

BOOMPILOT®

INSTALLATION MANUAL

Automatic boom section control installation manual
for use with Müller Spray Control - S w/Matrix® Pro



TeeJet®
TECHNOLOGIES

BoomPilot®

A Subsidiary of  **Spraying Systems Co.®**

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Safety information

TeeJet Technologies is not responsible for damage or physical harm caused by failure to adhere to the following safety requirements.

As the operator of the vehicle, you are responsible for its safe operation.

The BoomPilot is not designed to replace the vehicle's operator.

Do not leave a vehicle while the BoomPilot is engaged.

Be sure that the area around the vehicle is clear of people and obstacles before and during engagement.

The BoomPilot is designed to support and improve efficiency while working in the field. The driver has full responsibility for the quality and work related results.

Disengage BoomPilot before operating on public roads or when not in use to prevent loss of vehicle control.

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REQUIRED COMPONENTS

Unpack the installation kit and identify the required parts for your installation.

Item	Part Number	Description	Quantity
A	90-xxxx*	Matrix Pro guidance controller kit	1
B	45-05845	Power/CAN/data cable	1
C	199-263	BoomPilot adapter cable.....	1
D	902-361	ABSC adapter box	1
E	198-094	Müller Spray Control - S adapter cable.....	1
F	020-043	Installation manual, Müller Spray Control - S	1
G	98-05243	Matrix Pro BoomPilot setup guide	1

*Part number is dependent on kit contents

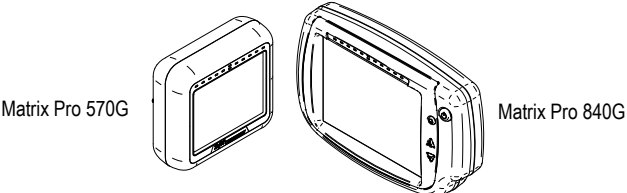
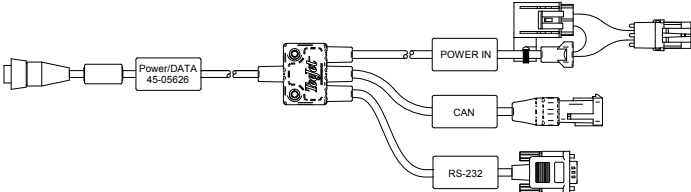
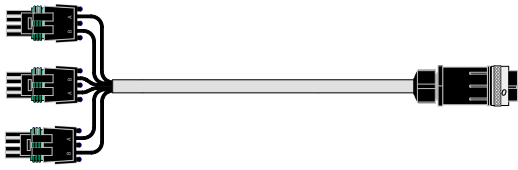
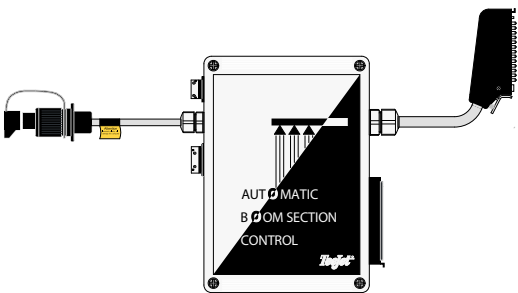

