





INSTALLATION GUIDE ENTRY LEVEL





Outset Authorized Distributor 888-239-0552

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IMPORTANT INFORMATION CONCERNING SAFETY IN THE VICINITY OF MOVING MACHINERY

Protective gear

Always wear safety goggles, as required by safety conditions, when drilling. Never wear loose clothing or jewellery, which may get caught in the machine.

Hydraulic parts

Discharge all pressure from the hydraulic circuit before disconnecting or removing any pipe, connector, or relative component.

Always make sure that all moving parts have been locked and check for any residual pressure, when disconnecting any hydraulic pipe.

Always let the bucket or other similar parts down to ground level before carrying out any work on the machine.

If this cannot be done, make sure that bucket, forks, etc. are locked so the cannot come suddenly and unexpectedly down.

Damaged or detached fuel and lubricant lines can cause fire. Never bend or strike high pressure lines, nor put damaged or twisted ones back on. Always check pipes and ducts.

Repairs

Detach the battery and let any remaining charge out before carrying out any work on the vehicle.

If possible, have the vehicle brought into a shed or onto a hard, clean floor.

Equipment Rules

Equipment for use in locations where children not likely to be present. Equipment intended for use only in restricted access area. Equipment intended to be fastened in place.

For any additional information, training or problems, contact Scale and Control office toll free at 888-239-0552, press 2 for tech support.



Company with certified management system comply with UNI EN ISO 9001-UNI ISO 45001-UNI EN ISO 14001

COMPONENTS LIST

	Android rugged display
	DC-DC power supply
www.cottest.tf	3A fuse
	Display bracket
	RAM sphere
	RAM arm
	RAM sphere
COLOR	T1 MMT weighing module
	Power supply cable with grey connector and led light (power supply + CAN) 3A fuse
	Wiring harness with black connector (PT1+PT2+PROXY1+PROXY2)
Caller Contraction	Hydraulic pressure transducers 400bar

COMPONENTS LIST

	Pressure transducer cable PT1	
	Pressure transducer cable PT2	
	Inclinometer THE BOOM	
	Inclinometer THE STICK	
	Inclinometers «Y» wiring	
	<u>OPTIONAL</u> RAM triplex suction cup bracket	
Contraction of the second seco	<u>OPTIONAL</u> Thermal Bluetooth printer	
	<u>OPTIONAL</u> Beacon auto recognition	



INSTALLATION PREPARATION

In order to avoid electric shock, which may interrupt or damage electronic components, it is essential to disconnect the batteries and all electronic components sensitive from the machine before proceeding with welding operations.

Recommended avoid welding the components but use screws or bi-component for the installation of the kit. When installing the various components of the T1 LOADER, it is indispensable make sure they do not interfere with driving and using the machine (visibility with the display and the articulation of the machine with the weighing module T1 MMT or the sensors installed).

Operation on the machine's hydraulic system can cause serious injury or lethal (danger of crushing). Before any action, take all the necessary precautions to effectively block the descent of the boom's machine using the necessary protections.

In ROPS type cabs it is strictly forbidden to drill and weld the uprights operations would modify the mechanical strength of the cabin. Refer to the manufacturer's manual for the cab type.

For security reasons, if possible build a security perimeter around the machine, remove the key from the starter engine switch off the battery.

RECOMMENDED ASSEMBLY SEQUENCE

- 1) Position and install the T1 MMT weighing module.
- 2) Installation of the 2 pressure transducers (PT1 delivery and PT2 return).
- 3) Installation of the 2 inclinometers (Boom and Stick).
- 4) Connection of the "Y" wiring of the inclinometers.
- 5) Connect all the wiring to the T1 MMT weighing module (PT1+PT2+CAN).
- 6) Bring the T1 MMT weighing module power supply cable into the cabin.
- 7) Place the display bracket in the cab.
- 8) Connect the DC-DC display power supply (positive and negative) and T1 MMT weighing module power supply (positive, positive ignition key, negative) to the machine power supply.
- 9) Position the display.
- 10) Connect the T1 LOADER App to the T1 MMT weighing module via bluetooth and access the DIAGNOSTIC to check the functioning of all the installed sensors.

WHEN THE INSTALLATION IS FINISHED CHECK THE DIAGNOSTIC



Connect the T1 LOADER App to the T1 MMT weighing module via Bluetooth.

When the installation of the components has been completed, enter the DIAGNOSTIC menu to check that all installed sensors are functioning correctly.

