

The Vektor™ installation is easy and fast. The system consists of a central control module, containing a digital electronic circuit and a GPS/GLONASS receiver inside. The central module connects to the other modules through specific cables for each module.

It is impossible to miss the connection of the modules, as each connector is different from the others. This ensures an uncomplicated installation and practice.

Parts List for Vektor™:

COMPONENT	Identification Code
Control Module (ECU)	VK-ECU-000
Touchscreen Computer 5.7"	VK-LCD-057
Lightbar	VK-LBR-000
Cable Harness 'A'	VK-CBL-001
Cable Harness 'B'	VK-CBL-002
GPS Antenna Cable	VK-CBL-GPS
GPS Antenna	VK-ANT-000

Installation Planning

Before starting the installation consider the length of the cables and the free spaces that could be used for the positioning of parts. Keep in mind that the system needs to be connected via cables that have a limited length, with its dimensions described in this manual. It is also important to consider the structure of the aircraft in time to make holes or fix components. The pilot's visibility is the main factor to be taken into consideration, and no part can obstruct the driver's line of sight, or compromise your vision. It is important to try to get the Touchscreen computer as high as possible for good visibility to the pilot while he is spraying.

WARNING: The rules of weight and balance should be followed according to the instructions. Check with the manufacturer of your aircraft for more information on this subject.

Have the following tools available before you start installing the system:

- 1 - ¼" socket wrench or needle nose pliers;
- Cable ties and clamps with necessary tools and hardware;

Components necessary on the aircraft:

- At least one pushbutton switch on stick grip for A/B and Advance
- 1 Money handle micro switch or 1 pressure switch for sensing spray on.
- 5 Amp Breaker and Power switch.

General considerations: (By not following these guidelines, your equipment may be damaged.)

Turn power off before installing the equipment. Do not connect or disconnect the cables with the equipment in operation. Do not force the cables, and do not use tools to tighten the connectors, except those that are fastened with screws. Do not expose parts at high temperatures. Never attach a component near a heat output or heat source.