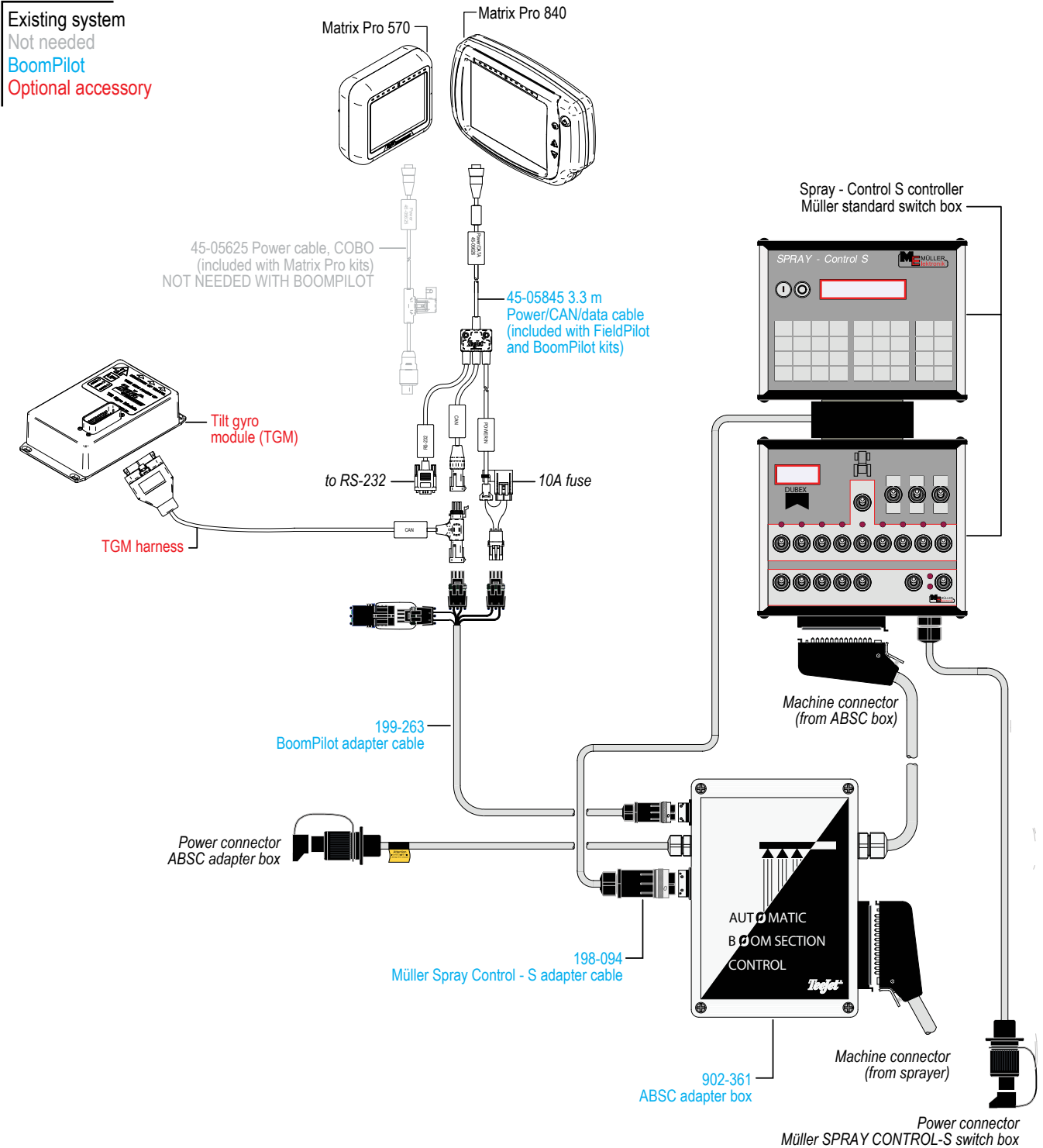
Item	Part #	Description	Illustration
A	Part number is dependent on kit contents	Matrix Pro guidance controller kit	 <p>Matrix Pro 570G Matrix Pro 840G</p>
B	45-05845	Power/CAN/data cable	
C	199-263	BoomPilot adapter cable	
D	902-361	ABSC adapter box	
E	198-094	Müller Spray Control - S adapter cable	
F	020-043	Installation manual, Müller Spray Control - S	
G	98-05243	Matrix Pro BoomPilot setup guide	

Figure 1: System diagram



PRINCIPLE OF OPERATION

The BoomPilot system controls the sections valves according to the GPS position. The GPS makes it possible to avoid overlaps or skips.

