WAG PATHDRIVER

INSTRUCTION MANUAL

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WARRANTY POLICY

WAG Corporation warrants that all of its products are free from defects in material and workmanship, for one year, subject to the conditions set forth below:

Dates of sale will mean two days after the unit has been shipped. WAG Corporation's responsibility respecting this warranty is limited solely to product replacement or product repair at WAG Corporation or an authorized WAG dealer only. Determination of replacement or repair will be made by WAG Corporation personnel or by a WAG dealer authorized for this purpose.

This warranty will not extend to damage or failure resulting from misuse, neglect, accident, abuse, improper installation, or operation in an environment other than that intended.

In no event will WAG Corporation be liable for an indirect incidental, special or consequential damages whether through tort contact, or otherwise. This warranty is expressly in lieu of all other warranties, expressed or implied, without limitation, the implied warranties of merchantability or fitness for a particular purpose.

I. Introduction:

The WAG PathDriver is a precision guidance system, which utilizes the Global Positioning Satellite System (GPS.) We at WAG Corporation have designed the WAG PathDriver based upon what you, the users, have told us. As a result, the WAG PathDriver is the easiest system to operate on the market.

The WAG PathDriver is an extremely user-friendly system that uses a Windows ™ type format. With the WAG PathDriver , instead of "clicking" on a particular icon for a function, the operator presses the "number" displayed beside the desired function.

The WAG PathDriver comes with a one-year warranty on all parts and services. The differential correction is transmitted in several differential frequencies ranging from U. S. Coast Guard Beacon at 300 KHz to a satellite signal at 1.5 GHz. Your system is configured to use at least one of these signals and sometimes more.

II. Features:

The WAG PathDriver is shipped with parallel guidance but can be upgraded to include multiple spraying patterns with variations for many of the patterns. These patterns can also be combined to allow unlimited possibilities. The patterns were designed with the convenience of the driver, efficiency of fuel consumption, and product application in mind.

The WAG PathDriver Approach ™ Lightbar provides immediate visual feedback to the driver if the GPS or differential correction signals are lost. With the WAG PathDriver, the driver can always be confident of the accuracy of the system. A new feature of the Lightbar is its ability to warn the driver when differential correction is approaching the maximum age limit. This gives the driver enough warning so the appropriate actions can be taken to ensure the accuracy of the system.

Another feature of the WAG PathDriver is the use of "Save Point/Pattern." The WAG PathDriver has 1 "Save Point/Pattern" which saves and stores the current job in progress. The Save Point/Pattern is used when the driver has to stop the treatment of the field before it is finished or to return to the point in the swath where his load ran out. There are many other features of the WAG PathDriver and a more detail discussion will follow.

III. Components:

The WAG PathDriver has three main components. The following is a brief description of each component and their function.

A. Approach ™ Lightbar:

The Approach ™ Lightbar has a four Alphanumeric LED's and each side. It also has row of LED's across the top and bottom with Twenty LED's between them. Each row contains sixteen LED's on each side of the center vertical LED's. The bottom row of LED's represent the Cross track and the value that each LED represents is programmable in the Lightbar Menu. The cross track is the distance between the location of the rig and the center of the swath. The operator simply steers in the direction the LED's are indicating,

until the center LED'S are illuminated. The top row of LED's represent the angle the rig is approaching the swath. The value of these LED's can also be programmed in the Lightbar Menu.

NOTE: The GPS receiver is only capable of reporting the direction of the travel. That is, both the Heading and Intercept Angle are "undefined" (unstable) when the rig is not moving.

B. Control Pad:

The Control Pad is the component by which the operator inputs the various commands. It is usually located lower in the cab since the operator does not have to obtain information from the Control Pad while he is actually applying the chemicals.

C. GPS Receiver:

The PathDriver comes standard with a WAAS receiver/antenna combo. All of the components are inside an environmentally sealed case. It is mounted on top of the cabin so the antenna can get better reception.

IV. Startup:

A. Power

1. The WAG PathDriver is connected to the main bus in the cab and thus does not draw any power from the rig's battery when it is OFF. Turn the "Power" switch on the Control Pad clockwise to turn the system on. The WAG PathDriver will reset the GPS card and then wait for the system to obtain the GPS lock. This may take about three minutes. If the lock is not obtained in the three minutes, simply press "Restart." If the problem continues, follow the instructions of the Control Pad display.

2. After obtaining a "GPS Lock", the system will then search for the Differential signal. If the signal is not obtained, follow the instructions on the Control Pad or refer to the "Trouble Shooting" section on the manual.

3. After obtaining the Differential Signal, the WAG PathDriver will run a diagnostics check on the Data Logger and the other peripherals the system may be configured with. If the Data Logger or other equipment is not functioning properly, follow the instructions on the Control Pad or refer to the "Trouble Shooting" section of the manual.

4. After the WAG PathDriver determines all the various components are OK, it will enter the “Ready to Work” mode. In this mode, the Control Pad will display the following:

```
WAG PathDriver v1.10
Parallel
SW: 30     DF: S/540
Parallel       ---->
```

The text on the Lightbar will display:

```
WAIT    >>A
```

Where “v 1.10" is the software version, “SW: 30" is the swath width (which may be different depending on the value assigned), “DF: S/540" is the differential correction station in use (which may be different depending on the type of differential source the system is equipped with), “Parallel” is the pattern and ”- - - ->” is the work direction which is to the right in this example.

When the WAG PathDriver has entered the “Ready to Work” mode, this indicates to the operator the system is ready and all the functions of the system can be accessed.

NOTE: Once the operator has pressed the Swath Advance Switch to set an “A” point, the WAG PathDriver then enters the “Working” mode. All functions, which are accessed in the “Ready to Work” mode, can also be accessed in the “Working” mode.

B. Brightness:

The brightness of the keys and the display on the Control Pad are adjusted by turning the “Power” switch. Turning the switch clockwise all the way maximizes the brightness. When turning the switch counterclockwise, the backlight on the display dims first and then the keys will dim. This allows the driver to turn the display OFF, but still see the keys during night operations.

The brightness of the Approach ™ Lightbar is adjusted in the Lightbar menu in Setup. Refer to the Lightbar section for more details.

C. Restart:

“Restart” is a software reboot and is primarily used as a diagnostic aid. The benefit of using this function is it restarts the system while preventing the GPS card from losing the satellites it is tracking.

D. Soft boot:

The “Soft boot” switch is the equivalent to pressing “Reset” on a desktop PC. It is activated by turning the “Contrast” switch counterclockwise until it clicks, and then turning it back again. Like “Restart,” the “Soft boot” is used as a diagnostic aid, and it also will prevent the GPS card from losing the locks on the GPS satellites. Use the “Soft boot”

when the “Restart” does not work.

E. Contrast:

The contrast of the display on the Control Pad can be adjusted by turning the “Contrast” switch.

V. Approach ™ Lightbar:

The Approach ™ Lightbar is the latest in lightbar design. It can be configured to indicate the course direction either with the traditional design or with the new Approach ™ design. Designing the lightbar will be discussed in the “Setup” portion of this manual. This section explains the various features of the Approach ™ Lightbar and its operation.

