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

„T“ SERIES
T32 RTD T34 JRTD

USE AND MAINTENANCE MANUAL
- ENGLISH - ORIGINAL INSTRUCTIONS

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

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05-2017	• Manual issue.
05-2018	• Added / inserted on technical data sheets international system unit of measurement and US unit of measurement. • Changed Name and Surname of CEO.

Tigieffe thanks you for purchasing a product of its range, and invites you to read this manual. 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. The manual should be kept in a suitable place where no damage can occur to it. The content of this manual may be modified without prior notice and further obligations in order to add changes and improvements to the units already delivered. No reproduction or translation may take place without the written permission of the owner.

Contents:

1. INTRODUCTION

This Use and Maintenance Manual provides general instructions concerning the complete range of machines indicated on the cover. Therefore the description of their components, as well as control and safety systems, may include parts not present on Your machine since supplied on request or not available. In order to keep pace with the technical development ***AIRO-Tigieffe s.r.l.*** reserves the right to modify the product and/or the use and maintenance manual at any time without updating the units already delivered.

1.1. Legal aspects

1.1.1. Delivery of the machine

Within EU (European Union) member countries the machine is delivered complete with:
- Use and Maintenance manual in your language
- CE mark applied on the machine
- CE conformity declaration
- Guarantee certificate

Only for Italy:
- Declaration of commissioning to INAIL
- List of local INAIL departments
- Declaration of internal testing

It is to be noted that the Use and Maintenance Manual is an integral part of the machine and a copy of this, together with copies of the documents certifying that the periodical checks have been carried out, must be kept on board in its suitable container. In the event of a transfer of ownership the machine must always be provided with its use and maintenance manual.

1.1.2. Declaration of commissioning, first check, further periodical checks and transfers of ownership

The legal obligations of the owner of the machine vary according to the country of commissioning. It is therefore recommended to inquiry about the procedures in force in your country from the boards responsible for industrial safety. This manual contains a final section called "Check register" for a better filing of documents and recording of any modifications.

1.1.2.1. Declaration of commissioning and first check

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 checks are made by the already-mentioned parties within thirty days from a request being made. In the event of such time passing without these checks 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 responsibles of 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. Such document shall form an integral part of the machine documentation.

1.1.2.2. Further periodical checks

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

NB: If a machine without a valid control document should be moved in an area outside the competence of the usual inspection board, the owner of the machine must ask the inspection board, competent for the new territory where the machine is to be used, for the annual check.

1.1.2.3. Transfers of ownership

In case of transfer of ownership (in Italy) the new owner of the Aerial Platform must notify the ownership of the machine to the local competent inspection board (ASL/USL or ARPA or other qualified public or private services) by enclosing a copy of:

- Declaration of conformity issued by the manufacturer.
- Declaration of commissioning carried out by the first owner.

1.1.3. Operator 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 placed on the market, each MEWP undergoes the following tests:

- Braking test
- Overload test
- Operating test

1.3. Intended use

The machine described in this use and maintenance 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 equipment.
- The remaining load is represented by the material being worked.

In any case NEVER exceed the maximum capacity allowed as indicated in paragraph "Technical features”. Persons, tools and work materials can be loaded on the platform only from the access position (platform lowered). It is absolutely forbidden to load persons, tools and work materials on the platform when it is not in access position.
All loads must be positioned inside the platform. Do not lift loads (even if complying with the maximum capacity allowed) hanging from 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.
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.).
An overload controller stops the operation of the machine if the load on the platform exceeds by 20% approx. the nominal load (see chapter "General use rules”) and platform is lifted.
The machine cannot be used in areas where road vehicles operate. Always surround the working area by means of suitable signs when the machine is used in public areas.

Do not use the machine to tow trucks or other vehicles.
All types of machine use other than those for which it was designed must be approved in writing by the machine 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. **Leaving at height**

The work elevating platforms are not designed by taking into account the risks of the “leaving at height” because the only access position considered is when the platform is completely lowered. For this reason this activity is formally forbidden.
However, there are exceptional conditions in which the operator needs to access or leave the work platform not in the access position. This activity is normally defined as “leaving at height”.
The risks connected to the “leaving at height” do not depend exclusively on the PLE (work elevating platform) characteristics; a specific risk analysis carried out by the employer can authorize this specific use by taking into account:

- The working environment characteristics;
- The absolute prohibition to consider the work platform as an anchoring point for people working outdoors;
- The use of the machine at xx% of its performances to avoid that additional forces created by a specific operation or bending of the structure move away the access zone from the unloading zone. Provide for some tests in order to define these limitations;
- Provide for a specific evacuation procedure in case of emergency (for example: an operator always on the platform, one at the ground control panel while a third operator leaves the lifted platform);
- Provide for a specific training of the staff both as operator and transported staff;
- Equip the unloading zone with all the devices that are necessary to avoid the risk of fall of the staff that accesses/leaves the platform.

What said above is not a formal authorization of the manufacturer for the “leaving at height”, but it wants to supply information to the employer - who is fully responsible for that - which can be useful for the planning of this exceptional activity.

1.4. **Description of the machine**

The machine described in this use and maintenance manual is a Mobile Elevating Work Platform equipped with:

- motorized chassis equipped with wheels;
- hydraulically driven rotating turret;
- telescopic boom operated by hydraulic cylinders (the number of articulations and cylinders varies according to machine model).
- operator platform (the max. capacity varies according to the model - see chapter "Technical features”).

The chassis is motorized to allow the machine to move even when the platform is lifted (see “Use instructions”).
The machines can be delivered with the following drive and steering features:

- Four driving wheels, of which two steering and two fixed.
- Four steering and driving wheels.

Furthermore, to all the above combinations, it is possible to associate, optionally, a self-locking oscillating axle.
All driving wheels are equipped with hydraulic parking brakes, positive logic type (when drive controls are released brakes are automatically activated).
The axles are extandable to ensure the stability of the machine in the working configuration. With closed axles the machine reduces its width to allow for transport and movements with lowered boom.
The turret rests on a turntable fixed to the chassis and can be oriented (rotated) by 360° continuously around the central axle of the machine by means of geared motor with built-in hydraulic brake.
The lifting system, with telescopic boom, can be divided into three main structures:

- The first, consists of a lifting boom with telescopic extension.
- The second (only for the model T34) 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 over-center valves directly flanged on the same. These devices allow the booms to remain in position even if one of the supply tubes accidentally breaks.

The platform, hinged to the end of the telescopic boom (T32) or "jib" (T34), can be rotated by 180° totally (90° on the right and 90° on the left) by means of a rotary actuator fitted with over-centre valve. It is fitted with rails and toe boards of prescribed height (the rails height ≥ 1100 mm; the toe boards height ≥150 mm; in the access area the toe board height is ≥100 mm). The platform levelling is automatic and ensured by a hydraulic cylinder controlled by the control system of the machine through a double angular sensor that monitors the horizontality of the platform. The manual level compensation is possible by acting on the relevant control only with completely lowered booms (and with "Jib" inclination with respect to the horizontal axle ranging between +10° and –70°).

1.5. **Control panels**

The machine is equipped with two control panels:

- On the platform for normal use of the machine.
- On the turret (or on the ground) you can find the emergency controls to lower or stop the machine in emergency situations, a key-selector to select the control panel and to start the machine.

1.6. **Drive power**

The machines are powered by Diesel heat engine.
Both the hydraulic and the electric systems are equipped with all necessary protections (see electric and hydraulic circuit diagrams annexed to this manual).

1.7. **Machine life, demolition and decommissioning**

The machine has been designed to last for 10 years in normal operating environments, 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 consists mainly of 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 can be recycled at 90%.

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.
In case of demolition/decommissioning, carefully keep to the provisions of applicable regulations, especially as regards materials such as hydraulic oil and batteries.

1.8. **Identification**

In order to identify the machine, when spare parts and service are required, always mention the information given in the serial number plate. 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 the machine when no plate is available the serial number is also stamped on the chassis. To locate the plate and the stamp of the serial number, see the following picture. It is recommended to copy such data in the following boxes.

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

Fig.1

1.9. **Location of main components**

The picture shows the machine and its own components.

1) Control panel
2) Ground controls
3) Electric control unit
4) Hydraulic oil tank
5) Diesel fuel tank
6) Diesel Motor
7) Drive pump
8) Movement pump
9) Hydraulic drive gear motors
10) Turret rotation geared motor
11) 230V plug (optional)
12) Spirit level (optional) for visual check of machine levelling
13) Boom lifting cylinder
14) Starter battery
15) Steering hydraulic cylinders
16) Turret inclinometer
17) Tilt platform sensor platform
18) Limiting sensor of platform load (load cell)
19) Turntable
20) Emergency electric pump
21) 230V single-phase generator (optional)
22) Compressed air line on platform (optional)
23) Oscillating axle cylinders (optional)
24) Heat exchanger
25) Power circuit stop button
26) ANGLE/EXTENSION sensor
27) Jib cylinder

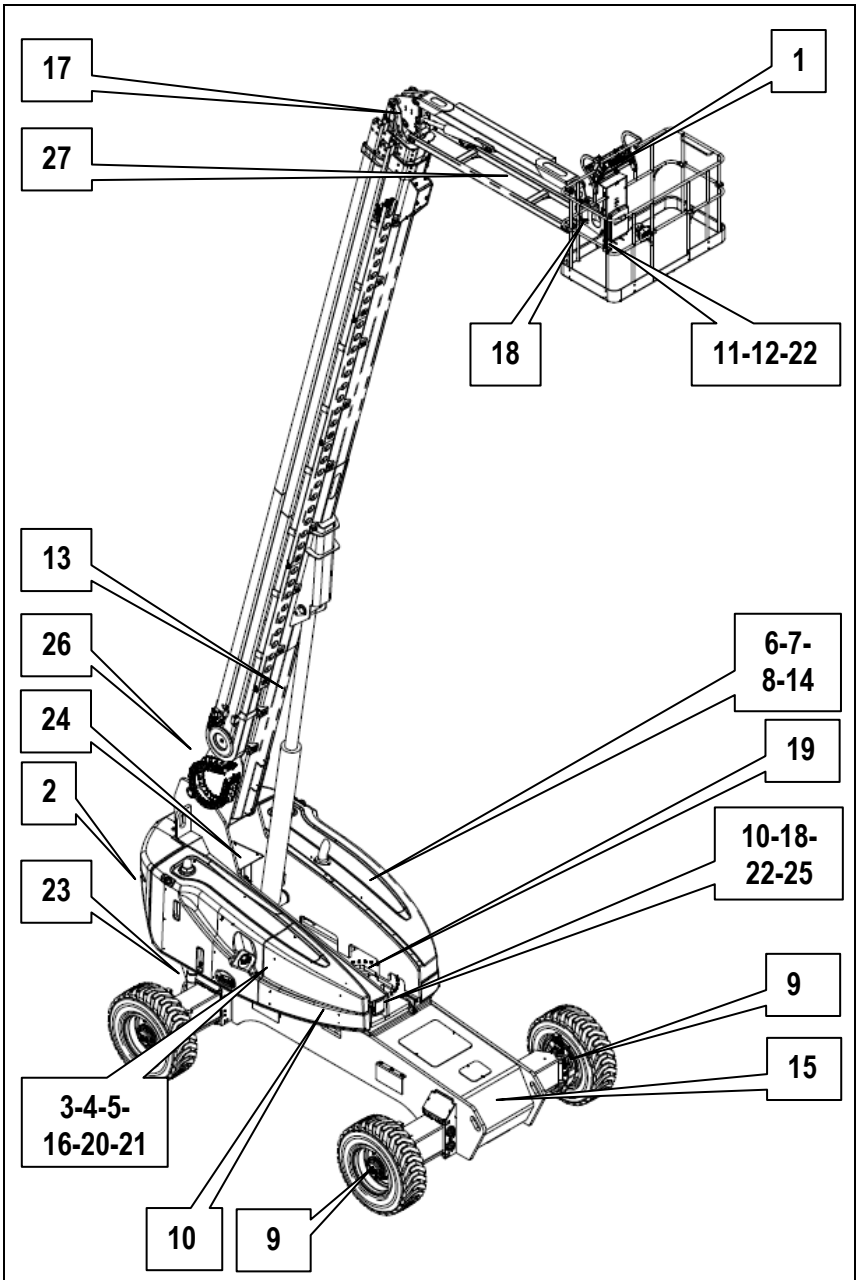


Fig. 2

2. TECHNICAL FEATURES OF STANDARD MACHINES

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

2.1. **Modello T32 RTD.**

		T32 RTD			
Dimensions:					
	Maximum working height	32.2	m	*105' 7"*	*ft*
	Max. platform height	30.2	m	*99' 0""*	*ft*
	Ground clearance	530	mm	*1' 8"*	*in*
	Max. outreach from turntable centre	24	m	*78' 8"*	*ft*
	Turret rotation (continuous)	360	°	*360*	°
	Platform rotation	180	°	*180*	°
	Platform height for safety speed activation	< 3.5	m	*11' 5"*	*ft*
	Internal steering radius 4WS - closed axles	3.4	m	*11' 1"*	*ft*
	External steering radius 4WS - closed axles	6.3	m	*20' 8"*	*ft*
	Internal steering radius 4WS - open axles	3.5	m	*11' 5"*	*ft*
	External steering radius 4WS - open axles	6.7	m	*21' 11"*	*ft*
	Maximum capacity (m)	340 / 230	Kg	*750 / 500*	*lbs*
	Max. number of people on the platform (n) – indoors	3 / 2		3 / 2	
	The tool and material weight (me) (**) – indoors	100 / 70	Kg	*220.7 / 154.5*	*lbs*
	Max. number of people on the platform (n) – outdoors	3 / 2		3 / 2	
	Tool and material weight (me) (**) – outdoors	100 / 70	Kg	*220.7 / 154.5*	*lbs*
	Maximum drive height	Max		*Max*	
	Maximum dimensions of platform (*****)	0.9 x 1.8	m	*2' 11" x 5' 10"*	*ft*
	Max. hydraulic pressure	350	Bar	*5076*	*psi*
	Max. pressure of lifting circuit	250	Bar	*3626*	*psi*
	Tyre dimensions (****)	Ø 1090 x 380	mm	*Ø45.9" x14.9"*	*in*
	Tyre type (****)	385/65-22,5		*385/65 - 22,5*	
	Transport dimensions	13.2 x 2.45 x 3.01	m	*43' 3" x8' 0"x 9' 10""*	*ft*
	Transport dimensions with retracted jib	N.A.	m	*N.A.*	*ft*
	Machine weight (unloaded) (*)	18600	Kg	*41000*	*lbs*
Stability limit:					
	Longitudinal inclination	5	°	*5*	°
	Transversal inclination	5	°	*5*	°
	Maximum wind speed (***)	12.5	m/s	*28*	*mph*
	Maximum manual force:	400	N	*90*	*lbf*
	Max. load per wheel	8500	Kg	*18700*	*lbs*
Performance:					
	Drive 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	200	Lt.	*52.6*	*gal*
	Gradeability	40	%	*40*	*%*
	Max. operating temperature	+50	°C	*122*	*°F*
	Min. operating temperature	-15	°C	*5*	*°F*

Diesel Power DEUTZ					
	Diesel engine type	TD2.9 L04			
	Max. motor power	55.5	kW	*75*	*hp*
	Adjusted Power	55	kW	*74.7*	*hp*
	Starter battery	12 / 220	V/Ah	*12 / 220*	*V/Ah*
	Total electrolyte quantity of battery	8	Lt.	*2.1*	*gal*
	Diesel oil tank capacity	150	Lt.	*39.6*	*gal*
380V three-phase electrical pump (optional)					
	Motor 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)					
	Motor power	NA	kW	*NA*	*hp*
	Max. absorbed current	NA	A	*NA*	*A*
	Max. drive speed	NA	km/h	*NA*	*mph*
Generator (optional)					
	Generator power	3.5	kVA	*3.5*	*kVA*
	Generated voltage	230	VAC	*230*	*VAC*
	Current	16	A	*16*	*A*
	Frequency	50-60	Hz	*50-60*	*Hz*

(*) In some cases different limits can be fixed. It is recommended to comply with the data shown on the machine plate.

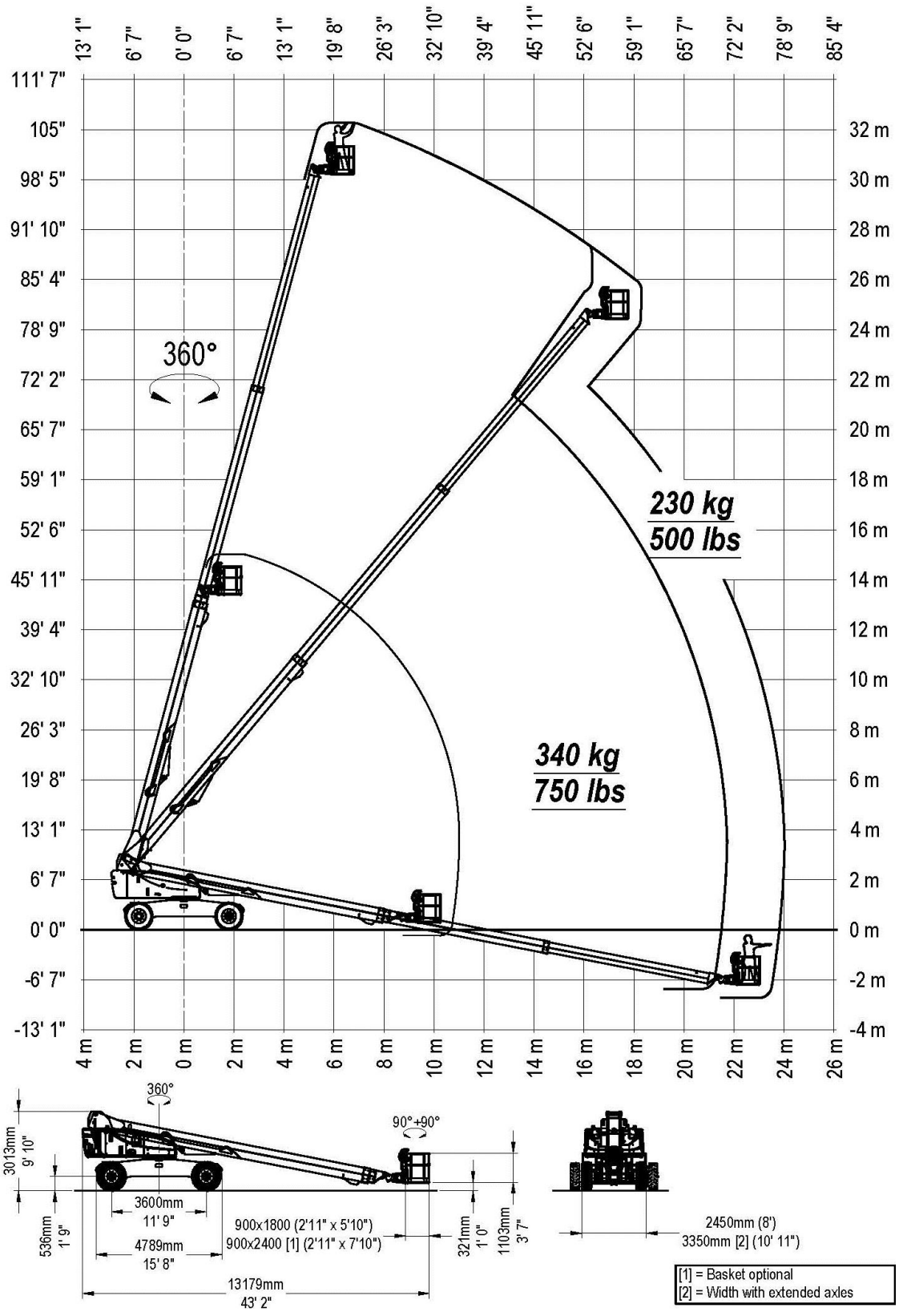
(**) me = m – (n x 80)

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

(****) Standard rough terrain tyres 385/65-22,5 filled with polyurethane foam

(*****) Standard steel platform 900x1800 mm; Optional steel platform 900x240 mm.

T32 RTD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6' 7"
13' 1"
19' 8"
26' 3"
32' 10"
39' 4"
45' 11"
52' 6"
59' 1"
65' 7"
72' 2"
78' 9"
85' 4"
111' 7"
105"
98' 5"
91' 10"
85' 4"
78' 9"
72' 2"
65' 7"
59' 1"
52' 6"
45' 11"
39' 4"
32' 10"
26' 3"
19' 8"
13' 1"
6' 7"
0' 0"
-6' 7"
-13' 1"
32 m
30 m
28 m
26 m
24 m
22 m
20 m
18 m
16 m
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10 m
8 m
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4 m
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-2 m
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4 m
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0 m
2 m
4 m
6 m
8 m
10 m
12 m
14 m
16 m
18 m
20 m
22 m
24 m
26 m
360°
230 kg
500 lbs
340 kg
750 lbs
360°
90°+90°
3013mm
9' 10"
3600mm
11' 9"
536mm
1' 9"
4789mm
15' 8"
900x1800 (2'11" x 5'10")
900x2400 [1] (2'11" x 7'10")
321mm
1' 0"
1103mm
3' 7"
13179mm
43' 2"
2450mm (8')
3350mm [2] (10' 11")
[1] = Basket optional
[2] = Width with extended axles

2.2. **Model T34 JRTD.**

		T34 JRTD			
Dimensions:					
	Maximum working height	34,6	m	*113' 6"*	*ft*
	Max. platform height	32,6	m	*106' 11"*	*ft*
	Ground clearance	530	mm	*1' 9"*	*in*
	Max. outreach from turntable centre	24	m	*78' 8"*	*ft*
	Turret rotation (continuous)	360	°	*360*	°
	Platform rotation	180	°	*180*	°
	Platform height for safety speed activation	< 3,5	m	*<11' 6"*	*ft*
	Internal steering radius 4WS - closed axles	3,4	m	*11' 2"*	*ft*
	External steering radius 4WS - closed axles	6,3	m	*20' 8"*	*ft*
	Internal steering radius 4WS - open axles	3,5	m	*11' 4"*	*ft*
	External steering radius 4WS - open axles	6,7	m	*21 '1"*	*ft*
	Maximum capacity (m)	340 / 230	Kg	*750 / 500*	*lbs*
	Max. number of people on the platform (n) – indoors	3 / 2		3 / 2	
	The tool and material weight (me) (**) – indoors	100 / 70	Kg	*220.7 / 154.5*	*lbs*
	Max. number of people on the platform (n) – outdoors	3 / 2		3 / 2	
	Tool and material weight (me) (**) – outdoors	100 / 70	Kg	*220.7 / 154.5*	*lbs*
	Maximum drive height	Max		*Max*	
	Maximum dimensions of platform (*****)	0,9 x 1,8	m	*2' 11" x 5' 11"*	*ft*
	Max. hydraulic pressure	350	Bar	*5076*	*psi*
	Max. pressure of lifting circuit	250	Bar	*3625*	*psi*
	Tyre dimensions (****)	Ø 1090 x 380	mm	*Ø45.9" x14.9"*	*in*
	Tyre type (****)	385/65-22,5		385/65-22,5	
	Transport dimensions	15,2 x 2,45 x 3,01	m	*49' 10" x 8' x 9' 10"*	*ft*
	Transport dimensions with retracted jib	12,3 x 2,45 x 3,01	m	*40' 4" x 8' x 9' 10"*	*ft*
	Machine weight (unloaded) (*)	19500	Kg	*42990*	*lbs*
Stability limit:					
	Longitudinal inclination	5	°	*5*	°
	Transversal inclination	5	°	*5*	°
	Maximum wind speed (***)	12,5	m/s	*28*	*mph*
	Maximum manual force:	400	N	*90*	*lbf*
	Max. load per wheel	8670	Kg	*19100*	*lbs*
Performance:					
	Drive 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	200	Litri	*52.6*	*gal*
	Gradeability	40	%	*40*	*%*
	Max. operating temperature	+50	°C	*122*	*°F*
	Min. operating temperature	-15	°C	*5*	*°F*

Diesel Power DEUTZ					
	Diesel engine type	TD2.9 L04		TD2.9 L04	
	Max. motor power	55,5	kW	*75*	*hp*
	Adjusted Power	55	kW	*74.7*	*hp*
	Starter battery	12 / 220	V/Ah	*12 / 220*	*V/Ah*
	Total electrolyte quantity of battery	8	Litri	*2*	*gal*
	Diesel oil tank capacity	150	Litri	*39.5*	*gal*
380V three-phase electrical pump (optional)					
	Motor 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)					
	Motor power	NA	kW	*NA*	*hp*
	Max. absorbed current	NA	A	*NA*	*A*
	Max. drive speed	NA	km/h	*NA*	*mph*
Generator (optional)					
	Generator power	3,5	kVA	*3.5*	*kVA*
	Generated voltage	230	VAC	*230*	*VAC*
	Current	16	A	*16*	*A*
	Frequency	50-60	Hz	*50-60*	*Hz*

(*) In some cases different limits can be fixed. It is recommended to comply with the data shown on the machine plate.

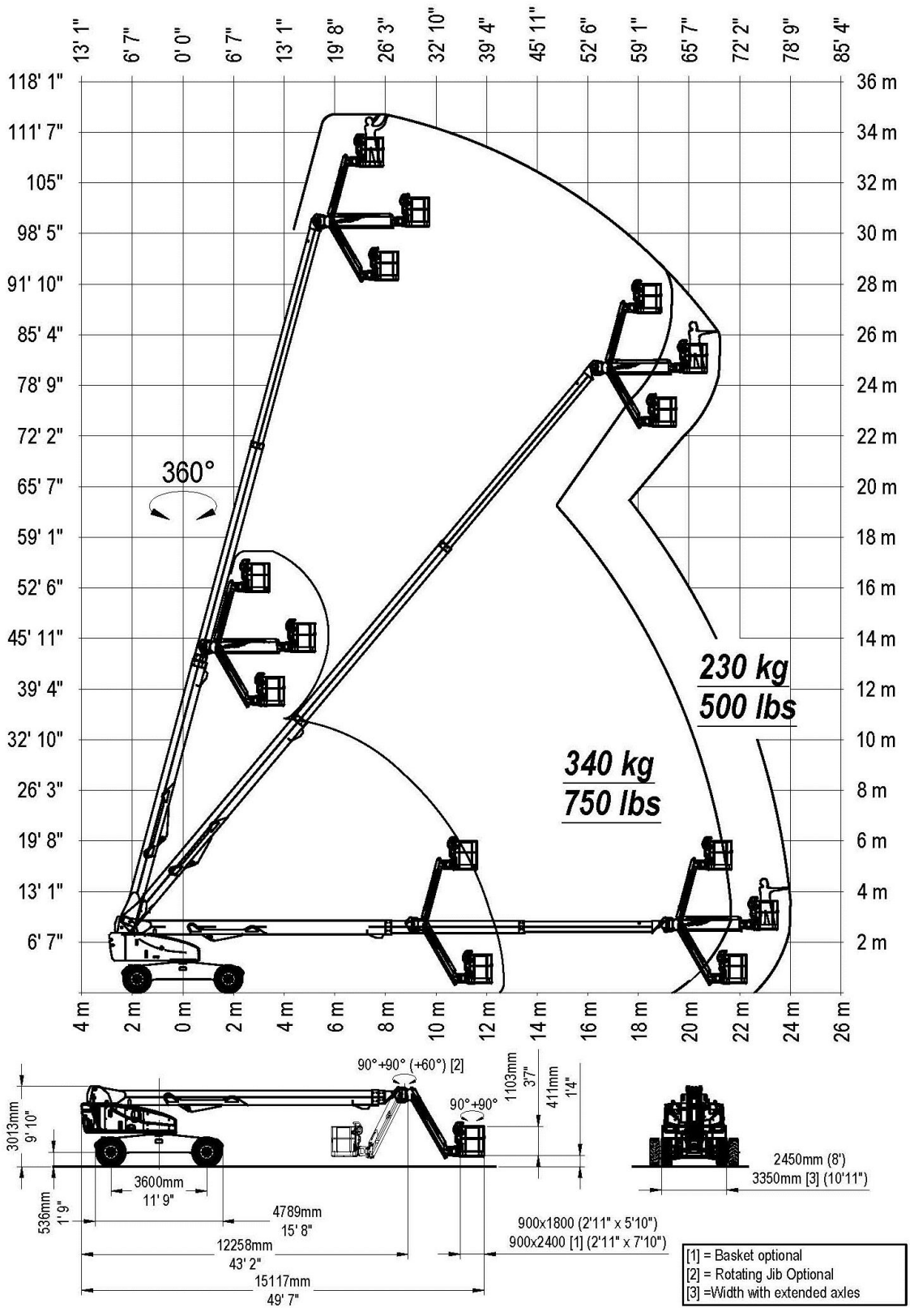
(**) me = m – (n x 80)

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

(****) Standard rough terrain tyres 385/65-22,5 filled with polyurethane foam

(*****) Standard steel platform 900x1800 mm; Optional steel platform 900x240 mm.

