



Installation Manual for ARAG BRAVO 180 controller

CENTERLINE 230BP

This installation manual covers installation of CenterLine 230BP with ARAG 180 controllers. 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:

7. 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.

Enjoy work with CenterLine 230BP!

Kind regards,



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INTRODUCTION TO CENTERLINE 230BP

The Centerline 230BP is a combined Guidance and Automatic Boom Section Control (ABSC) device that features control of up to 15 boom sections. CenterLine 230BP connects in parallel to the existing wiring loom to the section valves.

PRINCIPLE OF OPERATION

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

The Centerline 230BP 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 Centerline 230BP monitors the controller 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.

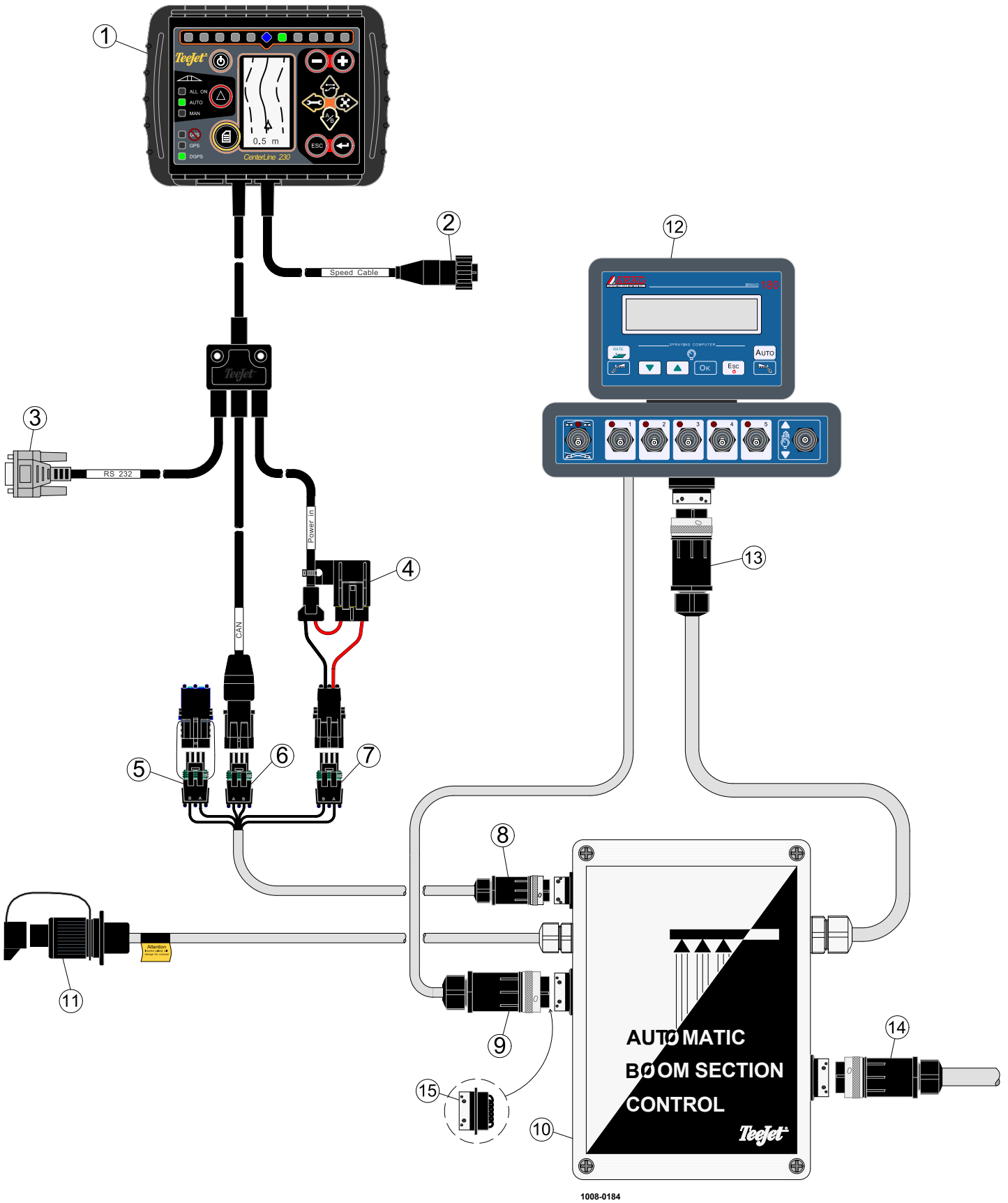
Required Parts

To add Automatically Boom Section Control to a ARAG BRAVO 180 controller the following part numbers are required:

Part No.	Description
90-02483-xx*	CenterLine 230BP
903-330	ABSC adapter box kit for ARAG 180, 4 sections
903-331	ABSC adapter box kit for ARAG 180, 5 sections

*Specifies the required manual language; e.g. 90-02483-UK

SYSTEM OVERVIEW:



Note: CenterLine 230 is powered by the ABSC adapter box.

