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the winning team

MANUALE D'UTILIZZO DELLE MACCHINE ELETTRONICHE

CIRO E/EW

EN - *USE AND MAINTENANCE* - **OPERATOR'S MANUAL**
Translation of the original instructions

*) Valido per Paesi UE
*) Valid for EU member countries
*) Valable dans les Pays UE
*) Gilt für EU-Mitgliedsländer
*) Válido para Países UE

MACHINES CODES:
EOM99041 - EOM99042
EOM99043 - EOM99044

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INDEX

1. SERVICE DATA

The PTO speed is **540 rpm.**

The supply voltage of the electronic system is 12 Vdc.

2. SAFETY RULES

Pay close attention to this danger sign anytime it appears in this manual.

There are three levels of danger:

DANGER: This sign warns that the operations described cause serious lesions, death or long term health risks, if they are not carried out correctly.

ATTENTION: This sign warns that the operations described could cause serious lesions, death or long term health risks, if they are not carried out correctly.

CAUTION: This sign warns that the operations described could cause serious damage to the machine, if they are not carried out correctly.

Carefully read all the instructions before operating the machine; if in doubt, contact the dealer's technicians. The manufacturer declines all responsibility for the in-observance of the safety and accident prevention rules described below.

3. ELECTRONIC SYSTEM

The electrical cables must be connected as shown below. In order to ensure protection against water and correct operation, be sure to connect the connectors correctly.
The system power connector (J4) must be connected to the appropriate socket on the tractor. If it is not present, it is necessary to purchase, from the retailer or the manufacturer, the appropriate wiring to be connected to the tractor battery, in order to power the machine's electronic system. This wiring must be installed by qualified personnel.

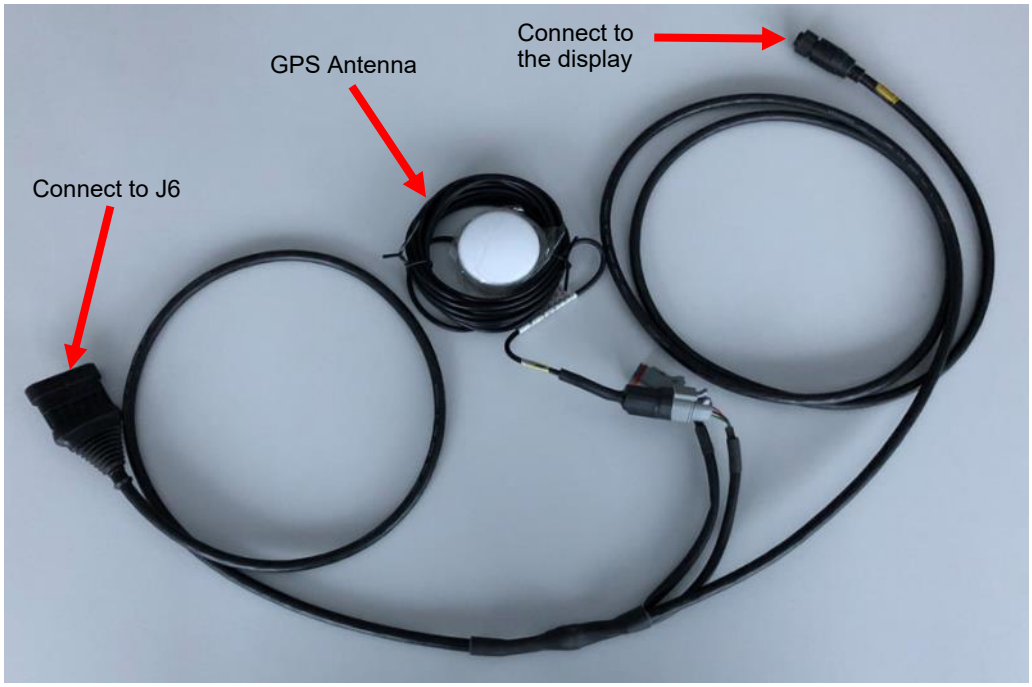
J4: power supply
J5: to this connector the coiled cable of the display
J6: connect here the cable to detect speed (or phonic wheel or ISO 11786 cable). If you have ISO 11786 in the tractor, use the cable in the following picture**.**

Of this cable you plug the connector with the written "THEOR. SPEED" to J6.
Pay attention: "THEOR. SPEED" connector has a protection against dust and water.Remove and plug it into the "TRUE SPEED" connector.