T34 JRTD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85' 4"
118' 1"
111' 7"
105"
98' 5"
91' 10"
85' 4"
78' 9"
72' 2"
65' 7"
59' 1"
52' 6"
45' 11"
39' 4"
32' 10"
26' 3"
19' 8"
13' 1"
6' 7"
36 m
34 m
32 m
30 m
28 m
26 m
24 m
22 m
20 m
18 m
16 m
14 m
12 m
10 m
8 m
6 m
4 m
2 m
360°
230 kg
500 lbs
340 kg
750 lbs
4 m
2 m
0 m
2 m
4 m
6 m
8 m
10 m
12 m
14 m
16 m
18 m
20 m
22 m
24 m
26 m
90°+90° (+60°) [2]
90°+90°
1103mm
3'7"
411mm
1'4"
3013mm
9' 10"
3600mm
11' 9"
536mm
1' 9"
4789mm
15' 8"
12258mm
43' 2"
15117mm
49' 7"
900x1800 (2'11" x 5'10")
900x2400 [1] (2'11" x 7'10")
2450mm (8')
3350mm [3] (10'11")
[1] = Basket optional
[2] = Rotating Jib Optional
[3] =Width with extended axles

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 electrical models.

For the Diesel engine models, 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 below **2.5 m/sec²** for each of the models to which this Use and Maintenance manual refers.
- The average weighted quadratic value in frequency of the acceleration which the body has to withstand is below **0.5 m/sec²** for each of the models to which this Use and Maintenance manual refers.

3. SAFETY PRECAUTIONS.

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 consolidation act on safety, **Law Decree 81/08,** has made the use of a safety harness mandatory.
The harness is attached to one of the anchorages reported by 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 intended for people carriage; therefore, it is necessary to comply with the current local regulations relevant to this class of machines (see paragraphs 1).
- At least two users must operate the machine, one of them on the ground, able to carry out the emergency operations 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 at any one time, the maximum capacity and the tool and material weight. Never exceed the indicated figures.
- Do NOT use the framework of the platform or any of its elements for grounding connection while welding on platform.
- It is absolutely forbidden to load and/or unload persons and/or material with platform not in the access position.
- It is the machine owner and/or safety manager's responsibility to check that the maintenance and repair operations are carried out by skilled personnel.

3.3. **Use instructions**

3.3.1. **General**

The electric and hydraulic circuits 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. The machine may not be used if the lighting conditions are not sufficient. The machine is not equipped with any lightening system.
- Before using the machine check its integrity and conservation 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 the mains supply. Follow the instructions given in the following paragraphs.
- Do not approach the electric and hydraulic system components with sources of heat or flames.
- Do not increase the max. allowed height by means of scaffolds, ladders or other.
- With the platform lifted, do not fasten the platform and/or the boom 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 in the technical specifications (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 in parking condition always protect the platform control panel by means of the specially provided cap (optional).
- Do not use the machine in areas where risks of fire or explosion exist.
- 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 handling the machine check that the connection plugs are disconnected from the power supply source. Always check the cable position during handling if the machine is powered with a 230V electrical pump.
- In order to avoid any instability, 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 driving the machine with lifted platform the operators are not allowed to place horizontal loads onto the platform (operators on board must not pull ropes, wires, etc.).
- The machine must not be used directly for road transport. Do not use it for material transport (see paragraph “Intended use”).

- Check that in the operating area there are not obstacles or other dangerous elements.
- Pay particular attention to the area above the machine during lifting to avoid any crushing and collisions.
- During operation keep your hands in safety position, the driver has to place them as shown in picture A or B while the transported operator has to keep them as shown in picture C.

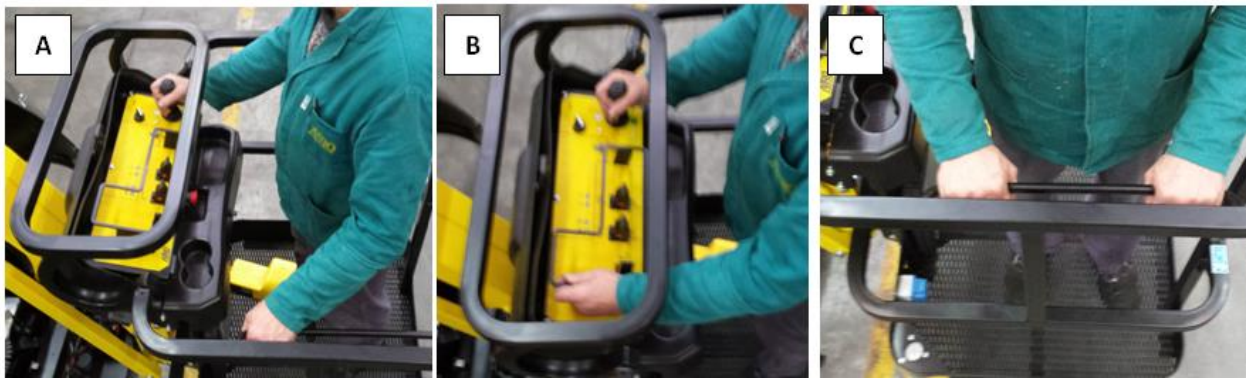


Fig. 4

3.3.3. **Operating procedures**

- The machine is equipped with a chassis inclination control system disabling lifting operations in case of unstable positioning. Working operations can be resumed only after placing the machine in a steady position. Should the audible alarm (only if the platform is lifted) and the red light on the platform control panel turn on, the machine is not correctly positioned (see paragraphs relevant to “Use instructions”). Bring it to low position before starting operations again. If the tilt alarm trips with the platform elevated, the only possible operations are those that allow lowering the platform.
- The machine is equipped with extandable axles. A system of sensors and a green light monitor and show the axle condition. Only with axles fully extended it is possible to reach all positions at height and with outreach (see work diagram).
- The machine is equipped with an overload controller stopping the platform in case of overloading when platform is at height higher than 3.5 mt. approximately from the ground. In case of platform overloading when lifted, also drive is disabled. Platform operation can be resumed only after removing the exceeding load. Should the audible alarm and the red light located on the platform control panel turn on, then the platform is overloaded (see chapter "Red warning light overload"). Remove the exceeding load before starting operations again.
- The machine is equipped with a control system of the workspace ("angle-extension” system) that, jointly to the control system of the platform load, limits the maximum outreach and/or the working height depending on the maximum load selected through the selector located on the platform (see chapters "Work capacity selector" and "Workspace red warning light") in accordance with the work diagram represented in the previous chapters.
- Electrical-powered machines feature a device for checking the state of battery charge (battery protection): when battery charge is at 20% the operator on the platform is informed of this condition through a flashing red light. In this condition lifting is disabled, battery should be immediately charged.
- Do not lean over the platform rails.
- Make sure that no people, apart from the operator, are in the area where the machine is operating. While moving the platform, the operator on board should pay particular attention to avoid any contact with the personnel on the ground.
- During operations in public areas, in order to prevent people other than the personnel from approaching the machine and being endangered, surround the working area by means of barriers or other suitable signs.
- Avoid severe weather conditions and, in particular, windy days.
- Lift the platform only if the machine is resting on solid and horizontal surfaces (following chapters).
- Drive the machine with lifted platform only if the ground is solid and horizontal.
- Do not use the thermic drive power (Diesel or Petrol motor) 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.
- Always place working tools in a steady position to prevent them from falling and hurting the operators on the ground.

When choosing the positioning point of the chassis, to prevent unexpected possible contacts with obstacles, always observe the figures carefully as these make it possible to identify the range of action of the platform (chap. 2).

3.3.4. **Wind speed according to 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.

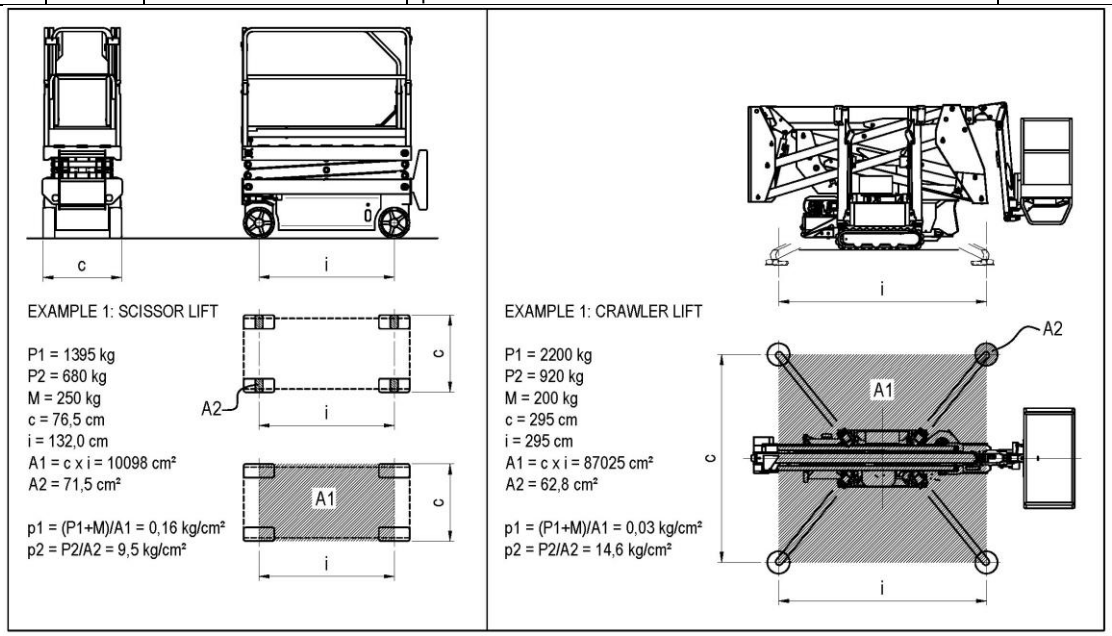
The machines for which the max. wind limit is 0 m/s must be used indoors only. These machines cannot be used outdoors even with no wind.

Beaufort Number	Wind speed (km/h)	Wind speed (m/s)	Wind description	Sea conditions	Land conditions
0	0	<0.28	Calm	Flat	Smoke rises vertically.
1	1-6	0.28–1.7	Light air	Ripples without crests. No whitecaps.	Wind motion visible in smoke.
2	7-11	1.7-3	Light breeze	Small wavelets. Crests of glassy appearance, not breaking.	Wind felt on exposed skin. Leaves rustle.
3	12-19	3-5.3	Gentle breeze	Large wavelets. Scattered white caps.	Leaves and small twigs constantly moving.
4	20-29	5.3-8	Moderate breeze	Small waves with breaking crests. Fairly frequent whitecaps.	Dust and loose paper raise. Small branches begin to move.
5	30-39	8.3-10.8	Fresh breeze	Moderate longer waves. Many whitecaps. Small amounts of spray.	Small trees in leaf begin to sway. Strong breeze
6	40-50	10.8-13.9	Strong breeze	Large waves with foam crests and some spray. Some airborne spray is present.	Large branches in motion. Umbrella use becomes difficult.
7	51-62	13.9-17.2	Near gale / Moderate gale	Sea heaps up and foam begins to streak. Some foam from breaking waves is blown into streaks along wind direction.	Whole trees in motion. Effort needed to walk against the wind.
8	63-75	17.2-20.9	Fresh gale	Moderately high waves with breaking crests forming spindrift. Streaks of foam. Breaking crests forming spindrift.	Some twigs broken from trees. Cars veer on road. Progress on foot is seriously impeded.
9	76-87	20.9-24.2	Strong gale	High waves whose crests sometimes roll over. Dense foam is blown along wind direction.	Larger branches break off trees, construction/temporary signs and barricades blown over, damage to circus tents and canopies.
10	88-102	24.2-28.4	Whole gale / Storm	Very high waves with overhanging crests. Large patches of foam from wave crests give the sea a white appearance. Large amounts of airborne spray reduce visibility.	Trees are broken off or uprooted. Considerable damage to structures.
11	103-117	28.4-32.5	Violent storm	Exceptionally high waves. Very large patches of foam cover much of the sea surface. Very large amounts of airborne spray severely reduce visibility.	Many roofing surfaces are damaged; asphalt tiles that have curled up and/or fractured due to age may break away completely.
12	>117	>32.5	Hurricane	Huge waves. Air is filled with driving spray, sea is completely white with foam and spray.	Some windows may break; mobile homes and poorly constructed sheds and barns are damaged.

3.3.5. **Pressure of the machine on ground and load-bearing capacity of ground**

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	It 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	Nominal Load	The max. load allowed for the work platform.	-
A1	cm²	Area occupied on the ground	Machine supporting area on the ground determined by the result of TRACK x WHEEL BASE.	A1 = c × i
c	cm	Track	Cross width of machine measured outside the wheels. or: Cross width of machine measured between levelling outrigger centres.	-
i	cm	Wheel base	Longitudinal length of machine measured between wheel centres. or: Longitudinal length of machine measured between outrigger centres.	-
A2	cm²	Wheel or levelling outrigger area	Wheel or levelling outrigger ground support area. The wheel support area on the ground must be verified empirically by the operator; the levelling outrigger support area depends on the shape of the support foot.	-
P2	Kg	Max. load on wheel or levelling outrigger	This represents the max. load that can be discharged onto the ground by a wheel or by a levelling outrigger when the machine is in the worst position and load conditions. 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 the ground split up by ground type.
Refer to the data contained in the specific tables of each model (chapter 2, TECHNICAL FEATURES OF STANDARD MACHINES) to obtain the figure relating to the max pressure on the ground caused by the single wheel.

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.

TYPE 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
Rock	15 - 30

Should you have any doubts, verify the load-bearing capacity with specific tests.
In case of constructed surfaces (concrete floors, bridges, etc.) the load-bearing capacity must be provided by the builder.

3.3.6. **High-voltage power lines**

The machine is not electrically insulated and is not protected in case of contact with or vicinity to power lines.
A minimum distance must be kept from the 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 Operation Checks or when using the machine, the operator discovers a defect that could produce a hazardous situation, the machine must be placed in **safety condition** (isolate it and affix a notice) and the employer must be notified about the fault.
- 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 condition** (isolate it and affix a notice) and the employer must be notified about the fault.
- In case of an accident with injuries to one or more operators, the operator on the ground (or on a platform not involved in the accident) must :
    - **Seek help immediately**
    - Perform the operation to return the platform to the ground **only if he is certain this will not make the situation worse.**
    - 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. Becoming acquainted 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 all the operators who use work equipment are adequately trained and in order with applicable health and safety legislation.

4.2. Preliminary operation checks.

Before using the machine read the instructions given in this manual and the concise instructions indicated on the platform plate.
Check the perfect integrity of the machine (by sight check) and read the plates showing machine operating limits.
Before using the machine the operator must always check visually 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 in safety.
- The wheels and drive motors are properly fixed.
- The wheels are in good condition.
- Make sure the rails are fastened to the platform and the gate/s are in automatic reclosing mode.
- The structure does not show clear faults (visually check welding of lifting structure).
- The instructions plates are perfectly readable.
- The platform control panel and the ground emergency control panel, dead-man system 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.

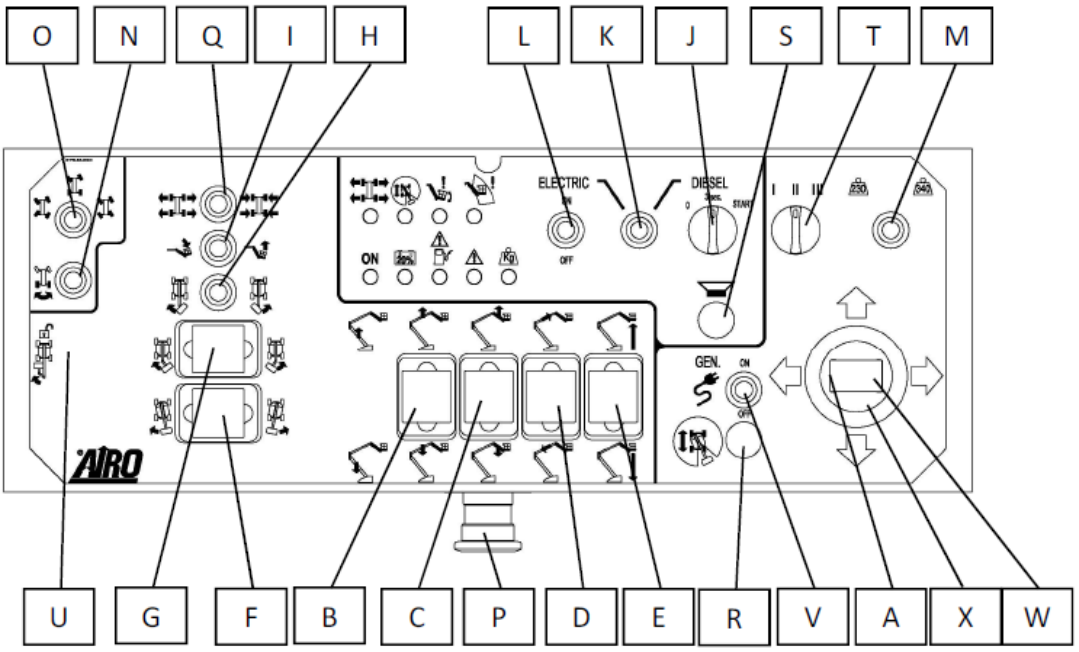
5. USE INSTRUCTIONS

Before using the machine read this chapter thoroughly.

WARNING!

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 on/off procedures as well as all operations and their correct use.

5.1. Platform control panel



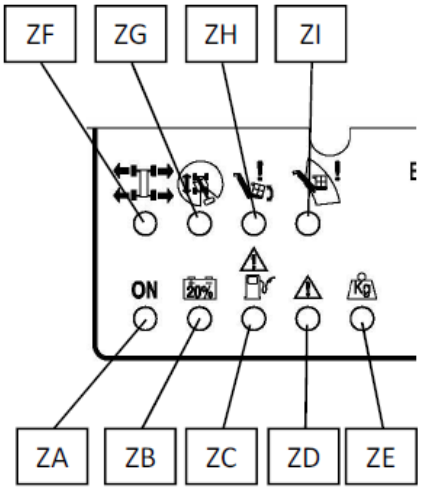


Fig.5

A) Drive proportional joystick control
B) Proportional lever control main boom up/down
C) Proportional lever control jib up/down (only model T34)
D) Proportional lever control telescopic boom out/in
E) Proportional lever control QUICK UP/QUICK DOWN (OPTIONAL)
F) Proportional lever control turret rotation
G) Proportional lever control jib rotation (OPTIONAL)
H) Platform rotation switch
I) Platform level switch
J) Diesel engine start button
K) DIESEL/ELECTRIC drive power selector
L) Emergency electric pump starting switch
M Work capacity selector
N) Rear axle steering switch
O) Steering mode selector
P) Emergency STOP button
Q) Extendable axle control switch
R) Translation enable button with rotated turret
S) Horn
T) Drive speed selector
U) Rotation enable button JIB >180° (only model T34)
V Generator starting switch (OPTIONAL)
W) Right steering switch, front axle
X) Left steering switch, front axle
ZA) Enabled control panel warning light
ZB) Low battery warning light (not active for Diesel models)
ZC) Diesel motor fault / low fuel level warning light (OPTIONAL)
ZD) Danger warning light
ZE) Overload warning light
ZF) Extendable axle position warning light
ZG) Rotated turret warning light
ZH) Tilted platform warning light
ZI) Reached outreach limit warning light
ZL) Dead-man 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, to operate the machine, it is necessary to press the platform dead-man pedal **ZL**. If the dead-man pedal is accidentally released while the machine is operating, the movement is immediately stopped.

WARNING!

Holding down the dead-man pedal for over 10 seconds without carrying out any operation will disable the control panel.

The control panel disabled condition is indicated by the flashing green led (ZA). To operate the machine again it is necessary to release the circuit-breaker and press it again; the green led (ZA) will light up steady and for the next 10 seconds all controls will be enabled.

5.1.1. **Drive and steering**

Before carrying out any displacement operation, verify that no people are in 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.

To drive the machine carry out the following operations in sequence:

a) Press dead-man pedal **ZL** located on the platform; the green led **ZA** will light up steady indicating its enabling.
b) Within 10 seconds from the green steady led lighting up, set the proportional joystick control **A** forward for forward drive or backward for reverse drive.

WARNING!!
Drive and steering controls can take place at the same time but they are interlocked with the platform movement controls (lifting/lowering/rotation). With platform lowered (boom down < 10°, telescopic boom in, jib at a height between +10° and –70°) simultaneous movement between STEERING-DRIVE-TURRET ROTATION, AXLES is possible to facilitate the machine positioning in narrow spaces.

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

NOTE: To achieve maximum drive speed, set the speed selector (T) to position (III), and press down the proportional joystick (A).
To operate on high ascending slopes (e.g. while loading the machine onto a truck) set the speed selector (T) to position (II).
To operate on high descending slopes (e.g. while unloading the machine from a truck) and get the minimum speed with lowered platform, set the speed selector (T) to position (I).

With platform lifted the safety drive speed is automatically activated.

To steer the front axle press buttons **W / X** placed on the drive proportional joystick control (by pressing the right button you get the steering to the right and vice versa); to steer the rear axle use switch **N.** The steering switch of the rear axle depends on the steering mode selected with selector **O.**
Also the steering control is enabled by the dead-man pedal and it is possible only if the green led **ZA** is lit up steady.

WARNING!! The machine is equipped with a monitoring sensor for drive pressure. This device cuts off the drive control (the machine stops temporarily) if the required power is higher than the one provided by the engine. To avoid the continuous intervention of the limiting device, it is recommended not to use the III drive speed with cold oil. The ideal oil temperature for a correct operation of the machine ranges between 50°C and 65°C. Operate with the machine for 5-10 minutes before controlling drive in III speed.

NOTE FOR MACHINES WITH 4 STEERING WHEELS:
If the steering mode with four discordant wheels has been selected (lower turning radius) the III drive speed is not enabled.

WARNING!! When the turret is rotated beyond a certain limit, the TRACTION, STEERING and AXLES controls are automatically disabled and the red warning light ZG is lit up steady. To reactivate the controls you need to press and release button R: The red warning light goes out and the TRACTION, STEERING and AXLES controls return active for the next 3 seconds.

5.1.2. **Extendable axles**

The machine is equipped with extandable axles. With axles in the retracted position (minimum track) it is possible to move the machine by means of the drive and steering controls with lowered platform (boom lowered < 10°, telescopic boom in, jib at a height ranging between +10° and - 70°).
To lift the platform it is necessary that the extendable axles are extended to the maximum position (maximum track).

Suitable sensors monitor the position of the extendable axles. When the platform is in the raised position, the axle control is automatically disabled.

The axle extension/retraction control is ONLY enabled simultaneously with a forward / backward drive control. When the machine is stopped, the axles control is automatically disabled.

To drive the machine carry out the following operations in sequence:

a) Press dead-man pedal **ZL** located on the platform; the green led **ZA** will light up steady indicating its enabling.
b) Within 10 seconds from the green steady led lighting up, set the proportional joystick control **A** forward for forward drive or backward for reverse drive, and at the same time, operate switch **Q** in the direction indicated on the control panel to obtain the extension or retraction of the extandable axles.

The green warning light ZF indicates the position of the extendable axles:
- **Steady green light: both axles are fully extended. All platform operations are possible;**
- **Flashing green light: one or both axles are located in an intermediate position. Platform lifting controls are disabled up to the specified limits.**
- **Green light OFF: both axles are fully retracted. Platform lifting controls are disabled up to the specified limits.**

WARNING!! When the turret is rotated beyond a certain limit, the TRACTION, STEERING and AXLES controls are automatically disabled and the red warning light ZG is lit up steady. To reactivate the controls you need to press and release button R: The red warning light goes out and the TRACTION, STEERING and AXLES controls return active for the next 3 seconds.

5.1.3. **Platform positioning movements**

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

a) Press the dead-man pedal located on the platform; the green led **ZA** will light up steady indicating its enabling.
b) Within 10 seconds from the green steady led lighting up set the proportional joystick control or the desired switch in the direction shown by the serigraphy on the control panel.

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.

⚠ **The platform positioning controls can be used simultaneously (unless otherwise indicated). Furthermore, the turret orientation can be operated at the same time as the drive and steering controls in lowered platform conditions (boom lowered <10°, telescopic boom in, jib at a height between +10° and –70°).**

⚠ **Suitable sensors monitor the position of the extendable axles. It is possible to reach all positions in height and outreach represented in the work diagram only when the axles are fully extended and the green warning light ZF is lit steady.**

5.1.3.1. Second boom lifting/lowering

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

5.1.3.2. Jib lifting/lowering (only model T34)

To lift/lower the JIB, use the proportional lever **C**.
Set the proportional lever **C** forward for lifting or backward for lowering.

5.1.3.3. Telescopic boom extension/retraction

To extend / retract the telescopic boom, use the proportional lever **D**.
Set the proportional lever **D** forward for extension or backward for retraction.

5.1.3.4. QUICK UP/QUICK DOWN (optional)

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

- Boom lifting/lowering
- Jib lifting/lowering (only model T34)
- Telescopic boom extraction/retraction

To carry out the QUICK UP/QUICK DOWN manoeuvre, use the proportional lever **E.**
Set the proportional lever **E** forward for quick lifting or backward for lowering.

5.1.3.5. Turret orientation (rotation)

To carry out the turret orientation (rotation), use the proportional lever **F.**
Set the proportional lever **F** 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 carrying").

With platform lowered (booms down <10°, telescopic boom in, jib at a height between +10° and –70°) simultaneous steering-drive-turret rotation is possible to facilitate the machine positioning in narrow spaces.

5.1.3.6. Jib rotation (optional T34)

To rotate the jib, use the proportional lever **G**.
Set the proportional lever **G** to the right for right rotation or to the left for left rotation.

The allowed Jib rotation is +/-90° during machine normal use when 230kg work capacity is selected (selector M).

When work selector (M) is in position "340 kg", jib rotation is disabled.

If the "340Kg" work capacity is selected and the rotating jib is rotated, the overload alarm is activated.

To reduce the transport dimensions of the machine it is possible, in conditions of platform lowered (booms lowered <10°, telescopic boom in, jib at a height ranging between +10° and -70°) to enable a rotation greater than 90° clockwise to bring the platform underneath the boom by holding down button U.

5.1.3.7. Platform rotation

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

5.1.3.8. Platform levelling

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

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.

The automatic levelling of the platform is controlled by a control device of the inclination. When, during a movement of the boom, the platform tilts excessively, the boom control which would worsen the situation, is automatically disabled, while the reverse control is available.
The condition is signalled by the red warning light ZH.

5.1.4. **Other functions of the platform control panel**

5.1.4.1. Work capacity selector

Through selector **M** it is possible to operate with two different capacities:

a) 340 kg including three persons
b) 230 kg including two persons.

Depending on the capacity selected, the LIFTING ANGLE AND TELESCOPIC EXTENSION controls are activated, which limit the working height and maximum outreach, according to the work diagram represented in CHAP.2.

5.1.4.2. DIESEL/ELECTRIC drive power selector

Through selector **K** it is possible to select whether to operate with:

a) Diesel motor (for the normal use of the machine) in Diesel
b) Emergency electric pump in ELECTRIC.

5.1.4.3. Diesel heat engine start button

By actuating the start button **J**:

- In “0” position the Diesel engine is off.
- In “3 sec” position the plugs pre-heating takes place (only for engines with plugs).
- In “Start” position the motor starts.

The button **J** is active if the selector **K** is located in DIESEL position.