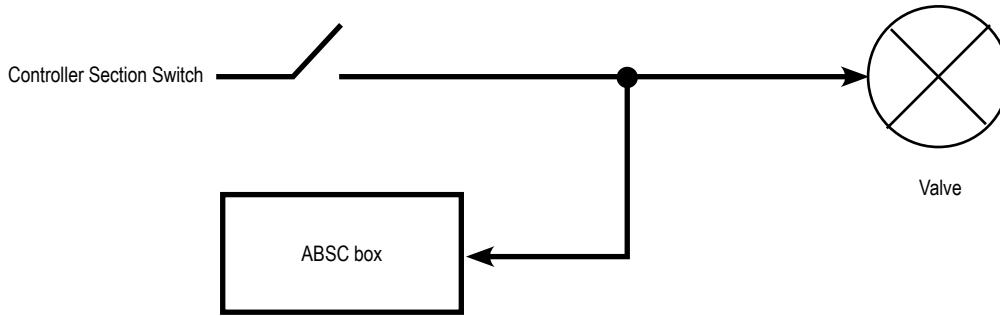
The ABSC (automatic boom section control) box is designed for switching active high when spraying. This means that a 12V signal is issued to control the corresponding section valve.

The ABSC box is connected in parallel with the controller section switches.

The BoomPilot controls the section valves in automatic mode, and the controller section switches should be set to off unless the operator wants to override the auto mode and thus force spraying.

The BoomPilot monitors the controller section switches that controls the valves in manual mode. The the Master switch can be used both in automatic mode as well as in manual mode.

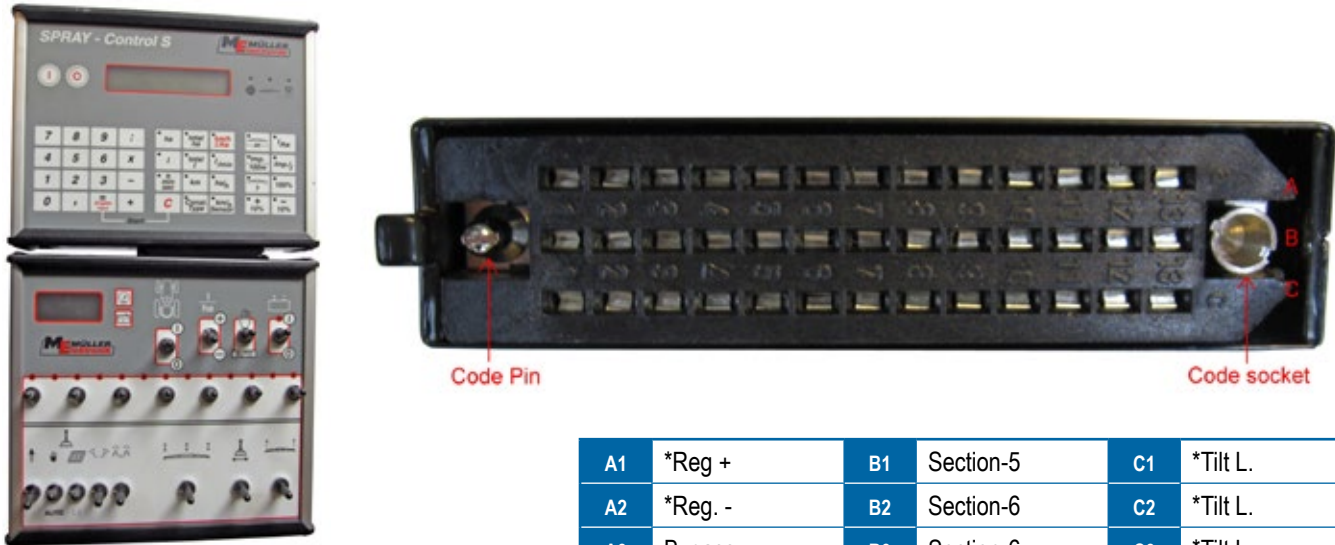
Figure 2: Principle of operation



BEFORE THE INSTALL

Before starting the installation it's important to be sure that the ABSC kit PN 903-322 fits your Müller Spray Control - S system.