The Cross Track LED’s, the bottom row of LED’s, indicates how far the rig is from the center on the swath. In other words, if the lights on the right side of the center LED’s are lit, then you need to steer to the left. The “Intercept Angle”, top row of LED’s, are indicating which side of the intended swath the rig is on and the angle the rig is traveling with respect to the swath. For example, the rig is approaching the swath from the right side at a 30-degree angle. The lights on the left side of the center LED’s will be ON, which is indicating to the driver the rig is on the right side and the number of LED’s ON will represent the angle.

WAG Corporation was the first to design a Lightbar that visually shows the driver when the differential signal or GPS lock is lost. It also shows the driver if the age of the differential signal is exceeding the preset limits. The new Approach ™ Lightbar gives the driver the same heads up indications of these various functions. When the differential signal is lost, the first five lights on each side of the center lights will come ON and the text displays “No Diff”. When the GPS lock is lost, all the lights on each side of center lights will be ON and the text displays “No GPS”. The NO Diff lights, NO GPS lights and the warnings displayed on the text will go OFF when the signals have been received again by the WAG PathDriver.

NOTE: The GPS lock always has priority over the differential signal. That is, if you lose the differential signal and the GPS lock at the same time, only the GPS lock lights will be illuminated. If you still do not have a differential signal when GPS lock is regained, then the NO Differential lights will be illuminated.

The strobe feature of the Approach ™ Lightbar is unique to all WAG guidance systems. Each time the Swath Advance Switch is pressed to set an “A,” “B” or “C,” point the bottom row of LED’s will strobe. This feature assures the operator the point was set by the system.

Another unique feature of the WAG PathDriver is the "flipping" of the Approach ™ Lightbar each time the system is advanced to the next swath. To understand this, imagine the WAG PathDriver actually turning the Approach ™ Lightbar over. The reason for this feature is to eliminate the need to keep up with the swath count. With this feature, if the operator forgets to advance to the next swath the Approach ™ Lightbar will work backwards. Meaning when steering toward the light, the lights move away from the center LED’s instead of towards them. If this happens, simply press the Swath Advance Switch and then steer as indicated by the lightbar.

NOTE: Since the Approach ™ Lightbar flips when the Swath Advance Switch is pressed for the next swath, the cross track indications will be backwards so long as the field is behind the operator. Once the operator has turned far enough so that the field is in front, his orientation of the Approach ™ Lightbar to the field will be correct.

To ensure accuracy of the WAG PathDriver, the age of the differential correction is closely monitored by the system. When the differential correction is about to exceed the age limit, the WAG PathDriver warns the operator by flashing the bottom of LED's ON and OFF. For example, if the driver sets the warning time to five seconds, the Approach Lightbar will start to blink five seconds before the "No differential" lights come on. However, if a new differential correction signal is received before the five seconds expires, the Approach ™ Lightbar will stop blinking. This warning allows the driver to take the appropriate action to ensure the accuracy of the job.

VI. Setup:

The WAG PathDriver is designed to reduce operator input while actually doing a job. Various programmable functions, however, are programmed in the "Setup" function of the system. Once these settings are programmed, the WAG PathDriver will store them in memory.

NOTE: The "Setup" function is accessed by pressing the "Setup" key when the WAG PathDriver is in the "Ready to Work" mode or the "Working" mode.

Once the Setup Menu is accessed the various functions of the system that can be programmed are then accessed by pressing the number beside the function. To scroll the Setup menu to the next page, press "4" which is the number beside "More".

The "Setup" key also has two other functions:

1. Pressing "Setup" twice will access the Differential Age, Number of GPS satellites, Differential Count and HDOP.

2. Pressing "Setup" three times accesses some of the differential receivers the WAG PathDriver supports. See Trouble Shooting for use of this function.

A. Approach ™ Lightbar setup:

The Lightbar Setup menu has five programmable functions: 1) Brightness, 2) Distance, 3) Degrees, 4) Scroll and 5) Design. The Lightbar Setup menu is accessed by pressing a "1" in the "Setup" menu.

1. Brightness level:

The brightness of the Approach ™ Lightbar can be adjusted to a number of different levels. To change the brightness of the Approach ™ Lightbar, simply select "Brightness Level" in the Lightbar menu and then the desired level. This will change the brightness of the LED bulbs. Once a level has been selected, press "Backspace" and the operator can then set the brightness level of the text. Press "Backspace" again and the WAG PathDriver will return to the "Ready to Work" mode.

NOTE: If the WAG PathDriver is in the "Working" mode when a particular function is accessed, upon completing the function the WAG PathDriver will return to the "Working" mode instead of the "Ready to Work" mode.

2. Approach ™ Lightbar Distance, (cross track):

The Approach ™ Lightbar has 16 lights on each side of the center lights on the top and bottom row. The value of each of these lights on each row can be set to by the user. The bottom row, Cross Track, and the two rows above the bottom row work together providing a large "volume" of lights for easier operations. The top row of lights and the row of LED's below, also work together for easier operations. The cross track can be programmed in increments as small as six inches, or .2 meter, and the Intercept Angle, can be programmed in increments as small as one-tenth of a degree. After gaining some experience with the WAG PathDriver, the operator may want to change the configuration of the Approach™ Lightbar.

Steps for programming the Approach Lightbar:

a. Access the "Lightbar Distance" menu from the "Lightbar Setup" menu;
b. When the "Lightbar Distance" menu has been accessed, the Control Pad will display the following;

```
Lightbar Distance:
1=5   2=8
3=12  4=16
5=20  6=24
```

The numbers preceding the "=" represent the position of the LED on the Approach ™ Lightbar. The "1" represents the first LED on each side of the center LED's. The "5" displayed next to "1=" means the first LED next to the center LED's will come on when the Cross Track is **greater than** five feet (or meters if in metric) from the center of the swath.

Notice the cursor is under the "5." If you wish to change the number, enter the desired number by pressing the corresponding key. While entering a number, you can press "Backspace" and the cursor will backup to the previous position. After you enter the number, press "Enter" and the cursor will move over to the "8." If "8" is acceptable, press "Enter" and the cursor will move down to the "12", and so on. When "Enter" is pressed after the 6th LED, the display will change and show the 7th to the 12th LED and their values. When "Enter" is pressed after the 12th LED, the display will change and show the last 5 LED's. When you press "Enter" after the 16th LED, then press **"Backspace"** and the system will advance to programming the "Intercept Angle", top row of LED's. The Control Pad will display the following:

```
Intercept Angle:
1=5   2=8
3=12  4=16
5=20  6=24
```

Program the LED's for the Intercept Angle the same way as the Lightbar Distance.

NOTE: The Intercept Angle LED's can be programmed to tenths of a degree, example 1.1 degree.

NOTE: The values for the LED's must be in ascending order or the Approach ™ Lightbar will not function properly.

NOTE: When a particular function has been accessed that requires the inputting of numbers, the "Backspace" key can be used to "back up" to the previous position.

3. Degrees:

The text on the Approach ™ Lightbar will always show the Swath Count on the left side, and the Cross Track on the right side. In addition to the text the LED's on the bottom indicate the Cross Track and the LED's on the top of the Approach ™ Lightbar indicate the intercept angle.

