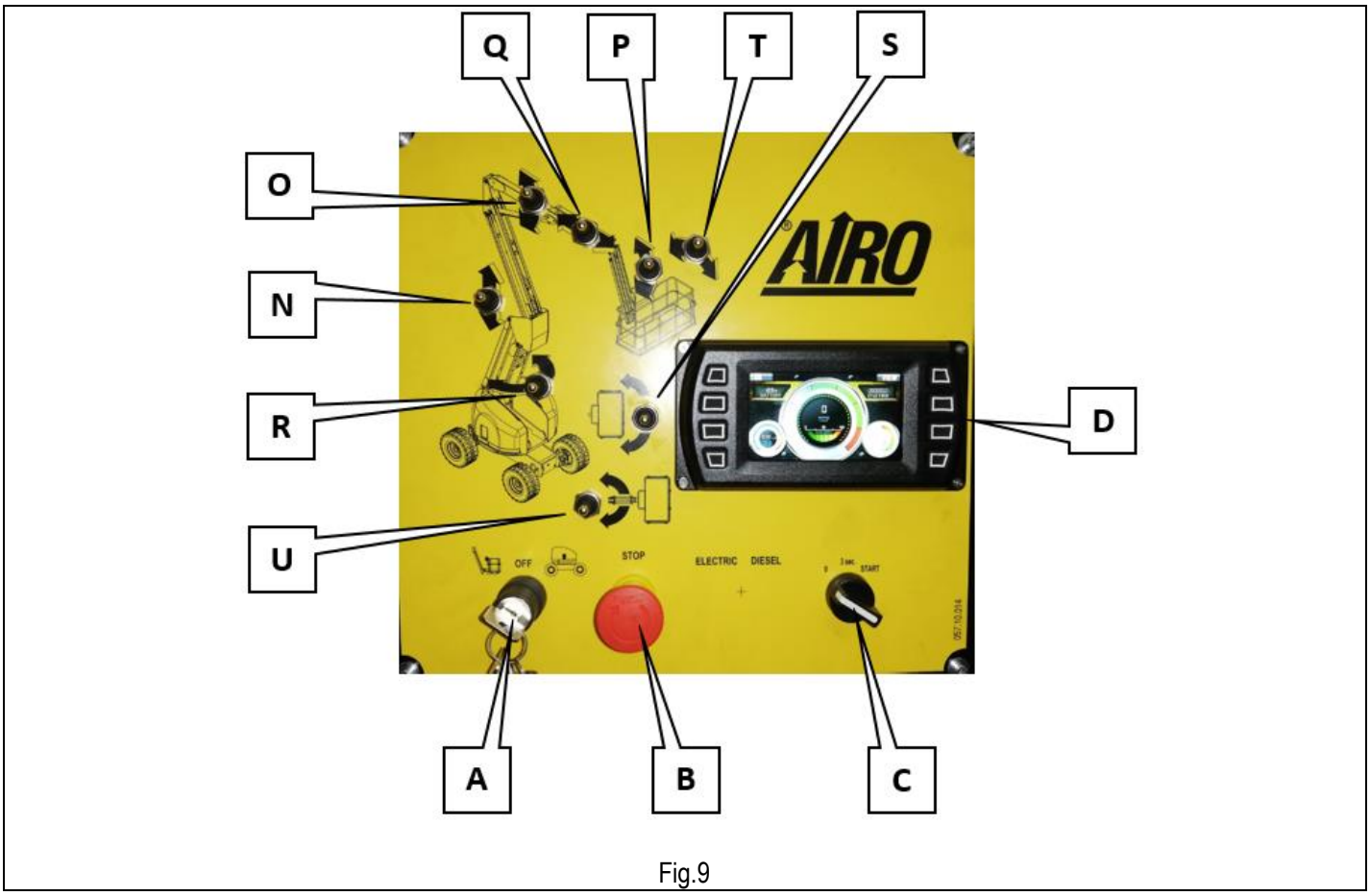


Fig.9

DO NOT
use the on-ground control panel as a workstation when personnel is on the platform.

Strictly use the on-ground control panel to start/stop the machine, to select the control panel or in emergency situations to allow the platform to be recovered.

Give the keys to authorized persons only and keep a duplicate in a safe place.
Always remove the on/off key at the end of work shifts.

Access to the controllers is allowed to specialized personnel only for maintenance and/or repair purposes. Access the electric control unit only after the machine has been disconnected from any 230V or 380V power sources.

A) ON-OFF key and control panel selector (ground/platform)
B) Emergency STOP button
C) Diesel engine, start button
D) User interface display
N) PANTOGRAPH LIFTING/LOWERING joystick
O) BOOM LIFTING/LOWERING joystick
P) JIB LIFTING/LOWERING joystick
Q) TELESCOPIC BOOM OUT/IN joystick
R) Joystick for tower slewing control
S) PLATFORM ROTATION joystick
T) PLATFORM LEVEL adjustment joystick
U) JIB ROTATION joystick (OPTIONAL)

5.2.2. On-off key and control panel selector (A).

The on-off key located on the ground control panel is used to:
- start the machine by selecting one of the two control panels:
  - platform control panel enabled with locking key switch set to the "platform" icon. key position with possibility to pull the key out;
  - ground control panel enabled (for emergency operations) with locking key switch set to the "tower" icon. Press-and-hold function When the key is released the machine is off.
- turn the control circuits OFF by switching the key to OFF.

5.2.3. Emergency stop button (B).

By pressing this button, the machine (as well as the heat engine) is completely stopped; by rotating it of 1/4 turn (clockwise) the machine can be turned ON by means of the ON-OFF key.

5.2.4. Diesel engine, start button (C).

Holding the ON-OFF key in position “on-ground control panel”, the diesel engine can be started by means of the special switch.
- In “0” position the Diesel engine is off.
- In “3 sec”, the plugs are warmed up (only for engines with plugs).
- In the “Start” position the engine starts.

5.2.5. User interface display (D).

The multifunction display for machine/user interface is used to:

- The operation parameters of the machine during normal functioning or in the event of a fault;
- Working hours of Diesel engine (the working hours are displayed in the format HOURS: MINUTES and final letter D).
- Working hours of the emergency electric pump with optional continuous current (when 12V electrical power is selected the working hours are displayed in the format HOURS: MINUTES and final letter M).
- Operation hours of the optional, three-phase, electric pump (when 380V electrical power is selected, the operation hours are displayed on platform board in the format HOURS: MINUTES and final letter E).
- Charge level of the battery (only electrical models E).
- DPF regeneration (only on MURPHY display)

⚠ **The user interface display is also used during any interventions by specialized personnel to adjust the working parameters of the machine. This function is not available to the user.**

5.2.6. MURPHY display and DPF regeneration.

MURPHY DISPLAY has a new intuitive and coloured interface. It is connected with the CAN-BUS system and shows all the engine operation features (working hours, battery charger, engine revs, engine diagnostics, DPF regeneration, temperature, etc)

Fig.10

Pressing the buttons, from A to H, it is possible to access the menu. In particular, **DPF (Diesel Particulate Filter) regeneration** can be manage in two ways:
CASE 1 Required by the system, if detected a high clogging of the DPF;
CASE 2 Enforced by the operator, under certain conditions.

CASE 1 If the regeneration is required by the machine, when using it, the platform will light up the red pilot ZC as shown in Fig. 7 and at the same time with an acoustic alarm and a warning will appear on the Display (see the picture below).
Perform the following steps:

- Set the machine to rest position;
- Get off the platform and get to on-ground control panel.
- Select on the panel the selector key "A" for the ground controls (Fig. 9).
- "**Exhaust Filter Restricted**" will appear on the display. Press the button at the bottom left in correspondence with the red arrow to exit the warning;

- "**Regeneration required, confirm?**" will appear as shown in Fig. 11 To start the regeneration, select "YES" with button "F" in its correspondence.

Fig.11

WARNING: To avoid compromising the good function of the machine, restart the regeneration process only when required by the system, NO LATER THAN 1 HOUR OF ENGINE WORKING.

CASE 2 To force the regeneration process, the following conditions must be met:

- Cooling temperature > 60°C (lower-right dial)
- RPM 800 (central dial)
- It is recommended at least 50 hours elapsed since last regeneration

If the conditions are met (Fig. 10) press consecutively:

- "A" Button
- "B" Button
- "A" Button

Then, it will appear on the display (as shown in Fig. 11) the button "YES", click on it. At regeneration started, it will be shown the following window, where it is possible to see the progress. When regeneration is completed, the engine will gradually return to 2200 RPM and the "STATUS" bar will totally charge up.
The display will return to the initial screen and the operator can resume to working.

If the conditions for restarting the regeneration are not met, it will appear the following message:

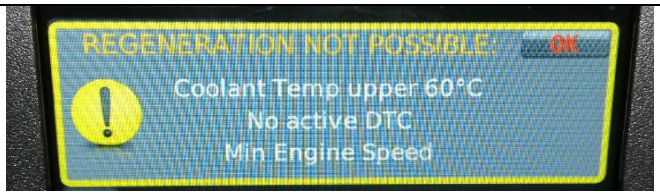


Fig.12

You can press the “INHIBIT” button to block the regeneration process at any time.

The user interface display is also used during any interventions by specialized personnel to adjust the working parameters of the machine. This function is not available to the user.

5.2.7. Pilot light: machine ON and running.

The green warning light indicates that the machine is turned on (both with platform and on-ground control panel).

5.2.8. Diesel engine, warning pilot lamps (G H L M).

These warning lights warn the user about a malfunction of the diesel engine. One of these warning lights turns ON when the engine is stopped. A “fault” message is sent to the operator on the platform (see paragraph “Platform control panel”).
Once the Diesel engine has stopped due to a problem signalled by one of these warning lights, the engine can no longer be re-started until such problem has been solved.

5.2.9. Platform control levers (N O P Q R S T U).

The various levers shown in the figure allow the platform to be operated. According to the various signs the corresponding movements are activated. These controls can be operated only if the on-off key is set to ON (downwards) (ground control station selected). Please be reminded that the on-ground controls are to be used to operate the platform only in emergency situations and should not be used for any other purpose.

5.3. Boarding the platform.

The “boarding position” is the only position from which loading or unloading of persons and materials is allowed. The “boarding position” is with the platform completely lowered.

To board the platform:
- Get on the platform hanging on to the entry guard rail.
- Raise the bar and get on board.

Check that, once you are on the platform, the bar falls down closing the access. Fasten the safety harness to the special hooks provided for this purpose.

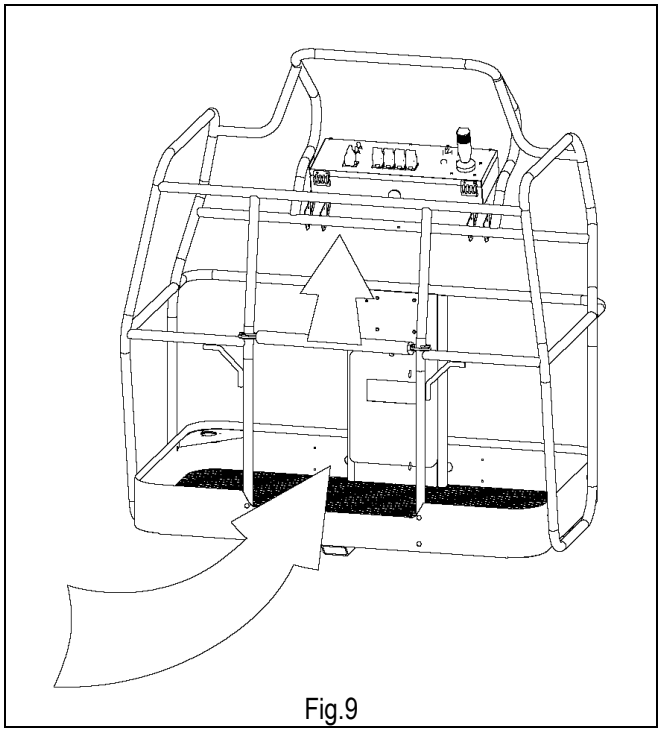


Fig.9

To board the platform strictly use the special facilities installed on the platform.
When moving up or down, always keep your eyes on the machine and hold onto the entry stringers.

DO NOT
lock the closing bar so as to keep the platform boarding gate open.

DO NOT
leave or board the work platform if this is not in the position required for boarding or leaving.

With the ground control panel (see paragraph “Ground control panel.”) it is possible, operating the boom, to lower the height of access to the platform for a better access to the platform itself.

5.4. Machine start.

To start the machine the operator shall:
- Release the emergency stop button on the ground control panel by rotating it of 1/4 turn clockwise.
- Turn the on-off key on the on-ground control panel to the "Platform" position.
- Remove the starting key and hand it over to a person in charge on ground, properly informed of the use of the emergency controls.
- Board the platform.
- Release the emergency stop button on the platform control panel by rotating it by 1/4 clockwise (see previous paragraphs).

Before switching power on (diesel or gasoline engine) check the fuel level in the tank through the visual level gauge.

Keep the fuel tank and the engine clean.

5.4.1. Starting of the diesel engine.

By turning the starter key on the platform control panel:

- In “0” position the Diesel engine is off.
- In “3 sec”, the plugs are warmed up (only for engines with plugs).
- In the “Start” position the engine starts.

Never hold the starting position longer than 3 seconds. In the event of a failed start, check the fuel level by means of the relevant indicator and read the user's manual of the Engine.

Do not try to start the engine if it is already running. This operation may cause the pinion of the starter to break (under normal conditions the control system blocks this operation).
In the event of a malfunction, check the pilot lamps and read the user manual of the engine.

BEAWARE: The Diesel engine can be started only if the dead-man pedal is neither pressed nor enabled. This means that the engine can be started only if the green pilot lamp ON of the control panel on the platform is flashing.

5.5. Stopping the machine.

5.5.1. Normal stop.

In normal operating conditions:

- Release the controls to discontinue the operation and stop the machine. The machine will come to a complete stop occurs within a default time set by the factory in order to ensure smooth braking;
- By releasing the manning-detector pedal located on the platform, the operation is immediately stopped. In the event of an immediate stop, braking is sudden.

5.5.2. Emergency stop button.

If needed, the operator may stop all machine functions at once using either the controls on the platform or those on-ground (control panel).

From the control panel on the basket,

- Press the emergency stop button on the control panel and the machine is turned off.
- By releasing the manning-detector pedal, the operation is immediately stopped. Braking may cause some sudden and jerky motion in case of safety immediate stops.

From the control board on ground:

- Press the emergency stop button on the on-ground control panel to disconnect the machine from the power engine (all models);
- By pressing the red stop button, power is cut off of the machine (power circuit cut-out).

To retrieve the controls and restore the operation:

From the control station on board of the platform:

- Turn the emergency stop button by 1/4 of a turn clockwise.

From the on-ground control panel:

- Turn the emergency stop button by 1/4 of a turn clockwise.
- Turn the red knob of the power circuit by 1/4 of a turn clockwise until you hear power connection being switched on again.

5.5.3. Stopping the diesel engine.

To stop the diesel engine:

From the control panel on the basket,

- Turn the starter key to position “0”.
- Otherwise, press the emergency stop button (mushroom).

From the control board on ground:

- Turn the starter key to position “0”.
- Otherwise, press the emergency stop button (mushroom).

Do not stop the engine when the r.p.m. is high. Before stopping the engine wait until the r.p.m. is at the lowest.

5.6. Emergency manual controls.

Do not use this function other than for serious emergency situations, if no machine power is available.