Figure 3: Müller Spray Control - S and connector detail



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

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

INSTALLATION



If there are questions concerning the installation of the BoomPilot system on this vehicle, or due to the changes in component specifications the parts supplied in the kit are not exactly as presented in this document, please contact your dealer or TeeJet Customer service representative for clarification before installation. TeeJet Technologies is not responsible for misuse or incorrect installation of the system.

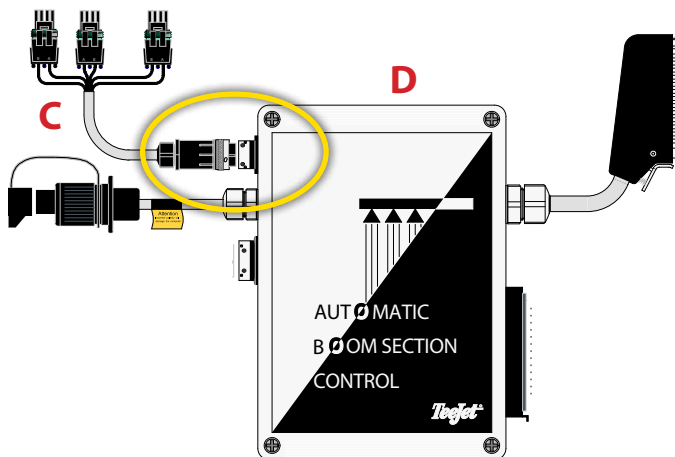
NOTE: All references to left and right are stated as if the user is seated in the driver's seat.

NOTE: BE VERY CAREFUL TO ABSOLUTELY SECURE ALL CABLES AND HOSES SO THAT THEY DON'T INTERFERE WITH THE MANY MOVING PARTS OF THE MACHINE!

1. MOUNT & CONNECT ABSC ADAPTER BOX

1. Mount ABSC adapter box (D) as shown where LED's can be seen for troubleshooting.
2. Connect ABSC adapter box (D) to BoomPilot adapter cable (C).