4. Scroll:

In this mode, the operator can program the information the WAG PathDriver will display in the various operating modes. The following are the names of the operating modes, a brief description of each and a list of the information that can be displayed in each mode. The information can be displayed in several different groups with a maximum of two types of information in each group.

a. Operating Modes:

1. Swath:

This is the mode the system is in when the actual treatment of the crop is in progress, it is also the same as the "Working" mode. It is called "Swath" simply because the operator is treating one swath after another. This mode is automatically entered when the "A" point of the first swath is established. The following can be displayed in this mode: **1st Group** 1. Swath Count and Cross Track; **2nd Group** 1. Acres/Pass and 2. Acres/Field; **3rd Group** 1. Gnd Spd (Ground Speed) and 2. Vert. Spd. (Vertical Speed); **4th Group** Current Time; **5th Group** Current Date; **6th Group** 1. Dist. A-B (the distance between the A and B points), 2. Dist. B-C (the distance between the A-B line and the C point, when a pattern with a "C" point is being used).

NOTE: Each group of information is accessed by pressing the "Scroll" key. The first group of information is the basic information required to operate in each given mode and thus, this is the information displayed first when the mode is activated.

2. Save Point/Pattern:

This is the "Save Point/Pattern" option, which is used when the rig must leave the job either in the middle of a swath or to save a job that has not been completed.

NOTE: It is not necessary to use Save Point/Pattern when leaving the field for another load.

The following can be displayed when in this mode: **1st Group** 1. Intercept Angle, 2. Distance To (this is the distance to the point where the Swath Advance Switch was pressed); **2nd Group** 1. Heading and Bearing; **3rd Group** 1. Heading, and 2. Cross Track; **4th Group** 1. Saved Point, 2. Gnd. Spd and 3. Vert. Spd; **5th Group** 1. Current Pattern and 2. Swath; **6th Group** 1. Dist. A-B and 2. Dist. B-C (when the pattern uses a “C” point ; **7th Group** ”A” Latitude; **8th Group** “A” Longitude; **9th Group** “B” Latitude; **10th Group** “B” Longitude; **11th Group** “C” Latitude (if the pattern has a "C" point); **12th Group** 1. “C” Longitude (if the pattern has a “C” point).

b. Programming Swath Mode:

Programming the "Scroll Setup" is the same for all the operating modes. Thus, the manual will demonstrate the programming of the Swath mode. To change the other modes, simply select the particular mode and proceed with the following steps.

1. To access the “Scroll Setup” menu, select “Scroll” in the Lightbar Setup menu. Then access the “Swath” mode by selecting “Swath” in the “Scroll Setup” menu.

NOTE: Other modes can be displayed by selecting “More.”

The description of the information in the **1st Group** will be displayed on the Control Pad as follows:

```
1. Swath count     +
2. Cross Track     +
```

And the Approach Lightbar text will show:

```
5. ALL  6.  NONE  7.  א   8.  ⊕
```

2. The "+" beside each description means the information will be displayed on the Approach ™ Lightbar text. Pressing the number beside the description will change the “+” to a “-” which means the information will not be displayed. If the driver presses a "5", then all the information will be displayed and likewise if the driver presses a “6" all the information will not be displayed. Pressing "7" will advance to the next screen in the Swath mode and pressing "8" will return to the previous screen.

3. After making the selections, press "7" and the **2nd Group** of information will be displayed:

```
1. Acres/Pass      +
2. Acres/Field     +
```

As in Step 2, pressing the number beside the description will determine whether the information will be displayed or not.

4. Continue the above sequence until pressing the "7" does not move to a new screen. Then press "Enter" and the WAG

PathDriver will accept your changes and return to the “Ready to Work” mode.

c. Programming Other Modes:

To program all of the other modes, simply repeat the above 4 steps making the appropriate selection in Step 1.

5. Design:

In this mode the operator designs the Approach ™ Lightbar to his personal preference. There are two basic designs, 1) Approach which resembles the view of a highway and 2) “X” (Cross) Track which is similar to the traditional way of indicating course direction with LED’s on each side of the center LED’s. Each basic design can also be configured as to the corrective direction the LED’s are indicating. If the operator chooses “Aviation”, then if the LED’s on the right side of the center LED’s are ON, the driver steers the rig to the right. If the operator chooses “Ground”, and the LED’s are ON, on the right sided of the center LED’s, then the driver steers the rig to the left.

With the Approach ™ Lightbar designed using the “X Track” the driver can also choose three different color schemes. One scheme has the LED’s on the left side of the center LED’s red and the LED’s on the right side green. Another scheme has the LED’s on the right side red and the left side green, and still another way is to have the LED’s on both sides red.

The Approach design of the lightbar has four different choices which simply determines how wide the “highway” will be. “Approach 1" is the narrowest and “Approach 4" is the widest. When using the Approach style lightbar the driver keeps the rig “on the highway”. The LED’s between the highway boundaries are green and the ones on or outside the boundary are red. So long as the driver keeps the rig “on the highway” he has green lights ON indicating he is on track. As he approach the edge of the highway the red LED’s start to come ON indicating he is approach the edge of his intended path or is outside the intended path. If he starts to get too far from the center, then some red LED’s start to come ON. Below are diagrams of the various designs of the Approach ™ lightbar:

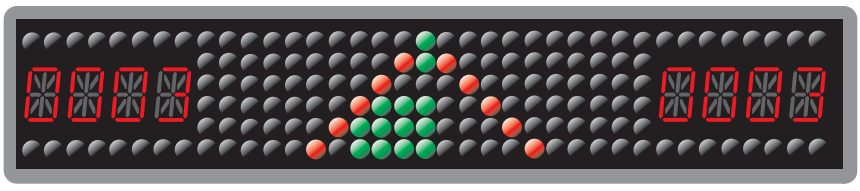


Figure A. Approach 1

The design has the narrowest critical path with only two increments before displaying the warning of approaching the edge of the intended path.

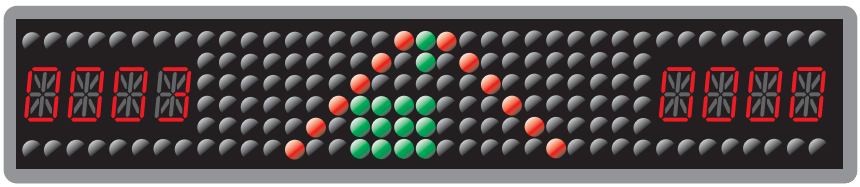


Figure B. Approach 2

This design has a wider critical path.

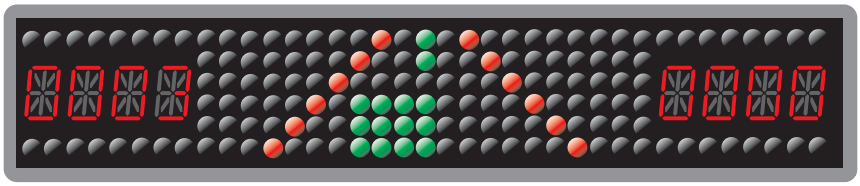


Figure C. Approach 3

Approach 3 has four increments before the Red LED's start to indicate the edge of the critical path is being reached.

