



**USER
MANUAL**



**SYSTEM
EASYDRIVE**





USER MANUAL

EASYDRIVE



EN

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1 Important information

1.1 General information

This manual contains the main maintenance information applicable to ADR EASYDRIVE System.

This manual should be kept with care.

In the event damages makes the copy of this manual in your possession unusable, the user can request a copy from customer service, specifying the type of product and serial number indicated on the product identification plate. Please contact customer service for information on updates ADR has made to its products. In any event, the latest version of this manual can be found in the *download* section on site www.adraxles.com.

ADR SPA
Customer service
Tel: +39 02 9617 11
Fax: +39 02 9617 1420
E-mail: customer care@adraxles.com

ADR cannot be held liable for damages caused by:

- improper product use;
- use by unqualified and/or unskilled personnel;
- incorrect installation (if by the customer);
- inadequate product maintenance or cleaning;
- unauthorised alterations or work;
- incorrect manoeuvres;
- use of non-original spare parts;
- use of unforeseen accessories or not authorised in writing;
- full or partial failure to follow the instructions;
- exceptional events.

1.2 Warranty conditions

As a memorandum for the user, ADR guarantees the technical specifications, part quality and good supplied product operations according to the stated parameters.

The manufacturer's warranty does not cover all parts whose repair or replacement is due to natural part wear or defects due to incorrect product use by the customer such as, for example but not limited to:






- unauthorised alterations;
- use other than that indicated by ADR;
- product overloads beyond that indicated by ADR;
- negligent or poor product part maintenance;
- work on products inconsistent with ADR instructions;
- failure to replace parts subject to wear, etc.

Please remember that every alteration to the vehicle voids original approval and requires new approval or forfeit the vehicle registration card until standardised.

In the event product defects are found, the customer must communicate them in writing.

This manual was originally drafted in Italian, and it is the only official language for which the manufacturer is liable in the event of translation inconsistencies.

1.3 Symbols and terms used in the manual

	<p>Warning</p> <p>Indicates instructions that only if correctly followed avoid personal hazard situations, provides information on hazards and how to avoid them, suggests performance procedures.</p>
	<p>Attention to tightening torque</p> <p>Indicates the tightening torque values to be applied to certain products to avoid personal hazard situations, potential inefficiencies and product break downs.</p>
	<p>Wrench</p> <p>Indicates ordinary and scheduled maintenance procedures to be performed in safe conditions. These must be performed by an authorised individual trained for this purpose.</p>
	<p>Lubricant grease</p> <p>Indicates ordinary and scheduled greasing procedures (lubrication with grease) to be performed in safe conditions. These must be performed by an authorised individual trained for this purpose.</p>
	<p>ADR customer service</p> <p>Indicates the need to contact ADR customer service. In the event of particularly important part maintenance to guarantee normal product operations, contact ADR to set a service appointment on the customer's premises.</p>

1.4 Suggestions for your safety

1.4.1 General rules

Vehicle repairs and maintenance may expose operators to unforeseen problems. This warning only illustrates some potential hazards, and its purpose is to make users aware of risks that may occur and guide them towards reasonable behaviour to promote safety.

ADR recommends having maintenance performed by specialised departments.

Important: Never overload your vehicle. The chassis, axles and brakes may suffer damages.

Never exceed the total vehicle weight admitted by the manufacturer, nor the maximum speed set by circulation rules. Your vehicle will thus operate in maximum safety, will always brake efficiently and reliably even on long descents. Tyre wear will be even and driving stability with many curves will always be ensured.

Place the load to evenly distribute the load on all wheels as much as possible. This achieves higher and safer driving performance; longer lasting tyres and the tractor will save fuel.

Only use tyres of the type and size indicated by the vehicle manufacturer according to axle design requirements. The use of wheels with disc offset must be authorised by the manufacturer. Constantly check braking system efficiency, periodically checking brake gasket wear, lever regulation and control cylinder conditions.



Personal protection: Wear all the equipment and protections necessary: goggles, masks, gloves, helmets, safety shoes, protective clothing, etc.; Work in pairs of two.

Unstable vehicles: Never work under or near a vehicle that was only lifted by a jack. When working under or near a lifted vehicle, always make sure the jack used is associated with supports or suitable blocks and that the material used is suited to the lifted load. Make sure the group is perfectly stable and that it will remain so during and after the forces applied to the material during maintenance. Also ensure ground stability.