5.1.4.4. Emergency electric pump starting switch

By actuating the start button **L**:

- In the "ON" position the emergency electric pump lights up, and it is possible to operate the boom controls for the recovery of the platform in the event of an emergency;
- In the "OFF" position the emergency electric pump is off.

The button **J** is active if the selector **K** is located in ELECTRIC position.

WARNING! The power by the 12V emergency electrical pump is only for platform lowering in case of faults in the main powers. Do not use it during normal work operations. After using the 12V emergency electric pump the battery may require charging by means of an external charger, before using the machine again.

5.1.4.1. Generator starting switch (OPTIONAL)

By actuating the start button **V**:

- In the "ON" position the generator (OPTIONAL) is turned on and the other machine controls are automatically disabled.
- In the "OFF" position the generator is off.

5.1.4.2. Manual horn

It warns that the machine is moving. It is manually operated by means of the press-button **S**.

5.1.4.3. Emergency stop button.

By pressing the red emergency STOP button **P** all control functions of the machine are stopped. Normal functions are enabled by rotating the button of 1/4 turn clockwise.

5.1.4.4. Warning lights.

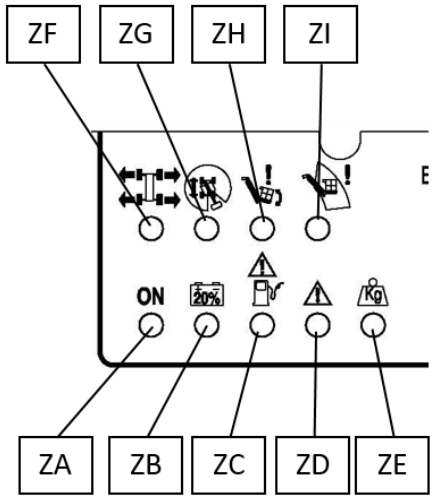


Fig. 6

5.1.4.4.1. Enabled control panel green warning light (ZA)

Lit up flashing when the machine is turned on. If the platform control panel has been selected and this light flashes the controls are not enabled because the dead-man pedal is not pressed or it was pressed for more than 10 seconds and no operation was performed.
On steady with machine on and dead-man pedal pressed for less than 10 seconds. With platform control panel all controls are enabled (unless other types of warning show up – see next paragraphs).

5.1.4.4.2. Flat battery red warning light (ZB) – (only active on electric models)

Flashing when the battery charge is at 20% (only models "E" or "ED" with current continuous electrical pump). In this condition lifting and telescopic boom extension are disabled. Batteries should be immediately recharged.

5.1.4.4.3. Diesel engine fault / low fuel red warning light (ZC)

This warning light indicates malfunctioning of diesel engine or low fuel.
On steady with machine on; platform control panel; Diesel drive power selected. Diesel Engine off ready for start-up. Insufficient motor oil pressure.
Slow flashing in the event of the engine head overheating. If on, it stops the Diesel motor; if off, it prevents the Diesel motor from starting.
Fast flashing in the event of low fuel (approx. 10 litres of fuel left). This warning is active only when the motor is running.

5.1.4.4.4. Danger red warning light (ZD)

It flashes quickly for 4 seconds together with the audible alarm at the machine start-up in case of fault during safety test on controls (pedal, joystick control, switches, etc).
It is lit up steady together with the audible alarm (just in case of lifted platform) when the chassis inclination exceeds the allowed value. All lifting operations and telescopic extension are disabled (except JIB lifting). If the machine is lifted, drive is also disabled. It is necessary to lower the booms completely and then place the machine onto a flat surface.
It flashes with a series of three flashes when the chains of extraction and/or retraction are slackened or faulty. If the platform is lifted, extraction and retraction of the telescopic boom are stopped, but all other functions are still possible to allow the platform to lower to the ground. With lowered platform, lifting of boom and telescopic extraction and retraction are stopped, but jib lifting and lowering remain active.

WARNING! The activation of this indicator warns of a dangerous situation since the machine or the platform have reached a dangerous inclination level for the machine stability.
When the chassis inclination exceeds the allowed value, to prevent increasing the overturn risk, the operator on the platform is recommended to retract the telescopic boom first and to lower it as the last operation.

5.1.4.4.5. Overload red warning light (ZE)

Lit up flashing with a platform overload exceeding 20% the nominal load. If platform is lifted, the machine is completely locked and the audible alarm is also activated. If the platform is lowered, the boom lifting and telescopic extension are disabled, while drive/steering, turret rotation and jib rotation are possible. Remove the overload before using the machine again.
Lit up steady with activation of the audible alarm in the event of a by-pass to the platform overload controller obtained through key selector. After reading the manual instructions, trained staff can carry out an emergency manoeuvre for platform lowering.

The machine can work according to a work diagram in which the maximum load lifted depends on selector M. Refer to the loads indicated in CHAP. 2.

WARNING! The activation of this indicator is a synonym of danger since the load at platform is exceeding or no overload controller is active upon signalling.
For adjustment or activation in emergency situations read the MAINTENANCE chapter.

5.1.4.4.6. Extendable axle position green warning light (ZF)

Warning light OFF when both axles are fully retracted.
Warning light flashing when one or both axles are neither completely retracted nor fully extended;
Warning light lit up steady when both axles are in the fully extended position.

The full operation of the machine is possible only with axles fully extended, i.e. when the green warning light ZF is lit steady.

5.1.4.4.7. Rotated turret red warning light (ZG)

Warning light off when the rotating turret is aligned (with a certain tolerance) to the drive direction. All machine controls are available.
Warning light lit up steady when the turret is not aligned with the drive direction. In this condition the DRIVE, STEERING, AXLES controls are automatically disabled. To enable the DRIVE, STEERING, AXLES controls, press button **R**: the red warning lights goes out and the controls are enabled for the next 3 seconds.

ATTENTION: The operator must monitor the correspondence of the coloured stickers which represent the drive and steering direction placed on the chassis and on the control panel, to understand how to operate the DRIVE and STEERING controls.

5.1.4.4.8. Tilted platform red warning light (ZH)

Warning light lit up steady with activation of the audible alarm (the latter only in condition of platform raised) with tilted platform > +/- 5° with respect to the inclination of the chassis. In this condition:

- The boom control is disabled (lifting or lowering) which increases the platform inclination, while the opposite control is available;
- The level correction control in the direction in which the inclination increases is disabled; levelling in the opposite direction is allowed.

5.1.4.4.9. Reached outreach limit red warning light (ZH)

Warning light lit up flashing when the platform is located at the edge of the workspace and a disabled control is activated due to this limit.
Warning light lit up steady when the platform is located outside the allowed work area. In this condition all movements are disabled.

5.2. Ground control panel and electric control unit

The ground control station contains some electronic boards necessary to operate the machine and to carry out safety checks.

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

The ground control panel is located on the rotating turret (see paragraph "Location of main components") and is 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.).
-

IT IS FORBIDDEN
To use the ground control panel as a workstation when personnel is on the platform.

Use the ground control panel only to start/stop the machine, to select the control panel or in emergency situations to allow the platform to be recovered.

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

Access to the electric control unit 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.

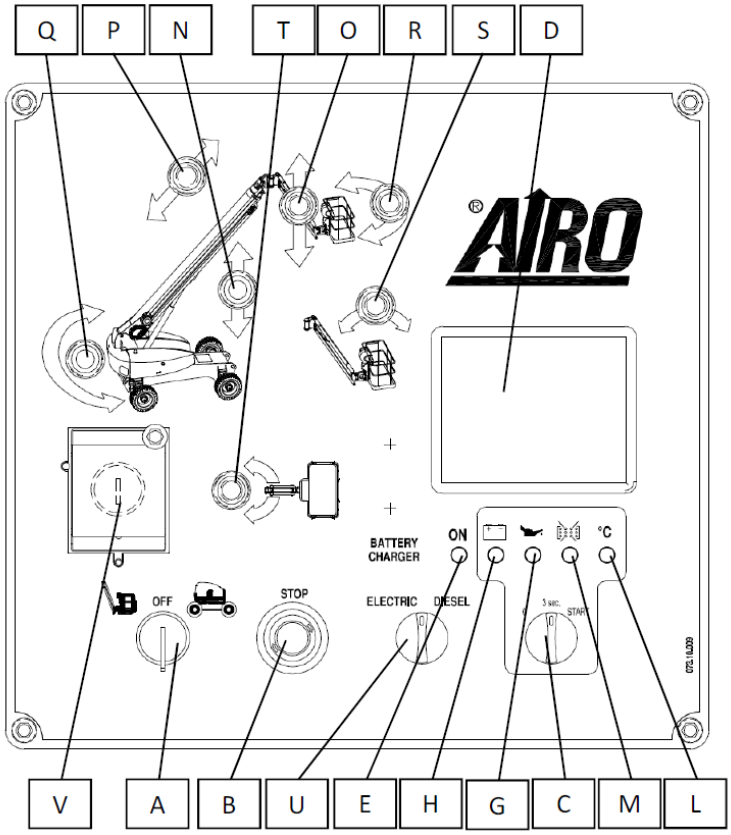


Fig. 7

A) ON-OFF key and ground/platform control panel selector
B) Emergency STOP button
C) Diesel heat engine start button
D) User interface display
E) Powered-on machine warning light
G) Oil warning light
H) Alternator warning light
L) Motor head temperature warning light
M Air filter warning light
N) BOOM LIFTING/LOWERING lever
O) JIB LIFTING/LOWERING lever
P) TELESCOPIC BOOM OUT/IN lever
Q) TURRET ROTATION lever
R) PLATFORM ROTATION lever
S) PLATFORM LEVEL compensation lever
T) JIB ROTATION lever (OPTIONAL)
U) ELECTRIC-DIESEL selector
V) EMERGENCY OVERRIDE emergency recovery enable

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

The on-off key located on the ground control panel is used to:
- Turn ON the machine by selecting one of the two control panels:
  - Platform control panel enabled with locking key switch set to platform symbol. Stable key position with possibility to extract the key.
  - Ground control panel enabled (for emergency operations) with locking key switch set to turret symbol. Position with action to be kept. When the key is released the machine is turned off.
- Turn OFF the control circuits by turning it to OFF.

5.2.2. **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.

5.2.3. **Diesel heat engine start button (C)**

Holding the ON-OFF key in position “ground control panel”, the Diesel motor can be started by means of the relevant switch.
- In “0” position the Diesel engine is off.
- In “3 sec” position the plugs pre-heating takes place (only for engines with plugs).
- In “Start” position the motor starts.

The button **C** is active if selector **U** is located in DIESEL position.

5.2.4. **User interface display (D)**

The multifunction display for machine/user interface is used to:
- Display the operation parameters of the machine during normal functioning or in the event of a fault;
- Working hours of Diesel motor (the working hours are displayed in the format HOURS:MINUTES and final letter E).
- Working hours of the optional emergency CC electrical pump (when 12V electrical power is selected the working hours are displayed in the format HOURS: MINUTES and final letter M).
- Working hours of the optional three-phase work pump (when 380V electric power is selected – at platform – the working hours are displayed in the format HOURS:MINUTES and final letter E).
-

- Charge level of the battery (only electrical models E).

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

5.2.5. **Powered-on machine warning light (E)**

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

5.2.6. **Diesel engine warning lights (G H L M)**

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

5.2.7. **Platform control levers (N O P Q R S T)**

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 down (ground control panel selected). We shall also remind you that the ground controls are to be used to operate the platform only in emergency situations and must not be used for any other purposes.

5.2.8. **ELECTRIC-DIESEL selector (U)**

With switch in position "DIESEL", keeping selected the platform control panel (ON-OFF key selector) the starting switch of the DIESEL engine is enabled.
With switch in position "ELECTRIC", keeping selected the ground control panel (ON-OFF key selector) the 12V emergency electric pump is turned on (with selector in position "ELECTRIC" the diesel engine cannot be started).

5.2.9. **EMERGENCY OVERRIDE emergency recovery enable**

It is a key selector which disables some safety controls for the emergency recovery of an incapable operator through the use of the ground controls. For the description of its operation please refer to the chapter **"Manual emergency controls".**

This function is used to recover an unable operator in case in which the ground control panel is not enabled due to some active safety functions.
The use of this function requires the use of a tool for removal of the protection. This removal represents the precise willingness of an operator on the ground to move the platform in the absence of some safety controls.

The operation of this function is timed in such a way as to prevent any abuse by the operator. Expired the set time, the machine is completely locked and requires the intervention of specialized personnel to restore normal operation.

It is absolutely forbidden to use the emergency recovery system EMERGENCY OVERRIDE as normal use of the machine.

5.3. **Platform access**

The “access position” is the only one from which loading or unloading of persons and materials is allowed. The “access position” to the work platform is the completely lowered configuration.

To get on the platform:
- Get on the platform hanging on to the entry guard rails.
- 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 provided hooks.

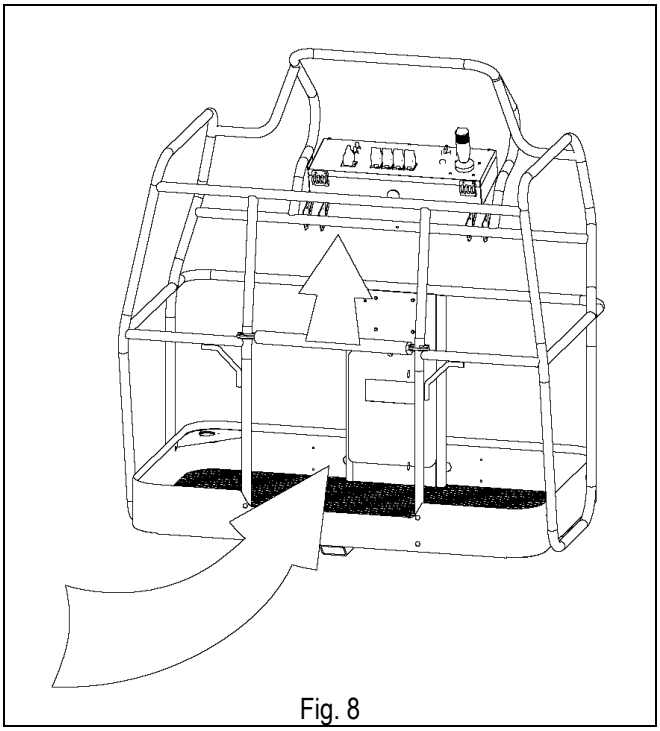


Fig. 8

To get on the platform use only the access equipment the platform is provided with.
When moving up or down, always keep your eyes on the machine and hold onto the entry stringers.

IT IS FORBIDDEN
To lock the closing bar so as to keep the platform access door open.

IT IS FORBIDDEN
Leaving or accessing the work platform if this is not in the position required for accessing or leaving is forbidden.
See also additional information in the chapter "Leaving at height".

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-up**

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 ground control panel to "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
- get onto the platform
- from the platform control panel (see next paragraphs) release the emergency stop button rotating it by 1/4 clockwise.

Before using the thermic drive power (Diesel or petrol motor) check the fuel level in the tank through the visual level on the tank.

Keep the fuel tank and the motor clean.

5.4.1. **Diesel engine start-up**

By turning the starter key on the platform control panel:

- In “0” position the Diesel engine is off.
- In “3 sec” position the plugs pre-heating takes place (only for engines with plugs).
- In “Start” position the motor starts.

Do not insist on the starting position for longer than 3 seconds. In the event of failed start, check the fuel level by means of the relevant indicator and read the Use and maintenance manual of the Engine.

Do not try to start the motor 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 operational faults, check the motor warning lights and read the Use and Maintenance manual of the motor.

NOTE: The Diesel engine can be started only if the dead-man pedal is neither pressed nor enabled. This means that the motor can be started only if the platform green warning light ON is flashing.

5.5. **Machine stop**

5.5.1. **Normal stop**

In normal operating conditions:

- By releasing the controls the operation is stopped. Stop occurs within a time limit set in the factory, which guarantees smooth braking.
- By releasing the dead-man 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**

Should it be necessary, the operator may immediately stop all machine functions on both platform and ground control panel.

On the platform control panel:

- Press the emergency stop button on the control panel and the machine is turned off.
- By releasing the dead-man pedal, the operation is immediately stopped. In the event of an immediate stop, braking is sudden.

On the ground control panel:

- By pressing the stop button on the ground control station (if available) the machine (all models) and the heat engine are stopped.
- By pressing the power emergency stop button, thus cutting out machine power (power circuit cut-out).

To resume the operations:

On the platform control panel:

- Turn the emergency stop button of 1/4 turn clockwise;

On the ground control panel:

- Turn the emergency stop button of 1/4 turn clockwise;
- Turn clockwise the red knob of the power circuit a 1/4 turn up to the complete engagement to restore the power supply to the machine.

5.5.3. **Diesel engine stop**

In order to stop the Diesel engine:

On the platform control panel:
- Turn the starter key anticlockwise to position “0”.
- Otherwise, press the emergency stop button.

On the ground control panel:
- Turn the starter key anticlockwise to position “0”.
- Otherwise, press the emergency stop button.

Do not stop the motor 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**

In the event of a need, to bring back the work platform to the ground, there are three modes of emergency control:

- By means of the normal ground control panel using the diesel drive;
- By means of the emergency electric pump using either the ground or the platform control panel;
- EMERGENCY OVERRIDE function by the use of the ground control panel.

5.6.1. **Emergency manual control: Use of the ground control panel.**

This function must be carried out only in case of an emergency, when the operator on the platform is not able to use the normal platform controls.

See instructions in chapter **Ground control panel and electric control unit**.

5.6.2. **Emergency manual control: Emergency electric pump**

This function is to be used only in emergency situations, when no motive power is available.
The function is active both on platform and ground ground control panel.

In the event of failure of the main power system (diesel engine) the emergency operations to return the platform to the ground can be carried out both from platform and ground control panel.

To start the emergency electrical pump by means of the **platform control panel:**

- Unlock the push-button (**P**) turning by a ¼ of turn clockwise.
- Set the power selector (**K**) to "Electric" position.
- Set switch (**L**) controlling the start of the emergency electric pump to **ON** position;
- Press and hold down the dead-man pedal as long as the desired operation has been carried out.
- Operate the controls of the machine as indicated in previous paragraphs.

To start the emergency electrical pump by means of the **ground control panel:**

- Select the ground control panel with the key switch on the ground control unit keeping it active.
- Set the power selector (**U**) to "Electric" position.
- In this condition the 12V emergency electrical pump is started, and the machine controls can be operated as indicated in previous paragraphs.

WARNING: The emergency control can be stopped at any time by releasing the controls, and/or setting the switch (L) to OFF position.

WARNING! The power by the 12V emergency electrical pump is only for platform lowering in case of faults in the main powers. Do not use it during normal work operations. After using the 12V emergency electric pump the battery may require charging by means of an external charger, before using the machine again.

5.6.3. **Emergency manual control: EMERGENCY OVERRIDE**

This function is to be used only in emergency situations when all these conditions are present:

- **The operator on the platform is incapable (injured or unconscious) i.e he is not able to use either the normal platform controls or the platform emergency controls.**
- **The emergency stop button (P) of the platform control panel is pressed and/or the overload alarm (in the event of operator trapped against an obstacle at height) and/or tilt alarm are active.**

The EMERGENCY OVERRIDE function can only be activated by the ground control panel by means of the following procedure:

1. Remove the fixing screw of the door (**L**) by means of a 10 mm hexagonal wrench**.** The 10 mm wrench is not supplied with the machine.
2. Remove the door **L** removing **the two lead seal.**
3. Set the key of the ON/OFF selector into the selector key EMERGENCY OVERRIDE **H** and rotate it clockwise, keeping it active, until the audible alarms of the machine reporting the activation of the function are activated.

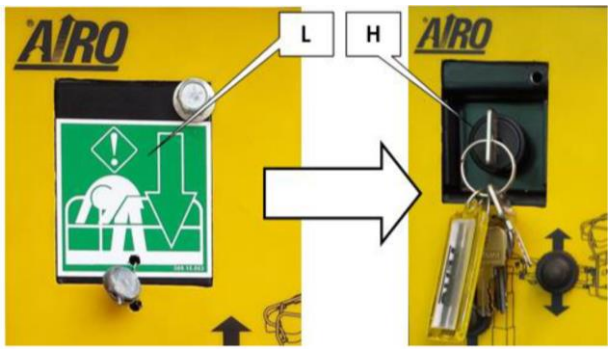


Fig. 9

4. Start the Diesel engine as specified in chapter **Ground control panel and electric control unit**.
5. With the platform levers bring the platform to the ground in the shortest possible time.
6. Once the booms will be completely lowered, the normal work controls can no longer be used but only the controls allowing the movement and transport of the machine will be possible in order to remove it from the area of the accident.

WARNING! The EMERGENCY OVERRIDE function is only for the quick recovery of an operator blocked at height because trapped and/or unconscious. During the activation of the FACTORY OVERRIDE function, the functions of the inclination control system and those of the overload controller and the platform emergency stop are not enabled. IT IS FORBIDDEN to use this function for different purposes.

A timer limits the use of the function to a maximum time of 30 minutes, beyond which the machine is automatically locked.

Do not use the machine if the protection door of the emergency of the system FACTORY OVERRIDE is absent, or if it's missing the leaded seal.

CALL THE TECHNICAL SUPPORT TO RESTORE THE SEAL AND THE MACHINE FUNCTION BY MEANS OF UNLOCK PASSWORD.

5.7. **Socket for electric tool connection (Optional)**

5.7.1. **230v power line (OPTIONAL)**

The work platform can be equipped with a socket (230V Ac) enabling the operator to connect the electric tools necessary to carry out his operations.

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.

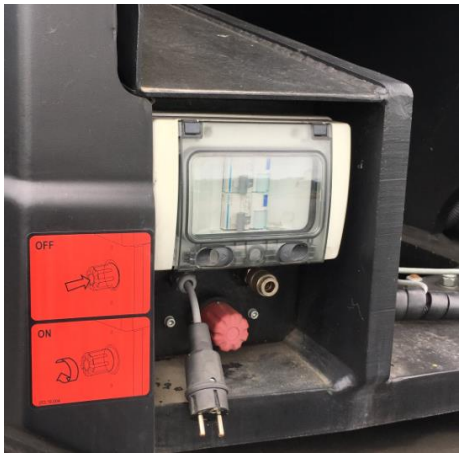


Fig. 10

The plugs and sockets equipped on standard machines comply with EEC standards and can therefore be used in EU member countries. On request the machine can be equipped with 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
- Activated grounding line.
- Working protection devices according to current standards in force.
- Do not use extension leads exceeding 5 metres to connect to the mains.
- Use a cable of suitable section (min 3x2.5 mm^2).
- Do not use rolled-up cables.

5.7.2. **Hydraulic generator (OPTIONAL)**

In addition or alternatively to the 230V POWER LINE described in the previous paragraph it is possible to install on the machine an HYDRAULIC CURRENT GENERATOR (**A)** for supplying the 230V power line on the platform.

As described in the relative paragraph, by activating switch **V**:

- In the "ON" position the generator (OPTIONAL) is turned on and the other machine controls are automatically disabled.
- In the "OFF" position the generator is off.

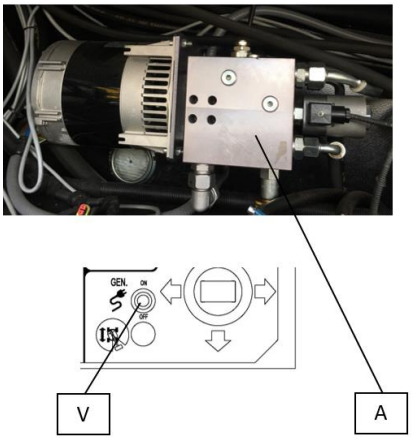


Fig. 11

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

Before using the thermic drive power (Diesel engine) check the fuel level in the tank.

This operation is to be carried out by visually checking the fuel level through the visual level on the tank.

- Visually check the fuel level before starting to work.
- Keep the fuel tank and the motor clean.

5.9. **End of work**

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 ground control panel.
- Press the power Stop button which disconnects the battery from the power circuit of the machine;
- Remove the keys from the control panel to prevent unauthorized people from using the machine.
- Re-fuelling.

6. HANDLING AND CARRYING

6.1. Handling

During transport on other means (e.g. on trucks) lock the turret rotation by the mechanical lock (see figure aside: picture **A** shows the mechanical lock in the LOCKED position).

Before using the machine, make sure that the mechanical lock device of the turret is disabled (see figure aside: picture **B** shows the mechanical lock in FREE position).

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

When the platform is completely lowered (boom down <10°, telescopic boom completely in and jib at a height between +10° and –70° with respect to horizontal axis) the machine can be handled (i.e. drive can be performed) at different speeds to be freely selected by the user.

When the platform is lifted and exceeds a given height, the enabled machines (see chapter “Technical Features) can be driven at a reduced speed (automatically) up to the height specified in chapter “Technical Features”.

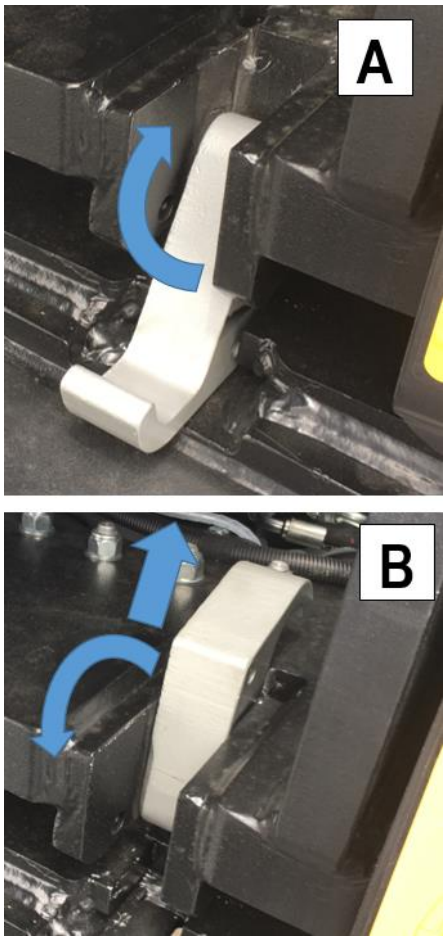


Fig. 12

WARNING!
Drive with 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 the bodies of Health and Safety at work.

It is absolutely forbidden to drive the machine when platform is lifted unless the ground is horizontal, flat and steady.

Before carrying out any displacement operation, verify that no people are in proximity of the machine and in any case proceed with the utmost caution.

Before handling the machine check that the connection plugs are disconnected from the power supply source.

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

Do not use the machine to tow other vehicles.

Before steering and driving the machine, check the actual position of the rotating turret through the relevant stickers on the chassis to achieve the correct movement direction.

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.).

When moving, be careful not to hit the ground with the platform. To avoid any platform contact with the ground raise the boom slightly before each movement.

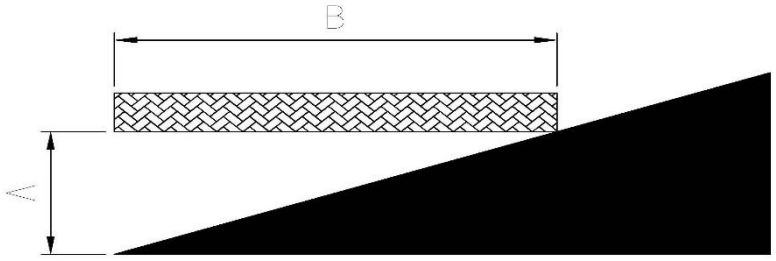
6.2. **Carrying**

In order to carry the machine to the various working sites, follow the instructions given below. Considering the large dimensions of some models, before carrying, it is recommended to inquire about the overall dimension limits for road transport in force in your country.

Before carrying 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 deriving from sudden movements.
For safety reasons never lift or tow the machine by means of its booms or platform.
Loading operations are to be carried out on a flat surface with a suitable capacity, after setting the platform to rest position.