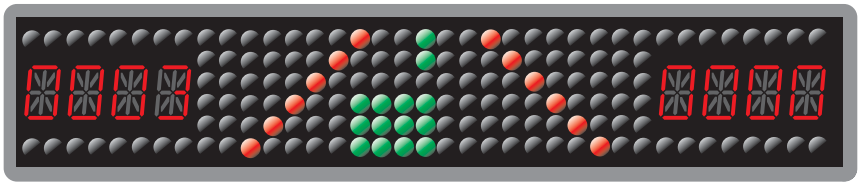


Figure D. Approach 4

This design gives the widest critical path with 5 increments before the warning appears.

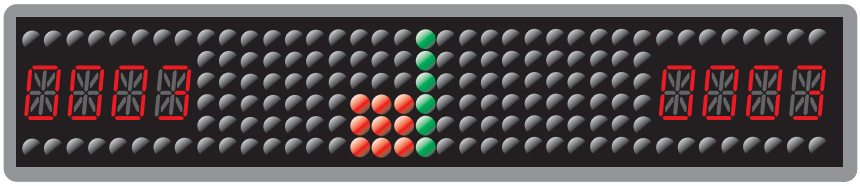


Figure E. Three Row X Track

This design is the traditional method of indicating coarse correction. Is does not have any outer critical boundary, however there are three different color combinations which can be used. One is red LED's on both side of the centerline and another is red LED's on the left side and green LED's on the right side. Still a third way to design the lightbar is with red LED's on the right side and green LED's on the left.

B. Patterns setup:

This function is not used with the Vision G2000.

C. Differential Setup:

1. Choose Radio:

For systems with multiple radios or a differential correction receiver capable of multiple frequencies or stations, the operator can choose the desired Differential Correction source. There are three places in the software the operator can make this selection:

a. Waiting for Differential

When the WAG PathDriver is “Waiting for Differential” during the initial startup sequence, the operator can press “Setup” and make the desired selection.

1. For all differential sources other than satellite, simply press the number beside the desired frequency.

2. For those systems equipped with a satellite differential source, after pressing “Setup” the operator presses “1” and then enters the number of the desired station.

In both systems, after selecting the desired frequency or station, the system will return to the “Waiting for differential” screen.

b. Ready to Work mode:

When the WAG PathDriver is in the “Ready to Work” mode, follow the steps below:

1. Access the "Setup" menu;
2. Access the “Diff.” (abbreviation of differential) menu;
3. Access the “Choose radio” function;
4. For all differential sources other than satellite, simply press the number beside the desired frequency.
5. For those systems equipped with a satellite differential source, after pressing “Setup” the operator presses “1” and then enters the number of the desired station.

   In both systems, after selecting the desired frequency or station, the system will return to the “Ready to Work” or the “Working” mode.

c. Working mode, (a.k.a. Swath mode):

The frequency can also be changed when the WAG PathDriver is in the “Working” mode. Just follow the same steps as in the “Ready to Work” mode.

2. Disable Differential

NOTE: The Approach ™ Lightbar text will continue to show "No Navigation" until this function is completed.

When the Differential is disabled, the WAG PathDriver will present several options. One is to save the latitude and longitude of the current location. Another is to enter the latitude and longitude of where the driver wishes to go. The third option is to display the latitude and longitude of the current location. These options will be discussed later under “Latitude/Longitude.” Still, a fourth option is to enter the Latitude and Longitude of the “A” point in the first swath.

The steps to disable the differential are as follows:

a. Access the “Setup” menu;
b. Access the “Diff” menu;
c. Select “Disable Differential”;
d. Press “Backspace” and the WAG PathDriver will return to the “Ready for Work” mode.

NOTE: IF THE DIFFERENTIAL IS DISABLED, THE ONE-METER ACCURACY CANNOT BE MAINTAINED.

3. Enable Differential:

Use this function to enable the differential in the event the differential has been disabled. The steps for enabling differential are as follow:

a. Access the “Setup” menu;
b. Access the “Diff” menu;
c. Select “Enable Differential” and the WAG PathDriver will return to the “Ready for Work” mode.

NOTE: The WAG PathDriver by default will always have the differential enabled when turned on or restarted.

NOTE: At this point, to access the following functions, the operator must select “More” in the “Setup” menu.

D. Differential Age Cutoff:

NOTE: This setting can affect the accuracy of the system significantly and should be used with caution. For those systems using a portable base station, the Differential Age Cutoff should be set at 18. For those systems using U. S. Coast Guard Beacon as the differential correction, the Differential Age Cutoff should be set at 28. For those systems using satellite differential correction, the age should be set at 45 to 60.

The steps for this function are as follows:

1. Access the “Setup” menu;
2. Press “4", “More”;

3. Access the “Diff. Age Cutoff” menu;
4. Enter the desired setting and press “Enter”;
5. The system will advance to the “Differential Correction Age Warning” option. Press “Enter” to return to the “Ready to Work” mode.

E. Differential Correction Age Warning:

This function is used to program the WAG PathDriver to warn the driver the differential correction is about to exceed the “age limit”, by default this is set for five seconds. That is, five seconds before the “No differential” message is displayed by the Approach ™ Lightbar the LED’s will start blinking. This function is automatically accessed after pressing “Enter” during the “Differential Age Cutoff” function. The system defaults to five seconds but a warning can go as high as thirty-three seconds. To change this value simply follow the steps in “Differential Age Cutoff” and enter the desired value in step “5". The WAG PathDriver will return to the “Ready to Work” mode when “Enter” is pressed.

F. Access Cutoff:

The Access Cutoff is a code, which determines how long the WAG PathDriver will operate. The WAG PathDriver will let the operator know when there are 72 hours or less before the system deactivates. You need not be concerned with this option. If it becomes necessary to use this feature, the WAG PathDriver will provide the necessary instructions.

G. Control Pad Setup:

This function is not used with the Vision G2000.

H. Default Setup:

Activating this function will restore the default values to the WAG PathDriver. Various parts of the memory can also be erased but WAG Corporation must be contacted to get the password, which allows this feature to work. This helps to prevent the operator from erasing the memory by accident.

I. Magnetic Variation:

The Magnetic Variation feature allows the operator to set the magnetic variation of the compass. When a Magnetic Variation has been entered, there will be a "M" displayed instead of the "o" next to any information, which utilizes the compass. This function is accessed by selecting “Magnetic Variation” in the Setup menu. Continue by following the instructions displayed.

J. Time:

The time of day can be programmed in the WAG PathDriver. To access, select “Time” in the Setup menu and follow the instructions displayed on the Control Pad.

VII. Other keys:

Before we discuss how the various patterns work, we first need to explain "Swath width", "Work Left", "Work Right" and all of the other functions which can be accessed when the system is in the “Ready to Work” mode.

A. Swath width:

The "Swath width" is the width of the swath you are going to drive. Since this can change often, we made it very easy to access. To change the swath, simply press the "Swath width" key, enter the desired value, and press “Enter.” The system will return to the “Ready to Work” mode.

NOTE: When operating the Parallel pattern, the “Swath Width” can be changed during the job.

B. Work Left and Work Right:

The Control Pads have one key labeled “Work <----- ----->.” Whichever direction the arrow is pointing on the Control Pad tells the WAG PathDriver where the field is with respect to your A/B line. For example, if the A/B line is set on the left end of a field, then the field will be on the right side of the A/B line. Thus, the arrow should be pointing to the right (----->). To change the direction of the “arrow” press the “Work” key and the arrow will toggle change each time the key is pressed.

