E15 SPRAYER Operators Manual

KEE E15 Sprayer Console
V1.5 W119 1.0

How to use this operator's manual

As with any computer operated equipment, software and/or hardware is in many cases changed and upgraded over the life of the equipment.

KEE Technologies software engineers are constantly working on software enhancements which will provide you with many additional benefits and features in the future.

The EAGLE System will keep on evolving! ...to ultimately improve your 'bottom line"!

KEE Technologies personnel have records of all changes implemented to your system with the subsequent serial number.

When talking to KEE Technologies Support staff, always have this manual with you, as we may ask you what version manual you are currently looking at to ensure we all talk the same language. For this purpose all pages are coded as follows.

Page number Date when written Software version

Below is space provided to keep records of any software and hardware upgrades you may have received.

The Software Version Number of the Eagle Console can be located when the console first powers up. The File name which contains the Software version number will be displayed for about 2-3 seconds.
The name of the file will be on the last line, it will look like this.

KEE_BSC_1_5.HEX

Where: KEE_BSC_ -shows the type of software, is a KEE Broadacre Sprayer Complete.
1_5 - The software version number
HEX - Type of file.

Type of upgrade (software or hardware)	Version	Date	Manual upgraded
KEE Eagle E15 Broadacre Sprayer	1.5	05/05	05/05

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Features of the E15 EAGLE SPRAYER CONSOLE:

- SET AND FORGET, combines TRI-BOOM with FLOW switching, when selected the operator won't have to worry about changing nozzles over a wide range of water rates or speeds are required to get the job done!!
- TRI-BOOM capable, switches automatically between Primary, Secondary and Both booms (P,S,B); Switching Points can be set by FLOW, SPEED or PRESSURE
- Set either Back or Front Boom as the Primary boom; therefore no more nozzle changing for different water rates.
- DUAL BOOM capable, switches automatically between Primary and Both booms (P,B); Switching Points can be set by FLOW, SPEED or PRESSURE
- 7 boom sections (solenoid, 2 or 3 wire Valves)
- Left & Right Foam Marker. Left & Right End Jet switching
- Displays PTO SHAFT in rpm, with alarms points. Also display readouts and alarms are settable for 2nd Pressure Sensor and Auxiliary Shaft sensor
- Automatic Dump and Flush Functions
- Master ON/OFF switch
- 2 Dedicated Rate buttons (RATE 1/ RATE 2) ; gives the operator finger-tip control
- Can control different types of Flow Control (Servo) Valves
- Audio and Visual alarms; low and high alarm points settable for each alarm
- Large Full Visual display
- Displays 8 functions at once; Ground Speed, Rate, Sub-Area, Pressure1, Volume Left, Volume Used, Flow Rate and current alarms ALL on the one screen
- Zynx Compatible for Auto Section Control (ASC), Guidance, Auto-Steering and Variable Rate Control (VRC).
- Selectable units (Gallons/Acre, Litres/Hectare etc)
- Machine history data
- Self diagnosis tests
- Back lit keys, with separate contrast knob for full screen control
- 10 Sub Areas keeps records on Hectares sprayed and Volume Used
- Easily Setup and Simple to use

The EAGLE E15 Sprayer Console replaces the KEE Technologies Mk3 and Mk5 Spray Controllers, which have been in the market for the past 25 years. The EAGLE is a breakthrough replacement for the Mk5, with many more features at no extra cost. It takes into account the current Mk5 operators, and the transition from the Mk5 to the EAGLE is minimal, to the point where it is fully compatible with all Mk5 hardware. It is as simple as swapping the consoles!

The development of the EAGLE has been totally driven by input and suggestions from farmers and contractors from around the world, making the EAGLE the most advanced Spray Rate Controller in the world.

The Eagle has many new features and easy operation, that has leap-frogged the current competition which is a considerable bonus to the end user. Including all the features of its predecessor, the MK5, the EAGLE has seven sections, separately indicated booms, and has set a new benchmark with the TRI-BOOM and dual line switching,configuration.

The ability to select which line (front or back) is to be the primary line, gives the benefit of not having to change nozzles for different water output rates, and multistage switching and selectable line changing have been added. The operator can select from speed, pressure or flow, to switch the dual lines on and off. No longer does the operator have to change settings when they change rates and speed.

New features include the all screen display that allows viewing of all the sprayer functions at a glance, backlight control keys and positive sectional switches. A Foam Marker switch along with the Master ON/OFF, are standard on the broadacre units. Separate control of 2 Booms, switching on the front, the rear, then both as speed increases.

As a stand alone controller, it has amazing capabilities that offer the farmer and contractor everything they have ever wanted, along with the ease of operation that has made its predecessor, the Mk5, so successful. One of the main features of EAGLE is that the ZYNX can communicate directly to the EAGLE. The EAGLE plugs directly into ZYNX and acts as a switch box. ZYNX adds the next dimension with Visual Guidance, Auto-Section Control (ASC) and Auto Steering. By using the DGPS signal to switch the sections on and off automatically, the farmer has the best of both worlds, whilst letting the Auto Steering take the worry away.

Whilst the EAGLE is a stand alone controller, the ability for it to connect directly to ZYNX allows the farmer and contractor versatility within their operation. By allowing the ZYNX to be transferred to another machine, the sprayer is still able to be operated as a stand alone controller.

Personal Notes

Personal Notes

1.0 MENU OVERVIEW

1.1 TO MOVE THE FOCUS AROUND THE SCREEN

- The buttons along the left hand side (LINE 1, LINE 2, LINE 3 AND LINE 4) of the screen are aligned with a row on the screen
- Pressing a left hand button will take you to the first focus square on that row
- If there is no text on a row you will not be able to set the focus to that row
- If a value is uneditable (ie a title or display value) you may not be able to set the focus to that state.
- To move between focus states on a single row, press the corresponding left hand arrow key repeatedly. The focus will toggle between available fields on the row

1.2 TO ENTER THE MENU FROM THE WORKING SCREEN

- Ensure the master switch is in the off (hold) position
- Press the menu button
- You will be taken to the main menu screen

1.3 TO RETURN TO THE WORKING SCREEN

- Ensure that you are not editing a value (if you are editing a value an asterisk (*) will be shown in the box the focus is set to)
- Press the MENU key
- You will be returned to the previous menu screen

1.4 TO ENTER A MENU SCREEN

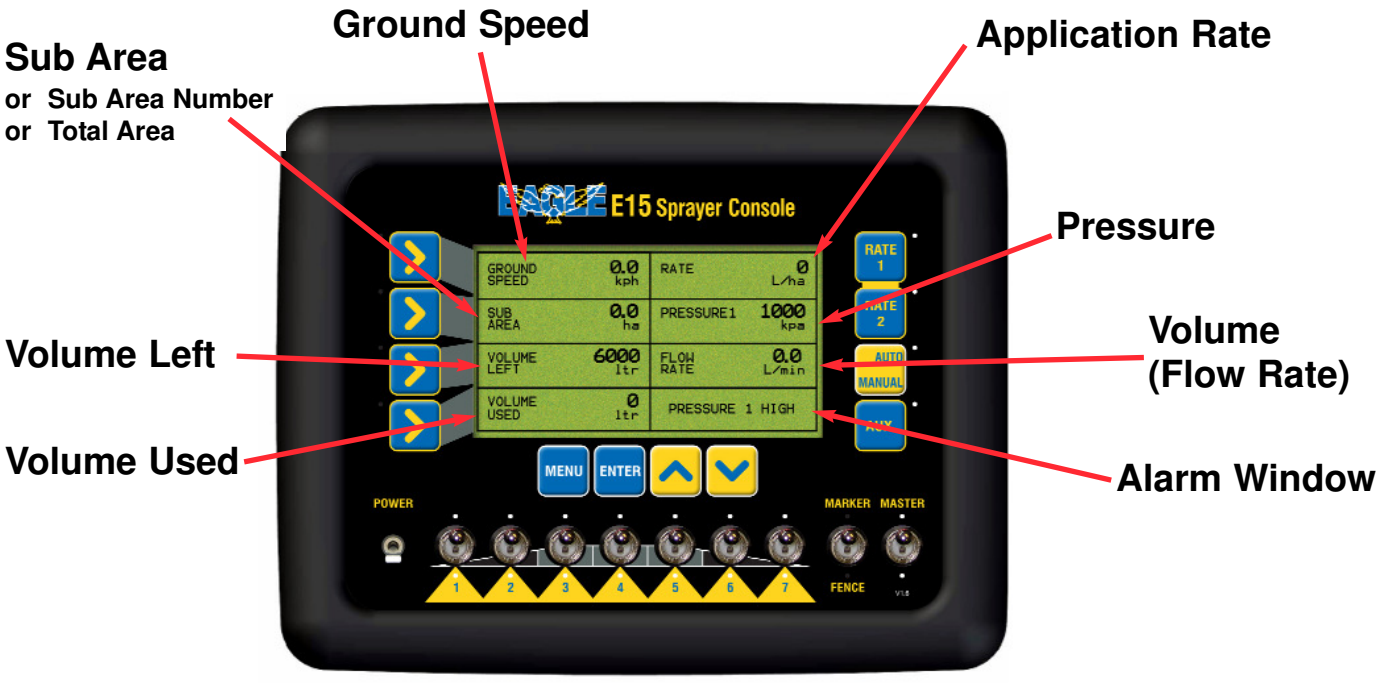
- Set the focus to the field displaying the menu you wish to enter
- Press the enter key
- You will be taken to the corresponding menu

1.5 TO EDIT A VALUE

- Set the focus to the field displaying the value you wish to edit
- Press the enter key. An asterisk (*) will appear in the field you are editing
- Use the up down arrow keys to adjust the value
- Press the enter key to accept the changed value. The asterisk (*) will disappear

2.0 CONSOLE OVERVIEW

2.1 WORKING SCREEN DISPLAY



Working Screen

The above "Working Screen" is what is displayed when the console is first switched ON.
The "Working Screen" is the screen displayed when spraying.
Below is a brief description of what is displayed in each window. The functions listed below are the default settings, for each window.
Some windows can display more than one function, these are explained on the next page.

Ground Speed- Displays the 'live' ground speed from the wheel sensor on the sprayer.

Rate- Displays the 'live' spray rate.

Sub Area- Displays area covered for the active sub area.
The Sub Area window can be selected to display the "Sub Area Number" and "Total Area".

Pressure1- Displays the 'live' pressure of the system as read by the 1st 'pressure transducer sensor'.

Volume Left-Displays the volume left in the spray tank.

Flow rate-Displays the 'live' flow rate in units/minute

Volume Used-Displays the volume used.

Alarm Window-Displays all alarms, actions or warnings in this window.

Below will show all the functions that can be displayed in each window. Most of the functions will have to be enabled in either the "Controller Setup" or the "Sprayer Setup" before the functions can be displayed in the windows. The first function listed is the default function displayed on the screen. See Operation of Sprayer (Section 7.0) on how to access these functions.

Sub Area Window-

1. Sub Area- Displays area covered for the active sub area.
2. Sub Area Number- Displays the active Sub Area number.
3. Total Area- Displays the total area accumulated by the sprayer since the last reset.

Pressure1 Window-

1. Pressure 1- Displays the 'live pressure from the 1st 'Pressure Transducer Sensor'
2. Pressure 2- Displays the 'live pressure from the 2nd 'Pressure Transducer Sensor'
See Section 5.12 to enable, if 2nd Pressure sensor is fitted.

Volume Left Window-

1. Volume Left- Displays the amount of product left in the tank.
2. Left Fence Jet- Displays the status ON or OFF of the Left Fence Jet.
See Section 3.12.1 to enable, Fence Jets if fitted.

3. Flush- Displays the status of the Flush function whether OFF or ON; if ON displays the countdown in seconds of the time left for the flush function to finish flushing out the boomspray. See Section 3.12.2 to enable Flush function if fitted.
4. Increase Pressure2- When "Increase Pressure2" is displayed in this window and the LINE 3 button is pressed this will increase the pressure manually, for example an Air Assisted Sprayer system. See Section 5.12 to enable, if fitted.

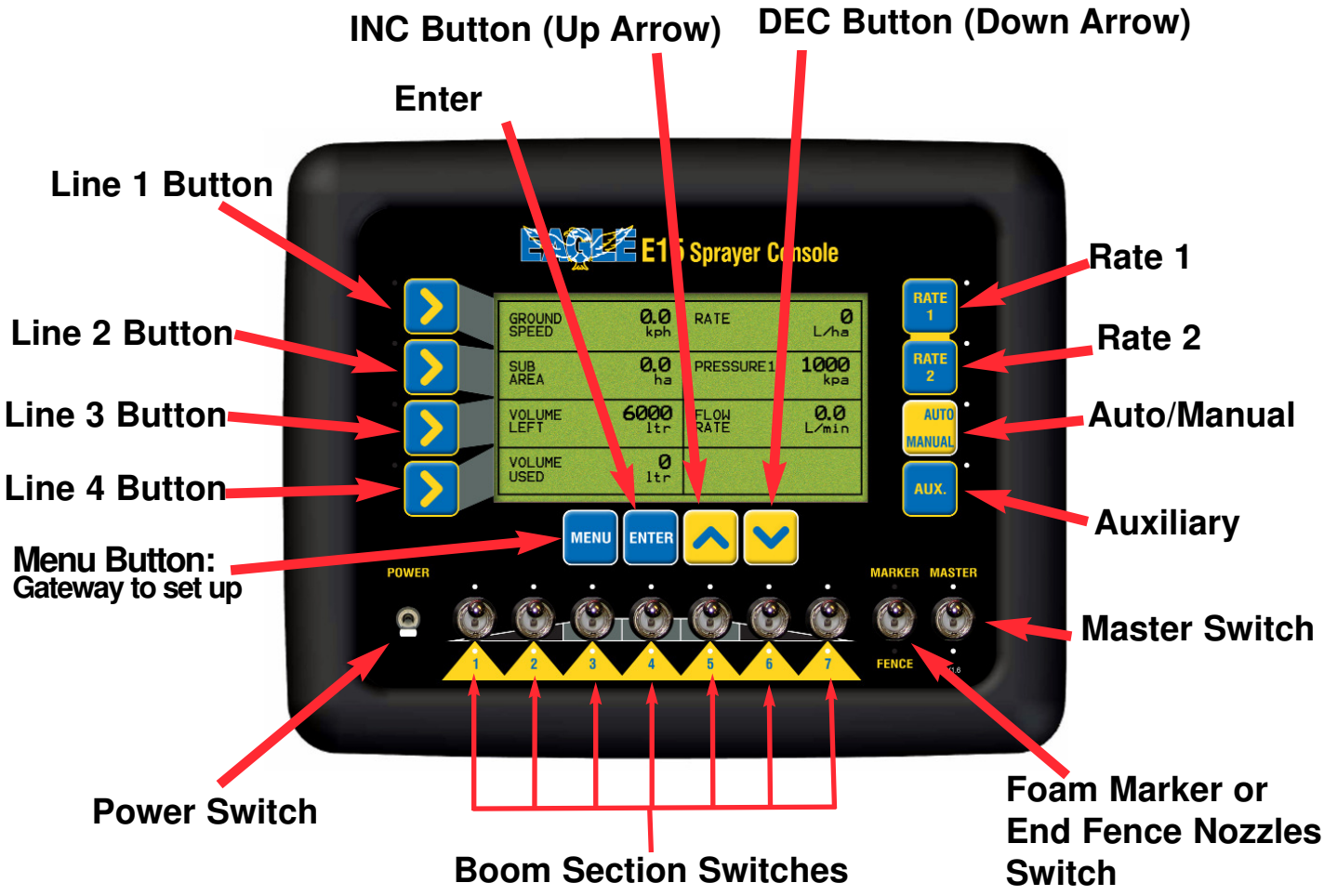
Flow Rate Window-

1. Flow Rate- Displays the 'live' Flow rate in volume/minute.
2. Pump Speed- Displays the actual speed (in RPM) of any shaft the sensor is fitted to. Example would be a PTO input shaft. See Section 5.10 to enable, if fitted.
3. Aux Shaft Speed- Displays the actual speed (in RPM) of any shaft the sensor is fitted to. Example: a shaft sensor was fitted to a Fan to monitor Fan Speed, for an Air Assisted sprayer. See Section 5.11 to enable, if fitted.

Volume Used Window-

1. Volume Used- Displays the amount of product metered out since the last reset.
2. Right Fence Jet- Displays the status ON or OFF of the Right Fence Jet.
See Section 3.12.1 to enable Fence Jets if fitted.
3. Auxiliary- Displays the status of the Auxiliary switch, whether OFF or ON. Enable this function for example, if Working Lights are fitted to the sprayer loom. See Section 3.12.2 to enable, if fitted.
4. Decrease Pressure2- When "Decrease Pressure2" is displayed in this window and the LINE 4 button is pressed this will decrease the pressure manually, for example an Air Assisted Sprayer system. See Section 5.12 to enable, if fitted.

2.2 WORKING SCREEN BUTTON FUNCTIONS



Power Switch

The Eagle console is switched ON and OFF by this switch on the front panel. By default down is ON.

Master Switch

The MASTER switch turns all sections selected for operation, ON or OFF. By default down is ON

LED

Light Emitting Diode (LED). The LED's aligned above (front boom) the section switches and below (back boom) the section switches indicate the status of the sections.
The LED's for the MASTER switch indicates the status of the switch ON or OFF.
The LED's near the RATE 1 and RATE 2 button indicate which preset spraying RATE has been selected.
The LED's near the AUTO/MANUAL button indicates the status whether in AUTO (LED light is ON) or MANUAL (LED light is OFF).
The LED's near the AUX button indicates whether the Auxiliary functions are being used or not.

Boom Section Switches

1. These switches turn individual Sections ON or OFF. By default down is ON
2. The red LED's aligned above the switch indicates the status of the Front Boom.
3. The red LED's aligned below the switch indicates the status of the Back Boom.
4. The red LED's aligned with each section switch, indicates the status of each Section
When the LED light is:

- OFF- The Section switch for that section is switched OFF, temporarily
- Flashing- The Section switch is switched ON but not spraying. Master is OFF or ground speed is below the LOW SPEED CUT-OFF value.
- On- The Section switch is switched ON, MASTER is ON and nozzles are spraying at the calibrated spraying rate which is displayed 'live' in the 'Application Rate' window.

Note: The boom section LED's will only turn on for the number of sections set in the Sprayer Setup Menu. If the sprayer has been setup for 5 boom sections, then only boom sections LED's 1 to 5 will turn on, when the boom sections are switched ON. The led's for sections 6 and 7 will not come on whether the actual switches are switched ON or OFF.

MARKER/FENCE SWITCH

1.Toggle the switch to the left will switch the left foam marker ON.
2. Toggle the switch to centre will switch foam marker OFF.
3. Toggle the switch to the right will switch the right foam marker ON.
The same switch can also be used for Left and Right Fence Jets if no foam marker is fitted. Connect the End Jet solenoids to the F/F Sprayer Loom marked, "Marker L/R" to use this switch.

RATE 1 BUTTON

Sets the application rate to the normal programmed rate when in AUTO.
When LED near RATE 1 button is:
1. Flashing- RATE 1 is selected but MASTER switched OFF or spraying in MANUAL.
2. ON- RATE 1 is selected and spraying to the set rate in AUTOMATIC.

RATE 2 BUTTON

Sets the application rate to a second alternative rate, selectable any time in AUTO.
When LED near RATE 2 button is:
1. Flashing- RATE 2 is selected but MASTER switched OFF or spraying in MANUAL.
2. ON- RATE 2 is selected and spraying to the set rate in AUTOMATIC.

AUTO/MANUAL

1. Press AUTO/MANUAL button to select between AUTO or MANUAL.
2. When the sprayer is operating in MANUAL the LED near the button will be OFF.
3. When the sprayer is operating in AUTO the LED near the button will be ON.

2.3 MAIN MENU

- Press MENU. To enter the MENU MENU screen
  To enter the MENU screens ensure the MASTER switch is in the OFF position.
  Note: All procedures assume the operator is starting from the "Working Screen".