Hot parts: Be careful of parts that may become very hot during use such as, for example, brake drums.

Pressurised, hydraulic, or pneumatic circuit: before working on the hydraulic or pneumatic circuit, oil and air may be pressurised, take all the necessary precautions to avoid accidental jets.

Risks due to fires, tied to smoke, toxic gas and irritant substances: All fuels are highly flammable and mix vapours explosive. To clean or degrease parts, only use retail products suited for this purpose and follow the instructions on the packaging. Never put these products into contact with skin and never inhale vapours, smoke, or gas.

WARNING: Smoking, the use of flames, producing sparks, etc. causes **explosion or fire hazards** due to vapours, fuels, oils, paints, solvents, dust, straw, etc.; keep an extinguisher at hand at the work site to meet these risks.

Asbestos: Our axle brake gaskets no longer contain asbestos and this long before European community provisions banned its use. In the event of doubt on asbestos (working on old material for example), handle parts as if they contained it, asbestos dust is extremely hazardous to health.

Ecology: Much care and focus were placed on the analysis of the negative effects of our products' impact on the environment. Similarly, do not discard oil, grease and used products in the environment, respect nature and the rules. Discard them at a collection point, dump, or recycling area. To receive the address of your nearest point, contact your local environmental service agency.

1.4.2 Safety

Observe the following safety measures before, during and after use. By following these measures and using common sense, injury to persons and damage to the equipment can be avoided.

Read this manual and the safety measures before operating the equipment.

Make sure that all safety devices are properly attached before operating the equipment.

Check that there are no personnel around the equipment, before or during operation (minimum 6 m).

Do not overload the equipment. Respect the load limits.

Make sure the hitch sensor is securely attached to the vehicle according to the instructions in this manual.

Before starting the machine, check the safety of the machine at work and in traffic each time.

Before starting the machine, familiarize yourself with all drive elements and their operation.

Before working on the hydraulic system, remove the pressure from the corresponding circuit, stop the engine and switch off the equipment.

Under normal conditions, pipes and hoses in hydraulic circuits undergo a natural aging process.

The service life of these elements should not exceed 6 years. Periodically observe their condition and replace them after this time.

Be prepared in case of fire. Keep a first aid kit and a fire extinguisher handy.



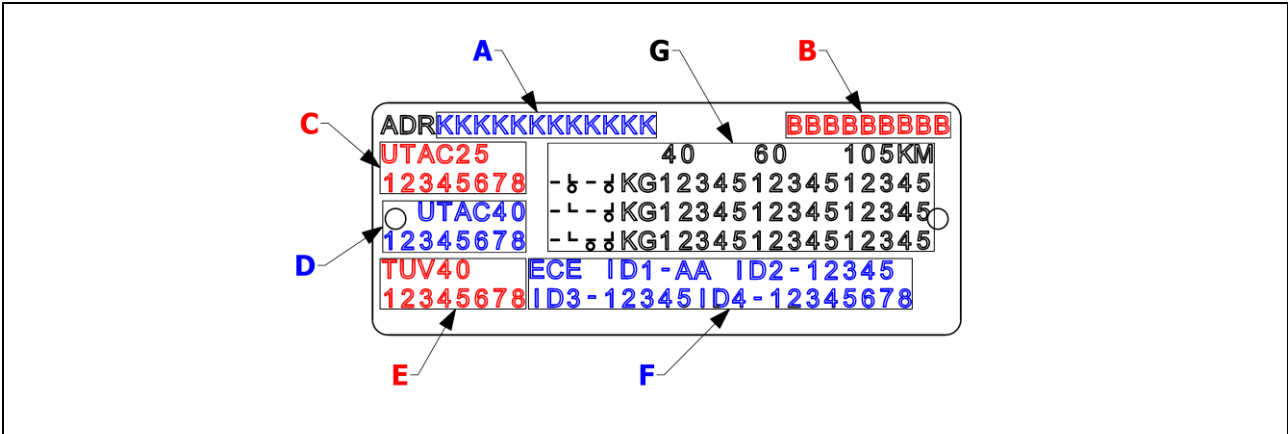
1.5 Product identification data

Product identification data is indicated on a specific **identification plate**, affixed or riveted to the product. Each **identification plate**, for both axle, suspension, and drawbar identification, indicates the items illustrated below.