NOTE: The “A/B” line will be discussed with the various patterns.

C. Backspace:

The “Backspace” key has two functions with the WAG PathDriver. One is the “backing up and erasing” of a number. This is only activated when a function has been accessed that requires the inputting of numbers. The other function is similar to the “Esc” key on a desktop computer. At any time, except as stated above, pressing the “Backspace” will cause the WAG PathDriver to return to the “Ready to Work” or the “Working” mode. This allows the operator to exit a function he does not wish to alter. When “Backspace” is used to exit a particular function, the changes made while in the particular function will not be saved.

D. Latitude/Longitude (the "1" key)

This function allows the operator to enter, save, retrieve or display latitudes and longitudes. The following explains how to use the various options. This function is accessed by pressing the “1" key which brings up the Lat/Lon menu:

NOTE: This function can also be accessed by disabling the differential in the “Differential Setup” menu.

1. Entering latitude and longitude:

There are two ways to enter latitudes and longitudes. The most common is by entering the degrees. Another way is to enter the latitude and longitude in a decimal format. By default, the WAG PathDriver assumes degrees will be used.

To enter a new latitude and longitude, follow these steps:

a. Access the Lat/Lon menu;
b. Select “Save”;
c. Select “New Lat/Lon.”;
d. Select East or West and the format of the latitude and longitude, degrees or decimal. The current format will be displayed at the top right in brackets, see below;

```
Latitude    [Deg.]
1) East     2) West
3) Use decimal form
4) Use degrees;
```

e. Press “Enter” and enter the hour;
f. Press “Enter” and enter the minutes;
g. Press “Enter” and enter the seconds. If a decimal point is required when entering the seconds, press the “Swath Width” key;
h. Press “Enter” and enter the Longitude following steps “a” through “g” above. In step “d”, the driver will need to select North or South instead of East or West and the format will not have to be selected;
i. When “Enter” is pressed after entering the seconds, the WAG PathDriver will prompt the operator to enter a number under which to save the Lat/Lon;
j. Enter the number and press “Enter”.

NOTE: If the operator enters a Lat/Lon number that is already in use, the WAG PathDriver will display the following:

```
This location is
already in use
1) Overwrite
2) Try another one
```

Select the desired option and proceed. **IF THE “OVERWRITE” OPTION IS CHOSEN THE PREVIOUS LATITUDE AND LONGITUDE WILL BE ERASED.**

When “Enter” is pressed at this point, the WAG PathDriver will display the Heading, and Bearing to the particular latitude and longitude in miles carried out to the nearest tenth of a mile. See below for example:

```
179E              B180
```

Pressing the Swath Advance Switch or the “Enter” key will return the WAG PathDriver to the “Ready to Work” mode.

NOTE: To enter a latitude and longitude in a decimal format, select “Decimal” in the Latitude menu and proceed as described above.

2. Saving current latitude and longitude:

The steps to save the current location are as follows:

a. Access the Save Lat/Lon menu and select “Current Position”;
b. Enter the location number to save the Lat/Lon under;
c. Press Enter and the WAG PathDriver will return to the “Ready to Work” mode;

3. Retrieving latitude and longitude:

This function is accessed by selecting “Retrieve” in the Lat/Lon menu. Enter the location number of the latitude and longitude to be retrieved. When “Enter” is pressed after the location number is entered, the Control Pad will return to the “Ready to Work” screen, and the Heading and Bearing will be displayed on the Approach ™ Lightbar text. Pressing the Swath Advance Switch will clear the Approach ™ Lightbar text.

4. Displaying current latitude and longitude:

To display the latitude and longitude where the rig is currently located, select “Display Current” in the “Save Lat/Lon” menu. Pressing any key other than “Backspace” at this point will freeze the display so the position can be written down.

5. Entering latitude and longitude for A/B/C points:

If you have a predefined field, you can enter the latitude and longitude of the A/B/C points on the Control Pad before starting. At the WAIT A, WAIT B, or WAIT C screens, you can press "1" to access the “Lat/Lon” menu. A new option will appear as shown below:

```
      Lat/Lon:
1) Save     2) Retrieve
3) Display Current
4) Enter A
```

NOTE: If the WAG PathDriver is at the “WAIT B” mode, the fourth option will be “Enter B”, and “Enter C” will be the option if the WAG PathDriver is at “WAIT C”.

Choose "4" and you will be able to enter the latitudes and longitudes of an A, B and/or C point in a particular pattern. Using this method, you can define the field and then save it as a "Save Point/Pattern" without leaving the ground.

E. Approach ™ Lightbar ON/OFF (the "2" key)

Pressing the “2" key toggles the Approach ™ Lightbar ON and OFF.

F. Previous (Backup) (the "3" key):

This function enables the operator to backup to the previous swath or the A/B line if desired. Note the Approach ™ Lightbar “flips” when you back up. Depending on where you are with respect to the field, you may have to press the “5/Flip” key to correctly orient yourself. Pressing the Swath Advance Switch again will advance to the next swath.

G. Flip (the "5" key)

This key "flips" the Approach ™ Lightbar and allows the operator to reverse the swath direction. This keeps the driver form having to steer to the other side of the field to resume the job after getting another load. When the Approach ™ Lightbar is flipped, the letters “FP” will be indicated on the Control Pad, as shown below:

```
WAG PathDriver   V1.0
SW: 30     Df: 310.0
             FP
Parallel        --->>
```

H. Scroll (the "6" key)

This key displays additional information on the Approach ™ Lightbar text and Control Pad. Additional information can be displayed when the WAG PathDriver is in the Working, Save Point/Pattern, Lat/Lon, Homepoint and the Return to Field modes. Pressing the "Scroll" key will advance to the next group of information to be displayed. If the "Backspace" key is pressed, the system will return to the first group of information.

This space left blank intentionally.

VIII. Operating:

A. Cross Track

The Cross Track is the distance from the center of swath to the location of the rig. It is displayed on the Approach ™ with the bottom three rows of LED's and on the alphanumerics on the right side.

The Approach ™ can be "designed" for "Aviation" which means the driver steers the rig towards the LED's, which are indicating the Cross Track. However, if when "designing" the Approach ™ Lightbar the users selects "Ground", then the rig is flown away from the direction the Cross Track LED's are indicating.

B. Intercept Angle

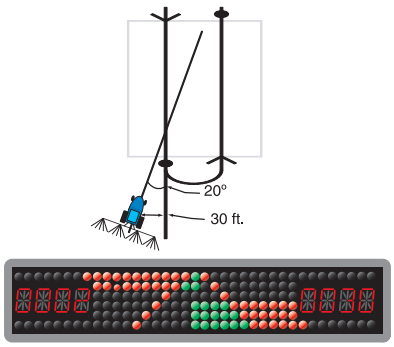
The Intercept Angle is the angle the rig is traveling with respect to the intended swath. It is displayed on the Approach ™ Lightbar with the top two rows of LED's and indicates to the driver which side of the intended swath the rig is on.