- To advance to the SETUP MENU see Section 2.5
- To advance to the OPERATING HISTORY see Section 6.0

Operations Menu Screen

2.4 SETUP MENU

- Press MENU. *To enter OPERATIONS MENU screen*
- Press ENTER. *To enter SETUP MENU screen*

- To advance to the SPRAYER SETUP MENU see Section 3.0
- To advance to the ALARMS SETUP MENU see Section 4.0
- To advance to the CONTROLLER SETUP MENU see Section 5.0

Setup Menu Screen

3.0 SPRAYER SETUP MENU

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP

Sprayer Setup Screen

3.1 SET THE PRESET RATE 1

Note: This sets the "Main Target" Rate for the sprayer, and activated by the RATE 1 button on the console.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP. *The focus window will be on* TARGET RATE
- Press RATE 1 button. *The LED next to the RATE 1 button will light up. The current TARGET RATE 1 will de diplayed in the window.*
- Press ENTER to edit TARGET RATE 1. *An asterisk (*) should appear after "TARGET RATE (1)"*
- Use Inc/Dec (Up and down arrows) to set the TARGET RATE 1
- Press ENTER to accept the changes

3.2 SET THE PRESET RATE 2

Note: This sets the "2nd Target" Rate for the sprayer, and activated by the RATE 2 button on the console.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP. *The focus window will be on* TARGET RATE
- Press RATE 2 button. *The LED next to the RATE 2 button will light up. The current TARGET RATE 2 will de diplayed in the window.*
- Press ENTER to edit TARGET RATE 2. *An asterisk(*) should appear after "TARGET RATE (1)"*
- Use INC/DEC buttons to set the TARGET RATE 2
- Press ENTER to accept the changes

3.3. MINIMUM FLOW HOLD VALUE

3.3.1 SET THE MINIMUM FLOW HOLD VALUE

NOTE: To switch the MINIMUM FLOW HOLD alarm ON or OFF, go to Section 4.1.1
If this feature is not required, then set the MINIMUM FLOW (1) to '0'

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 1 button to move the focus to MINIMUM FLOW (1) *The current value is displayed in the window.*
- Press ENTER the screen will advance to the FRONT LINE NOZZLES screen
- Press ENTER. *An asterisk (*) will be displayed after MINIMUM*
- Press INC/DEC buttons, to set the MINIMUM FLOW (1) value.

Note: The value to be entered is the ("Minimum Flow" value of the nozzles used on the front boom as determined from a nozzle chart X total number of nozzles on the boom).

- Press ENTER to accept changes

See Section 3.3.2 to set number of nozzles for each section.

Front Line Nozzles screen

3.3.2 SET THE NUMBER OF NOZZLES FOR EACH BOOM SECTION

• Write down the number of nozzles on each section on the FRONTLINE of the boomspray, with section 1 being on the left hand side of the boomspray. If your boomspray has 5 sections then there will be 5 sections displayed on the screen to enable the number of nozzles for each of the 5 sections to be entered. If the boomspray has 7 sections then 7 sections will be displayed on the screen. As the number of nozzles are being entered then the TOTAL NOZZLES will tally the total number of nozzles on the frontline of the boomspray, displayed on the top right hand of the screen.

The number of nozzles are entered for each section, so when a section is switched OFF, then the "Minimum Flow" is recalculated for the sections still spraying. Otherwise the MINIMUM FLOW (1) alarm would alarm everytime a section (or sections) was switched OFF.

- Press LINE 3 until focus is on NOZZLES, for section 1.
- Press ENTER. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to enter in the number of nozzles for section 1
- Press ENTER to accept changes
- Press LINE 3 once so the focus is on NOZZLES for section 2
- Press ENTER. *An asterisk(*) will be displayed.*
- Press INC/DEC buttons, to enter in the number of nozzles for section 2
- Press ENTER to accept changes
- Repeat the above procedure and enter the number of nozzles for the remaining sections.

NOTE: To enter in the number of nozzles for Sections 5,6 and 7, press LINE 4 to move the focus window so the number of nozzles for those sections can be entered.

3.4 SET THE PRESET WIDTH and SECTION WIDTHS

Note: This sets the Section widths of each boom section

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 2 when the focus is on PRESET WIDTH. *This window shows the current width of the boom.*
- Press ENTER to advance to the next screen (Section Widths Setup), as shown below.to be able to change the widths of each section

Section Widths Setup Screen

•Press the LINE 3 button to change Sections 1 through to 4. *To move the focus window to the section width that requires changing., keep pressing the LINE 3 button.*

•Press the LINE 4 button to change Sections 5 through to 7. *To move the focus window to the section width that requires changing., keep pressing the LINE 4 button.To set the number of boom sections see Section 3.13. If there are only 5 sections selected in Section 3.13 then only 5 boom sections will appear on this screen.*

- Press ENTER to edit the section width. *An asterisk (*) will appear.*
- Use the INC/DEC buttons to change the section width. *As the section is changed the TOTAL WIDTH value will change accordingly*
- Press ENTER to accept the changes
- Press repeatedly LINE 3 or LINE 4 buttons to move the focus window to the next section that requires setting.
- *Repeat the process for as many section widths that need changing.*
- Press MENU to go back to the previous Spray Setup Screen.

3.5 SET THE LOW SPEED SHUTOFF

Note: This sets the LOW SPEED SHUTOFF value, so when the boomspray slows down below this value , the boom spray will turn all sections OFF, and the sections will stay on HOLD, till the boomspray increases speed above the LOW SPEED SHUTOFF value.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 2 button until the focus is on LOW SPEED SHUTOFF
- Press ENTER. *An asterisk (*) will appear after SPEED*
- Use the INC/DEC buttons to change the LOW SPEED SHUTOFF value
- Press ENTER to accept the changes

3.6 SET THE TANK VOLUME

Note: This sets the size of the boomspray tank.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 so the focus is on TANK VOLUME (1)
- Press ENTER. *An asterisk (*) will appear after* TANK
- Use the INC/DEC buttons to change the tank volume. *Volume changes in 50 litres increments.*
- Press ENTER to accept the changes

3.7 ENABLE DUAL BOOM ON or OFF

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- *If the boomspray is a single line boom then the value should be OFF, and there is no further setup required for the DUAL BOOM option*
- Press ENTER,*if the boom spray is a DUAL BOOM; to advance to the next screen, the DUAL BOOM SETUP SCREEN. Refer to* ***Section 8*** *to continue setting up the dual boom.*

3.8 SET THE WHEEL CALIBRATION FACTOR

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 4 until the focus window is on SPEED CAL. *The focus window displays the current SPEED CAL factor*
- Press ENTER. *Screen will change to SPEED CAL SETUP screen. Go to Section 3.8.1 for Automatic Speed Calibration; or Section 3.8.2 for Manual Speed Calibration Entry*

Speed Cal Screen

3.8.1 AUTOMATIC WHEEL CALIBRATION

- Press ENTER to begin wheel factor calculation. An asterisk (*) will appear next to PULSES
- Drive forwards a set distance, say 100m. *The pulse count will begin accumulating as you travel forwards*
- Once distance is reached, press ENTER. *Focus will automatically jump to DISTANCE line of the screen. Measure the distance travelled with a tape measure.*
- Use INC/DEC buttons to change the distance travelled, to reflect the actual distance as measured with tape measure
- Press ENTER to accept the value. *Wheel factor will be automatically calculated and displayed, as "metres per pulse" (m/pulse) on LINE 3. Pressing reset during calibration will abort the calibration process.*

3.8.2 MANUAL ENTRY OFF WHEEL FACTOR

- Press LINE 3 until the focus is on SPEED CAL
- Press ENTER to edit the value. An asterisk (*) will appear next to SPEED.
- Use INC/DEC buttons to change the wheel factor. *Wheel factor changes in 1cm increments*
- Press ENTER to accept the value
- Press MENU to go back to previous Sprayer Setup Screen

3.9 SET THE FLOW CALIBRATION FACTOR

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 4 twice until the focus is on FLOW CAL (1). *The focus window will display the current FLOW CAL factor in pulses/L*
- Press ENTER. *Screen will advance to FLOW CAL SETUP screen. Go to Section 3.9.1 to continue setup using Automatic Flow Calibration method* ***or*** *go to Section 3.9.2 to manually enter the Flow Calibration which is located on the Flow Meter on the sprayer. The number located on the Flow Meter must be in "pulses per litre" (ppl), for the number to entered in manually.*

Flow Cal Screen

3.9.1 AUTOMATIC FLOW CALIBRATION

- Fully prime the flow sensor and hose
- Disconnect one of the section lines from the spray manifold
- Place a bucket under the output of the section valve
- Ensure the relevant boom section switch is toggled ON, on the console.
- Press ENTER to begin flow factor calculation
- The valve will open and fluid will begin to pump through the manifold. *The pulse count will begin accumulating as you meter out liquid*
- Once a sufficient volume has accumulated(20 litres is a good amount), press ENTER, this will automatically turn off the section valve. *Focus will automatically jump to ACTUAL FLOW line of the screen*
- Use INC/DEC buttons to change the volume, to reflect the actual volume collected in the bucket
- Press ENTER to accept the value. *Flow cal factor will be automatically calculated and displayed.*

Pressing reset during calibration will abort the calibration process

3.9.2 MANUAL FLOW CALIBRATION

If the Flow Meter as a Flow Cal value stamped on the flow meter then that value can be entered in here. The value must in "pulses per litre" (PPL).

- Press LINE 3 until the focus is on FLOW CAL(1)
- Press ENTER to edit the value
- Press INC/DEC buttons to change the FLOW CAL factor
- Press ENTER to accept the value

Note: Press MENU to get back to the previous Sprayer Setup Screen once the calibration is finished.

3.10 SPRAYER SETUP 2 MENU

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen

Sprayer Setup 2 Screen

3.11 SET A MANUAL SPEED

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen advances to SPRAYER SETUP 2
- Press LINE 1 until focus is on MANUAL SPEED
- Press ENTER, *An asterisk (*) will appear after MANUAL*
- Press INC/DEC buttons to set the manual speed. *A value of OFF and number between 1 kph and 40kph can be set.*
- Press ENTER, to accept changes

  Note: the manual speed will not be able to be set if there is a valid speed source present, this can only be done whilst the vehicle is stationary. As soon as a valid speed is present this will override the manual speed. This value is not saved in memory, if the unit is turned off this value will need to be re-entered

3.12 SET RATE INCREMENT

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen advances to SPRAYER SETUP 2
- Press LINE 1 until the focus is on RATE INCREMENT
- Press ENTER. *An asterisk (*) will appear after RATE*
- Press INC/DEC buttons, to set RATE INCREMENT value.
  Rate increment values changes in 1 L/ha increments.
- Press ENTER to accept the changes

3.13 SET NUMBER OF BOOM SECTIONS

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen advances to SPRAYER SETUP 2
- Press LINE 2, until the focus is on BOOM SECTIONS. *The focus window displays the number of sections currently selected.*
- Press ENTER to set the number of BOOM SECTIONS. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to select between 1 and 7 BOOM SECTIONS
- Press ENTER to accept the changes

3.14 SET NUMBER OF TANKS

Note: The number of TANKS should only be set to '2' only if all the conditions below are met:

1- The Dual Tank Board modification has been done.
2- The Fully Featured Loom has been fitted to the sprayer.
3- A second tank is fitted to the sprayer.

Otherwise the number of TANKS should be set to '1'.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen advances to SPRAYER SETUP 2
- Press LINE 2, until the focus is on NO OF TANKS*The focus window displays the number of TANKS currently selected.*
- Press ENTER to set the number of TANKS. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to select between 1 or 2 TANKS
- Press ENTER to accept the changes

3.15 ENABLE FENCE JETS

Note: Enable Fence Jets to ON if the Fence Jets are connected to the plugs marked "Fence Left" and "Fence Right" on the F/F Valve loom.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen advances to SPRAYER SETUP 2
- Press LINE 3 until focus is on FENCE JETS
- Press ENTER. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to switch the FENCE JETS, ON or OFF.
- Press ENTER to accept changes.

3.16 ENABLE FLUSH AND AUXILIARY OUTPUTS

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen changes to SPRAYER SETUP 2
- Press LINE 4. The focus will be on FLUSH AND AUXILIARY
- Press ENTER. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to select both FLUSH AND AUXILIARY OUTPUTS, ON or OFF. *When the FLUSH AND AUXILIARY OUTPUTS are switched ON, this enables two relays within the console. The FLUSH function enables the operator to flush the spray boom out with clean water. Connect the solenoid on the Flush Line to the plug marked "Flush" on the F/F "Sprayer Loom".When the FLUSH function is toggled ON, then a FLUSH TIME is enabled, on LINE 4 in the right column and a FLUSH TIME value is able to be entered.*

The AUXILIARY function enables the operator to connect a set of lights to the AUXILIARY plug on the wiring loom and turn them the lights ON or OFF from the console.

- Press ENTER to accept changes

3.17 SET FLUSH TIME

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen advances to the SPRAYER SETUP 2 screen
- Press LINE 4. The focus will be on FLUSH AND AUXILIARY
- Press ENTER. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to switch both FLUSH AND AUXILIARY OUTPUTS, ON. *It must be switched ON to allow a FLUSH TIME value to be entered*
- Press LINE 4, to put the focus on FLUSH TIME
- Press ENTER to edit the value. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to set the FLUSH TIME, values can be set between 10 and 60seconds, increments in 5 second steps.
- Press ENTER to accept changes

3.18 SPRAYER SETUP 3 MENU

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen
- Press the DEC button to advance to the SPRAYER SETUP 3 screen

Sprayer Setup 3 Screen

3.19 ENABLE PRESSURE2 SENSOR

Note: Select ON if a second pressure transducer is fitted to the plug marked "PRESSURE SENSOR2" on the Sprayer Loom.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen
- Press the DEC button to advance to the SPRAYER SETUP 3 screen
- Press LINE 1, to highlight PRESSURE2 SENSOR
- Press ENTER to edit the PRESSURE2 SENSOR.
- Press INC/DEC buttons, enable the PRESSURE2 SENSOR ON or OFF
- Press ENTER to accept changes

3.20 SETTING THE TYPE OF PRESSURE SENSOR (1)

Note: PRESSURE SENSOR (1) is sets the type of pressure sensor connected to the plug marked "PRESSURE SENSOR 1" on the "Sprayer Loom"
The default is 5 BAR. Most sprayers will use this setting.
10 BAR Pressure Sensors is only used for special purposes like "Air Blast" sprayers

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen
- Press the DEC button to advance to the SPRAYER SETUP 3 screen
- Press LINE 4, to highlight PRESSURE SENSOR (1)
- Press ENTER to edit the PRESSURE SENSOR (1)
- Press INC/DEC buttons, select between 5BAR or 10BAR
- Press ENTER to accept changes

3.21 SETTING THE TYPE OF PRESSURE SENSOR (2)

Note: PRESSURE GAIN (2) is setting the type of pressure sensor connected to the plug marked "PRESSURE SENSOR 2" on the "Sprayer Loom"
The default is 5 BAR. Most sprayers will use this setting.
10 BAR Pressure Sensors is only used for special purposes like "Air Blast" sprayers

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen
- Press the DEC button to advance to the SPRAYER SETUP 3 screen
- Press LINE 4, to highlight PRESSURE SENSOR (2)
- Press ENTER to edit the PRESSURE SENSOR (2)
- Press INC/DEC buttons, select between 5BAR or 10BAR
- Press ENTER to accept changes

Pressure Cal Screen

3.22 PRESSURE SENSOR 1 CALIBRATION

Note: A "Glass Pressure Gauge" should be connected as close to the electronic pressure sensor as possible. The "Glass Gauge" will give the actual pressure, so the electronic pressure transducer can be calibrated.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen changes to SPRAYER SETUP 2
- Press LINE 2 twice until focus is on PRESS 1 CAL
- Press ENTER,*screen will change to Pressure Cal Screen. Focus window is on TURN PUMP OFF.*
- *Turn pump OFF.*
- Press ENTER.*The focus window will move to the next window IS PUMP OFF? then Press ENTER. at this point the Eagle console is taking a zero point for the electronic pressure sensor while the pump is turned off*
- Turn the pump on the boomspray ON, and take the pump up to operating pressure, once at operating pressure.
- Press ENTER the focus window will move to IS PUMP AT OPERATING PRESSURE,
  reminding the operator to have the pump at operating pressure.
- Press ENTER again to move the focus window to ACTUAL PRESSURE.
- Press ENTER to edit the ACTUAL PRESSURE. *An asterisk (*) will appear.*
- Press the INC/DEC buttons, till the actual pressure as read by the "Glass Pressure Gauge" is reflected in ACTUAL PRESSURE" window.
- Press ENTER to accept changes

3.23 PRESSURE SENSOR 2 CALIBRATION

NOTE: PRESS 2 CAL will only appear if the PRESSURE 2 SENSOR has been selected ON in the CONTROLLER SETUP 2 ,see Section 3.19, to set to ON. The PRESS 2 CAL test is exactly the same procedure as the PRESS 1 CAL test.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec (down arrow), the screen changes to SPRAYER SETUP 2
- Press LINE 2 three times until focus is on PRESS 2 CAL
- Press ENTER,*screen will change to Pressure Cal Screen. Focus window is on TURN PUMP OFF.*
- *Turn pump OFF.*
- Press ENTER.*The focus window will move to the next window IS PUMP OFF? then Press ENTER. at this point the Eagle console is taking a zero point for the electronic pressure sensor while the pump is turned off*
- *Turn the pump on the boomspray ON, and take the pump up to operating pressure, once at operating pressure.*
- Press ENTER the focus window will move to IS PUMP AT OPERATING PRESSURE, reminding the operator to have the pump at operating pressure.
- Press ENTER again to move the focus window to ACTUAL PRESSURE.
- Press ENTER to edit the ACTUAL PRESSURE. *An asterisk (*) will appear.*
- Press the INC/DEC buttons, till the actual pressure as read by the "Glass Pressure Gauge" is reflected in ACTUAL PRESSURE" window.
- Press ENTER to accept changes

3.24 SETTING THE PRESSURE GAIN (1)

Note: PRESSURE GAIN (1) is setting the gain for the pressure sensor connected to the plug marked "PRESSURE SENSOR 1" on the "Sprayer Loom". The default is "x1"; the setting"x2" is for future developments.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen
- Press the DEC button to advance to the SPRAYER SETUP 3 screen
- Press LINE 3, to highlight PRESSURE GAIN (1)
- Press ENTER to edit the PRESSURE GAIN (1)
- Press INC/DEC buttons, select between 1x or 2x
- Press ENTER to accept changes

3.25 SETTING THE PRESSURERE GAIN (2)

Note: PRESSURE GAIN (2) is setting the gain for the pressure sensor connected to the plug marked "PRESSURE SENSOR 2" on the "Sprayer Loom". The default is "x1"; the setting"x2" is for future developments.

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press the DEC button to advance to the SPRAYER SETUP 2 screen
- Press the DEC button to advance to the SPRAYER SETUP 3 screen
- Press LINE 3, to highlight PRESSURE GAIN (2)
- Press ENTER to edit the PRESSURE GAIN (2)
- Press INC/DEC buttons, select between 1x or 2x
- Press ENTER to accept changes

4. ALARMS SETUP MENU

Alarms Menu Setup

4.1 RATE ALARMS

4.1.1 ENABLE THE MINIMUM FLOW ALARM

NOTE: To set the MINIMUM FLOW value, see Section 3.3.

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press ENTER to select RATE ALARMS
- Press ENTER to select MIN FLOW ALARM. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm ON or OFF
- Press ENTER to accept the changes

4.1.2 ENABLE THE APPLICATION RATE LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press ENTER to select RATE ALARMS
- Press LINE 2, the focus is on RATE LOW ALARM
- Press ENTER to select RATE LOW ALARM. *An asterisk(*) will be displayed*
- Press INC/DEC buttons, to set the alarm ON or OFF
- Press ENTER to accept the changes

4.1.3 SET THE APPLICATION RATE LOW ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press ENTER to select RATE ALARMS
- If alarm is off, turn the alarm on as previously explained in Section 4.1.2
- Press LINE 2 twice to move the focus to ALARM POINT
- Press ENTER to edit the value. *An asterisk(*) will be displayed*
- Press INC/DEC buttons, to set the ALARM POINT
- Press ENTER to accept the changes.

