

MATRIX™

INSTALLATION MANUAL



**AUTO BOOM SECTION CONTROL
MÜLLER SPRAY CONTROL-S
WITH STANDARD SWITCH BOX**

TeeJet®
TECHNOLOGIES

A Subsidiary of  Spraying Systems Co.®

This installation manual covers installation of MATRIX™ or CenterLine 230BP with MÜLLER SPRAY CONTROL-S with MÜLLER standard switch box. We have endeavoured to deliver a fault free product. To ensure optimal use of the equipment, we ask you to pay great attention when reading this manual. Regarding responsibility for use of the product, we refer to our sales and delivery terms - especially paragraph 7, which follows:

Product usage.

7.1 Any use of the product is at the sole risk of the buyer. The buyer is therefore not entitled to any form for compensation caused by, for example, any of the following:

- Disturbance to/from any electronic services or products that do not confirm to the standards for CE marking,
- Missing or poor signal coverage or a succession hereof from external transmitters/receivers, used by the buyer,
- Functional faults, which apply to or from a PC-program or PC-equipment, not delivered by the seller.
- Faults that may arise from the buyers negligence to react to warnings and fault messages from the product, or which can be traced to negligence and/or absent constant control of the work carried out in comparison to the planned job.

7.2 When implementing any new equipment the buyer must take great care and pay attention. Any doubts as to correct operation/use should result in contacting TeeJet Technologies.

Kind regards,



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INTRODUCTION TO MATRIX™ AND CL230

The MATRIX™ and Centerline 230BP are combined Guidance and Automatic Boom Section Control (ABSC) devices that features control of up to 15 boom sections. The MATRIX™ or the Centerline 230BP connects in parallel to the existing wiring loom to the section valves.

Principle of Operation

The MATRIX™ or Centerline 230BP control the sections valves according to the GPS position and the GPS guidance makes it possible to avoid overlaps or skips.

The MATRIX™ or Centerline 230BP controls the section valves in automatic mode, and the section switches should be set to off unless the operator wants to override the auto mode and thus force spraying.

The MATRIX™ or Centerline 230BP monitors the section switches that controls the valves in manual mode. The Master switch can be used both in automatic mode as well as in manual mode.

Required Parts

To add Automatically Boom Section Control to a SPRAY CONTROL S with MÜLLER standard switch, box the following part numbers are required:

MATRIX™:

Part no.	Description
* xxx-xxx	MATRIX™ Guidance controller kit
903-322	ABSC box, MÜLLER SPRAY CONTROL-S with MÜLLER standard switch box, max. 9 sections
45-05626	Power/CAN/Data cable for MATRIX™

* Refer to the MATRIX™ pricelist

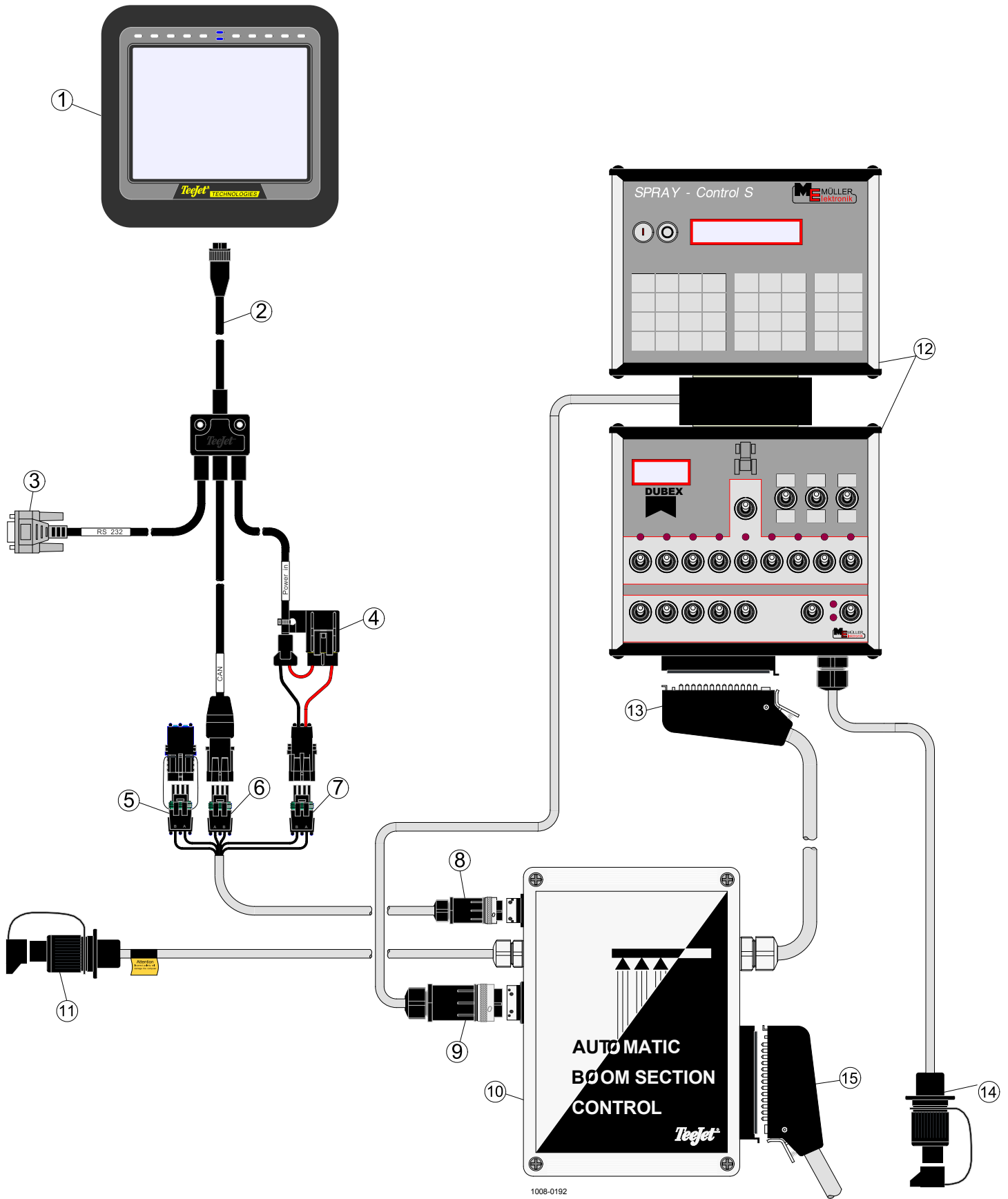
CL230:

Part no.	Description
* xxx-xxx	CL230 Guidance controller kit
903-322	ABSC box, MÜLLER SPRAY CONTROL-S with MÜLLER standard switch box, max. 9 sections

* Refer to the CL230BP pricelist

! See also page 10 to identify if the ABSC kit fits your MÜLLER SPRAY Controller /switch box.

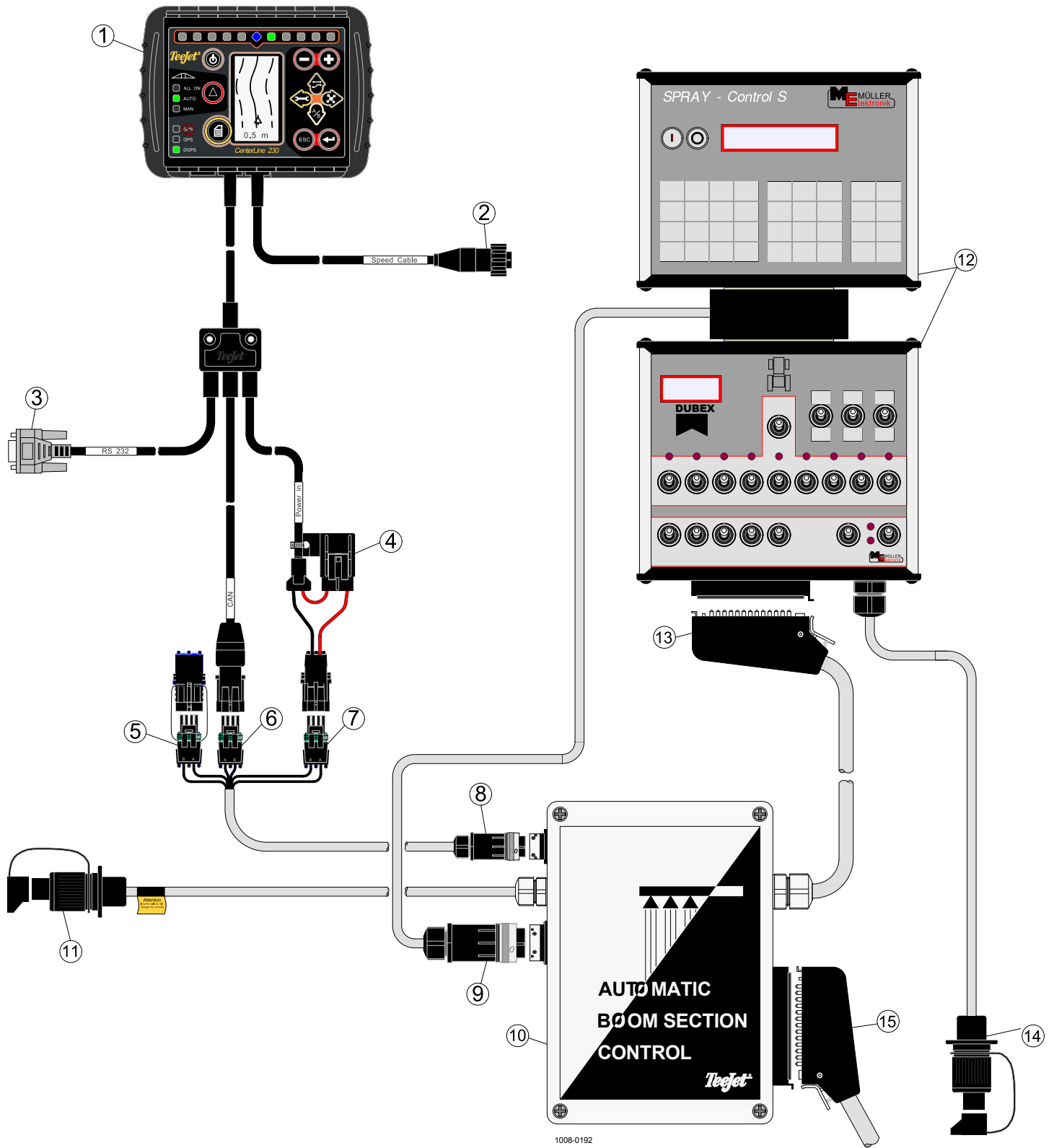
SYSTEM OVERVIEW, MATRIX™



SYSTEM DESCRIPTION, MATRIX™

POS	DESCRIPTION	Part Number
1	Matrix™ Guidance Controller	
2	Power/CAN/Data Cable, MATRIX™,	45-05626
3	RS232 port (Programming and GPS input)	
4	Fuse 3A	166-603
5	Foot switch connector 2P (Foot switch is optional)	
6	CAN connector 4P	
7	Power connector 2P	
8	BoomPilot adapter cable	199-263
9	Müller SPRAY-Control S adapter cable	198-094
10	ABSC adapter box	902-361
11	Power connector, ABSC adapter box	
12	SPRAY-Control S controller and MÜLLER standard switch box	
13	Machine connector from ABSC box	
14	Power connector, Müller SPRAY CONTROL-S switch box	