C. Examples:

In all of the examples for simplicity's sake the Cross Track LED's are set to three-foot intervals and the Intercept Angle LED's are set at two-degree intervals.

NOTE: The Cross Track and Intercept Angle LED's can be set to any value the operator desires.

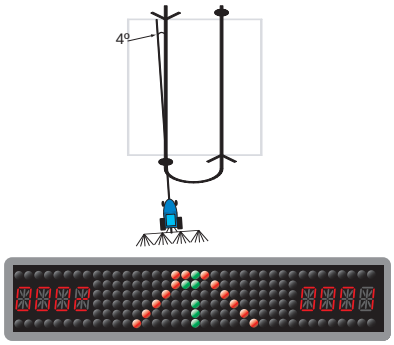
1. The rig is approaching the intended swath from the left side. The Cross Track is thirty feet and the Intercept Angle is twenty degree angle;



Point 1:

a. Cross Track LED's - 10 LED's are ON, on the right side;
b. Cross Track alphanumerics - Right digital display - 0030
c. Intercept Angle LED's - 10 LED's are ON, on the left side;
d. Swath Count - 0002

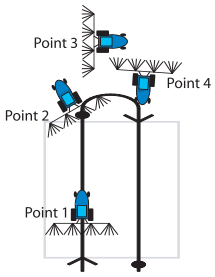
2. The rig is on or very near to the center of the swath but traveling at a four-degree angle on the left side of center.

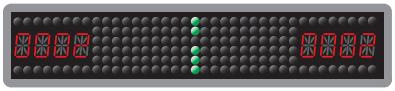


Point 1:

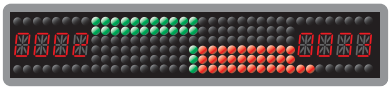
a.	Cross Track LED's -	Only the center LED's are ON;
b.	Cross Track alphanumerics -	0001;
c.	Intercept Angle LED's -	2 LED's on the left side;
d.	Swath Count -	0002.

3. The rig is completing a swath and is advancing to the next swath:

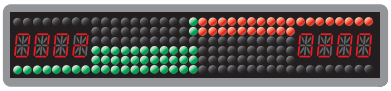




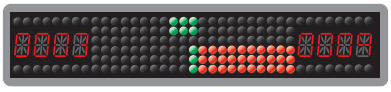
Point 1



Point 2



Point 3



Point 4

Point 1: Rig is on the center of the swath:

a.	Cross Track LED's -	Only the center LED's are ON;
b.	Cross Track alphanumerics -	0002
c.	Intercept Angle LED's -	Only the center LED's are ON;

d. Swath count - 0002.

Point 2: Rig has completed the swath but has NOT advance to the next swath. The Cross Track is thirty feet and the Intercept Angle is eighteen degrees;

a. Cross Track LED's - 11 LED's are ON, on the right side;
b. Cross Track alphanumerics - 0033;
c. Intercept Angle LED's - 9 LED's are ON, on the left side;
d. Swath Count - 0002.

Point 3: The rig has advance to the next swath. The Cross Track is 200 feet and the Intercept Angle is ninety degrees;

a. Cross Track LED's - All LED's are ON, on the left side;
b. Cross Track alphanumerics - 0200;
c. Intercept Angle LED's - All the LED's are ON, on the right side;
d. Swath Count - 0003.

Point 4: The rig is approaching the intended swath. The Cross Track is twenty-eight feet and the Intercept Angle is four degrees;

a. Cross Track LED's - 9 LED's are ON, on the right side;
b. Cross Track alphanumerics - 0009;
c. Intercept Angle LED's - 2 LED's are ON, on the left side;
d. Swath Count - 0003.

VIII. Patterns:

The WAG PathDriver comes with parallel pattern. The pattern has an A/B line, which must be established on the first pass of a field. The pattern also requires the operator to set the "Swath Width" and the "Work Left/Work Right" direction. See the previous discussion on "Swath Width" and "Work Left/Work Right".

A. Parallel:

The Parallel pattern is also known as "Back and Forth." It is a pattern that guides the operator back and forth across a field with each swath being parallel to the previous one.

Steps for "Parallel". Refer to Figure 1 for a diagram of this pattern:

1. Set the Swath Width;
2. Set the Work direction;
3. After entering the field on the first pass, press the "Swath Advance Switch", which is referred to as a "dot" in all Figures, to set the "A" point of the A/B line. When "Swath Advance Switch" is pressed, the Approach Lightbar will strobe and the Approach Lightbar text will show "WAIT B";

NOTE: After pressing the "Swath Advance Switch", the WAG PathDriver will display the distance traveled from the "A" point until the "B" point is set. This is displayed on the left end of the Approach ™ Lightbar text.

4. Before exiting the field on the first pass, press the “Swath Advance Switch” again to set the “B” point of the A/B line. The Approach ™ Lightbar will strobe again and the lightbar text will read “OK”;
5. Press the “Swath Advance Switch” again while making the turn to start the second pass. Then simply steer in the direction of the light until the center lights are ON. The Approach ™ Lightbar text will display the Swath count and the Cross Track.
6. After each swath, press the “Swath Advance Switch” to advance to the next pass.

NOTE: It is not necessary to use the “Save Point/Pattern” function when leaving the field to get another load. However, if the operator is not returning to the job until some time later, the Save Point/Pattern feature should be used. Refer to “Save Point/Pattern” for additional information.

Figure 1. Parallel

IX. Save Point/Pattern:

The WAG PathDriver has 1 "Save Point/Pattern" which saves and stores the current job in progress. The Save Point/Pattern saves the swath count, swath width, current swath, pattern, current position of the rig and the entire configuration of the system. The Save Point/Pattern is used when the driver has to stop treatment of the field before it is finished, or to return to the point in the swath where his load ran out.

A. Saving a Save Point/Pattern:

1. Saving a job

Save Point/Pattern can be used to store and save a job that is incomplete and must be finished at a later time. For example, the wind may start to blow too hard, or the operator might have equipment problems that require him to stop the application.

Steps for saving a job:

a. Access “Save Point/Pattern” menu;

NOTE: When the “Save Point/Pattern” menu is accessed the function of the Swath Advance Switch is redefined. Pressing the Swath Advance Switch after the Save Point/Pattern menu is accessed is equivalent to pressing the “1" key which saves the job.

b. Press the “1" key or the Swath Advance Switch to save the job;
c. Enter the desired “Save Point/Pattern” number the job will be saved under;
d. Press “Enter” and the WAG PathDriver will return to the “Work” or “Ready to Work” mode.

2. Saving a point in a swath

The Save Point/Pattern function can also be used to save, or mark, a particular point in a swath where the chemicals ran out. This allows the driver to return to the particular point in the swath and start the application again after reloading.

NOTE: Remember, the WAG PathDriver is designed to avoid the driver having to look at the Control Pad while actually applying the load.

The WAG PathDriver assumes that the driver knows if he will run out of chemical prior to spraying a particular swath. Thus, the driver should access the “Save Point/Pattern” before entering the field to avoid having to look at the Control Pad while steering.

