

FITTING AND OPERATING INSTRUCTIONS

FOR

EURO-SAFE

AUTOMATIC FAIL-SAFE/EMERGENCY TRAILER BRAKING SYSTEM

IMPORTANT!

Before working on braking systems and components always observe the following precautions: -

- a) Stop the engine before working under a vehicle.
- b) Always chock the trailer wheels, because depleting the system pressure may cause the vehicle to roll.
- c) Keep hands away from actuators and brake levers as they may move as the system pressure changes.
- d) Never connect or disconnect a hydraulic hose containing pressure, it may whip as the oil is released.
- e) Never remove a component or plug unless you are certain all system pressure has been released.
- f) Never exceed maximum working pressures.
- g) Never attempt to dismantle a component until you have fully read and understood the recommended procedures.
- h) This system contains pressurised accumulators and serious injury could result if not properly dismantled.
- i) Use only the correct tools and observe all safety precautions pertaining to use of these tools.
- j) Never attempt to adjust or service accumulators or systems connected to accumulators; they contain gas at high pressures.

IF ALL INSTRUCTIONS ARE FOLLOWED CORRECTLY THE EURO-SAFE BRAKING SYSTEM WILL
PROVIDE YEARS OF TROUBLE FREE SERVICE



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WARNING!

Thoroughly read and understand this manual, check the parts list to familiarize yourself with the components before installation.

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IMPORTANT!

After fitting the brake valve flush new oil through the braking system, **make sure the system is free of debris.** (See page 4)
Failure to do this may cause malfunction.

INTRODUCTION

SYSTEM FEATURES

The '**Euro-Safe**' Automatic Fail-Safe/Emergency braking system is a dual line system, hydraulic being the service line and electric being the emergency line. It is intended for trailers over 3500kg equipped with hydraulic brakes. It has been designed to fully comply with the revised EU Braking Regulations for towed trailers and implements travelling faster than 25 KPH.

The system provides automatic application of the trailer brakes in the event of the trailer becoming detached from the towing vehicle as well as a temporary parking brake. The Euro-Safe brake valve is controlled by an Electro Controller located inside the cab of the towing vehicle. The use of the Electro Controller allows the operator, to fully control the trailers brakes, applying-releasing and overriding them without leaving his seat. When applied the Euro-Safe brake valve delivers a brake pressure of 90-100Bar, (service brake efficiency) which is essential when parking heavy trailers as the tractors parking brake is only designed to hold the weight of the tractor. A built in Safety Feature ensures that the trailer brakes do not release until the system has been fully recharged. An integrated high-pressure filter ensures no debris enters the system, which may cause malfunction or brake failure.

It is supplied complete and ready to install, the system includes: - Euro-Safe brake valve complete with trailer wiring loom, accumulator, Male-Female breakaway coupling, Electro Controller, with visual and audible warning devices, tractor wiring looms complete with 12 volt plug and ABS socket, instruction manual and Warning sign.

WARNING Failure to properly follow the installation instructions in this manual could cause the Euro-Safe brake valve to malfunction. This may result in physical injury and/or property damage.

SYSTEM REQUIREMENTS

TRACTOR

1. The electrical supply must be 12-volt DC powered through the ignition or the alternator.
2. The hydraulic trailer brake supply must have a peak pressure in excess of 120 Bar to charge the 0.7 litre accumulator(s) with oil and extinguish the low-pressure warning buzzer.

IMPORTANT! Test the tractors trailer-brake valve maximum braking pressure.

If the maximum braking pressures is less than 115 Bar, the valve needs repairing or replacing.

TRAILER

Using the table below work out the number of accumulators required to fully operate all the brake cylinders fitted at full stroke.

TRAILER BRAKING PRESSURE @ 120 BAR				
NUMBER OF ACCUMULATORS 85 Bar Precharge	NUMBER OF BRAKE CYLINDERS (Cylinder size Bore x Stroke mm)			
	TWO		FOUR	SIX
ONE*	20 x 75	25 x 75	20 x 75	
	30 x 75	20 x100		20 x 75
	25 x100	20 x100		
TWO	30 x100	25 x 75	25 x100	25 x 75
	35 x 75	30 x 75	30 x100	25 x100
THREE		35 x 75		30 x 75
	35 x100	35 x100		30 x100

The table above is a guide to how many accumulators are required to suit the number, and different sizes of brake cylinders fitted. The tests was carried out with a maximum trailer brake pressure of 120 Bar, if the trailer brake pressure is lower than 120 Bar we cannot guarantee that the brake cylinders will work at full stroke.

The basic **Euro-Safe** brake valve assembly is supplied with one accumulator fitted to port A2.

Additional accumulators can be factory fitted when ordering.

INSTALLATION OF THE BRAKE VALVE

Fit any additional accumulators that may be required into ½" BSP ports A1, A2 or A3 as necessary and check all fittings are tight and secure, before attempting to mount the valve on to the trailer.