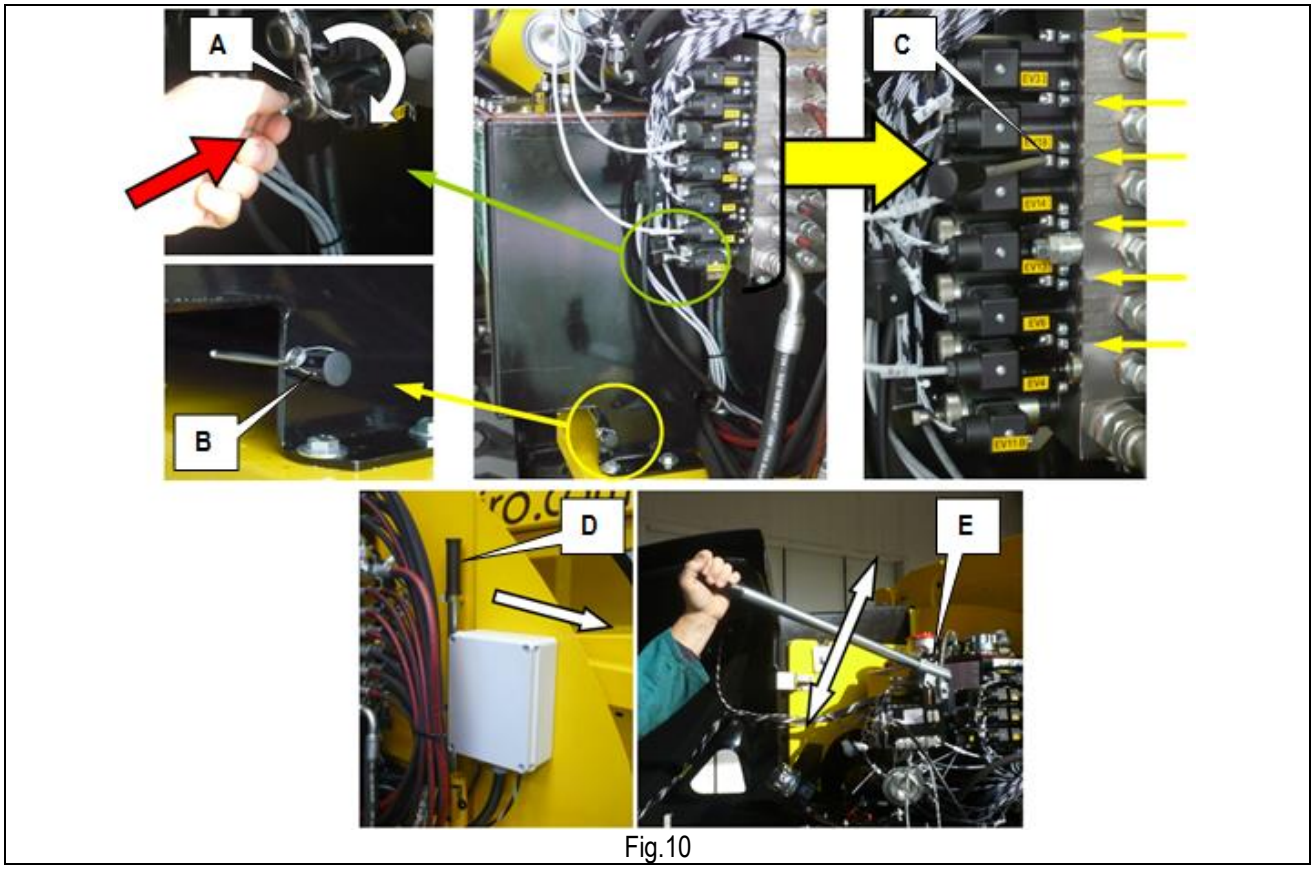


Fig.10

In case of fault in the electric or hydraulic system, carry out the following emergency procedures:

1) Push and turn the actuator on the EV11B (A) electro valve
2) Remove the lever (B) from its housing and screw it on the distributor that wanted operate with (C);
3) Remove the operating lever of the manual pump (**D**) and fit it on the pump;
4) Operate the emergency pump (10 E) by simultaneously operating the joystick of the control valve in the desired direction, considering the manoeuvre you wish to perform;
5) Check the correct execution of this procedure.

Solenoids and relevant controls:

- EV4 = Pantograph DOWN
- EV4 = Pantograph UP
- EV6 = Telescopic boom out
- EV7= Telescopic boom retraction
- EV12 = Turret right rotation
- EV13 = Turret left rotation
- EV14 = Boom up
- EV15 = Boom down
- EV18 = Jib up
- EV19 = Jib down
- EV32 = Jib right rotation
- EV33 = Jib left rotation

WARNING: The emergency control can be stopped at any moment by releasing the lever or by stopping the pump.

Once you have completed the manual emergency manoeuvre, return everything to the initial conditions and have the lever sealed by an authorized service centre.

5.7. Optional socket for electric attachments.

The lifting platform can be equipped with a socket (230V Ac) for the attachment and power of eventual electric tools needed to accomplish certain jobs.

To activate the electric line (see pictures above) introduce a cable into the plug connected to the 230V AC 50 Hz mains, with all protections according to the current standards in force. If there is the circuit breaker switch (optional), to activate the electric line set the switch to ON position. It is advisable to check the earth-leakage circuit breaker by means of the specially provided TEST button.

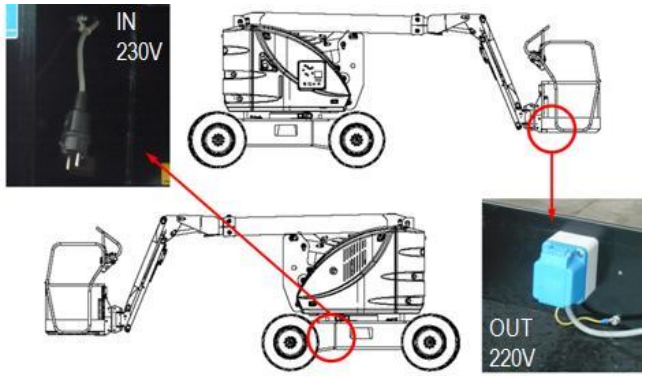


Fig.11

The plugs and sockets equipped on standard machines comply with EC standards and can therefore be used in EU member countries. On request the machine can be equipped with additional plugs and sockets in compliance with local Standards or with particular needs.

Connect to the power mains having the following features:
- Power voltage 230V ± 10%
- Frequency 50÷60 Hz
- Earthing
- Safety and protection devices according to current standards in force.
- Do not use extension cables exceeding 5 m length.
- Use a cable of a suitable section (min 3x2.5 mm2).
- Do not use rolled-up cables.

5.8. Fuel level and re-fuelling (models “ED”, “D”).

Before using the diesel engine, check the fuel level in the tank.

This operation is to be carried out by visually checking the fuel level after unscrewing the filling cap.
- Visually check the fuel level before starting to work;
- Keep the fuel tank and the engine clean.

5.9. End of a work day.

After stopping the machine according to the instructions given in the previous paragraphs:
- Always set the machine to rest position (platform completely lowered);
- Press the emergency Stop button on the on-ground control panel;
- Remove the keys from the control panel to prevent unauthorized people from using the machine;
- Fill the tank (if it applies).

6. HANDLING AND TRANSPORTATION,

6.1. Handling,

Before start-up, make sure that the turret mechanical safety has been unlocked (see picture aside).

To handle the machine in normal operating conditions, follow the instructions given in chapter "OPERATING INSTRUCTIONS" under paragraph "Drive and steering".

When the platform is completely lowered (booms down, sliding mast completely retracted and jib anywhere between +10° and –70° against the horizontal axis) you can start handling operation (including driving away) at different speeds selected by the user.

When the platform is UP and exceeds a given height, the enabled machines (see chapter "Technical Data") can travel at an (automatically) reduced speed up to the height specified in chapter "Technical Data".

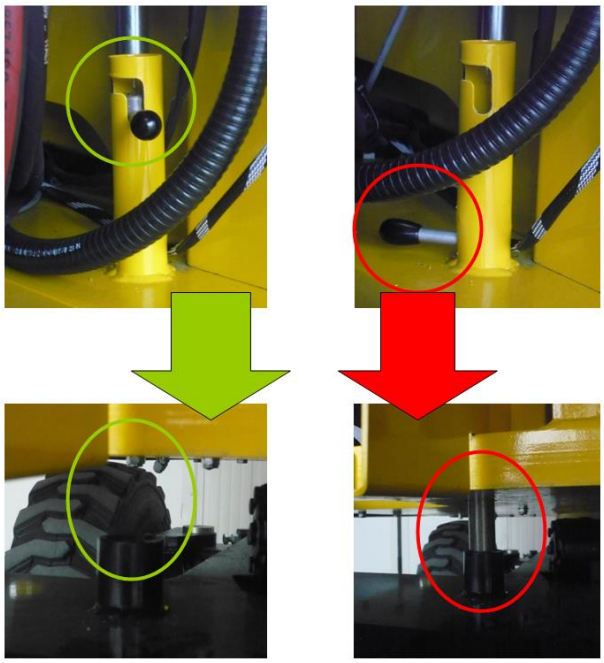


Fig.12

ATTENTION!
Driving with the lifted platform may be subject to different restrictions according to the country where the machine is used. Find out about the legislative limits concerning this operation from Health and Safety Authorities at your place.

It is absolutely forbidden to travel with the machine when platform is lifted unless the ground is horizontal, flat and solid.

Before carrying out any travel, make sure that no people are in the proximity of the machine and in any case proceed with the utmost caution.

Before moving the machine make sure that all connections are disconnected from the power supply source.

Check that there are no holes or steps on the floor and bear the machine overall dimensions in mind.

Do not use the machine to tow other vehicles.

Before steering and driving the machine, check the actual position of the tower (see the relevant labels and signs on the chassis) so as to travel in the correct direction.

Do not load anything on the platform while the platform is up and the machine travels (operators on board are not allowed to pull wires or ropes, etc.).

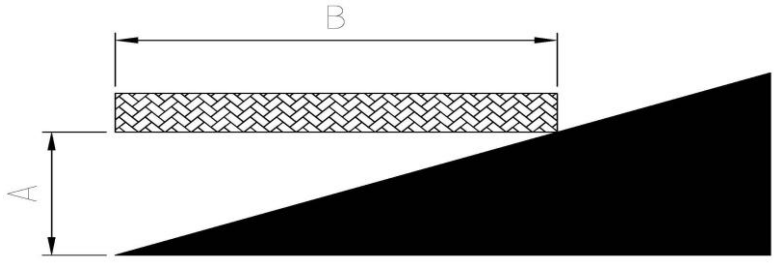
6.2. Transportation.

In order to move the machine to a different working site, follow the instructions given below. Because of the considerable size and dimensions of this machine, please make sure to consult your local road traffic authorities before transporting on any carrier.

⚠ **Before transporting the machine, turn it off and remove the keys from the control panels. No people are allowed in proximity to or on the machine to avoid any risks resulting from sudden movements.**
For safety reasons never lift or tow the machine by its booms or platform.
Loading operations are to be carried out on a flat surface with a suitable capacity, after setting the platform to the rest position.

To transport the machine, load it on a vehicle of a suitable size as following:

- **by means of loading ramps and translation controls** located on the platform, load the machine on the transport vehicle (if ramp slope is within the gradient described in paragraph "TECHNICAL FEATURES" and ramp capacity is adequate to weight) following the instructions given in paragraph "OPERATING INSTRUCTION" under paragraph "Drive and steering". During this loading operation, it is best to raise the Jib (not over +10° against the horizontal plane) to prevent engaging of the safety speed and knocking of the platform against the ground. Avoid loading other booms during this operation to prevent the activation of the emergency micros that would stop all the manoeuvres (except the descent) in case the machine was slanted. If the slope exceeds the maximum admissible one, the machine must be winched and in this case the operator on the platform needs to activate the drive controls and release the parking brakes. The slope can be determined using an electronic level or empirically as described below: position a wood board of known length on the gradient to be measured. Position a spirit level on the wood board and lift the downstream extremity of the latter until it is level. Now measure the distance between the board and the ground (**A**), divide this by the length of the board (**B**) and multiply by 100. The following image sums up the method.



- **by means of hooks and steel ropes** (with safety factor = 5, see machine weight in Technical Data): perform hooking to the special holes as shown in the picture on the side.

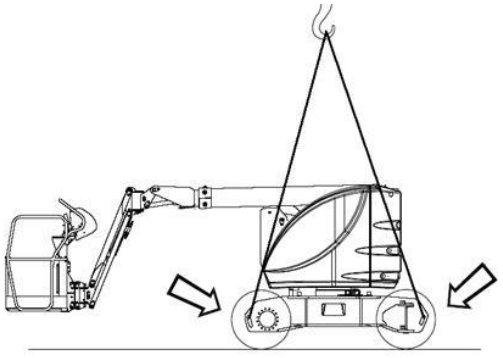


Fig.13

- **through a lift truck** of a suitable capacity (see machine weight in table "Technical features" at the beginning of this manual) equipped with forks having at least the same length as the machine width. Insert the forks as indicated by the stickers on the machine. Should these stickers be not available, DO NOT lift the machine by means of a lift truck. Lifting the machine by means of a lift truck is a dangerous operation, which must be carried out by qualified operators only.

After placing the machine onto the carrying vehicle, fasten it by means of the same holes used for lifting. To avoid breaking the platform overload controller, thus causing the machine to stop, DO NOT fix the machine onto a vehicle platform by tying-up the platform or the last lifting boom. PLEASE MIND THIS INSTRUCTION FOR ALL MODELS

Block the turret by means of the mechanical safety lock device as specified in the previous chapters.

Before transporting the machine check for stability on the vehicle. The platform must be fully lowered and the platform extension must be in retracted position to ensure adequate stability during the entire operation.

6.3. Emergency tow-away of the machine.

6.3.1 Emergency towing the machine away (standard facility).

In case of a major break-down, it is possible to emergency-tow the machine away after raising the rear drive wheels (the only ones with brakes). To raise the wheels up, use hooks and steel ropes (with safety factor = 5, see machine weight in Technical features) and secure them in the special holes indicated by the labels on the machine.

After jacking the machine up, start towing at very low speed (remember that when the machine is being emergency-towed, the brakes are disengaged).

Tow at a very slow speed (remember that when the machine is being emergency-towed, the brakes are disengaged).

Strictly tow only on flat grounds.

Do not park the machine without brakes on.

If the brakes are disengaged, put wedges under the wheels to prevent the machine from moving accidentally.