4.1.4 ENABLE THE APPLICATION RATE HIGH ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press ENTER to select RATE ALARMS
- Press LINE 3, the focus is on RATE LOW ALARM
- Press ENTER to select RATE HIGH. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm ON or OFF
- Press ENTER to accept the changes

4.1.5 SET THE APPLICATION RATE HIGH ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press ENTER to select RATE ALARMS
- If alarm is off, turn the alarm on as previously explained in Section 4.1.4
- Press LINE 3 twice to move the focus to ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to set the ALARM POINT
- Press ENTER to accept the changes

4.2 SHAFT ALARMS

Shaft Alarms Screen

NOTE: For the PUMP LOW SPEED and PUMP HIGH SPEED ALARMS to be enabled on the SHAFT ALARMS screen, the PUMP SPEED SENSOR has to be set to ON. See Section 5.10 to enable the PUMP SPEED SENSOR ON or OFF

4.2.1 ENABLE THE PUMP SPEED LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- Press ENTER to edit PUMP SPEED LOW. *An asterisk(*) will be displayed*
- Press INC/DEC buttons, to set the alarm ON or OFF
- Press ENTER to accept the changes

4.2.2 SET THE PUMP SPEED LOW ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS

  If alarm is off, turn the alarm ON, see Section 4.2.1
- Press LINE 1 until the focus is on the ALARM POINT
- Press ENTER to edit the value. *An asterisk(*) will be displayed*
- Use INC/DEC buttons, to set the alarm point in 50rpm increments
- Press ENTER to accept the changes

4.2.3 ENABLE THE PUMP SPEED HIGH ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- Press LINE 2, the focus is on PUMP SPEED HIGH
- Press ENTER to edit PUMP SPEED HIGH. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to switch the alarm ON or OFF
- Press ENTER to accept the changes

4.2.4 SET THE PUMP SPEED HIGH ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- If alarm is off, turn the alarm ON, see Section 4.2.3
- Press LINE 2 until the focus is on the ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point in 50rpm increments
- Press ENTER to accept the changes

4.2.5 ENABLE THE AUX SHAFT LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- Press LINE 3, the focus is on AUX SHAFT LOW
- Press ENTER to edit AUX SHAFT LOW. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to switch the alarm ON or OFF
- Press ENTER to accept the changes

NOTE: For the AUX SHAFT LOW and AUX SHAFT HIGH ALARMS to be enabled on the SHAFT ALARMS screen, the AUX SHAFT SENSOR has to be toggled ON. See Section 5.12 to toggle the AUX SHAFT SENSOR ON or OFF

4.2.6 SET THE AUX SHAFT LOW ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- If alarm is off, turn the alarm ON, see Section 4.2.5
- Press LINE 3 until the focus is on the ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point in 50rpm increments
- Press ENTER to accept the changes

4.2.7 ENABLE THE AUX SHAFT HIGH ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- Press LINE 4, the focus is on AUX SHAFT HIGH
- Press ENTER to edit AUX SHAFT HIGH. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to enable the alarm ON or OFF
- Press ENTER to accept the changes

4.2.8 SET THE AUX SHAFT HIGH ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 2, the focus is on SHAFT ALARMS
- Press ENTER to select SHAFT ALARMS
- If alarm is off, turn the alarm ON, see Section 4.2.7
- Press LINE 4 until the focus is on the ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point in 50rpm increments
- Press ENTER to accept the changes

4.3 SPEED ALARMS

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 3, the focus is on SPEED ALARMS
- Press ENTER to select SPEED ALARMS

Speed Alarms Screen

4.3.1 ENABLE THE SPEED LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 3, the focus is on SPEED ALARMS
- Press ENTER to select SPEED ALARMS
- Press ENTER to edit SPEED LOW. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm ON or OFF
- Press ENTER to accept the changes

4.3.2 SET THE SPEED LOW ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 3 the focus is on SPEED ALARMS
- Press ENTER to select SPEED ALARMS
- Press LINE 1, until focus is on ALARM POINT
- *If alarm is off, turn the alarm on. See Section 4.3.1*
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point
- Press ENTER to accept the changes

4.3.3 ENABLE THE SPEED HIGH ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 3, the focus is on SPEED ALARMS
- Press ENTER to select SPEED ALARMS
- Press LINE 2, the focus is on SPEED HIGH
- Press ENTER to edit SPEED HIGH. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm ON or OFF
- Press ENTER to accept the changes

4.3.4 SET THE SPEED HIGH POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 3, the focus is on SPEED ALARMS
- Press ENTER to select SPEED ALARMS
- If alarm is off, turn the alarm on. See Section 4.3.3
- Press LINE 2, until focus is on ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point
- Press ENTER to accept the changes

4.4 TANK ALARMS

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 4, the focus is on TANK ALARMS
- Press ENTER to select TANK ALARMS

Tank Alarms Screen

4.4.1 ENABLE THE VOLUME LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 4, the focus is on TANK ALARMS
- Press ENTER to select TANK ALARMS
- Press ENTER to edit VOLUME LOW (1). *An asterisk (*) will be displayed*
- Press INC/DEC buttons to set the alarm ON or OFF
- Press ENTER to accept the changes

4.4.2 SET THE VOLUME LOW POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 4, the focus is on TANK ALARMS
- Press ENTER to select TANK ALARMS
- If alarm is off, turn the alarm on. See Section 4.4.1
- Press LINE 1, to move to the ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point, in 10L increments.
- Press ENTER to accept the changes

4.5 PRESSURE ALARMS

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1,until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS

Pressure Alarms Screen

4.5.1 ENABLE THE PRESSURE 1 LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1,until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- Press ENTER to edit PRESSURE 1 LOW. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to switch the alarm ON or OFF
- Press ENTER to accept the changes

4.5.2 SET THE PRESSURE 1 LOW ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1, until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- Press LINE 1, until focus is on ALARM POINT
- *If alarm is off, turn the alarm on. See Section 4.5.1*
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to set the alarm point in 10kPa increments
- Press ENTER to accept the changes

4.5.3 ENABLE THE PRESSURE 1 HIGH ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1,until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- Press LINE 2, the focus is on PRESSURE 1 HIGH
- Press ENTER to edit PRESSURE 1 HIGH. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to switch the alarm ON or OFF
- Press ENTER to accept the changes

4.5.4 SET THE PRESSURE 1 HIGH ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1, until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- *If alarm is off, turn the alarm on. See Section 4.5.3*
- Press LINE 2, until focus is on ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to set the alarm point in 10kPa increments
- Press ENTER to accept the changes

NOTE: For the PRESSURE 2 LOW and PRESSURE 2 HIGH ALARMS to be displayed on the PRESSURE ALARMS screen, the PRESSURE 2 SENSOR has to be toggled ON. See Section 511 to set the PRESSURE 2 SENSOR ON or OFF

4.5.5 ENABLE THE PRESSURE 2 LOW ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1,until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- Press LINE 3, the focus is on PRESSURE 2 LOW
- Press ENTER to edit PRESSURE 2 LOW. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to switch the alarm ON or OFF
- Press ENTER to accept the changes

4.5.6 SET THE PRESSURE 2 LOW ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1, until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
  If alarm is off, turn the alarm on. See Section 4.5.5
- Press LINE 3, until focus is on ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to set the alarm point in 10kPa increments
- Press ENTER to accept the changes

4.5.7 ENABLE THE PRESSURE 2 HIGH ALARM

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2 the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1,until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- Press LINE 4, the focus is on PRESSURE 2 HIGH
- Press ENTER to edit PRESSURE 2 HIGH. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to switch the alarm ON or OFF
- Press ENTER to accept the changes

4.5.8 SET THE PRESSURE 2 HIGH ALARM POINT

- Press MENU
- Press ENTER to select SETUP
- Press LINE 2, the focus is on ALARM SETUP
- Press ENTER to select ALARM SETUP
- Press LINE 1, until the focus is on PRESSURE ALARMS
- Press ENTER to select PRESSURE ALARMS
- *If alarm is off, turn the alarm on. See Section 4.5.7*
- Press LINE 4, until focus is on ALARM POINT
- Press ENTER to edit the value. *An asterisk (*) will be displayed*
- Press INC/DEC buttons to set the alarm point in 10kPa increments
- Press ENTER to accept the changes

5. CONTROLLER SETUP MENU

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP

Controller Setup Screen

5.1 SET CONTROL MODE (1)

Note: This setting is selecting the type of regulator valve connected to the plug marked 'REG VALVE 1" on the "Sprayer Loom". When the type of regulator valve is selected, the defaults are automatically set for: "MAX ON TIME(1)", "MIN ON TIME (1)", "GAIN SETTING (1)" and "PWM SETTING"(1). There should be no need to alter these defaults settings unless instructured by a KEE Service Person. If the regulator valve being used is not listed then select "STANDARD".
Standard Types: Arag Type, KEE Type, Hardi type Reg Valves
Raven: Raven Fast Reg. Valves
Micro-Track: Micro-Track Reg. Valves
Dickey-John: Dickey John Reg. Valves

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press ENTER to edit CONTROL MODE. An asterisk (*) will appear.
- Press INC/DEC buttons to select between: STANDARD, RAVEN, DICKEY-J (Dickey-John) and M-TRACK (Mirco-Track)
- Press ENTER to accept the changes

5.2 SET THE MAX ON TIME (1)

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 2, the focus is on MAX ON TIME (1)
- Press ENTER to edit MAX ON TIME (1). *An asterisk (*) will appear.*
- Press INC/DEC buttons to set the value. *Depending on the type of regulator valve selected in Section 5.1, will determine what range of values (mS) are available, there are four values to select from.*
- Press ENTER to accept the changes

5.3 SET THE MIN ON TIME (1)

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 2, till the focus is on MIN ON TIME (1)
- Press ENTER to edit MIN ON TIME (1). *An asterisk (*) will appear.*
- Press INC/DEC buttons to set the value. *Depending on the type of regulator valve selected in Section 5.1, will determine what range of values (mS) are available, there are four values to select from.*
- Press ENTER to accept the changes

5.4 SET THE GAIN SETTING (1)

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 3, the focus is on GAIN SETTING (1)
- Press ENTER to edit GAIN SETTING (1). *An asterisk (*) will appear.*
- Press INC/DEC buttons to set the value. *Depending on the type of regulator valve selected in Section 5.1, will determine what range of values (mS/%) are available, there are four values to select from.*
- Press ENTER to accept the changes

5.5 SET THE PWM SETTING (1)

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 3, the focus is on PWM SETTING (1)
- Press ENTER to edit PWM SETTING (1). *An asterisk (*) will appear.*
- Press INC/DEC buttons to set the value. *Depending on the type of regulator valve selected in Section 5.1, will determine what range of values (%) are available, there are four values to select from.*
- Press ENTER to accept the changes

5.6 SET THE FLOWMETER SENSITIVITY

Note: DeFault is STANDARD

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 3, until the focus is on FLOWMETER SENSITIVITY
- Press ENTER to edit FLOWMETER SENSITIVITY. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to select between STD and LOW
- Press ENTER to accept the changes

5.7 SELECT CLOSE VALVE WHEN OFF (1)

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 4, until the focus is on CLOSE VALVE WHEN OFF (1)
- Press ENTER to edit CLOSE VALVE WHEN OFF (1). *An asterisk (*) will appear.*
- Press INC/DEC buttons to selec between, ON or OFF
- Press ENTER to accept the changes

5.8 TOGGLE THE VALVE REVERSE

Note: The Valve Reverse only has to be selected ON if the Regulator Valve is opening and closing in the wrong direction. Default is OFF.

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 4, until the focus is on VALVE REVERSE (1)
- Press ENTER to edit VALVE REVERSE. *An asterisk (*) will appear.*
- Press INC/DEC switch to switch the VALVE REVERSE, ON or OFF
- Press ENTER to accept the changes

5.9 CONTROLLER SETUP 2 SCREEN

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press Dec button to advance to CONTROLLER SETUP 2 SCREEN

Controller Setup Menu 2

5.10 ENABLE PUMP SPEED SENSOR

- Press MENU
- Press ENTER to advance SETUP screen
- Press LINE 3, to highlight CONTROLLER SETUP
- Press ENTER to advance to the CONTROLLER SETUP screen
- Press Dec button to advance to CONTROLLER SETUP 2 screen
- Press ENTER to edit the PUMP SPEED SENSOR alarm
- Press INC/DEC buttons, to switch alarm ON or OFF
- Press ENTER to accept changes

5.11 SET THE TOGGLE UP ACTIVE

Note: Default is OFF.
When the TOGGLE UP ACTIVE is ON, this means when the boom section and master switches are toggled ***down*** *they are OFF, when the boom section switches are toggled* ***up*** *the sections are ON.*

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 4, until the focus is on TOGGLE UP ACTIVE
- Press ENTER to edit TOGGLE UP ACTIVE. *An asterisk (*) will appear.*
- Press INC/DEC buttons to select between ON or OFF
- Press ENTER to accept the changes

5.12 ENABLE AUXILIARY SHAFT SENSOR

Note: Select ON if a shaft sensor kit is fitted to the plug marked "Auxiliary Sensor Input 2" on the Sprayer Loom.

- Press MENU
- Press ENTER to advance SETUP screen
- Press LINE 3, to highlight CONTROLLER SETUP
- Press ENTER to advance to the CONTROLLER SETUP screen
- Press Dec button to advance to CONTROLLER SETUP 2 screen
- Press LINE 2, to highlight AUX SHAFT SENSOR
- Press ENTER to edit the AUX SHAFT SENSOR alarm
- Press INC/DEC buttons, to switch alarm ON or OFF
- Press ENTER to accept changes

5.13 SET DUMP MODE

Note: If Dump Valve is connected to the plug marked "Dump" on the Sprayer Loom then select STANDARD. If Dump Valve is connected to the plug marked Section 6 on the Valve Loom then select SECT 6.
**NOTE: If SECT 6 is selected , then only "BASIC " SWITCHING METHOD is allowed when setting up for DUAL BOOM.*

- Press MENU
- Press ENTER to advance SETUP screen
- Press LINE 3, to highlight CONTROLLER SETUP
- Press ENTER to advance to the CONTROLLER SETUP screen
- Press Dec button to advance to CONTROLLER SETUP 2 screen
- Press LINE 2, twice to highlight DUMP MODE
- Press ENTER to edit the DUMP MODE
- Press INC/DEC buttons to select between SECT. 6 or STANDARD
- Press ENTER to accept changes

5.14 SET THE VALVE TYPE

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 3, the focus is on VALVE TYPE
- Press ENTER to edit VALVE TYPE. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to select between SOLENOID, 2-WIRE* or 3-WIRE.
- Press ENTER to accept the changes

NOTE: If 2-WIRE valve is selected, then DUAL BOOM switching is not allowed. DUAL BOOM* ***cannot* *be selected ON.*

5.15 SET THE CONSOLE UNITS

Note: Default is METRIC.

- Press MENU
- Press ENTER to select SETUP
- Press LINE 3, the focus is on CONTROLLER SETUP
- Press ENTER to CONTROLLER SETUP
- Press LINE 2, until the focus is on CONSOLE UNITS
- Press ENTER to edit CONSOLE UNITS. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to select between: METRIC, IMP'L(IMPERIAL), U.S.(U.S. IMPERIAL), CAN. IMP(CANADIAN IMPERIAL), or CAN.MET(CANADIAN METRIC)
- Press ENTER to accept the changes

NOTE: When U.S. units are selected then TOGGLE UP ACTIVE is automatically set to ON. See Section 5.11.

6. OPERATING HISTORY

- Press MENU
- Press LINE 2, the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY

Operating History Screen

6.1 TOTALS HISTORY

- Press MENU
- Press LINE 2, the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY

Totals History Screen

6.1.1 RESET THE TOTAL VOLUME

- Press MENU
- Press LINE 2, the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press ENTER to edit TOTAL VOLUME. *An asterisk (*) will appear*
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.2 RESET THE SUB VOLUME

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 1 until the focus is on SUB VOLUME
- Press ENTER to edit SUB VOLUME. *An asterisk (*) will appear*
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.3 RESET THE TOTAL AREA

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 2 the focus is on TOTAL AREA
- Press ENTER to edit TOTAL AREA. *An asterisk (*) will appear*
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.4 RESET THE SUB AREA

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 2 until the focus is on SUB AREA
- Press ENTER to edit SUB AREA
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.5 RESET THE TOTAL DISTANCE

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 3 the focus is on TOTAL DISTANCE
- Press ENTER to edit TOTAL DISTANCE. *An asterisk (*) will appear*
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.6 RESET THE SUB DISTANCE

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 3 until the focus is on SUB DISTANCE
- Press ENTER to edit SUB DISTANCE. *An asterisk (*) will appear*
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.7 RESET THE TOTAL TIME

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 4 the focus is on TOTAL TIME
- Press ENTER to edit TOTAL TIME. *An asterisk (*) will appear*
- Press AUX to clear the stored value
- Press ENTER to accept the changes

6.1.8 CHANGE TO A DIFFERENT SUB AREA

- Press MENU
- Press LINE 2 the focus is on OPERATING HISTORY
- Press ENTER to select OPERATING HISTORY
- Press ENTER to select TOTAL HISTORY
- Press LINE 4 until the focus is on SUB AREA NUMBER
- Press ENTER to change SUB AREA NUMBER. *An asterisk (*) will appear*
- Press Inc/Dec buttons, to change the current sub area. *There are 10 sub-areas,(1-10)*
- Press ENTER to accept the changes

6.2 SHAFT SPEED HISTORY

These values are display values only, they are not editable by the user

Shaft Speed History Screen

6.3 MACHINE HISTORY

These values are display values only, they are not editable by the user

Machine History Screen

7. OPERATIONS: SPRAYER

Working Screen

7.1 OPERATION OF THE SPRAYER

7.1.1. DISPLAY THE VOLUME REMAINING IN THE TANK

- VOLUME LEFT by default is displayed, on Line 3 on the left hand side of the Working Screen. If it isn't displayed then:
- Press the AUX button until VOLUME LEFT AND VOLUME USED are displayed and the red led next to AUX button goes out. *When the red led next to the AUX button is ON then one of the AUXILIARY FUNCTIONS are being displayed on LINE 3 and LINE 4*

7.1.2 DISPLAY THE VOLUME USED

- VOLUME USED by default is displayed, on LINE 4 on the left hand side of the Working Screen. If it isn't displayed then:
- Press the AUX button until VOLUME LEFT AND VOLUME USED are displayed and the red LED next to AUX button goes out. *When the red led next to the AUX button is ON then one of the AUXILIARY FUNCTIONS are being displayed on LINE 3 and LINE 4*

7.1.3 FILL THE TANK

- Press and hold LINE 3 (button aligned next to VOLUME LEFT) button for 5 seconds *The volume will return to the tank volume, set in section 3.6.*

7.1.4 FILL THE TANK TO A SET VOLUME

- Press LINE 3, the focus will be on VOLUME LEFT
- Press ENTER, to edit the volume. *An asterisk (*) will appear next to VOLUME*
- Press INC/DEC buttons, to adjust the volume (in 50Litre increments),to the required volume
- Press ENTER, to accept changes.

7.1.5 TO DISPLAY SUB AREA, TOTAL AREA AND SUB AREA NUMBER

- Press LINE 2 *SUB AREA will be highlighted*
- Press AUX button once, *SUB AREA NUMBER will be displayed*
- Press AUX button once, *TOTAL AREA, will be displayed*
- Press AUX button once, *SUB AREA, will be displayed again.*

NOTE: The focus will stay on LINE 2 for about 5 seconds; and will stay there for 5 seconds each time the AUX button is pressed, while the focus is on LINE 2 on the SUB AREA window, the AUX button may be used to switch between the three windows. . What ever was displayed last will stay on the LINE 2 of the SUB AREA window.

7.1.6 TURN A SECTION ON

- Adjust the switch for the required section to the ON. By default down is ON.
- If the MASTER switch is OFF, the indicator LED for the section will flash
- If the MASTER switch is ON the indicator LED will be illuminated.

7.1.7 TO CLEAR SUB AREA

• Ensure the SUB AREA is displayed in the LINE 2 window. *If the SUB AREA isn't in the focus window, Press LINE 2 button and then keeping toggling the AUX button until the SUB AREA is displayed.*
• Press and hold the LINE 2 button for 5 seconds with the SUB AREA display on the screen.
• The SUB AREA will be reset to zero, for that SUB AREA NUMBER.

7.1.8 TO CHANGE THE SUB AREA NUMBER

• Press LINE 2 *and while focus on SUB AREA*
• Press AUX button once, *SUB AREA NUMBER will be displayed*
• Press ENTER, ensuring the focus is on SUB AREA NUMBER. *An asterisk (*) will appear.*
• Press INC/DEC buttons, to change the SUB AREA NUMBER.
The VOLUME USED will change accordingly.
• Press ENTER, to accept the new SUB AREA NUMBER

7.1.9 RESET TOTAL AREA

• To reset the TOTAL AREA, see Section 6.1.3

7.1.10 SELECT BETWEEN MANUAL AND AUTO SPRAYING

• Press AUTO/MANUAL button to switch between AUTO and MANUAL spraying.
• If the sprayer is in AUTO mode, the LED next to the AUTO/MANUAL button will be illuminated and the preset button (RATE 1 or RATE 2) that is selected will have its LED illuminated.
• If the unit is in MANUAL mode the AUTO/MANUAL button LED will not be illuminated and the selected preset rate button (RATE 1 or RATE 2) LED will be flashing.

7.1.11 SWITCH BETWEEN FLOW RATE, PUMP SPEED and AUXILIARY SHAFT SPEED

NOTE: To switch between AUXILIARY SHAFT SPEED and PUMP SPEED, the AUXILIARY SHAFT SENSOR has to be switched ON,(see section 5.10 to set) and the PUMP SPEED SENSOR has to be switched ON, (see section 5.09). If both sensors are switched OFF then only the FLOW RATE will be displayed in the window.
• The AUX LED must be turned OFF, to access the FLOW RATE window.
• If the AUX LED is ON, Press the AUX button till, the AUX LED is turned OFF and VOLUME LEFT is displayed on LINE 3.
• Press LINE 3 twice to highlight the FLOW RATE window
• Press AUX with focus on FLOW RATE window, PUMP SPEED will be displayed in RPM
• Press AUX again within 5 seconds, AUX SHAFT SPEED will be displayed in RPM
• Press AUX again within 5 seconds, FLOW RATE will be displayed in volume/min.
What ever was displayed last will stay on the LINE 3 of the FLOW RATE window.

7.2 TO BEGIN SPRAYING

7.2.1 TO BEGIN SPRAYING (Manual Mode)

- Select a Sub Area
- Electronically fill the tank.
- Start up Pump.
- Switch any required sections ON. *Corresponding LED's will flash*
- Switch the MASTER switch ON. *Corresponding Section LED's will stay ON*
- Drive off.