STANDARD

Basic valve supplied with single accumulator fitted to Port A2.
(Ports A1 and A3 blanked off)



Ports A1 and A3 may be used as alternative positions for a single accumulator, or up to two additional accumulators. (For increased storage capacity)

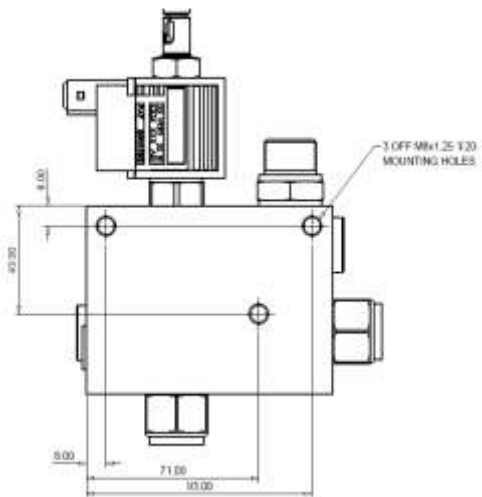
Check for a suitable location near the front of the chassis for fixing the brake valve both secure and well away from possible damage from the tipping body or debris.

Position the brake valve so that the '**BRAKES**' port faces the trailer axle and the '**TRACTOR**' port faces the trailer drawbar.

Drill three holes in the trailers chassis or fixing bracket and bolt securely using M8 high tensile bolts and spring washers.

Weld on the support bracket provided for the female breakaway coupling at the front of the trailers chassis. (See diagram below).

UNDERSIDE VIEW OF THE EURO-SAFE BRAKE VALVE



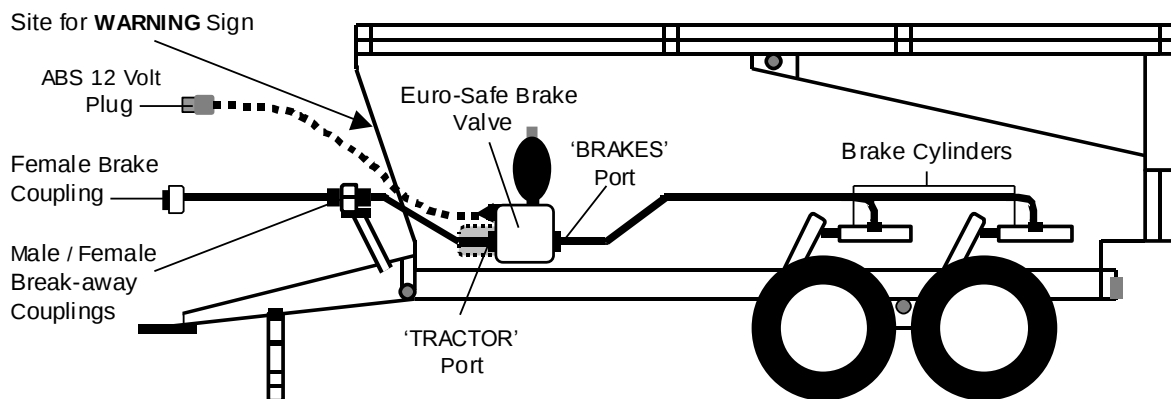
IMPORTANT! USING 1/2" QUALITY BRAIDED HYDRAULIC HOSE: -

1. Connect the '**BRAKES**' port to the brake cylinders.
2. Connect the '**TRACTOR**' port to the female breakaway coupling, and then securely fasten the female breakaway coupling into the support bracket.
3. Connect the male breakaway coupling to the female brake coupling.

Route the brake valves wiring loom along the chassis to the drawbar, fastening it alongside the trailer lighting wiring loom terminating at the Black 7 pin plug.

IMPORTANT! Ensure that the hoses and wiring looms are securely fastened and left at safe lengths for attaching to the tractor services.

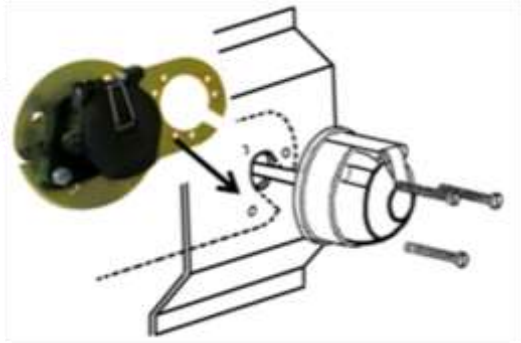
Position the warning sign onto the front of the trailer, in good view of the operator when hitching and unhitching the tractor or towing vehicle. (See diagram below)



ATTENTION! Euro-Safe cannot be held responsible for brake failure caused by incorrect fitting of the brake valve, leaking brake cylinders or poorly maintained brakes.

