

BOOMPILOT[®]

INSTALLATION MANUAL

Automatic Boom Section Control installation manual
for use with Kverneland FLOW MATE, FLOW MASTER
and FOCUS 2 controllers, w/Matrix[®] Pro



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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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INTRODUCTION TO MATRIX - BOOMPILOT

Principle of operation

The Matrix controls the sprayer according to the GPS position as well as the GPS guidance to avoid overlaps or skips. The Matrix controls the sprayer in automatic mode and monitor the sprayer in manual mode. The operator is always able to override the control of the sprayer via the master key on the Kverneland rate controller.

Features

The Matrix and the Kverneland BoomPilot interface, in combination with FLOW MATE, FLOW MASTER or FOCUS 2, adds 'Automatic boom section control' to Kverneland sprayers.

Software version

The Kverneland controllers and the MATRIX communicates via a special interface using the TeeJet CAN bus protocol. The software version in the Kverneland controller must be the right version. Below is a guide showing the required software version for the Kverneland controllers.



FMC (Flow Mate Control)

Sprayer:

Actual software version is FMC 1.19.
FMC 1.14 and higher includes the BoomPilot protocol, but it's recommended to upgrade to the latest version. Max 9 sections.



Flow Master

Sprayer:

Software version FMA-R 1.12 is the only version which includes the BoomPilot protocol. Flow Master cannot work with FMA2 software.
Max 11 sections. (Out of production +/- 2008)



Focus 2

Sprayer:

Actual version is FMA2 1.10, but all FMA2 versions include the BoomPilot protocol. The FMA2 software replaced the FMA-R software. Used on machines from 2008 till now.

Spreader:

Actual software version is EDW2 1.11. All EDW2 versions and EDW1 1.09 include the BoomPilot protocol.

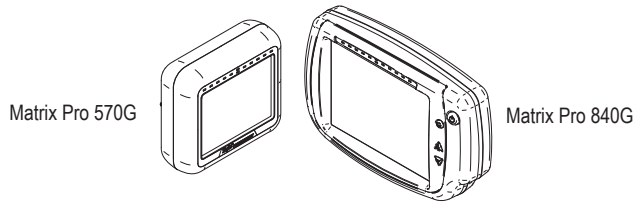

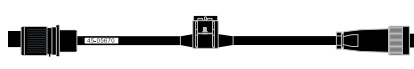
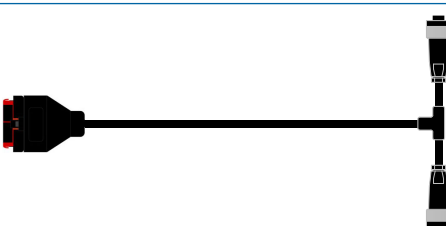



REQUIRED COMPONENTS

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	45-05770	Kverneland cable set, Power, CAN, RS232.....	1
C	45-05670	Power cable, stand alone (Optional).....	1
D	45-05710	Tilt module, cable (Optional).....	1
E	78-08057	Tilt module, StarGuide II & III (Optional).....	1
E	78-08077	Tilt module, StarGuide IV (Optional).....	1
F	98-xxxx	Installation manual, Kverneland Controller	1
G	98-05243	Matrix Pro BoomPilot setup guide	1