7.2.2 INCREASE OR DECREASE THE APPLICATION RATE (Manual Mode)

- Ensure the MASTER switch is ON and any required sections are ON
- Press Inc button to increase RATE
- Press Dec button to decrease RATE

. *The regulator valve will operate and you will see the actual rate change accordingly*

7.2.3 TO BEGIN SPRAYING (AUTO MODE)

- Select a Sub Area
- Electronically fill the tank.
- Start up Pump.
- Switch any required sections ON. *Corresponding LED's will flash*
- Press AUTO/MANUAL button (LED will turn ON), to spray in AUTO.
- Switch the MASTER switch ON. *Corresponding Section LED's will stay ON*
- Drive off.

7.2.4 CHOOSE A PRESET APPLICATION RATE (Auto Mode)

- Ensure the unit is in AUTO mode as previously described
- Press RATE 1 button,the preset rate set for RATE 1 will be displayed in the 'Application Rate' window and will control to the rate,
- Press RATE 2 button,the preset rate set for RATE 2 will be displayed in the 'Application Rate' window and will control to the rate,

7.2.5 INCREASE OR DECREASE THE APPLICATION RATE (Auto Mode)

- Ensure the unit is in AUTO mode as previously described
- Press INC or DEC buttons. *The target rate will change by the set increment amount*

8. DUAL BOOM SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- *If the boomspray is a single line boom then the value should be OFF, and there is no further setup required for the DUAL BOOM option*
- Press ENTER,*if the boom spray is a DUAL BOOM; to advance to the next screen, the DUAL BOOM SETUP SCREEN.*
- Press ENTER. *An asterisk (*) will appear next to DUAL.*
- Press INC/DEC buttons, to select between ON or OFF
- Press ENTER to accept changes.

If the Dual Boom setup is using SPEED as its switching point go to ***Section 9***
If the Dual Boom setup is using FLOW as its switching point go to ***Section 10***
If the Dual Boom setup is using PRESSURE as its switching point go to ***Section 11***

Dual Boom Setup Screen

8.1 DUAL BOOM SETUP OVERVIEW

When the Sprayer is setup for a Dual Boom Configuration.

A dual boom configuration may be plumbed to allow a wider spraying speed.

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How the Dual Boom Configuration works:

Consider spraying normally with the main 5 boom section sprayer. Driving off increasing speed from the slowest spraying speed (pressure is 100 KPa), as you go faster, the pressure increases until finally the maximum spraying speed is reached which corresponds to a pressure of 400 KPa. This will normally be the maximum spraying speed. Now at this speed, the secondary booms cut in. Because these 2 booms have the same total width and the same total number of identical nozzles as the main 3 booms, suddenly the pressure drops back to 100 KPa. Since the computer is volumetric, the application rate is still maintained but now at 100 KPa rather than 400 KPa. Now the driver can continue to increase speed again until the pressure reaches 400 KPa. This is now the dual boom configuration maximum speed using a single switching point.

PRIMARY, SECONDARY, BOTH (P,S,B)- This has two switching points to set. The primary boom starts spraying and when the first switching point is reached; the primary boom switches OFF and the secondary boom switches ON. When the second switching point is reached the primary boom switches ON, therefore both booms are spraying. For (P,S,B) to work effectively the primary and secondary booms have to have different size nozzles sets for the front and back booms. It is recommended the primary boom have the smaller nozzles

When (P,S,B) is selected the primary boom can be set to either front or back

For (P,S,B) to be selected the valve loom needs separate circuitory going to each section valve. Therefore when a boom has separate circuitory going to each section valve, either (P,S,B) or (,P,B) can be selected.

(P,S,B) doesn't require a Secondary Control valve to turn the Secondary line ON or OFF.

The advantage of using (P,S,B) method is it gives better spray dynamics less stress on the pump and less need for the regulator to go from fully open to fully closed, because the sprayer can reach the desired spraying range in two smaller steps instead for one large step.

When (P,S,B) is selected, values can be entered for SWITCH ON TIMER and SWITCH OFF TIMER.

When FLOW or SPEED is selected as the SWITCHING MODE, then 2 SWITCHING POINTS have to entered:

1)SECONDARY LINE SWITCHING. 2) DUAL LINE SWITCHING.

When PRESSURE is selected as the SWITCHING MODE then 4 SWITCHING POINTS have to be entered:

1)SECONDARY LINE SWITCH ON 2)DUAL LINE SWITCH ON

3)SECONDARY LINE SWITCH OFF 4)DUAL LINE SWITCH OFF

When selecting switching points try to select points which are not near the normal spraying speed, otherwise the booms may keep switching ON and OFF unneccessaryily.

SWITCHING METHOD-(P,B) has to be selected as the SWITCHING ORDER for this option to become available.
This option allows BASIC and FULL to be selected.
When FULL is selected the valve loom has to have separate plugs going to each section valve on the front and back loom. Also there is no Secondary Control Valve that switches the secondary boom ON or OFF
BASIC has a simplified wiring setup because the valve loom has only plugs going to the front boom section valves, then each section valve has common wiring for the front and back booms. Therefore section 1 on the front boom has common circuitory to section 1 on the back boom; the Secondary Control valve is what switches the secondary line ON or OFF.

PRIMARY BOOM- describes the first boom to switch ON. The Primary boom can be set either as the front boom or the back boom. The Primary boom is set in the DUAL BOOM SETUP SCREEN. Therefore when the primary boom is set to the front boom then the back boom automatically becomes the secondary boom.

SECONDARY BOOM- decribes the second boom to switch ON. The secondary boom switches ON after the primary boom. When the Primary boom is selected (front or back) the secondary boom is automatically set as the other boom.

PRIMARY ,BOTH (PB) has only one switching point. This means the the primary boom starts spraying then when the switching point is reached then secondary line switches ON and both primary and secondary booms are spraying. Therefore when P,B is selected the Primary boom is always ON, its the secondary boom which is switching ON or OFF.
P,B can have different nozzles for the front and back boom or the same nozzles for the front and back boom. If using different size nozzles the large nozzles have to be on the Primary line.
When (P,B) is selected the SWITCHING METHOD option becomes available.

When FLOW or SPEED is selected as the SWITCHING MODE, then 1 SWITCHING POINT has to be entered:
1) DUAL LINE SWITCHING.

When PRESSURE is selected as the SWITCHING MODE then 2 SWITCHING POINTS have to be entered:
1) DUAL LINE SWITCH ON 2) DUAL LINE SWITCH OFF

SWITCHING MODE
There are 3 different types of SWITCHING MODES they are:1) SPEED. 2)PRESSURE and 3)FLOW

1 SPEED-
Selecting SPEED as the switching point, SPEED is probably the easiest of the 3 switching methods to initially setup. This is because when a switching point is set, that switching point is the same whether the boomspray is increasing in speed or decreasing in speed.
SPEED uses the speed displayed on the console to determine the Switching points.

2 PRESSURE

Selecting PRESSURE as the SWITCHING MODE, a Pressure Transducer has to be fitted to the boomspray. This is because the Pressure switching setup uses values (kPa) from the Electronic Pressure Transducer to switch the booms ON or OFF. When using Pressure as the SWITCHING MODE two values have to be entered for each SWITCHING POINT, ON and OFF.

3. FLOW

Selecting FLOW as the SWITCHING MODE the flowmeter (litres/minute) is used to determine the SWITCHING POINTS.
When setting up FLOW the number of nozzles for each section has to be entered, the MIN FLOW for the nozzles and MAX FLOW for the nozzles, this has to be entered for the Front Boom and Back Boom, as read from the nozzle chart. Then from that information the console works out the COMBINED MIN FLOW and COMBINED MAX FLOW for the FRONT LINE,BACK LINE and the DUAL LINE. This information then helps the operator determine the switching points values,whether for (P,S,B) or (P,B) SWITCHING ORDER.

SWITCH ON TIMER and SWITCH OFF TIMER- These options are only available when (P,S,B) is selected in the SWITCHING ORDER.
SWITCH ON TIMER value, allows time for when the Secondary Line or Dual Line is being switched ON.
SWITCH OFF TIMER value, allows time for when the Secondary Line or Dual Line is being switched OFF.
SWITCH ON TIMER and SWITCH OFF TIMER are not critical when using SPEED as the SWITCHING MODE;in most cases the default 500mS can be used.

When FLOW or PRESSURE are selected as the SWITCHING MODE for the Dual Boom, then the SWITCH ON TIMER and SWITCH OFF TIMER are set, to allow time for the regulator valve to control to the desired rate to the changed conditions when switching OFF one boom and switching ON another boom. Otherwise the regulator valve when trying to adjust the flow rate to the change in conditions will keep alternating between the primary boom and the secondary boom, before the regulator valve has time to stabilize. Therefore during the period the SWITCH ON TIMER and SWITCH OFF TIMER are active the Eagle will not look at turning the booms ON or OFF.

When using PRESSURE or FLOW as the switching points a SWITCH ON TIME would be 2000 milliseconds (2 seconds) would be a good starting point.
When using PRESSURE or FLOW as the switching points a SWITCH OFF TIME would be 4000 milliseconds (4 seconds) would be a good starting point.
If the operator finds the booms when reaching a switching point are turning OFF and ON and not settling down then these times may have to be increased until the problem is rectified.
SWITCH ON TIMER and SWITCH OFF TIMER are not critical when using SPEED as the SWITCHING MODE; as SPEED uses the same SWITCHING POINT whether increasing or decreasing speed. The default setting of 500mS (1/2 second) is usually ok when SPEED is selected.

MANUAL BOOM SELECTION- allows when spraying in MANUAL MODE, to select which boom is spraying. The operator can select between FRONT, BACK and BOTH. This is because Dual Boom only switches booms ON or OFF when spraying in AUTO.

Example for Setting up a Dual Boom selecting PRESSURE and using (P,B)

Water Rate: 100L/ha
Switching Method can be Basic or Full
Primary Boom: 03 nozzles (larger nozzles on Primary Boom)
Secondary Boom: 02 nozzles
Dual Line: (03 +02) 05 nozzle

Primary Line(03 nozzles)	Speed(km/h)	Pressure (kPa)
	8	100
	12	200
	14	300
	16	400
Dual Line (05 nozzles)	16	150
	20	200
	24	300
	28	400

Switching Points
Dual Line ON: 400kPa
Dual Line OFF: 150kPa

The above information was derived from a nozzle chart, from the above table the Switching Points can be determined. When the Primary Boom reaches 400kPa, at a speed of 16km/h, the Dual Line will switch ON, then the Pressure will drop to 150kPa. The pressure will keep increasing as the speed increases.
When the boomspray slows down the pressure will start decreasing till a pressure of 150kPa is reached, because 150kPa is the Dual Line OFF switching point, the Dual Line will switch OFF, leaving the Primary Boom spraying, at this point the pressure will increase to 400kPa.

Example for Setting up a Dual Boom selecting PRESSURE and using (P,S,B)

Water Rate: 100L/ha

Primary Boom: 02 nozzles (smaller nozzles on Primary Boom)
Secondary Boom: 03 nozzles
Dual Line: (03 +02) 05 nozzle

	Speed(km/h)	Pressure(kPa)
Primary Line-ON (02 nozzles)	8	200
	10	300
	12	450
Secondary Line-ON (03 nozzles)	12	200
	14	300
	16	400
Dual Line -ON (05 nozzles)	16	150
	20	200
	24	300
	27	400

Switching Points
Secondary Line ON: 450kPa
Secondary Line OFF:200kPa
Dual Line ON: 400kPa
Dual Line OFF: 150kPa

Switch ON Timer: 2000mS
Switch OFF Timer: 4000mS

The Primary Line will start spraying and increases speed, therefore increasing pressure until a pressure of 450kPa which is the Secondary Line ON, Switching Point. At this point the Primary Boom will turn OFF and Secondary Boom will turn ON. The pressure will drop to 200kPa.
The sprayer will increase speed and pressure to 400kPa which is the Dual Line ON Switching Point at this point the Primary Boom switches ON therefore Both Booms are spraying. The pressure will drop to 150kPa. The sprayer can now keep increasing speed and pressure until 400kPa.
The sprayer decreases in speed, if the pressure drops below 150kPa which is Dual Line OFF Switching Point the Primary Boom will switch OFF, leaving the Secondary Boom spraying.
If the sprayer slows down further and the pressure drops to 200kPa which is the Secondary Line OFF, Switching Point, the Primary Boom will switch ON and the Secondary Boom will switch OFF.

Example for Setting up a Dual Boom selecting FLOW and using (P,B)

03 nozzles on Primary boom (large nozzles on the primary line)
02 nozzles on Secondary boom
Therefore (02 + 03) nozzles effectively gives 05 nozzle size for Both booms.

Switching Method can be Basic or Full
Water Rate:100L/ha
Boom 28 metres, nozzles at 0.5m spacings therefore 56 nozzles per line on the primary boom and 56 nozzles on the Secondary boom.

From the nozzle chart the minimum and maximum flow rates can be determined for each nozzle used on the Front Boom and Back Boom. With the number of nozzles for each section this information is entered into the Front Line Nozzles and Back Line Nozzles screens. The console then transfer that information to the Dual Switching screen. The information on this screen helps the operator select the Switching Point.

Primary Line(ON) (03 nozzles)	Speed (km/h)	Flow(l/min) (for 56 nozzles)
	8	38
	12	53
	14	66
	16	76
Dual Line(ON) (03 + 02) 05 nozzles	16	78
	20	90
	24	110
	28	127

From the above table a Switching Point of 76l/min was selected.
The value of 76l/min is derived from (56 nozzles x 1.36l/min), the 1.36l/min is the flow rate of the 03 nozzle at a 16km/h.
When the boomspray reaches 76l/min the Dual Line will switch ON.
The boomspray can increase speed till about 28km/h with Flow about 127l/min.
When the boomspray slows down and the flow rate drops to 76l/min, the secondary boom will switch OFF.

The Switching Point is the same whether the boomspray is increasing speed or slowing down.

Switching Point

Dual Line Switch ON is 76l/min

Example for Setting up a Dual Boom selecting FLOW and using (P,S,B)

02 nozzles on Primary boom (small nozzles on the primary line)
03 nozzles on Secondary boom
Therefore (02 + 03) nozzles effectively gives 05 nozzle size for Both booms.

Water Rate:100L/ha
Boom 28 metres, nozzles at 0.5m spacings therefore 56 nozzles per line on the primary boom and 56 nozzles on the Secondary boom.

From the nozzle chart the minimum and maximum flow rates can be determined for each nozzle used on the Front Boom and Back Boom. With the number of nozzles for each section this information is entered into the Front Line Nozzles and Back Line Nozzles screens. The console then transfer that information to the Dual Switching screen. The information on this screen helps the operator select the Switching Point.

Primary Line (ON) (02 nozzles)	Speed (km/h)	Flow(l/min) (for 56 nozzles)
	8	36
	10	44
	12	54
Secondary Line (ON) (03 nozzles)		
	12	54
	14	66
	16	76
	18	85
Dual Line (ON) (03 + 02) 05 nozzles	18	84
	20	90
	24	110
	28	127

When the boomspray reaches 54l/min the Secondary Line will switch ON and Primary boom will switch OFF.
When the boomspray reaches 85l/min the Dual Line will switch ON.
The boomspray can increase speed till about 28km/h with Flow about 127l/min.
When the boomspray slows down and the flow rate drops to 85l/min, the Dual boom will switch OFF. Secondary Line will be spraying.
When the boomspray slows down further and the flow rate drops to 54l/min, the Secondary boom will switch OFF. The Primary boom will switch ON
The Switching Point is the same whether the boomspray is increasing speed or slowing down.

Switching Point

Secondary Line Switch ON: 54l/min
Dual Line Switch ON: 85l/min
Switch ON Timer: 2000mS
Switch OFF Timer: 4000mS

Example for Setting up a Dual Boom selecting SPEED and using (P,B)

03 nozzles on Primary boom (large nozzles on the primary line)
02 nozzles on Secondary boom
Therefore (02 + 03) nozzles effectively gives 05 nozzle size for Both booms.

Water Rate:100L/ha
Switching Method can be Basic or Full

Primary Line (ON) (03 nozzles)	Speed (km/h)	Pressure (kPa)
	8	100
	12	200
	14	300
	16	400
Dual Line (ON) (03 + 02) 05 nozzles	16	150
	20	200
	24	300
	28	400

From the above table a Switching Point of 16km/h was selected.
When the boomspray reaches 16km/h the Dual Line will switch ON.
The boomspray can increase speed till about 28km/h with a Pressure of 400kPa
When the boomspray slows down to a speed of 16km/h, the secondary boom will switch OFF. The Primary boom will be spraying

The Switching Point is the same whether the boomspray is increasing speed or slowing down.

Switching Point

Dual Line Switch ON: 16km/h

Example for Setting up a Dual Boom selecting SPEED and using (P,S,B)

02 nozzles on Primary boom (small nozzles on the primary line)
03 nozzles on Secondary boom
Therefore (02 + 03) nozzles effectively gives 05 nozzle size for Both booms.

Water Rate:100L/ha

Primary Line(ON) (02 nozzles)	Speed (km/h)	Pressure (kPa)
	8	200
	10	300
	12	450
Secondary Line (ON) (03 nozzles)		
	12	200
	14	300
	16	400
Dual Line(ON) (03 + 02) 05 nozzles	16	150
	20	200
	24	300
	27	400

From the above table a Secondary Switch ON,Switching Point of 12km/h was selected, when the pressure reached 450kPa.
From the above table a Dual Switch ON,Switching Point of 16km/h was selected, when the pressure reached 400kPa.
When the boomspray reaches a speed of 12km/h the Secondary Line will switch ON and Primary boom will switch OFF.
When the boomspray reaches a speed of 16km/h the Dual Line will switch ON.
The boomspray can increase speed till about 28km/h with a pressure of 400kPa.
When the boomspray slows down and the speed reaches 16km/h, the Dual boom will switch OFF. Secondary Line will be spraying.
When the boomspray slows down further and the speed reaches 12km/h, the Secondary boom will switch OFF. The Primary boom will switch ON
The Switching Points are the same whether the boomspray is increasing speed or slowing down.

Switching Point

Secondary Line Switch ON: 12km/h
Dual Line Switch ON: 16km/h

Switch ON Timer: 500mS
Switch OFF Timer: 500mS

9. DUAL BOOM SETUP USING SPEED SWITCHING MODE

9.1 ENABLE DUAL BOOM

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press ENTER. *An asterisk(*) will appear next to DUAL.*
- Press INC/DEC buttons to switch between ON or OFF. **Select ON**
- Press SELECT MODE to accept changes.

9.2 PRIMARY BOOM SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 1 to move focus to PRIMARY BOOM
- Press ENTER. *An asterisk (*) will be displayed next to PRIMARY*
- Press INC/DEC buttons, to switch between FRONT and BACK
- Press ENTER to accept changes.

9.3 SWITCHING MODE SETUP (SPEED,FLOW AND PRESSURE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 2 to move focus to SWITCHING MODE
- Press ENTER. *An asterisk (*) will be displayed next to SWITCHING*
- Press INC/DEC buttons, to select between SPEED,FLOW and PRESSURE. **Select SPEED**
- Press ENTER to accept changes.

9.4 MANUAL BOOM SELECTION

Note: MANUAL BOOM SELECTION only works when the sprayer is spraying in MANUAL MODE

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move focus to MANUAL BOOM SELECTION
- Press ENTER. *An asterisk (*) will be displayed next to BOOM*
- Press INC/DEC buttons, to select between FRONT, BACK OR BOTH.
- Press ENTER to accept changes.

9.5 SWITCHING ORDER SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 2 to move focus to SWITCHING ORDER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCHING*
- Press INC/DEC buttons, to select between P,B and P,S,B. *When P,B is selected means the primary boom will switch first, then both booms will switch on. When P,S,B is selected the primary boom will switch on, then when the first switching point is reached the secondary boom will switch on(and primary boom will switch off);then when the second switching point is reached both booms(primary and secondary) will switch on*
- *Note:SWITCH ON TIMER and SWITCH OFF TIMER options are only available when P,S,B is selected. When P,B, is selected the SWITCHING METHOD option is available.*
- Press ENTER to accept changes.

9.6 SET SWITCHING POINTS

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER to advance to SWITCHING SETUP screen
- *Note: The SECD LINE SWITCHING option is only available when P,S,B is selected, in the SWITCHING ORDER option. When P,S,B is selected, 2 switching points have to be entered(SECD LINE SWITCHING and DUAL LINE SWITCHING). When P,B is selected only one switching point has to be entered(DUAL LINE SWITCHING)*
- Press ENTER with the focus window on SECD LINE SWITCHING. An asterisk (*) will appear.
- Press INC/DEC buttons, to edit the value for the Secondary Line switching point
- Press ENTER to accept changes.
- Press LINE 2 until the focus is on DUAL LINE SWITCHING
- Press ENTER with the focus window on DUAL LINE SWITCHING. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to edit the value for the Dual Line switching point
- Press ENTER to accept changes.