6.4. Emergency towing the machine away (optional facility).

In case of a major break-down, it is possible to emergency-tow the machine away by using the optional towing-provision in the following way:

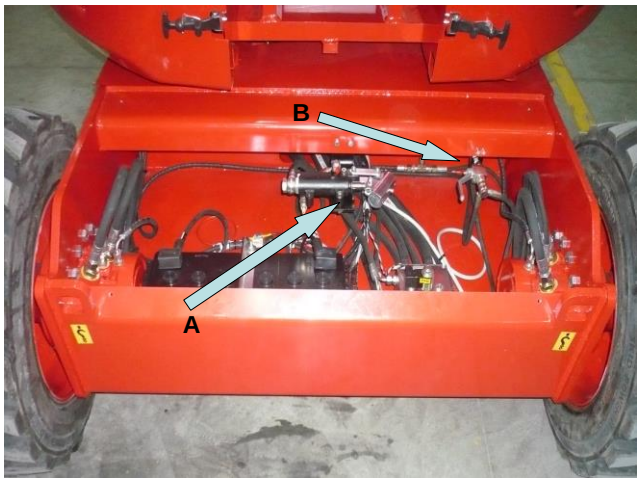
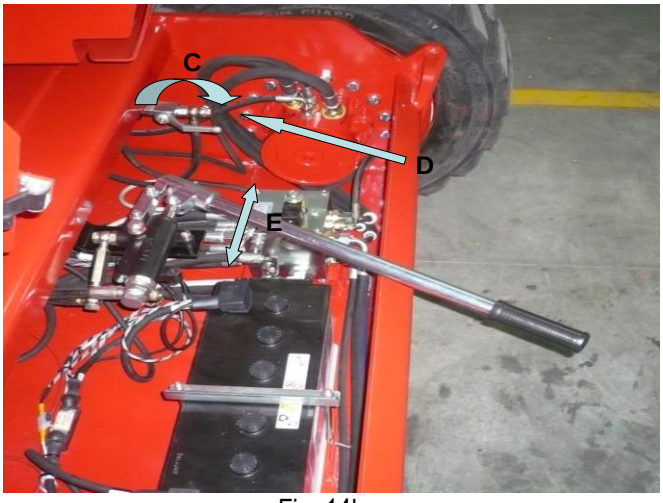


Fig 14a

1) Undo the 4 fixation screws and remove the protection casing from the rear chassis.
2) Locate the (optional) emergency towing pump (fig.14a letter "A").
3) Locate the detent valve of the (option) emergency tow line. (fig. 14a letter "B").
4) Remove the lateral casing of the turret and take the control lever out for emergency pump operation.
5) Fit the control lever in the housing of the emergency pump. (optional)



. Fig. 14b

6) Turn the lever of the emergency detent valve clockwise (fig.14b - letter "C").
7) Operate the control lever and keep pumping until moving starts (fig.14b, letter "E").
8) Perform towing at very low speed and never exceed 3 Km/h and a distance of maximum 30 meter (33 yd).
9) Repeat step 7 after every 30 m (33 yd).
10) When the machine reaches a safe destination place, remove the control lever and fit it back in its housing. Set the detent control valve of the emergency line back in its initial position (horizontal) by pushing it anti-clockwise (fig.14b - letter "D").

⚠

Tow at a very slow speed (remember that when the machine is being towed, brakes are out of service).

Strictly tow only on flat grounds.

Do not park the machine without brakes on.

If the brakes are disengaged, put wedges under the wheels to prevent the machine from moving accidentally.

7. MAINTENANCE.

- **Always carry out maintenance operations with machine at standstill, after having removed the key from the control panel, and with the platform in rest position.**
- **The maintenance operations described here below refer to a machine in ordinary working conditions. In case of harsh operating conditions (extreme temperatures, corrosive environments, etc.) or following a long period of non-use, contact AIRO customer service to adjust the maintenance schedule.**
- **Repairs and maintenance operations are to be carried out by trained and authorised personnel only. All maintenance operations should be carried out in compliance with the actual work safety regulations (safety at work places, personal protection equipment, etc...).**
- **Carry out only the maintenance and adjustment operations described in this user manual. In emergency situations (e.g. breakdown, wheels replacement) contact our Technical Service**
- **During maintenance interventions, the machine must be completely locked. Before any maintenance operation inside the lifting structure, make sure that it is secured against accidental lowering of the booms.**

⚠

- **Remove the battery cables and provide batteries with a suitable protection during welding operations.**
- **Carry out maintenance operations on the heat engine only when it is not running and sufficiently cool (except for those operations, such as oil change, which must be performed when the engine is hot). Risk of burns in contact with hot parts.**
- **Do not use petrol or other flammable materials to clean the heat engine.**
- **For maintenance operations on the heat engine, read the manufacturer's manual of the engine supplied on machine purchase.**
- **In case of replacement, use original spare parts only. For parts that are not original please ask the manufacturer for prior approval.**
- **Disconnect the 230V AC and/or 380V AC sockets, if any.**
- **The lubricants, hydraulic oils, electrolytes and all detergent products should be handled with care and disposed of in safety according to the current regulations. Prolonged contact with the skin may cause forms of irritation and skin diseases; wash with water and soap and rinse well. Also contact with the eyes, especially with the electrolytes, is dangerous; wash with water and see a doctor.**

⚠

CAUTION!
NEVER MODIFY OR TAMPER WITH MACHINE PARTS TO IMPROVE THE MACHINE PERFORMANCE AS THIS MAY AFFECT ITS SAFE OPERATION.

7.1. Machine cleaning.

To clean the machine, use non-pressurized water jets after properly protecting the following parts:
- the control panel (both platform and ground);
- the electric ground control unit and all electric boxes in general;
- the electric motors.

⚠

Do not use pressurized water jets (high-pressure cleaners) to clean the machine.

After washing the machine, always:
- dry the machine;
- check integrity of plates and labels;
- lubricate the articulated joints equipped with greaser.

7.2. General maintenance.

The table below indicates the main maintenance operations and their frequency. The machine is equipped with a service hour-meter.

Operation	Frequency
Screw tightening (see paragraph "Various adjustments")	after the first 10 operation hours
Checking the oil level in hydraulic tank	after the first 10 operation hours
Checking the battery charge (charge and liquid level)	Every day
Checking the conditions of hoses and cables	Every week
Check labels and plates	Every month
Greasing joints and sliding pads	Every month
Checking the engine couplings	Every month
Checking the efficiency of the emergency devices	Every year
Checking all electric junctions	Every year
Checking the oil level in hydraulic tank	Once a year
Checking the hydraulic couplings	Every year
Periodic operation check and structure visual check	Once a year
Tightening of the hardware (see "Various adjustments")	Every year
Efficiency check-up of the pressure relief valves	Every year
Efficiency check-up of the brake system	Every year
Efficiency check-up of the tower inclinometer	Every year
Functional check-up of the platform overload controller	Every year
Functional check-up of the M1 micro switches	Every year
Operation check of manning-detector pedal	Once a year
Adjusting the sliding pads of the telescopic boom	Every year
Hydraulic filter replacement	Every two years
Total oil change in hydraulic tank	Every two years

DIESEL (D) AND ELECTRICAL-DIESEL MODELS (E/D): As it is possible to install different types of diesel engines, refer to the instruction's manual of the engine manufacturer for all maintenance operations.

(OPTIONAL BIO-OIL KIT)
PANOLIN BIOMOT 10W40

AFTER 10 YEARS IN USE SEND THE MACHINE BACK TO THE MANUFACTURER FOR COMPLETE OVERHAULING.

7.2.1. Adjustments.

Check the conditions of the following components and, if necessary, tighten after the first 10 working hours and, afterwards, at least once a year:

1) wheel screws;
2) drive engine, fixation screws;
3) steering cylinder fixing screws;
4) fixing screws of steering hub pins;
5) cage fixing screws;
6) hydraulic fittings;
7) screws and safety dowels of boom pins;
8) turntable fixing screws;
9) engine couplings.

For torque wrench settings, please refer to the table below.

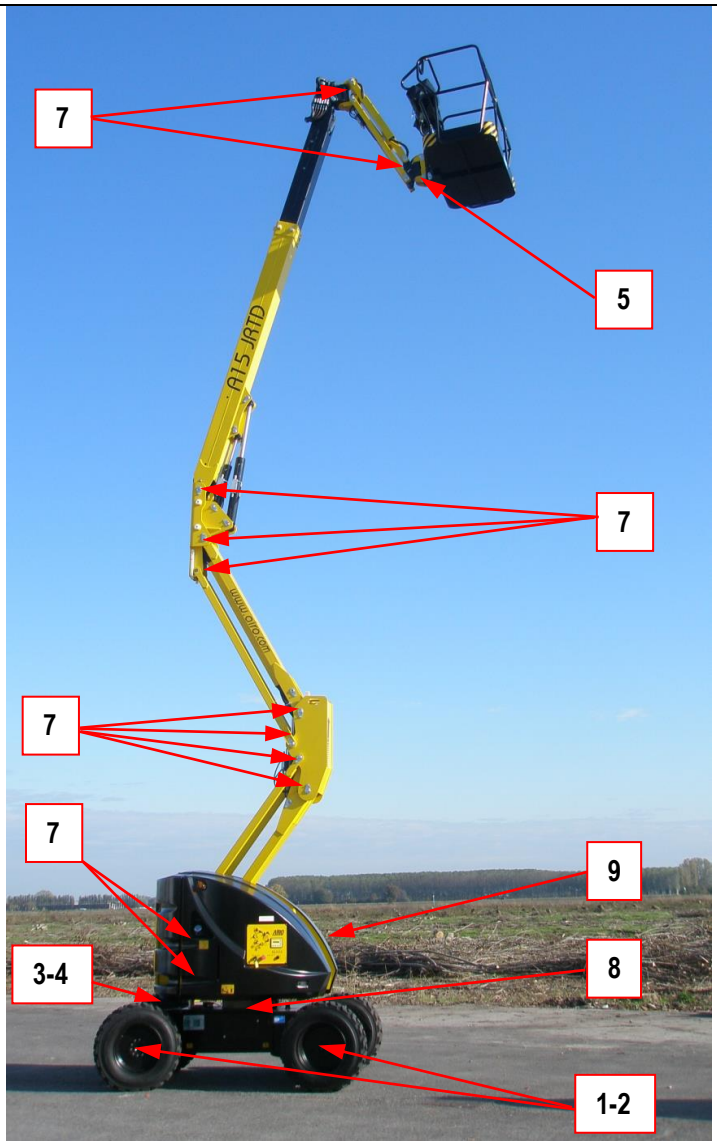


Fig.15

TORQUE WRENCH SETTING (metric thread, normal pitch)						
Class	**8.8 (8G)**		**10.9 (10K)**		**12.9 (12K)**	
Diameter	**kgm**	**Nm**	**kgm**	**Nm**	**kgm**	**Nm**
M4	0.28	2.8	0.39	3.9	0.49	4.9
M5	0.55	5.5	0.78	7.8	0.93	9.3
M6	0.96	9.6	1.30	13.0	1.60	16.0
M8	2.30	23.0	3.30	33.0	3.90	39.0
M10	4.60	46.0	6.50	65.0	7.80	78.0
M12	8.0	80.0	11.0	110	14.0	140
M14	13.0	130	18.0	180	22.0	220
M16	19.0	190	27.0	270	33.0	330
M18	27.0	270	38.0	380	45.0	450
M20	38.0	380	53.0	530	64.0	640
M22	51.0	510	72.0	720	86.0	860
M24	65.0	650	92.0	920	110	1100

7.2.2. Greasing.

Grease all articulated joints equipped with greaser (or provision for greaser attachment) at least every month.

At least once a month, using a spatula or a brush, lubricate the telescopic boom extension.

Moreover, always remember to grease all joints:

- after washing the machine.
- before using the machine again after a long non-use time
- after using the machine in adverse environmental conditions (high humidity levels; presence of dust; coastal areas, etc).

Grease all points indicated in the picture here on the side (and all articulated joints equipped with nipple) using grease type ESSO **BEACON-EP2** or equivalent.

(OPTIONAL BIODEGRADABLE OIL KIT)
PANOLIN BIOGREASE 2

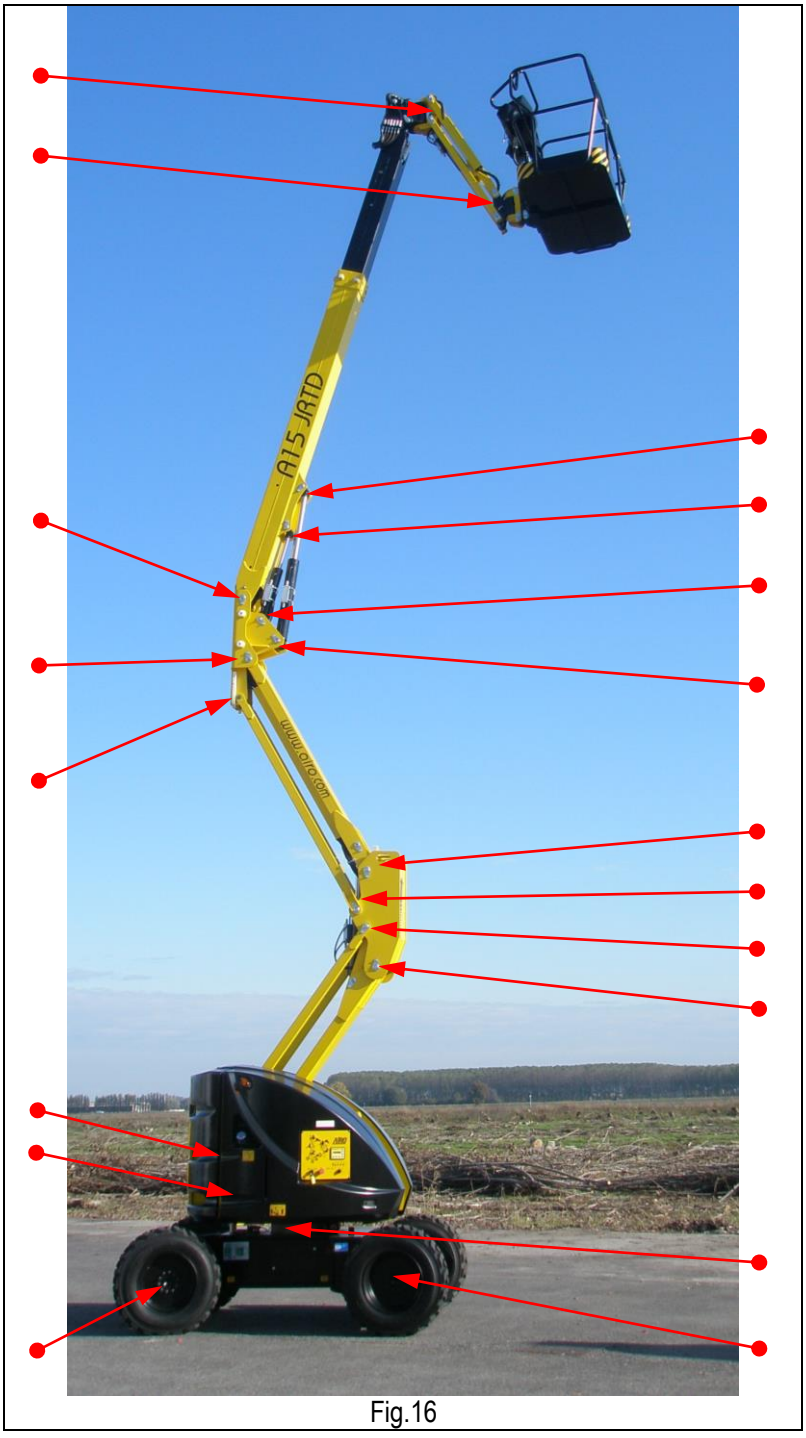


Fig.16

7.2.3. Checking and changing the hydraulic circuit oil.

Check the oil level in the tank after the first 10 hours of work and, afterwards, every month. Use the dipstick of the filler cap (pos. **A** on the picture here on the side) and make sure that the level is always somewhere between maximum and minimum. If necessary, top up until max. level is reached. The oil check should be carried out when platform is completely lowered.

<u>Completely change the hydraulic oil at least every two years.</u>

To empty the tank:

- lower the platform completely and retract the telescopic boom extension;
- stop the machine by pressing the emergency stop button of the ground control panel.
- Place a container under cap (**B**), under the tank, and unscrew it.

Use only the oil types and quantity indicated in the table below.