To carry the machine the operator shall load it onto a vehicle either:

- **By means of loading ramps and translation controls** located on the platform to load it directly onto the machine (if ramp slope is within the gradeability described in paragraph "TECHNICAL FEATURES" and ramp capacity is adequate to weight) according to the instructions given in paragraph "USE INSTRUCTION" under paragraph "Drive and steering" for correct operation of drive controls. During the loading operation following this system, it is best to slightly raise the main boom (not over +10° with respect to the fully lowered position to prevent the safety speed from being activated) and the Jib (not over +10° with respect to the horizontal to prevent engaging the safety speed) to prevent the platform knocking against the ground. Pay attention not to further raise the boom and the jib during this operation to prevent the emergency microswitches from being activated, which in case of inclined machine disable all the manoeuvres except the lowering ones. During loading, position the machine so as to keep the counterweight uphill.
  If the slope exceeds the gradeability, the machine is to be towed by means of a windlass only if the operator on the platform simultaneously activates the drive control to release the parking brakes. The gradient 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 features) connected to the provided holes as indicated in the picture aside, considering the centre of gravity of the machine specified with **G**. Use suitable lifting accessories (e.g. "lifting beam") to avoid any damage to the machine and to keep it levelled during lifting.

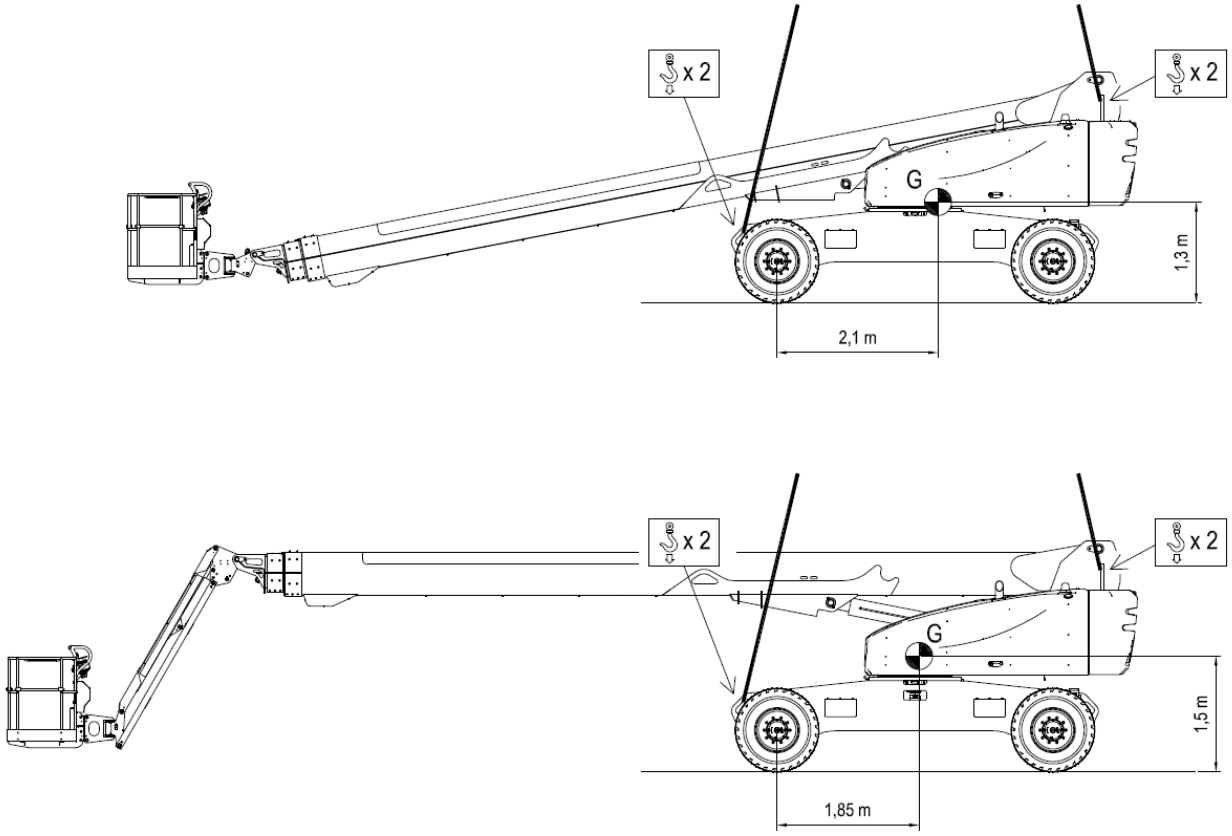


Fig. 13

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 to the vehicle base by tying the platform.

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

Before carrying the machine check the stability grade. 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 towing of the machine**

In the event of a fault, carry out the following operations to tow the machine:

- Hook the machine to the provided holes.
- Loosen the three fixing screws of the central covers of all drive reduction gears (the reduction gears are 2 if the machine has two driving wheels or 4 if it has four driving wheels).
- Remove all the covers and insert them again upside down exercising some pressure to withstand the resisting force of a spring inside the reduction gears and tighten the fixing screws. Now the machine is without the parking brakes.
- Tow at a very slow speed (remember that when the machine is being towed, brakes are out of order).

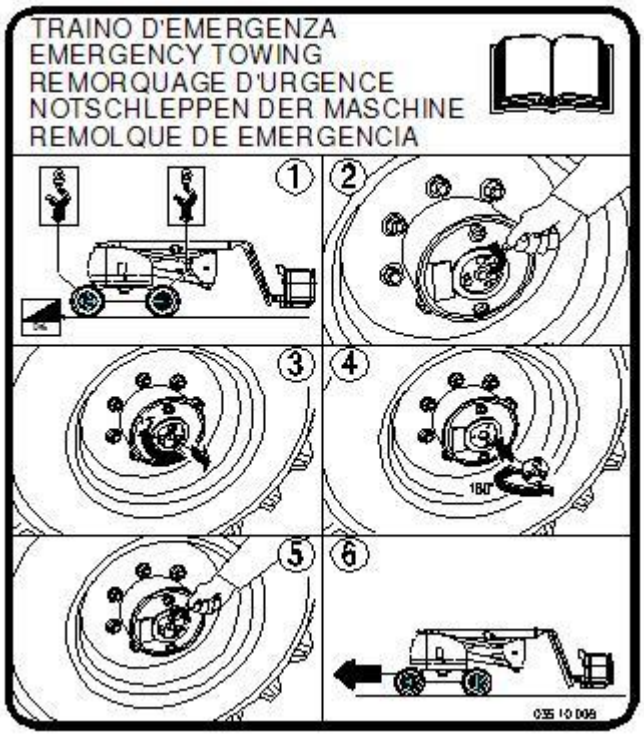


Fig. 14

WARNING! THIS OPERATION MAY CAUSE OIL LEAKAGE FROM THE DRIVE REDUCTION GEARS.

To resume the normal operation, set back the machine to initial conditions and, if necessary, top up the oil level inside the drive reduction gears.

⚠

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

Tow only on a flat ground.

Do not park the machine without brakes on.

With the brakes off, put wedges under the wheels to prevent the machine from moving accidentally.

7. MAINTENANCE

- **Always carry out maintenance operations with machine at a standstill position, after having removed the key from the control panel, and with the platform in rest position.**
- **The maintenance operations described below refer to a machine with ordinary working use. In case of difficult conditions of use (extreme temperatures, corrosive environments, etc.) or following long machine inactivity, it will be necessary to contact the AIRO assistance service to change the intervention 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 current work safety regulations (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 Support.**
- **During interventions, check that the machine is completely locked. Before carrying out maintenance operations inside the lifting equipment, check that this is off-line in order to avoid 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 motor only when it is not running and sufficiently cool (except for those operations, such as oil change, which must be performed when the motor is hot). Risk of burns in contact with hot parts.**
- **Do not use petrol or other flammable materials to clean the heat motor.**
- **For maintenance operations on the heat motor, read the manufacturer's manual of the motor supplied on machine purchase.**
- **In case of replacement, use original spare parts only or spare parts approved by the manufacturer.**
- **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. A prolonged contact with the skin may cause irritations and dermatosis; wash with water and soap and rinse thoroughly. Contact with eyes, especially with electrolytes, is also dangerous; rinse with water thoroughly and call the doctor.**

⚠ **WARNING!**
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 stickers.
- 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 working hours
Oil level check in hydraulic tank	After the first 10 working hours
Check of the battery state (charge and liquid level)	Every day
Check of deformation of tubes and cables	Every week
Check of stickers and code plates	Every month
Articulated joints and sliding blocks greasing	Every month
Check of heat motor fixing on elastic supports	Every month
Oil level check in hydraulic tank	Every year
Emergency devices efficiency check	Every year
Electric connections check	Every year
Hydraulic connections check	Every year
Periodic operation check and structure visual check	Every year
Screw tightening (see paragraph "Various adjustments")	Every year
Check of drive and rotation reduction gear oil change	Every year
Turret rotation clearance adjustment	Every year
Hydraulic system pressure relief valve operation check	Every year
Brake system operation check	Every year
Oscillating axle locking system efficiency check	Every year
Operation check of the turret inclinometer	Every year
Operation check of inclinometer in platform	Every year
Operation check of platform overload controller	Every year
Visual check of wear condition of chains of boom extraction	Every year
Check/adjustment of tension of chains of boom extraction	Every year
Check of efficiency of area limiting devices (SA=angle; SS=extension)	Every year
Operation check of microswitch M1C	Every year
Operation check of microswitch M14	Every year
Operation check of microswitch M15	Every year
Operation check of microswitch M16 (optional for T34)	Every year
Operation check of microswitch M17 (optional for T34)	Every year
Operation check of proximity sensors M20…M25	Every year
Operation check of proximity sensor SP1	Every year
Operation check of dead-man pedal safety system	Every year
Battery operation check	Every year
Telescopic boom sliding blocks clearance adjustment	Every year
Extandable axle sliding blocks clearance adjustment	Every year
Hydraulic filter replacement	Every two years
Drive and rotation reduction gear oil change	Every two years
Total oil change in hydraulic tank	Every two years

DIESEL (D) AND ELECTRIC-DIESEL (E/D) MODELS. As it is possible to install different types of Diesel engines, refer to the instructions manual of the engine manufacturer for all maintenance operations.

BIODEGRADABLE OIL KIT
PANOLIN BIOMOT 10W40

TO SEND THE MACHINE TO THE MANUFACTURER WITHIN 10 YEARS OF WORK FOR A COMPLETE CHECK

7.2.1. **Various 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 motor fixing screws
3) Steering cylinder fixing screws
4) Turntable fixing screws
5) Rotation reduction gear fixing screws
6) Fixing screws of steering hub pins
7) Oscillating axle fixing screws
8) Platform fixing screws
9) Screws and safety dowels of boom pins;
10) Elastic supports of heat motor

For torque wrench setting refer to the table below.

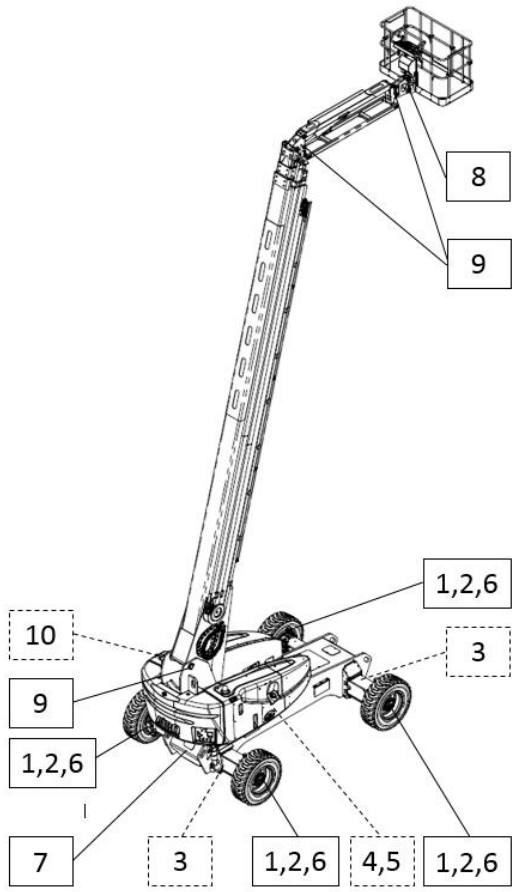


Fig.15

TORQUE WRENCH SETTING (S.I. 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 predisposition for greaser) at least every month.

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

Moreover, always remember to grease the articulated joints:

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

Grease all points indicated in the picture aside (and all articulated joints equipped with greaser) with grease type **ESSO BEACON-EP2** or equivalent.

(OPTIONAL BIODEGRADABLE OIL KIT) PANOLIN BIOGREASE 2

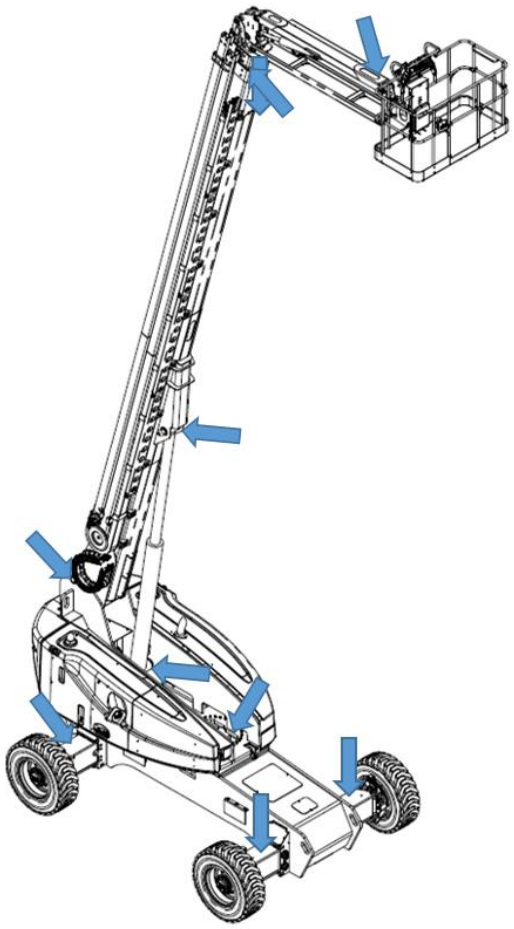


fig. 16

7.2.3. **Hydraulic circuit oil level check and change**

Check after the first 10 working hours and, afterwards, once a month the level by means of the provided indicator (detail **A** in the picture aside) and make sure that the level always lies between the max. and min. values. If necessary top up until max. level is reached. The oil check should be carried out when platform is completely lowered and telescopic boom in.

<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 types of oil and quantity indicated in the table below.

Fig. 17

HYDRAULIC SYSTEM OIL			
BRAND	**TYPE** -20°C +79°C	**TYPE** -30°C +48°C	**REQUIRED QUANTITY**
SYNTHETIC OILS			200 Litres
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. A prolonged contact with the skin may cause irritations and dermatosis; wash with water and soap and rinse thoroughly. Contact with eyes, especially with electrolytes, is also dangerous; rinse with water thoroughly and call the doctor.

7.2.3.1 Biodegradable hydraulic oil (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 component parts as standard machines, but the use of such type of oil is best taken into account from machine construction.
In case of wanting to change from mineral-oil based hydraulic oil to "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

Change the filtering inserts. Use standard filters as indicated by the manufacturer.

7.2.3.4 Washing

After completely emptying the machine, fill with a nominal quantity of "bio" hydraulic oil.
Start the machine and perform all work movements at low revs for at least 30 minutes.
Drain the liquid from the system as described in previous paragraphs.
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 FREQUENCY	NORMAL DUTY	HEAVY DUTY
1st CHECK AFTER	50 OPERATING HOURS	50 OPERATING HOURS
2nd CHECK AFTER	500 OPERATING HOURS	250 OPERATING HOURS
3rd CHECK AFTER	1000 OPERATING HOURS	500 OPERATING HOURS
FOLLOWING CHECKS	1000 HOURS OR 1 OPERATION YEAR	500 HOURS OR 1 OPERATION YEAR

The fluid state is therefore constantly monitored, thus allowing its use until its features decay. 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 dispatch details, contact Your nearest distributor.

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

7.2.3.7 Mix

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, the dissolution of fault-causing deposits in the hydraulic system could occur. In extreme cases, washing the seal housings can cause greater leaks.
To prevent faults as well as avoid any negative effect on oil quality, after the conversion, it is best to filter the hydraulic system using a micro-filtration system.

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 **ONLY EVER** be topped up with the same product.

Note: Max water contamination is 0.1%.

7.2.4. **Hydraulic filter replacement**

7.2.4.1. DISCHARGE FILTER

The discharge filters (No. 3) are represented in the picture to the side. The filtering cartridge should be replaced at least every two years. To replace the filtering cartridge:

- Stop the machine by pressing the emergency stop button on the ground control unit.
- Remove the bowl of the filter by unscrewing it using a 30 mm wrench.
- Remove the cartridge.
- Fit the new cartridge paying attention to the correct position of the retaining spring and place the cover again.

Fig. 18

During these operations a quantity of 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, the visual indicator is in the green zone. When the indicator is in the red zone, the filtering cartridge is to be replaced. However, the filtering cartridge should be replaced at least every two years.
To replace the filtering cartridge:

- Stop the machine by pressing the emergency stop button on the ground control unit.
- 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 again.

Fig. 19

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

IT IS FORBIDDEN to start the machine when the filter cover is missing or not properly tightened.

Replace the filters using only original accessories available at our Technical Support.
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. **Turret rotation reduction gear oil level check and change**

The oil level should be checked at least once a year. Check the level by means of cap (**A**). Oil check must be carried out when the oil is hot. The level is correct when the reduction gear body is full of oil up to the cap limit.
Should a lubricant volume higher than 10% be topped up, check that there is no oil leakage in the system. Do not mix different types of oil, of the same or of different brands. Do not mix mineral oils and synthetic oils.

The oil must be changed the first time after 50-100 working hours, and afterwards after every two years. Depending on the actual operating conditions, these intervals may be varied for each single case. While changing the oil it is advisable to wash the internal part of the cover with a fluid recommended by the lubricant producer. To avoid sludge deposits, the oil must be changed when the reduction gear is hot.
To change the oil, unscrew caps (**A**) and (**C**) and place a container of at least 3-litre capacity under cap (**C**).
Empty the reduction gear body completely, clean it as described above and then fill it up to the limit level of the cap (**C**) (for max. capacity see table at next page through cap (**A**).

Fig. 20

LUBRICATING OIL FOR REDUCTION GEAR TURRET ROTATION		
BRAND	**TYPE**	**REQUIRED QUANTITY**
SYNTHETIC OILS		2,5 litres
ESSO	Compressor Oil LG 150	
AGIP	Blasia S 220	
CASTROL	Alpha SN 6	
IP	Telesia Oil 150	
BIODEGRADABLE OILS - OPTIONAL		
PANOLIN	Biogear 80W90	

7.2.5.1 Checks in the use of synthetic biodegradable oil in turret rotation reduction gears

Quarterly or every 500 hours check the oil level. In case of need top up. If you notice that more than 10% of oil lacks in the reduction gear, check if there are any leaks.
Change the oil in the rotation reduction gear after the first 100 hours of operation and then every 6000 hours or every 3 years depending on the actual working conditions, these intervals may change.
When changing the oil it is recommended that you run a wash cycle inside the cover.
Change the oil when the reduction gear is hot.
Mixtures of different oils (either biodegradable or mineral) even of the same brand are not allowed.

7.2.6. **Drive reduction gear oil level check and change**

The oil level should be checked at least once a year. Position the machine until the two caps (**A** and **B**) reach the position indicated in the picture aside. Check the level by means of cap (**A**). Oil check must be carried out when the oil is hot. The level is correct when the reduction gear body is full of oil up to the cap limit (**A**). Should a lubricant volume higher than 10% be topped up, check that there is no oil leakage in the system. Do not mix different types of oil, of the same or of different brands. Do not mix mineral oils and synthetic oils.
The oil must be changed the first time after 50-100 working hours, and afterwards after every 2500 working hours or at least every two years. Depending on the actual operating conditions, these intervals may be varied for each single case. While changing the oil it is advisable to wash the internal part of the cover with a fluid recommended by the lubricant producer. To avoid sludge deposits, the oil must be changed when the reduction gear is hot. To change the oil unscrew cap **B**, and place a container of a 2-litre capacity under it. Empty the reduction gear body completely, clean it as described above and then fill it up to the limit level of cap **A** through the same hole (for max. capacity see following table).

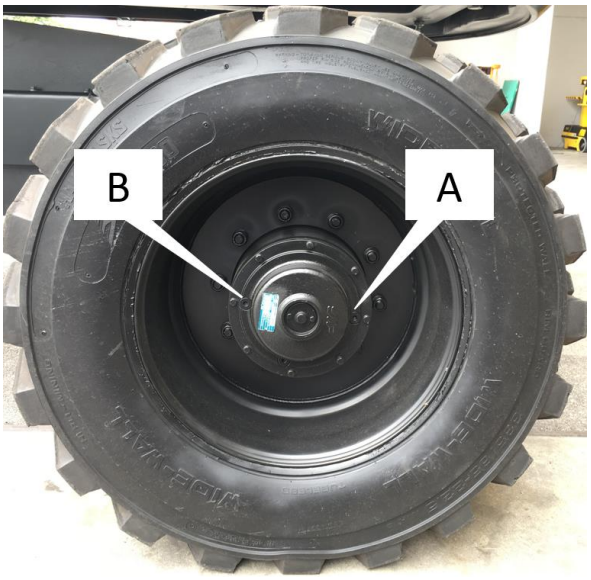


Fig. 21

LUBRICATING OIL FOR DRIVE REDUCTION GEARS		
BRAND	**TYPE**	**REQUIRED QUANTITY**
SYNTHETIC OILS		2 litres for each reduction gear
ESSO	Compressor Oil LG 150	
AGIP	Blasia S 220	
CASTROL	Alpha SN 6	
IP	Telesia Oil 150	
BIODEGRADABLE OILS - OPTIONAL		
PANOLIN	PANOLIN	

7.2.6.1 Checks in the use of synthetic biodegradable oil in drive reduction gears

Quarterly or every 500 hours check the oil level. In case of need top up. If you notice that more than 10% of oil lacks in the reduction gear, check if there are any leaks.
Change the oil in the rotation reduction gear after the first 100 hours of operation and then every 6000 hours or every 3 years.
Depending on the actual operating conditions, these intervals may change.
When changing the oil it is recommended that you run a wash cycle inside the cover.
Change the oil when the reduction gear is hot.
Mixtures of different oils (either biodegradable or mineral) even of the same brand are not allowed.

7.2.7. **Oscillating axle locking system efficiency check**

Once drive has been stopped and with raised platform, the axle locking cylinders are locked in position thus increasing the machine stability.

Check every year the efficiency of the locking system of the oscillating axle.

To check for perfect operation, proceed as follows:

- Load the maximum allowed load on the platform;
- From the platform control panel completely extract the telescopic boom taking care to keep the work platform at a height from the ground <1 m;
- Oscillate the structure vertically by acting on the cage manually;
- Check that during the oscillations of the structure, the cylinders of the oscillating axle will remain in the locked position.

In the event of need, if you notice a sinking of the cylinders of the oscillating axle, it is necessary to remove the air inside the same:

- Remove the protection cylinder crankcases (**A**) of the oscillating axle.
- Unscrew the cap (**B**) of one of the two cylinders of the oscillating axle.
- Carry out the drive operation by bringing the two oscillating axle cylinders to end stop several times, until there is only oil leaking out of the cap of the locking valve.
- Once purging has been completed, screw cap (**B**) and check the oil level in the tank.

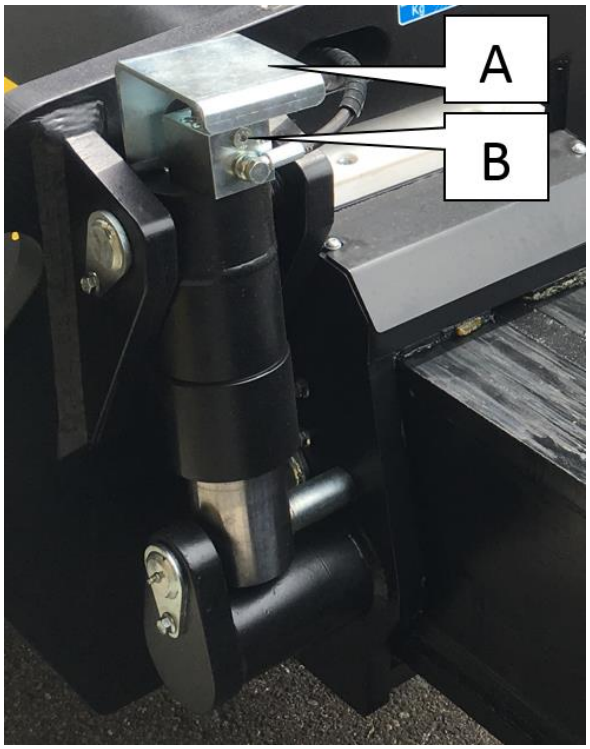


Fig. 22

WARNING!

THIS OPERATION OUGHT TO BE CARRIED OUT SIMULTANEOUSLY BY TWO OPERATORS: ONE IS TO DRIVE THE MACHINE, THE OTHER IS TO CHECK THE OPERATION AND COLLECT THE LEAKING OIL.

THIS OPERATION SHOULD BE CARRIED OUT IN ROOMS THAT ALLOW THE OIL LEAKING FROM THE CYLINDERS TO BE RECOVERED.

AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.8. **Turret rotation clearance adjustment**

Check the coupling between the rotation pinion and the turntable should be carried out every year.
In normal operating conditions, the coupling clearance must be minimum. Otherwise, adjust according to the following instructions:

- Unscrew the four hexagonal head screws (**A**) which fix the reduction gear support to the turret.
- Loosen the lock nut (**B**) of the reduction gear support.
- Manually push the reduction gear (**C**) until the clearance between the pinion and the crown is maximum.
- Tighten the lock nut (**B**) of the reduction gear support.
- Screw again the four hexagonal head screws (**A**) which fix the reduction gear support to the turret.

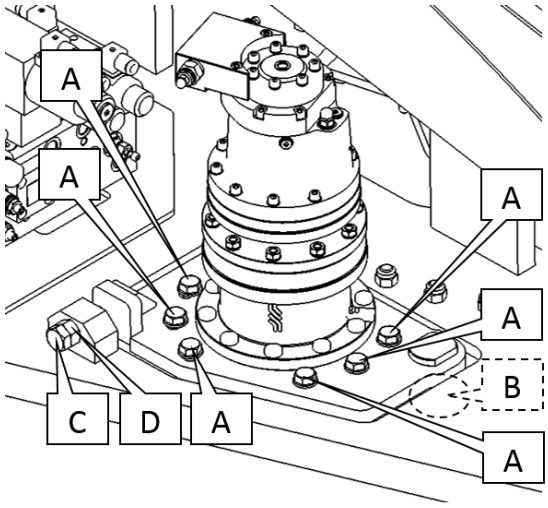


Fig. 23

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.9. **Telescopic boom sliding blocks clearance adjustment**

Check the wear of the telescopic boom sliding blocks every year.
The correct clearance between the blocks and the boom is 0,5-1 mm; in case of high clearance insert shims under the upper and side sliding blocks as follows:

- Unscrew the fixing screws **A**;
- Insert a number of shims between the block and the boom to reduce the clearance within the prescribed limits. Refer to the spare parts catalogue to identify the codes of the shims.
- Screw the fixing screws **A** again.

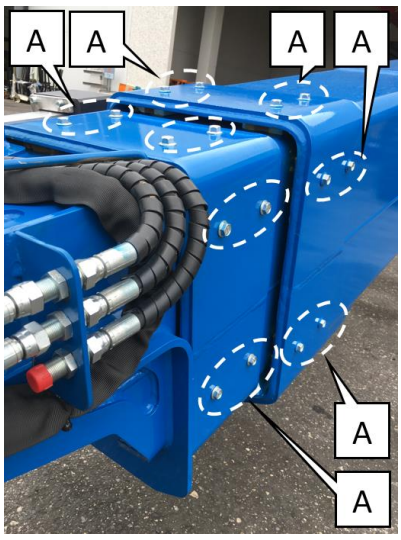


Fig. 24

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.10. **Extandable axle sliding blocks clearance adjustment**

Check the wear of the sliding blocks of the extandable axles every year.
The correct clearance between the blocks and the boom is 0.5-1 mm. In the event of high clearance proceed as follows:

1) BLOCKS WITH SCREW ADJUSTMENT:
- Unscrew locking rings **A**.
- Tighten blocks **B** by screwing them until you get the max. specified clearance.
- Screw locking rings **A** again.