9.7 SET SWITCH ON TIMER AND SWITCH OFF TIMER (When P,S,B is selected)

- *Note SET SWITCH ON and SWITCH OFF TIMER is only displayed when P,S,B is selected in the SWITCHING ORDER, refer Section 9.4*
- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 4 to move the focus to SWITCH ON TIMER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCH ON*
- Press INC/DEC buttons, to edit the value for the SWITCH ON TIMER. *The value is entered in milliseconds(mS), 500 milliseconds equals 1/2 a second and 1000 milliseconds equals 1 second. Each press of the button changes the value by 100mS increments*
- Press ENTER to accept changes
- Press LINE 4 to move the focus to SWITCH OFF TIMER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCH OFF*
- Press INC/DEC buttons, to edit the value for the SWITCH OFF TIMER. *The value is entered in milliseconds(mS), 500 milliseconds equals 1/2 a second and 1000 milliseconds equals 1 second. Each press of the button changes the value by 100mS increments*
- Press ENTER to accept changes

9.8 SET SWITCHING METHOD

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 4 SWITCHING METHOD is highlighted
- Press ENTER to edit the SWITCHING METHOD. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to change SWITCHING METHOD.
  Select either FULL or BASIC.

NOTE: If the Eagle Sprayer is using an 'Economy Loom' .(Economy Loom uses only CON 1 plug only on the back of the Eagle console); then select BASIC. If the Eagle sprayer is using a 'Fully Featured Loom' (Loom is plugged into CON 1 and CON 2 plugs on the back of the Eagle console) then select FULL.
When BASIC is selected then the second line is activated by a Single Secondary Control solenoid or motor valve.The valve loom is only wired up to the frontline section valves and then the backline section valves are wired in parallel to the front section valves
The SWITCHING METHOD option is only available when P,B is selected in (Section 9.4)

- Press ENTER to accept changes

10. DUAL BOOM SETUP USING FLOW SWITCHING MODE

10.1. ENABLE DUAL BOOM

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press ENTER. *An asterisk (*) will appear next to DUAL.*
- Press INC/DEC buttons, to switch between ON or OFF. Select ON
- Press ENTER to accept changes.

10.2 PRIMARY BOOM SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 1 to move focus to PRIMARY BOOM
- Press ENTER. *An asterisk (*) will be displayed next to PRIMARY*
- Press INC/DEC buttons, to switch between FRONT and BACK
- Press ENTER to accept changes.

10.3 SWITCHING MODE SETUP(SPEED,FLOW AND PRESSURE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 2 to move focus to SWITCHING MODE
- Press ENTER. *An asterisk (*) will be displayed next to SWITCHING*
- Press INC/DEC buttons to switch between SPEED,FLOW and PRESSURE. Select FLOW
- Press ENTER to accept changes.

10.4 MANUAL BOOM SELECTION

Note: MANUAL BOOM SELECTION only works when the sprayer is spraying in MANUAL MODE

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 twice to move focus to MANUAL BOOM SELECTION
- Press ENTER. *An asterisk (*) will be displayed next to BOOM*
- Press INC/DEC buttons, to select between FRONT, BACK OR BOTH.
- Press ENTER to accept changes.

10.5 SWITCHING ORDER SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 2 to move focus to SWITCHING ORDER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCHING*
- Press INC/DEC buttons, to switch between P,B and P,S,B. *When P,B is selected means the primary boom will switch first, then both booms will switch on. When P,S,B is selected the primary boom will switch on, then when the first switching point is reached the secondary boom will switch on(and primary boom will switch off);then when the second switching point is reached both booms(primary and secondary) will switch on*
- *Note: SWITCH ON TIMER and SWITCH OFF TIMER options are become available when P,S,B is selected. When P,B, is selected the SWITCHING METHOD option is available.*
- Press ENTER to accept changes.

10.6 SET SWITCHING POINTS(FLOW) MENU

Flow Switching Setup Menu

10.6.1 FRONT LINE NOZZLES SETUP

Front Line Nozzles Setup Screen

10.6.1a SET MINIMUM FLOW FOR NOZZLES(FRONTLINE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press ENTER to select FRONT LINE NOZZLES
- Press ENTER. *An asterisk (*) will be displayed after MIN*
- Press INC/DEC buttons, to set the MIN FLOW value.
- Press ENTER to accept changes

10.6.1b SET MAXIMUM FLOW FOR NOZZLES(FRONTLINE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press ENTER to select FRONT LINE NOZZLES
- Press LINE 2 until focus is on MAX FLOW
- Press ENTER. *An asterisk (*) will be displayed after MAX*
- Press INC/DEC buttons to set the MAX FLOW of nozzles on the Front Line.
- Press ENTER to accept changes

10.6.1c SET NUMBER OF NOZZLES FOR EACH SECTION FOR FLOW SWITCHING(FRONTLINE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press ENTER to select FRONT LINE NOZZLES
- *Write down the number of nozzles on each section on the FRONTLINE of the boomspray, with section 1 being on the left hand side of the boomspray. If your boomspray has 5 sections then there will be 5 sections displayed on the screen to enable the number of nozzles for each of the 5 sections to be entered. If the boomspray has 7 sections then 7 sections will be displayed on the screen. As the number of nozzles are being entered then the TOTAL NOZZLES will tally the total number of nozzles on the boomspray, displayed on the top right hand of the screen.*
- Press LINE 3 until focus is on NOZZLES, for section 1.
- Press ENTER. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to enter in the number of nozzles for section 1
- Press ENTER to accept changes
- Press LINE 3 once so the focus is on NOZZLES for section 2
- Press ENTER. *An asterisk(*) will be displayed.*
- Press INC/DEC buttons, to enter in the number of nozzles for section 2
- Press ENTER to accept changes
- Repeat the above procedure and enter the number of nozzles for the remaining sections.

NOTE: To enter in the number of nozzles for Sections 5,6 and 7, press LINE 4 to move the focus window so the number of nozzles for those sections can be entered.

10.6.2 BACK LINE NOZZLES SETUP

Back Line Nozzles Setup Screen

10.6.2a SET MINIMUM FLOW FOR NOZZLES(BACKLINE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press LINE 2 to select BACK LINE NOZZLES
- Press ENTER to select BACK LINE NOZZLES
- Press ENTER. *An asterisk (*) will be displayed after MIN*
- Press INC/DEC buttons, to change the MIN FLOW
- Press ENTER to accept changes

10.6.2b SET MAXIMUM FLOW FOR NOZZLES(BACKLINE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press LINE 2 to select BACK LINE NOZZLES
- Press ENTER to select BACK LINE NOZZLES
- Press Dec (down arrow) until focus is on MAX FLOW
- Press ENTER. *An asterisk (*) will be displayed after MAX*
- Press INC/DEC buttons, to change the MAX FLOW
- Press ENTER to accept changes

10.6.2c SET NUMBER OF NOZZLES FOR EACH SECTION FOR FLOW SWITCHING(BACKLINE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press LINE 2 to select BACK LINE NOZZLES
- Press ENTER to select BACK LINE NOZZLES
- *Write down the number of nozzles on each section on the BACKLINE of the boomspray, with section 1 being on the left hand side of the boomspray. If your boomspray has 5 sections then there will be 5 sections displayed on the screen to enable the number of nozzles for each of the 5 sections to be entered. If the boomspray has 7 sections then 7 sections will be displayed on the screen. As the number of nozzles are being entered then the TOTAL NOZZLES will tally the total number of nozzles on the boomspray, displayed on the top right hand of the screen.*
- Press LINE 3 until focus is on NOZZLES, for section 1
- Press ENTER. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to enter in the number of nozzles for section 1
- Press ENTER to accept changes
- Press LINE 3 once so the focus is on NOZZLES for section 2
- Press ENTER. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to enter in the number of nozzles for section 2
- Press ENTER to accept changes
- Repeat the above procedure and enter the number of nozzles for the remaining sections for the boomspray.

NOTE: To enter in the number of nozzles for Sections 5,6 and 7, press LINE 4 to move the focus window , to these sections so the number of nozzles for those sections can be entered. Section 5 is on LINE 4, left-hand column.

10.6.3 DUAL LINE SWITCHING(FLOW)

Dual Line Switching(Flow) Screen

10.6.3a DUAL LINE SWITCHING VALUES (FLOW)

The values for MIN FLOW FRONT, MAX FLOW FRONT, MIN FLOW FRONT, MAX FLOW BACK, COMBINED MIN FLOW and COMBINED MAX FLOW are not editable from this screen but are displayed to help the operator set the SECD LINE SWITCHING and DUAL LINE SWITCHING points.

The MIN FLOW FRONT value is derived from the value set in the MIN FLOW(FRONT) Refer Section 10.5.1a and the total number of nozzles on the front line. Example 0.30 L/min(MIN FLOW-FRONT) X 112(Nozzles) = 33.60 L/min

The MAX FLOW FRONT value is derived from the value set in the MAX FLOW(FRONT) Refer Section 10.5.1b and the total number of nozzles on the front line.

The MIN FLOW BACK value is derived from the value set in the MIN FLOW(BACK) Refer Section 7.5.2a and the total number of nozzles on the back line.

The MAX FLOW BACK value is derived from the value set in the MAX FLOW(BACK) Refer Section 10.5.2b and the total number of nozzles on the back line.

The COMBINED MIN FLOW is derived from adding the values of MIN FLOW FRONT and the MIN FLOW BACK.

The COMBINED MAX FLOW is derived from adding the values of MAX FLOW FRONT and the MAX FLOW BACK.

10.6.3b SETTING SECOND LINE SWITCHING POINT(FLOW)

• Note SECD LINE SWITCHING only appears on the Dual Line Switching Screen when P,S,B is selected in the SWITCHING ORDER setup. Refer Section 10.4

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press LINE 3, the focus is on DUAL LINE SWITCHING
- Press ENTER, to advance to DUAL LINE SWITCHING SETUP screen
- Press ENTER with the focus window on SECD LINE SWITCHING. *An asterisk (*) is displayed.*
- Press INC/DEC buttons, to adjust the SECD LINE SWITCHING point.
- Press ENTER to accept changes

10.6.3c SETTING DUAL LINE SWITCHING POINT(FLOW)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to **SET SWITCHING POINTS(FLOW) MENU** screen
- Press LINE 3, until the focus is on DUAL LINE SWITCHING
- Press ENTER, to advance to DUAL LINE SWITCHING SETUP screen
- Press LINE 4, until focus is on DUAL LINE SWITCHING
- Press ENTER to edit DUAL LINE SWITCHING. *An asterisk (*) is displayed.*
- Press INC/DEC buttons, to adjust the DUAL LINE SWITCHING point.
- Press ENTER to accept changes

NOTE: Press MENU twice to go back to DUAL BOOM SETUP screen

10.7 SET SWITCH ON TIMER AND SWITCH OFF TIMER

- *Note SET SWITCH ON and SWITCH OFF TIMER is only displayed when P,S,B is selected in the SWITCHING ORDER, refer Section 10.4*

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 4 to move the focus to SWITCH ON TIMER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCH ON*
- Press INC/DEC buttons, to edit the value for the SWITCH ON TIMER.
  The value is entered in milliseconds(mS), 500 milliseconds equals 1/2 a second and 1000 milliseconds equals 1 second.
- Press ENTER to accept changes
- Press LINE 4 to move the focus to SWITCH OFF TIMER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCH OFF*
- Press INC/DEC buttons, to edit the value for the SWITCH OFF TIMER.
- Press ENTER to accept changes

10.8 SET SWITCHING METHOD

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 4 SWITCHING METHOD is highlighted
- Press ENTER to edit the SWITCHING METHOD. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to change SWITCHING METHOD.
  Select either FULL or BASIC.

NOTE: If the Eagle Sprayer is using an 'Economy Loom' .(Economy Loom uses only CON 1 plug only on the back of the Eagle console); then select BASIC. If the Eagle sprayer is using a 'Fully Featured Loom' (Loom is plugged into CON 1 and CON 2 plugs on the back of the Eagle console) then select FULL.
When BASIC is selected then the second line is activated by a single solenoid or motor valve. The valve loom is only wired up to the frontline section valves and then the backline section valves are wired in parallel to the front section valves The SWITCHING METHOD option is only available when P,B is selected in. (Section 10.4)

- Press ENTER to accept changes

11 DUAL BOOM SETUP USING **PRESSURE** SWITCHING MODE

11.1. TOGGLE DUAL BOOM

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press ENTER. *An asterisk (*) will appear next to DUAL.*
- Press INC/DEC buttons, to switch between ON or OFF. **Select ON**
- Press ENTER to accept changes.

11.2 PRIMARY BOOM SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 1 to move focus to PRIMARY BOOM
- Press ENTER. *An asterisk (*) will be displayed next to PRIMARY*
- Press INC/DEC buttons, to switch between FRONT and BACK
- Press ENTER to accept changes.

11.3 SWITCHING MODE SETUP(SPEED,FLOW AND PRESSURE)

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 2 to move focus to SWITCHING MODE
- Press ENTER. *An asterisk (*) will be displayed next to SWITCHING*
- Press INC/DEC buttons to switch between SPEED,FLOW and PRESS. **Select PRESS**
- Press ENTER to accept changes.

11.4 MANUAL BOOM SELECTION

Note: MANUAL BOOM SELECTION only works when the sprayer is spraying in MANUAL MODE

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move focus to MANUAL BOOM SELECTION
- Press ENTER. *An asterisk (*) will be displayed next to BOOM*
- Press INC/DEC buttons to select between FRONT, BACK OR BOTH.
- Press ENTER to accept changes.

11.5 SWITCHING ORDER SETUP

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 2 until the focus is on SWITCHING ORDER
- Press ENTER. *An asterisk(*) will be displayed next to SWITCHING*
- Press INC/DEC buttons, to switch between P,B and P,S,B.
- *When P,B is selected means the primary boom will switch first; then both booms will switch on once the Dual Line Switching point has been reached.*
- *When P,S,B is selected the primary boom will switch on, then when the first switching point(Secondary Line Switch) is reached the secondary boom will switch on(and primary boom will switch off);then when the Dual Line Switching point is reached both booms(primary and secondary) will switch on.*
- *Note: SWITCH ON TIMER and SWITCH OFF TIMER options are become available when P,S,B is selected. When P,B, is selected the SWITCHING METHOD option is available.*
- Press ENTER to accept changes.

11.6 SET SWITCHING POINTS(PRESSURE)

- Note if the operator selected P,B in the SWITCHING ORDER then Go To Section 11.6.1 to setup the SWITCHING POINTS for pressure switching.

- Note if the operator selected P,S,B in the SWITCHING ORDER then Go To Section 11.6.2 to setup the SWITCHING POINTS for pressure switching.

11.6.1 SET SWITCHING POINTS WHEN P,B IS SELECTED

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to PRESSURE SWITCHING SETUP screen
- Press ENTER with the focus window on DUAL LINE SWITCH ON. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to edit the value for the DUAL LINE SWITCH ON point
- Press ENTER to accept changes.
- Press LINE 2 to move focus to DUAL LINE SWITCH OFF
- Press ENTER with the focus window on DUAL LINE SWITCH OFF. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to edit the value for the DUAL LINE SWITCH OFF point
- Press ENTER to accept changes.

11.6.2 SET SWITCHING POINTS WHEN P,S,B IS SELECTED

- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 3 to move the focus to SET SWITCHING POINTS
- Press ENTER.to advance to PRESSURE SWITCHING SETUP screen
- Press ENTER with the focus window on SECD LINE SWITCH ON. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to edit the value (in kPa) for the SECD LINE SWITCH ON point
- Press ENTER to accept changes.

- Press LINE 2 to move the focus to DUAL LINE SWITCH ON
- Press ENTER with the focus window on DUAL LINE SWITCH ON. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to edit the value (in kPa) for the DUAL LINE SWITCH ON point
- Press ENTER to accept changes.

- Press LINE 3 to move the focus to SECD LINE SWITCH OFF
- Press ENTER with the focus window on SECD LINE SWITCH OFF. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to edit the value(in kPa) for the SECD LINE SWITCH OFF point
- Press ENTER to accept changes.

- Press LINE 3 to move the focus to DUAL LINE SWITCH OFF
- Press ENTER with the focus window on DUAL LINE SWITCH OFF. *An asterisk (*) will be displayed.*
- Press INC/DEC buttons, to edit the value (in kPa), for the DUAL LINE SWITCH OFF point
- Press ENTER to accept changes.

11.7 SET SWITCH ON TIMER AND SWITCH OFF TIMER

- *Note:SWITCH ON TIMER and SWITCH OFF TIMER options are only available when P,S,B option is selected in SWITCHING ORDER.*
- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press Dec LINE 3 until the focus is on DUAL BOOM
- Press ENTER to advance to DUAL BOOM SETUP screen
- Press LINE 4 to move the focus to SWITCH ON TIMER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCH ON*
- Press INC/DEC buttons, to edit the value for the SWITCH ON TIMER. *The value is entered in milliseconds(mS), 500 milliseconds equals 1/2 a second and 1000 milliseconds equals 1 second.*
- Press ENTER to accept changes
- Press LINE 4 to move the focus to SWITCH OFF TIMER
- Press ENTER. *An asterisk (*) will be displayed next to SWITCH OFF*
- Press INC/DEC buttons, to edit the value for the SWITCH OFF TIMER.
- Press ENTER to accept changes

11.8 SET SWITCHING METHOD

- *Note: SWITCH METHOD option IS only displayed when P,B option is selected in SWITCHING ORDER.*
- Press MENU
- Press ENTER to select SETUP
- Press ENTER to select SPRAYER SETUP
- Press LINE 4 SWITCHING METHOD is highlighted
- Press ENTER to edit the SWITCHING METHOD. *An asterisk (*) will appear.*
- Press INC/DEC buttons, to change SWITCHING METHOD. Select either FULL or BASIC.

NOTE: If the Eagle Sprayer is using an 'Economy Loom' (Economy Loom uses only CON 1 plug only on the back of the Eagle console); then select BASIC. If the Eagle sprayer is using a 'Fully Featured Loom' (Loom is plugged into CON 1 and CON 2 plugs on the back of the Eagle console) then select FULL.
When BASIC is selected then the second line is activated by a single solenoid or motor valve.The valve loom is only wired up to the frontline section valves and then the backline section valves are wired in parallel to the front section valves

The SWITCHING METHOD option is only available when P,B is selected in (Section 11.4)

- Press ENTER to accept changes

12. CONFIGURATION OPTIONS

To access the extra console related configuration options, hold down the DEC button while the unit is first starting up.

- To advance to the GENERAL CONFIG see Section 12.3
- To advance to the KEY CONFIG see Section 12.1
- To advance to the ALARM CONFIG see Section 12.2

General Configuration Screen

12.1 KEY CONFIGURATION

- Press LINE 2 to highlight KEY CONFIG
- Press ENTER to advance KEY CONFIGURATION screen

Key Configuration Screen

12.1.1 ENABLE THE KEY BEEPER ON or OFF

- Press LINE 2 to highlight KEY CONFIG
- Press ENTER to advance KEY CONFIGURATION screen
- Press ENTER to edit the KEY BEEPER. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to switch the beeper state ON or OFF
- Press ENTER to accept changes

The KEY BEEPER when switched ON will mean every time the key buttons on the console are pressed a beep will sound. When switched OFF, there is no beep when the key is pressed.

12.1.2 SET THE KEY BEEPER TIME

- Press LINE 2 to highlight KEY CONFIG
- Press ENTER to advance KEY CONFIGURATION screen
- Press LINE 2 to highlight KEY BEEPER TIME
- Press ENTER to edit KEY BEEPER TIME. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to edit the beeper time
- Press ENTER to accept changes

When the KEY BEEPER is toggled ON, then the KEY BEEPER TIMER determines how long the beep sound lasts for. The default is 300mS which is a third of a second.

12.1.3 ENABLE THE KEY REPEAT

- Press LINE 2 to highlight KEY CONFIG
- Press ENTER to advance KEY CONFIGURATION screen
- Press LINE 3 to highlight KEY REPEAT ENABLE
- Press ENTER to edit KEY REPEAT ENABLE. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to switch the key beeper, ON or OFF.
- Press ENTER to accept changes

The KEY REPEAT ENABLED when toggled ON allows the operator when using the INC/DEC buttons to change values on the console during setup; to hold the Inc or Dec button down and the value will change without having to continually pressing the button to change the value. When switched OFF the operator will have to repeatedly press the Inc or Dec buttons to change the value.

12.1.4 SET THE KEY REPEAT DURATION

- Press LINE 2 to highlight KEY CONFIG
- Press ENTER to advance KEY CONFIGURATION screen
- Press LINE 4 to highlight the KEY REPEAT DURATION
- Press ENTER to edit the KEY REPEAT DURATION *An asterisk(*) will be displayed*
- Press INC/DEC buttons, to set the KEY REPEAT DURATION
- Press ENTER to accept changes

When the KEY BEEPER ENABLED is toggled ON, the KEY REPEAT DURATION determines how long when the Inc or Dec button is held down how quickly the value changes. The default is 300mS.

12.2 ALARM CONFIGURATION

- Press LINE 3 to highlight ALARM CONFIG
- Press ENTER to advance to the ALARM CONFIGURATION screen.