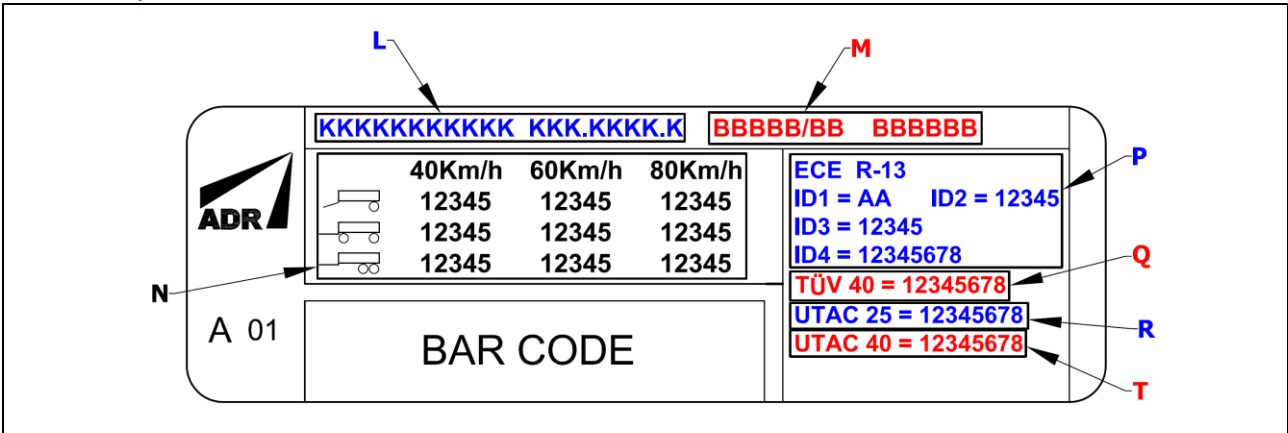
1.5.1 Axle identification plate

The typologies ID plate of the product found on ADR axles are visible in the following pictures.

Metallic ID plate



Adhesive ID plate



1.5.2 Product identification plate reading

The **axle identification plate** can be read as follows:

- **A** : axle identification code, the code is made up of 12 alphanumeric characters;
- **B** : order identification code, the code is made up of 9 alphanumeric characters;
- **C** : UTAC approval report identification code at 25 km/h, the code is made up of 8 characters;
- **D** : UTAC approval report identification code at 40 km/h, the code is made up of 8 characters;
- **E** : StVZO approval report identification code at 40 km/h, the code is made up of 8 characters;
- **F** : ECE-R13 or EU 2015/68 approval identification data;
- **G** : maximum axle capacity data referred to the application and speed.

The adhesive ID plate in the case of an axle, instead, can be read as follows:

- **L** : axle code;
- **M** : customer code;
- **N** : carrying capacity of the axle;
- **P** : **ECE-R13** test report data or **EU 2015/68** test report data;
- **Q** : StVZO at 40 km/h test report data;
- **R** : UTAC at 25 km/h test report data;
- **T** : UTAC at 40 km/h test report data.

Data on identification plates are indelible or silk screened.

N.B. the data on the plate cannot be ALTERED for any reason.



2 Start of the system

Place the display in the tractor cabin, fixing it properly to the tractor windshield or to the lateral windows. Be sure that the sucker correctly secures the screen, to avoid its falling.

Connect the plug to a 12V power supply, preferably in the tractor cabin.

Once the system is hydraulically and electrically connected the display in the cabin will automatically turn on and the welcome message below will appear.



The system automatically goes into the self-steering mode. Screen below:



2.1 Parameters setup

Press the triangle located at the bottom left corner of the screen. The following screen will open:




The language of the system must be chosen by pressing the corresponding flag.
Choose the desired language. Languages available: English, French, Portuguese, Polish, German, Italian.



3 Information displayed and use of the system

In the display the functional data and modes are displayed:



The modes can be chosen by pressing the button .
By pressing the functioning mode is changed and the button changes colour.

3.1 Self-steering mode



In this mode the button is **green**, as displayed.

