BOOMPILOT®

INSTALLATION MANUAL

Automatic boom section control installation manual for use with Blanchard REB.1 controller w/Matrix® Pro

TeeJet® TECHNOLOGIES

BoomPilot®

A Subsidiary of Spraying Systems Co.®

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.

Table of contents

REQUIRED COMPONENTS

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

Item	Part Number	Description	Quantity
A	90-xxxxx*	Matrix Pro guidance controller kit	1
B	45-05845	Power/CAN/data cable	1
C	199-263	BoomPilot harness	1
D	902-365	ABSC adapter box	1
E	198-094	Blanchard REB. 1 adapter cable	1
F	020-046	Installation manual, Blanchard REB.1	1
G	98-05243	Matrix Pro BoomPilot setup guide	1

**Part number is dependent on kit contents*

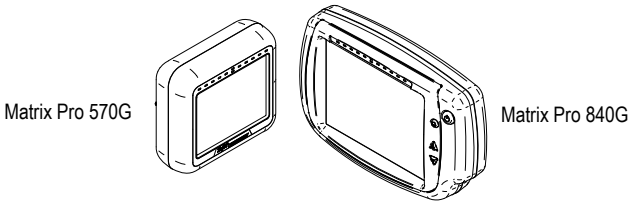
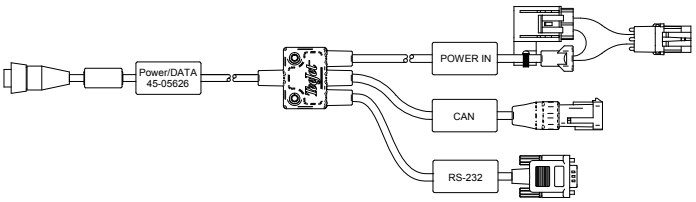
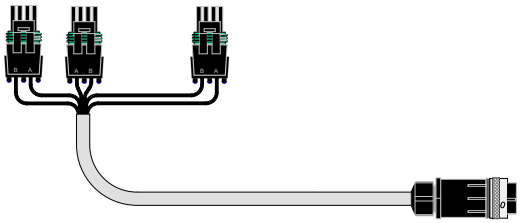
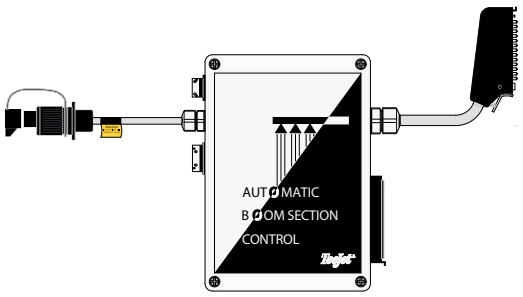
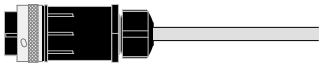
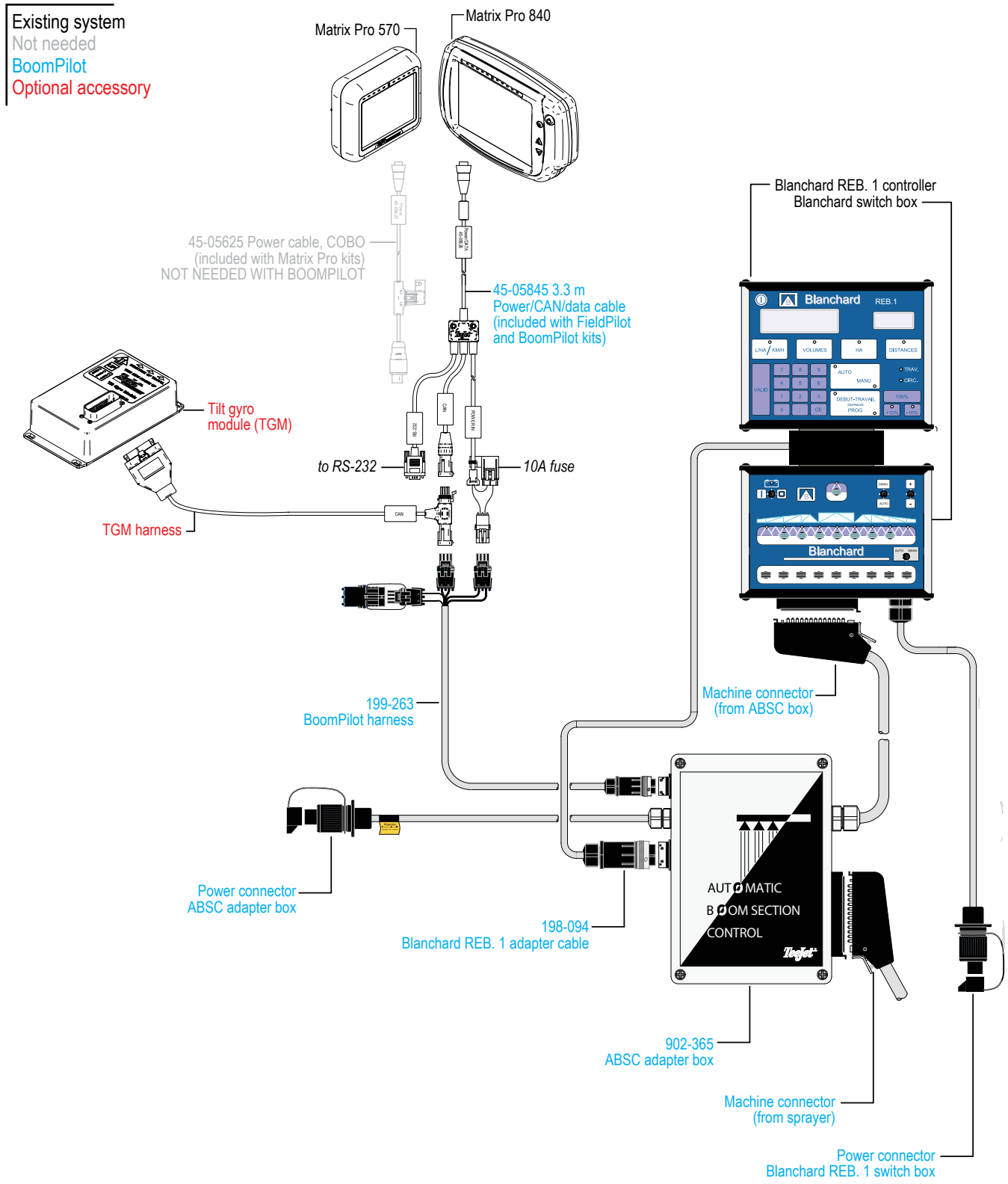
Item	Part #	Description	Illustration
A	Part number is dependent on kit contents	Matrix Pro guidance controller kit	
B	45-05845	Power/CAN/data cable	
C	199-263	BoomPilot harness	
D	902-365	ABSC adapter box	
E	198-094	Blanchard REB.1 adapter cable	
F	020-046	Installation manual, Blanchard REB.1	
G	98-05243	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.

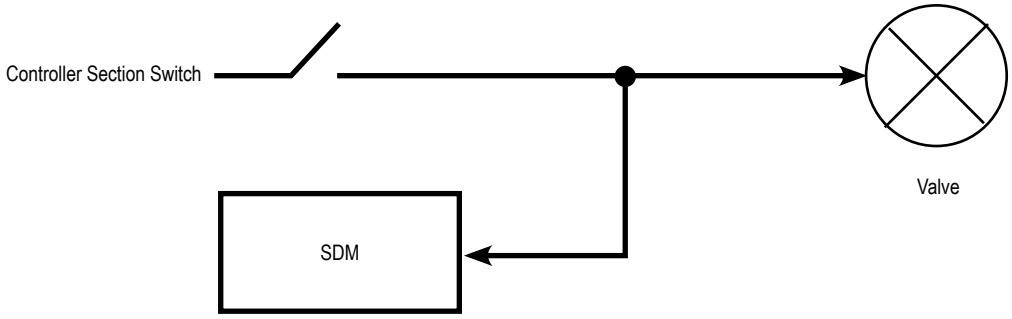
The Section Driver Module (SDM) is designed for switching active high when spraying. This means that a 12V signal is issued to control the corresponding section valve.