Steps for saving a point in a swath:

a. Advance to the swath that needs to be saved;
b. Access the Save Point/Pattern menu;
c. Continue applying the chemicals on the swath;
d. Press the Swath Advance Switch when the chemicals run out;

e. While ferrying back to the loading pad, enter the desired “Save Point/Pattern” number the job is to be saved under;
f. Press “Enter” and the job will be saved and the WAG PathDriver will return to the “Work” or “Ready to Work” Mode.

B. Retrieving Save Point/Pattern:

1. Retrieving a job

This function is used to retrieve a job that was incomplete.

Steps for retrieving a job:

a. While reloading or ferrying to the field, access the “Save Point/Pattern” menu;
b. Press “2" to retrieve;
c. Enter the “Save Point/Pattern” number and press “Enter”;
d. Press the Swath Advance Switch and the WAG PathDriver returns to the “Work” mode of the saved job.

2. Retrieving and returning to a point in a swath

This function is used when the driver has saved the point in a swath where the load ran out. It allows him to return to the point and resume applying the chemicals where he left off.

Steps for returning to a point in a swath:

a. While reloading or ferrying to the field, access the “Save Point/Pattern” menu;
b. Press “2" to retrieve;
c. Enter the “Save Point/Pattern” number and press “Enter”;

NOTE: The Approach ™ Lightbar text will display the Heading on the left end and Bearing on the right end. The Approach ™ Lightbar will also be providing the Cross Track.

d. Return to the field and enter the swath from the same direction as before;
e. Use the Approach ™ Lightbar or the Cross Track on the Lightbar text to stay in the center of the swath;
f. Start applying the load **before** the “Distance to the point” reaches “0", or there will be a “skip” in the application;
g. After the application has started, press the Swath Advance Switch and the WAG PathDriver will return to the “Work” mode;

NOTE: If the driver wishes to enter the swath in the opposite direction, he simply presses “5 Flip” to flip the Approach ™ Lightbar which orientates the WAG PathDriver to this direction. The driver starts applying the chemicals as soon as he enters the field and stops when the “Distance to Point” is “0".

XII. Troubleshooting:

This section deals with some of the problems the operator may encounter, as well as provide some solutions for them.

A. No Valid Differential:

Problem: "No Diff" is displayed on the Approach ™ Lightbar text when the WAG PathDriver has reached the time limit allow waiting for the Differential Signal. The Control Pad will display:

"Cannot obtain valid differential. Please contact WAG or hit <Restart>"

Solution:

1. Press "Backspace" and then choose another Differential Source in the "Differential Menu", accessed from the "Setup" menu;

2. Turn the WAG PathDriver **OFF** and check the antenna connections;

NOTE: NEVER CONNECT OR DISCONNECT ANY CABLES OR ANTENNAS WHILE THE WAG PATHDRIVER is ON. CARE MUST BE TAKEN NOT TO TOUCH THE END OF THE CABLES AND THE PINS IN THE CONNECTORS OF THE VARIOUS COMPONENTS AS TO AVOID DAMAGING THE SYSTEM.

3. Clean the Differential Antenna with **MILD** soap and water;
4. If the system is equipped with WAG SAT, make sure the antenna has an unobstructed view of the sky;
5. Check all the connections and connectors in the wiring, which is supplying power to the system. The wiring and connectors can become corroded, thereby reducing the current, not the voltage, to the WAG PathDriver.

B. No Differential

Problem: "No Diff" can be displayed on the Approach ™ Lightbar text at two different times:

Solutions:

1. During Boot up of the WAG PathDriver:
   a. Press "Setup" and select another Differential source;
   b. Turn the WAG PathDriver **OFF** and check the antenna connections;

NOTE: NEVER CONNECT OR DISCONNECT ANY CABLES OR ANTENNAS WHILE THE WAG PATHDRIVER IS ON. CARE MUST BE TAKEN NOT TO TOUCH THE END OF THE CABLES AND THE PINS IN THE CONNECTORS OF THE VARIOUS COMPONENTS AS TO AVOID DAMAGING THE SYSTEM.

   c. Clean the Differential Antenna with **MILD** soap and water;
   d. Check all the connection and connectors in the wiring, which is supplying power to the system. The wiring and connectors can become corroded, thereby reducing the current, not the voltage, to the WAG PathDriver.

2. During the “Work Mode”:
   a. Select another Differential source in the “Differential Menu”, which is accessed from the “Setup” menu;
   b. Turn the WAG PathDriver **OFF** and check the antenna connections;

NOTE: NEVER CONNECT OR DISCONNECT ANY CABLES OR ANTENNAS WHILE THE WAG PATHDRIVER IS ON. CARE MUST BE TAKEN NOT TO TOUCH THE END OF THE CABLES AND THE PINS IN THE CONNECTORS OF THE VARIOUS COMPONENTS AS TO AVOID DAMAGING THE SYSTEM.

   c. Clean the Differential Antenna with **MILD** soap and water;
   d. Check all the connections and connectors in the wiring, which is supplying power to the system. The wiring and connectors can become corroded, thereby reducing the current, not the voltage, to the WAG PathDriver;
   e. Refer to the “Differential Diagnosis” mode.

3. Differential Diagnosis Mode:
   This function is only available on WAG SAT systems. If your system is not equipped with WAG SAT, contact WAG Corporation or an authorized service center about your “No Differential” problem. If it is equipped with WAG SAT, then the operator needs to record the information obtained from this mode before contacting WAG or a service center. The last two pages of this manual are blank forms the operator can use to write the information down. Since the WAG PathDriver supports both the OmniStar and Racal differential signals, the information is provided in different formats, depending on which differential source the system is using. There is a form for both systems.

   a. Press “Backspace”;
   b. Access the “Differential Diagnosis” Mode by pressing “Setup” three times;
   c. Record the information displayed on this screen;
   d. Press “Setup” and record the information displayed on this screen;
   e. Continue pressing “Setup” and recording the information until the system returns to the “Ready to Work” mode or the “Work” mode;
   f. Contact WAG Corporation or an authorized service center.

C. No GPS Lock:

Problem: It is normal for the WAG PathDriver to display “No GPS” on the Approach ™ Lightbar text while the rig is in a turn. However, this normally occurs at only one end of the field and for just a few seconds. The WAG PathDriver can make reference to the GPS Lock at two points: 1) During Boot Up; and 2) During “Work “mode.

Solution:

1. During Boot Up of the WAG PathDriver:
   If the WAG PathDriver is unable to obtain a GPS Lock within three minutes, a Time Out will occur. “NO LOCK” will be displayed on the Approach ™ Lightbar text and the Control Pad will read:

“Cannot obtain Lock. Check GPS antenna, Contact WAG or press <Restart> to rerun.”

a. Press “Backspace” and then “0" and check the “Status” line on the Control Pad, this will be displayed on the third line of the Control Pad 8 display;
b. If the last two characters in the Status Line are “FF”, press “Backspace” and then “Restart”;

c. If the last two characters in the Status Line are “FE”, Turn the WAG PathDriver **OFF** and check the antenna connections;

NOTE: NEVER CONNECT OR DISCONNECT ANY CABLES OR ANTENNAS WHILE THE WAG PATHDRIVER IS ON. CARE MUST BE TAKEN NOT TO TOUCH THE END OF THE CABLES AND THE PINS IN THE CONNECTORS OF THE VARIOUS COMPONENTS AS TO AVOID DAMAGING THE SYSTEM.

d. Clean the antenna with **mild** soap and water;
e. Make sure the antenna has an unobstructed view of the sky;
f. If the last two characters in the Status Line are “DF”, or the system still does not function, contact WAG Corporation.