If the distributor on the tractor is in floating mode, the steering axles are free to steer and follow the trajectory of the tractor naturally.

The symbol  is displayed.

With reference to the scheme in [chapter 5 Appendix](#), by supplying oil through line B the axles are locked to the middle.

After the realigning if the distributor command is left in closed circuit mode the axles remain blocked straight.

On the display the message "Axle locked" and the symbol  are displayed.





3.2 Manual command mode



In this mode the button is **red**, as displayed.

The symbol  is displayed.

With reference to the scheme in [chapter 5 Appendix](#) by supplying oil through line A or B it is possible to steer manually the axles.

This mode is available only up to the programmed speed $v < 10$ km/h.

The system returns automatically to self-steering mode when the setup speed is overcome, for safety reasons.

4 Alarms

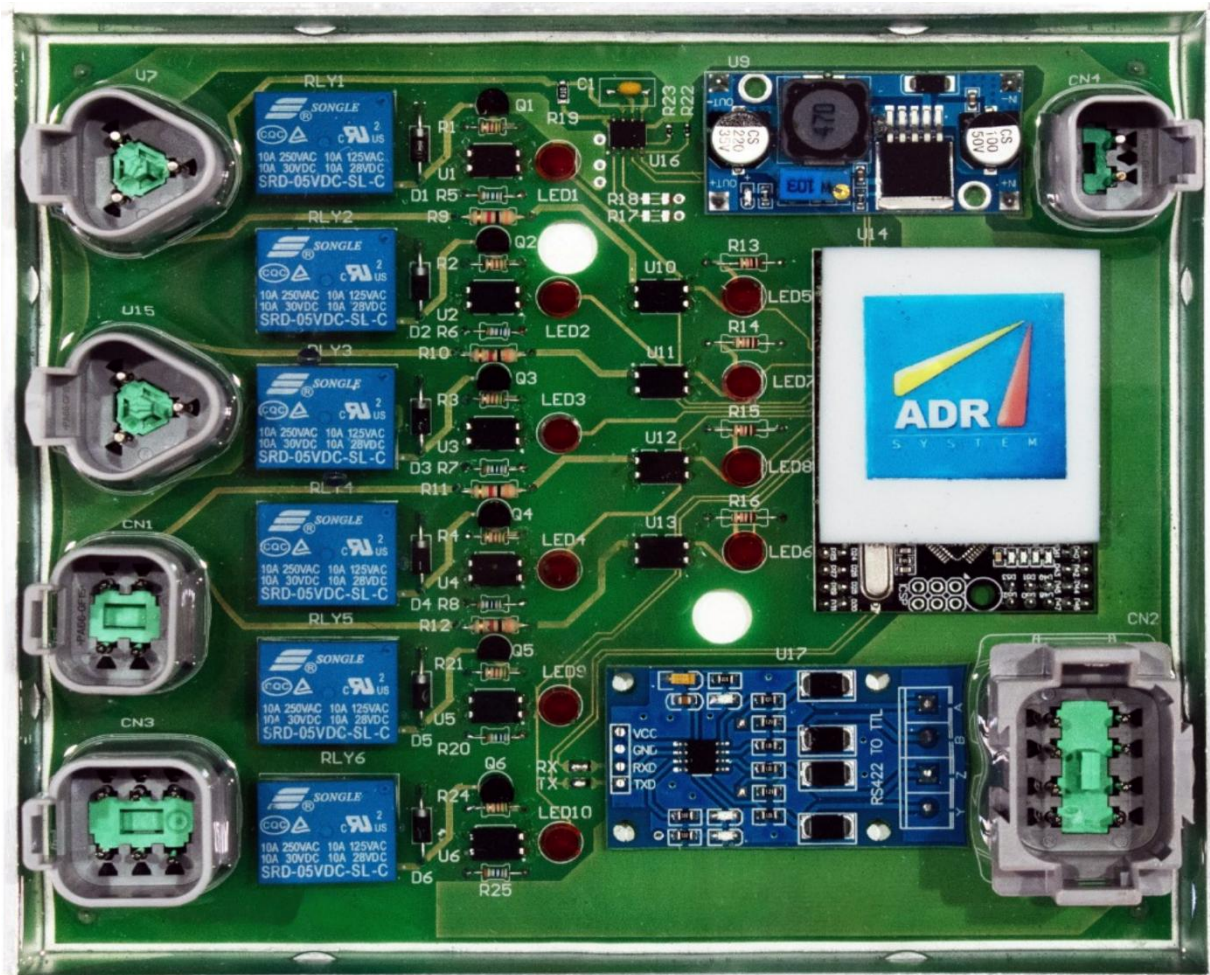
When a malfunctioning occurs, alarm messages appear. In the next paragraphs an overview of the possible messages and guidelines about how to act.