The SDM 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



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.

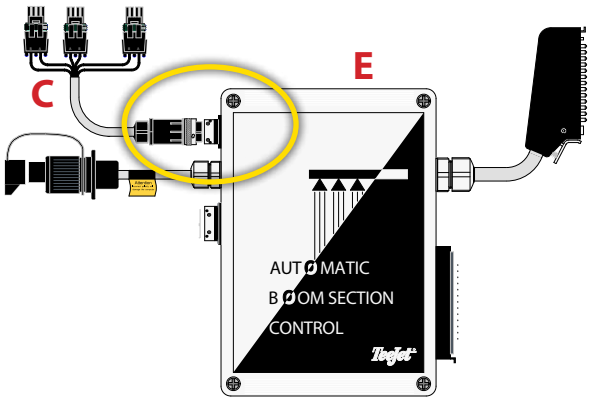
NOTE: All references to left and right are stated as if the user is seated in the driver's seat.

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 Box **(E)** as shown where LED's can be seen for troubleshooting.
2. Connect ABSC Box **(E)** to BoomPilot Harness **(C)**.

Figure 3: Connect SDM



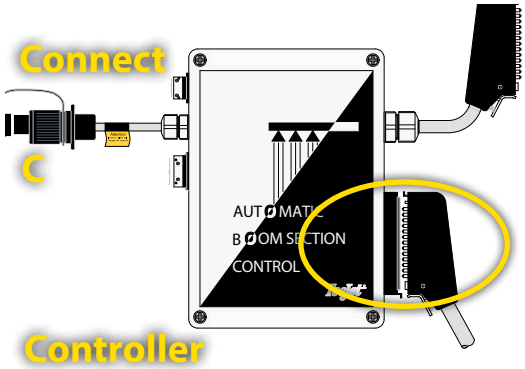
2. DISCONNECT & RECONNECT HARNESSES & CABLES

The BoomPilot SDM harness **(C)** tees into the existing system's connection between the Raven rate controller and flow control harness.

1. Disconnect existing connection at the back of the Raven console.
2. Connect BoomPilot harness **(C)** to Raven console.
3. Connect BoomPilot harness **(C)** to existing Raven flow control harness.