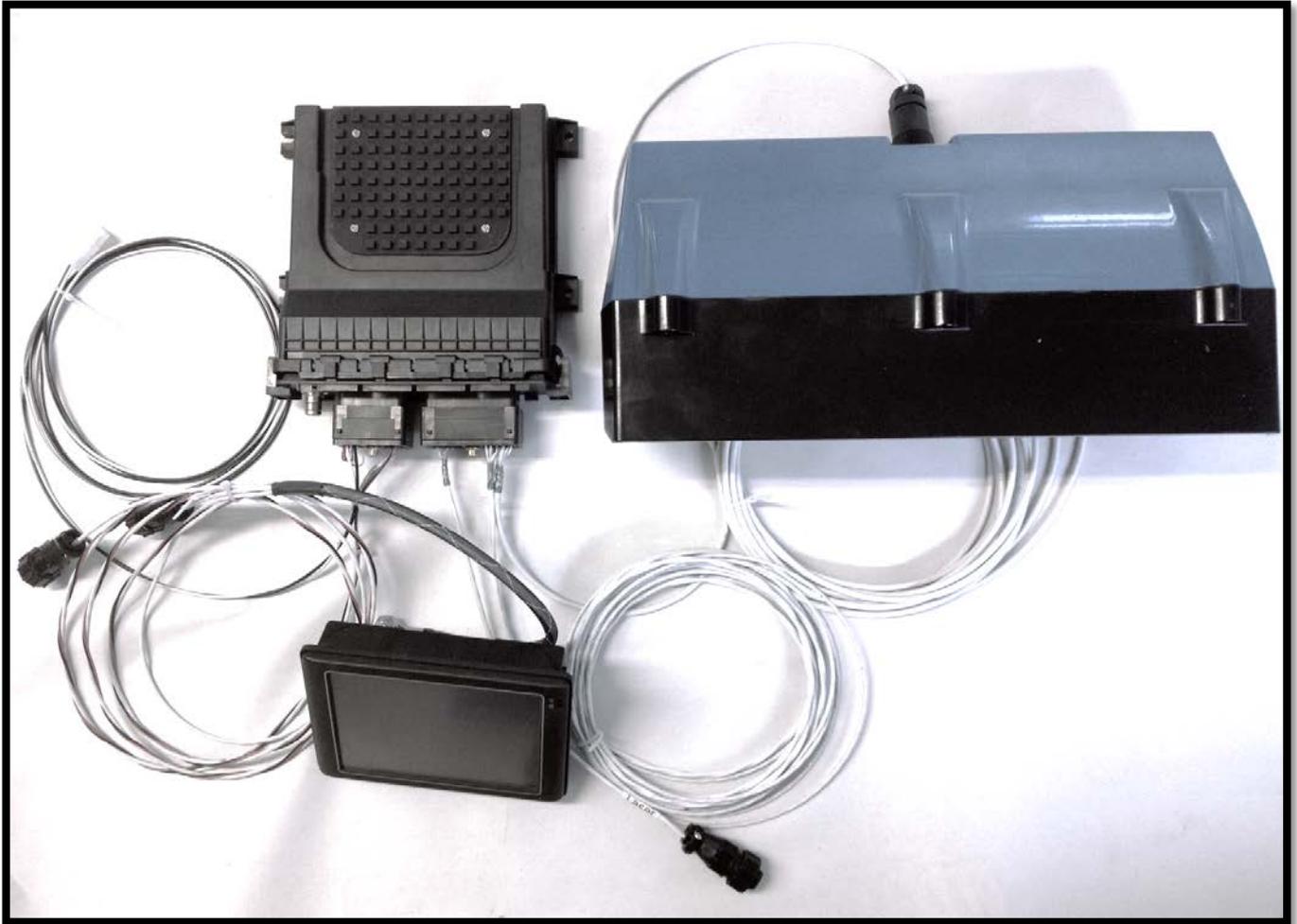
Installation Sequence

The following is the recommended installation sequence:

1. Recognize each component;
2. Understand the cabling;
3. Install the ECU Control Module and cable connectors 'A' & 'B';
4. Install the Touchscreen Computer;
5. Install the lightbar;
6. Install the GPS antenna;
7. Run the lightbar cable and connect;
8. Run the Touchscreen cable and connect;
9. Run and connect the Power cable to 5 Amp Breaker and power switch;
10. Wire and connect the control lines to the pilot grip;
11. Run and connect the GPS Antenna coax.

In the following pages, the above sequence will be explained in an illustrated form.

Recognition of each component



Before starting the installation, you must check each part of the system, and prepare them to be installed.

Below is the picture of each component separately:

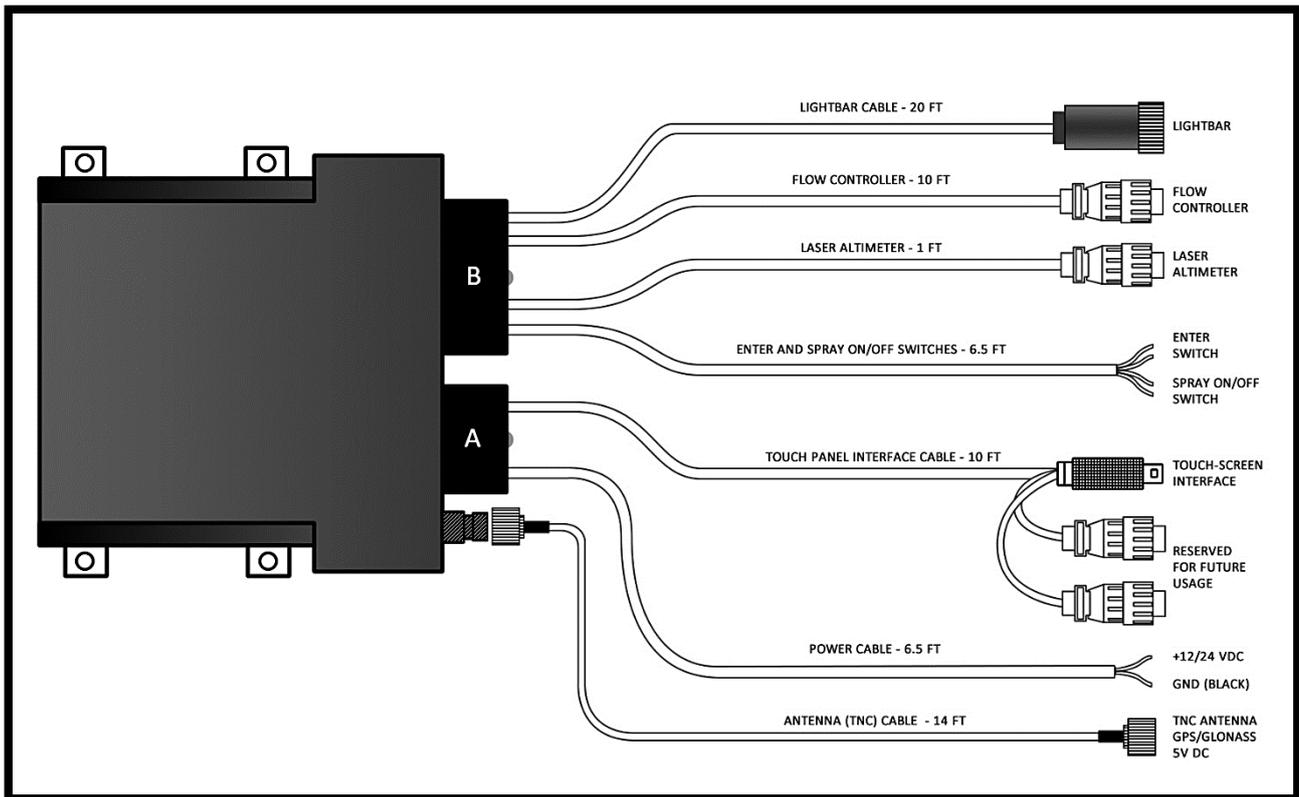
<p>Tuochscreen Control</p>	<p>LightBar</p>	<p>ECU Control Module</p>	<p>GPS/GLONASS Antenna</p>
<p>CABLE HARNESS 'A'</p>	<p>CABLE HARNESS 'B'</p>	<p>ANTENNA COAX</p>	

Understanding the cabling

The system consists of interconnected modules with special cables. All data cables are manufactured with Tefzel® coating, to comply with aerospace military standards for extreme physical strength and high durability, while being lightweight, thin and flexible.

The system has a central electronic module that controls all other modules, and is the centerpiece of the system, where all the cables run.

Diagram of all the cables:



The cables are divided into three sets:

- Cable Harness 'A'
 - Aircraft Power input
 - The Touchscreen Control Cable

- Cable Harness 'B'
 - Lightbar Cable
 - Flow Control Cable
 - Laser Altimeter Cable
 - Switch Button Cables

- GPS Antenna Coax



The control module is the centerpiece of the system. It must be positioned before the other modules, as all cables run from the control module. However, the control module must be the last to be fixed as it might be necessary to optimize its position to deal with the cable length.

The control module has electronic circuits that produce heat. The heat is transferred to the atmosphere through a metallic heat sink on top of the module.

The control module is fully waterproof. It was design to be lightweight, compact and robust, and should work even in harsh conditions. However, like all electronic equipment, certain precautions must be taken to extend the life of the equipment.

For best performance and durability it is recommended to consider the following details:

- Install the module inside the cockpit, so it will be exposed to more controlled conditions, and may also be cooled if the aircraft has air conditioning system;
- Avoid locating the module close to parts that produce heat;
- Install the module in a place not directly in the sunlight so it does not absorb heat;
- Do not cover the metal sink with no material that obstructs the flow of air. Preferably to be placed where there is air movement to remove the heat from the heat sink.



The display system is very compact and thus can be installed on any agricultural aircraft. It is protected by a metal case, quite robust. This enclosure is used to dissipate the heat generated by the electronic circuit inside. It is recommended to allow the contact screen enclosure with the panel so that heat does not build up. Avoid using heat-insulating materials for fixing the monitor.

On the right side there are two USB ports to connect memory devices like USB drive. On the same side you can access the system memory card, used to store all the information. Therefore, when setting up the screen in the aircraft panel, remember to leave the right side accessible to the pilot.