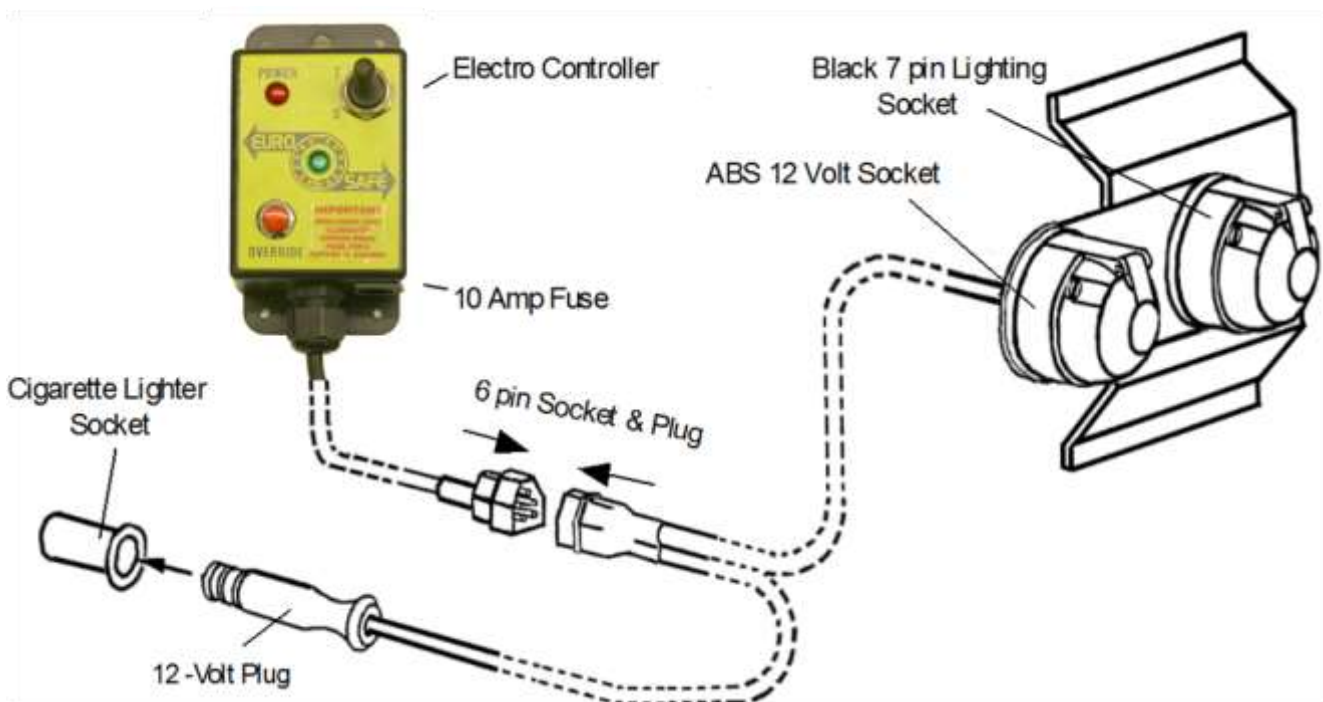
The Euro-Safe fail-safe/emergency brake valve will only work efficiently when all other braking components are properly adjusted and maintained.

INSTALLATION OF TRACTOR COMPONENTS



Remove the 3 fixing screws from the existing Black 7-pin trailer lighting socket. (Retain for later use)
Carefully ease the socket away from the support bracket and slide the new bracket, fitted with the ABS 12 Volt socket, behind the existing 7 pin trailer lighting socket, re-secure using the original screws taking care not to trap any of the cables.

Carefully route the wiring loom from the new ABS 12 Volt socket in to the tractor cab, avoid sharp edges and any possibility of the wiring loom becoming trapped or damaged.
Find a suitable location in the tractor cab where the Electro Controller can be mounted in easy reach of the operator, but safely positioned so it cannot be switched off accidentally.
Securely fasten the Electro Controller with four screws using the mounting holes on either side.
Connect the Electro Controller loom to the ABS 12 Volt socket loom with the 6-pin plug and socket.
(See diagram below)



CONNECTING TO THE 12-VOLT DC SUPPLY

The 12-volt plug supplied must only be used as a temporary **pre-delivery** connection, and care must be taken to; **ensure the plug is securely connected and cannot accidentally disconnect during a manoeuvre.**

IMPORTANT! **After delivery** we recommend that the 12-volt plug is removed from the wiring loom and a permanent 12-volt supply is powered via the tractors ignition; this ensures that when the ignition is switched 'OFF' the Euro-Safe brake valve is activated.

SAFETY FEATURE the system can be powered through the tractors alternator; this ensures that if the tractor accidentally stalls the Euro-Safe brake valve is activated.