4.1 Speed sensor malfunctioning/failure

The system is equipped with two speed sensors mounted on two different exciters. If the sensors are not working the system is not able to recognize the speed of the trailer, and so can't deactivate the manual command.

If only one of the sensors indicates speed =0 it means that is not working, so an alarm is shown, and the system goes automatically to self-steering mode.

With reference to the picture below the MASTER sensor is connected to port U7, the SLAVE sensor to U15.





4.1.1 Wheel sensor cable error

This alarm appears only when the cable of the MASTER sensor is interrupted or damaged. The message is shown below:



The trailer can work only in self-steering mode until the sensor is replaced/repared.

4.1.2 Wheel sensor error

The message appears when MASTER or SLAVE sensor are not working (signal=0).



To determine which sensor is not working observe the cabin display with the vehicle in movement:

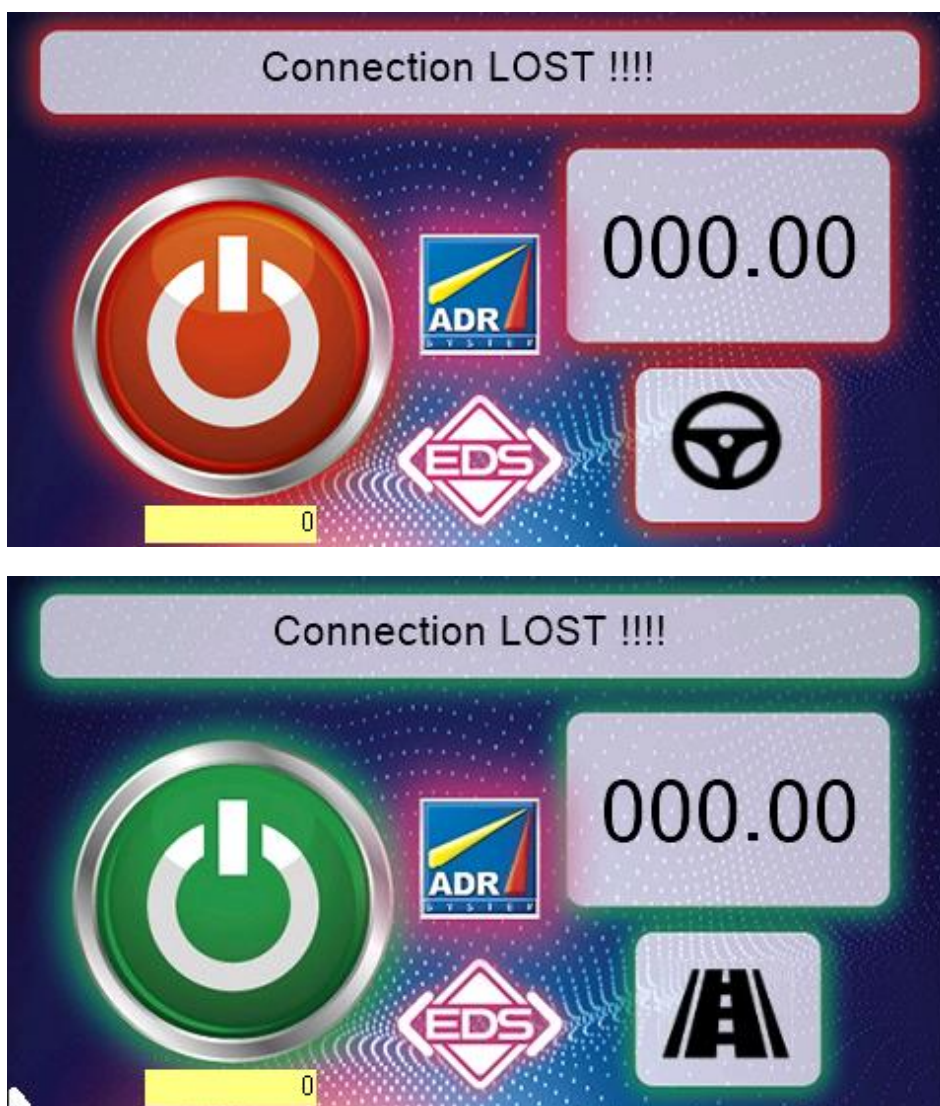
- if the speed indication on the display is zero: sensor MASTER must be replaced;
- if the speed indication on the display is NOT zero: sensor SLAVE must be replaced.