Position the screen in a position that does not hinder the pilot during the flight, but at the same time is easy to be seen. The screen should not be used to guide the pilot during the flight, but must be accessible so that this can change settings while working. Be careful to position the screen within the reach of the operator when in flight. The pilot should be able to handle the screen functions without compromising the ability to maneuver the aircraft.

For large aircraft, a recommended position is above the "window" of the hopper, while for smaller aircraft the screen can be fixed inside the panel. Be careful not to obstruct the visibility of other instruments.

The screen mounting should be by using the four screws supplied and be secured in the bottom of the screen. The drilling pattern is four holes arranged in a square with sides 7.5 cm.

The cable connecting the screen to the control module is connected to the rear of the monitor. This is an extremely robust and durable connector. The connector has a special locking system that prevents it from coming loose during flight, while allowing you to remove it by pulling only. The connector should be removed or attached without any tool. To connect simply insert the plug by aligning the red marks. To disconnect just pull the connector on its knurled housing. It is not necessary to exert excessive force on the connector. Always remember to align the marks when you plug, otherwise you can not insert the connector.

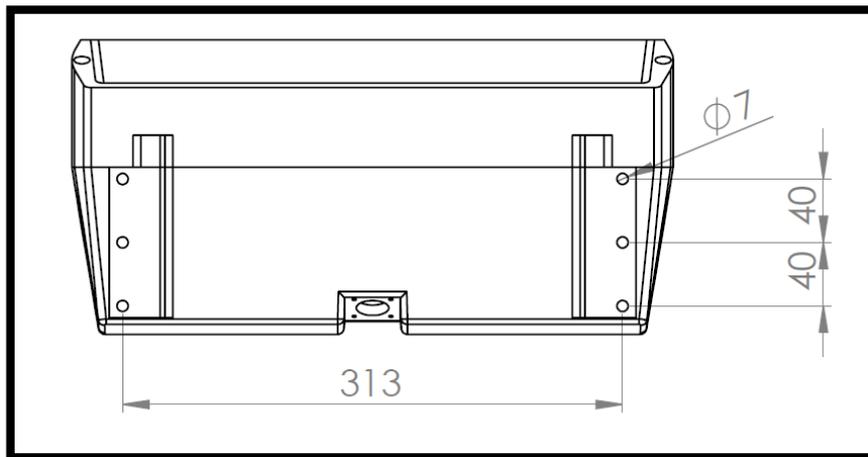




The external lightbar should be positioned well ahead of the cockpit. Do not use the lightbar inside the airplane and not place it too close to the driver's eyes. Search the best position for the lightbar where it lies directly to your line of sight but without obstructing the pilots view.

It will take 4 to 6 holes for the mounting screws and a hole to pass the communication cable. Analyze the diameter of the connector before sticking the aircraft. Take care not to puncture the hopper during drilling.

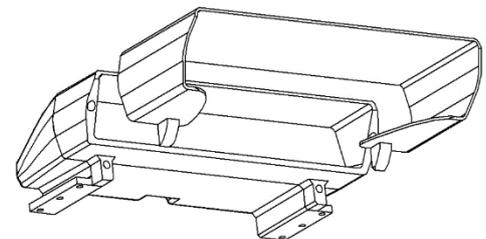
See below the standard of drilling for the fixing screws of the lightbar:



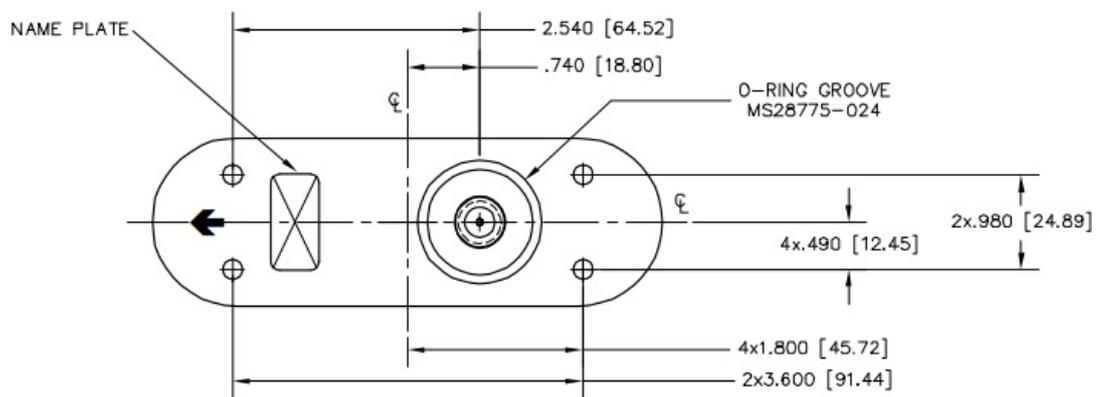
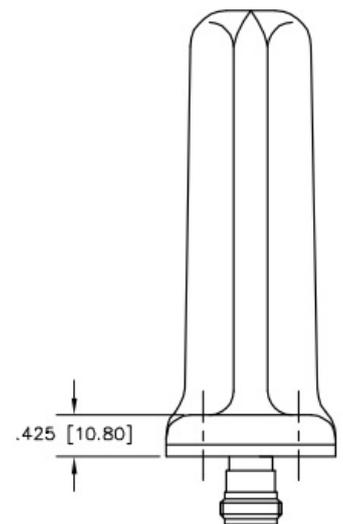
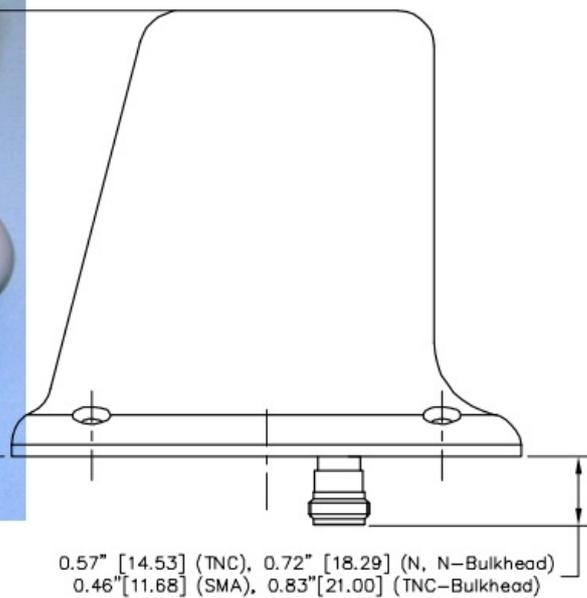
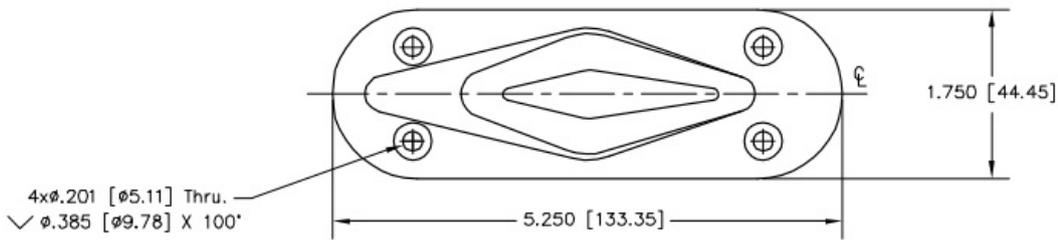
ALL DIMENSIONS IN MM

Extension: (optional)

The pilot can adjust the brightness, but in conditions where the sun is rising or setting, the installation may be required of an extension in front to hinder the incidence of the sun through the viewfinder. Always consult the safety standards to determine the best way to install the extender.



Installation of the GPS antenna





General care and use of the Vektor System

The panel is touch sensitive, and should be cleaned regularly. To clean the panel, use a clean cloth by passing it around the screen smoothly. Do not use alcohol or any abrasive substance on the touch panel.

Do not expose the panel to high temperatures, and avoid exposure to direct sunlight.

Do not use objects such as nails, pens, pencil to press the panel, if necessary use a touchscreen stylus. The system is designed to use your fingers for operation and changes.

The touchscreen panel is very sensitive and a gentle touch with the finger is enough to trigger the panel. Avoid using excessive force when pressing the screen. Be patient because sometimes the system may take a short time to respond.