INITIAL SETUP

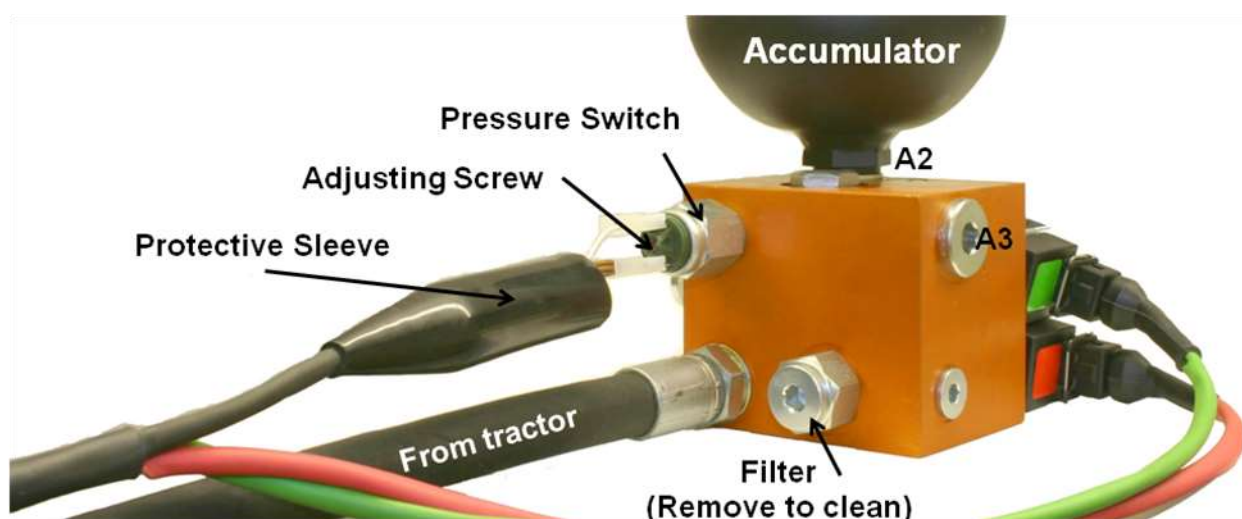
OPERATING THE EURO-SAFE BRAKE VALVE FOR THE FIRST TIME

1. Connect trailer, hydraulic brake coupling and ABS brake plug to the tractor.
2. Unscrew all the brake pipes from the brake cylinders,
3. With the Electro Controller switched '**OFF**', start up the tractor, depress the tractors brake pedal for 10 seconds, this will flush the brake lines free of any debris that has entered the system.
4. Bleed each brake cylinder individually making sure the system is air free.
5. Retighten all connectors. (Check for any leaks afterwards)
6. Switch '**ON**' the Electro Controller – red power light will illuminate and low-pressure warning buzzer will sound.
7. Recharge the accumulator by depressing the tractors brake pedal for 25-35 seconds (depending on oil temperature), until the trailer brakes release, low-pressure warning buzzer stops and green light illuminates, Keep brake pedal depressed for a further 10 seconds: – **SYSTEM READY FOR USE**

IF LOW PRESSURE WARNING BUZZER CONTINUES TO SOUND!

- * Check the tractors trailer-braking valve maximum pressure, if the maximum braking pressure is lower than 120 Bar, the valve needs repairing or replacing.
- * Reset the pressure switch to suit the tractors maximum trailer braking pressure.
(Follow the simple steps below)

RESETTING THE PRESSURE SWITCH



The pressure switch is factory set and sealed. If seal is broken warranty for the unit becomes void.

- A. Pull back the protective sleeve from the pressure switch.
- B. Switch '**ON**' the Electro Controller.
- C. Recharge the accumulator by depressing the tractor brake pedal for 30-40 seconds depending on oil temperature.
- D. If low-pressure buzzer continues to sound slowly turn the adjusting screw anti-clockwise, until the trailer brake's release, buzzer stops and green light illuminates.
- E. Turn the adjusting screw a further eighth of a turn anticlockwise.
- F. Switch '**OFF**' the Electro Controller then repeat steps '**B**' and '**C**' above to check that the correct adjustment has been made.
- G. Push the protective sleeve back over the pressure switch.
- H. Test the trailer brakes: - Switch '**OFF**' the Electro Controller – this applies the trailer brakes, slowly drive the towing vehicle forward, if trailer brakes are locked '**ON**' – system working,
- I. If not: - Check that the trailer brakes are fully adjusted replace worn parts if necessary.
If in doubt contact the technical help line.

ALWAYS CHECK THE WHEELS SECURELY BEFORE CARRYING OUT WORK ON THE TRAILERS BRAKING SYSTEM.

OPERATING THE SYSTEM

When operating the tractor/trailer brakes under normal driving conditions the oil simply flows through the EURO-SAFE brake valve, applying the trailer brakes, in the usual way.

The oil stored in the accumulator is used for temporary parking and emergency braking only.