The trailer can work only in self-steering mode until the sensor is replaced/repared.

4.2 Connection lost

The system detects that the connection to the display is active.
If the connection is lost the display can't give the command.

A message and a buzzer is active:



The following cases can occur:

- 1) **Connection lost is temporary:**
→ The system restarts to work when the connection is again active.
- 2) **Connection lost is due to an interruption of the cable that don't involve the power supply of the display:**
→ The display shows the message, and the sound alarm is active.
For safety reasons **in this condition remove the plug of the power supply, to have the system in self-steering mode.**
- 3) **Connection lost is due to an interruption of the cable that involves the power supply of the display (display is OFF):**
→ For safety reasons **in this condition remove the plug of the power supply, to have the system in self-steering mode.**



4.3 EV1 mechanically blocked

This alarm appears in the remote possibility that the electro valve EV1, that realizes the switch from mode “self-steering” to “manual command” is blocked mechanically in closed position. If this occurs, even if the system is in self-steering mode, the axles could be potentially commanded at high speed.

The valve has a proxy sensor that detects the wrong position of the valve.

The following alarm is shown:

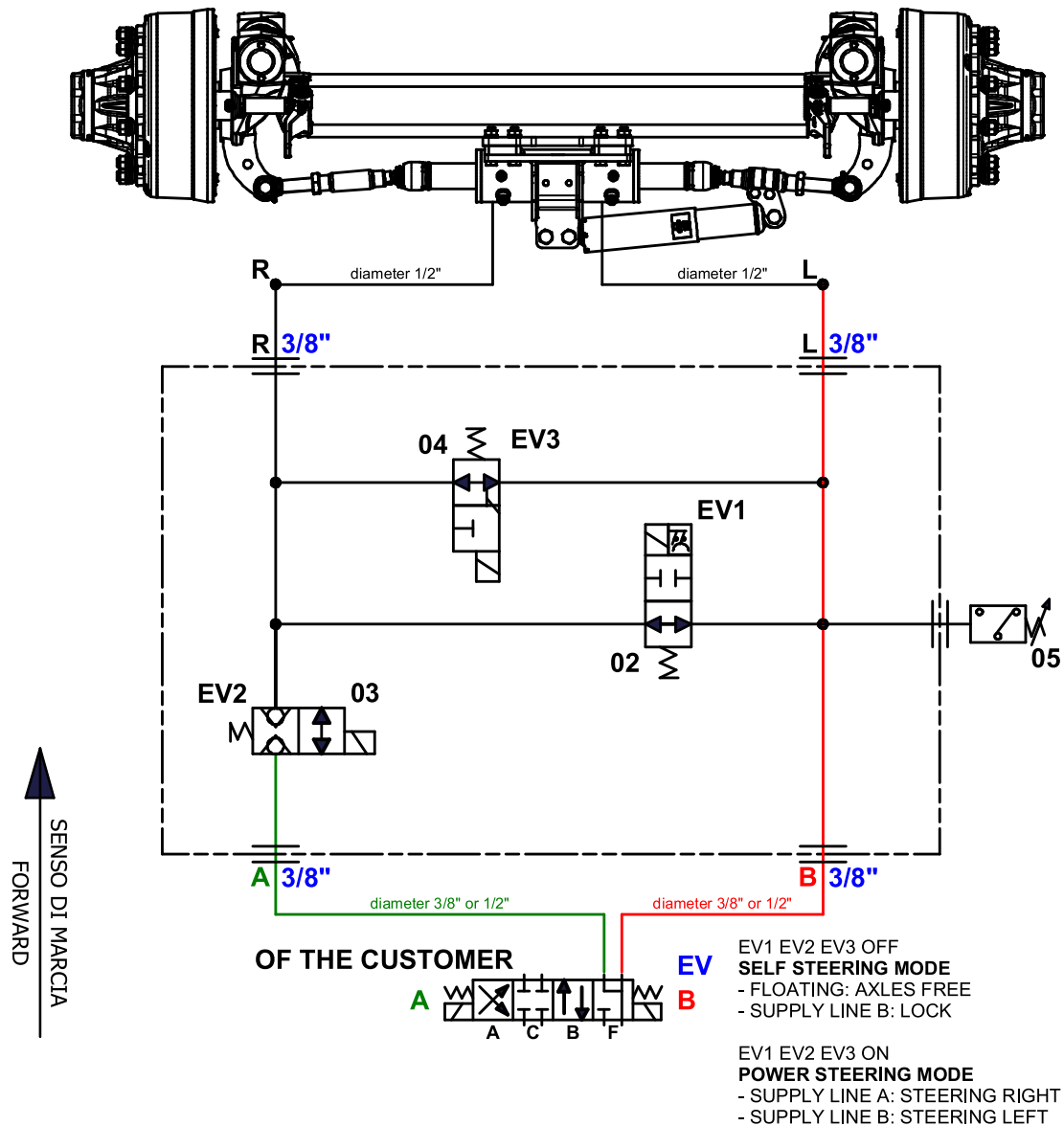


A backup circuit is automatically activated, so the system is in self-steering mode. The trailer can work only in self-steering mode until the valve is replaced.

5 Appendix

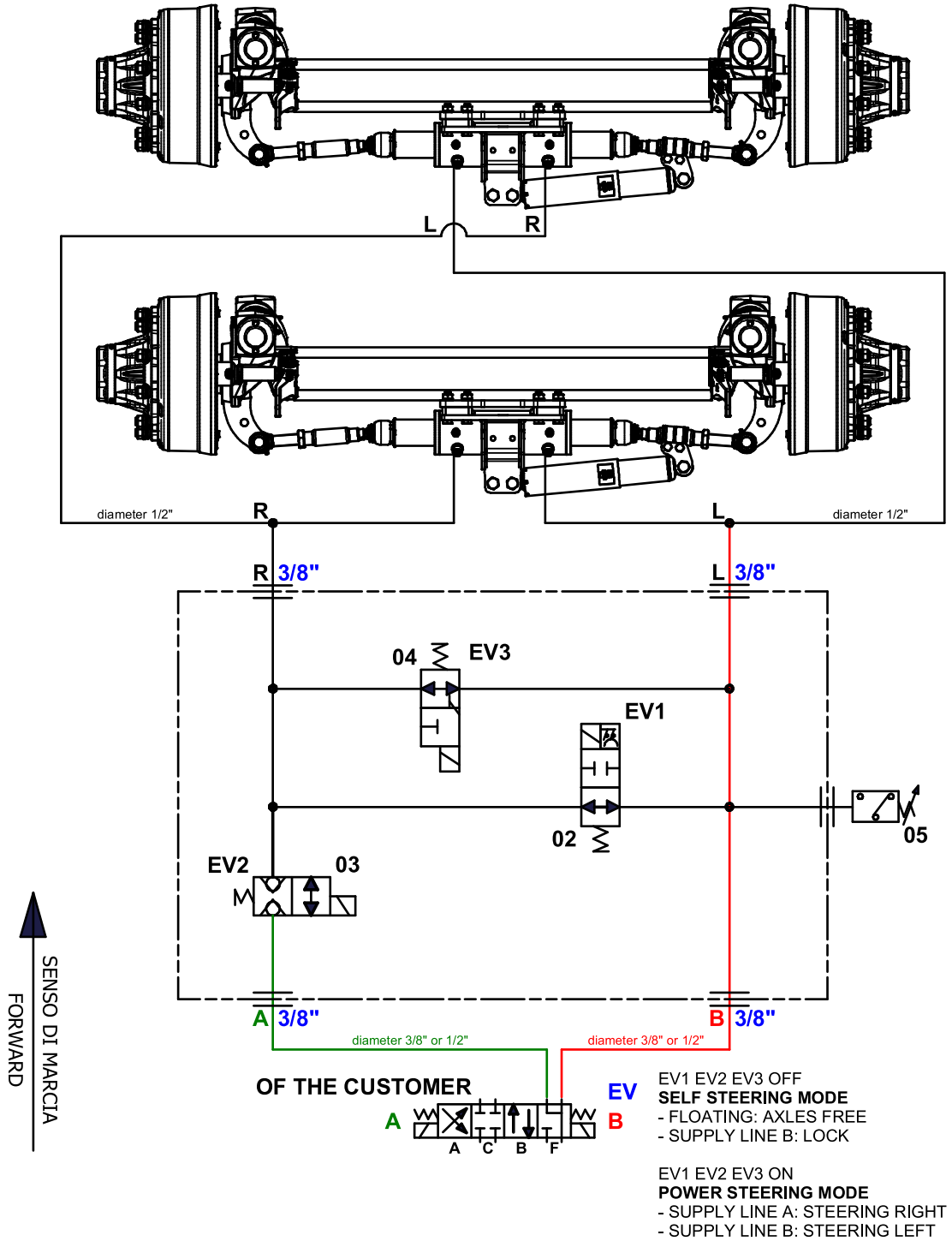
5.1 Hydraulic diagram one steering axle 9ZH2E0SA001-C

