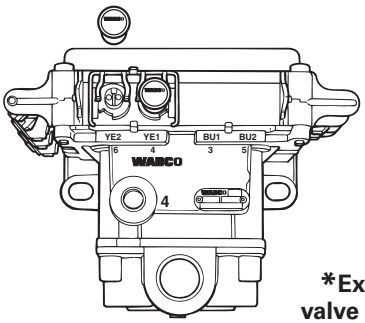
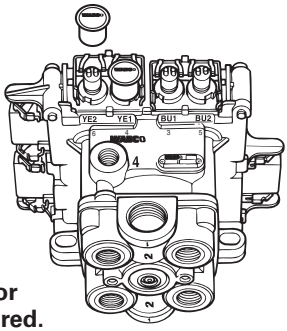
MERITOR WABCO

Easy-Stop™ and Enhanced Easy-Stop with PLC Trailer ABS Blink Code Diagnostic Guide

Easy-Stop™ 2S/1M Basic ECU/Modulator Valve Assembly



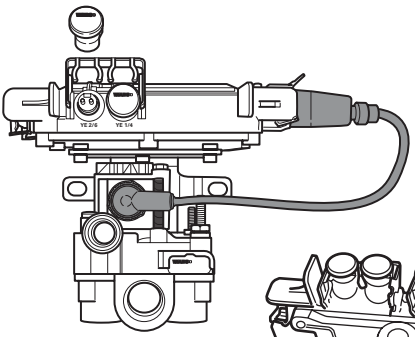
Easy-Stop™ 2S/1M, 2S/2M*, 4S/2M*, 4S/3M* ECU/Modulator Valve Assembly



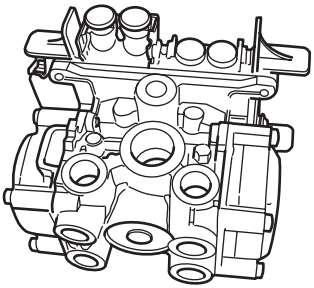
*External modulator valve and cable required.

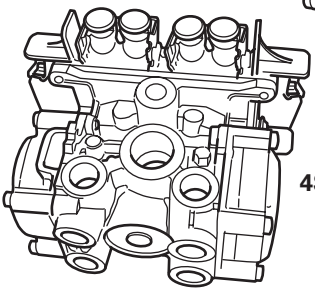
Enhanced Easy-Stop™ with PLC

2S/1M Basic ECU/Single Modulator Valve Assembly



2S/2M Standard ECU/Dual Modulator Valve Assembly





2S/2M, 4S/2M, 4S/3M* Premium ECU/Dual Modulator Valve Assembly

*External modulator valve and cable required.

This publication covers all Enhanced Easy-Stop™ ECU/Valve Assemblies and Easy-Stop™ ECU/Valve Assemblies with serial numbers 3080002746 and higher. For Easy-Stop™ ECU/Valve Assemblies with serial numbers 3080002745 or lower, please call 1-800-535-5560 for assistance. Serial numbers are located on the bar-coded label on the side of the ECU/Valve Assembly.

Meritor WABCO Trailer ABS Quick Reference Guide

Refer to Catalog PB-96133 for Additional Details

Enhanced Easy-Stop™ Trailer ABS: Production Dates of March 2001 to Present

ECU/Valve Assembly	Description	Service ECU	Service Valve	Bracket
S400 500 101 0	2S/1M Trailers	S446 108 201 0	S472 195 033 0	S478 407 058 4
S400 500 104 0	2S/1M Dollies	S446 108 204 0	S472 195 033 0	S478 407 058 4
S400 500 102 0	2S/2M	S400 850 600 0	S400 850 602 0	
S400 500 103 0	2S/2M, 4S/2M, 4S/3M	S400 850 601 0	S400 850 602 0	
S400 500 105 0 (with InfoLink capability)	2S/2M, 4S/2M, 4S/3M		S400 850 602 0	

Easy-Stop™ Trailer ABS: Production Dates of March 1997 to February 2001

ECU/Valve Assembly	Description	Service Kit with Power Adapter	Service Kit with Power/Diagnostic Cable
S472 500 021 0	2S/1M Trailers	R955344	R955345
S472 500 011 0	2S/1M Dollies	R955322	R955323
S472 500 012 0	2S/1M, 2S/2M, 4S/2M	R955320	R955321
S472 500 013 0	4S/3M	R955346	R955347