Operating the EURO-SAFE fail-safe/emergency brake valve: -

1. Connect trailer, hydraulic brake coupling and electrical brake ABS plug to the tractor.
2. Switch 'ON' the Electro Controller the red power light will illuminate.
3. If low-pressure buzzer sounds, recharge the accumulator by depressing the tractor brake pedal for 20 -30 seconds, until trailer brakes release, buzzer stops, and green light illuminates.

ATTENTION! Keep brake pedal depressed for a further 10 seconds after green light illuminates this ensures that the accumulators are charged to maximum tractor pressure.

4. THE TRAILER BRAKES WILL APPLY WHEN: -

- a) The Electro Controller is switched 'OFF'
- b) The ABS plug is disconnected or the electrical power is lost or interrupted.

5. THE ACCUMULATOR PRESSURE AND THE BRAKES CAN BE RELEASED AT ANY TIME BY: -

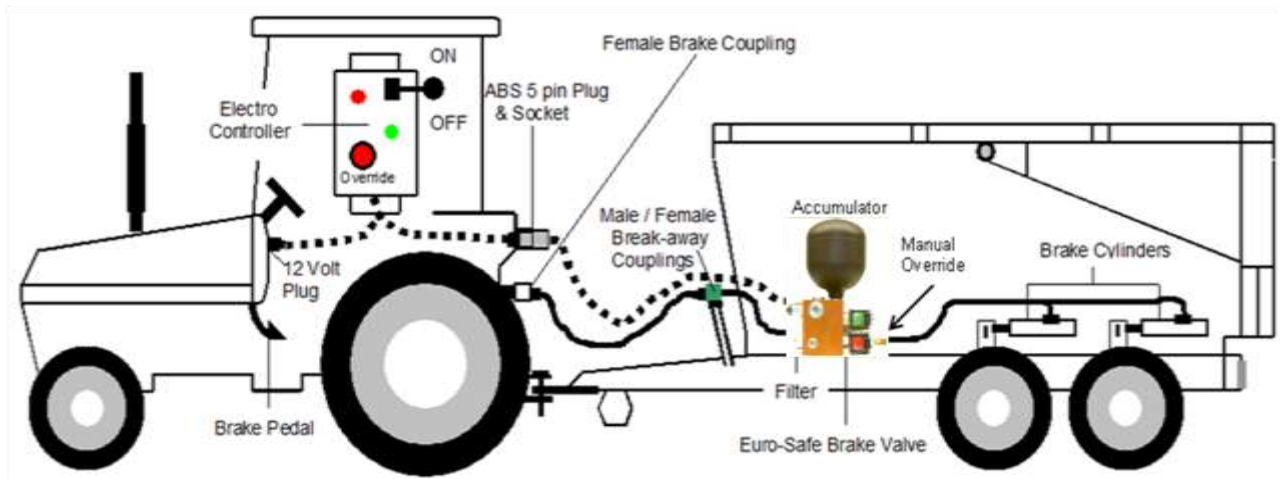
- a) Switch the Electro Controller to 'OFF' - this will apply the trailer brakes.
- b) Push and hold the override button the Electro Controller, red power light will illuminate Or twist and hold the Manual Override button mounted on the brake valve for 10 seconds – This will discharge the accumulator and release the trailer brakes.

If trailer brakes are operated via the tractor spool valve: - Activate the spool valve until the system is fully charged, buzzer stops, green light illuminates and trailer brakes release.

Ensure that the spool valve pressure does not exceed 150 Bar or damage may occur to the trailer brakes.

IMPORTANT! Whilst driving if the green light goes out and the buzzer sounds – Push and hold the red override button until you can safely stop. (See page 7 TROUBLE SHOOTING).

- * If all electric supply to the tractor is lost the trailer brakes can be released by twisting the Manual Override button. (See below)



It is **IMPORTANT** that the Male-Female breakaway couplings provided are fitted into the trailers brake line, which connects from the Euro-Safe brake valve to the Female brake coupling. (See diagram above) This ensures that if the trailer breaks away from the tractor accidentally the couplings automatically disconnect making sure no hoses are damaged and also preventing any oil spillage on to the highway.

PARKING THE TRAILER

Park trailer with brakes applied see step 4 above.

Park trailer with brakes released see step 5 above.

ATTENTION! it is still legal requirement to have a mechanical parking brake fitted to agricultural trailers and implements, and should be used when parking the trailer up for very long periods.

Or chock up the wheels securely, then release the mechanical parking brake or Euro-Safe brake valve. (This prevents the brake shoes sticking to the drum)

IMPORTANT! WHEN THE EURO-SAFE BRAKE VALVE IS FITTED TO A TRAILER THE BRAKES CAN ONLY BE OPERATED IF THE TRACTOR IS FITTED WITH THE ELECTRO CONTROLLER.