*Part number is dependent on kit contents

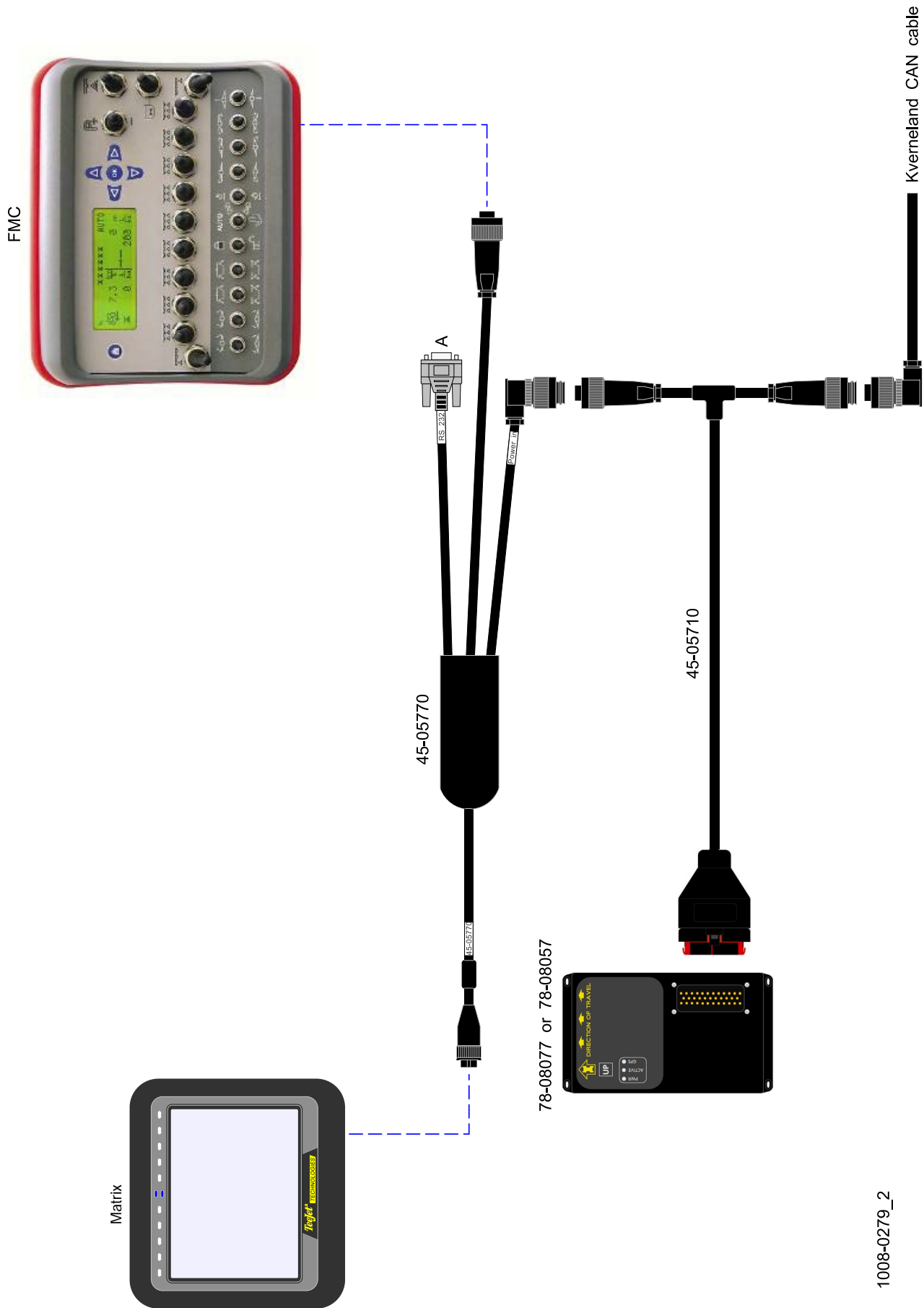
Item	Part #	Description	Illustration
A	Part number is dependent on kit contents	Matrix Pro guidance controller kit.	 <p>Matrix Pro 570G Matrix Pro 840G</p>
B	45-05770	Kverneland cable set -Power, CAN, RS232	
C	45-05670	Power cable Cobo f/StartGuide. (Optional)	
D	45-05710	Tilt module cable. (Optional)	
E	78-08057	Tilt module, StarGuide II & III. (Optional)	
E	78-08077	Tilt module, StarGuide IV. (Optional)	
F	98-xxxx	Installation manual, Kverneland Controller.	
G	98-05243	Matrix Pro BoomPilot setup guide	