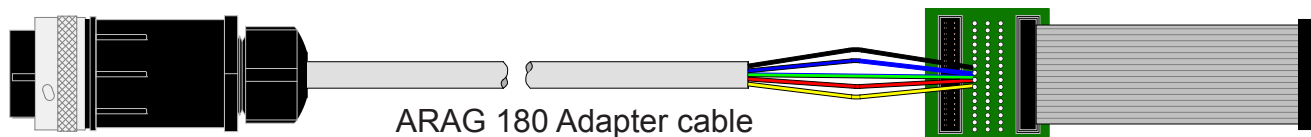
SYSTEM DESCRIPTION:

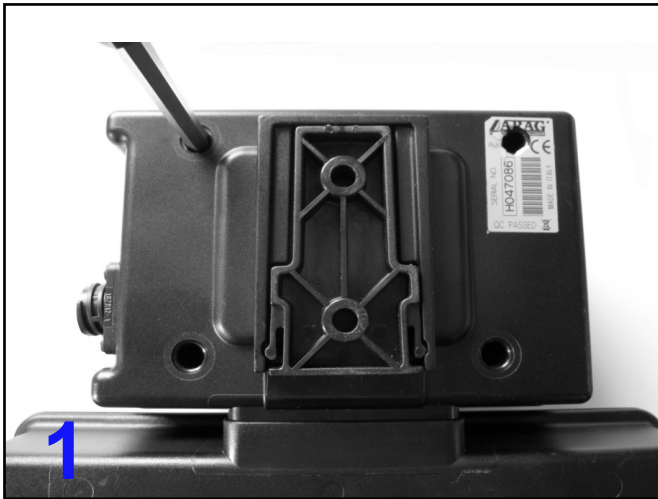
POS	DESCRIPTION
1	CenterLine 230BP
2	Speed output connector
3	RS232 port (Programming and GPS input)
4	Fuse 3A
5	Foot switch connector 2P (Foot switch is optional)
6	CAN connector 4P
7	Power connector 2P
8	BoomPilot adapter cable (PN 199-263)
9	ARAG 180 adapter cable, (! Different part number for 4 and 5 section)
10	ABSC adapter box, PN 902-363
11	Power connector, ABSC adapter box
12	ARAG 180 controller
13	Machine connector from ABSC box
14	Machine connector from Sprayer
15	Adapter cable end cap (To be mounted when spraying without ABSC)

INSTALLING THE ARAG 180 ADAPTER CABLE

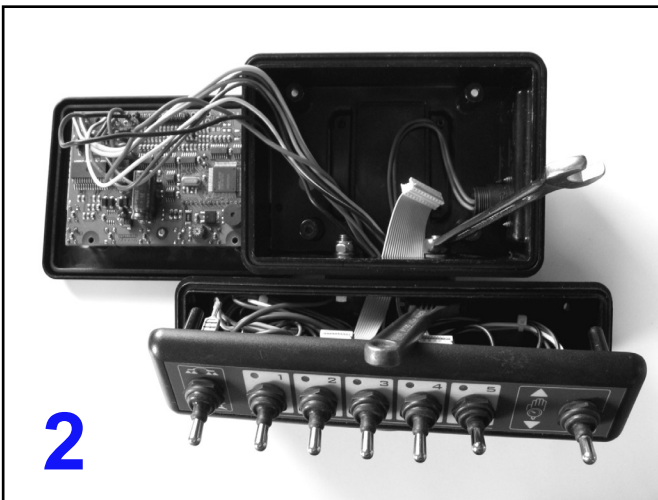
To get electrical contact with the sections and the Master switch in the ARAG 180, it's necessary to install the adapter cable (POS. 9), in the ARAG 180 controller. This is a critical operation and must only be conducted of persons with the necessary skills.

In case the ARAG 180 controller is damaged during the installation, it's on the buyers sole risk and therefore the buyer is not entitled to any form for compensation.