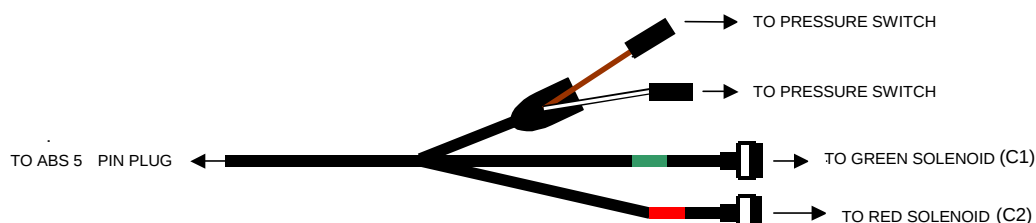
12 VOLT ABS PLUG AND SOCKET WIRING DIAGRAM

12 volt ABS Socket
viewed from rear.



- 1 Red
- 2 Green
- 3 Brown
- 4 White
- 5 Yellow/Blue if fitted

TRAILER WIRING LOOM



MAINTENANCE

4 - 6 WEEK INTERVALS

Check the wiring looms for any damage, and replace damaged parts if necessary.
Clean and spray plugs and sockets with anti corrosive fluid.
Brakes must be checked, adjusted and worn parts replaced.

12-MONTH INTERVALS

Clean/flush the filter cartridges situated at the front & side of the Euro-Safe brake valve. **(Follow steps below)**

1. Connect the trailer, hydraulic brake coupling and ABS brake plug to the tractor.
2. Push and hold the override button for 20 seconds, (red light will illuminate) this will discharge any pressure in the accumulator.
3. Unscrew the two filters cartridges from the brake valve housing.
4. Clean and wash the filter gauges using diesel and air.
5. Check the filter cartridge oil seal, replace it if it has become damaged or worn.
6. Screw in the filter cartridge and tighten
7. Unscrew all the brake pipes from the brake cylinders.
8. With the Electro Controller switched '**OFF**' start up the tractor, depress the tractor brake pedal for 10 seconds; this will flush the brake system free of any debris that may have entered.
9. Tighten all brake pipes and check for any leaks.

36-MONTH INTERVALS

Or if a problem arises check the pre-charge pressure in the accumulator, if the pressure is lower than 70 Bar, recharge or replace the accumulator. A qualified agricultural engineer must carry this out.

IMPORTANT! In the event of a problem arising during use, the vehicle should be driven with due care and attention directly to a workshop where a qualified person can diagnose and rectify the fault.



THIS EURO-SAFE PRODUCT WILL PROVIDE A TROUBLE FREE LIFE IF THE SIMPLE MAINTENANCE ABOVE IS CARRIED OUT.