Sensors and Extension Cables

Length	Sensor Kit	Sensor	Sensor Extension Cable
1.0 ft (0.3 m)	R955335	441 032 808 0	
3.0 ft (0.9 m)	R955336	441 032 809 0	
4.2 ft (1.3 m)			S449 713 013 0
4.6 ft (1.5 m)	R955365	441 032 817 0	
5.6 ft (1.7 m)	R955328	441 032 103 0	
5.8 ft (1.8 m)	R955341	441 032 813 0	S449 713 018 0
6.6 ft (2.0 m)	R955342	441 032 814 0	
10.0 ft (3.0 m)			S449 713 030 0
16.0 ft (5.0 m)			S449 713 050 0
39.0 ft (12.0 m)			S449 713 120 0
56.0 ft (17.0 m)			S449 713 170 0

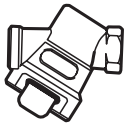
Power Cables

Length	Easy-Stop™ with Weather Pack Connector	Easy-Stop™ Blunt Cut Style	Easy-Stop™ Diagnostic Cable	Enhanced Easy-Stop™ with Weather Pack Connector	Enhanced Easy-Stop™ Blunt Cut Style	Enhanced Easy-Stop™ Y-Style Power/ Diagnostics
1.5 ft (0.5 m)	S894 606 037 0			S449 326 005 4		S449 364 142 0
3.0 ft (1.0 m)	S894 604 944 0	S449 315 010 0		S449 326 010 0	S449 328 010 0	S449 364 143 0
10.0 ft (3.0 m)	S894 606 051 0	S449 315 030 0	SA1-3237-K-1103	S449 326 030 0	S449 328 030 0	
13.0 ft (4.0 m)	S894 604 945 0					
14.0 ft (4.7 m)	S894 606 038 0			S449 326 047 0		
20.0 ft (6.0 m)	S894 606 050 0			S449 326 060 0		S449 364 153 0
36.0 ft (11.0 m)		S449 315 110 0			S449 328 110 0	
49.0 ft (15.0 m)		S449 315 150 0				
66.0 ft (20.0 m)		S449 315 200 0				

SEE BACK OF CARD FOR BLINK CODES

In-Line Filter

- Function: Prevents contamination of the trailer's air system.
- Requires regular cleaning, but equipped with a bypass if needed.

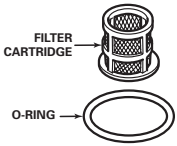


Part Number

S432 500 005 0

Comments

- In-line filter (complete valve)
- Mounted at the Gladhand
- Highly recommended for control line

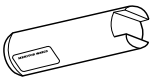


Part Number

R955366

Comments

- In-line filter cartridge service kit (cartridge and O-ring)

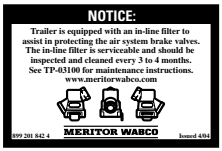


Part Number

S100 100 002 4

Comments

- In-line filter tool (to clean and replace cartridge)



Part Number

S899 201 842 4

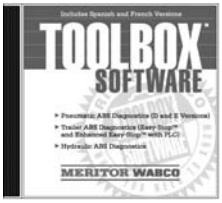
Comments

- In-line filter label

Diagnostic and Test Equipment

TOOLBOX™ Software — Easy-Stop™ and Enhanced Easy-Stop™

NOTE: TOOLBOX™ Software and support equipment is not available from Meritor WABCO. Contact SPX at 1-800-328-6657 to order.



Comments

- TOOLBOX™ Software is a pc-based diagnostics program that can display wheel speed data, test individual components, verify installation wiring and more.
- Version 5.0 (or higher) supports Enhanced Easy-Stop™ with PLC and runs in Windows® 95, 98, NT, 2000, Millennium and XP.
- Software part number is TOOLBOX.
- An RS232 to J1708 converter box is required. Part number is J-45537-MRR.

Sensor Orientation

Easy-Stop™ Trailer ABS

— For typical Easy-Stop™ Trailer ABS installations, YE1 and YE2 are curbside, BU1 and BU2 are roadside.

Enhanced Easy-Stop™ Trailer ABS

— Look at the sensor connectors on the ECU/dual modulator valve assembly. Make sure the connectors are routed to the correct wheel end location, as follows:

Sensor Connectors on ECU/Modulator Valve Assembly Facing Front of Trailer

- 2S/2M
  - — Connect curbside sensor at YE1.
  - — Connect roadside sensor at BU1.
- 4S/2M*
  - — Connect curbside front sensor at YE1.
  - — Connect curbside rear sensor at YE2.
  - — Connect roadside front sensor at BU1.
  - — Connect roadside rear sensor at BU2.
- 4S/3M* — Sensor locations vary by type of installation.
  - — Connect curbside sensor at YE1.
  - — Connect curbside sensor at YE2.
  - — Connect roadside sensor at BU1.
  - — Connect roadside sensor at BU2.