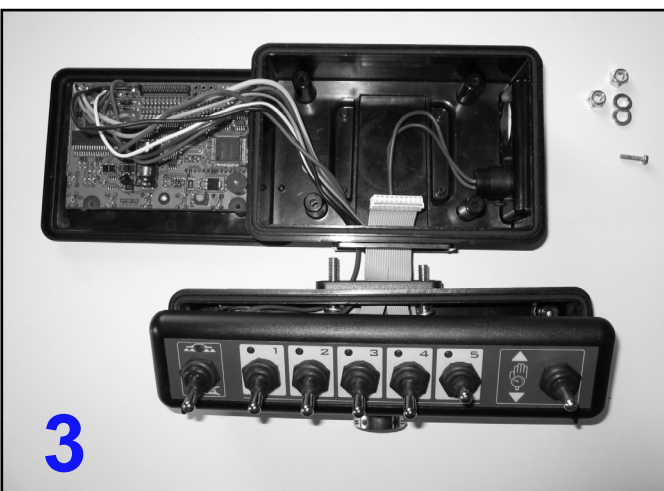


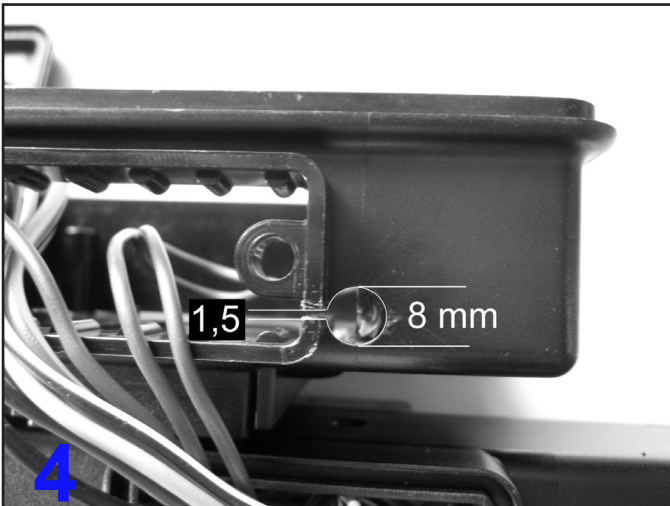


Disassemble the ARAG 180 controller by unscrewing the screws on the rear side (Controller and switch box).



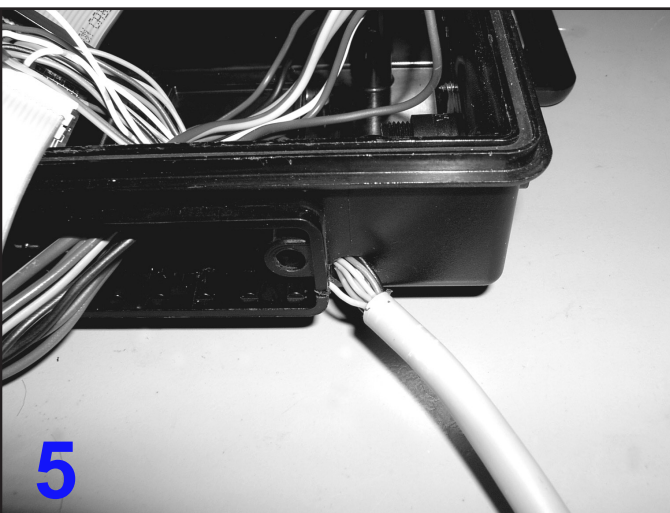
Unscrew the two 6 mm bolts which fix the controller to the switch box part.



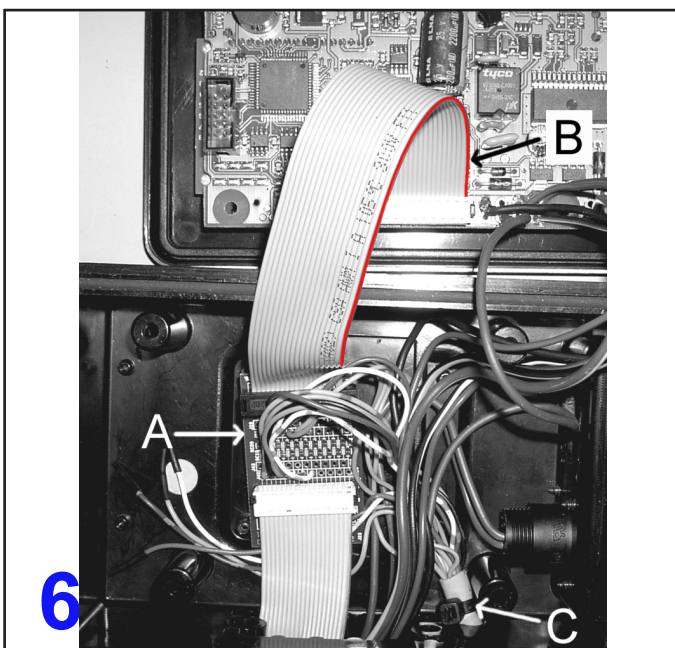


Drill a 8 mm hole in the bottom of the controller housing.

Make a 1,5 mm gab as shown on the picture.