2) BLOCKS WITH ADJUSTMENT SHIMS:
- Unscrew fixing screws **C**.
- Insert a number of shims between block **D** and the axle to reduce the clearance within the prescribed limits. Refer to the spare parts catalogue to identify the codes of the shims.
- Screw the fixing screws **C** again.

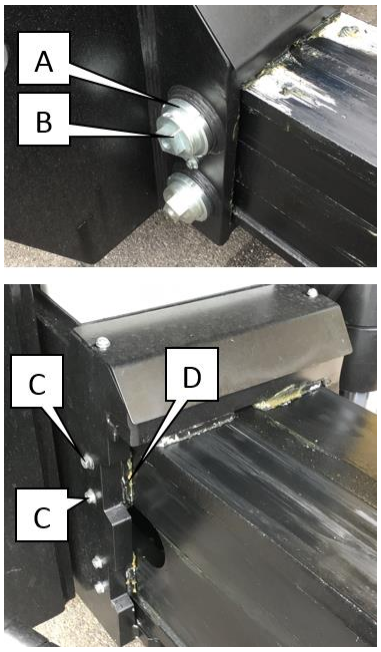


Fig. 25

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.11. **Hydraulic system pressure relief valve operation check**

7.2.11.2. Pressure relief valve on the hydraulic block on the turret (main pump)

The described pressure relief valve controls the maximum pressure on the circuit of the proportional movements (main boom, telescopic boom, turret rotation) and is located on the hydraulic block **A** on the turret. 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:

- In case of replacement of the hydraulic block **A.**
- In case of replacement of the pressure relief valve **B** only.

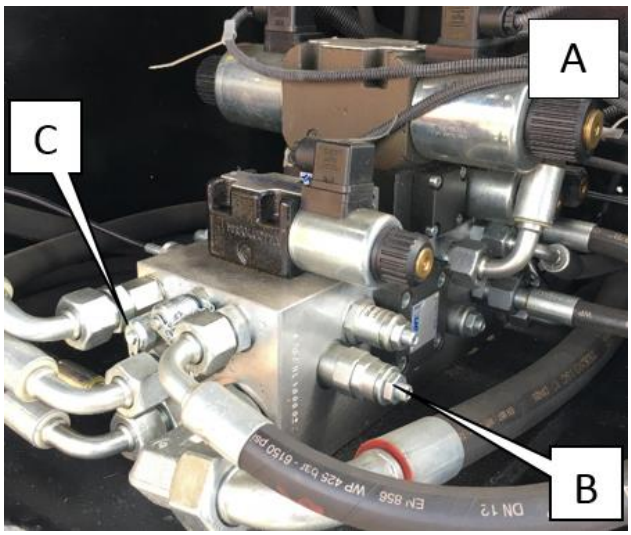


Fig. 26

Check operation at least once a year.

To check the operation of the pressure relief valve **B**:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **C**.
- Using the ground control panel, lift the main boom up to the end stop.
- Check the pressure value. The correct value is indicated in the chapter "**Technical features".**

To calibrate the pressure relief valve:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **C**.
- Locate the pressure relief valve of lifting circuit **B;**
- Unscrew the adjusting dowel lock-nut.
- Using the ground control panel, lift the main 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.

⚠

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.11.3. Pressure relief valve on the hydraulic block on the turret (secondary pump)

The described pressure relief valve controls the maximum pressure on the circuit of the ON-OFF movements of the chassis (axle extension and steering) and is located on the hydraulic block **A** on the turret. 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:

- In case of replacement of the hydraulic block **A.**
- In case of replacement of the pressure relief valve **D** only.

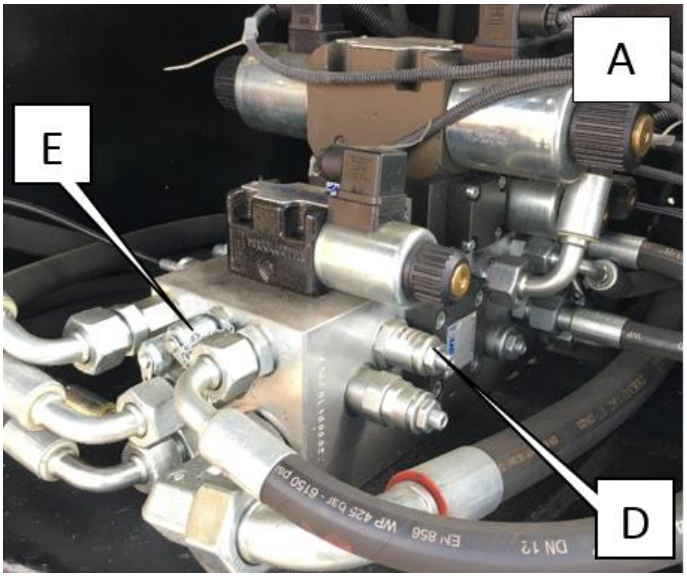


Fig. 27

Check operation at least once a year.

To check the operation of the pressure relief valve **D**:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **E**.
- Using the ground control panel, lift the main boom up to the end stop.
- Check the pressure value. The correct value is indicated in the chapter "**Technical features".**

To calibrate the pressure relief valve:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **E**.
- Locate the pressure relief valve of lifting circuit **D;**
- Unscrew the adjusting dowel lock-nut.
- Using the ground control panel, lift the main 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.

⚠

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

⚠

WARNING!
THE CALIBRATION OF THIS PRESSURE RELIEF VALVE IS AFFECTED BY THE SETTING OF THE PRESSURE RELIEF VALVE OF THE HYDRAULIC BLOCK ON THE CHASSIS.

7.2.11.4. Pressure relief valve on the hydraulic block on the chassis (secondary pump)

The described pressure relief valve controls the maximum pressure on the circuit of the ON-OFF movements of the chassis (axle extension and steering) and is located on the hydraulic block **F** on the chassis. 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:

- In case of replacement of the hydraulic block **F.**
- In case of replacement of the pressure relief valve **G** only.

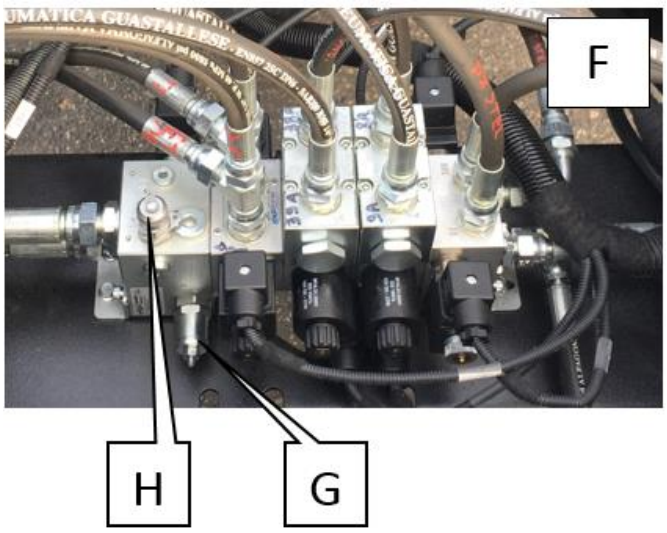


Fig. 28

Check operation at least once a year.

To check the operation of the pressure relief valve **G**:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **H**.
- Using the platform control panel, steer with one of the axles up to the end stop.
- Check the pressure value. The correct value is indicated in the chapter "**Technical features".**

To calibrate the pressure relief valve:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **H**.
- Locate the pressure relief valve of lifting circuit **G;**
- Unscrew the adjusting dowel lock-nut.
- Using the platform control panel, steer with one of the axles 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.

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

WARNING!
THE CALIBRATION OF THIS PRESSURE RELIEF VALVE IS AFFECTED BY THE SETTING OF THE PRESSURE RELIEF VALVE OF THE HYDRAULIC BLOCK ON THE TURRET.

7.2.11.5. Pressure relief valve on the hydraulic block on the platform

The described pressure relief valve controls the maximum pressure on the circuit of the proportional and ON-OFF movements (jib, jib rotation, cage rotation, cage levelling) and is located on the hydraulic block **M** on the platform. 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:

- in case of replacement of the hydraulic block **M**
- in case of replacement of the pressure relief valve **N** only

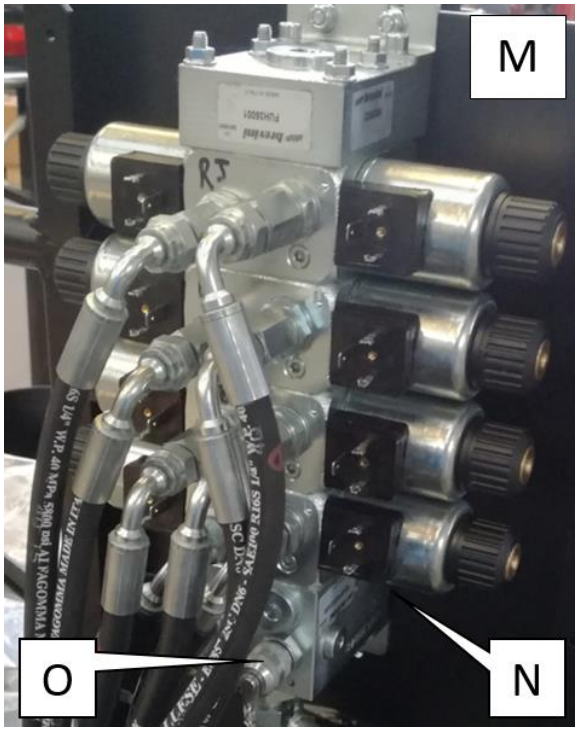


Fig.29

<u>Check operation at least once a year.</u>

To check the operation of the pressure relief valve **N**:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **O**.
- From the ground control panel rotate the cage.
- Check the pressure value. The correct value is indicated in the chapter "**Technical features**".

To calibrate the pressure relief valve:

- Introduce a pressure gauge with full scale of at least 250 bars in the special quick coupling (1/4" BSP) **O**.
- Locate the pressure relief valve of lifting circuit **N.**
- Unscrew the adjusting dowel lock-nut.
- Using the ground control panel, rotate the cage 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.

WARNING!
AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.12. **Operation check of the turret inclinometer**

WARNING!

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

AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

The inclinometer 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 the instability condition by means of an audible alarm and a warning light located on the platform (see "General use instructions").

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

Check operation at least once a year.

To check the inclinometer operation according to the **longitudinal axis** (generally **X-axis**):

- Using the platform control panel 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 turns on. With platform lowered (boom down < 10°, telescopic boom in and jib at a height 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, and the audible alarm is activated;
- If the alarm is not activated CALL THE TECHNICAL ASSISTANCE.

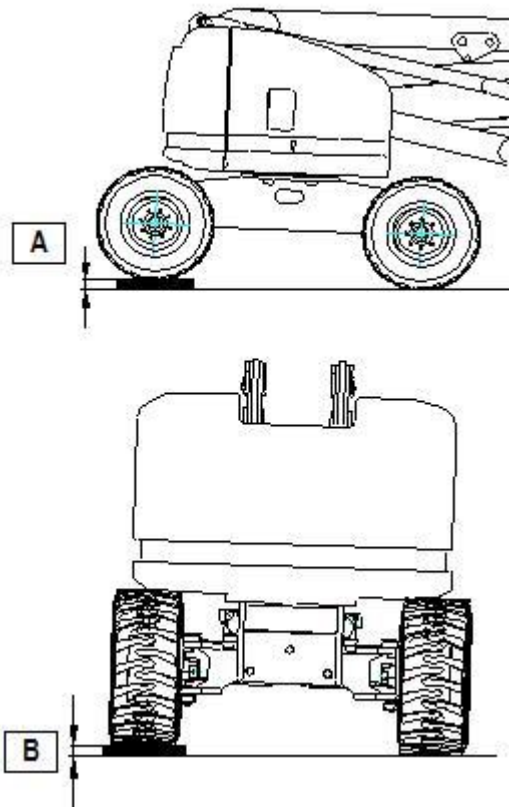


Fig. 30

To check the inclinometer according to the **transversal axis** (normally **Y-axis**):

- Using the platform control panel 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 turns on. With platform lowered (boom down < 10°, telescopic boom in and jib at a height 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, and the audible alarm is activated;
- If the alarm is not activated CALL THE TECHNICAL ASSISTANCE.

SHIMS	T32 RTD T34 JRTD
A [mm]	315
B - AXLES CLOSED [mm]	180
B - AXLES OPEN [mm]	260

WARNING! The dimensions of shims A and B refer to max. allowed inclination as indicated in table "TECHNICAL FEATURES". To be used during the inclinometer calibration.

7.2.13. **Operation check of the platform inclinometer**

WARNING!

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

AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

The inclinometer on the platform does not require any adjustment since it is calibrated in the factory before the machine is delivered.
This device controls the platform inclination, the automatic levelling system of the platform (it is activated during lifting/lowering of the main boom and during extension/retraction of the telescopic boom) and when the platform is tilted more than the allowed:

- It disables the operation which would increase the cage inclination;
- It allows the operation which allows the recovery of the cage levelling;
- It disables drive when platform exceeds a given height (varying according to model).
- It warns of the instability condition by means of an audible alarm and a warning light located on the platform (see “General use instructions”).

Fig. 31

The inclinometer controls the inclination with respect to the longitudinal axis of the machine and keeps the cage levelling within the limit of +/-5° approximately.

Check operation at least once a year.

To check the inclinometer operation:

- Using the ground controls, lift and lower the main boom by checking the platform remains horizontal;
- Using the ground controls, lift the main boom so as to set the condition of "boom lifted" (inclination >10°) and control the platform levelling by moving the platform out of level in an evident way;
- When the inclination reaches a value greater than 5°, the system is in alarm and the level control must stop automatically; the level control in the opposite direction must be active.
- When the system is in alarm, the control of the main boom, which would increase the inclination condition, must be disabled; the control of the main boom, which reduces the inclination condition, remains active; the extension/retraction controls of the telescopic boom are disabled.

If the alarm is not activated CALL THE TECHNICAL ASSISTANCE.

7.2.14. **Adjustment of the overload controller (load cell)**

WARNING!

This device does not need to be adjusted unless the device itself is replaced. The equipment necessary for the replacement and adjustment of this component is such that these operations should be carried out by skilled personnel.

AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

The AIRO self-propelled articulated boom aerial platforms are equipped with a sophisticated overload controller.
Normally the overload controller does not require any adjustments, since it is 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 nominal load (drive and steering disabled with platform lifted);
- With platform in transport position and overloaded by 20% compared to the nominal load, it disables lifting of the telescopic boom.
- 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.

Check operation at least once a year.

The overload controller consists of:

- Deformation transducer (**A**);
- Display (**B**) for system calibration placed on the ground control panel.

Fig. 32

Operation check of the overload controller of the MAX. LOAD:

- With platform fully lowered and with the extension in, from the platform control panel select the MAXIMUM LOAD.
- Load a charge evenly distributed equal to the normal load allowed by the platform (see paragraph "Technical features") in accordance with the load selected from the platform control panel. 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 nominal 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 main boom lifted over 10°, and remember that the jib activates its microswitch after exceeding a height of 10° according to the horizontal axis) the alarm condition locks the machine completely. To operate the machine again, remove the excessive load.

Operation check of the overload controller of the MIN. LOAD:

- With platform fully lowered and with the extension in, from the platform control panel select the MINIMUM LOAD.
- Load a charge evenly distributed equal to the normal load allowed by the platform (see paragraph "Technical features") in accordance with the load selected from the platform control panel. 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 nominal 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 main boom lifted over 10°, and remember that the jib activates its microswitch after exceeding a height of 10° according to the horizontal axis) the alarm condition locks the machine completely. To operate the machine again, remove the excessive load.

The 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.

7.2.14.2. 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 locking key switch (**A**) under the control panel. Keep the locking key switch active for 5 seconds and release to get the BY-PASS condition.

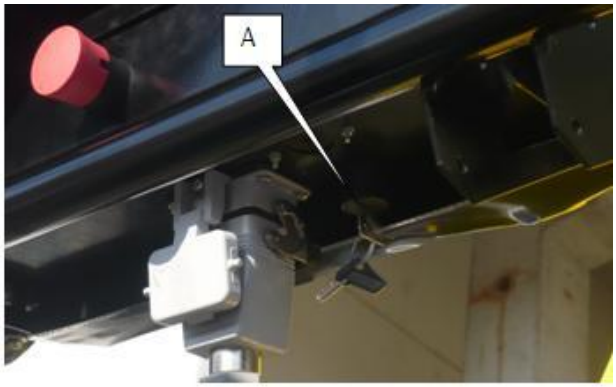


Fig.33

WARNING!! IN THIS CONDITION THE MACHINE CAN CARRY OUT ANY OPERATION, THOUGH THE RED LED AND THE AUDIBLE ALARM SIGNAL THE DANGER CONDITION. TURNING OFF THE MACHINE WILL RESET THE SYSTEM, AND UPON STARTING, THE OVERLOAD CONTROLLER OPERATES AGAIN SIGNALLING THE PREVIOUS OVERLOAD CONDITION.
THIS OPERATION IS ALLOWED ONLY FOR EMERGENCY HANDLING OF THE MACHINE. DO NOT USE THE MACHINE IF THE OVERLOAD CONTROLLER IS NOT EFFICIENT.

⚠

WARNING!
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 EFFICIENT.

7.2.15. **Visual check of wear condition of chains of boom extraction**

Every year check the wear condition of chains of extraction of the telescopic boom.

The type of chain used is Fleyer **BL634**, the pitch is **19.05 mm (*)**.
The check is to be carried out by measuring 10 pitches.
The max. allowed extension in the most worn-out section is to be 3%.
Then if the measuring of 10 pitches is higher than **196.2 mm** (190.5 + 3%) the chain is to be considered worn-out and needs replacing.

To check the extraction chains, extract the telescopic boom until the chains from the inspection windows represented alongside, and carry out the above mentioned operations according to the position in the picture **A.**

To check the re-entry chains perform the operations described above, positioning as indicated in the figure **B.**

(*) Note: the type of chain used may change depending on the manufacturing changes not necessarily indicated in the manual. If the chain used was not of the type prescribed, ask the after-sales service for the correct type.
The rule indicated for determining the wear condition is always valid.

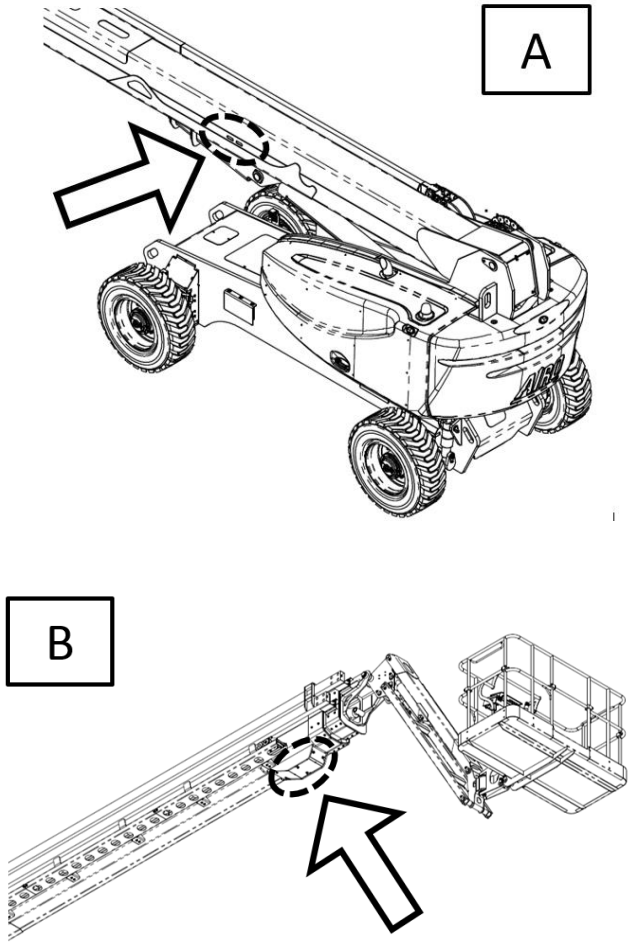


Fig.34

WARNING!
AS THIS OPERATION IS VERY IMPORTANT, IT MUST BE CARRIED OUT BY SKILLED PERSONNEL

AFTER 10 YEARS THE CHAINS MUST BE REPLACED COMPLETELY.
THIS OPERATION IS TO BE CARRIED OUT BY AUTHORIZED TECHNICAL ASSISTANCE.

7.2.16. **Check/adjustment of the tension of the extension chains of the telescopic boom**

Every year check the tension of chains of the telescopic boom extraction.

The correct tension is achieved when the two telescopic deck extensions start simultaneously during extraction (or retraction).
Microswitches (M14 and M15) control the tension state of the chains.

Should it be necessary to tension the chains, proceed as follows:

- Unscrew lock-nut **A**;
- Screw in the adjusting nut **B** until you get the desired tension.
- Once the tension has been adjusted, block lock-nut **A**.

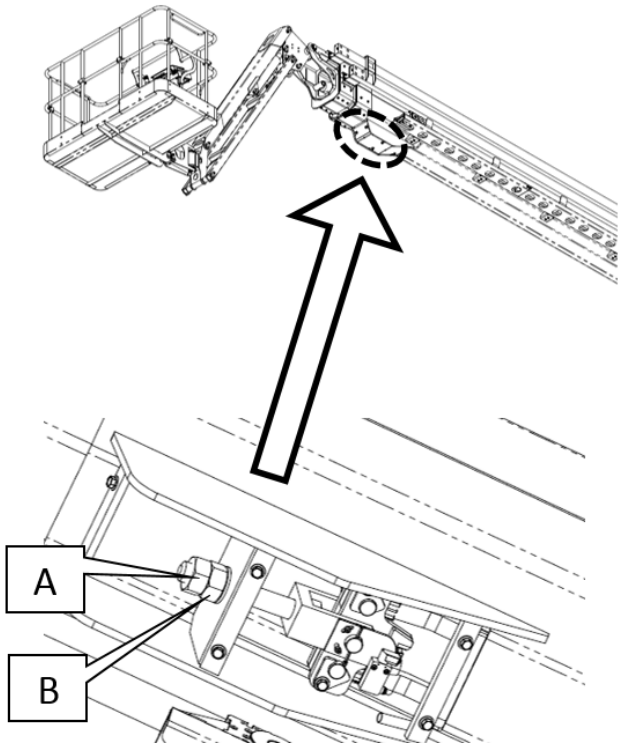


Fig.35

WARNING!
AS THIS OPERATION IS VERY IMPORTANT, IT MUST BE CARRIED OUT BY SKILLED PERSONNEL

AFTER 10 YEARS THE CHAINS MUST BE REPLACED COMPLETELY. THIS OPERATION IS TO BE CARRIED OUT BY AUTHORIZED TECHNICAL ASSISTANCE.

7.2.17. **Check the operation of area limiting device (SA=angle; SS=extension)**

The area limiting device **B** ("ANGLE/EXTENSION sensor") is located in the rear area of the main boom. Its function is:

- Monitor the platform position by measuring the lifting angle of the main boom, and the extension of the telescopic boom, and surround the work areas depending on these two parameters in addition to the work load chosen by the operator from the platform control panel;
- Activate safety functions of the inclinometer;
- Activate the safety drive speed.

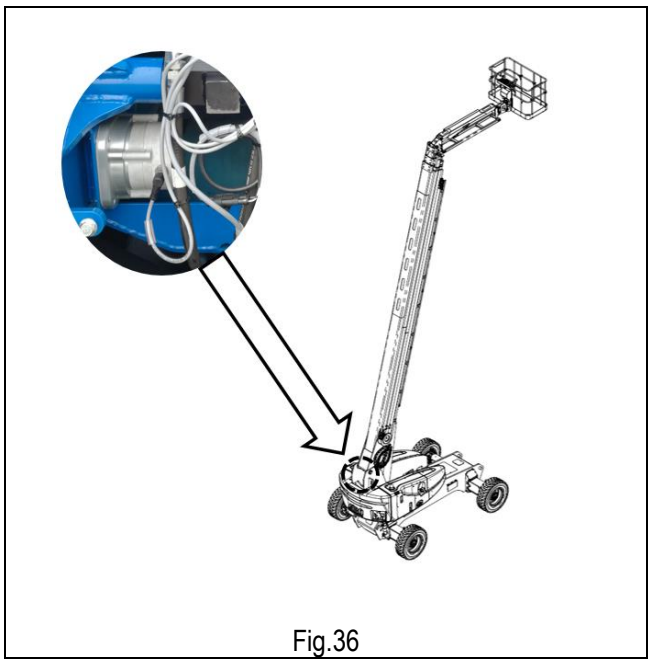


Fig.36

Operation check of the overload controller of the TELESCOPIC EXTENSION with MAX. LOAD:

- From the platform control panel select the MAXIMUM LOAD;
- Place yourself on the ground (nothing and nobody on platform);
- When the telescopic boom is completely in, write down the height **A** indicated in the following picture;
- From the ground control panel, set the main boom in horizontal position and raise the Jib (if available) and extract the telescopic boom until the automatic stop of the movement.

Detect the new dimension which must be equal to or less than:

T32 RTD	T34 JRTD
A + 5350 MM (-150 MM)	A + 3880 MM (-150 mm)

Operation check of the overload controller of the TELESCOPIC EXTENSION with MIN. LOAD:

- From the platform control panel select the MINIMUM LOAD;
- Place yourself on the ground (nothing and nobody on platform);
- When the telescopic boom is completely in, write down the height **A** indicated in the following picture;
- From the ground control panel, set the main boom in horizontal position and raise the Jib (if available) and extract the telescopic boom until the automatic stop of the movement.
- Detect the new dimension which must be equal to or less than:

T32 RTD	T34 JRTD
A + 6500 (-150 MM)	A + 5030 MM (-150 MM)

Moreover check that, with the main boom down and the telescopic boom out (different position from fully in), the safety drive speed is activated from the platform control panel (drive speed selector is disabled).

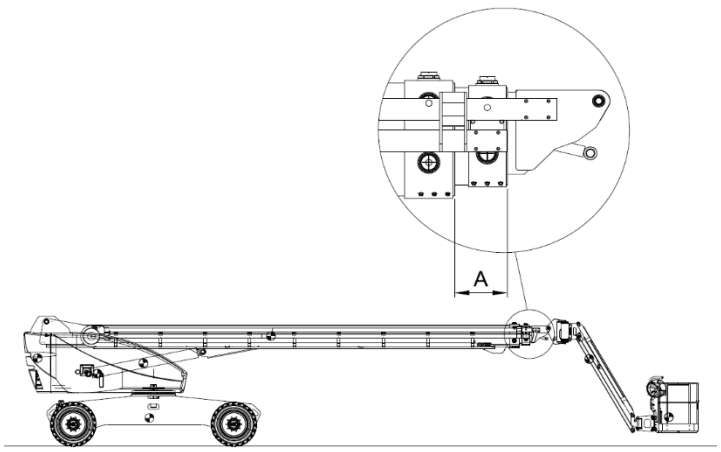


fig.37

Operation check of the overload controller of the lifting angle:

- The machine must be placed on a levelled ground;
- Place yourself on the ground control panel (nothing and nobody on platform);
- Lower the main boom completely and retract completely the telescopic extension. The display must show: **SA1;**
- With telescopic extension completely in, lift the main boom until the display will show **SA2.** Locate the area on the display in which the message change **SA1** to **SA2** occurs by doing more try-outs**;**
- By electronic level measure the lifting inclination of the main boom that must be, for both models: **50° +/-2°.**

Moreover check that, with telescopic extension completely in and the main boom lifted with inclination higher than >10° according to the horizontal axis, from the platform control panel the safety drive speed is activated (drive speed selector is disabled).

Check the operation of the ANGLE/EXTENSION overload controller every year.

WARNING!

This device does not need to be adjusted unless the device itself is replaced. The equipment necessary for the replacement and adjustment of this component is such that these operations should be carried out by skilled personnel.

AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE CALIBRATION OF THE DEVICE MUST BE CARRIED OUT BY SKILLED PERSONNEL

7.2.18. **Check operation of the microswitch M1C (only T34 JRTD).**

The jib position (only T34 JRTD) is controlled by the microswitch:

- M1C on the Jib.