Figure 4: Connect SDM

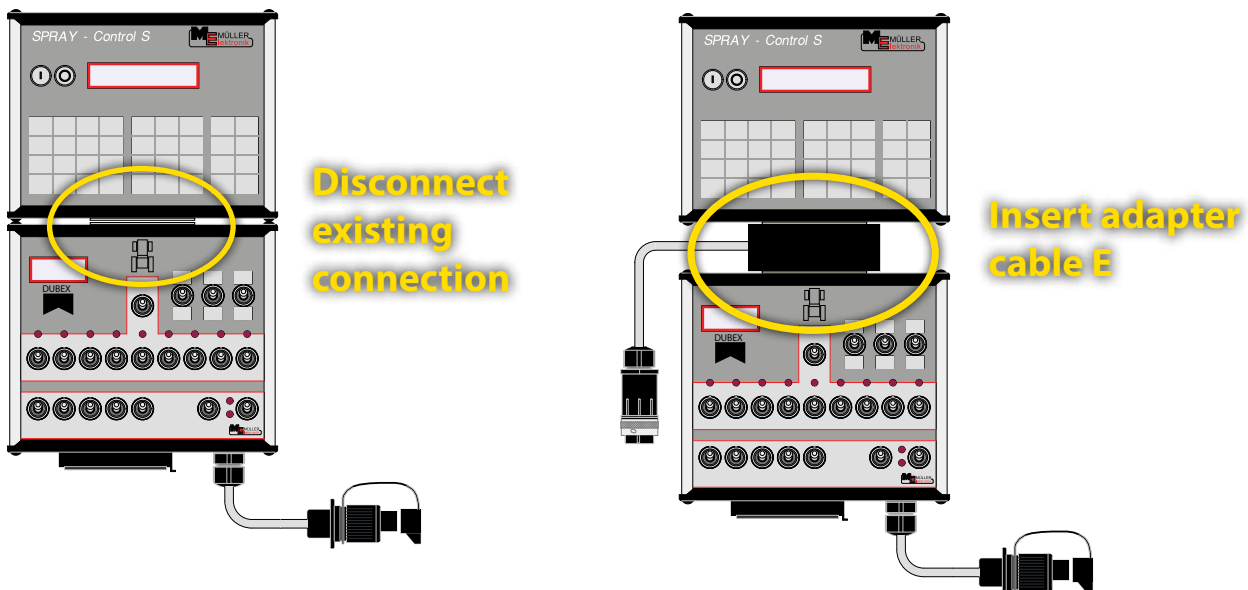


2. CONNECT MÜLLER SPRAY CONTROL - S ADAPTER CABLE

The Müller Spray Control - S adapter cable (E) tees into the existing system's connection between the SPRAY-Control S controller and MÜLLER standard switch box.

1. Disconnect existing connection between the SPRAY-Control S controller and MÜLLER standard switch box.
2. Connect Müller Spray Control - S adapter cable (E) to Müller Spray Control - S controller.
3. Connect Müller Spray Control - S adapter cable (E) to MÜLLER standard switch box.

Figure 5: Connect Müller Spray Control - S adapter cable



3. DISCONNECT & RECONNECT MACHINE CONNECTION

The ABSC adapter box (D) tees into the existing system's connection between the MÜLLER standard switch box and flow control harness.

1. Disconnect existing connection at the bottom of the MÜLLER standard switch box.
2. Connect ABSC adapter box (D) to Müller Spray Control - S console.
3. Connect existing Müller Spray Control - S flow control harness to ABSC adapter box (D).

Figure 6: Disconnect existing connection



Figure 7: ABSC adapter box to switch box

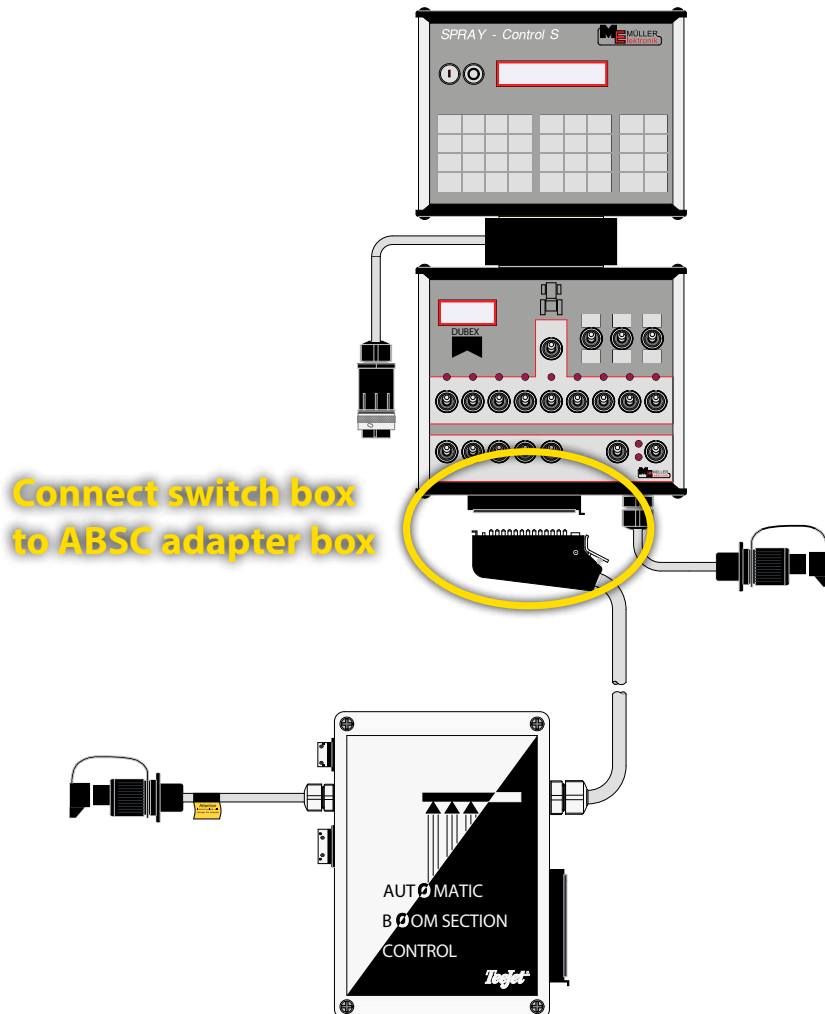
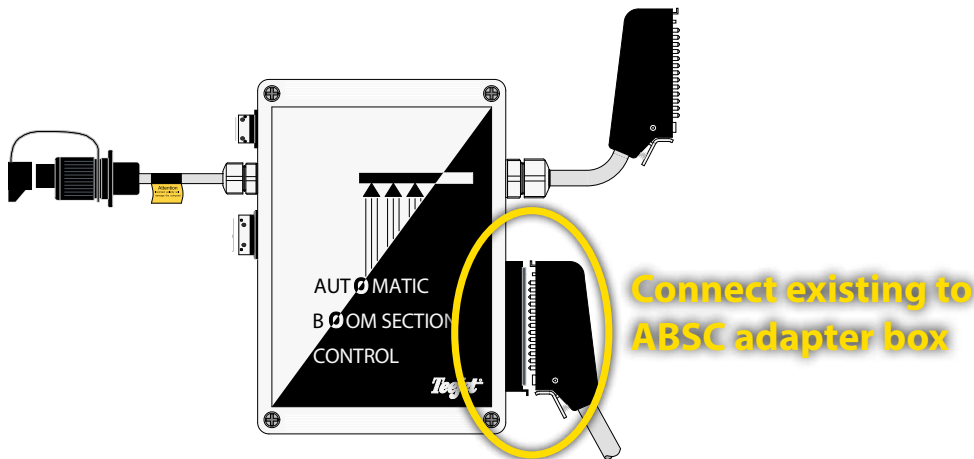