Alarm Configuration Screen

12.2.1 Alarm Beeper Overview-

- This screen allows to change the settings on how the alarm will beep when an alarm appears in the ALARM WINDOW on the Working Screen.
- The ALARM CYCLE TIME sets how long in milliseconds(mS) the alarm stays in the ALARM WINDOW.
- The ALARM CYCLES is how many times the alarm will cycle (beep and flash, in the 'Alarm Window'
- The ALARM DUTY CYCLE is the percentage of time the beeper will beep, when the alarm is flashing in the 'Alarm Window'. Ie. When the ALARM DUTY CYCLE is set at 50% the beep will sound for half the time (50%), the alarm flashes in the 'Alarm Window.' The ALARM BEEPER needs to be switched ON.
- The ALARM BEEPER can be switched ON or OFF. When the beeper is turned ON, the console will beep as well as display what the alarm is. When the beeper is turned OFF, the alarm will be displayed on the screen but without the beep
- Ie. The default settings are displayed on the screen, see Section 12.2.
- The alarm will appear in the ALARM WINDOW.
- The alarm will flash for 1 second.
- The alarm will beep for 1/2 a second (50% of the alarm cycle time), and the alarm will cycle (flash and beep) 5 times.
- After the 5 cycles the beep will stop and if the alarm is still present, then the alarm will cycle through in the ALARM WINDOW with no beep.

12.2.2 SET THE ALARM CYCLE TIME

- Press LINE 3 to highlight ALARM CONFIG
- Press ENTER to advance to the ALARM CONFIGURATION screen
- Press ENTER to edit the ALARM CYCLE TIME.
  An asterisk (*) will be displayed
- Press INC/DEC buttons, to set the ALARM CYCLE TIME
- Press ENTER to accept changes

12.2.3 SET THE ALARM DUTY CYCLE

- Press LINE 3 to highlight ALARM CONFIG
- Press ENTER to advance to the ALARM CONFIGURATION screen
- Press LINE 2 to highlight ALARM DUTY CYCLE
- Press ENTER to edit the ALARM DUTY CYCLE.
  An asterisk (*) will be displayed
- Press INC/DEC buttons, to set the ALARM DUTY CYCLE
- Press ENTER to accept changes

12.2.4 SET THE NUMBER OF ALARM CYCLES

- Press LINE 3 to highlight ALARM CONFIG
- Press ENTER to advance to the ALARM CONFIGURATION screen
- Press LINE 3 to highlight ALARM CYCLES
- Press ENTER to edit the ALARM CYCLES.
  An asterisk (*) will be displayed
- Press INC/DEC buttons, to set the number of ALARM CYCLES
- Press ENTER to accept changes

12.2.5 SWITCH THE ALARM BEEPER ON or OFF

- Press LINE 3 to highlight ALARM CONFIG
- Press ENTER to advance to the ALARM CONFIGURATION screen
- Press LINE 4 to highlight ALARM BEEPER
- Press ENTER to edit the ALARM CYCLES. *An asterisk (*) will be displayed*
- Press INC/DEC buttons, to switch the alarm beeper ON or OFF
- Press ENTER to accept changes

12.3 GENERAL CONFIGURATION

- Press LINE 1 to select GENERAL CONFIG
- Press ENTER to select GENERAL CONFIG

- To advance to the DIAGNOSTICS MODE see Section 13.0

12.3.1 COLD RESET

- Press Line 2 to select COLD RESET
- Press ENTER. *A screen will appear*
- Press ENTER. *This will restore ALL settings in the console back to Factory Defaults. The console will automatically power down and restart automatically to the "Working Screen" with the Default settings loaded*

OR • Press MENU to exit back to the GENERAL CONFIGURATION screen.

12.3.2 FACTORY RESET

Note: A FACTORY RESET cannot be performed by the operator.

General Configuration Screen

13. DIAGNOSTICS MODE

- Hold the DEC button down(for about 5 seconds) while turning the console POWER button ON.
- Press ENTER to advance to the GENERAL CONFIG screen
- Press LINE 1 to highlight DIAGNOSTICS MODE
- Press ENTER to advance to the DIAGNOSTICS MODE screen
- Press LINE 1, 2, 3 or 4 to move around the screen, till the TEST that required.is highlighted
- Press ENTER to advance the selected test screen
- Press MENU to exit from any of the test screens

Diagnostics Menu

13.1 LED TEST

- Select this to check the operation of the Light Emitting Device (LED)'s on the front panel. Diagram below shows the positions of the LED,s
- If operating correctly the LED's will cycle consecutively around the front panel, starting from the:

  1)- Right hand side of console from top to bottom, then

  2)- The LED's above the Section switches from left to right.

  3)- The LED's below the Section switches from left to right.

  4)- then once, one cycle has been completed, all the LED's will flash together.
- Press MENU to exit

LED Diagnostics Screen

13.2 SWITCH TEST

- Select this to check the operation of the switches
- If operating correctly:
- The MASTER switch when in the OFF position;
  "MASTER SWITCH = OFF will be displayed on the console screen
- The MASTER switch when in the ON position;
  "MASTER SWITCH = ON will be displayed on the console screen
- Status of the Section switches (1 to 7) will be indicated by SW1 to SW 7 and the "foam marker" by SW8 on the test screen.
  When the position of the Bin switch is in the DOWN position the corresponding SW indicator will point DOWN. When the Bin switch is in the UP position the corresponding SW indicator arrow will point UP
- The number "2" next to the corresponding SW# will indicate the switch is in the OFF position.
- The number "253" next to the corresponding SW# will indicate the switch is in the ON position.
- Press MENU to exit

Switch Diagnostics Screen

13.3 KEYS TEST

- Select this to check the operation of the buttons on the front panel
- Press any button and the button that is 'pressed', will be displayed on the console screen
- Press MENU to exit

Keys Diagnostics Screen

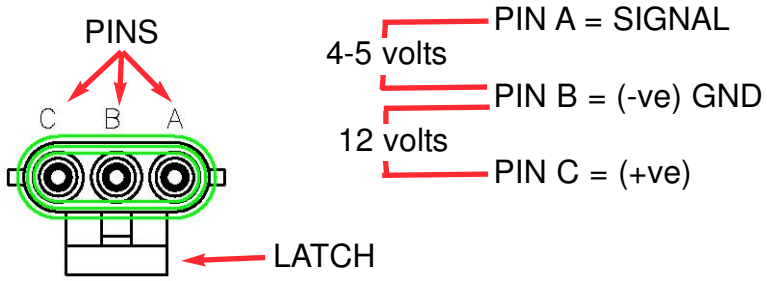
13.4 SENSORS TEST

- Select this test to check the operation of the sensor circuitry
- The current period (time between pulse, measured in mS) for each sensor will be displayed on the screen.
- During operation the period between the pulses should be constant, if this figure isn't constant then this suggests there is a magnet missing or a sensor distance isn't set properly.
- The pulse count keeps accumulating as each magnet goes past the sensor.
- Press MENU to exit

Sensors Diagnostics Screen

13.4.1 CHECKING LOOM VOLTAGES, FOR 3 PIN SENSORS

- This test should be carried out if the sensor (ground speed sensor, flow meter sensors,) that appears to be faulty has been checked using the Diagnostic Test in Section 9.4., and no 'pulse count', or no 'period' can be observed or the period is erratic.
- This test will check the sensor is receiving the correct voltages, from the chassis loom.
- To carry out this test a multimeter is required which can measure DC voltage between 1 and 24 volts. A ruler to measure distance between sensor and magnet.
- This test procedure can be carried out on ground speed sensors, metering shaft sensors and the fan speed sensor all which have a 3 pin weather-pak connector, which connects the sensor to the chassis loom. Each connector has A, B and C marked on the connector. If the A,B and C are covered by shrink-wrap, then use diagram below to determine A,B and C pins position
- Check the the distance between the magnet and sensor. The distance should be 2 to3 millimeters. Rectify if distance is incorrect.
- If checking ground speed sensor check to make sure no magnets are missing and they evenly spaced apart.
- Check for obvious signs of damage(breakage, corrosion etc) to the sensor, plug and wiring. Rectify any damage.



'LOOM' 3PIN Weather-Pak Plug

- From the sensor trace back the wiring to the 3 pin weather-pak plug, unplug the sensor plug from the chassis loom plug.
- Switch Console POWER switch ON.
- The 'Latch' on the plug is what holds the 2 plugs together. With the 'Latch' facing down (as shown in diagram), the Pins starting from the left are: C, B and A.
- Using multi-meter, the voltage between PIN C and PIN B should be 12 volts.
- Using multi-meter, the voltage between PIN A and PIN B should be 4-5 volts.
- If the voltages are correct as above then this would suggest a faulty sensor.
- If one or both voltages are incorrect then write down the actual voltages and contact your local KEE Dealer.

13.5 RELAYS TEST

- Select this to check the operation of the all relay circuitry
- This test, cycles through each relay within the console; and each of the three states of each relay
- During the RELAY TEST regardless of the position of the Console switches; section valves, foam marker solenoids, end jet nozzle solenoids ,flush solenoids etc are turned ON and OFF in sequence.
- This test isolates whether it is a relay problem in the console or an actual relay switch problem in the console.
- Press MENU to exit

Relays Diagnostics Screen

13.6 REGULATOR VALVE TEST

- Select this to check the operation of the REGULATOR valve
- The value will automatically open and close
- Press MENU to exit

REGULATOR Valve Diagnostics Screen

13.7 EEPROM TEST

- Select this to check the operation of the read/write to memory chip.
- When on the memory test page, the lines will keep scrolling.
  If it stops on a particular line, there is a problem, and the
  information is not being saved properly to the memory chip in the console.
- Press MENU to exit

EEPROM Diagnostics Screen

13.8 DISPLAY TEST:

- Select this to check each pixel of the screen
- The screen slowly floods back, from left to right
- If screen is working correctly the screen will be completely blackened
- Press MENU to exit

14. ALARM MESSAGES

14.1 Alarm Messages Overview

All present alarms will flash in the 'Alarm Window', to alert the operator.
The frequency and whether an alarm sounds when an alarm is displayed in the 'Alarm Window' is set in the ALARM CONFIGURATION see Section 12.2.
The alarm will keep flashing in the 'Alarm Window' till the problem is rectified.
If there is more than one alarm present then the alarms will scroll through in the 'Alarm Window' one alarm at a time, the first alarm will flash a number of times, then the next alarm will flash and so forth, until all alarms have been displayed.
The 'Alarm Window' will then start again with the first alarm.
A list of all the alarms and an explanation for each alarm are listed on the following pages.

Working Screen showing Alarm

14.2 ALARM MESSAGES

LOW SPEED SHUTOFF- This alarm will come when no ground speed has been detected, or the ground speed is below the value set in the LOW SPEED SHUTOFF (See Section 3.5 to set). The boomspray will not spray when this alarm is displayed.
To rectify the problem drive **faster.**

MIN FLOW ALARM- This alarm will be displayed when the flow going through the flowmeter is below the value set in the MINIMUM FLOW (See section 1.1.3 to set) and see (Section 4.1.1 to turn the alarm ON or OFF). Every flowmeter has a minimum rate that it can control to accurately, the MINIMUM FLOW should be set at that value, see manufacturers specifications.
To rectify the problem drive **faster.**

RATE LOW ALARM- This alarm will be displayed when the actual rate being applied is below the target rate the operator has selected. The alarm point is set as a percentage(%) see (Section 4.1.3 to set the ALARM POINT and see Section 4.1.2 to switch the RATE LOW ALARM, ON or OFF). Therefore if the the ALARM POINT is set a 10% and the target rate is 50L/HA, then the RATE LOW ALARM will be displayed when actual rate falls below 45L/HA.
If a RATE LOW ALARM is displayed drive **faster** to rectify the problem

RATE HIGH ALARM- This alarm will be displayed when the actual rate being applied is higher than target rate the operator has selected. The alarm point is set as a percentage(%) see (Section 4.1.5 to set the ALARM POINT and Section 4.1.4 to switch the RATE HIGH ALARM, ON or OFF). Therefore if the the ALARM POINT is set a 10% and the target rate is 50L/HA, then the RATE HIGH ALARM will be displayed when actual rate is greater than 55L/HA.
If a RATE HIGH ALARM is displayed drive **slower** to rectify the problem.

MANUAL SPEED ENABLED- This alarm will be displayed when the MANUAL SPEED has been enabled, and no ground speed is detected. As soon as a ground speed is detected then the alarm will disappear.(See Section 3.10 to set MANUAL SPEED)

PRESSURE 1 LOW- When a Pressure Sensor is installed in the system and the pressure falls below the PRESSURE LOW ALARM point, a PRESSURE 1 LOW alarm is displayed.The PRESSURE LOW ALARM POINT is usually set at the lowest operating range of the nozzles.The ALARM POINT is set in section 4.5.2.
To rectify the problem drive **faster.**

PRESSURE 1 HIGH- When a Pressure Sensor is installed in the system and the pressure is higher than the PRESSURE HIGH ALARM point, a PRESSURE 1 HIGH alarm is displayed.The PRESSURE HIGH ALARM POINT is usually set at the highest operating range of the nozzles.The ALARM POINT is set in section 4.5.4.
To rectify the problem drive **slower.**

PRESSURE 2 LOW- When a second Pressure Sensor is installed in the system and the pressure falls below the PRESSURE LOW ALARM point, a PRESSURE 2 LOW alarm is displayed.
The ALARM POINT is set in Section 4.5.2.

PRESSURE 2 HIGH- When a second Pressure Sensor is installed in the system and the pressure is higher than the PRESSURE HIGH ALARM point, a PRESSURE 2 HIGH alarm is displayed.The ALARM POINT is set in section 4.5.4.

PUMP SPEED LOW- This alarm will be displayed when the sensor installed on the shaft of the pump, and the rpm of the shaft falls below the alarm point.
See section 4.2.2 to set PUMP SPEED LOW alarm point.
To rectify problem increase the pump speed up to operating speed for the pump.

PUMP SPEED HIGH- This alarm will be displayed when a sensor is installed on the shaft of the pump and the rpm of the shaft is greater than the alarm point.
See section 4.2.4 to set PUMP SPEED HIGH alarm point.
To rectify problem decrease the pump speed to the operating speed for the pump.

AUXILIARY SHAFT SPEED LOW- This alarm will be displayed when a sensor is installed on the shaft of the pump and the rpm of the shaft is less than the alarm point.
See section 4.2.6 to set AUX SHAFT SPEED alarm point.
To rectify problem increase the pump speed to the operating speed for the pump.
AUXILIARY SHAFT SPEED HIGH- This alarm will be displayed when a sensor is installed on a shaft of and the rpm of the shaft is greater than the alarm point.
See section 4.2.8 to set AUX SHAFT SPEED alarm point.
To rectify problem decrease the pump speed to the operating speed for the pump.

SPEED LOW ALARM- When the SPEED LOW ALARM is displayed, the operator is driving below the SPEED LOW ALARM POINT. See section 4.3.2 to set alarm point.
To rectify the problem drive faster.

SPEED HIGH ALARM- When the SPEED HIGH ALARM is displayed, the operator is driving ABOVE the SPEED HIGH ALARM POINT. See section 4.3.4 to set alarm point.
To rectify the problem drive slower.

TANK VOLUME LOW- This alarm is displayed when the tank volume falls below the alarm point This is calculated by the operator filling the tank up to a known volume and the console counting down the VOLUME LEFT which is display on the Working Screen, when the VOLUME LEFT falls below the alarm point set, the TANK VOLUME LOW alarm is displayed.
See section 4.4.2

FENCE JETS ACTIVE- Will be displayed in the alarm window when the Fence Jets are active and FENCE JETS RIGHT and FENCE JETS LEFT are displayed on the Working Screen

AUXILIARY ACTIVE- will be displayed in the Alarm Window while the AUXILIARY is switched ON

FLUSH ACTIVE-Is displayed in the alarm window when the FLUSH function is active and the boomspray is being flushed out

15. SPECIFICATIONS

15.1 CONSOLE

• **Supply Voltage** 12.5 - 16 volts Negative earth system.

The Console's power leads must be connected directly to the tractors battery terminals.
No attempt should be made to connect the system to positive earth vehicle. Damage will result and Warranty will become void.

• **Supply Current Console** 0.9 amps approxlmately.

Maximum Solenoid supply current 2 Amps each

Maximum Electric Regulator Valve Motor Current: approx. 250milli-amps

15.2 GROUND SPEED, FAN SPEED AND AUXILIARY SHAFT SENSORS

Ground Speed Sensor,: Hall effect type sensors
Fan Speed Sensor and Auxiliary Shaft Sensors: 3 pin weather-pak plug (Pin A, B and C)

Sensor to Magnet Distance 2-3 millimeters (mm)

Supply Voltage Supply 12 volts from MDECU

Signal Voltage: 4 -5- volts sensor inactive
< 1 volt sensor activated by magnet

15.3 FLOW SENSORS

15.3.1 Reed Switch Type (Broadacre)

• With Switch OFF: Open Circuit
• Switch ON Resistance: 1800 Ohms
• 2 Wire Only
• Maximum contact Current: 50 milli amps
• Accuracy: 2% in range 10% to 200% of nominal flow
• Bore: 15mm
• Nominal Flow Rate: 80l/min
• Calibration: 45.7 pulse/l

15.3.2 Polmac (Broadacre)

- 3 Wire Flow Sensor
- Flow Rate: 20 - 200 l/min
- Calibration: approx: 630 pulse/l
- Accuracy: +/- 1% when flow is 10-100 l/min
  +/- 3 % when flow is 100 - 200 l/min
- Bore: 25 mm

15.3.3 Orion (Broadacre)

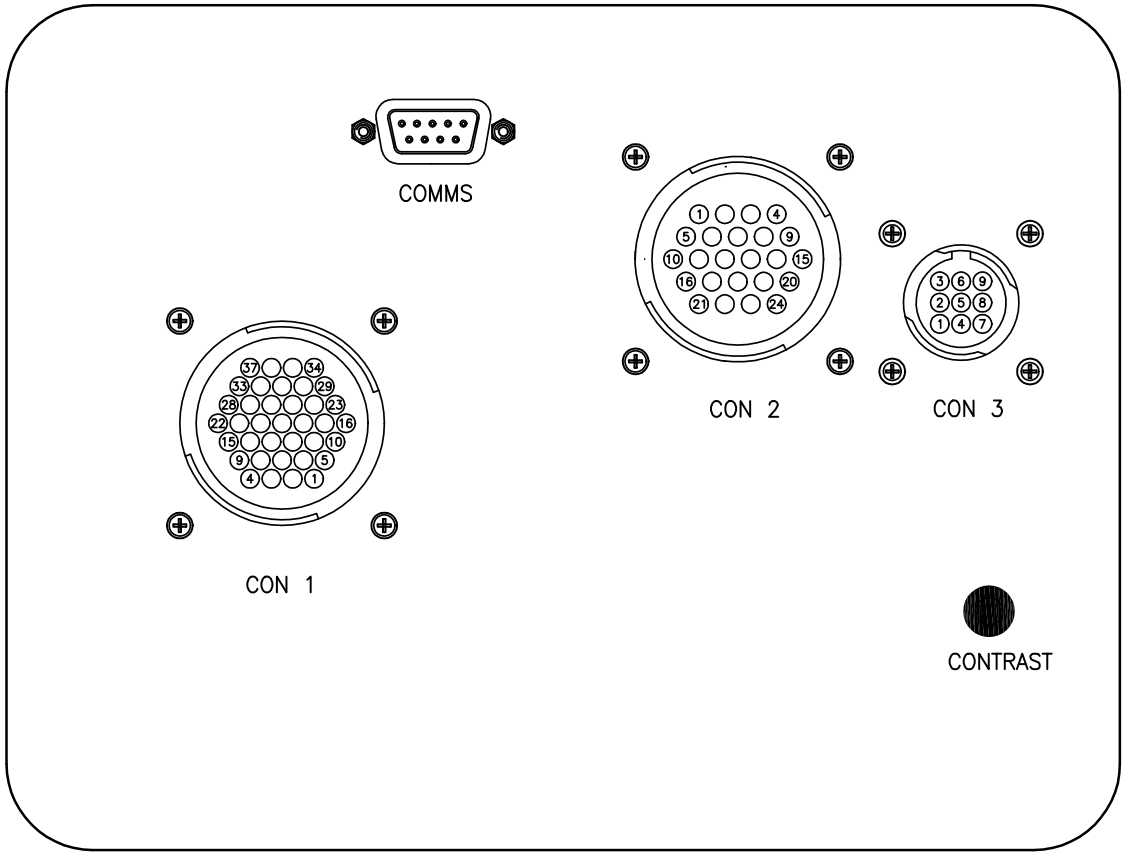
- 3 Wire Flow Sensor
- Flow Rate: 10 - 200 l/min
- Calibration: approx: 300 pulse/l
- Accuracy: +/- 0.5% when flow is 10-200 l/min
- Bore: 25 mm
- Maximum contact Current: 300 milli amps

15.4 PRESSURE TRANSDUCER

- VDO type 360 710 Variable resistance sender fitted with gauge saver.
- 0kPa Pressure 8-11 Ohms
- 500 kPa Pressure approx. 180 Ohms