Press the SETUP menu icon on bottom right.

Settings		
Double-Check On Save		
Auto-Print On Save		
Save on Print		
Remote Communication		
Select Unit	Kg	
Density Unit	Kg/m3	
Volume•		
Customize Receipt		
Diagnostic		
Edit Admin Account		

Inside the SETUP menu press the DIAGNOSTIC field to check the installed sensors.

The PRESSURE TRANSDUCERS are on the ADC column the first two values.

The INCLINOMETERS are on the CAN column the second and the third values.



ADC 1 = BOTTOM PRESSURE ADC 2 = TOP PRESSURE

CAN 2 = BOOM ANGLE CAN 3 = STICK ANGLE

STEP 01: T1 MMT WEIGHING MODULE



Install the T1 MMT weighing module in a location free from interference of wiring, pipes, valves, etc.

STEP 01: T1 MMT WEIGHING MODULE



Leave the upper part of the module free, where the bluetooth module is positioned, for better signal reception.

STEP 02: PRESSURE TRANSDUCER PT1



Locate the hydraulic oil DELIVERY (PT1). This hydraulic part has got HIGH PRESSURE. We connect the PT1 Cable and Transducer. Green Label. Always connect the PT1 and PT2 in the same lifting cylinder.

STEP 02: PRESSURE TRANSDUCER PT2



Locate the hydraulic oil RETURN (PT2). This hydraulic part has got LOW PRESSURE. We connect the PT2 Cable and Transducer. Red Label. Always connect the PT1 and PT2 in the same lifting cylinder.

STEP 02: PT CONNECTION



Disconnect the hydraulic hose, install the "custom" fitting, screw in the safety miniplug, screw in the microtube.



Screw the two 400bar pressure transducers (PT1 delivery and PT2 return) to the two microtubes. Return the transducers connected to the microtubes inside the machine frame in a protected position and ready to be connected to the Wiring Harness with Black Connector of the T1 MMT weighing module.

STEP 03: INCLINOMETER - BOOM





STEP 03: INCLINOMETER - STICK





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STEP 04: INCLINOMETERS «Y» WIRING



Using the inclinometers "Y" wiring, connect the STICK inclinometer (CAN3) to the corresponding connector (marked in the same color - purple), continue following the original wiring of the machine and secure the cable with clamps (*example path highlighted in red*).



STEP 04: INCLINOMETERS «Y» WIRING



Using the inclinometers "Y" wiring, connect the BOOM inclinometer (CAN2) to the corresponding connector (marked in the same color - blue), continue following the original wiring of the machine and secure the cable with clamps (*example path highlighted in red*).



STEP 05: WIRING CONNECTION TO THE T1 MMT WEIGHING MODULE



Bring all wiring close to the T1 MMT weighing module to make all connections.

The Inclinometers "Y" wiring must be connected to the **CAN cable** which belongs to the Power Supply cable with the grey connector and the led (Power+CAN).

The two wiring of the pressure transducers must be connected to the other cable Wiring Harness with black connector (PT1+PT2+PROXY1+PROXY2), respectively following the indication of the **PT1** (DELIVERY) and **PT2 (RETURN) cable**.

The PROXY 1 and PROXY 2 connectors are not used in this application.



STEP 05: WIRING CONNECTION TO THE T1 MMT WEIGHING MODULE



To summarize, the following must be connected to the T1 MMT weighing module:

CAN cable = inclinometer "Y" wiring connector

PT1 cable = pressure transducer installed in the delivery of the hydraulic lift cyl.

PT2 cable = pressure transducer installed on the return of the hydraulic lift cyl.

STEP 06: T1 MMT POWER SUPPLY INSIDE THE CAB



Using a "guide cable", bring the power supply cable of the T1 MMT weighing module (positive blue, ignition key positive yellow, negative black) inside the cabin, passing under it. It will be necessary to open the cab access "lid" located under the chassis, between the cab and the tracks.



STEP 06: T1 MMT POWER SUPPLY INSIDE THE CAB



Using a "guide cable", bring the power supply cable of the T1 MMT inside the cab.



STEP 07: PLACE THE DISPLAY BRACKET IN CAB





Find a mounting point in the cab to install the RAM sphere for the display mount.

The included RAM fixing bracket is the standard model to be fixed with screws.

The RAM triplex suction cup bracket is available as optional, which speeds up and simplifies the installation of the display bracket.