SYSTEM DRAWING - DEFAULT



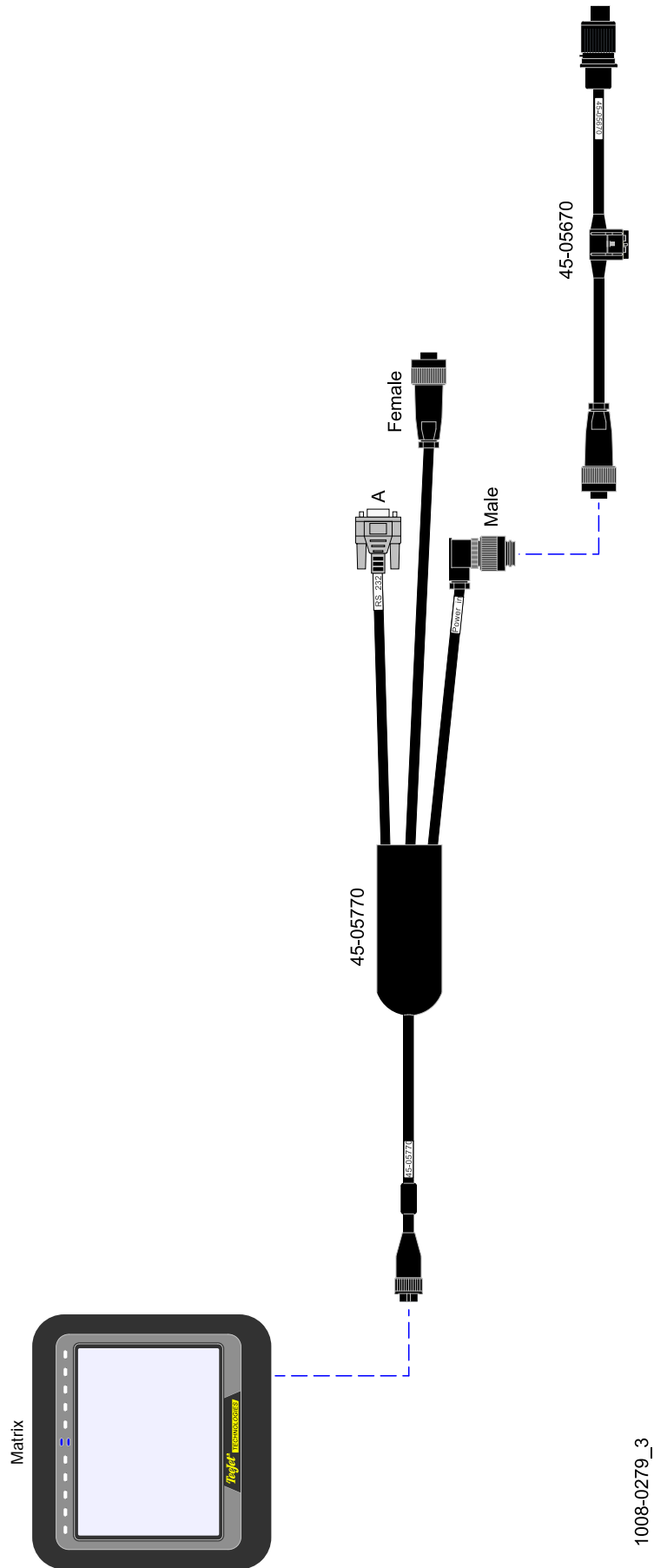
1008-0279

SYSTEM DRAWING - WITH TILT MODULE



1008-0279_2

SYSTEM DRAWING - STAND ALONE



1008-0279_3

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.

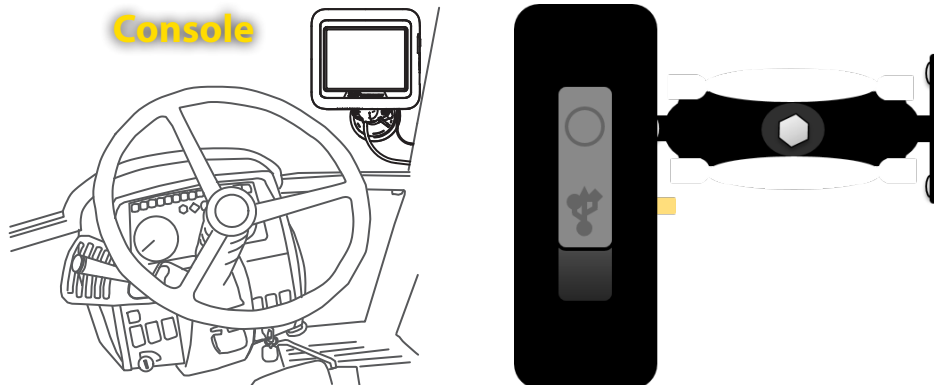
NOTE: All references to left and right are stated as if the user is seated in the driver's seat.

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

Console

A secure, mechanical mounting solution needs to be employed for permanent mounts within an operating vehicle.