15	Machine connector from Sprayer	

SYSTEM OVERVIEW, CL230



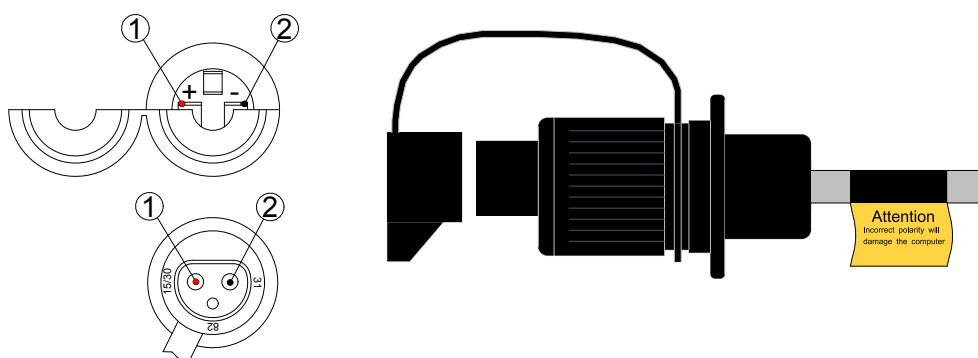
SYSTEM DESCRIPTION, CL230

POS	DESCRIPTION	Part Number
1	CenterLine 230BP Guidance Controller	
2	Speed output connector	
3	RS232 port (Programming and GPS input)	
4	Fuse 3A	166-603
5	Foot switch connector 2P (Foot switch is optional)	
6	CAN connector 4P	
7	Power connector 2P	
8	BoomPilot adapter cable	199-263
9	Müller SPRAY-Control S adapter cable	198-094
10	ABSC adapter box	902-361
11	Power connector, ABSC adapter box	
12	SPRAY-Control S controller and MÜLLER standard switch box	
13	Machine connector from ABSC box	
14	Power connector, Müller SPRAY CONTROL-S switch box	
15	Machine connector from Sprayer	

INSTALLING THE SPRAY-CONTROL S ABSC KIT

Connect the Automatic Boom section kit as show on the system overview drawing. The kit includes all necessary connectors to get electrical contact with the Müller SPRAY-Control S/Dubex system.