Hydraulic diagram one steering axle 9ZH2E0SA001-C:



5.2 Hydraulic diagram two steering axles 9ZH2E0SA001-B

Hydraulic diagram two steering axles 9ZH2E0SA001-B:







A.D.R. S.p.A.
Via Antonio Maria Ceriani, 96 - 21040 Uboldo (VA) ITALY
Tel. +39 02 961711 - Fax +39 02 96171420
info@adraxles.com - www.adraxles.com



COLAERT ESSIEUX
11 bis Route Nationale 59189 Steenbecque FRANCE
Tel. +33 328438550 - Fax +33 328436863
commercial@colaertessieux.fr - www.colaertessieux.fr



ADR Polska
Ul Bieszczadzka, 5 - 38540 Zagorz POLAND
Tel. +48 1346 89333 - Fax +48 1346 89368
atw@atwsystem.pl - www.atwsystem.pl



ADR UK - Tyremart Agricultural Ltd
Main Road, Long Bennington, Newark, Notts, NG235DJ GREAT BRITAIN
Tel. +44 1400 283820 - Fax +44 1400 283137
accounting@tyremartagri.co.uk - www.tyremartagri.co.uk



ADRGEPLASMETAL sa
Pol. Malpica c/ J n°1 - 50016 Zaragoza ESPAÑA
Tel. +34 976 465 254 - Fax. +34 976 571 132
info@adrgeplasmetal.com - www.geplasmetal.com



C.L.M. S.r.l.
Zona industriale, 26 - 33049 S.Pietro al Natisone (UD) ITALY
Tel. +39 432 727851 - Fax +39 432 727852
www.clmwheels.com



Qingdao ADR Axles Manufacturing Co., Ltd.
Lingang Road No.2468, Huangdao District, Qingdao City,
Shandong Province - Post Code 266400 China
Tel. +86 532 8619 6636 - Fax +86 532 86196501
info@adraxles.com - www.adraxles.com



ADR Brasil Eixos Ltda. Ribeirão Preto SP Brasil
Rua Nelson Colela, 105 - Ribeirão Preto - SP - CEP: 14072-068 BRASIL
Tel. +55 16 36173079
info@adreixos.com.br - www.adreixos.com.br



OMEGA Drives Inc.
7A - 845 Lagimodiere Blvd. Winnipeg, Manitoba R2J 3M2 CANADA
Tel. +1 204 453 2477 - Fax +1 204 453 2478
info@omegadrives.com - www.omegadrives.com



ADR AXLES USA inc
1100 South Tower - 225 Peachtree St. NE
Atlanta | Georgia - 30303
TEL: +1 336 480-4234
adr@adraxlesusa.us - www.adraxlesusa.us



SAE-SMB INDUSTRIES
Route de Cliron - 08090-HAM-LES-MOINES - FRANCE
Tel. +33(0)324595454 - Fax +33(0)324548158
contact@sae-smb.fr - www.sae-smb.com



ADR group
www.adraxles.com