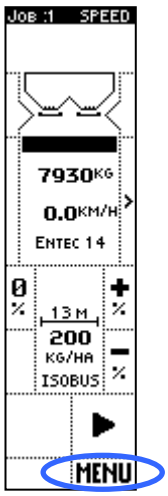
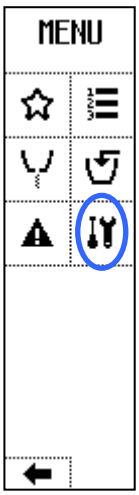
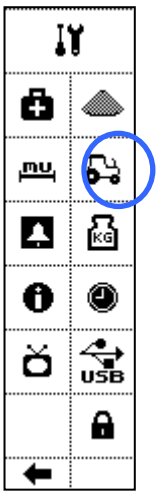
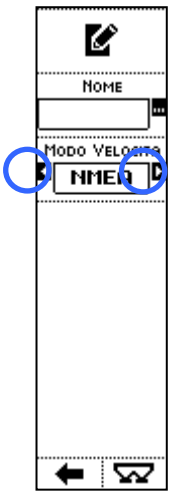
Connect cylindrical connector the display

GP antenna

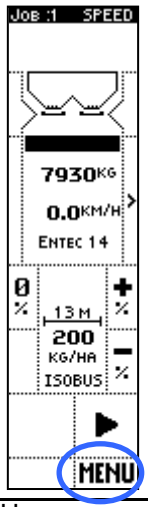
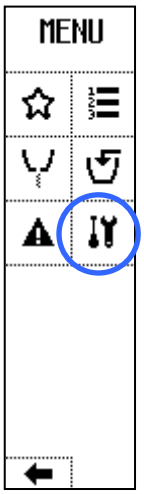
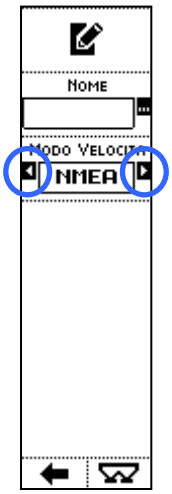
Below it is illustrated the procedure for connecting and configuring the GPS antenna (optional accessory). This component is used to detect the tractor's forward speed and transmit it to the electronic system.
It is advisable to position the GPS antenna on the top of the tractor cabin, thanks to the magnetic base, in order to obtain an optimal signal.



Follow the described steps to configure this attachment

				
Home page. Entrer the Menù.	Enter in advanced settings	Enter in the dedicated area for the tractor's handling	Select the tractor on which you want to use this attachment. Then, enter in the parameters' modification page	Select the NMEA option using lateral buttons. Then, exit the menu

The electronically controlled machine can also be combined with a compatible ISOBUS monitor for the management of prescription maps and automatic section control. In order to get information regarding the cables to be used, the possibility of connection and for the connection of the two devices, contact the manufacturer or local retailer. Once you have purchased all the necessary cables and the software license, follow the instructions below to enable the ISOBUS function.

				
Home page. Entrer the Menù.	Enter in advanced settings	Enter in the dedicated area for the tractor's handling	Select the tractor on which you want to use this attachment. Then, enter in the parameters' modification page	Select the GBSD option using lateral buttons. Then, exit the menu

4. Procedure to Calculate the Weight in the Hopper When Specific Weight is Given (only for electronic machines without weighing system)

It is necessary to fill it with the maximum possible precision up to the "1000" reference (that indicates the known volume of 1 litre) with the same fertilizer that will be used. Afterwards the user shall weigh the filled in bottle by using a precision scale with at least a 10-gram accuracy (see Fig. 14).
From the measured value it shall be deducted the tare of the bottle indicated on the label on the bottle itself, and the result will be the specific weight of the product in use.
After loading it is advisable to level the product in order to read the filling level thanks to the adhesive measurement labels applied inside the hopper or the extensions if mounted (see Fig. 13)

The adhesive measurement labels indicate the level in litres, so in order to know the quantity of the product inside the hopper in kilos it is necessary to multiply the value in litres visually observed in the hopper by the measured specific weight.

Example:

Reading the adhesive measurement labels	550 litres (see fig. 13)
Detected Specific Weight: :	Gross Weight – Tare 1,278 – 0,04 = 1,238kg/dm^3
Weight of the product inside the hopper:	550 x 1,238 = 681 kg

This procedure determines the weight value to be entered on the machine monitor.

During the spreading it will be possible to check if the weight of material in the hopper is correct. To do this is important to use the graduated scales into the hopper. Read the value of the liters in the hopper by leveling the fertilizer and use the specific weight to obtain the kg. If the weight value on the monitor and the kg obtained from the calculation were different, the following procedure must be performed:

Do theoretical work for 1 Ha. Stop the tractor when 1 Ha is treated on the display.