The following functions of the microswitch M1C on the Jib were designed to support loading/unloading from the ramps of a vehicle:

With boom in rest position (boom inclination <10° and telescopic extension completely in) and Jib with inclination higher than +10° according to the horizontal axis (M1C activated):

- The third drive speed is automatically disabled;
- If the chassis is inclined over the max. allowed inclination, Jib lifting and drive controls remain allowed;

Check the working conditions of the microswitch M1C once a year.

fig. 38

7.2.19. **Operation check of microswitches M14 and M15**

The microswitches M14 and M15 control the tension of the chains of extraction (M14) and retraction (M15) of the telescopic boom.
If one or both checked chains are slackened:

- The operator on the platform is informed of the danger condition through a flashing red light of general danger (series of 3 flashes).
- With lowered platform, lifting of boom and pantograph and telescopic extraction/retraction are stopped but jib lifting is still allowed (EV18).
- With lifted platform, telescopic extraction/retraction is stopped to bring the platform to access position.

Once a year check the working conditions of the sensors M14 and M15.

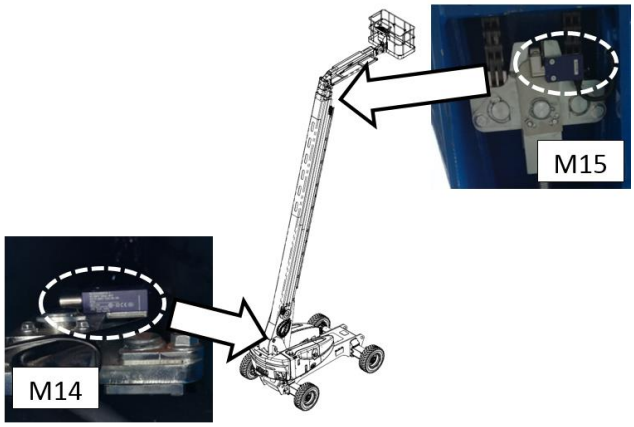


Fig. 39

7.2.20. **Operation check of microswitches M16 and M17 (optional for T34 JRTD)**

The model T34 can be equipped (as an option) with rotating Jib. In this case, microswitches M16 and M17 control the position of the rotating jib with respect to the median axis of the machine.

M16 is the JIB rotation end stop counterclockwise in normal operating condition. When the jib reaches the end stop:

- The JIB counterclockwise rotation stops.
- The jib clockwise rotation remains active.
- If the machine is in the condition of booms lowered (main boom inclined <10°; telescopic extension completely in), the JIB counterclockwise rotation can be reactivated by pressing the enable button **A** represented in picture. This operation is used to position the platform under the main boom and to reduce the length of the machine in conditions of transport.

fig. 40

M17 checks if the rotating jib is aligned with the boom axis (jib in centred position).
When the rotating jib is aligned with the boom axis, if the load selector is in INCREASED LOAD position, if no other alarms are on:

- The rotation control for the jib is disabled.

When the rotating jib is in a different position from the one aligned with the boom axis, if the load selector is in INCREASED LOAD position:

- The rotation control for the jib is disabled.
- The overload alarm is activated.

<u>Check the working conditions of the sensors M16 and M17 once a year.</u>

7.2.21. **Operation check of sensors M20…M25**

Sensors M20…M25 monitor the position of the extandable axles on the chassis.

- **M20** controls the fully retracted position of front axle shafts (oscillating axle side);
- **M21** controls the fully extended position of the front left-hand axle shaft (oscillating axle side);
- **M22** controls the fully extended position of the front right-hand axle shaft (oscillating axle side);
- **M23** controls the fully retracted position of rear axle shafts (oscillating axle opposite side);
- **M24** controls the fully extended position of left rear axle shaft (oscillating axle opposite side);
- **M25** controls the fully extended position of the rear right-hand axle shaft (oscillating axle opposite side).

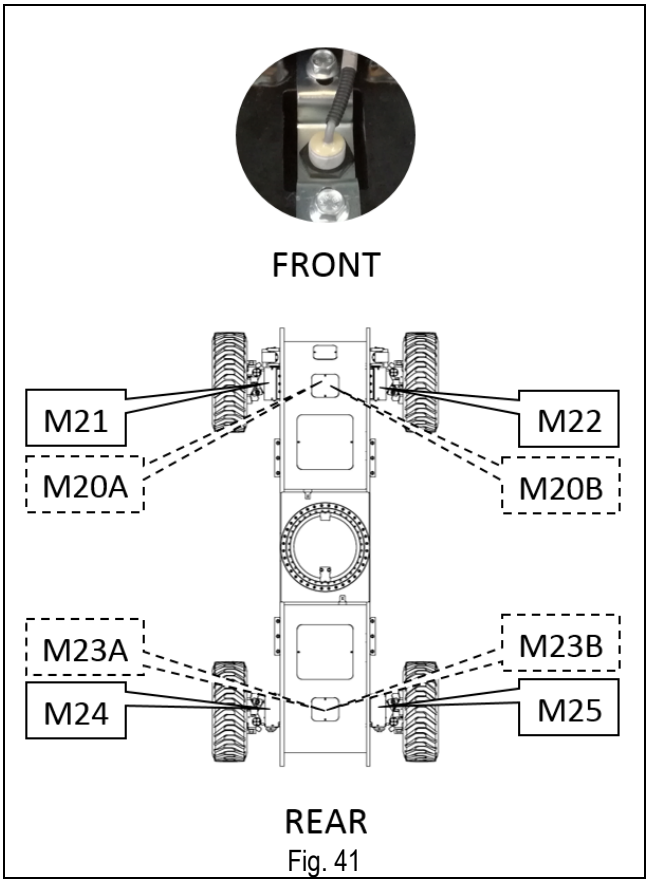


Fig. 41

When the axles are fully retracted:
- The axle green warning led on platform control panel is off;
- The telescopic extension control is disabled;
- The boom lifting control is allowed until an inclination of the boom of about 10°
- The axles extension control is active.

When the axles are fully extended:
- The axle green led on platform control panel is lit up;
- All boom controls are active;
- The axle retraction control is active with boom lowered.

When the axles are in an intermediate position (neither extended nor retracted):
- The axle green led on platform control panel is flashing;
- The telescopic extension control is disabled;
- The boom lifting control is allowed until an inclination of the boom of about 10°
- The axle extension and retraction controls are active.

Once a year check the working conditions of the microswitches M20…M25.

7.2.22. **Operation check of sensors SPT**

The sensor SP1 controls the central position of the rotating turret with respect to the drive direction with a tolerance of +/-20°.

In the condition of platform lowered when the turret is parallel to the drive direction (side does not matter) if there are no other special conditions:

- Drive/steering/axles control is possible with all speeds;
- During drive the oscillating axle unlock solenoid valve is controlled.

With the turret in a different position from the one described:

- The TURRET POSITION alarm led is lit up steady. In this condition the drive/steering/axle control is disabled.
- By pressing the drive enable button, the drive/steering/axle control is enabled for the next 3 seconds.
- If the drive/steering/axle control is not performed within 3 seconds, it is disabled.
- The maximum possible drive speed is the II°. If you selected the III° speed, the system will automatically set to II° speed
- During drive the oscillating axle is locked; the solenoid valve EV41 is not energized.

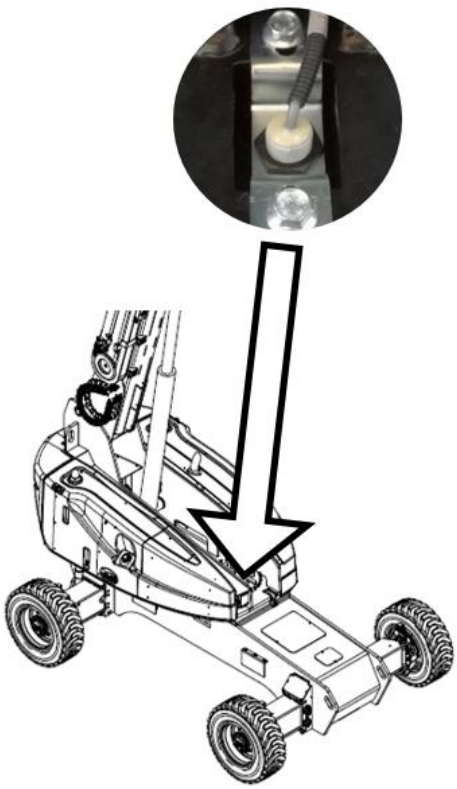


fig.42

In the condition of PLATFORM LIFTED with the turret in the rotated position, in addition to all the limitations due to the raised position of the platform, if there are no other restrictions:

- The TURRET POSITION alarm led is lit up steady. In this condition the drive/steering control is enabled.
- By pressing the drive enable button, the drive/steering control is enabled for the next 3 seconds.
- If the drive/steering control is not performed within 3 seconds, it is disabled.

Once a year check the working conditions of the sensor SP1.

7.2.23. **Operation check of dead-man pedal safety system**

The platform dead-man pedal is for enabling the operation controls of the machine on the platform control panel.

Check operation at least once a year.

To check the dead-man PEDAL:
- Move the drive joystick forward and backward in sequence, WITHOUT PRESSING THE dead-man PEDAL.
- Check that the machine does not perform any movement.

- Hold down the dead-man pedal for more than 10 seconds.
- With the pedal pressed, move the joystick forward and backward in sequence.
- Check that the machine does not perform any movement.

If the device works properly, no machine movement is possible on the platform control panel unless you press the dead-man 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 — control panel enabled
- green led lit up flashing — control panel disabled

7.3. Starter battery

The battery is one of the most important elements of the machine. It is recommended to keep it in an efficient condition to increase its useful life, to avoid faults and to reduce the management costs of the machine. On machines with heat engine the starter battery is for:

- Powering the machine control circuits.
- Starting the heat engine.
- Powering the 12V electrical pump for emergency operations (if any).

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 machines featuring single-phase 230 V or three-phase 380 V electrical pump, the control system of the electrical pump keeps the ignition battery charged during operation in “electric mode”. On machines with battery a DC-DC converter keeps the starter battery charged.

WARNING!
Check the charge of the starter battery after carrying a lowering manoeuvre of the platform with the 12V emergency electrical pump (OPTIONAL).

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 batteries in the environment after replacement. Comply with the current local standards.

AS THIS OPERATION IS VERY IMPORTANT IF NECESSARY, THE BATTERY MUST BE REPLACED BY SKILLED PERSONNEL

CALL THE TECHNICAL SUPPORT

8 . MARKS AND CERTIFICATIONS

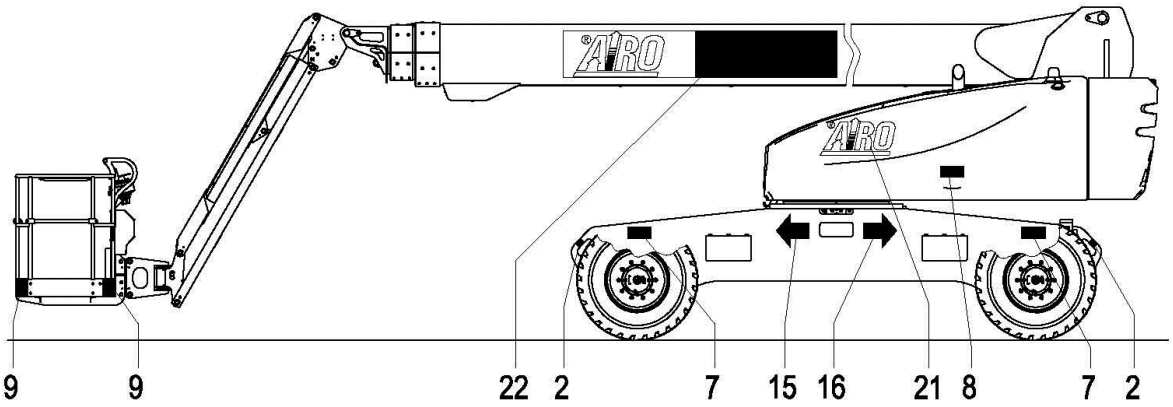
The models of self-propelled aerial platform described in this manual were subjected to the CE type test according to the Directive 2006/42/EC. The certification was issued by:

ICE Spa **Via Garibaldi, 20** **40011 Anzola Emilia – BO (Italy)**	CE

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

9. STANDARD PLATES AND STICKERS

	CODICE	DESCRIZIONE	QUANTITA'
1	00110024	TARGA IMMATRICOLAZIONE AIRO	1
2	00110031	ADESIVO GANCIO DI TRAINO	6
3	00110057	ADESIVO AVVISI GENERALI	1
4	00110059	ADESIVO SERRAGGIO RUOTE	1
5	00110150	ADESIVO TIPO OLIO "46" I_D_F_NL_B_G_PL	1
6	00110180	ADESIVO PROSSIMO CONTROLLO	1
7	00110243	ADESIVO "CARICO MASSIMO PER RUOTA"	4
8	00110260	ADES.VIETATO SOST. ARTICOLATE SIMBOLO	2
9	01010010	ADESIVO STRISCIA GIALLO-NERA >150X300	4
10	02910005	ADESIVO SERBATOIO CARBURANTE	1
11	02910011	ADESIVO NON LEGARE IL CESTELLO	1
12	03510007	ADESIVO ATTACCO CINTURE DI SICUREZZA	4
13	05310004	ADESIVO INTERRUZIONE ALIMENTAZIONE	1
14	05710011	ADESIVO TAPPO DIESEL	1
15	07310002	ADESIVO FRECCIA VERDE PRESP.345X315	3
16	07310003	ADESIVO FRECCIA BIANCA PRESP.345X315	3
17	07310004	ADESIVO FRECCIA NERA-VUOTA-PRESP.170X225	2
18	07310005	ADESIVO FRECCIA GIALLA PRESP.170X225	2
19	07310006	ADESIVO DIAGRAMMA DI LAVORO T32 RTD	1
	07410002	ADESIVO DIAGRAMMA DI LAVORO T34 JRTD	
20	07310010	ADESIVO PORTATA 230KG 2P + 340 3P	1
21	00110175	ADESIVO AIRO GIALLO PRESP.530X265	2
22	07310001	ADESIVO AIRO T32 RTD NERO PRESP.450X2850	1
	07410001	ADESIVO AIRO T34JRTD NERO PRESP.450X3000	
23	07310008	ADESIVO SCATOLA COMANDI SERIE "T"	1
24	07310009	ADESIVO PANNELLO COM. A TERRA SERIE "T"	1
25	03510006	ADESIVO TRAINO DI EMERGENZA	1
26	00110001	TARGA AVVISI (IT)	1
	00110022	TARGA AVVISI (ENG)	
	00110029	TARGA AVVISI (FRA)	
	00110040	TARGA AVVISI (DE)	
	00110041	TARGA AVVISI (ESP)	
	00110314	TARGA AVVISI (TUR)	
	00110035	TARGA AVVISI (NL)	
	00110246	TARGA AVVISI (POR)	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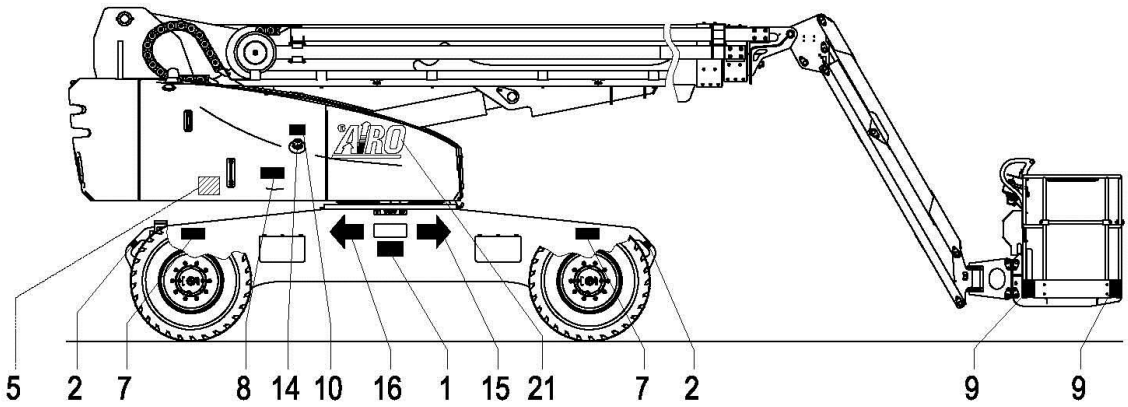
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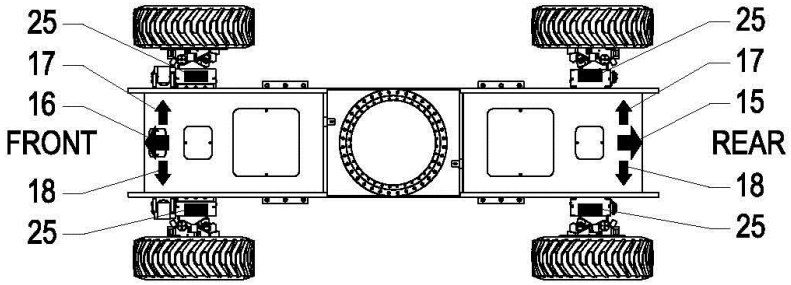
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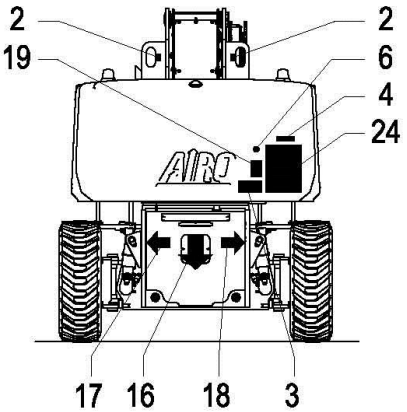
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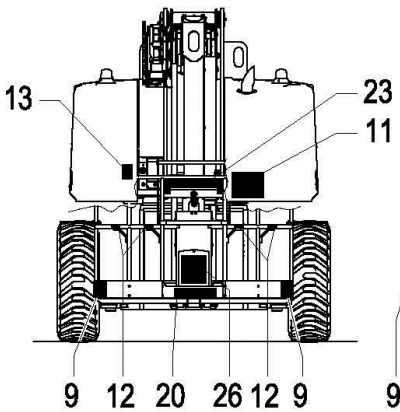
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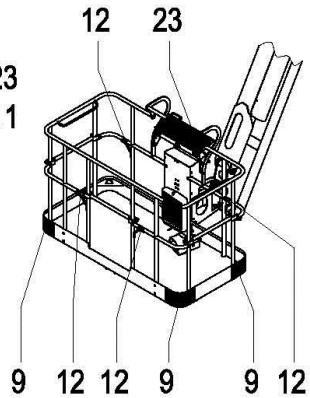
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12

10. CHECK REGISTER

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

The register 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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
VISUAL CHECK	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 at junction points that tubes and cables do not show any evident defects. Monthly operation. It is not necessary to indicate its execution every month, but at least every 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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
VARIOUS 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 operation. It is not necessary to indicate its execution every month, but at least every 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

CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
HYDRAULIC TANK OIL LEVEL CHECK	See chapter 7.2.3. Daily operation. It is not necessary to indicate its execution every day, but at least every 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			

CHECK OF DRIVE AND ROTATION REDUCTION GEAR OIL CHANGE	See chapter 7.2.5 and 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

CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
CALIBRATION CHECK OF PRESSURE RELIEF VALVES OF THE HYDRAULIC SYSTEM	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			

CLEARANCE ADJUSTMENT TURRET ROTATION	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

CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
BATTERY STATE	See chapter 7.3 Daily operation. It is not necessary to indicate its execution every day, but at least every 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			

TELESCOPIC BOOM SLIDING BLOCKS CLEARANCE ADJUSTMENT	See chapter 7.2.9.

	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	DESCRIPTION OF OPERATIONS TO BE PERFORMED
EXTANDABLE AXLE SLIDING BLOCKS CLEARANCE ADJUSTMENT	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			

TOTAL OIL CHANGE IN HYDRAULIC TANK AND DRIVE AND ROTATION REDUCTION GEARS (EVERY TWO YEARS) (EVERY TWO YEARS)	See chapters 7.2.3, 7.2.5, 7.2.6

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

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
HYDRAULIC FILTER REPLACING (EVERY TWO YEARS)	See chapter 7.2.4.

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

OSCILLATING AXLE LOCKING SYSTEM EFFICIENCY CHECK	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			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
OPERATION CHECK OF THE TURRET INCLINOMETER	See chapter 7.2.12

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

OPERATION CHECK OF THE PLATFORM INCLINOMETER	See chapter 7.2.13

	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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
EFFICIENCY CHECK OF PLATFORM OVERLOAD CONTROLLER	See chapter 7.2.14.

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

VISUAL CHECK OF WEAR CONDITION OF CHAINS OF BOOM EXTRACTION/BOOM RETRACTION	See chapter 7.2.15

	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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
CHECK/ADJUSTMENT OF CHAIN TENSION OF BOOM EXTRACTION/BOOM RETRACTION	See chapter 7.2.16

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

CHECK OF EFFICIENCY OF AREA LIMITING DEVICES (SA=ANGLE; SS=EXTENSION)	See chapter 7.2.17

	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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
OPERATION CHECK MICROSWITCH M1C.	See chapter 7.2.18

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

OPERATION CHECK MICROSWITCHES M14 and M15	See chapter 7.2.19

	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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
OPERATION CHECK MICROSWITCHES M16 and M17	See chapter 7.2.20

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

OPERATION CHECK SENSORS M20…M25	See chapter 7.2.21

	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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
OPERATION CHECK SENSOR SP1	See chapter 7.2.22

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

DEAD-MAN SYSTEM CHECK	See chapter 7.2.23

	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 CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
STICKERS AND PLATES CHECK	See Chapter 9. Check the legibility of the instruction plate on the platform where the main instructions are summarised; that the capacity stickers are on the platform and that they are legible; that the stickers 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	

BRAKING SYSTEM EFFICIENCY CHECK	GOING DOWN A RAMP WITH MAX. SLOPE INDICATED IN CHAPTER "TECHNICAL FEATURES", 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.

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm 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.

THE SELLER **THE PURCHASER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm 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.

THE SELLER **THE PURCHASER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm 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.

THE SELLER **THE PURCHASER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm 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.

THE SELLER **THE PURCHASER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm 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.

THE SELLER **THE PURCHASER**

IMPORTANT BREAKDOWNS

DATE	DESCRIPTION OF BREAKDOWN	SOLUTION

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

DATE	DESCRIPTION OF BREAKDOWN	SOLUTION

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

IMPORTANT BREAKDOWNS

DATE	DESCRIPTION OF BREAKDOWN	SOLUTION

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

DATE	DESCRIPTION OF BREAKDOWN	SOLUTION

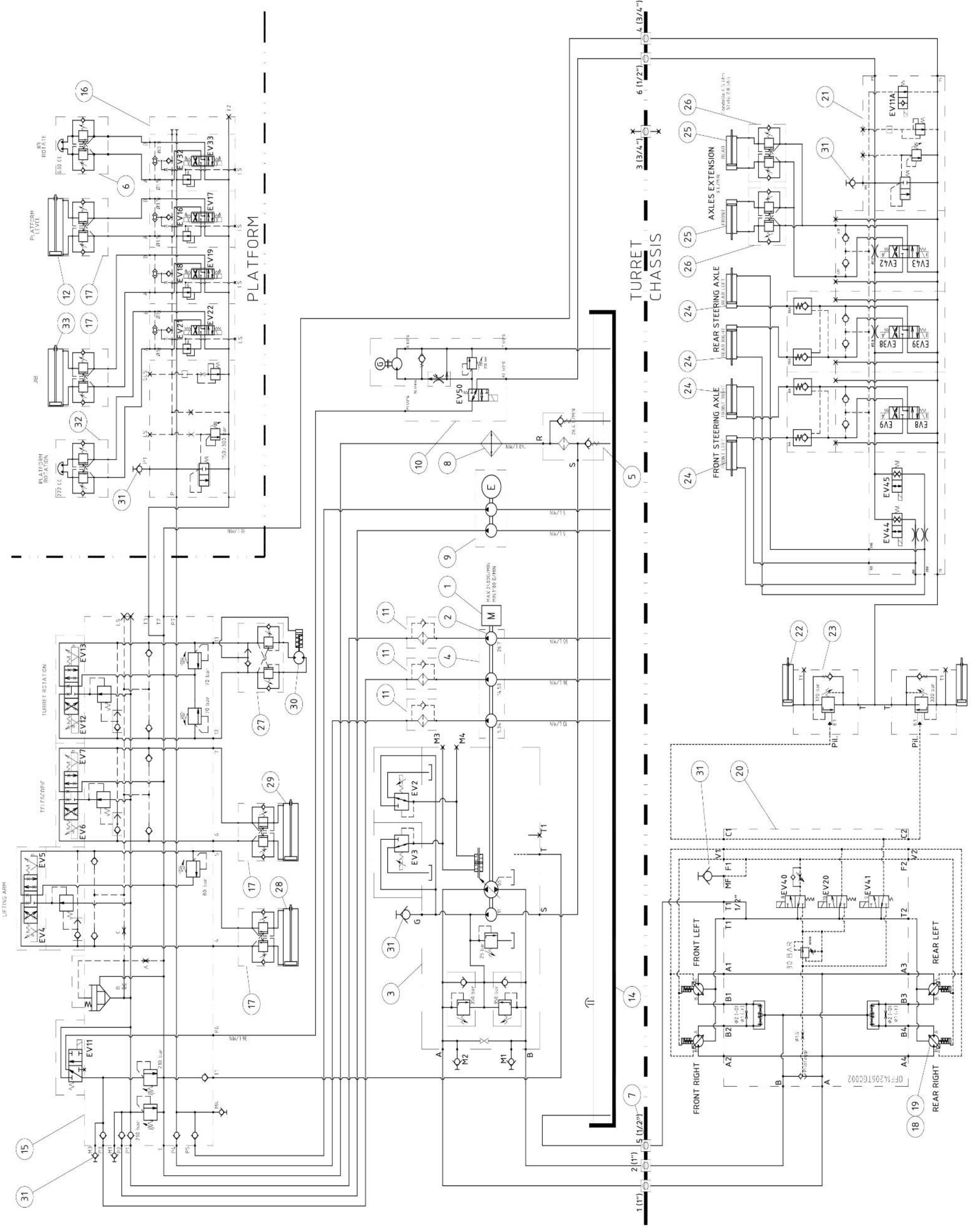
SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE **SAFETY MANAGER**

11. STANDARD HYDRAULIC DIAGRAM

1	DIESEL MOTOR
2	GEAR PUMP
3	DRIVE PISTON PUMP
4	COMPLETE PUMP ASSEMBLY
5	FILTER
6	JIB ROTATION ACTUATOR (OPTIONAL)
7	ROTATING DISTRIBUTOR
8	HEAT EXCHANGER
9	EMERGENCY ELECTRIC PUMP
10	AC GENERATOR (OPTIONAL)
11	PRESSURE FILTER
12	PLATFORM LEVELLING CYLINDER
13	HYDRAULIC OIL TANK
14	TANK COVER
15	TURRET HYDRAULIC BLOCK
16	PLATFORM HYDRAULIC BLOCK
17	OVER-CENTER VALVE
18	HYDRAULIC DRIVE MOTOR
19	DRIVE REDUCTION GEAR
20	DRIVE HYDRAULIC BLOCK
21	STEERING/AXLE HYDRAULIC BLOCK
22	OSCILLATING AXLE CYLINDER (OPTIONAL)
23	OVER-CENTER VALVE (OPTIONAL)
24	STEERING CYLINDER
25	EXTANDABLE AXLE CYLINDER
26	ONLINE OVERCENTER VALVE
27	OVER-CENTER VALVE
28	BOOM LIFTING CYLINDER
29	TELESCOPIC BOOM CYLINDER
30	TURRET ROTATION GEARED MOTOR
31	GAUGE QUICK COUPLING
32	PLATFORM ROTATION ACTUATOR
33	JIB CYLINDER (T34)
EV2	FORWARD DRIVE SOLENOID VALVE
EV3	BACKWARD DRIVE SOLENOID VALVE
EV4	BOOM LIFTING SOLENOID VALVE
EV5	FIRST BOOM LOWERING SOLENOID VALVE
EV6	BOOM EXTENSION SOLENOID VALVE
EV7	BOOM RETRACTION SOLENOID VALVE
EV8	RIGHT STEERING SOLENOID VALVE - FRONT AXLE
EV9	LEFT STEERING SOLENOID VALVE - FRONT AXLE
EV11	BY-PASS SOLENOID VALVE
EV11A	BY-PASS SOLENOID VALVE
EV12	CLOCKWISE TURRET ROTATION SOLENOID VALVE
EV13	COUNTERCLOCKWISE TURRET ROTATION SOLENOID VALVE
EV16	FORWARD CAGE LEVELLING SOLENOID VALVE
EV17	REVERSE CAGE LEVELLING SOLENOID VALVE
EV18	JIB LIFTING SOLENOID VALVE (T34)
EV19	JIB LOWERING SOLENOID VALVE (T34)
EV20	DISPLACEMENT EXCHANGE SOLENOID VALVE
EV21	CLOCKWISE CAGE ROTATION SOLENOID VALVE
EV22	COUNTERCLOCKWISE CAGE ROTATION SOLENOID VALVE
EV32	CLOCKWISE JIB ROTATION SOLENOID VALVE (OPTIONAL - T34)
EV34	COUNTERCLOCKWISE JIB ROTATION SOLENOID VALVE (OPTIONAL - T34)