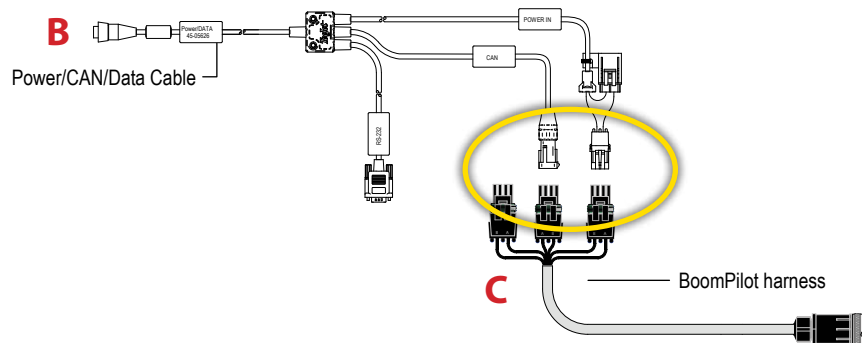
Figure 8: ABSC adapter box to existing harness



4. CONNECT POWER/CAN/DATA CABLE TO BOOMPILOT ADAPTER CABLE

Connect Power/CAN/data cable (B) to BoomPilot adapter cable (C).

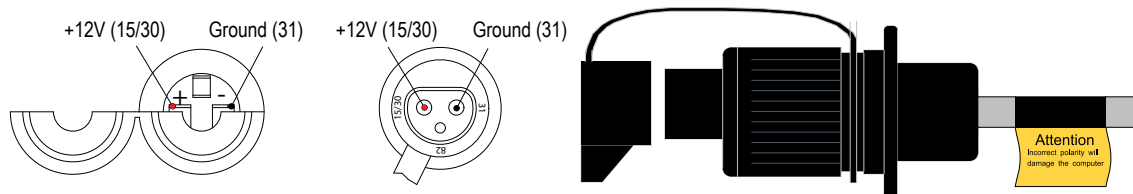
Figure 9: Connect power/CAN/data cable to BoomPilot adapter cable



5. CONNECTING TO POWER

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

Warning: When connecting the system to 12V power it's very important that the polarity is correct, if not the system will be damaged.