Data to read from display:

- kg at the start of theoretical work (at the beginning)
- kg at the end of theoretical work (at 1 ha worked)

Data to read from hopper:

- liters at the start of work (at the beginning)
- liters at the end of work (at 1 ha worked)

Compute the correction factor:

(*starting theoretical weight - ending theoretical weight*) = ***theoretical spread weight***

Calculation of effective kg spread by means of the graduated scale in the hopper:

(*starting real volume - ending real volume*) * *Specific weight* = ***real spread weight***

Make the following calculation:

Theoretical spread weight = *correction factor*
Real spread weight
Digit the result into the display to apply the correction (The result to be modified is indicated at pag. 34 of the Display user manual at the ***Flow factor*** point). The flow factor is applied to the fertilizer table used for the job.

The flow factor calculation can also be performed using the smartphone APP, "Eurospand", which can be downloaded from the AppStore or Google Play. There, you can find a section dedicated to electronically controlled machines. Then choose the machine you are using and enter the "flow factor" page. In this page it is sufficient to enter the value of the specific weight, obtained as described above, the Kg of product loaded at the beginning of the work, the Kg spread on the monitor and the liters present in the hopper after working for a certain surface. After entering all these values, by pressing the "calculate" button, the value of the flow factor to be inserted on the monitor will be directly provided, as shown in the images below.

Fig. 13

Fig. 14

ATTENTION

Repeat the previous procedure if it is necessary during the job. For the computation it is easier to use integer values for worked hectare.

In case of reuse in the future of that fertilizer table, the correction applied remains stored in memory for that table. Check that this Flow factor is good for the actual job, because the fertilizer spreading depends on the weather. If it is necessary repeat the computation of the correction factor.

5. Spreading Charts for electronic machines

When starting a job, you need to select on the monitor a fertilizer that is the equal or similar to the one you are going to use. Inside the machine monitor, there is a list of fertilizers, each of which is connected to a flow curve.
Each curve has been detected by means of appropriate practical tests.
The tests were carried out at 540 rpm with horizontal spreading discs and at a height from the ground of 80-90 cm.
The data are to be considered as indicative as many factors can influence the quantity supplied, such as for example: the different physical characteristics of the fertilizer, purchased in different periods or from different suppliers or used during periods with different weather conditions.
Please note that the manufacturer is not liable and it is not required to pay any compensation for a failed or insufficient harvest caused by spreading defects.

In the case of a machine without a weighing system, if the product to be used is not present on the monitor, you can choose a product with similar features and subsequently correct the flow factor as illustrated above.
The fertilizer choice can be carry out by using the smartphone APP, going to the "product" section of the electronically managed machines. In this section, next to the name of the fertilizer / seed, there is an information button, with which it is possible to display the relative technical data, in order to find one similar to that used by the customer and then select it on the monitor (help with table below).

In the case of a machine with a weighing system, it is sufficient to select on the machine monitor a product similar to the one being used and the electronic system will carry out the correction to distribute the exact amount Kg / ha set by the user.

Furthermore it is possible, both on a machine with a weighing system and without, to add a new product. For this operation, see the user manual of the machine and the user manual of the monitor.

Since it is not possible to insert the entire name of the products inside the monitor, the abbreviated name and the complete name are given below.

FERTILIZER NAME	NAME ON THE MONITOR
Calcium Carbonate	Calc Carb
Potassium chloride 60%	Cloru Pot
Entec 13-10-20	Entec 13
Entec 14-7-17	Entec 14
Entec 25-15	Entec 25
Entec 26	Entec 26
Diammonium phosphate 18.46	FosfBiAmm
Nitrophoska blu 12-12-17	NPK Blu
Nitrophoska perfect	NPK Perf
Ammonium nitrate 27% granular	NitrAmGra
Novammon 24-0-29	NvAm24029
Triple superphosphate 46%	PerFoTr46
Ammonium sulphate 20.5%	SolAm20,5
Sulfate potassic magnesian30+10	SolPotMag
Granular Urea 46%	UreaGr46
Spherical Urea 46%	UreaSfe46
Agrofertil 6N pelletted	PELLET 6N
NPK 5-10-20 Arpa spa	NPK 51020
Oat	Avena- Oat
Azofertil 30	Azofert30
Ammonium nitrate NAC 27 N	NAC 27N
Urea 46N Gran Concime	Urea 46N
Flexammon 32-0-18	Flex32018
Wheat	Grano- Whe
Multigro NPK 17-9-16	NPK 17916
Rye grass seeds	Logl- Ryag
Mesurol Pro Anti-slug	Mesurol p
Nitrophoska gold	NPK Gold
Barley	Orzo- Barl
Rhizovit Humistim 1	RhizHumis
Sulfammo 26	Sulfam26M
Basic Fertilenne 28	FERTIL 28
NPK 15-15-15	NPK151515
Yarabela Extran 26 (calcareous ammonium Nitrate 26)	EXTRAN 26
Yaraliva Tropicote (Calcium nitrate)	Tropicote
zanandrea sementi riviera queen (Alfalfa)	RIVIERA Q