STEP 08: POWER SUPPLY CONNECTION TO THE MACHINE



Use one of the two 3A fuses included to connect on the power supply of the T1 MMT weighing module and the other one to the power supply of the Android display.

It is recommended to position the Android display and connect the power cable to check the length. If necessary extend it with an extension wire. Connect the **RED positive** to the **machine ignition key positive** (*ex: cigarette lighter socket, machine fuse holder, etc.*) and the **BLACK negative** to the machine ground.

It is recommended to insert the power cable of the Android display inside the plastic parts of the cabin in order to have a cleaner installation and zero "flying" cables in the cabin.



STEP 08: POWER SUPPLY CONNECTION TO THE MACHINE



Likewise connect the T1 MMT weighing module power supply with the **BLUE positive**, **YELLOW ignition key positive** to the **machine ignition key positive** (*ex: cigarette lighter socket, machine fuse holder, etc.*) and the **BLACK negative** to the machine ground. Close the lid and restore the cabin as before.



STEP 09: POSITION THE ANDROID DISPLAY



Position the Android display in agreement with the machine operator in order to find the most comfortable position to use it.

If the standard RAM support is used, the RAM sphere must be screwed to the cabin frame (not in the plastic parts).

If you use the optional RAM triplex suction cup bracket, fix the suction cup to the glass in the most comfortable position for the operator.

STEP 09: POSITION THE ANDROID DISPLAY



Position the Android display in agreement with the machine operator in order to find the most comfortable position to use it.

If the standard RAM support is used, the RAM sphere must be screwed to the cabin frame (not in the plastic parts).

If you use the optional RAM triplex suction cup bracket, fix the suction cup to the glass in the most comfortable position for the operator.

MAINTENANCE

Power Supply

The unit must be powered in accordance with the indications on the equipment $(12/24 \text{ volts} - reverse current protection})$.

System Maintenance

Any failure of the system caused by negligence in maintenance, by **unauthorized operation and/or repair** is excluded from the guarantee; all the consequences of the resulting damage will be borne exclusively by the user of the system.

Cable Protection

The connection cables must be installed so as not to be pulled or crushed during machine movements.

Vehicle Maintenance

Whenever maintenance is carried out on the vehicle, be sure to completely disconnect the system from the vehicle itself. Welding, battery replacement, battery chargers or external starter motors could seriously damage the equipment.

Vehicle Cleaning

When cleaning the vehicle with a pressure washer, avoid directing the jet towards the system components and, if they get wet, dry them with a cloth.

Period of non-use

Disconnect the system from the battery or turn on the system disable switch.

WARRANTY

The guarantee is **12 months** from the date of delivery of the new instruments and/or parts of them, and covers those parts which, due to construction defects or hidden defects, are found to be faulty or missing. The guarantee covers the good quality of the material, the good construction and the good functioning; damage caused by normal wear and tear and/or incorrect use, negligence in maintenance and any damage caused by incorrect operation and/or unauthorized repairs are excluded from the guarantee.

The following are excluded from the guarantee: transport costs, labour, travel and travel expenses relating to interventions by the Seller during the guarantee period.

The system to be repaired, replaced or modified must be returned to the Seller's premises and, if intervention is required at the place of use, the costs indicated above as excluded from the guarantee will be borne by the Purchaser.

The warranty is void in the case of:

- failure by the Purchaser to fulfill the contractual obligations;
- failures due to interventions or repairs by service centers not authorized by Outset Srl SB;
- system power supply at a voltage other than that specified in the safety standards;
- connections to other external equipment not authorized by Outset Srl SB.

DISPOSAL

Product disposal will follow the regulations in force for the scrapping of the product on which it is installed.

DECLARATION OF CONFORMITY



Manufacturer:

OUTSET Srl Società Benefit Via Pacinotti, 9 36066 Sandrigo (Vi) Italy

Herewith declaire that:

Product name: Product description: T1MMT On Board Weighing System

is in conformity with provision of directives applied: Electromagnetic Compatibility

Harmonized standard applied:

EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019

TEST REPORT: RP031823

is in conformity with provision of directives applied: Radio Spectrum Matters

Harmonized standard applied:

ETSI EN 301 489-1 V2.2.3:2019 ETSI EN 301 489-17 V3.2.2:2019

TEST REPORT: RP031823

is in conformity with provision of directives applied: 1999/519/EC

Harmonized standard applied:

EN IEC 62311:2020

TEST REPORT: RP031923

Sandrigo, 22/05/2023

OUTSET SRL SB Toneatti Luca





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