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
LOW PRESSURE WARNING BUZZER ON ALL THE TIME: – <u>TRAILER BRAKES WILL NOT RELEASE</u>	PRESSURE SWITCH SET TOO HIGH	RESET PRESSURE SWITCH (SEE PAGE 4)
	TRACTOR-TRAILER BRAKE VALVE NOT DELIVERING THE CORRECT PRESSURE	CHECK THE PRESSURE, IF THE MAXIMUM BRAKING PRESSURE IS LOWER THAN 120 BAR REPAIR OR REPLACE TRACTOR-TRAILER BRAKE VALVE
	LOOSE CONNECTION WIRING LOOM DAMAGED	CHECK CONNECTIONS - REPLACE WIRING LOOM
	<u>JOHN DEERE TRACTORS</u> TRAILER BRAKING PRESSURE TOO LOW <u>NEW HOLLAND, CASE, MASSEY FERGUSON</u> <u>RENAULT TRACTORS</u> AIR IN THE TRACTOR BRAKE LINE CAUSING TRAILER BRAKE VALVE TO MALFUNCTION	ADJUST TRACTOR-TRAILER BRAKE VALVE PRESSURE TO 150 BAR MAX (SEE DEALER) BLEED THE TRACTOR BRAKES, FIRST RIGHT HAND THEN LEFT HAND SIDE. TEST – TRAILER BRAKING PRESSURE AFTERWARDS IF LOWER THAN 120BAR (SEE DEALER)
LOW PRESSURE WARNING BUZZER SOUNDS WHILST DRIVING: – <u>PRESS & HOLD THE OVERRIDE BUTTON UNTIL YOU CAN SAFELY STOP</u>	PLUG AND SOCKET TERMINALS CORRODED	CLEAN TERMINALS SPRAY WITH ANTI CORROSIVE
	PRESSURE SWITCH SET TOO HIGH	PRESS THE OVERRIDE BUTTON UNTIL YOU CAN SAFELY STOP THEN ADJUST THE PRESSURE SWITCH 1/4 –1/2 TURN ANTICLOCKWISE (SEE PAGE 4)
	DEBRIS WITHIN THE SYSTEM CAUSING VALVES TO MALFUNCTION	REPLACE HIGH PRESSURE FILTER ELEMENT (SEE PAGE 6)
		TAKE OUT VALVE C1 CLEAN THOROUGHLY, FLUSH SYSTEM WITH NEW OIL
TRAILER BRAKES WILL NOT RELEASE WHEN SYSTEM CHARGED	RETURN FILTER BLOCKED WITHIN THE TRACTOR-TRAILER BRAKING VALVE	<u>JOHN DEERE TRACTORS</u> CLEAN OUT RETURN FILTER SITUATED WITHIN THE TRACTOR-TRAILER BRAKING VALVE (SEE DEALER)
	TRAILER BRAKE COUPLINGS WORN – RESTRICTING FLOW	REPLACE WITH NEW PARTS
	HIGH PRESSURE FILTER BLOCKED	REPLACE HIGH PRESSURE FILTER ELEMENT (SEE PAGE 6)
	DEBRIS WITHIN THE SYSTEM CAUSING C2 VALVE TO JAM	TAKE OUT VALVE C2 CLEAN THOROUGHLY, FLUSH SYSTEM WITH NEW OIL
	TRACTOR- TRAILER WIRING LOOM, OR PLUG & SOCKET DAMAGED, CORRODED	REPAIR OR REPLACE WITH NEW WIRING LOOM
NO POWER TO ELECTRO CONTROLLER	LOOSE CONNECTION WIRING LOOM DAMAGED	CHECK CONNECTIONS – REPLACE WIRING LOOM
	BLOWN FUSE	REPLACE FUSE AND CHECK FOR DAMAGED WIRING
ELECTRO CONTROLLER NOT FUNCTIONING PROPERLY	WATER HAS ENTERED THE CONTROLLER CORROSION HAS OCCURED	REPLACE ELECTRO CONTROLLER
TRAILER BRAKES DO NOT APPLY WHEN THE ELECTRO CONTROLLER IS SWITCHED OFF	PRESSURE SWITCH SET TOO LOW	RESET PRESSURE SWITCH (SEE PAGE 4)
	TRACTOR-TRAILER BRAKE VALVE NOT DELIVERING THE CORRECT PRESSURE	CHECK THE PRESSURE, IF THE MAXIMUM BRAKING PRESSURE IS LOWER THAN 120 BAR REPAIR OR REPLACE TRACTOR-TRAILER BRAKE VALVE
	TRAILER BRAKES NEED ADJUSTING	ADJUST AND REPLACE WORN PARTS IF NECESSARY
	ACCUMULATOR PRE CHARGE PRESSURE HAS DEPLETED	REPLACE WORN ACCUMULATOR
FEMALE BRAKE COUPLING WILL NOT CONNECT TO TRACTOR- BACK PRESSURE HAS BUILT UP WITHIN THE BRAKE LINE	DISCONNECTED THE HYDRAULIC LINE BEFORE THE ELECTRICAL LINE	DISCONNECT THE ELECTRICAL LINE BEFORE THE HYDRAULIC LINE
	BACK PRESSURE WITHIN BRAKE TRAILER LINE	RELEASE PRESSURE, DISCONNECT THE MALE -FEMALE BRAKE COUPLING AND RECONNECT
	DEBRIS WITHIN THE SYSTEM CAUSING VALVE MALFUNCTION	TAKE OUT VALVE C2, CLEAN THOROUGHLY, FLUSH WITH NEW OIL

SPARE PARTS LIST

DESCRIPTION OF PARTS	NUMBER OF PARTS PER STANDARD FAIL-SAFE KIT	PART NUMBER
COMPLETE EURO-SAFE FAIL-SAFE BRAKE VALVE KIT ALL ITEMS INCLUDED	1	ES 100A
COMPLETE EURO-SAFE FAIL-SAFE BRAKE VALVE KIT ALL ITEMS INCLUDED EXCEPT ACCUMULATOR	1	ES 0001A
NORMALLY OPEN CARTRIDGE VALVE (FITS VALVE PORT C1)	1	ES 0002
NORMALLY CLOSED CARTRIDGE VALVE (FITS VALVE PORT C2)	1	ES 0003
SOLENOID COIL 12-VOLT	1	ES 0004
PRESSURE SWITCH	1	ES/PS
0.7 LITRE ACCUMULATOR ½" BSP FITTING	1	ES/AC
½" BSP BONDED SEAL	1	ES/BS 38
¼" BSP BONDED SEAL	1	ES/BAC
FEMALE/MALE PUSH-PULL BREAKAWAY COUPLING C/W MOUNTING BRACKET	1	ES/BAF
FEMALE PUSH-PULL COUPLING	1	ES/BAM
MALE PUSH-PULL COUPLING	1	ES/MB
MOUNTING BRACKET FOR FEMALE PUSH-PULL COUPLING	1	ES/CI
INLINE FILTER CARTRIDGE	2	ES/FIL1
COMPLETE WIRING HARNESS FOR TRACTOR & TRAILER C/W PLUGS SOCKETS, MOUNTING BRACKET & ELECTRO CONTROL BOX	1	ES 0006A
TRAILER WIRING HARNESS C/W ABS PLUG	1	ES 0007A
ABS PLUG	1	ES 0007B
TRACTOR WIRING HARNESS C/W PLUG, SOCKETS & MOUNTING BRACKET (READY TO INSTALL)	1	ES 0008
CIGARETTE LIGHTER PLUG 12-VOLT	1	ES 0009
ABS TRACTOR SOCKET	1	ES 0010A
RUBBER MOUNTING SEAL	1	ES 0011
MOUNTING BRACKET FOR TRACTOR SOCKET	1	ES 0012A
FIXING SCREWS FOR TRACTOR SOCKET	3	ES 0013A
ELECTRO CONTROL BOX	1	ES 0014
YELLOW WARNING SIGN (TRAILER)	1	ES 0015
EURO-SAFE SIGN	1	ES 0016
FITTING & OPERATING MANUAL	1	ES 0017