EV38 RIGHT STEERING SOLENOID VALVE - REAR AXLE
EV39 LEFT STEERING SOLENOID VALVE - REAR AXLE
EV40 BRAKE RELEASE SOLENOID VALVE
EV41 OSCILLATING AXIAL LOCK SOLENOID VALVE
EV42 AXIAL RETRACTION SOLENOID VALVE
EV43 AXLE EXTENSION SOLENOID VALVE
EV44 STEERING REPHASING SOLENOID VALVE - FRONT AXLE
EV45 STEERING REPHASING SOLENOID VALVE - REAR AXLE
EV50 GENERATOR ACTIVATION SOLENOID VALVE



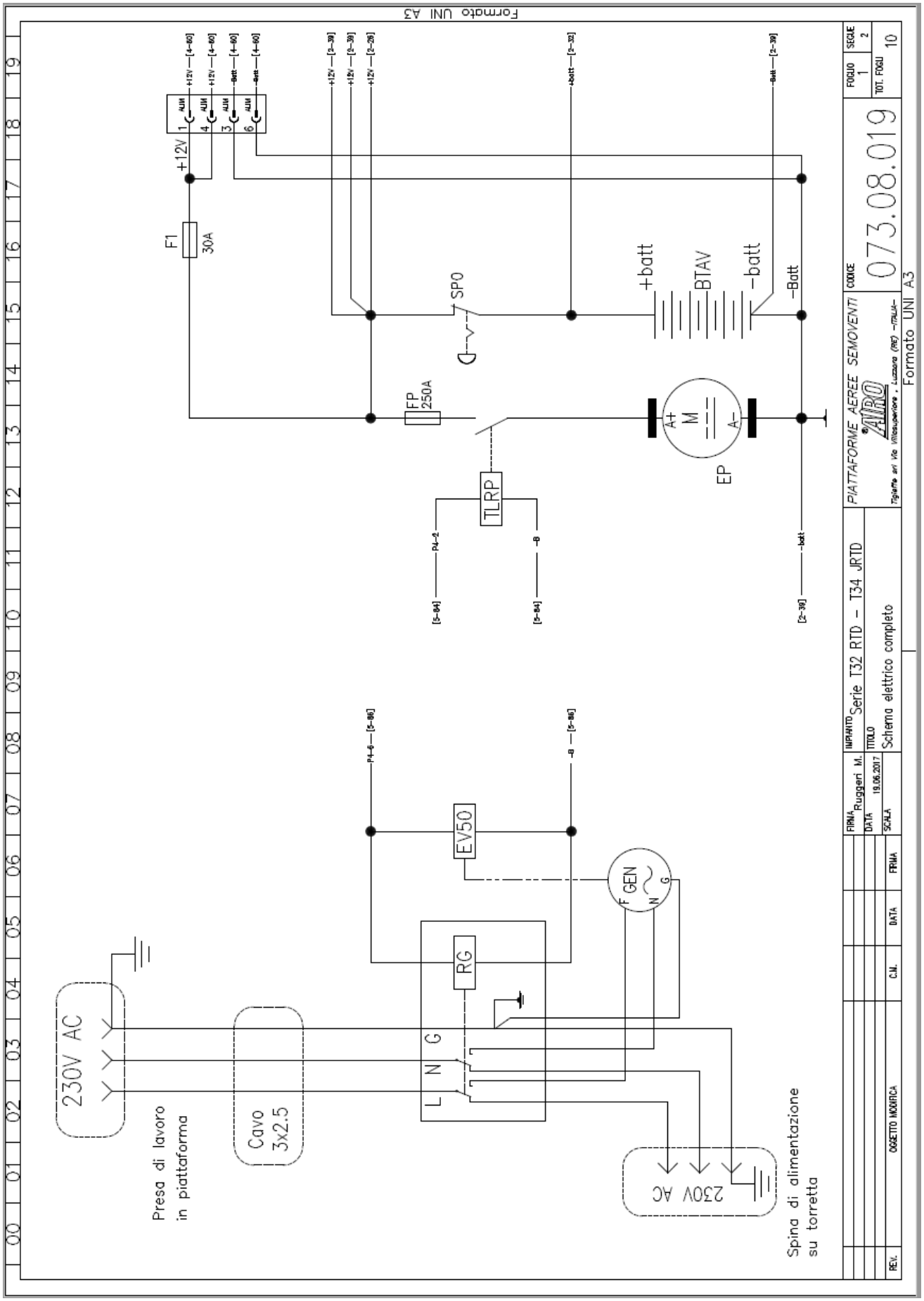
PLATFORM
TURRET
CHASSIS
AXLES EXTENSION
REAR STEERING AXLE
FRONT STEERING AXLE
TURRET ROTATION
TELESCOPIC
LIFTING ARM
FRONT LEFT
FRONT RIGHT
REAR LEFT
REAR RIGHT
30 BAR
EV2
EV3
EV4
EV5
EV6
EV7
EV8
EV9
EV11
EV11A
EV12
EV13
EV16
EV17
EV18
EV19
EV20
EV21
EV22
EV32
EV33
EV38
EV39
EV40
EV41
EV42
EV43
EV44
EV45
EV50
1 (1")
2 (1")
3 (3/4")
4 (3/4")
5 (1/2")
6 (1/2")

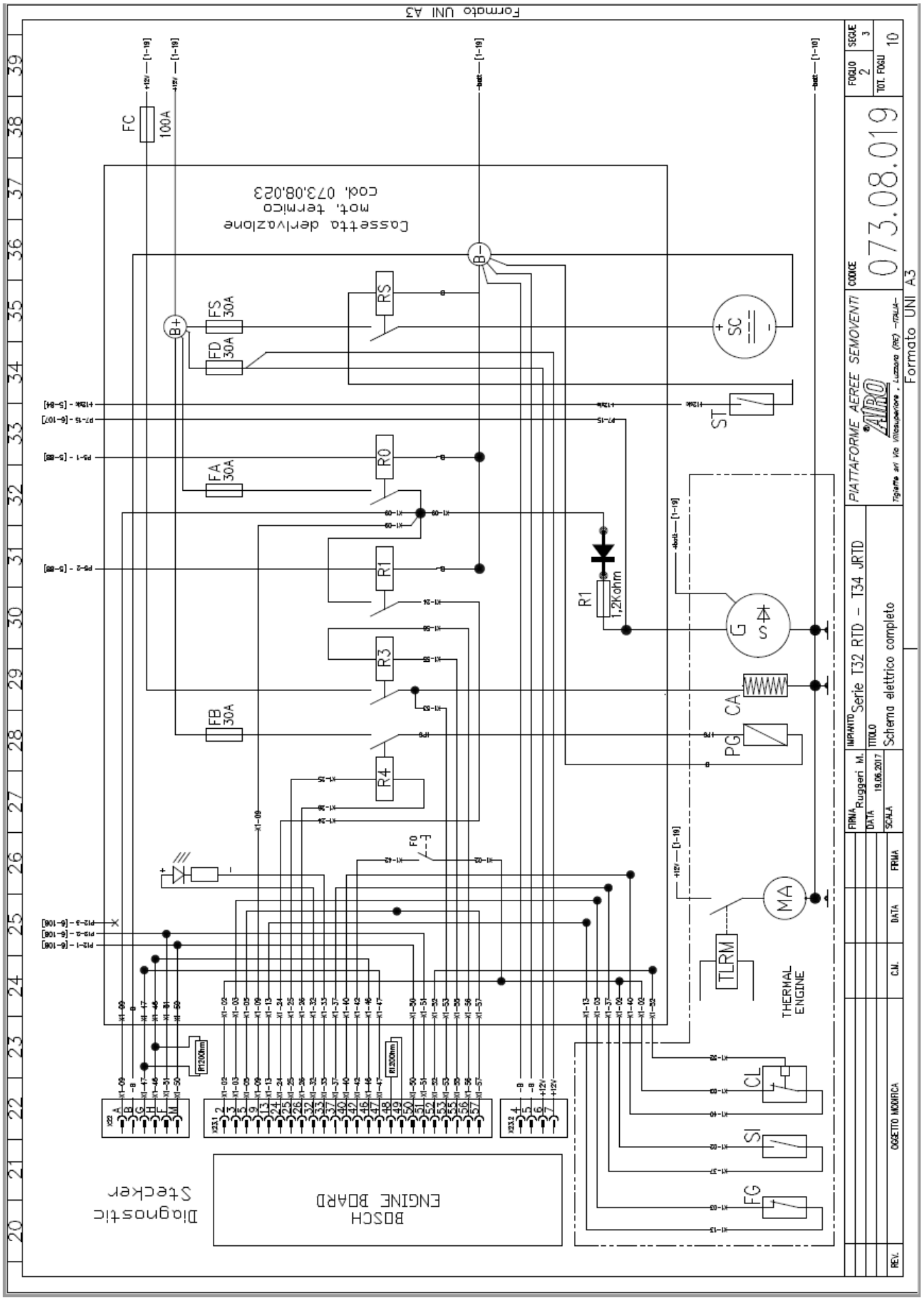
12. STANDARD ELECTRIC DIAGRAM

AV1	GROUND AUDIBLE DEVICE
AV2	PLATFORM AUDIBLE ALARM
BTAV	STARTER BATTERY
BY	KEY SELECTOR FOR OVERLOAD ALARM BY-PASS
CA	PRE-HEATING MOTOR PLUGS
CL	MOTOR COOLANT LEVEL
CT1	CAN TILT 1 - PLATFORM TILT SENSOR
CT2	CAN TILT 2 - PLATFORM TILT SENSOR
EP	EMERGENCY ELECTRIC PUMP CONTROL
E/D1	ELECTRIC/DIESEL SELECTOR - GROUND CONTROLS
E/D2	ELECTRIC/DIESEL SELECTOR - PLATFORM CONTROLS
EV2	FORWARD DRIVE SOLENOID VALVE
EV3	BACKWARD DRIVE SOLENOID VALVE
EV4	BOOM LIFTING SOLENOID VALVE
EV5	FIRST BOOM LOWERING SOLENOID VALVE
EV6	BOOM EXTENSION SOLENOID VALVE
EV7	BOOM RETRACTION SOLENOID VALVE
EV8	RIGHT STEERING SOLENOID VALVE - FRONT AXLE
EV9	LEFT STEERING SOLENOID VALVE - FRONT AXLE
EV11	HYDRAULIC BLOCK SUPPLY SOLENOID VALVE ON THE CHASSIS
EV12	CLOCKWISE TURRET ROTATION SOLENOID VALVE
EV13	COUNTERCLOCKWISE TURRET ROTATION SOLENOID VALVE
EV16	FORWARD CAGE LEVELLING SOLENOID VALVE
EV17	REVERSE CAGE LEVELLING SOLENOID VALVE
EV18	JIB LIFTING SOLENOID VALVE (T34)
EV19	JIB LOWERING SOLENOID VALVE (T34)
EV20	DISPLACEMENT EXCHANGE SOLENOID VALVE - HIGH/LOW DRIVE SPEED
EV21	CLOCKWISE CAGE ROTATION SOLENOID VALVE
EV22	COUNTERCLOCKWISE CAGE ROTATION SOLENOID VALVE
EV32	CLOCKWISE JIB ROTATION SOLENOID VALVE (OPTIONAL - T34)
EV34	COUNTERCLOCKWISE JIB ROTATION SOLENOID VALVE (OPTIONAL - T34)
EV38	RIGHT STEERING SOLENOID VALVE - REAR AXLE
EV39	LEFT STEERING SOLENOID VALVE - REAR AXLE
EV40	BRAKE RELEASE SOLENOID VALVE
EV41	OSCILLATING AXIAL LOCK SOLENOID VALVE
EV42	AXIAL RETRACTION SOLENOID VALVE
EV43	AXLE EXTENSION SOLENOID VALVE
EV44	STEERING REPHASING SOLENOID VALVE - FRONT AXLE
EV45	STEERING REPHASING SOLENOID VALVE - REAR AXLE
EV50	GENERATOR ACTIVATION SOLENOID VALVE

F1	CONTROL CIRCUIT FUSE
FA	DIESEL POWERED MOTOR FUSE
FB	DIESEL PUMP FUSE
FC	PRE-HEATING CIRCUIT FUSE
FD	DEUTZ CONTROLLER POWER FUSE
FG	DIESEL FILTER SENSOR
FO	KEY SELECTOR "EMERGENCY OVERRIDE"
FP	EMERGENCY ELECTRIC PUMP FUSE
FS	HEAT EXCHANGER FUSE
G	DIESEL MOTOR ALTERNATOR
GEN	AC CURRENT GENERATOR (OPTIONAL)
GRF1	ROTATING BEACON 1
GRF2	ROTATING BEACON 2

GRF3	ROTATING BEACON 3
JIB180	JIB >180° ROTATION ENABLE BUTTON
KL	HORN
LOAD	PLATFORM LAOD SELECTOR
M	EMERGENCY ELECTRIC PUMP ELECTRIC MOTOR
M1C	JIB CONTROL MICROSWITCH
M14	EXTENSION CHAIN CONTROL MICROSWITCH
M15	RETRACTION CHAIN CONTROL MICROSWITCH
M16	JIB ROTATION LIMIT SWITCH MICROSWITCH
M17	JIB CENTERED POSITION CONTROL MICROSWITCH
M20A	FRONT LEFT-HAND RETRACTED AXLE SENSOR
M20B	FRONT RIGHT-HAND RETRACTED AXLE SENSOR
M21	FRONT EXTENDED AXLE SENSOR
M22	FRONT EXTENDED AXLE SENSOR
M23A	REAR LEFT-HAND RETRACTED AXLE SENSOR
M23B	REAR RIGHT-HAND RETRACTED AXLE SENSOR
M24	REAR EXTENDED AXLE SENSOR
M25	REAR EXTENDED AXLE SENSOR
MA	DIESEL MOTOR STARTER
PG	DIESEL PUMP
R0	DIESEL MOTOR “ON” RELAY
R1	DIESEL MOTOR STARTING CONTROL RELAY
R3	PRE-HEATING RELAY
R4	DIESEL PUMP RELAY
RG	AX GENERATOR RELAY
RS	HEAT EXCHANGER CONTROL RELAY
SAVG	DIESEL MOTOR STARTING SELECTOR - GROUND CONTROLS
SAVP	DIESEL MOTOR STARTING SELECTOR - PLATFORM CONTROLS
SC	HEAT EXCHANGER
SI	DIESEL MOTOR AIR FILTER CLOGGING SENSOR
SP0	POWER CIRCUIT EMERGENCY STOP SWITCH - TURRET
SP1	EMERGENCY STOP SWITCH - GROUND CONTROLS
SP2	EMERGENCY STOP SWITCH - PLATFORM CONTROLS
SP3	HORN BUTTON
SPT	ROTATING TURRET POSITION SENSOR
ST	HYDRAULIC OIL HEAT SENSOR - IN THE HEAT EXCHANGER
SW1	GROUND/PLATFORM CONTROL SELECTOR
TLRM	DIESEL ENGINE STARTER CONTACTOR
TLRP	EMERGENCY ELECTRIC PUMP CONTROL CONTACTOR
TORR	DRIVE/STEERING/AXLE CONTROL ENABLE BUTTON WITH ROTATED TURRET
UM	CONTROL ENABLE PEDAL


Formato UNI A3
+12V
F1
30A
SP0
+batt
BTAV
-batt
-Batt
FP
250A
TLRP
EP
A+
A-
M
230V AC
Presa di lavoro
in piattaforma
Cavo
3x2.5
L N G
RG
EV50
F GEN
230V AC
Spina di alimentazione
su torretta
PIATTAFORME AEREE SEMOVENTI
AIRO
073.08.019
Formato UNI A3
IMPIANTO Serie T32 RTD - T34 JRTD
TITOLO Schema elettrico completo
FIRMA Ruggeri M.
DATA 19.06.2017
SCALA
FOGLIO 1
SEGUE 2
TOT. FOGLI 10
REV.
OGGETTO MODIFICA
C.M.
DATA
FIRMA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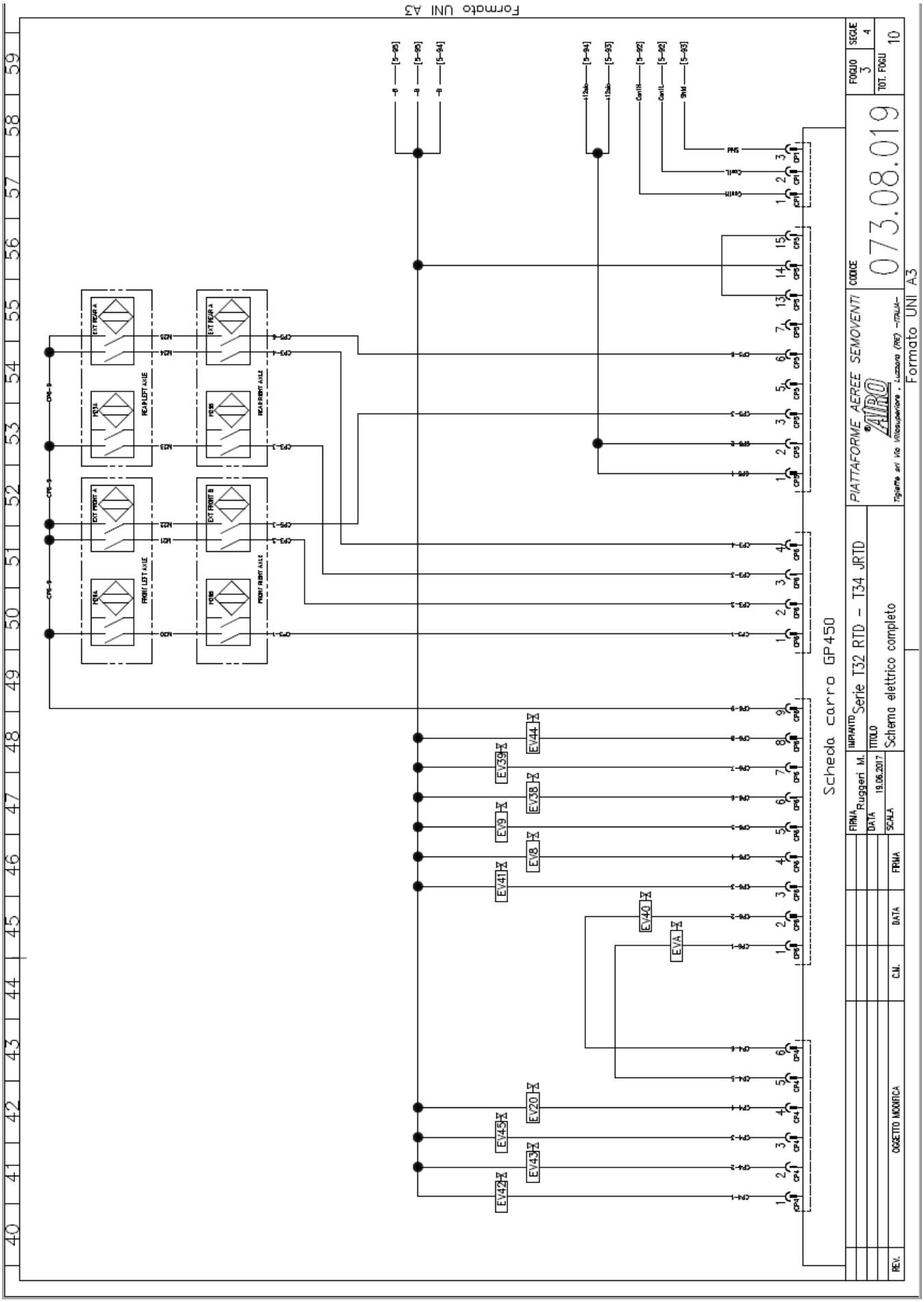
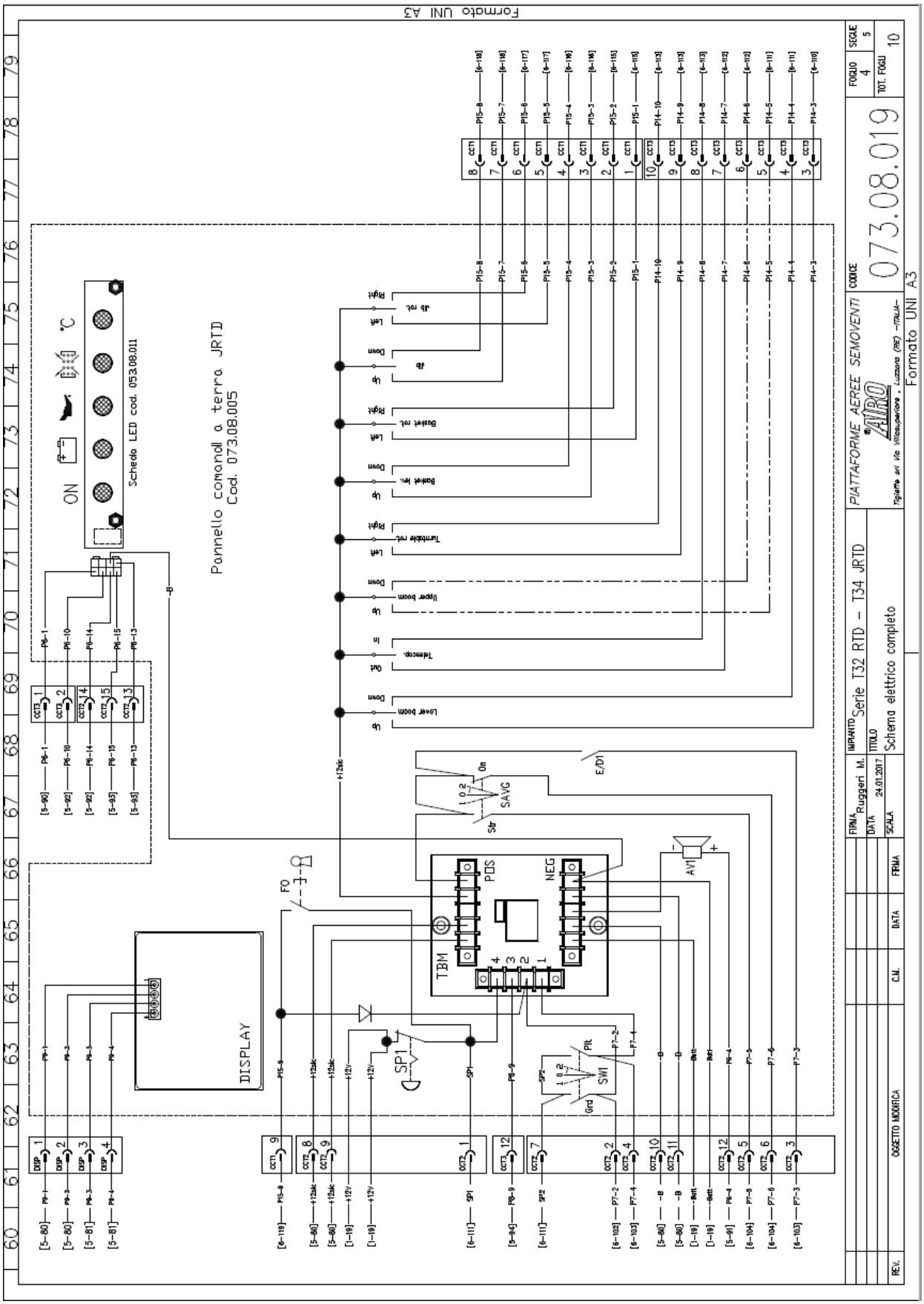
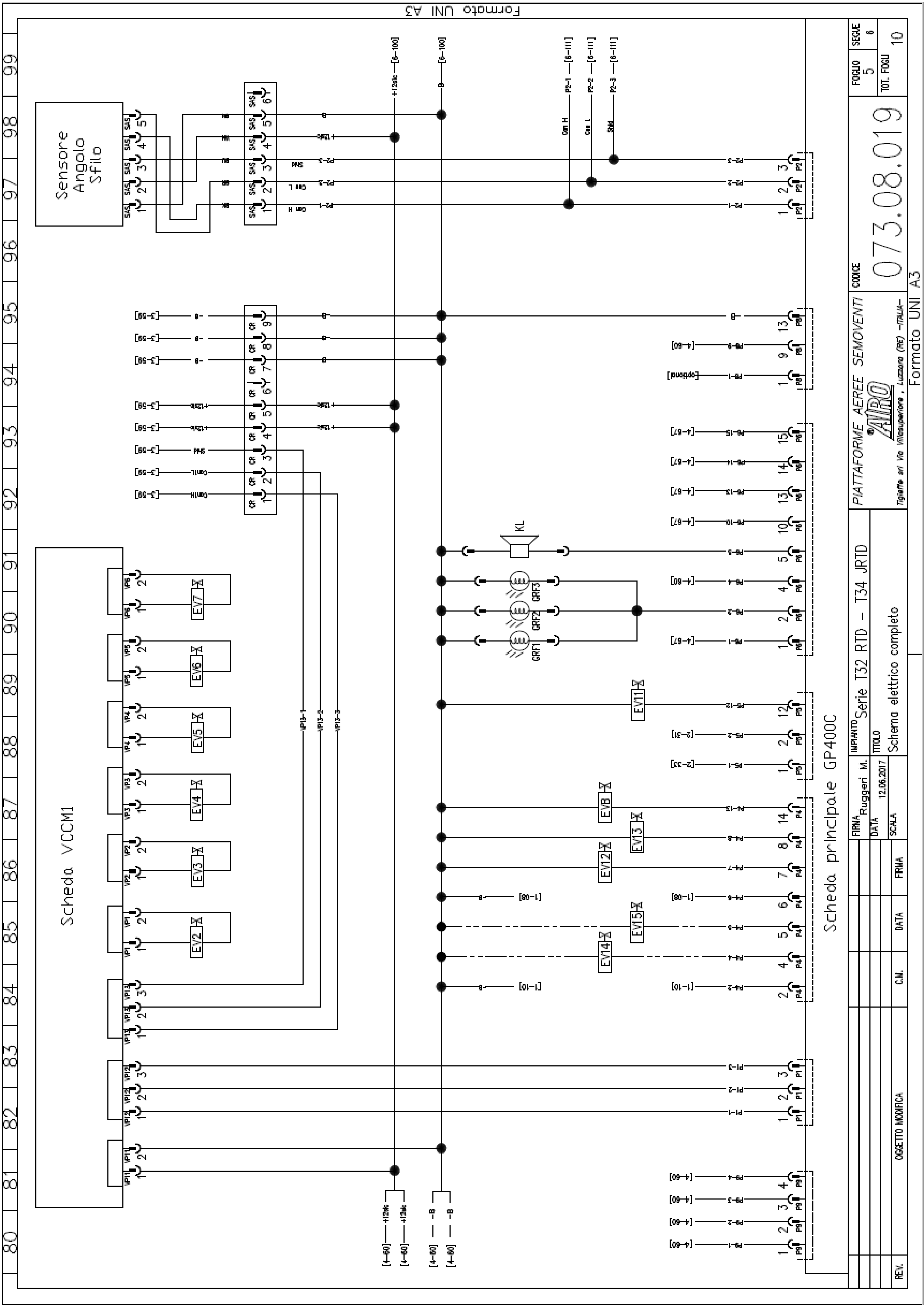
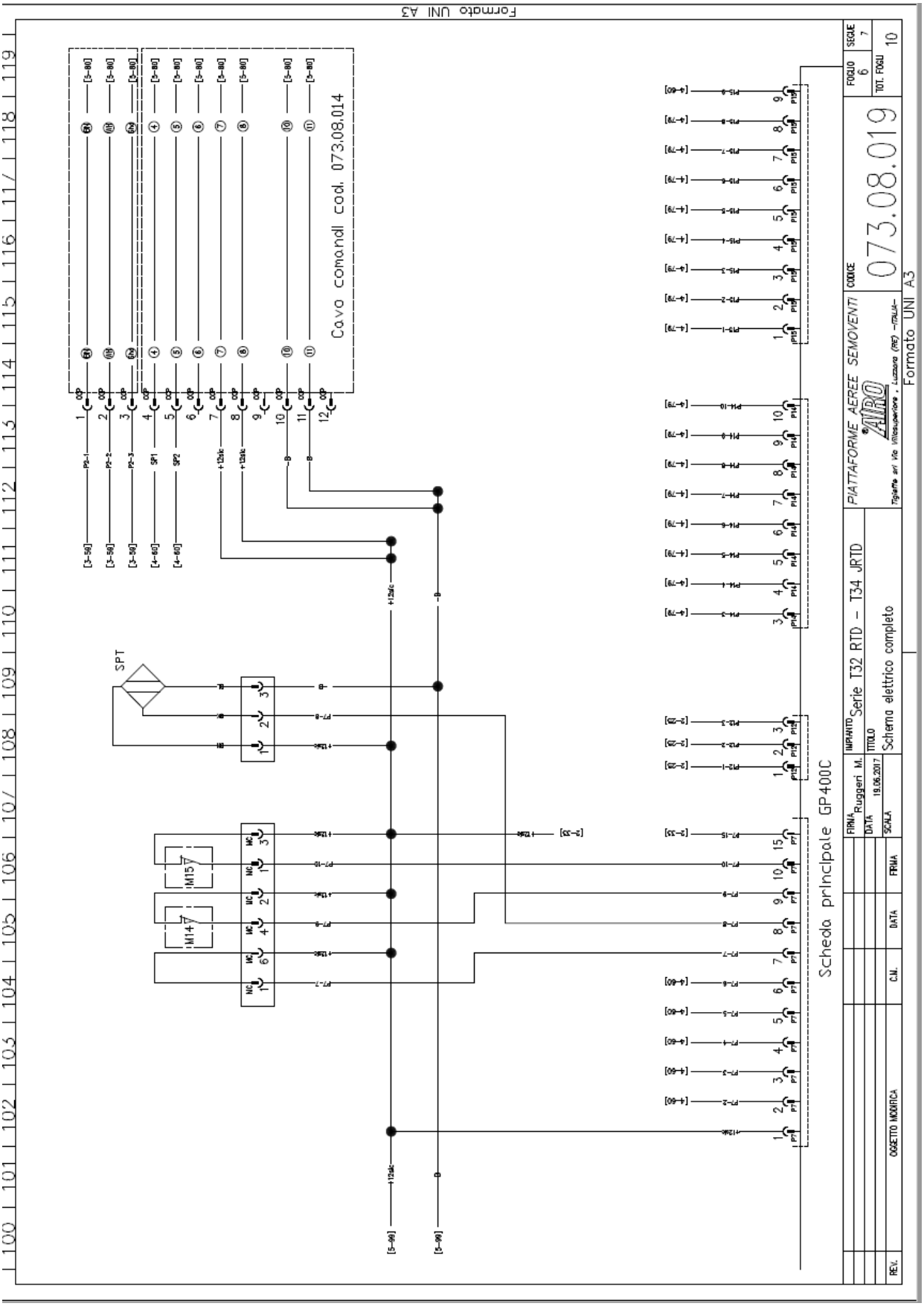
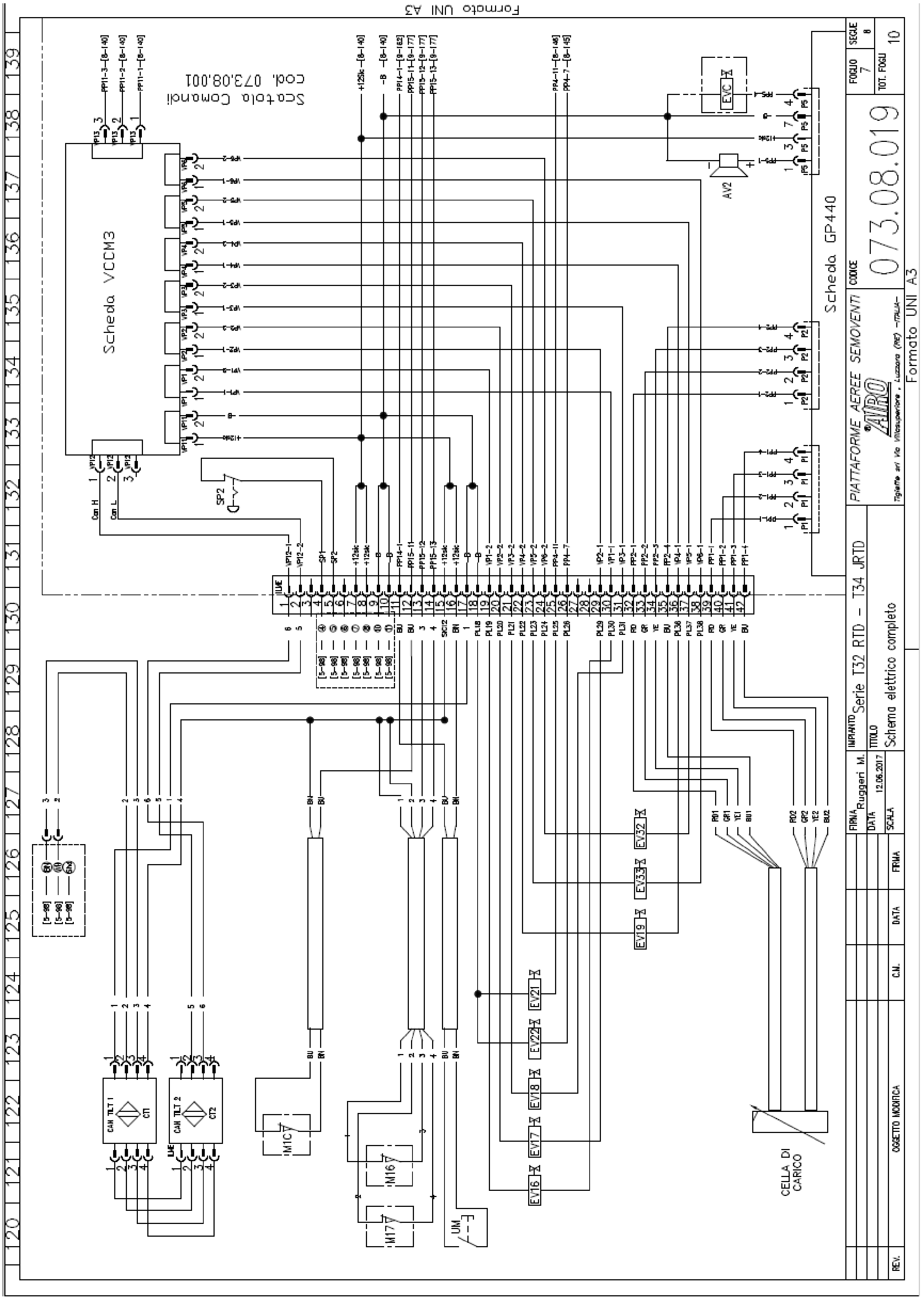
Cassetta derivazione
mot. termico
cod. 073.08.023
FC
100A
FS
30A
FD
30A
FA
30A
FB
30A
RS
R0
R1
R3
R4
B+
B-
SC
ST
R1
1,2Kohm
G
S
CA
PG
MA
TLRM
THERMAL
ENGINE
CL
SI
FG
FO
BOSCH
ENGINE BOARD
Diagnostic
Stecker
PIATTAFORME AEREE SEMOVENTI
AIRO
CODICE
073.08.019
FOGLIO 2
SEGUE 3
TOT. FOGLI 10
Formato UNI A3
IMPIANTO Serie T32 RTD - T34 JRTD
TITOLO Schema elettrico completo
FIRMA Ruggeri M.
DATA 19.06.2017
SCALA
REV.
OGGETTO MODIFICA
C.M.
DATA
FIRMA