16.1 ECONOMY LOOMS

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE



CONNECTOR 2	
PIN NUMBER	FUNCTION
1	SECTION 1
2	SECTION 2
3	SECTION 3
4	SECTION 4
5	BATTERY +13.8V
6	PRESSURE 1
7	GROUND
8	GROUND SPEED
9	SECTION 5
10	BATTERY +13.8V
12	GROUND
15	FLOW SENSOR 1
17	DUMP VALVE
20	SENSOR POWER
21	REG VALVE 1A
22	REG VALVE 1B
23	DUAL LINE SIGNAL

DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES
X. +/−1
X.X +/−0.2
X.XX AS STATED
ANGULAR ±0.25°

DRAWN	APPROVED	PART OF ASSY:
OM		
18/11/04		

KEE TECHNOLOGIES
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PART NO:

PROJECT:

TITLE: KEE EAGLE ECONOMY SPRAYER PINOUTS

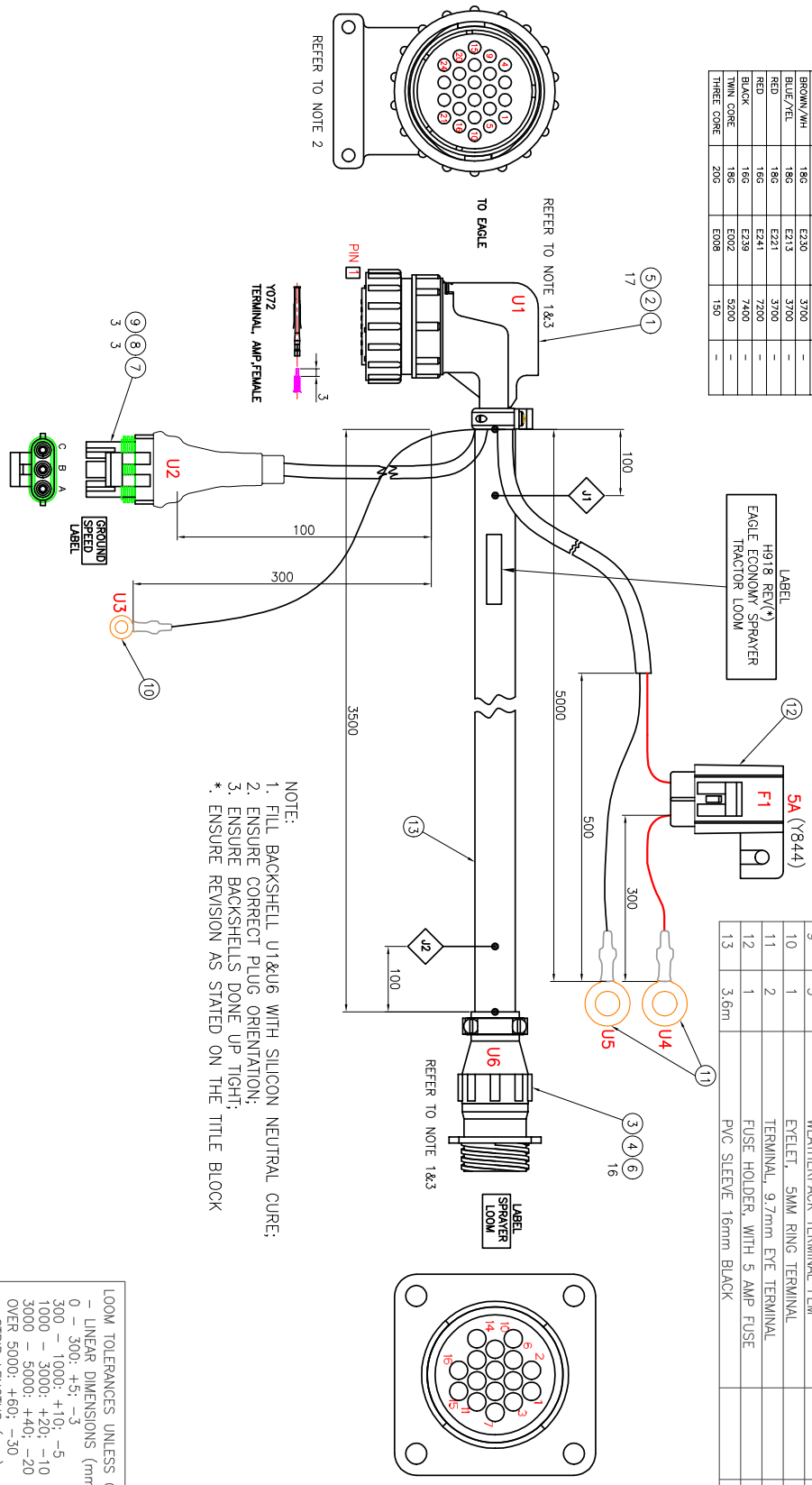
SCALE N/A

SHEET 1 OF 1

DRAWING NO: 1977

FILE NAME: 1977_10.DWG

REV 1.0



WIRE COLOUR	GAUGE	CODE	LENGTH	TOTAL
BROWN	18G	E220	3700	–
ORANGE	18G	E222	3700	–
YELLOW	18G	E223	3700	–
GREEN	18G	E347	3700	–
VIOLET	18G	E226	3700	–
WHITE	20G	E181	3700	–
L/BLUE	18G	E348	3700	–
ORANGE/WH	18G	E232	3700	–
BLUE/WH	18G	E235	3700	–
BLACK/WH	18G	E229	3700	–
BROWN/WH	18G	E230	3700	–
BLUE/YEL	18G	E213	3700	–
RED	18G	E221	3700	–
RED	16G	E241	7200	–
BLACK	16G	E239	7400	–
TWIN CORE	18G	E002	5200	–
THREE CORE	20G	E008	150	–

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE
1	1	CONNECTOR 24 PIN, PLUG, AMP		Y636
2	1	BACKSHELL, 24 WAY, R/ANGLE		Y656
3	1	CONNECTOR CPC RECEPT 16 PIN		Y133
4	1	BACKSHELL, 16 WAY		Y131
5	17	FEMALE AMP TERMINAL, SOCKET		Y072
6	16	MALE AMP TERMINAL, PIN		Y074
7	1	WEATHERPACK 3 PIN SKT		Y204
8	3	WEATHERPACK CABLE SEAL GRN		Y208
9	3	WEATHERPACK TERMINAL FEM		Y210
10	1	EYELET, 5MM RING TERMINAL		Y418/Y123
11	2	TERMINAL, 9.7mm EYE TERMINAL		Y484
12	1	FUSE HOLDER, WITH 5 AMP FUSE		Y813/Y814/Y815
13	3.6m	PVC SLEEVE 16mm BLACK		E324

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D
A	21/01/05		CHANGED FROM 6.5m TO 3.5m	BK

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES X +/-1 X.X +/-0.2 X.XX +/-0.1 ANGULAR AS STATED ±0.25°

	DRAWN	APPROVED
	OM	BK
	16/12/04	23/2/05

PART OF ASSY: A2033

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LOOM TOLERANCES UNLESS OTHERWISE STATED
– LINEAR DIMENSIONS (mm)
0 – 300: +5; –3
300 – 1000: +10; –5
1000 – 3000: +20; –10
3000 – 5000: +40; –20
OVER 5000: +60; –30
– STRIP LENGTHS (mm): +0.5; –0

PART NO: H918

PROJECT: 1007

TITLE: EAGLE E15 ECONOMY SPRAYER TRACTOR LOOM

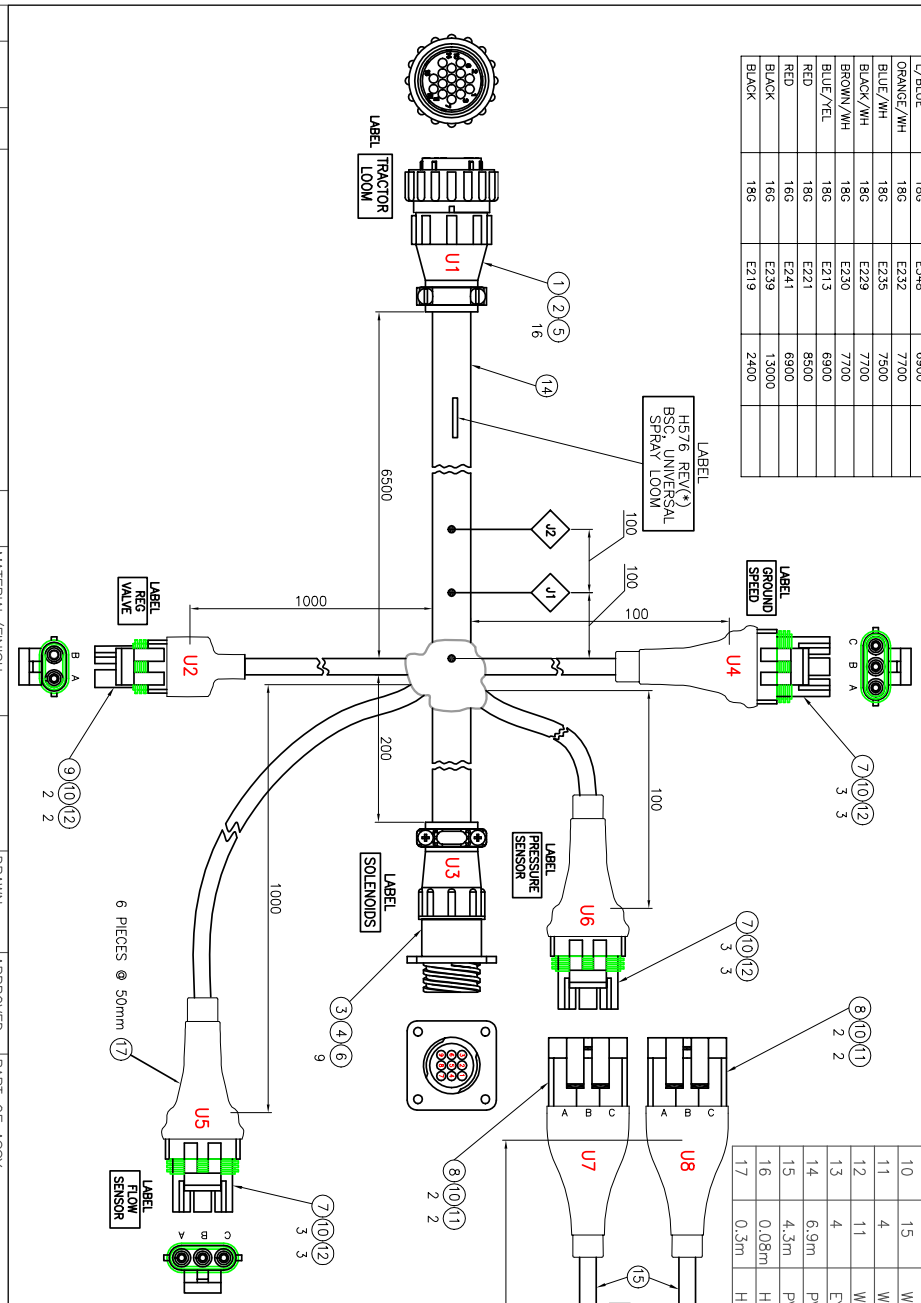
DRAWING NO: 1986

FILE NAME: 1986_10.DWG

SCALE N/A

SHEET 1 OF 2

REV 1.0



WIRE COLOUR	GAUGE	CODE	LENGTH	TOTAL
BROWN	18G	E220	6900	
ORANGE	18G	E222	6900	
YELLOW	18G	E223	6900	
GREEN	18G	E347	6900	
VIOLET	18G	E226	6800	
WHITE	20G	E181	6800	
L/BLUE	18G	E348	6900	
ORANGE/WH	18G	E232	7700	
BLUE/WH	18G	E235	7500	
BLACK/WH	18G	E229	7700	
BROWN/WH	18G	E230	7700	
BLUE/YEL	18G	E213	6900	
RED	18G	E221	8500	
RED	16G	E241	6900	
BLACK	16G	E239	13000	
BLACK	18G	E219	2400	

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE
1	1	CONNECTOR CPC PLUG 16 PIN (F/M PINS)		Y132
2	1	BACKSHELL CPC 16 PIN		Y131
3	1	CONN CPC 9 PIN FEMALE RECEPT (MALE PINS)		Y750
4	1	BACKSHELL, 9 PIN, AMP		Y152
5	16	FEMALE AMP TERMINAL, SOCKET		Y072
6	9	MALE AMP TERMINAL, PIN		Y074
7	3	WEATHERPACK 3 PIN SKT (F/M PINS)		Y204
8	2	WEATHERPACK 3 PIN PLUG (MALE PINS)		Y205
9	1	WEATHERPACK 2 PIN SKT(F/M PINS)		Y207
10	15	WEATHERPACK CABLE SEAL GRN		Y208
11	4	WEATHERPACK TERMINAL MALE		Y209
12	11	WEATHERPACK TERMINAL FEMALE		Y210
13	4	EYELET, 5MM RING TERMINAL/OR INSULATED CRIMP		Y418/Y123
14	6.9m	PVC SLEEVE 14mm BLACK		E372
15	4.3m	PVC SLEEVE 6mm BLACK		E297
16	0.08m	HEATSHRINK BLACK 5mm ID		E021
17	0.3m	HEATSHRINK GLUE LINE 18mm 1.2M		E355

NOTE:
1. ALL WEATHERPACK CONNECTORS REQUIRE HEATSHRINK.
2. FILL BACKSHELLS U1&U3 WITH SILICON NEUTRAL CURE.
3. ENSURE BACKSHELLS DONE UP TIGHT.
*. ENSURE REVISION AS STATED ON THE TITLE BLOCK.

LOOM TOLERANCES UNLESS OTHERWISE STATED
– LINEAR DIMENSIONS (mm)
0 – 300: +5; –3
300 – 1000: +10; –5
1000 – 3000: +20; –10
3000 – 5000: +40; –20
OVER 5000: +60; –30
– STRIP LENGTHS (mm): +0.5; –0

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D
B				
1.0	2/12/04	0202	REFER TO DCR FORM FOR DETAILS	BK

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES X: +/-1 X.X: +/-0.2 X.XX: AS STATED ANGULAR: ±0.25°

DRAWN: BK 10/10/02
APPROVED: BK 10/10/02

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PART OF ASSY: A862

PART NO: H576

TITLE: BSC, UNIVERSAL SPRAY LOOM

DRAWING NO: 1275

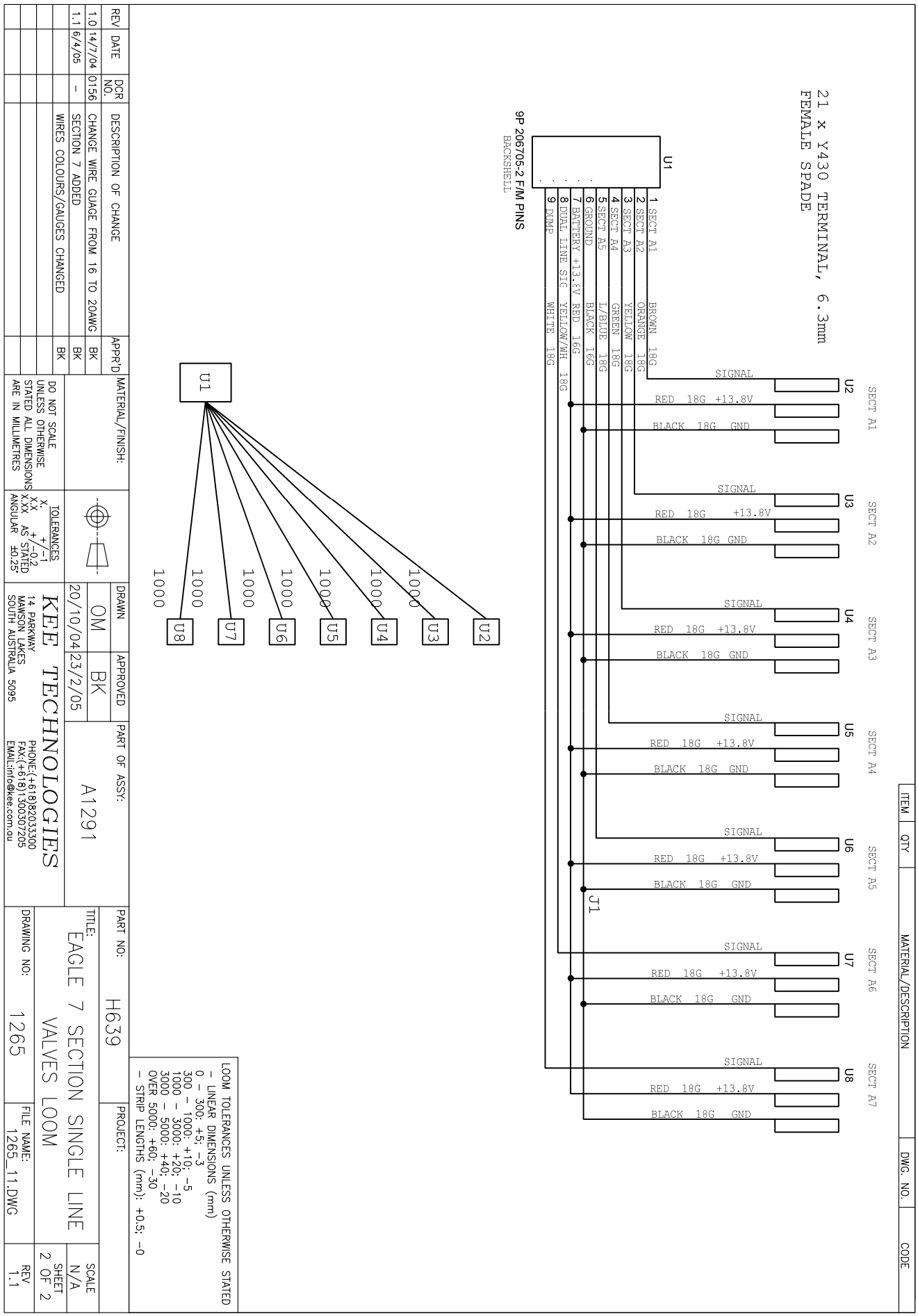
PROJECT:

FILE NAME: 1275_10.DWG

SCALE N/A

SHEET 1 OF 2

REV 1.0



ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D
1.0	14/7/04	0156	CHANGE WIRE GUAGE FROM 16 TO 20AWG	BK
1.1	6/4/05	–	SECTION 7 ADDED	BK
			WIRES COLOURS/GAUGES CHANGED	BK

LOOM TOLERANCES UNLESS OTHERWISE STATED
– LINEAR DIMENSIONS (mm)
0 – 300: +5; –3
300 – 1000: +10; –5
1000 – 3000: +20; –10
3000 – 5000: +40; –20
OVER 5000: +60; –30
– STRIP LENGTHS (mm): +0.5; –0

MATERIAL/FINISH:	
DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES	TOLERANCES x. ±1 x.x ±0.2 x.xx AS STATED ANGULAR ±0.25°
DRAWN	OM 20/10/04
APPROVED	BK 23/2/05
PART OF ASSY:	A1291
PART NO:	H639
PROJECT:	
TITLE:	EAGLE 7 SECTION SINGLE LINE VALVES LOOM
DRAWING NO:	1265
FILE NAME:	1265_11.DWG
SCALE	N/A
SHEET	2 OF 2
REV	1.1

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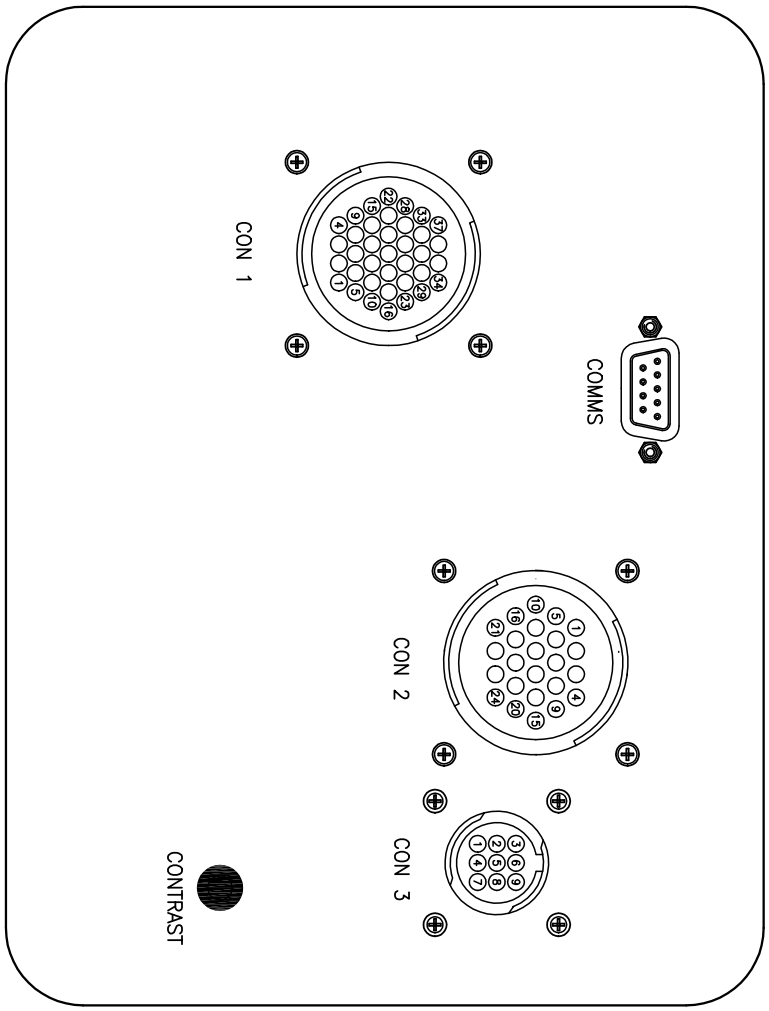
16.2 FULLY FEATURED LOOMS