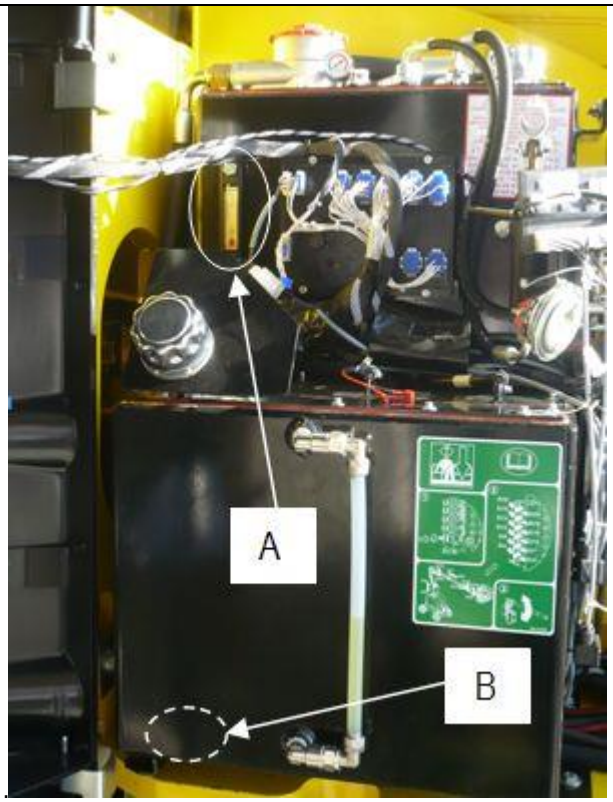


Fig.17

HYDRAULIC SYSTEM OIL			
OIL PRODUCER	**TYPE** -20°C +79°C	**OIL TYPE** -30°C +48°C	**FILLING QUANTITY**
SYNTHETIC OILS			90 l (20 gal)
ESSO	Invarol EP46	Invarol EP22	
AGIP	Arnica 46	Arnica 22	
ELF	Hydrelf DS46	Hydrelf DS22	
SHELL	Tellus SX46	Tellus SX22	
BP	Energol SHF46	Energol SHF22	
TEXACO	Rando NDZ46	Rando NDZ22	
Q8	LI HVI 46	LI HVI 22	
PETRONAS	HIDROBAK 46 HV	HIDROBAK 22 HV	
BIODEGRADABLE OILS - OPTIONAL			
PANOLIN	HLP SINTH E46	HLP SINTH E22	

Do not dispose of used oil in the environment. Comply with the current local standards.

The lubricants, hydraulic oils, electrolytes and all detergent products should be handled with care and disposed of in safety according to the current regulations. Prolonged contact with the skin may cause forms of irritation and skin diseases; wash with water and soap and rinse well. Also contact with the eyes, especially with the electrolytes, is dangerous; wash with water and see a doctor.

7.2.3.1 Bio oils (optional).

At the request of the customer, the machines can be supplied with biodegradable hydraulic oil compatible with the environment. Biodegradable hydraulic oil is completely synthetic, without zinc, non-polluting and highly efficient with saturated ester base, combined with special additives. The machines with biodegradable oil use the same parts and components as the standard machines. However, the type of oil should be considered in the design phase already.
If you wish to change from mineral-oil based over to hydraulic "bio" oil, the following procedure must be followed.

7.2.3.2 Emptying.

Empty the hot hydraulic oil for entire system operation (oil tank, cylinders, large-volume pipes).

7.2.3.3 Filters.

Replace filter cartridges. Use standard filters as indicated by the manufacturer.

7.2.3.4 Washing.

After completely emptying the machine, fill the recommended type and quantity of "bio" oil.
Start the machine and perform all work movements at low revs for at least 30 minutes.
Empty the liquid inside the systems as indicated at 7.2.3.2.
Warning: During the entire washing procedure, avoid air entering the system.

7.2.3.5 Filling.

After washing, fill the hydraulic circuit, bleed and check the level.
Bear in mind that contact of fluid with the hydraulic pipes can cause swelling.
Also remember that contact of fluid with the skin can cause reddening or irritation.
Also use suitable PPE during these operations (e.g., protective eyewear and gloves).

7.2.3.6 Commissioning / check.

"Bio" oil behaves regularly, but it must be checked by taking a sample at set intervals according to the indications provided below:

CHECK REGISTER	NORMAL DUTY	HEAVY DUTY
1st CHECK AFTER	50 OPERATION HOURS	50 OPERATION HOURS
2nd CHECK AFTER	500 OPERATION HOURS	250 OPERATION HOURS
3rd CHECK AFTER	1000 OPERATION HOURS	500 OPERATION HOURS
FOLLOWING CHECKS	1000 HOURS OR 1 OPERATION YEAR	500 HOURS OR 1 OPERATION YEAR

This schedule allows consistent monitoring of the oil grade so that it can be reused as much as possible before its properties are lost. Normally, in the absence of contaminating agents, the oil is never completely changed, but only occasionally topped-up.
The oil samples (at least 500ml) must be taken with the system at operating temperature.
It is recommended to use new and clean containers.
The samples must be sent to the "bio" oil supplier.
For more details, contact your nearest distributor.

Copies of the analysis report must be kept in the check register. This is mandatory.

7.2.3.7 Mixing.

Mixtures with other biodegradable oils are not allowed.
The remaining amount of mineral oil must not exceed 5% of total filling quantity as long as the mineral oil is suitable for the same use.

7.2.3.8 Micro-filtration.

When making the conversion on second-hand machines, always take into account the high dirt dissolution power of biodegradable oil.
After conversion from one oil to another, a certain amount of deposits may be dissolved in the hydraulic system. In extreme cases, washing the seal housings can cause greater leaks.
To prevent faults as well as avoid any negative effect on the oil quality, clean the hydraulic system using a micro-filtration system after each system conversion to a new oil type.

7.2.3.9 Disposal.

The biodegradable oil, inasmuch as saturated ester, is suitable for both thermal and material re-use.
It therefore provides the same disposal / re-use options as mineral based old oil.
Such oil can be incinerated whenever local laws allow.
Recycling the oil is preferable to disposal on dumps or incineration.

7.2.3.10 Topping up.

The oil must **STRICTLY** be topped up with the same product.

Note: Max water contamination is 0.1%.

7.2.4. Hydraulic filter replacement.

7.2.4.1. Suction filters.

All models are equipped with a suction filter installed inside the tank at the base of the suction tube. The filter has to be cleaned (or replaced) at least every two years.

To avoid improper use, a special microswitch checks the position of the lifting boom.

- stop the machine by pressing the push-button of the ground central unit;
- unscrew the plug on the tank with the metal suction tubes;
- remove the plug;
- undo the filter from the hard suction tube and replace it;
- to retrieve the initial condition, repeat the above instruction in the reverse order.

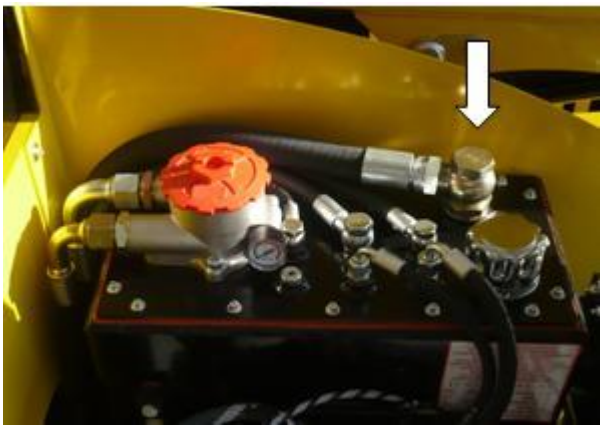


Fig.18

During these operations some oil may leak out. In this case remove the oil by means of cloths and by pouring it into a specific container.

7.2.4.2. Return filter.

The return filter directly flanged on the tank is equipped with a visual clogging indicator. During normal operation, this indicator is in the green zone. When the indicator is in the red zone, the filtering cartridge is to be replaced. The filtering cartridge be be replaced at least every two years.
To replace the filter cartridge:

- stop the machine by pressing the mushroom button on the ground power unit;
- undo and remove the filter cover;
- remove the cartridge;
- fit the new cartridge paying attention to the correct position of the retaining spring and place the cover back on again.

Fig.19

During these operations some oil may leak out. In this case remove the oil by means of cloths and by pouring it into a specific container.

DO NOT start the machine if the filter cover is missing or not properly tightened.

Replace the filters using only original accessories available at our Technical Service.
Do not re-use used oil and do not leave it in the environment, but dispose of in compliance with local standards in force.
Once the filters have been replaced, check the hydraulic oil level in the tank.

7.2.5. Adjustment of the clearance of the sliding pads under the telescopic boom.

Check for pads wear at least once a year.
The correct clearance between the blocks of the boom is 0,5-1 mm; in case of higher clearance tighten the sliding blocks as follows:

- Remove the lock ring **A**.
- Screw the sliding pad **B** until the above mentioned clearance is reached.
- Screw lock ring **A** again.

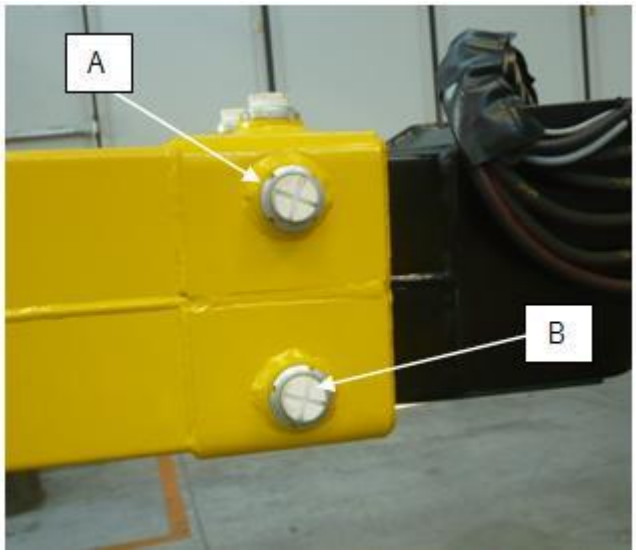


Fig.20

ATTENTION!
THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.2.6. Efficiency check of the pressure relief valve in the operating line.

7.2.6.1 Pressure relief valve of the circuit of proportional movements.

The pressure relief valve controls the maximum pressure of the circuit of proportional movements (pantograph, upper boom, telescopic, jib, turret rotation, jib rotation) Normally, this valve does not require any adjustment, since it is calibrated at the factory before the machine is delivered.

The adjustment of the system is required:

- after replacement of the hydraulics
- after replacement of the just the pressure relief valve

<u>Perform a functional control at least once a year.</u>

To check the operation of the pressure relief valve:

- Introduce a pressure gauge with a full scale of at least 250 bar in the special quick coupling (1/4" BSP) **A;**
- Using the ground control panel lift the pantograph (lower boom) up to the end stop;
- Check the detected pressure value. The correct value should be as stated in the "**Technical Data**".

Fig.21

To calibrate the pressure relief valve:

- Introduce a pressure gauge with a full scale of at least 250 bar in the special quick coupling (1/4" BSP) **A**.
- Locate the pressure relief valve of lifting circuit **B**.
- Unscrew the adjusting dowel lock-nut;
- Using the ground control panel lift the pantograph (lower boom) up to the end stop.
- Adjust the pressure relief valve by means of the adjusting dowel so as to reach the pressure value indicated in chapter "**Technical Features**".
- Once calibration has been carried out, lock the adjusting dowel by means of the lock-nut.

ATTENTION!
THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.2.6.2. Pressure relief valve of the circuit of ON-OFF movements.

The pressure relief valve controls the maximum pressure of the circuit of ON-OFF movements (steering, cage rotation, cage levelling). Normally, this valve does not require any adjustment, since it is calibrated at the factory before the machine is delivered.

The adjustment of the system is required:

- after replacement of the hydraulics
- after replacement of the just the pressure relief valve

Perform a functional control at least once a year.

To check the operation of the pressure relief valve:

- Introduce a pressure gauge with a full scale of at least 250 bar in the special quick coupling (1/4" BSP) **A**.
- Using the on-ground control panel, rotate the cage up to the end stop.
- Check the detected pressure value. The correct value should be as stated in the "**Technical Data**".

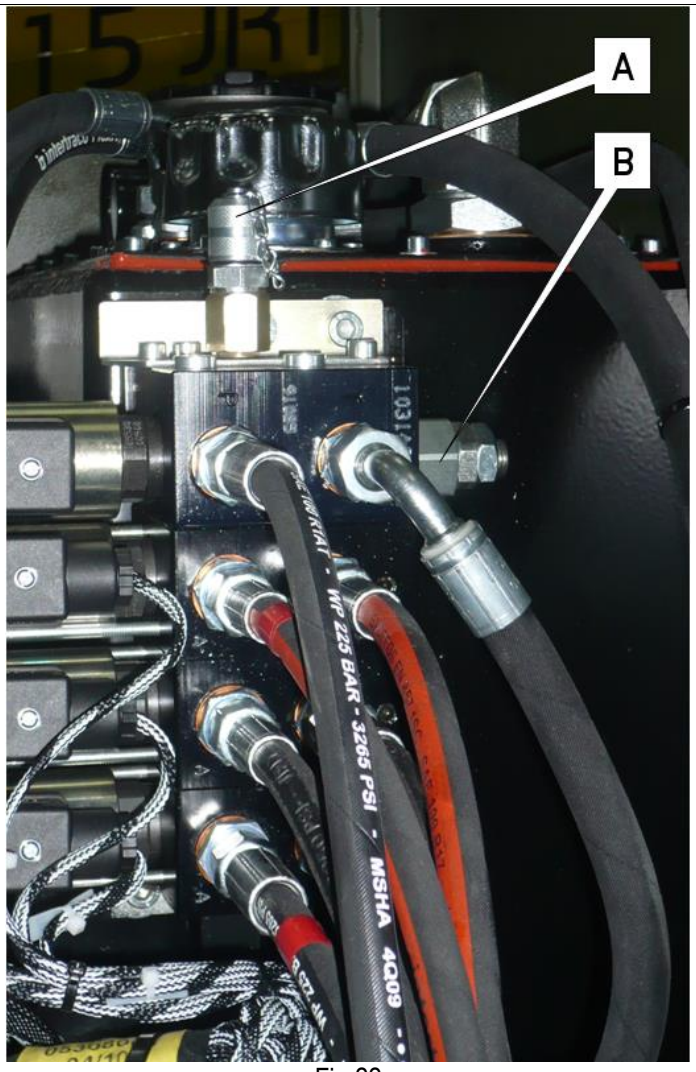


Fig.22

To calibrate the pressure relief valve:

- Introduce a pressure gauge with a full scale of at least 250 bar in the special quick coupling (1/4" BSP) **A**.
- Locate the pressure relief valve of lifting circuit **B**.
- Unscrew the adjusting dowel lock-nut;
- Using the on-ground control panel, rotate the cage up to the end stop.
- Adjust the pressure relief valve by means of the adjustment dowel so as to reach the pressure value indicated in "**Technical Data**".;
- Once calibration has been carried out, lock the adjusting dowel by means of the lock-nut.

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ATTENTION!
THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.2.7. Efficiency check of the inclinometer in the turret.

CAUTION!

Usually the inclinometer does not need to be adjusted unless the electronic control unit has been replaced. The equipment necessary for the replacement and adjustment of this component is such that these operations should be carried out by skilled personnel.

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

The inclinometer, which is built in the control board, does not require any adjustment since it is calibrated in the factory before the machine is delivered.
This device controls the chassis inclination and when inclined over the allowed value:

- it disables lifting;
- it disables drive when platform exceeds a given height (varying according to model);
- it warns of an instability condition by means of an acoustic alarm and a pilot light located on the platform (see "General use instructions").

The inclinometer checks the inclination against two axes (X; Y). On machine models that have the same lateral and longitudinal inclination limits, the control is carried out against one axis only (X-axis).

Perform a functional control at least once a year.

To check the inclinometer operation against longitudinal axis (generally X-axis):

- Use the platform control panel and set the machine so as to place a shim of dimension (**A+10 mm**) under the two rear or front wheels (see following table).
- Wait three seconds (operation delay set at factory) until the danger red light and the platform audible alarm turn on. With platform lowered (booms down, telescopic boom in and jib between +10° and –70°) all manoeuvres are still possible. By lifting one of the booms (excepting the Jib) and/or extending the telescopic boom with respect to the horizontal, the control system of the machine disables the lifting and drive controls.
- If no alarm is triggered ASK FOR TECHNICAL SERVICE.