Figure 4: Disconnect existing connection

Figure 5: BoomPilot harness to flow control harness

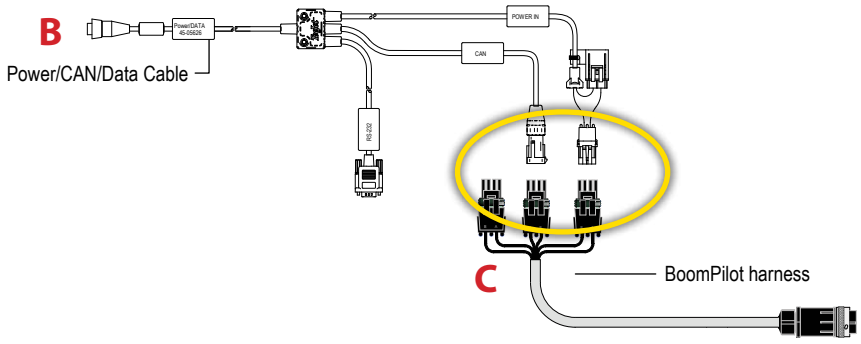


BoomPilot harness to controller

3. CONNECT POWER/CAN/DATA CABLE TO BOOMPILOT HARNESS

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

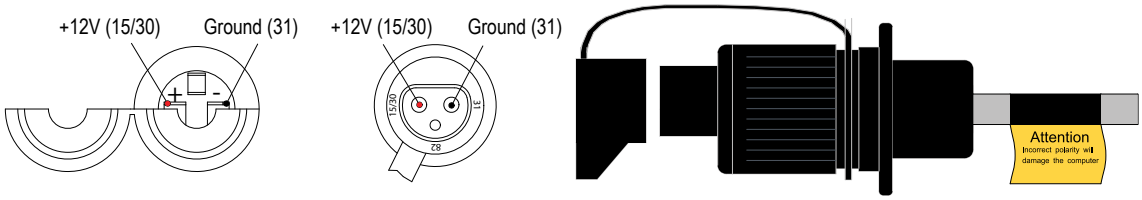
Figure 6: Connect power/CAN/data cable to BoomPilot harness



4. CONNECTING TO POWER

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

COBO cable



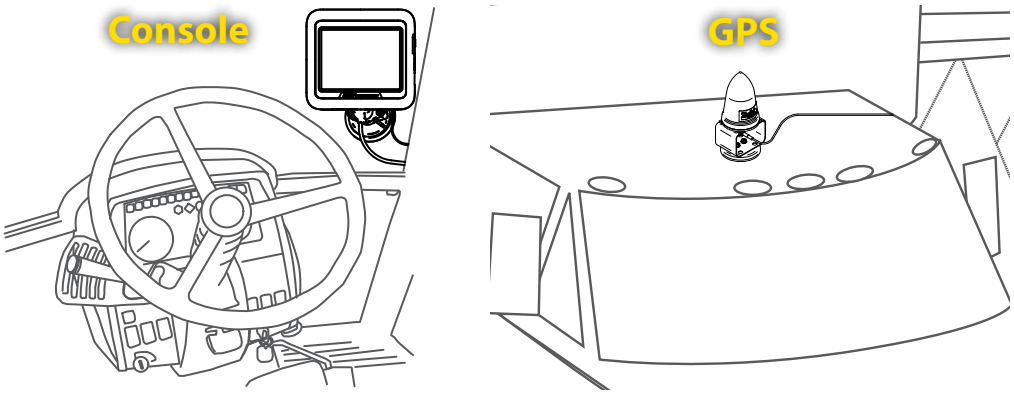
The power supply must be strong enough to operate the Section and Master valves. The total current will depend on the used valve type.

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

5. 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 7: Recommended electronics installation



6. 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

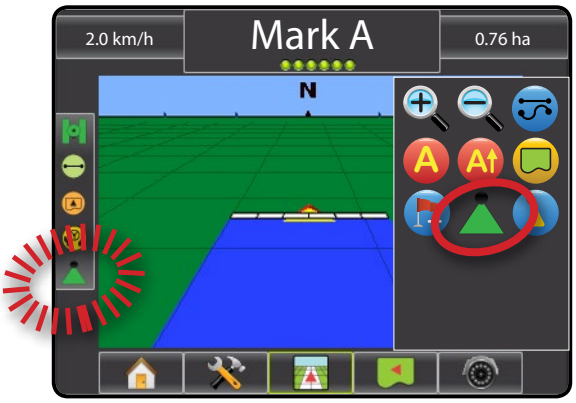
After connecting the power connector, it is time to make a system check. To check the system, it is necessary to have full GPS signal. To obtain full GPS signal, the vehicle must be placed outside.

Check AUTOMATIC mode:

Blanchard REB.1:

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.

Figure 8: Automatic to all booms on mode



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:

Blanchard REB.1:

- 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

BOOMPILOT®
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 Blanchard REB.1 controller. Please review this manual thoroughly before beginning the installation process.

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