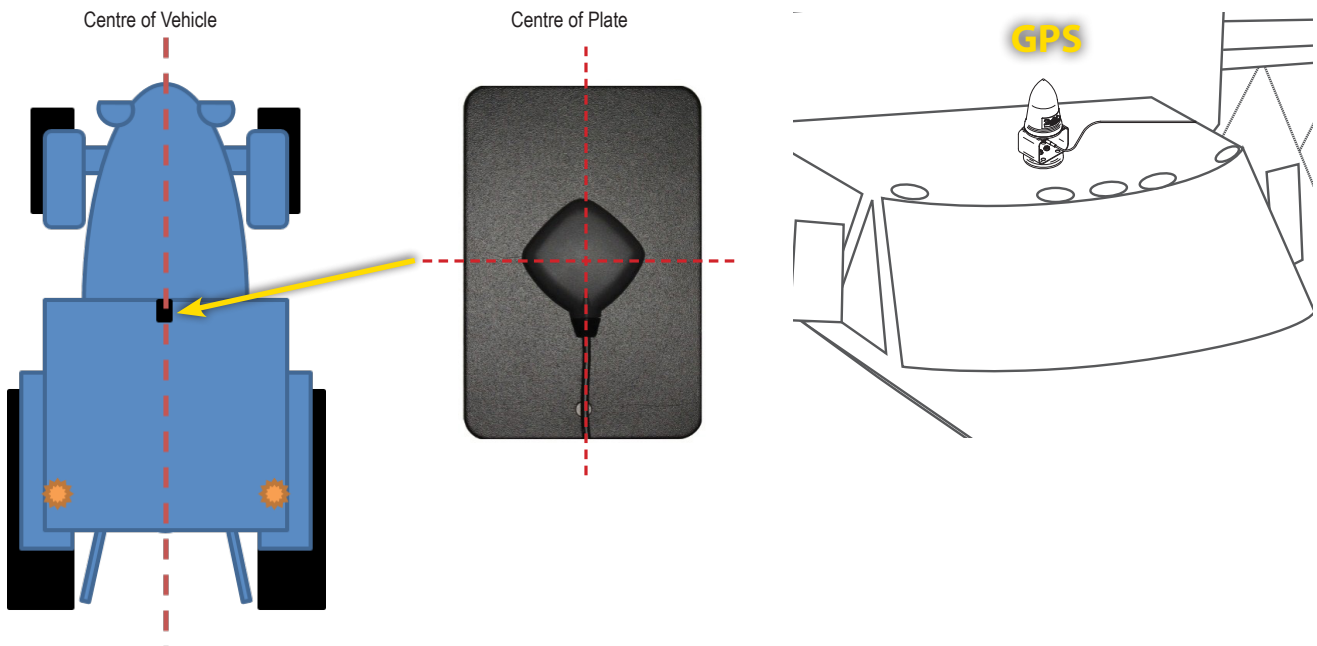
Figure 1: Recommended console placement



Antenna

The GPS Antenna base is magnetic. Position the antenna in the centre of the vehicle at the highest point with a clear view of the sky. A metal plate with adhesive strips has been included in the kit for easy mounting and installation.

Figure 2: Antenna placement



It is **STRONGLY** recommended to use this metal plate underneath the antenna as it will improve signal acquisition. Once the antenna has been positioned, route the antenna cable carefully to avoid damage.

SYSTEM CHECK



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

Kverneland Controller

Refer to the Kverneland Controller setup guide for further instructions on setting up the controller, if not already done.

Matrix Pro

Refer to the Matrix setup guide for further instructions on setting up and using your Matrix for automatic boom section control.

- Turn on the Matrix console.
- Encode the number of sections and the width of each and other necessary settings like distance from antenna to boom, overlap% etc.
- Wait for GPS signal and start a new job.
- Set the BoomPilot mode to AUTOMATIC (Press the  icon).
◀Matrix status bar Icon will change to green .
- Drive forward (> 1.2 km/h).
- Observe that all boom section valves open and the boom indication in the Matrix shows ON (White)
- Check that the section valves closes when spraying over an applied area, check the boom indication in the Matrix, shows OFF (Transparent).

Set the Matrix in AUTO mode by pressing the green triangle icon. Check the boom status indication correspond to the Kverneland controller boom status.



BOOMPILOT®

INSTALLATION 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 BoomPilot on a Kverneland FMC, Flowmaster or Focus2 controller. Please review this manual thoroughly before beginning the installation process.

BoomPilot®



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98-05333-EN-A4 R1 English
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