2. During the “Work Mode”:

a. Press “0" six times and check the last two characters in the “Status” line;
b. Follow b thru d above.

D. Error “9":

Problem: The Control Pad is displaying “Error 9" during the Boot Up. This means the “Access Code” will expire within 72 hours. This feature avoids the operator having to keep up with expiration dates of various services provided by WAG Corporation. The operator should contact WAG Corporation **AS SOON AS POSSIBLE** to avoid a system shut down.

E. Error “6":

Problem: “Error 6" is displayed on the Control Pad after entering an “Access Code”. This error is displayed when the “Access Code” has been entered incorrectly.

Solution:
1. Enter the code again making sure the code is correct.
2. If the problem persists, contact WAG Corporation.

F. Error “1":

Problem: “Error 1" is displayed on the Control Pad during the Boot Up. The Access Code has expired and the system has shut down.

Solution: Contact WAG Corporation or an authorized service center.

G. “See KYP”:

Problem: “SEE KYP” is displayed on the Approach ™ Lightbar text, which means read the control pad. The WAG PathDriver can detect a number of different Errors, and this will be displayed on the Approach ™ Lightbar text when they are detected.

Solution: The operator **MUST** read and make note of what the Control Pad is displaying, and either follow the instructions on the Control Pad, or

contact WAG Corporation or an authorized service center.

H. Acreage counter:

Problem: If the WAG PathDriver does not calculate the acres being treated or it calculates the acres incorrectly, the problem is usually a faulty switch.

Solution:

1. When the WAG PathDriver is in the “Ready to Work” mode or the “Work” mode, press “0" ten times. The position of the dump handle or spray valve is shown on the top line of the Control Pad display;
2. When the handle or valves are closed, the position of the “Dump Handle” will be “OFF”. Likewise, when the handle or valves are open, the position of the “Dump Handle” will be “ON”;
3. Check the condition of the switches by opening and closing the handle or valves and noticing if the position of the “Dump handle” changes correctly;
4. If not, check the connections or the alignment of the switches for proper operation. Also, check the wiring for either a broken wire or a short in the wires. If your system is equipped with a pressure switch, make sure the switch is not clogged;
5. If the problem persists, contact WAG Corporation or an authorized service center.

I. Power:

Problem: If the WAG PathDriver is turned ON but **NOTHING** is displayed on the Approach ^{TM} Lightbar text or the Control Pad:

Solution:

1. Turn the contrast knobs for the displays clockwise to their maximum position;

NOTE: NEVER CONNECT OR DISCONNECT ANY CABLES OR ANTENNAS WHILE THE WAG PATHDRIVER IS ON. CARE MUST BE TAKEN NOT TO TOUCH THE END OF THE CABLES AND THE PINS IN THE CONNECTORS OF THE VARIOUS COMPONENTS AS TO AVOID DAMAGING THE SYSTEM.

2. Check the connections on the back of the Control Pad;
3. Check the power source;
4. Check all the connections and connectors in the wiring that are supplying power to the system. The wiring and connectors can become corroded, thereby reducing the current, not the voltage, to the WAG PathDriver.

J. Resetting:

Problem: The system resets itself for no apparent reason.

Solution: This problem is usually caused by a bad system ground or corroded wires and/or connectors. If there is corrosion, all connectors must be redone. Otherwise, the system will have enough voltage but not enough current.

K. Solid dark characters:

Problem: The displays have solid dark characters on them.

Solution:

1. "Soft Boot" the system by turning the “Contrast” knob on the Control Pad counterclockwise until you hear a click. Turn the knob back to its original position;
2. Turn the WAG PathDriver **OFF** and check the connections on all of the cables.

NOTE: NEVER CONNECT OR DISCONNECT THE CABLES OR ANTENNAS WHILE THE WAG PATHDRIVER IS ON. CARE MUST BE TAKEN NOT TO TOUCH THE END OF THE CABLES AND THE PINS IN THE CONNECTORS OF THE VARIOUS COMPONENTS AS TO AVOID DAMAGING THE SYSTEM.

XIII. Glossary of Terms:

A/B line - This establishes the line the driver wishes to work from.

Acres/Field - Total number of acres sprayed in a particular field.

Acres/Pass - The number of acres being covered on each pass.

Approach ™ Lightbar - The CDI, Course Direction Indicator, which is usually mounted on the outside of the rig to give the driver a heads up view the information he needs.

Bearing - The direction the rig should go to reach a particular point. Steer so that the Bearing is the same as the Heading.

C line - Establishing this line enables the WAG PathDriver to determine the dimensions of the field.

Control Pad - The box mounted inside the cab, which consists of the pushbuttons and the 4-line display.

Cross track - The distance from the rig to the center of the intended path.

Differential age - The amount of time elapsed since the last differential correction was received by the GPS Receiver. The older the age, the more likely error will be introduced into the system.

Differential correction - Signal transmitted from a known point to improve the accuracy of the WAG Flagger 2000.

Distance to - The distance at any time between the rig and a given point. Used in the Save Point/Pattern, Lat/Lon, and Homepoint modes.

ETA - Estimated time of arrival.

Swath Advance Switch - The remote switch generally used to advance to the next swath.

GPS - Global Positioning System. The Department of Defense system that provides continuous and worldwide position, velocity, and time data.

GPS lock - When the GPS receiver "tracking" enough satellites and has obtained enough information to provide position and velocity information, it is said to have a lock.

Ground Speed - Denoted by "Gnd. Spd" it is the speed of the rig over the ground.

Heading - The direction the rig is going, with respect to True North. Note the GPS receiver is only capable of reporting the direction of motion and not the actual heading of the rig.

Homepoint - A convenient way for the driver to define several "home" strips and thus have guidance to the “home” strips.

Intercept angle - The angle the rig is approaching the swath. For example, if the rig is steering parallel to the swath the angle will approach 0 or 180 degrees if the rig is going in the opposite intended direction of the swath. If the rig is approaching the swath at a perpendicular line, the angle should approach 90 or 270 (180 + 90) degrees. Note that the GPS receiver is only capable of reporting the direction of motion and not the actual heading of the rig.

Return to Field - The mode the WAG PathDriver enters when the driver presses the “Swath Advance Switch” after he has return to a “Homepoint”. This mode provides the information the driver needs to return to a field.

Save Point/Pattern - Save Point/Pattern allows the driver to save the complete state the WAG Flagger 2000 is in so the job can be resumed where it was discontinued at any time without losing any information.

Swath - The line that the driver is currently steering on.

Swath width - The width of the swath the driver steers.

Swath mode - The mode the WAG PathDriver is in when the driver is actually treating a field.

Units - Type of measurement the information is presented. The units of measurement are either Imperial or Metric.

UTC - Universal Time Coordinates.

Vertical Speed - Denoted by "Vert. Spd", it is the rate in which the rig is ascending.

Waypoint - Latitude and Longitude point that can be saved in the Lat/Lon mode.

Work left - The field is to the left of the A/B line.

Work right - The field is to the right of the A/B line.