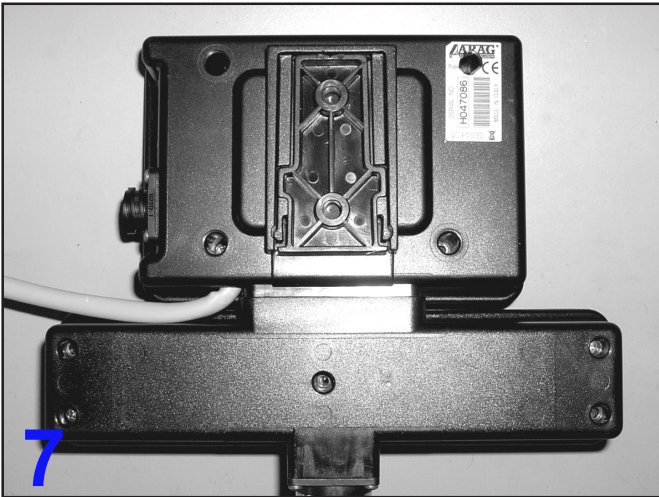
Place the free wires of the ARAG 180 adapter cable one by one in the hole and pull the cable trough as shown.



A:
Place the Circuit board on in the bottom of the controller housing and fasten it with the adhesive tape.

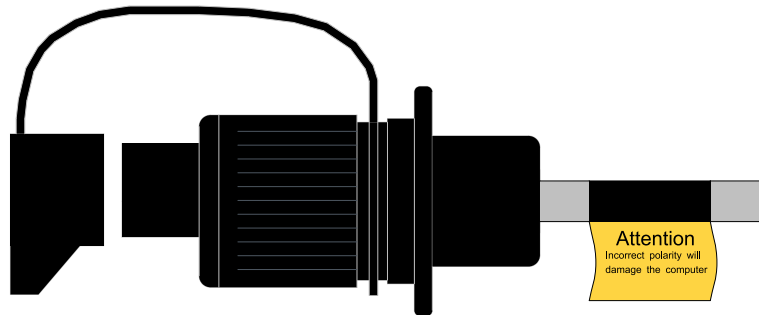
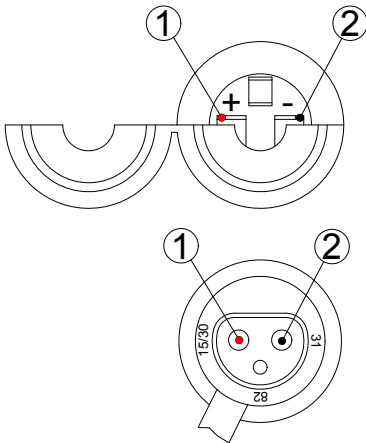
B:
Connect the flat cables as shown on the picture.

C:
Secure the cable with a cable strip.



Organize the wires inside carefully and assemble the unit again.

CONNECTING POS. 11 TO POWER:



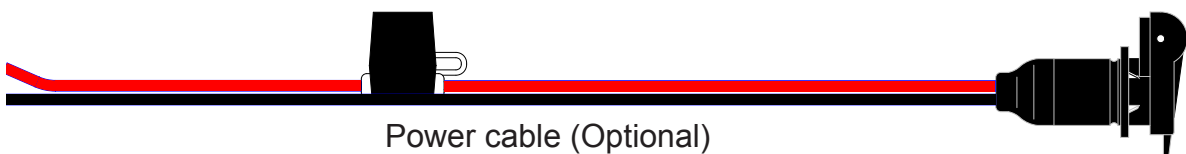
! When connecting the system to 12V power it's very important that the polarity is correct, if not the system will be damaged.

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

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

BATTERY CABLE (OPTION):

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 two power connectors, 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:

ARAG 180 Controller:

- Set the section switch's off
- Set the Master switch on
- Turn the ARAG 180 on

CL230:

- Turn the CL230 on
- Encode the number of sections and the width of each (Refer to the CL230 user manual)
- Wait for DGPS (Green LED on)
- Set the mode to AUTO
- Drive forward (Min. Speed 2.3 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 CL230 against ARAG 180.

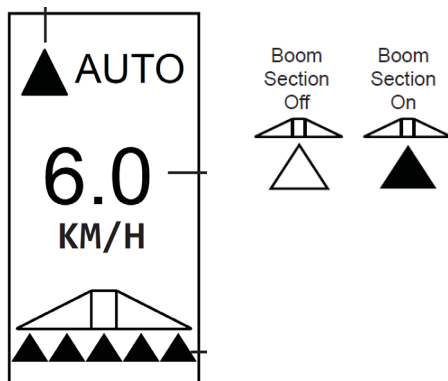
Check MAN mode:

CL230:

- Set the mode to MAN

ARAG 180 Controller:

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



Check in the 'Boom Section Control Screen' that the section icons turn off and on according to the valve/switch status.