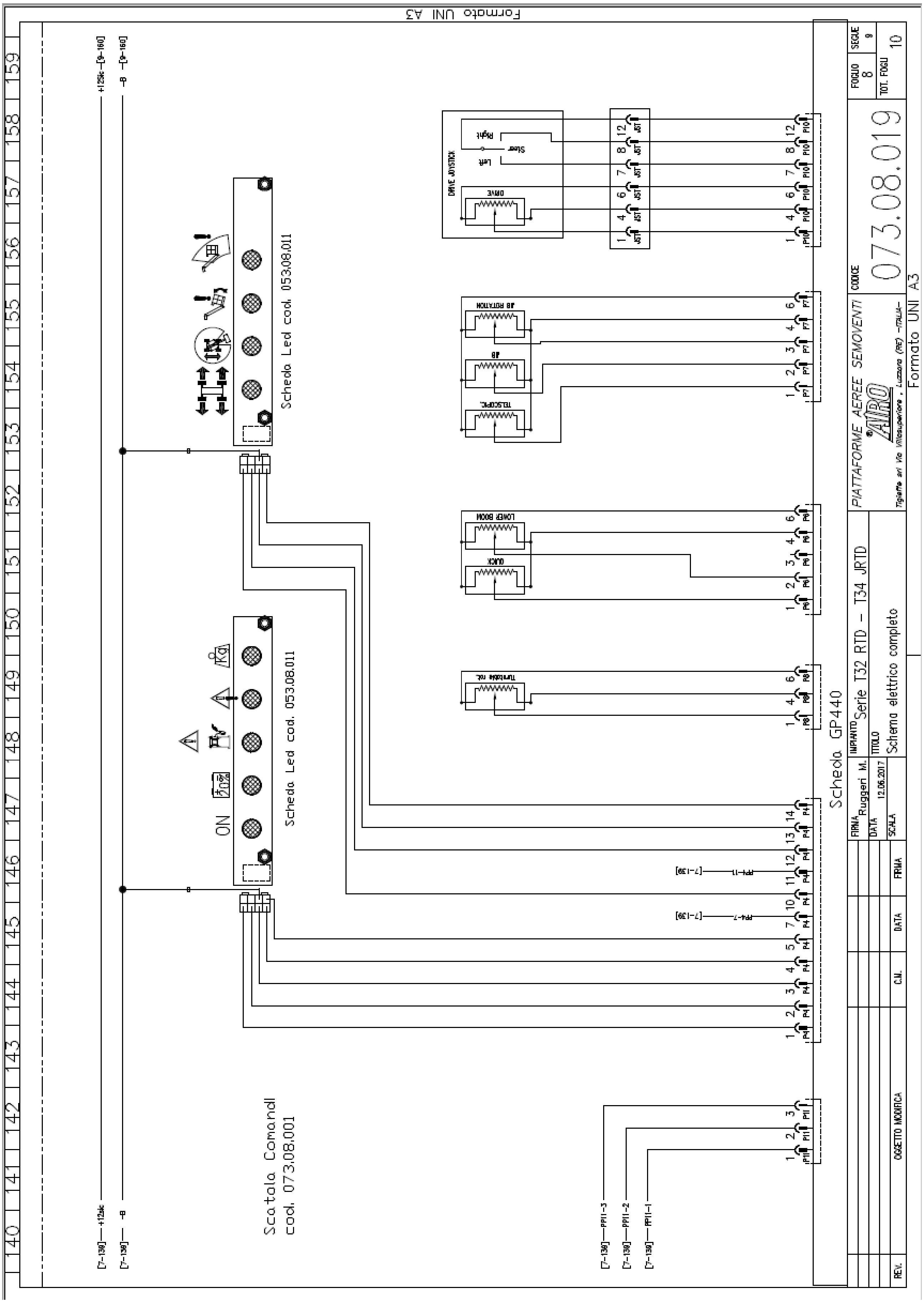

Formato UNI A3
Scheda carro GP450
PIATTAFORME AEREE SEMOVENTI
AIRO
Serie T32 RTD - T34 JRTD
Schema elettrico completo
073.08.019
Formato UNI A3
EV39
EV38
EV9
EV8
EV41
EV44
EV40
EV4
EV20
EV45
EV43
EV42

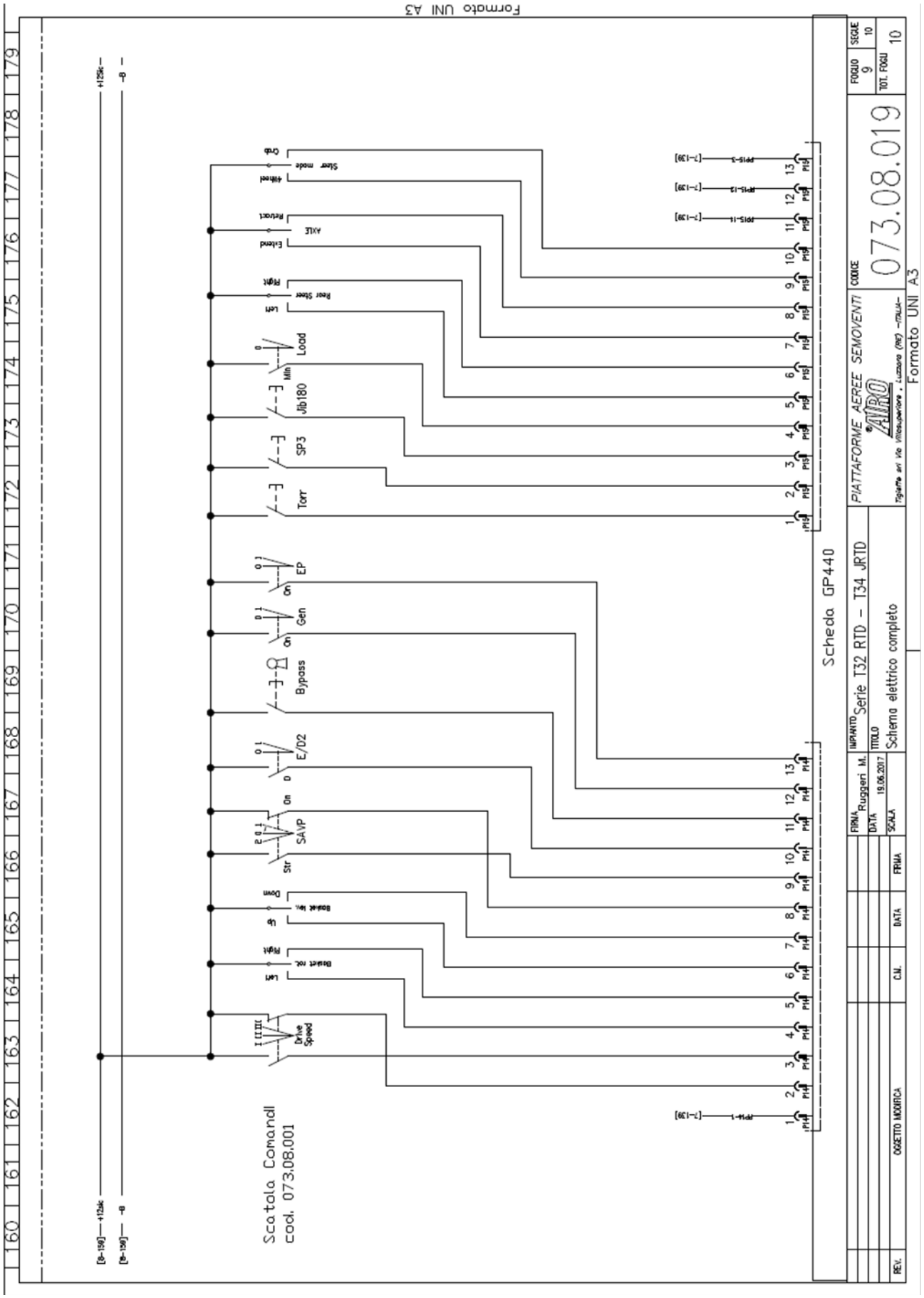

Formato UNI A3
Pannello comandi a terra JRTD
Cod. 073.08.005
Scheda LED cod. 053.08.011
ON
°C
DISPLAY
TBM
POS
NEG
SAVG
AVI
SP1
SW1
FO
E/D1
Lower boom
Telescop.
Upper boom
Turntable rot.
Basket rot.
Jib
Jib rot.
PIATTAFORME AEREE SEMOVENTI
AIRO
Serie T32 RTD - T34 JRTD
Schema elettrico completo
073.08.019
Formato UNI A3


Sensore Angolo Sfilo
Scheda VCCM1
Scheda principale GP400C
PIATTAFORME AEREE SEMOVENTI
Serie T32 RTD - T34 JRTD
Schema elettrico completo
073.08.019
Formato UNI A3


Formato UNI A3
Cavo comandi cod. 073.08.014
Scheda principale GP400C
SPT
M15
M14
PIATTAFORME AEREE SEMOVENTI
AIRO
073.08.019
Formato UNI A3
Serie T32 RTD - T34 JRTD
Schema elettrico completo
FOGLIO 6
TOT. FOGLI 10
SCALE 7
DISEGNATO Ruggeri M.
DATA 19.06.2017
FIRMA
SCALA
REV.
OGGETTO MODIFICA
C.M.
DATA
FIRMA


Formato UNI A3
Scatola Comandi
cod. 073.08.001
Scheda VCCM3
Scheda GP440
CELLA DI CARICO
PIATTAFORME AEREE SEMOVENTI
Serie T32 RTD - T34 JRTD
Schema elettrico completo
073.08.019
FOGLIO 7
SEGUE 8
TOT. FOGLI 10
Ruggeri M.
12.06.2017


Formato UNI A3
Scatola Comandi
cod. 073.08.001
Scheda Led cod. 053.08.011
Scheda Led cod. 053.08.011
Scheda GP440
DRIVE JOYSTICK
DRIVE
Steer
Left
Right
TELESCOPIC
JIB
JIB ROTATION
QUICK
LOWER BOOM
Turntable rot.
ON
PIATTAFORME AEREE SEMOVENTI
CODICE
073.08.019
FOGLIO 8
SEGUE 9
TOT. FOGLI 10
IMPIANTO Serie T32 RTD - T34 JRTD
TITOLO Schema elettrico completo
FIRMA Ruggeri M.
DATA 12.06.2017
SCALA
REV.
OGGETTO MODIFICA
C.M.
DATA
FIRMA


Formato UNI A3
Scatola Comandi
cod. 073.08.001
Scheda GP440
Drive Speed
Load
Jib180
SP3
Torr
EP
Gen
Bypass
E/D2
SAVP
Str
Down
Up
Right
Left
Extend
Retract
Rear Steer
Steer mode
Orb
PIATTAFORME AEREE SEMOVENTI
AIRO
073.08.019
Serie T32 RTD - T34 JRTD
Schema elettrico completo
Formato UNI A3

180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199

SIMB.	DESCRIZIONE	Pag.–Col.
AV1	Avvisatore acustico a terra	4–66
AV2	Avvisatore acustico in piattaforma	7–137
BTAV	Batteria avviamento	1–15
BY	Selettore di By–pass controllo del carico	9–169
CA	Pre–riscaldo	2–29
CL	Livellostato refrigerante motore	2–22/23
CT1	CAN Tilt 1 – livellamento cesto	7–121/123
CT2	CAN Tilt 2 – livellamento cesto	7–121/123
EP	Selettore elettropompa	9–171
E/D1	Selettore Elettro/Diesel a terra	4–68
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EV2	Elettrovalvola trazione Avanti	5–85
EV3	Elettrovalvola trazione indietro	5–86
EV4	Elettrovalvola di sollevamento I braccio	5–87
EV5	Elettrovalvola di discesa I braccio	5–88
EV6	Elettrovalvola di sfilo braccio telescopico	5–88/89
EV7	Elettrovalvola di rientro braccio telescopico	5–89/90
EV8	Elettrovalvola di sterzo avanti a destra	3–46
EV9	Elettrovalvola di sterzo indietro a sinistra	3–46/47
EV11	Elettrovalvola di alim. blocco sterzo/assale	5–89
EV12	Elettrovalvola di rotazione torretta a destra	5–86
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EV14	Elettrovalvola di sollevamento II Braccio	5–85
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EV16	Elettrovalvola di livellamento cesto ALTO	7–121
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EV18	Elettrovalvola di sollevamento JIB	7–122
EV19	Elettrovalvola di discesa JIB	7–125
EV20	Elettrovalvola di comando alta velocità	3–42
EV21	Elettrovalvola di rotazione cesto a destra	7–124
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EV32	Elettrovalvola di rotazione JIB a destra	7–126/127
EV33	Elettrovalvola di rotazione JIB a sinistra	7–126
EV38	Elettrovalvola di sterzo posteriore destro	3–47
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EV40	Elettrovalvola di sblocco freno	3–45
EV41	Elettrovalvola di sblocco assale oscillante	3–46
EV42	Elettrovalvola di chiusura assali	3–40/41
EV43	Elettrovalvola di estensione assali	3–41
EV44	Elettrovalvola di sincr. sterzo anteriore	3–48
EV45	Elettrovalvola di sincr. sterzo posteriore	3–41/42
EV50	Elettrovalvola Generatore idraulico AC	1–06/07
EVA	Elettrovalvola di consenso circuito Carro	3–44/45
EVB	Elettrovalvola di consenso circuito Torretta	5–87
EVC	Elettrovalvola di consenso circuito Piattaforma	7–139
F1	Fusibile circuito di comando	1–16
FA	Fusibile alim. motore diesel	2–32
FB	Fusibile pompa gasolio	2–28
FC	Fusibile circuito preriscaldo	2–38
FD	Fusibile alim. centralina DEUTZ	2–34
FG	Filtro Gasolio	2–20/21

SIMB.	DESCRIZIONE	Pag.–Col.
FO	Factory OVERRIDE	4–65/66
FP	Fusibile alim. Elettropompa ausiliaria	1–13
FS	Fusibile Scambiatore di calore	2–35
G	Alternatore	2–29/30
Gen	Generatore di corrente AC (OPT.)	1–05/06
GRF1	Girofaro 1	5–90
GRF2	Girofaro 2	5–90
GRF3	Girofaro 3	5–91
Jib180	Pulsante rotazione Jib>180°	9–173/174
KL	Clacson	5–91
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M	Elettropompa ausiliaria	1–13/14
M1C	Finecorsa posizione JIB	7–121/122
M14	Finecorsa controllo catene	6–105
M15	Finecorsa controllo catene	6–106
M16	Finecorsa JIB>180°	7–121
M17	Finecorsa JIB centrato	7–120
M20A	Sensore assale anteriore sinistro rientrato	3–50/51
M20B	Sensore assale anteriore destro rientrato	3–50/51
M21	Sensore assale anteriore esteso	3–51/52
M22	Sensore assale anteriore esteso	3–51/52
M23A	Sensore assale posteriore sinistro rientrato	3–53/54
M23B	Sensore assale posteriore destro rientrato	3–53/54
M24	Sensore assale posteriore esteso	3–54/55
M25	Sensore assale posteriore esteso	3–54/55
MA	Motorino di Avviamento motore	2–25/26
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R0	Relè ON motore diesel	2–32/33
R1	Relè di comando START	2–30/31
R3	Relè Pre–Riscaldo	2–29/30
R4	Relè Pompa Gasolio	2–27/28
RG	Relè Generatore AC	1–04/05
RS	Relè Scambiatore di Calore	2–35/36
SAVG	Selettore start motore a terra	4–67/68
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SP0	Interrttore di emergenza circuito di potenza	1–14/15
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SW1	Selettori comandi	4–62/63
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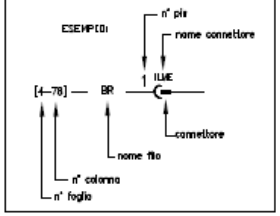
TLRP	Teleruttore comando Elettropompa	1–12
Torr	Pulsante ok trazione con torretta ruotata	9–172
UM	Pedale Uomo Presente	7–120

LEGENDA DISEGNO:



Formato UNI A3

REV.	OGGETTO MODIFICA	C.M.	DATA	FIRMA

FIRMA Ruggeri M.
DATA 19.06.2017
SCALA

IMPIANTO Serie T32 RTD – T34 JRTD
TITOLO Schema elettrico completo

PIATTAFORME AEREE SEMOVENTI
AIRO
Tiglieto srl Via Villasuperiore , Luzzara (RE) –ITALIA–

CODICE 073.08.019

FOGLIO 10 | SEGUE –
TOT. FOGLI 10

Formato UNI A3

13. DECLARATION OF CONFORMITY EC FACSIMILE.

DICHIARAZIONE *CE* DI CONFORMITA' - ES PROHLÁŠENÍ O SHODĚ - *CE* DECLARATION OF CONFORMITY - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*
2006/42/CE

Dichiarazione originale	Original Declaration	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация	Originál prohlášení

Noi - A mou osobou - We - Nous - Wir – Nosotros- мы

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

Dichiariamo sotto la nostra esclusiva responsabilità che il prodotto:	Declare under our exclusive responsability that the 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:	Prohlašujeme na svou vlastní zodpovědnost, že:

Piattaforma di Lavoro Elevabile; Pracovní ploŠinky; Mobile Elevating Work Platform; Plates-forme Elévatrice Mobiles de Personnel; Fahrbare; Hubarbeitsbühnen; Plataforma Elevadora Móvil de Personal; Платформа для высотного работ

Modello - Model - Modèle Typ – Modelo-МОДЕЛЬ	N° Chassis - Pořadové číslo rámu - Chassis No. N° Chassis - Fahrgestellnr - N° Chassis - Номер Рама	Anno - Rok - Year - Année Baujahr – Ano -Год
T32 RTD	***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:	To which this declaration refers is in compliance 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 ертифицированной модели из:	na které se toto prohlášení vztahuje, splňuje požadavky 2006/42 / EC, 2014/30 / ES, 2005/88 / ES a vzorů veterinárních osvědčení:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
Identification No. 0303

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:	s tímto certifikačního číslem:

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

M.0303.17.XXXX

e alle norme seguenti:	and with the following standards:	et aux normes suivantes:	Die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:	a tyto normy:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

Il firmatario di questa dichiarazione di conformità è autorizzato a costituire il Fascicolo Tecnico.	The signatory of this conformity declaration is authorized to set up 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	Signatářem tohoto tvrzení je oprávněna tvoří technické dokumentace.

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

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

DICHIARAZIONE *CE* DI CONFORMITA' - ES PROHLÁŠENÍ O SHODĚ - *CE* DECLARATION OF CONFORMITY - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*
2006/42/CE

Dichiarazione originale	Original Declaration	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация	Originál prohlášení

Noi - A mou osobou - We - Nous - Wir – Nosotros- мы

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

Dichiariamo sotto la nostra esclusiva responsabilità che il prodotto:	Declare under our exclusive responsability that the 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:	Prohlašujeme na svou vlastní zodpovědnost, že:

Piattaforma di Lavoro Elevabile; Pracovní ploŠinky; Mobile Elevating Work Platform; Plates-forme Elévatrice Mobiles de Personnel; Fahrbare; Hubarbeitsbühnen; Plataforma Elevadora Móvil de Personal; Платформа для высотного работ

Modello - Model - Modèle Typ – Modelo-МОДЕЛЬ	N° Chassis - Pořadové číslo rámu - Chassis No. N° Chassis - Fahrgestellnr - N° Chassis - Номер Рама	Anno - Rok - Year - Année Baujahr – Ano -Год
T34 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:	To which this declaration refers is in compliance 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 ертифицированной модели из:	na které se toto prohlášení vztahuje, splňuje požadavky 2006/42 / EC, 2014/30 / ES, 2005/88 / ES a vzorů veterinárních osvědčení:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
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N.Certificato - Certificate No. - N° du certificat - Bestätigungnummer - N° de certificado – Номер Сертификата - Certifikačního číslem

M.0303.17.YYYY

e alle norme seguenti:	and with the following standards:	et aux normes suivantes:	Die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:	a tyto normy:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

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

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

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