Sensor Connectors on ECU/Modulator Valve Assembly Facing Rear of Trailer

- 2S/2M
  - — Connect curbside sensor at BU1.
  - — Connect roadside sensor at YE1.
- 4S/2M*
  - — Connect curbside front sensor at BU1.
  - — Connect curbside rear sensor at BU2.
  - — Connect roadside front sensor at YE1.
  - — Connect roadside rear sensor at YE2.
- 4S/3M* — Sensor locations vary by type of installation.
  - — Connect curbside sensor at BU1.
  - — Connect curbside sensor at BU2.
  - — Connect roadside sensor at YE1.
  - — Connect roadside sensor at YE2.

* **If the lift axle is sensed in 4S/2M and 4S/3M installations:** Sensors YE2 and BU2 must always be used on the lift axle to avoid an unwanted ABS indicator lamp illumination.

SEE BACK OF CARD FOR BLINK CODES

Troubleshooting and Repair

Enhanced Easy-Stop™ blink codes may be accessed by ignition circuit and counting flashes on the trailer ABS indicator lamp on the side of the trailer.

To access blink codes:
- Turn ignition ON for one second,
- Turn ignition OFF for one second,
- Turn ignition ON and count the flashes on the ABS lamp.

With Enhanced Easy-Stop™, the Blink Code tool and the ABS Lamp on the trailer do not function simultaneously.

BLINK CODE	CAUSE OF FAULT	ACTION REQUIRED
0	**No faults.**	System O.K. No action needed.
3	**Sensor BU1:** Cable break, short circuit or out of adjustment.	Check sensor, sensor cable and cable connection; adjust sensor; or check for excessive hub runout, a sensor gap that is too wide or damage to the tooth wheels.
4	**Sensor YE1:** Cable break, short circuit or out of adjustment.	Check sensor, sensor cable and cable connection; adjust sensor; or check for excessive hub runout, a sensor gap that is too wide or damage to the tooth wheels.
5	**Sensor BU2:** Cable break, short circuit or out of adjustment.	Check sensor, sensor cable and cable connection; adjust sensor; or check for excessive hub runout, a sensor gap that is too wide or damage to the tooth wheels.
6	**Sensor YE2:** Cable break, short circuit or out of adjustment.	Check sensor, sensor cable and cable connection; adjust sensor; or check for excessive hub runout, a sensor gap that is too wide or damage to the tooth wheels.
7	**Ext. Modulator (RD):** Short to power, cable break or open, short to ground or cable damaged, or ECU/Valve Assembly Failure.	Check ABS valve and cable. Replace as required.
9	**Easy-Stop™: External Modulator (BU)** **Enhanced Easy-Stop™: Internal Modulator Failure, Inlet Valve #2:** Short to power, cable break or open, short to ground or cable damaged, or ECU/Valve Assembly Failure.	**Easy-Stop™:** Check ABS valve and cable. Replace as required. **Enhanced Easy-Stop™:** Verify correct installation. If code continues, contact Meritor WABCO for assistance.
10	**Easy-Stop™: ECU/Valve Assembly Modulator (YE)** **Enhanced Easy-Stop™: Internal Modulator Failure, Inlet Valve #1:** Short to power, cable break or open, short to ground or cable damaged, or ECU/Valve Assembly Failure.	**Easy-Stop™:** Check ABS valve and cable. Replace as required. **Enhanced Easy-Stop™:** Verify correct installation. If code continues, contact Meritor WABCO for assistance.
11	**Internal Modulator Failure, Outlet Valve. Enhanced Easy-Stop™ Only.**	Verify correct installation. If code continues, contact Meritor WABCO for assistance.
14	**Power Supply:** Over or under voltage, current low, or internal failure.	Repair vehicle power supply, check vehicle voltage output and connector; check ECU's configuration.
15	**ECU — Internal Failure** Internal failure.	Internal failure, contact Meritor WABCO.
16	**SAE J1708 Failure**	Internal failure, contact Meritor WABCO.
17	**Generic SAE J2497 (PLC) Failure**	Internal failure, contact Meritor WABCO.
18	**Generic I/O Failure**	Verify correct electrical installation. Check power supply. Make necessary corrections.

Note: (Easy-Stop™ only) If the blink code indicates there are no faults, but the trailer ABS indicator lamp continues to come on and stay on when you apply the brakes to the moving vehicle, there is an intermittent fault that must be repaired. Refer to Maintenance Manual No. 33, Expert Mode Diagnostics.

For further information on blink code diagnostics, refer to Maintenance Manual No. 33 (Easy-Stop™), Maintenance Manual MM-0180 (Enhanced Easy-Stop™) or call: **800-535-5560**.

These manuals are posted on our website at **meritorwabco.com**.

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Printed in USA
Copyright 2007
ArvinMeritor, Inc.
TP-0173
(Replaces TP-94159)
Revised 12-07
16579/22882