Optional Battery Cable

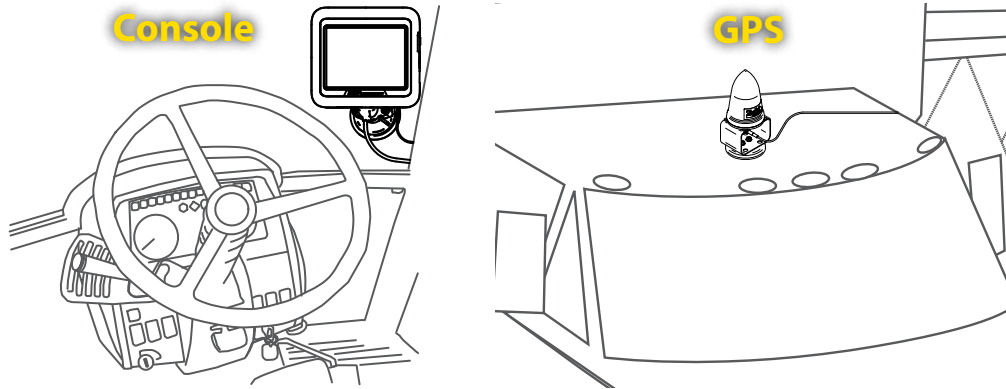
If a power connector (Socket) isn't available in the tractor cabin, a optional battery cable can be used (PN 96ET14).



6. RECOMMENDED ELECTRONICS INSTALLATION

The control console can be mounted to the operator's preference. The GPS antenna should be mounted in the center on top of the cab on a metal surface of at least 10 cm square.

Figure 10: Recommended electronics installation



7. COMPLETE ELECTRONIC INSTALLATION

Refer to the Matrix Pro BoomPilot Setup Guide for further instructions on setting up and using your Matrix Pro for ABSC.

If not using a Matrix Pro, please refer to the owner's manual supplied with the guidance system to complete the electronic installation and setup.

SYSTEM CHECK

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

Check AUTOMATIC mode:

Müller Spray Control - S:

Section switches should be in the 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 Pro:

- Turn on the Matrix Pro console
- Encode the number of sections and the width of each (Refer to the Matrix Pro user manual)
- Wait for GPS signal
- Set the BoomPilot mode to AUTOMATIC
◀ Status Bar Icon will change to green ▲
- Drive forward (> 2 km/h)
- Observe that all valves open
- Check that the valves close when the Master switch is set to OFF

Check MANUAL mode:

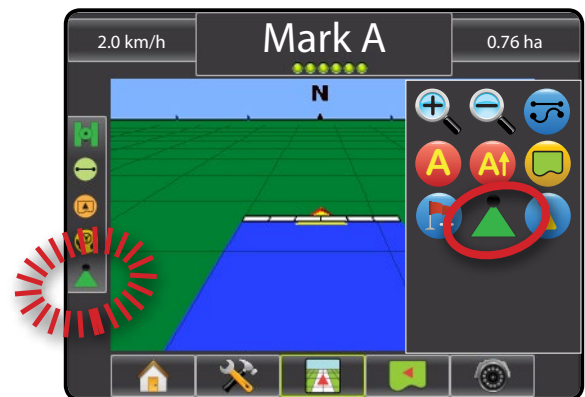
Müller Spray Control - S:

- Set the section switches to ON
- Set the Master switch to ON

Matrix Pro:

- Set the BoomPilot mode to MANUAL
◀ Status Bar Icon will change to red ▲
- Check in the 'Vehicle View Screen' (Matrix Pro) that the section icons turn off and on according to the valve/switch status
- Observe that all valves are open

Figure 11: Automatic to all booms on mode



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USER MANUAL

A series of equipment-specific installation kits have been developed to work in conjunction with your automated boom section control system. This kit contains the necessary components and instructions to install ABSC on a Müller Spray Control - S. Please review this manual thoroughly before beginning the installation process.

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