WARRANTY

Euro-Safe warrants to its purchases that the products manufactured by Euro-Safe shall be free from defect in materials and workmanship when correctly installed and operated within the recommendations in all-applicable Euro-Safe instruction manuals and specifications. This 'Warranty' shall be effective for a period of twelve (12) months from the date of original manufacture. Euro-Safe's obligation is limited to repair, rebuild or replacement, at Euro-Safe's option, of any Products proven, to Euro-Safe's satisfaction, to be defective.

This Warranty shall not apply and Euro-Safe shall not be liable under any circumstances for: -

Damages for injuries to persons, unless resulting from Euro-Safe's negligence.

Damage to property, loss of profit, or any other, contingent or special damages whatsoever.

THIS WARRANTY SHALL NOT APPLY TO PRODUCTS WHICH, IN EURO-SAFE'S REASONABLE DETERMINATION, HAVE BEEN SUBJECT TO NEGLIGENCE, ABUSE, ACCIDENT, MISAPPLICATION, TAMPERING OR ALTERATION; NOR SHALL IT APPLY TO PRODUCTS DAMAGED BY ACTS OF GOD, WAR, OR CIVIL INSURRECTION, IMPROPER INSTALLATION, OPERATION, MAINTENANCE OR STORAGE, OR OTHER THAN NORMAL APPLICATION, USE OR SERVICE. THIS INCLUDES, BUT IS NOT LIMITED TO, OPERATIONAL FAILURE CAUSED BY CORROSION, RUST OR OTHER FOREIGN MATERIALS IN THE SYSTEM IN WHICH THEY ARE UTILISED, OR OPERATION AT PRESSURE IN EXCESS OF RECOMMENDED MAXIMUMS.

EURO-SAFE CANNOT BE HELD RESPONSIBLE FOR BRAKE FAILURE CAUSED BY POOR MAINTENANCE OF THE TRAILER BRAKES AND NOT FOLLOWING THE CORRECT MAINTENANCE SCHEDULE ON PAGE 6.

Fitted with: - **EURO-SAFE**

AUTOMATIC FAIL-SAFE / EMERGENCY TRAILER BRAKING SYSTEM

DO NOT OPERATE THIS SYSTEM BEFORE READING THE OPERATORS MANUAL

OPERATING INSTRUCTIONS

1. Connect trailer, hydraulic brake coupling and electrical brake plug, to the towing vehicle.
2. Switch 'ON' Electro Controller - Power light illuminates.
3. If low-pressure buzzer sounds, recharge the accumulator by depressing the brake pedal for 15-20 seconds.
4. Release brake pedal then depress for a further 10 –15 seconds, until trailer brakes release, buzzer stops and green light illuminates.
5. When green light illuminates keep brake pedal depressed for a further 10 seconds.

* If brakes will not release see operators manual – INITIAL SET UP

CHECK THAT THE BRAKES ARE FULLY WORKING BEFORE SETTING OFF

6. TRAILER BRAKES WILL ACTUATE WHEN: -
 - a) The Electro Controller is switched 'OFF'.
 - b) The electrical brake plug is disconnected OR electrical power is lost or interrupted.
7. THE ACCUMULATOR PRESSURE AND TRAILER BRAKES WILL RELEASE WHEN: -
 - a) The Electro Controller is switched 'OFF'– This will apply the trailer brakes.
 - b) Push and hold the override button on the Electro Controller OR twist and hold the manual override mounted on the brake valve for 10 seconds - THE ACCUMULATOR WILL DISCHARGE AND THE BRAKES RELEASE.

* CONNECTING: - Connect hydraulic brake coupling **BEFORE** electrical brake plug.

* DISCONNECTING: - Disconnect electrical brake plug **BEFORE** hydraulic brake coupling.

MAINTAINANCE

At 6 weekly intervals: - Brakes must be checked, adjusted and worn parts replaced.

At 12-month intervals: - Replace the brake valve filter element (See page 7 of the Operators Manual).