CONNECTING POS. 11 & 14 TO POWER:



POS	DESCRIPTION
1	+12V (15/30)
2	Ground (31)

BATTERY CABLE (OPTION)

The power supply must be strong enough to operate the Section and Master valves. The total current will depend on the used valve type.

If a power connector (Socket) isn't available in the tractor cabin, a optional battery cable can be used (PN 96ET14).



SYSTEM CHECK

After connecting the power connector, it's time to make a system check. To check the system it's necessary to have full GPS signal so the vehicle must be placed outside.

Check AUTO mode:

Switch box

- Section switches should be in OFF position when working in Automatic mode.
- The Master switch will control the sprayer and should be ON to enable automatic switching of the sections.”

MATRIX™ or CL230:

- Turn the Guidance controller on
- Encode the number of sections and the width of each (Refer to the MATRIX™ or CL230 user manual)
- Wait for GPS signal
- Set the mode to AUTO
- Drive forward (> 2 km/h)
- Observe that all sections and the master valve open.
- Check that the Master valve closes when the Master switch is set off.
- Check hectare counter in the MATRIX™ or CL230 against the Spray Control S controller.

Check MANUAL mode:

MATRIX™ or CL230:

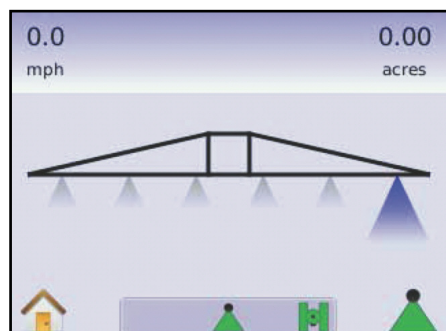
- Set the ABSC mode to MANUAL

Check in the ‘Boom Section Control Screen’ (Matrix or CL230) that the section icons turn off and on according to the valve/switch status.

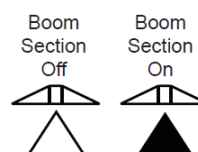
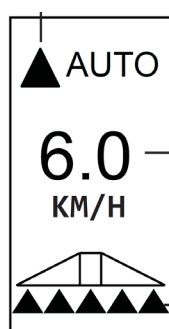
Switch Box:

- Set the section switch's on
- Set the Master switch on
- Observe that all sections and the master valve open.

MATRIX™:



CL230:



MÜLLER SPRAY CONTROL S WITH STANDARD SWITCH BOX

Before starting the installation it's important to be sure that the ABSC kit PN 903-322 fits your MÜLLER SPRAY CONTROL-S system.

Connector:



Check the connector for the spray functions in the MÜLLER SPRAY CONTROL S switch box (Must be 39 poled). Check the 'Code pin' and Code socket'.

If it isn't a standard Müller switch box (No Müller logo on), please use the below table to check if the switch box is compatible with the Müller standard.

A1	<i>Reg +</i>	B1	<i>Section-5</i>	C1	<i>Tilt L.</i>
A2	<i>Reg. -</i>	B2	<i>Section-6</i>	C2	<i>Tilt L.</i>
A3	<i>Bypass</i>	B3	<i>Section-6</i>	C3	<i>Tilt L.</i>
A4	<i>Bypass</i>	B4	<i>Section-7</i>	C4	<i>Tilt R.</i>
A5	<i>Section-1</i>	B5	<i>Section-7</i>	C5	<i>Tilt R.</i>
A6	<i>Section-1</i>	B6	<i>Section-8</i>	C6	<i>Tilt R.</i>
A7	<i>Section-2</i>	B7	<i>Section-8</i>	C7	<i>+12V</i>
A8	<i>Section-2</i>	B8	<i>Section-9</i>	C8	<i>Flow meter</i>
A9	<i>Section-3</i>	B9	<i>Section-9</i>	C9	<i>Gnd</i>
A10	<i>Section-3</i>	B10	<i>End nozzle L.</i>	C10	<i>Speed</i>
A11	<i>Section-4</i>	B11	<i>End nozzle L.</i>	C11	<i>Pressure</i>
A12	<i>Section-4</i>	B12	<i>End nozzle R.</i>	C12	<i>Tank</i>
A13	<i>Section-5</i>	B13	<i>End nozzle R.</i>	C13	<i>Potm.</i>

Goes directly through the ABSC box from the Müller switch box.

MÜLLER SPRAY CONTROL-S WITH STANDARD MÜLLER SWITCH BOX



MATRIX™

I N S T A L L A T I O N M A N U A L

Matrix Guidance: Exclusive Features

- RealView™ Guidance Over Video
Guidance Superimposed Over Video
Guidance Only
Video Only
- Bright Daylight Readable Screen
- Easy-to-Use 3D Graphical Guidance
- Coverage Mapping/Data Export



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