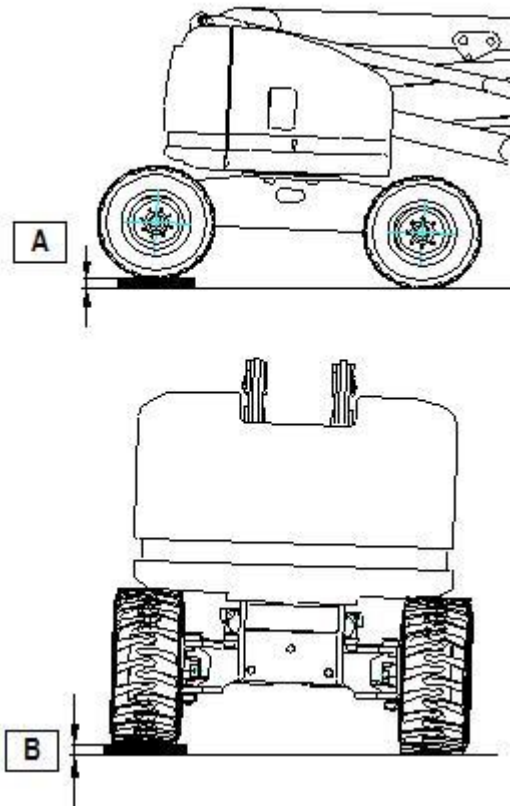

Fig.23

To check the inclinometer against the **lateral axis** (normally **Y-axis**):

- Use the platform control panel and set the machine so as to place a shim of dimension (**B+10 mm**) under the two side right or left wheels (see following table).
- Wait three seconds (operation delay set at factory) until the danger red light and the platform audible alarm turn on. With platform lowered (booms down, telescopic boom in and jib between +10° and –70°) all manoeuvres are still possible. By lifting one of the booms (excepting the Jib) and/or extending the telescopic boom with respect to the horizontal, the control system of the machine disables the lifting and drive controls.
- If the alarm is not activated CALL FOR TECHNICAL ASSISTANCE

SHIMS	A12 JRTD - A15 JRTD
A [mm]	107
B [mm]	125

CAUTION! The thickness of shims A and B refers to the max. inclination as indicated in table "TECHNICAL FEATURES". To be used during the calibration of the inclinometer.

7.2.8. Adjustment of the overload controller (load cell).

CAUTION!

Generally, this device does not require adjusting except in the event of the device itself being replaced. The equipment necessary for the replacement and adjustment of this component is such that these operations should be carried out by skilled personnel.

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

AIRO self-propelled articulated boom aerial platforms are equipped with a sophisticated overload controller.
Normally the overload controllers do not require any adjustments, since they are calibrated in the factory before the machine is delivered.

This device checks the load on the platform and:

- disables all movements if platform is overloaded by 20% compared to the rated load (drive and steering disabled with platform lifted);
- with platform in transport position and overloaded by 20% compared to the rated load, it disables lifting and telescopic boom extension;
- warns the user of the overload condition by means of the audible alarm and the platform warning light;
- by removing the exceeding load, the machine can be operated again.

Perform a functional control at least once a year.

The overload controller consists of:

- a deformation transducer (**a**);
- display (**b**) for the calibration of the system located on the ground control panel.

Fig.24

Operation check of the overload controller:

- when the platform is completely lowered and with extension retracted, load a charge evenly distributed equal to the rated load allowed by the platform (see paragraph “technical features”). in this condition all manoeuvres should be possible both on platform control panel and ground control panel;
- when platform is completely lowered add to the rated load an overload of 25% of the rated load. in this condition the red alarm light and the audible alarm turn on;
- if the platform is at a height from the ground higher than that indicated in chapter “technical features”, the alarm condition locks the machine completely (the jib activates its microswitch after exceeding a height of 10° according to the horizontal axis) the alarm condition blocks the machine completely. To operate the machine again, remove the excessive load.

This system needs calibration:

- In case of replacement of one of the items composing the system;
- When, following an excessive overload or a collision, without the excessive load the danger condition is signalled anyway.

7.2.9. Overload controller by-pass – ONLY FOR EMERGENCY OPERATIONS.

In case of fault and impossibility to calibrate the device, a by-pass of the system is possible by means of key switch (**A**) under the control panel. Keep the key switch active for 5 seconds and release it to shift to the BY-PASSING condition.

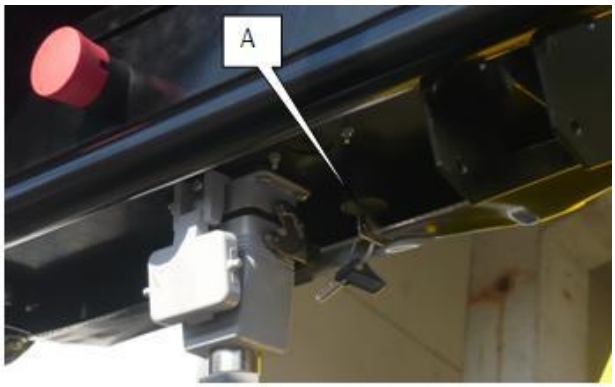

Fig.25

CAUTION! IN THIS CONDITION THE MACHINE CAN CARRY OUT ANY OPERATION, EVEN THOUGH A DANGER ALERT IS ACTIVE (RED FLASHING PILOT LAMP AND THE ACOUSTIC ALARM SIGNAL). TURNING OFF THE MACHINE WILL RESET THE SYSTEM, AND WHEN RESTARTING, THE OVERLOAD CONTROLLER OPERATES AGAIN SIGNALLING THE PREVIOUS OVERLOAD CONDITION.
THIS OPERATION IS ONLY ALLOWED FOR EMERGENCY TRASNFERS OF THE MACHINE. DO NOT USE THE MACHINE IF THE OVERLOAD CONTROLLER IS NOT EFFICIENTLY OPERATING.

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CAUTION!
THIS OPERATION IS ALLOWED ONLY FOR EMERGENCY HANDLING OF THE MACHINE OR IN THE EVENT OF A FAULT OR IMPOSSIBILITY TO CALIBRATE THE SYSTEM.
DO NOT USE THE MACHINE IF THE OVERLOAD CONTROLLER IS NOT EFFICIENTLY OPERATING.

7.2.10. Operation check of M1 micro switches.

The lifting booms are controlled by micro switches:
- M1A on the pantograph;
- M1B on Second Arm;
- M1C on the Jib;
- M1E on the telescopic extension.

Once a year check the working conditions of the micro switches M1.

The functions of the micro switches M1A-M1B-M1E are the following:
- with the platform not in rest position (at least one of the microswitches M1A-M1B-M1E must be activated):
- the safety drive speed is automatically activated.
- if the chassis is inclined over the max. allowed inclination, controls for lifting and drive are disabled;
- the compensation control for platform levelling is disabled.
- when the platform is overloaded ALL operations until removal of overload are disabled.

The following functions of the microswitch M1C of the Jib are designed to support loading/unloading from the ramps of a vehicle:
- with booms in rest position (microswitches M1A-M1B-M1E not activated), and Jib with inclination higher than +10° according to the horizontal axis (M1C activated):
- The third speed is automatically disabled.
- If the inclination of the chassis exceeds the max. one, the only active controls are jib lifting and drive.

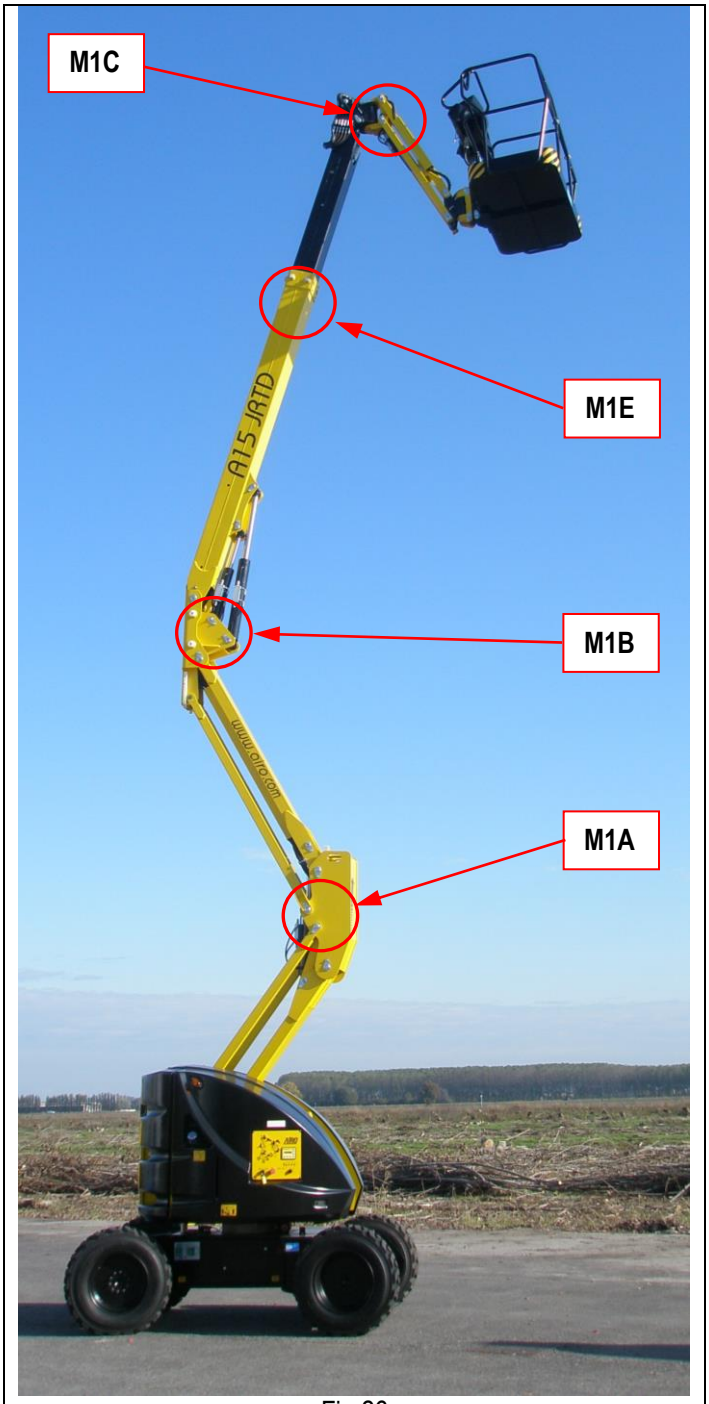


Fig.26

7.2.11. Functional check of the manning control pedal.

The platform manning detector pedal is for enabling the operation controls of the machine on the platform control panel.

Perform a functional control at least once a year.

To check the efficiency of the manning detector PEDAL:
- move the drive joystick forward and backward in sequence, without pressing the dead-man pedal.
- make sure that the machine does not perform any movement.

- hold the manning detector pedal down for more than 10 seconds
- with the pedal pressed, move the joystick forward and backward in sequence
- make sure that the machine does not perform any movement.

If this safety works properly, no machine movement is possible on the platform control panel unless you press the manning detector pedal beforehand. If this is pressed for more than 10 seconds and no operation is performed, all movements are disabled; to operate the machine again, release the dead-man pedal and press it again.
The condition of the switch is indicated by the green led in the platform:

- green led lit up steady position enabled
- green led lit up flashing position disabled

7.3. Starter battery.

The battery is one of the most important elements of the machine. We recommend to keep it in top efficiency conditions to increase its useful life, avoid faults and reduce management costs. On machines with a gasoline/diesel engine the starter battery is for:

- powering the machine control circuits.
- starting the engine.
- powering the 12V electric pump for safety operations (if available).

7.3.1 Battery maintenance.

The starter battery does not require any special maintenance:

- Keep terminals clean by removing any oxidation residues.
- Check correct terminal tightening.

7.3.2 Starter battery recharge.

Starter batteries do not require any recharge.
During normal operation of the Diesel engine an alternator recharges the battery (machines “D”, “ED”). On the machines equipped with a 230V (single-phase) or 380V (three-phase) electric pump, the electric pump control system keeps the starter battery charged while working in the electric power mode. On machines with battery a DC-DC converter keeps the starter battery charged.

CAUTION!
Accurately check the battery charge after each emergency recovery operation, especially after rescuing the platform with the (OPTIONAL) 12 V electric pump.

7.3.3 Battery replacement.

Replace the old batteries only with models of the same voltage, capacity, dimensions and mass. Batteries must be approved by the manufacturer.

Do not dispose of used oil in the environment. Comply with the current local standards.

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

CALL FOR THE TECHNICAL SERVICE

8 . MARKS AND CERTIFICATIONS.

The models of self-propelled aerial platform described in this manual were subjected to the CE type testing according to the Directive 2006/42/EC. The certification was issued by:

Eurofins Product Testing Italy Srl - 0477 **Via Cuorgné, 21** **10156 – Torino – TO (Italia)**	CE

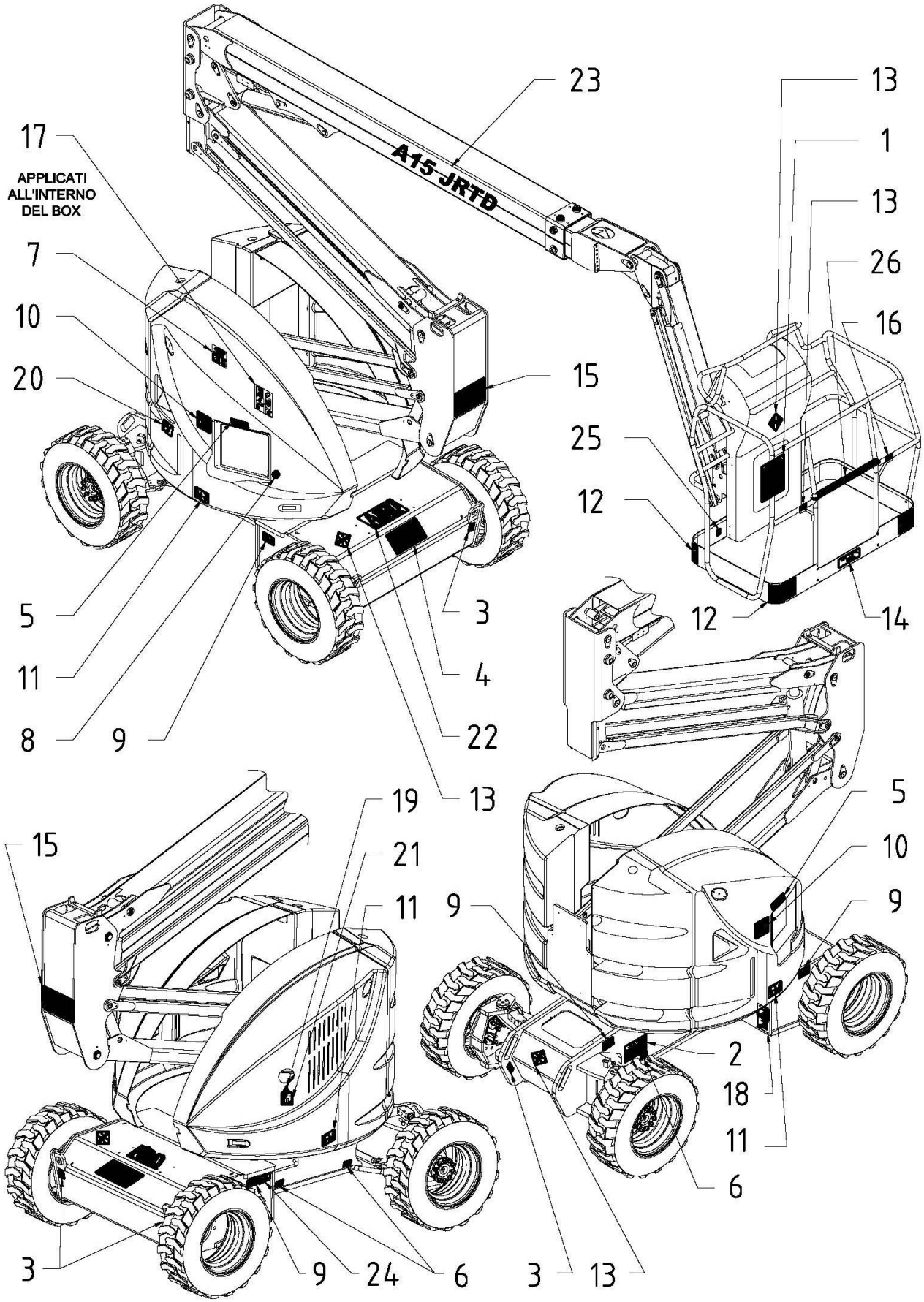
Test carrying out is shown by the above plate with CE mark applied on the machine and by the statement of compliance enclosed in this user manual.