6. Spreading Operation

Take notice: Pay close attention to the fertilizer producer's instructions, safety and technical sheets. Improper use of fertilizers can cause serious damage to people, animals, crops, soil and can cause water pollution.

- After choosing the spreading width (passage), tractor speed, type of fertilizer, quantity to spread, the electronic system opens correctly the shutters.

CAUTION

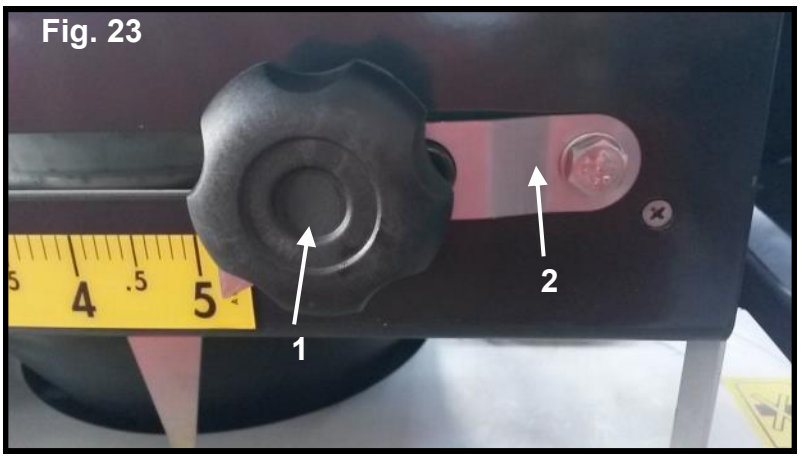
Do not unscrew the fastening knob (particolare 1), and do not remove the mechanical lock (particolare 2), Penalty, the linear actuator failure. See picture 23.

CAUTION

Only authorized personnel can operates to this lock (fig. 23). Il suo utilizzo è esclusivo per la manutenzione o la verifica del sistema elettronico di apertura saracinesche.

CAUTION

Do not unscrew the tie-rods on the spreader, because otherwise mechanical and electronic calibrations change. Only authorized personnel with appropriate tools can operate on the spreader.



7. TROUBLE SHOOTING CHART (only for electronic machines)

PROBLEM	CAUSE	FIX
The spreader does not open at the selected opening position	Likely anomaly of linear actuator.	With empty hopper move linear actuator (see pag. 36 of Display User manual - section Diagnostics). Replace linear actuator with original spare part if it does not move at the button pressure.
The foward speed is not detected	• Cables are not connected • It have not been used the proper connector with ISO11786 plug. • It has not beed chosen the proper foward speed detection type on the monitor	• Make sure to have properly connect the cables, try to disconnect and connect it, cleaning the connectors. • Try to connect the THEOR SPEED connector or TRUE SPEED connector. • Choose the proper speed detector type in tractor's handling menu.
Foward speed is incorrectly detected	• Using GPS Antenna there is the possibility that in a restricted area there is no service. • Using phonic wheel or ISO11786 plug it is possible that 100 m calibration has not been done.	• Try to change position on the tractor of the GPS antenna (position it on the tractor's cabin) • Try to move in another area to see if foward speed is correctly detected. • Carry out 100 m calibration as indicated in user's manual
The distributed quantity is not equal to the one set on the monitor.	• Set work parameters are not correct • It has not been carried out the flux factor calculation (only for machines without weighing system). • Distributed fertilizer is very different than the one choose on the monitor	• Set correctly work parameters (spreading width, used fertilizer, quantity to be spread). • In order to correct different fertilizer features, on machines without weighing system, it is necessary to calculate flux factor. • Carry out product calibration in use as illustrated in machine and monitor manual.
The weight in the monitor is different than the fertilizer weight inside the hopper	• Possible incorrect flow factor value (only on machines without weighing system). • The tare was not performed or the machine is not level (only on machines with weighing system	• On machines without weighing, correct the flow factor as shown above • On machines with a weighing system, make sure that you have performed the tare before loading the fertilizer and that the weighing frame is perpendicular to the ground (see link the machine to the tractor in the manual).

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