9. PLATES AND LABELS.

STANDARD LABEL CODES

	CODE	DESCRIPTION	QUANTITY
1	001.10.001	AIRO instruction plate	1
2	001.10.024	AIRO serial number plate	1
3	001.10.031	Towing hook sticker	4
4	001.10.057	General warnings sticker	1
5	001.10.059	Wheels torque label	1
6	001.10.060	Lifting point sticker	4
7	001.10.150	“46” oil type label I-D-F-NL-B-G-PL	1
8	001.10.180	"Next check" Label	1
9	001.10.243	“Max. Load per wheel” Label	4
10	001.10.259	IPAF emergency label	1
11	001.10.260	"No standing by the joints/moving parts" label	2
12	010.10.010	Black-yellow line sticker <150X300>	4
13	023.10.003	Directions sticker	3
14	029.10.006	230 KG CAPACITY LABEL	1
15	029.10.011	"Do Not fasten the cage" label	1
16	035.10.007	"Safety belts hooking" Label	2
17	053.10.003	Manual Emergency Label for “A” Series	1
18	053.10.004	Power disconnect. Label for “A” Series	1
19	008.10.020	"Hot parts Danger" label	1
20	029.10.005	Fuel tank sticker	1
21	030.10.008	"105 dB sound power" Label	1
22	001.10.175	AIRO pre-spaced yellow sticker <530x265>	1
23	058.10.001	Pre-spaced yellow sticker A15 JRTD	1
	057.10.001	Pre-spaced yellow sticker A12 JRTD	1
24***	045.10.010	(Optional) electric line plug sticker	1
25*	001.10.021	(Optional) ground symbol sticker	1
26*	001.10.244	Label: (Optional) entrance bar black-yellow stripes	1

* optionals


A15 JRTD
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13

10. CONTROL LEDGER.

The Test Records are released to the user of the platform in conformance with Attachment 1 of Directive 2006/42/EC. This ledger is to be considered an integral part of the equipment and must accompany the machine for its entire life until its final disposal.

The ledger is provided for the notation, according to the proposed format, of the following events that regard the life of the machine:

- Periodic obligatory inspections under the care of the agency responsible for checking it (in Italy, ASL or ARPA).
- Obligatory periodic inspections to verify the structure, proper machine functioning and the protection and safety systems. Such inspections are the responsibility of the safety manager of the company that owns the machine and must occur with **frequency indicated.**
- Transfers of ownership In Italy, the purchaser must notify the INAIL department responsible that the installation of the machine has occurred.
- Extraordinary maintenance work and replacement of important elements of the machine.

REQUIRED PERIODIC INSPECTIONS BY THE REGULATORY AGENCY		
Date	**Observations**	**Signature + Stamp**

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

STRUCTURAL CONTROLS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
VISUAL CHECKUP	Check the integrity of the guardrails; the harness anchoring points; state of the lifting structure; any access ladders; rust; state of the tyres; oil leaks; locking pins on the structure.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

DEFORMATION OF TUBES AND CABLES	Most of all, check that tubes and cables do not show any evident defects at the joints. Monthly maintenance Monthly entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

STRUCTURAL CONTROLS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
ADJUSTMENTS	See Chapter 7.2.1

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

GREASING	See Chapter 7.2.2 Monthly maintenance Monthly entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
HYDRAULIC TANK OIL LEVEL CHECK	See chapter 7.2.3. Daily operation. Daily entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

CALIBRATION CHECK OF PRESSURE RELIEF VALVE IN THE OPERATION LINE	See chapter 7.2.6.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
BATTERY STATE	See chapter 7.3 Daily operation. Daily entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

ADJUSTMENT OF THE SLIDING PADS OF THE TELESCOPIC BOOM	See chapter 7.2.5.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
TOTAL OIL CHANGE IN HYDRAULIC TANK (EVERY TWO YEARS)	See chapter 7.2.3.

	DATE	REMARKS	SIGNATURE + STAMP
2nd YEAR			
4th YEAR			
6th YEAR			
8th YEAR			
10th YEAR			

HYDRAULIC FILTER REPLACEMENT (EVERY TWO YEARS)	See chapter 7.2.4.

	DATE	REMARKS	SIGNATURE + STAMP
2nd YEAR			
4th YEAR			
6th YEAR			
8th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CONTROLS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
OPERATION CHECK OF THE TURRET INCLINOMETER	See chapter 7.2.7.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

OVERLOAD CONTROLLER, FUNCTIONAL CHECK	See chapter 7.2.8.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CONTROLS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
OPERATION CHECK MICROSWITCHES MICROSWITCH M1	See chapter 7.2.10.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

STICKERS AND PLATES CHECK	See chapter 9 See Chapter 9. Check the legibility of the aluminium plate on the platform where the main instructions are summarised; that the capacity labels are on the platform and that they are legible; that the labels on the ground and platform controls are legible.

	DATE		DATE
1st YEAR		1st YEAR	
2nd YEAR		2nd YEAR	
3rd YEAR		3rd YEAR	
4th YEAR		4th YEAR	
5th YEAR		5th YEAR	
6th YEAR		6th YEAR	
7th YEAR		7th YEAR	
8th YEAR		8th YEAR	
9th YEAR		9th YEAR	
10th YEAR		10th YEAR	

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CONTROLS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
DEAD-MAN CONTROL	See chapter 7.2.11.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

SAFETY SYSTEM CONTROLS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
BRAKING SYSTEM EFFICIENCY CHECK	GOING DOWN A RAMP WITH MAX. SLOPE INDICATED IN CHAPTER "TECHNICAL DATA", AT THE LOWEST SPEED, THE MACHINE SHOULD BE ABLE TO STOP, UPON RELEASE OF THE JOYSTICK, IN A SPACE OF LESS THAN 1.5 METERS

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER			
CHECK OF EMERGENCY DEVICES		**DESCRIPTION OF OPERATIONS TO BE PERFORMED**	
MANUAL EMERGENCY LOWERING CHECK		**See chapter 5.6.**	
	DATE	**REMARKS**	**SIGNATURE + STAMP**
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

TRANSFERS OF OWNERSHIP

FIRST OWNER

COMPANY	DATE	MODEL	SERIAL NUMBER	DELIVERY DATE

AIRO – Tigieffe S.r.l.

FOLLOWING OWNERSHIP TRANSFERS

COMPANY	DATE

We attest that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We attest that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We attest that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We attest that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We attest that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

CONSIDERABLE TROUBLES

DATE	TROUBLE DESCRIPTION	HOW TO FIX IT

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

DATE	TROUBLE DESCRIPTION	HOW TO FIX IT

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

MAJOR BREAKDOWNS

DATE	TROUBLE DESCRIPTION	HOW TO FIX IT

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

DATE	TROUBLE DESCRIPTION	HOW TO FIX IT

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

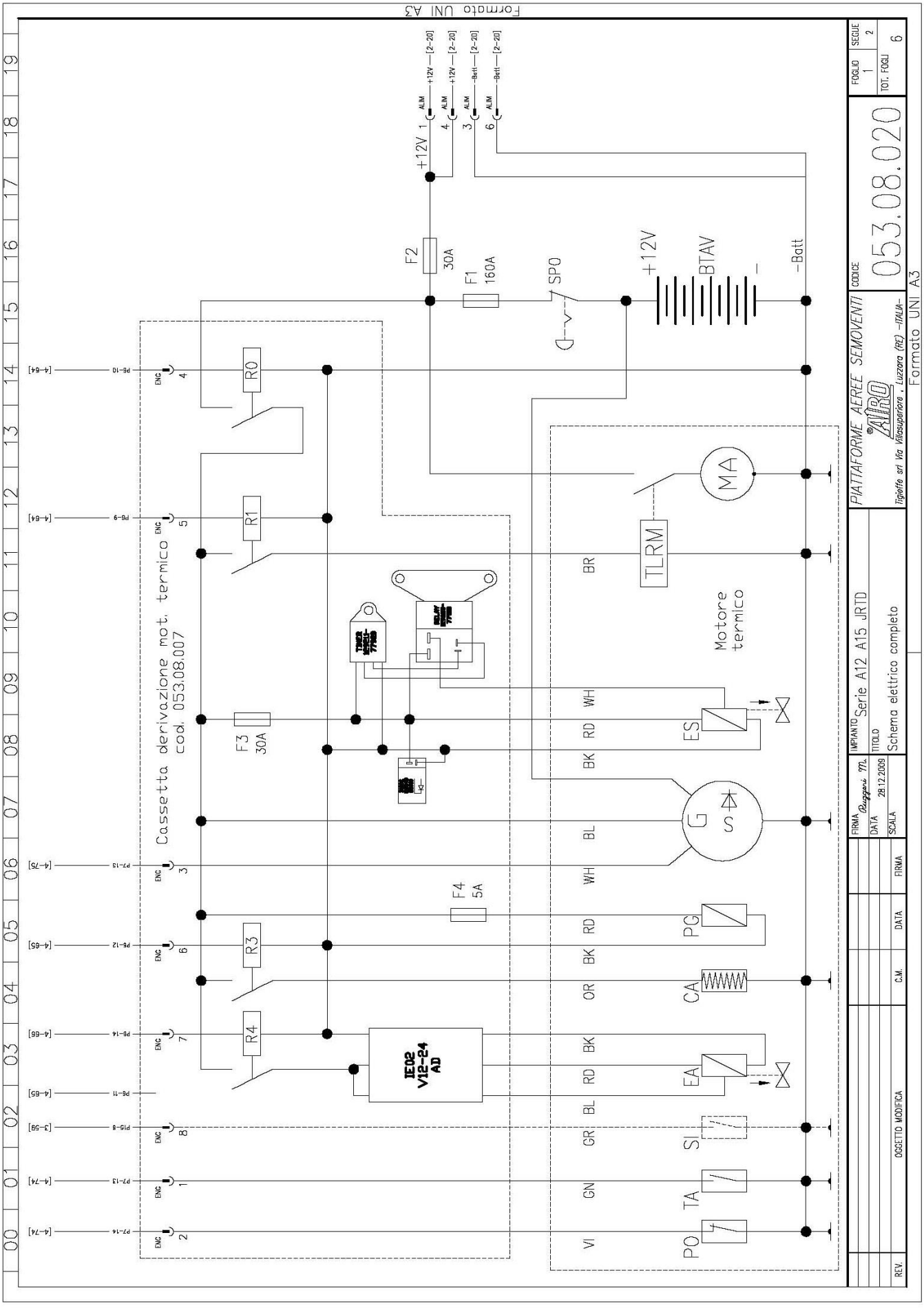
SERVICE **SAFETY MANAGER**

11. WIRING DIAGRAMS

053.08.020

SIMB.	DESCRIPTION	Pag-Col.
AV1	ON-GROUND ACOUSTIC ALARM	2-26
AV2	ON-PLATFORM ACOUSTIC ALARM	5-85
BTAV	BATTERY;	1-15
BY	OVERLOAD CONTROLLER BY-PASS	5-93
CA	PLUGS	1-04
EA	ELECTRIC ACCELERATOR	1-03
ES	ELECTRIC STOP	1-08
EV2	FORWARD DRIVE ELECTROVALVE	3-45
EV3	BACKWARD DRIVE ELECTROVALVE	3-46
EV4	ELECTROVALVE FOR BOOM LIFTING	3-47
EV5	ELECTROVALVE FOR BOOM DESCENT	3-48
EV6	EV6 = TELESCOPIC BOOM OUT	3-47
EV7	EV7= TELESCOPIC BOOM RETRACTION	3-45
EV8	ELECTROVALVE, RIGHT STEERING	3-51
EV9	ELECTROVALVE, LEFT STEERING	3-51
EV11A	ON-OFF CIRCUIT ENABLE SOLENOID VALVE	3-48
EV11B	PROPORTIONAL CIRCUIT ENABLE SOLENOID VALVE	3-48
EV12	ELECTROVALVE BASKET SWIVELLING CLOCKWISE	3-47
EV13	ELECTROVALVE BASKET SWIVELLING ANTI-CLOCKWISE	3-47
EV14	ELECTROVALVE FOR BOOM LIFTING	3-50
EV15	ELECTROVALVE FOR BOOM DESCENT	3-51
EV16	HIGH CAGE LEVELLING SOLENOID VALVE	3-45
EV17	LOW CAGE LEVELLING SOLENOID VALVE	3-46
EV18	ELECTROVALVE FOR JIB LIFTING	3-52
EV19	ELECTROVALVE FOR JIB DESCENT	3-52
EV21	ELECTROVALVE BASKET SWIVELLING CLOCKWISE	3-50
EV22	ELECTROVALVE BASKET SWIVELLING ANTI-CLOCKWISE	3-50
EV32	ELECTROVALVE BASKET SWIVELLING CLOCKWISE	3-54
EV33	ELECTROVALVE BASKET SWIVELLING ANTI-CLOCKWISE	3-53
EV29	POT-HOLE SOLENOID VALVE (OPT.)	4-63
EV30	POT-HOLE SOLENOID VALVE (OPT.)	4-63
EV40	BRAKE RELEASE SOLENOID VALVE	3-49
EV41A	OSCILLATING AXLE RELEASE SOLENOID VALVE. (OPT.)	4-62
EV41B	OSCILLATING AXLE RELEASE SOLENOID VALVE. (OPT.)	4-62
F1	POWER LINE FUSE	1-15
F2	CONTROL LINE FUSE	1-16
F3	MOTOR AUXILIARY SYSTEM FUSE	1-08
F4	DIESEL PUMP FUSE	1-05
FO	FACTORY OVERRIDE	2-25
G	CURRENT GENERATOR / ALTERNATOR	1-07
GRF1	ROTATING BEACON 1	3-46
GRF2	ROTATING BEACON 2	3-55
GRF3	ROTATING BEACON 3	3-55
KL	HORN (+)	4-61
M1A	I BOOM POSITION END STOP	4-70
M1B	II BOOM POSITION END STOP	4-69
M1C	JIB POSITION END STOP	4-71
M1E	TELESCOPIC BOOM POSITION END STOP	4-69
M1S	DRIVE STOP END STOP (OPT.)	4-72
M2A	CLOCKWISE TURRET ROTATION STOP LIMIT SWITCH	3-57
M2B	ANTICLOCKWISE TURRET ROTATION STOP LIMIT SWITCH	3-57
MA	STARTER	1-12

MPT1	RIGHT POT-HOLE END STOP (OPT.)	3-58
MPT2	LEFT POT-HOLE END STOP (OPT.)	3-58
PG	DIESEL PUMP	1-05
PO	OIL PRESSURE ALARM	1-00
R0	MAIN RELAY	1-12
R1	START RELAY	1-12
R3	PLUG RELAY	1-05
R4	ELECTRO-ACCELERATOR RELAY	1-03
SAVG	GROUND MOTOR START SELECTOR	2-27
SAVP	PLATFORM MOTOR START SELECTOR	5-92
SI	FILTER CLOGGING SELECTOR	1-02
SP0	EMERGENCY STOP BUTTON ON THE POWER LINE	1-15
SP1	POWER CIRCUIT EMERGENCY SWITCH	2-23
SP2	POWER CIRCUIT EMERGENCY SWITCH	5-83
SP3	HORN BUTTON	5-82
SW1	CONTROL SELECTORS	2-2223
TA	WATER TEMPERATURE SENSOR	1-01
TBM	POWER SUPPLY MODULE	2-2426
TLRM	STARTER REMOTE CONTROL SWITCH	1-11
UM	DEAD-MAN PEDAL CONTACT	4-72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+12V
-Batt
F1 160A
F2 30A
F3 30A
F4 5A
SP0
BTAV
R0
R1
R3
R4
TLRM
MA
Motore termico
ES
PG
CA
EA
SI
TA
PO
G
IE02 V12-24 AD
VI
GN
GR
BL
BK
RD
OR
WH
BR
PIATTAFORME AEREE SEMOVENTI
AIRO
Tigieffe srl Via Villasuperiore, Luzzara (RE) -ITALIA-
053.08.020
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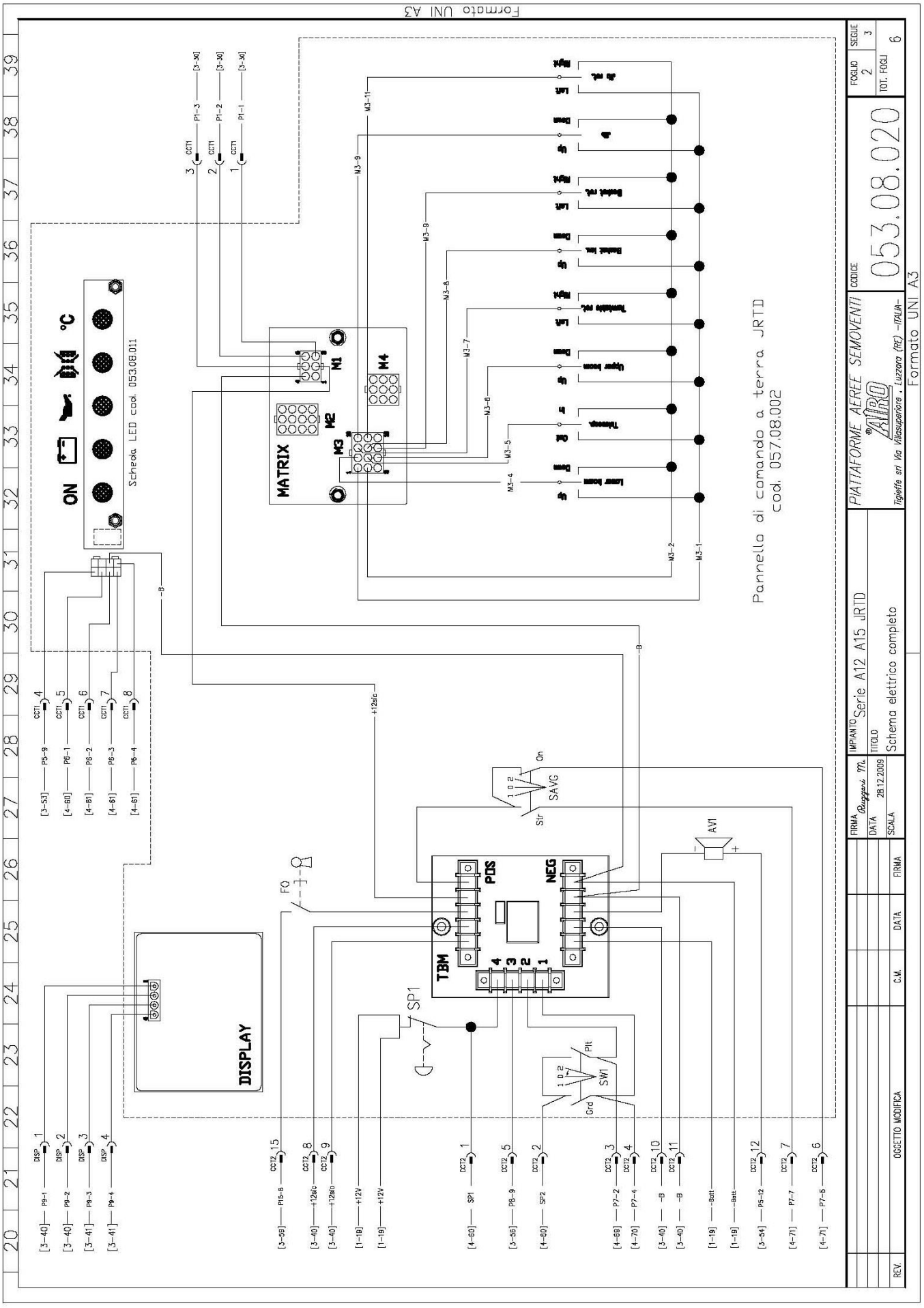
Serie A12 A15 JRTD
Schema elettrico completo
28.12.2009
FOGLIO 1
SEGUE 2
TOT. FOGLI 6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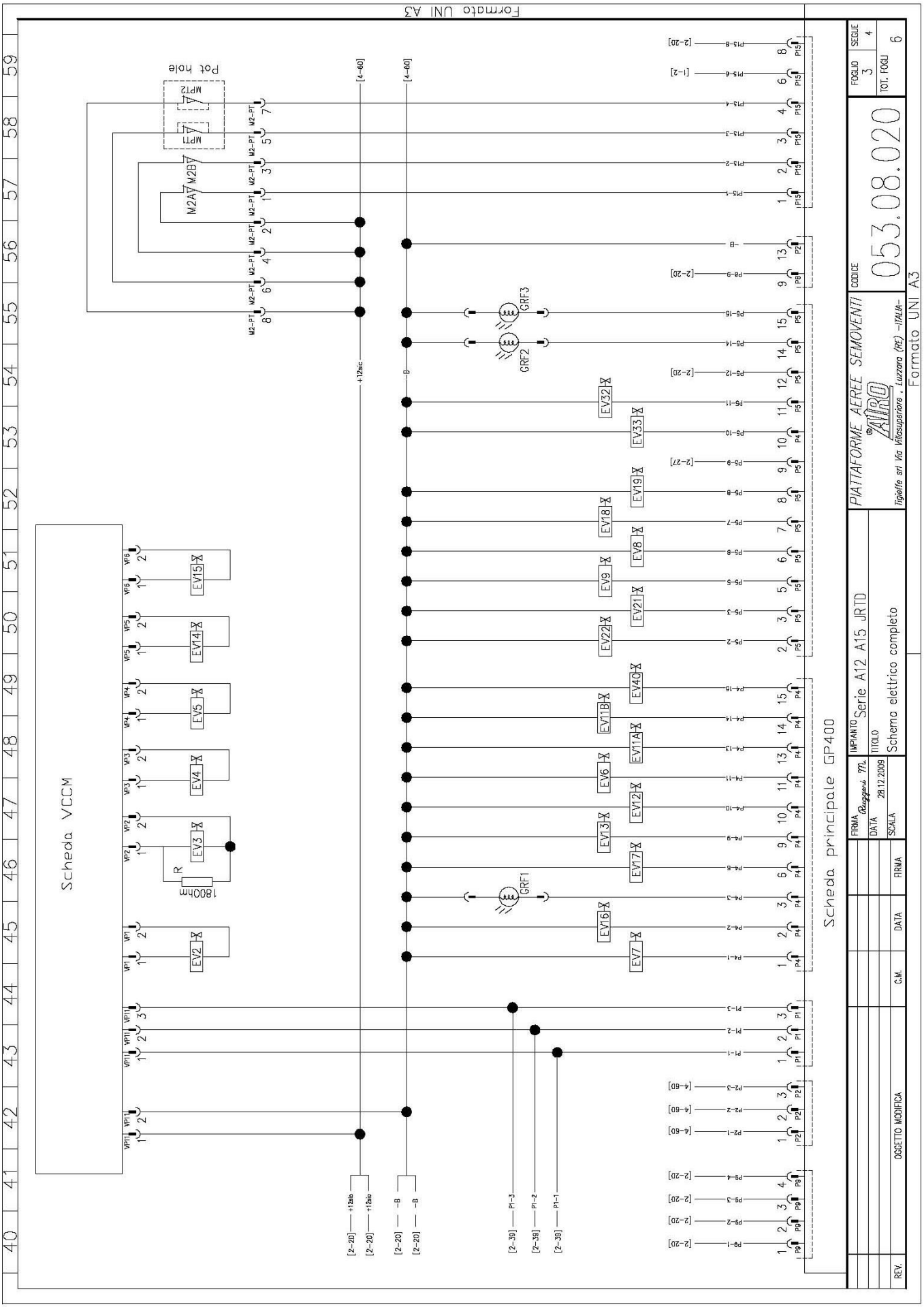
cod. 057.08.002
Scheda LED cod. 053.08.011
MATRIX
DISPLAY
TBM
POS
NEG
SAVG
SW1
SP1
F0
AV1
PIATTAFORME AEREE SEMOVENTI
AIRO
Tigliette srl Via Villasuperiore , Luzzara (RE) -ITALIA-
CODICE
053.08.020
IMPIANTO Serie A12 A15 JRTD
TITOLO Schema elettrico completo
DATA 28.12.2009
SCALA
FOGLIO 2
SEGUE 3
TOT. FOGLI 6
Formato UNI A3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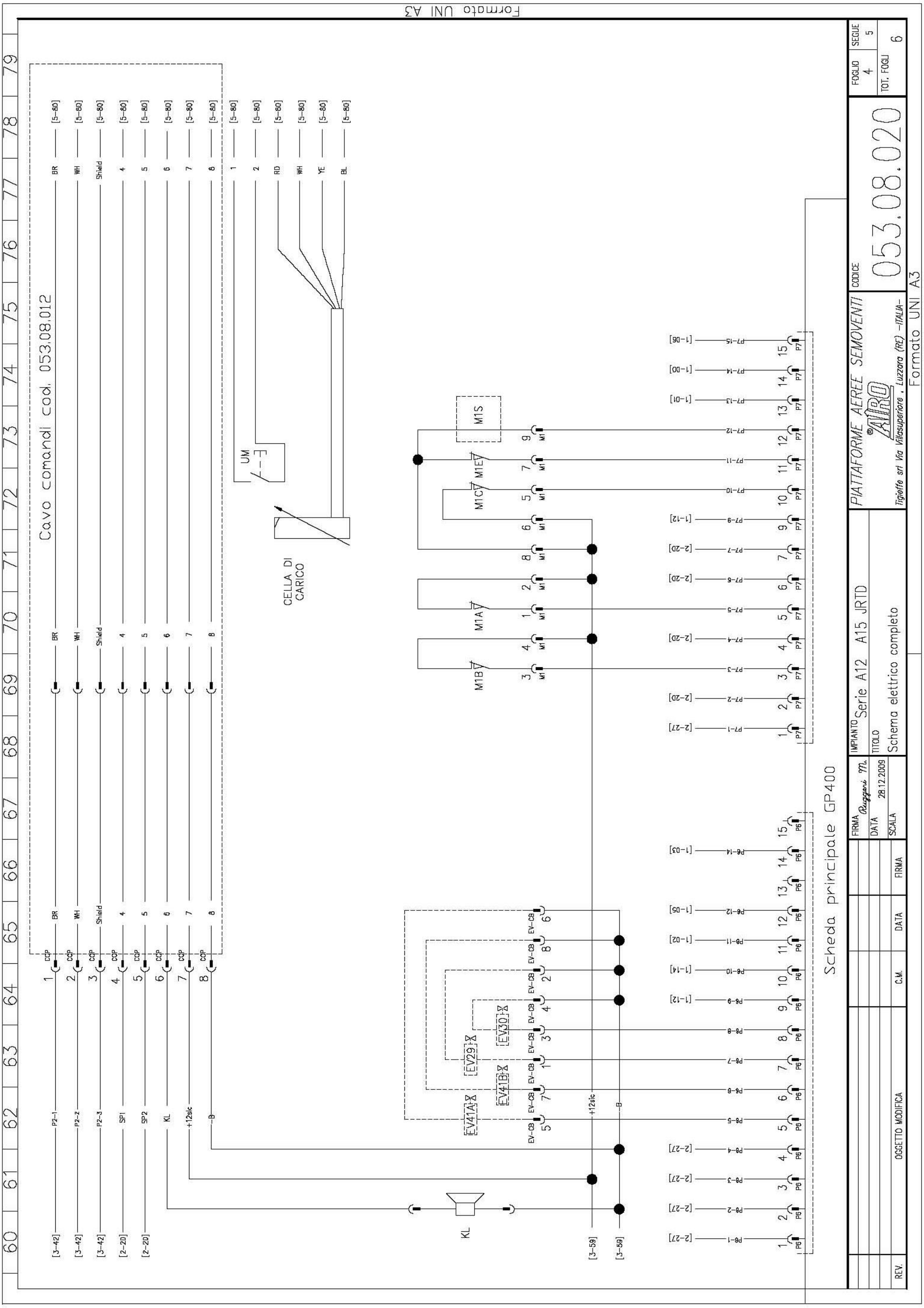
Schema principale GP400
Schema VCCM
PIATTAFORME AEREE SEMOVENTI
AIRO
Tigieffe srl Via Villasuperiore , Luzzara (RE) -ITALIA-
053.08.020
IMPIANTO Serie A12 A15 JRTD
TITOLO Schema elettrico completo
DATA 28.12.2009
SCALA
FIRMA Ruggeri M.
FOGLIO 3
TOT. FOGLI 6
SEGUE 4
Formato UNI A3
REV.
OGGETTO MODIFICA
DATA
C.M.
FIRMA
Pot hole
M2A
M2B
M2-PT
M-PT1
M-PT2
GRF1
GRF2
GRF3
EV1
EV2
EV3
EV4
EV5
EV6
EV7
EV8
EV9
EV11A
EV11B
EV12
EV13
EV14
EV15
EV16
EV17
EV18
EV19
EV21
EV22
EV32
EV33
EV40
R
180Ohm3
+12alc
-B
P1-1
P1-2
P1-3


Cavo comandi cod. 053.08.012
Scheda principale GP400
CELLA DI CARICO
UM
KL
M1S
M1A
M1B
M1C
M1E
EV29
EV30
EV41A
EV41B
PIATTAFORME AEREE SEMOVENTI
Tigieffe srl Via Villasuperiore , Luzzara (RE) -ITALIA-
IMPIANTO Serie A12 A15 JRTD
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CODICE 053.08.020
FOGLIO 4
SEGUE 5
TOT. FOGLI 6
DATA 28.12.2009
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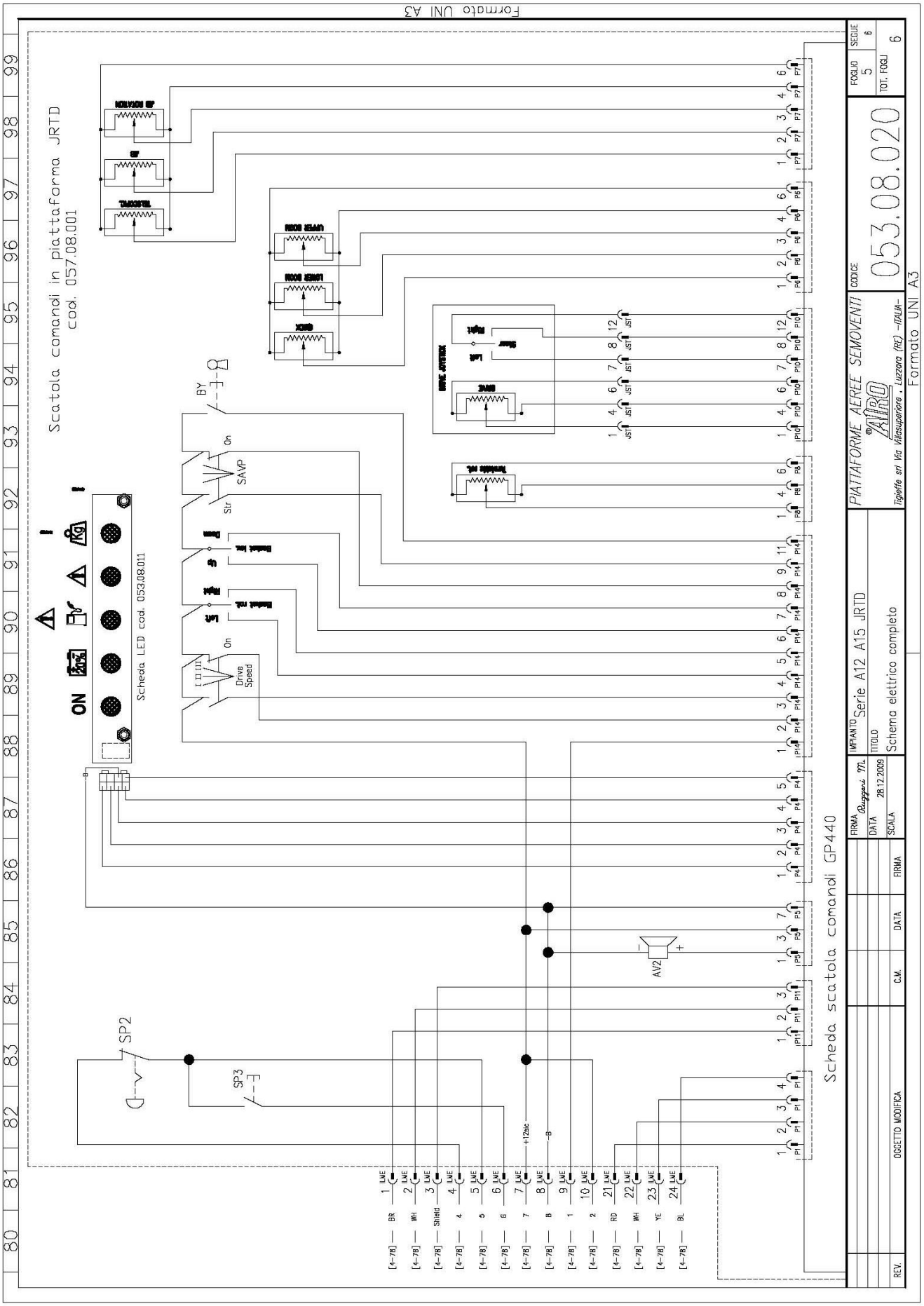
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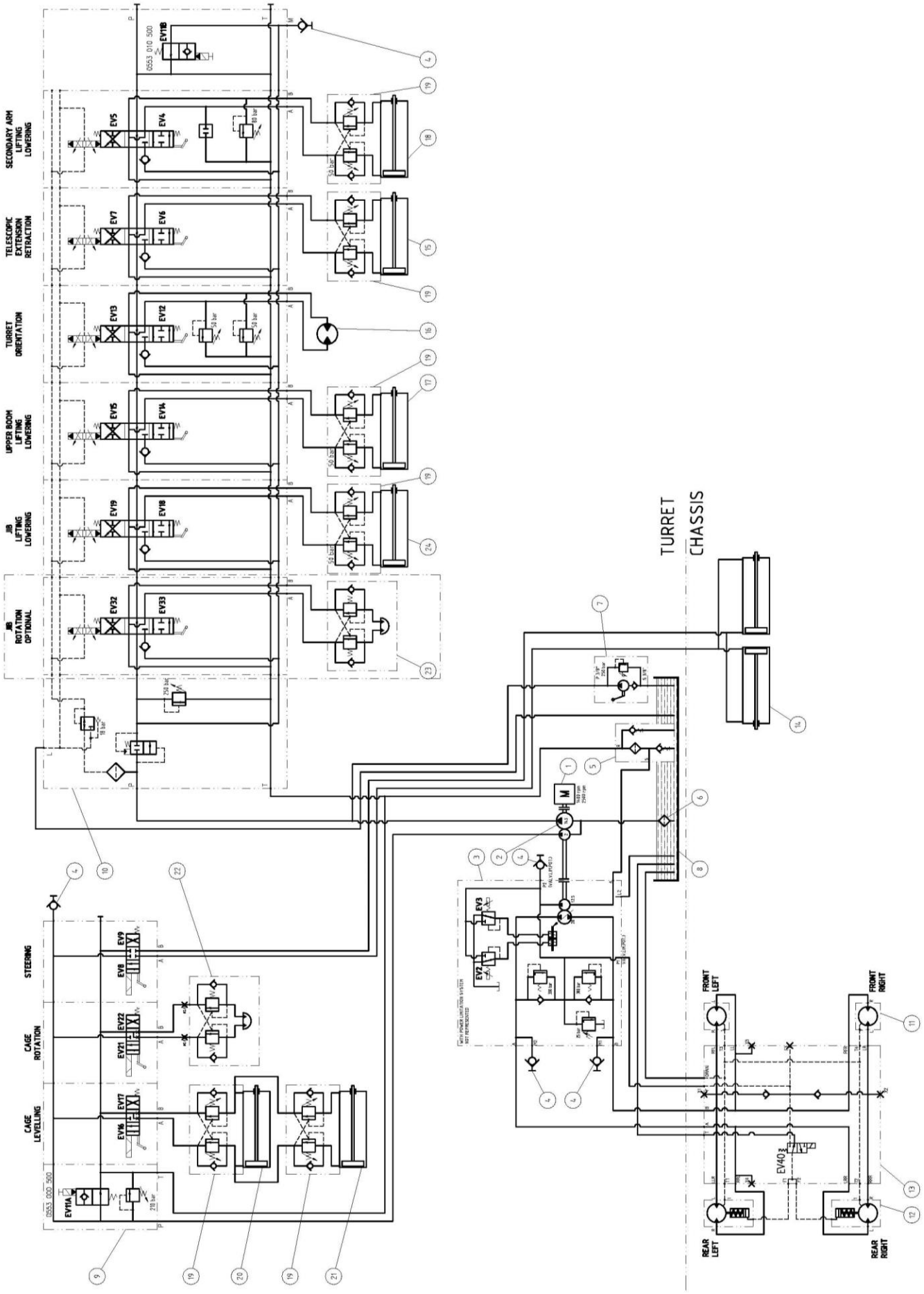
Scatola comandi in piattaforma JRTD
cod. 057.08.001
Scheda LED cod. 053.08.011
ON
BY
SAVP
Drive Speed
SP2
SP3
AV2
Scheda scatola comandi GP440
PIATTAFORME AEREE SEMOVENTI
AIRO
Tigieffe srl Via Villasuperiore , Luzzara (RE) -ITALIA-
CODICE
053.08.020
IMPIANTO Serie A12 A15 JRTD
TITOLO Schema elettrico completo
DATA 28.12.2009
SCALA
FIRMA
FOGLIO 5 SEGUE 6
TOT. FOGLI 6
Formato UNI A3

12. HYDRAULIC DIAGRAM

N°057.07.001

1	DIESEL ENGINE
2	GEAR PUMP (MOVEMENTS)
3	(DRIVE) PISTON PUMP
4	QUICK COUPLING
5	PRESSURE FILTER
6	SUCTION FILTER
7	EMERGENCY PUMP
8	OIL TANK
9	ON-OFF MOVEMENTS HYDRAULIC LOCK
10	PROPORTIONAL MOVEMENTS HYDRAULIC LOCK
11	FRONT HYDRAULIC MOTOR
12	REAR HYDRAULIC MOTOR
13	DRIVE HYDRAULIC BLOCK
14	STEERING CYLINDER
15	TELESCOPIC BOOM CYLINDER
16	TURRET ROTATION HYDRAULIC MOTOR
17	BOOM CYLINDER
18	PANTOGRAPH CYLINDER (LOWER BOOM)
19	OVER-CENTER VALVE
20	SENSOR CYLINDER (MASTER)
21	CAGE LEVELLING CYLINDER (SLAVE)
22	BASKET ROTATION ACTUATOR
23	JIB ROTATION joystick (OPTIONAL)
24	JIB CYLINDER
EV2	FORWARD DRIVE ELECTROVALVE
EV3	BACKWARD DRIVE ELECTROVALVE
EV4	PANTOGRAPH LIFTING SOLENOID VALVE (LOWER BOOM)
EV5	PANTOGRAPH LOWERING SOLENOID VALVE (LOWER BOOM)
EV6	ELECTROVALVE FOR BOOM EXTENSION
EV7	ELECTROVALVE FOR BOOM RETRACTION
EV8	ELECTROVALVE, LEFT STEERING
EV9	ELECTROVALVE, RIGHT STEERING
EV11A	BY-PASS SOLENOID VALVE
EV11B	BY-PASS SOLENOID VALVE
EV12	ELECTROVALVE, TURRET STEERING TO THE RIGHT
EV13	ELECTROVALVE, TURRET STEERING TO THE LEFT
EV14	ELECTROVALVE FOR BOOM LIFTING
EV15	ELECTROVALVE FOR BOOM DESCENT
EV16	ELECTROVALVE BASKET LEVELLING, FRONT
EV17	ELECTROVALVE BASKET LEVELLING, TO THE BACK
EV18	ELECTROVALVE FOR JIB LIFTING
EV19	ELECTROVALVE FOR JIB DESCENT
EV21	ELECTROVALVE BASKET SWIVELLING CLOCKWISE
EV22	ELECTROVALVE BASKET SWIVELLING ANTI-CLOCKWISE
EV32	CLOCKWISE JIB ROTATION SOLENOID VALVE (OPTIONAL)
EV33	ANTICLOCKWISE JIB ROTATION SOLENOID VALVE (OPTIONAL)
EV40	BRAKE OPENING CONTROL SOLENOID VALVE
EV41A	OSCILLATING AXLE UNLOCK SOLENOID VALVE (OPTIONAL)
EV41B	OSCILLATING AXLE UNLOCK SOLENOID VALVE (OPTIONAL)


SECONDARY ARM LIFTING LOWERING
TELESCOPIC EXTENSION RETRACTION
TURRET ORIENTATION
UPPER BOOM LIFTING LOWERING
JIB LIFTING LOWERING
JIB ROTATION OPTIONAL
STEERING
CAGE ROTATION
CAGE LEVELLING
TURRET
CHASSIS
FRONT LEFT
FRONT RIGHT
REAR LEFT
REAR RIGHT
EV1B
EV1A
EV2
EV3
EV4
EV5
EV6
EV7
EV8
EV9
EV16
EV17
EV18
EV19
EV21
EV22
EV32
EV33
EV40

13. FORMAT OF THE EC STATEMENT OF COMPLIANCE

AIRO È UNA DIVISIONE TIGIEFFE SRL - VIA VILLA SUPERIORE, 82 -42045 LUZZARA (RE)
TEL. +39 0522 977365 FAX +39 0522 977015

***DICHIARAZIONE* CE *DI CONFORMITA'* - CE *DECLARATION OF CONFORMITY* - *DECLARATION* CE *DE CONFORMITE'* - EG *KONFORMITÄTSERKLÄRUNG* - *DECLARACION* CE *DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ* EC**

EC2006/42

Dichiarazione originale	Original Statement of Compliance	Déclaration Originale	Originalerklärung	Déclaration Originale	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Dichiariamo sotto la nostra esclusiva responsabilità che il prodotto:	We attest that the following product:	Declarons sous notre responsabilitè exclusive que le produit :	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Piattaforma di Lavoro Elevabile, Mobile Elevating Work Platform,
Plates-forme Elévatrice Mobiles de Personnel
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Modello - Model - Modèle Typ – Modelo-МОДЕЛЬ	N° Chassis - Chassis No. N° Chassis - Fahrgestellnr - N° Chassis - Номер Рама	Anno - Year - Année Baujahr – Ano -Год
A12 JRTD	***XXXXXXXXXX***	***XXXXXXXXXX***

Al quale questa dichiarazione si riferisce è conforme alle direttive 2006/42/CE, 2014/30/CE, 2005/88/CE e al modello certificato da:	is compliant with the directives 2006/42/CE, 2014/30/CE, 2005/88/CE and with the model certified by:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE и сертифицированной модели из:

Eurofins Product Testing Italy Srl - Via Cuorgné, 21 10156 Torino - TO (Italia)

License no. 0477

con il seguente numero di certificazione:	with the following certification number:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

N.Certificato - Certificate No. - N° du certificat - Bestätigungnummer - N° de certificado – Номер Сертификата

XYZ

Moreover, it is compliant with the following Standards:	and with the following standards:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013+A1:2015 EN ISO 12100:2010 EN ISO 60204-1:2018

Il firmatario di questa dichiarazione di conformità è autorizzato a costituire il Fascicolo Tecnico.	The person signing this declaration is also the person responsible of the technical file.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-date-date-Datum-fecha-Дата

.....
Pignatti Simone
(Il legale rappresentante - The legal representative)

AIRO È UNA DIVISIONE TIGIEFFE SRL - VIA VILLA SUPERIORE, 82 -42045 LUZZARA (RE)
TEL. +39 0522 977365 FAX +39 0522 977015

DICHIARAZIONE CE *DI CONFORMITA'* - CE *DECLARATION OF CONFORMITY - DECLARATION* CE *DE CONFORMITE'* - EG *KONFORMITÄTSERKLÄRUNG - DECLARACION* CE *DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ* EC

EC2006/42

Dichiarazione originale	Original Statement of Compliance	Déclaration Originale	Originalerklärung	Déclaration Originale	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Dichiariamo sotto la nostra esclusiva responsabilità che il prodotto:	We attest that the following product:	Declarons sous notre responsabilitè exclusive que le produit :	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Piattaforma di Lavoro Elevabile, Mobile Elevating Work Platform,
Plates-forme Elévatrice Mobiles de Personnel
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Modello - Model - Modèle Typ – Modelo-МОДЕЛЬ	N° Chassis - Chassis No. N° Chassis - Fahrgestellnr - N° Chassis - Номер Рама	Anno - Year - Année Baujahr – Ano -Год
A15 JRTD	***XXXXXXXXXX***	***XXXXXXXXXX***

Al quale questa dichiarazione si riferisce è conforme alle direttive 2006/42/CE, 2014/30/CE, 2005/88/CE e al modello certificato da:	is compliant with the directives 2006/42/CE, 2014/30/CE, 2005/88/CE and with the model certified by:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE и сертифицированной модели из:

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License no. 0477

con il seguente numero di certificazione:	with the following certification number:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

N.Certificato - Certificate No. - N° du certificat - Bestätigungnummer - N° de certificado – Номер Сертификата

XYZ

Moreover, it is compliant with the following Standards:	and with the following standards:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013+A1:2015 EN ISO 12100:2010 EN ISO 60204-1:2018

Il firmatario di questa dichiarazione di conformità è autorizzato a costituire il Fascicolo Tecnico.	The person signing this declaration is also the person responsible of the technical file.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-date-date-Datum-fecha-Дата

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Pignatti Simone
(Il legale rappresentante - The legal representative)

AIRO is a division of ***TIGIEFFE SRL***
Via Villa Superiore, 82 - 42045 Luzzara (RE) ITALIA-
☏ +39-0522-977365 - 🖷 +39-0522-977015
WEB: www.airo.com – e-mail: info@airo.com