CONNECTOR 1

PIN NUMBER	FUNCTION
1	SECTION B7
2	SECTION A6
3	SECTION B6
4	DUMP VALVE A1
5	SECTION A7
9	DUMP VALVE B1
10	MARKER LEFT
15	FENCE LEFT
16	MARKER RIGHT
22	FENCE RIGHT
28	FLUSH
29	SECTION B1
30	AUX SENSOR INPUT 1
31	PRESSURE 2
32	AUX SENSOR INPUT 2
33	AUX SWITCH
34	SECTION B2
35	SECTION B3
36	SECTION B4
37	SECTION B5

CONNECTOR 2

PIN NUMBER	FUNCTION
1	SECTION 1
2	SECTION 2
3	SECTION 3
4	SECTION 4
5	BATTERY +13.8V
6	PRESSURE 1
7	GROUND
8	GROUND SPEED
9	SECTION 5
10	BATTERY +13.8V
11	BATTERY +13.8V
12	GROUND
13	GROUND
15	FLOW SENSOR 1
19	FLOW SENSOR 2
20	SENSOR POWER
21	REG VALVE 1A
22	REG VALVE 1B
23	REG VALVE 2A
24	REG VALVE 2B

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES X.X +/-1 X.XX +/-0.2 ANGULAR AS STATED ±0.25°

DRAWN: OM 18/11/04

APPROVED:

PART OF ASSY:

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PART NO:

PROJECT:

TITLE: KEE EAGLE FULL FEATURED SPRAYER PINOUTS

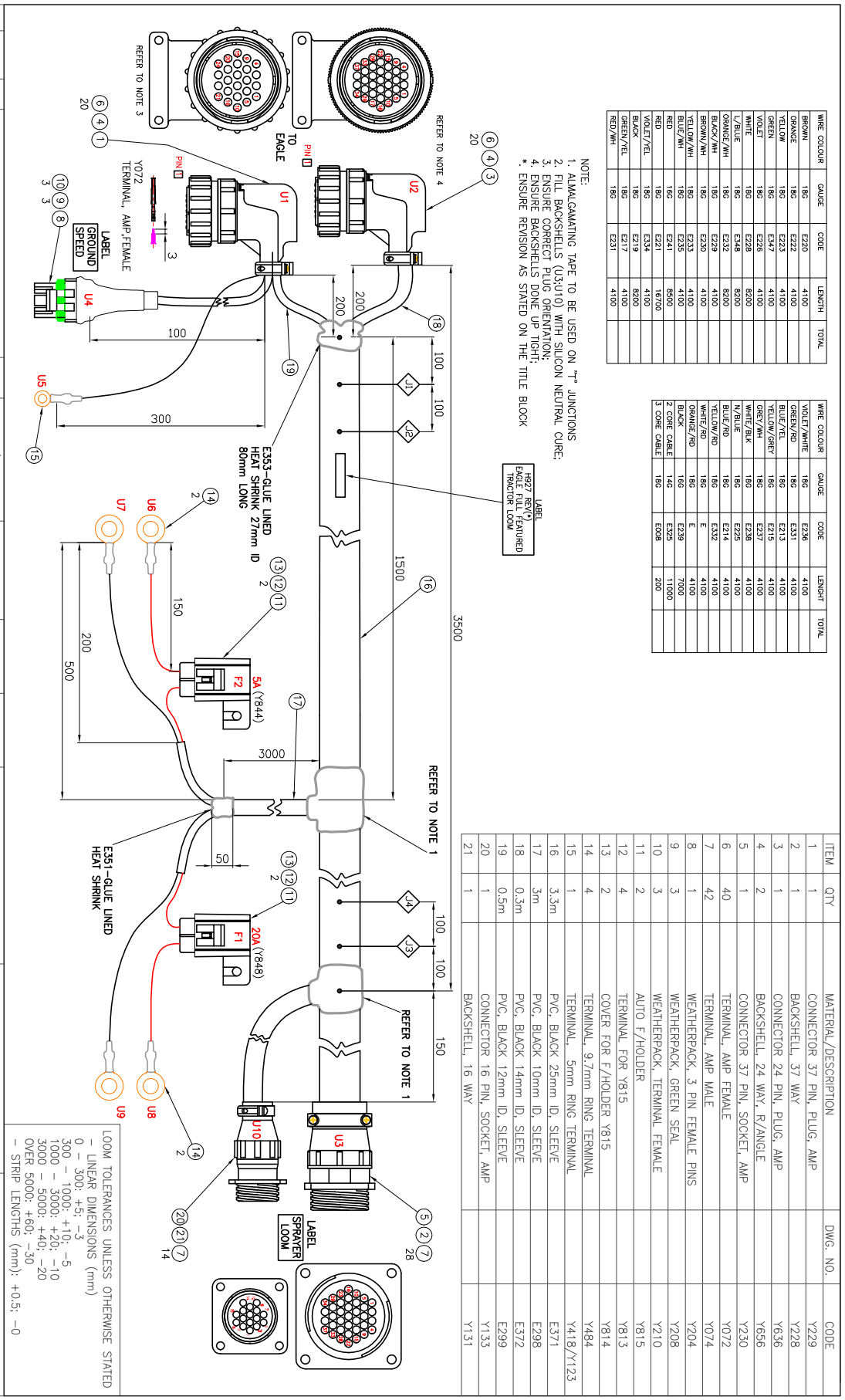
DRAWING NO: 1977

FILE NAME: 1977_10.DWG

SCALE N/A

SHEET 1 OF 1

REV 1.0



WIRE COLOUR	GAUGE	CODE	LENGTH	TOTAL
BROWN	18G	E220	4100	
ORANGE	18G	E222	4100	
YELLOW	18G	E223	4100	
GREEN	18G	E347	4100	
VIOLET	18G	E226	4100	
WHITE	18G	E228	8200	
L/BLUE	18G	E348	8200	
ORANGE/WH	18G	E232	8200	
BLACK/WH	18G	E229	4100	
BROWN/WH	18G	E230	4100	
YELLOW/WH	18G	E233	4100	
BLUE/WH	18G	E235	4100	
RED	16G	E241	8500	
RED	18G	E221	16700	
VIOLET/YEL	18G	E354	4100	
BLACK	18G	E219	8200	
GREEN/YEL	18G	E217	4100	
RED/WH	18G	E231	4100	

WIRE COLOUR	GAUGE	CODE	LENGHT	TOTAL
VIOLET/WHITE	18G	E236	4100	
GREEN/RD	18G	E331	4100	
BLUE/YEL	18G	E213	4100	
YELLOW/GREY	18G	E215	4100	
GREY/WH	18G	E237	4100	
WHITE/BLK	18G	E238	4100	
N/BLUE	18G	E225	4100	
BLUE/RD	18G	E214	4100	
YELLOW/RD	18G	E332	4100	
WHITE/RD	18G	E	4100	
ORANGE/RD	18G	E	4100	
BLACK	16G	E239	7000	
2 CORE CABLE	14G	E325	11000	
3 CORE CABLE	18G	E008	200	

NOTE:
1. ALMALGAMATING TAPE TO BE USED ON "T" JUNCTIONS
2. FULL BACKSHELLS (U3;U10) WITH SILICON NEUTRAL CURE;
3. ENSURE CORRECT PLUG ORIENTATION;
4. ENSURE BACKSHELLS DONE UP TIGHT;
*. ENSURE REVISION AS STATED ON THE TITLE BLOCK

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE
1	1	CONNECTOR 37 PIN, PLUG, AMP		Y229
2	1	BACKSHELL, 37 WAY		Y228
3	1	CONNECTOR 24 PIN, PLUG, AMP		Y636
4	2	BACKSHELL, 24 WAY, R/ANGLE		Y656
5	1	CONNECTOR 37 PIN, SOCKET, AMP		Y230
6	40	TERMINAL, AMP FEMALE		Y072
7	42	TERMINAL, AMP MALE		Y074
8	1	WEATHERPACK, 3 PIN FEMALE PINS		Y204
9	3	WEATHERPACK, GREEN SEAL		Y208
10	3	WEATHERPACK, TERMINAL FEMALE		Y210
11	2	AUTO F/HOLDER		Y815
12	4	TERMINAL FOR Y815		Y813
13	2	COVER FOR F/HOLDER Y815		Y814
14	4	TERMINAL, 9.7mm RING TERMINAL		Y484
15	1	TERMINAL, 5mm RING TERMINAL		Y418/Y123
16	3.3m	PVC, BLACK 25mm ID, SLEEVE		E371
17	3m	PVC, BLACK 10mm ID, SLEEVE		E298
18	0.3m	PVC, BLACK 14mm ID, SLEEVE		E372
19	0.5m	PVC, BLACK 12mm ID, SLEEVE		E299
20	1	CONNECTOR 16 PIN, SOCKET, AMP		Y133
21	1	BACKSHELL, 16 WAY		Y131

LOOM TOLERANCES UNLESS OTHERWISE STATED
– LINEAR DIMENSIONS (mm)
0 – 300: +5; –3
300 – 1000: +10; –5
1000 – 3000: +20; –10
3000 – 5000: +40; –20
OVER 5000: +60; –30
– STRIP LENGTHS (mm): +0.5; –0

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D
	21/01/05		CHANGED FROM 6.5m TO 3.5m	BK

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES x ±1, x.x ±0.2, x.xx AS STATED, ANGULAR ±0.25°

DRAWN: OM 7/01/05
APPROVED: BK 23/2/05

PART OF ASSY: A2101

PART NO: H927

TITLE: EAGLE E15 FULL FEATURED TRACTOR LOOM

DRAWING NO: 2000

FILE NAME: 2000_10.DWG

PROJECT:

SCALE N/A

SHEET 1 OF 2

REV 1.0

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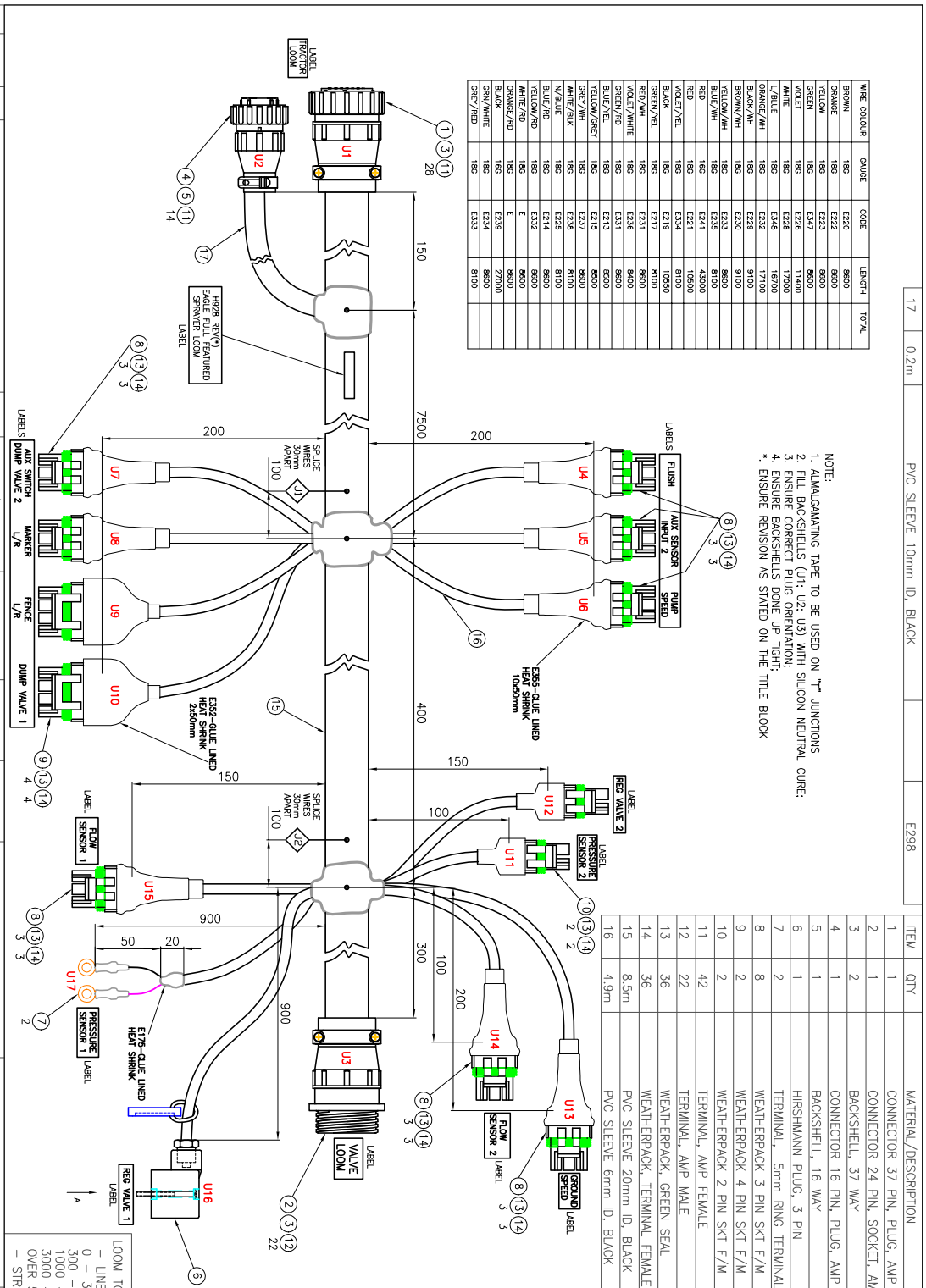

WIRE COLOUR	GAUGE	CODE	LENGTH	TOTAL
BROWN	18G	E220	8600	
ORANGE	18G	E222	8600	
YELLOW	18G	E223	8600	
GREEN	18G	E347	8600	
VIOLET	18G	E226	11400	
WHITE	18G	E228	17000	
L/BLUE	18G	E348	16700	
ORANGE/WH	18G	E232	17100	
BLACK/WH	18G	E229	9100	
BROWN/WH	18G	E230	9100	
YELLOW/WH	18G	E233	8600	
BLUE/WH	18G	E235	8100	
RED	16G	E241	43500	
RED	18G	E221	10500	
VIOLET/YEL	18G	E334	8100	
BLACK	18G	E219	10550	
GREEN/YEL	18G	E217	8100	
RED/WH	18G	E231	8600	
VIOLET/WHITE	18G	E236	8400	
GREEN/RD	18G	E331	8600	
BLUE/YEL	18G	E213	8500	
YELLOW/GREY	18G	E215	8500	
GREY/WH	18G	E237	8600	
WHITE/BLK	18G	E238	8100	
N/BLUE	18G	E225	8100	
BLUE/RD	18G	E214	8600	
YELLOW/RD	18G	E332	8600	
WHITE/RD	18G	E	8600	
ORANGE/RD	18G	E	8600	
BLACK	16G	E239	27000	
GRN/WHITE	18G	E234	8600	
GREY/RED	18G	E333	8100	

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE
1	1	CONNECTOR 37 PIN, PLUG, AMP		Y229
2	1	CONNECTOR 24 PIN, SOCKET, AMP		Y637
3	2	BACKSHELL, 37 WAY		Y228
4	1	CONNECTOR 16 PIN, PLUG, AMP		Y132
5	1	BACKSHELL, 16 WAY		Y131
6	1	HIRSHMANN PLUG, 3 PIN		ECS0015
7	2	TERMINAL, 5mm RING TERMINAL		Y418/Y123
8	8	WEATHERPACK 3 PIN SKT F/M		Y204
9	2	WEATHERPACK 4 PIN SKT F/M		Y651
10	2	WEATHERPACK 2 PIN SKT F/M		Y207
11	42	TERMINAL, AMP FEMALE		Y072
12	22	TERMINAL, AMP MALE		Y074
13	36	WEATHERPACK, GREEN SEAL		Y208
14	36	WEATHERPACK, TERMINAL FEMALE		Y210
15	8.5m	PVC SLEEVE 20mm ID, BLACK		E300
16	4.9m	PVC SLEEVE 6mm ID, BLACK		E297

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES x. +/–1 X.X +/–0.2 X.XX AS STATED ANGULAR ±0.25°

	DRAWN	APPROVED
	OM	BK
	7/01/05	23/2/05

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PART OF ASSY: A2102

PART NO: H928

TITLE: EAGLE E15 FULL FEATURED SPRAYER LOOM

DRAWING NO: 2001

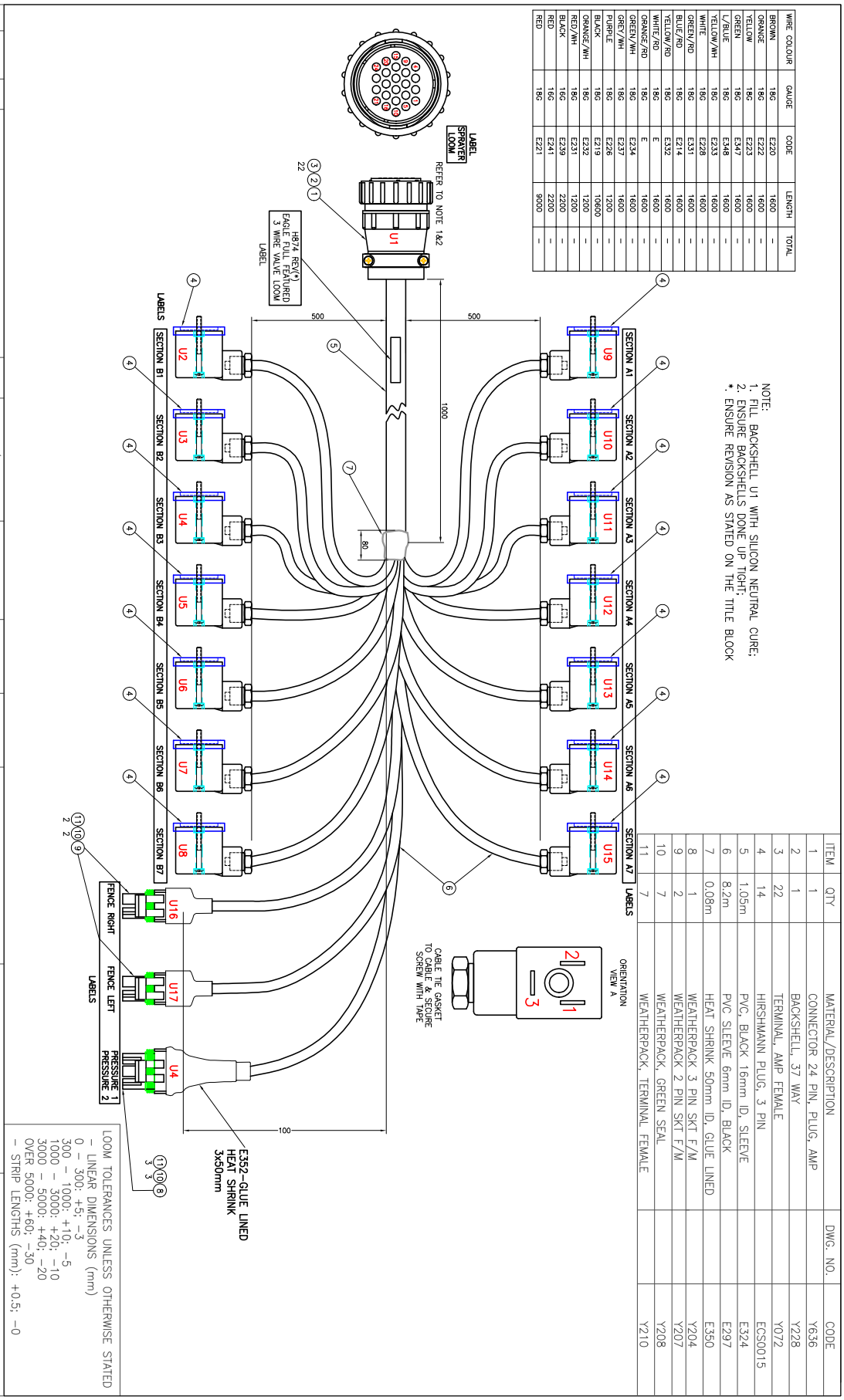
PROJECT:

FILE NAME: 2001_10.DWG

SCALE N/A

SHEET 1 OF 2

REV 1.0



WIRE COLOUR	GAUGE	CODE	LENGTH	TOTAL
BROWN	18G	E220	1600	–
ORANGE	18G	E222	1600	–
YELLOW	18G	E223	1600	–
GREEN	18G	E347	1600	–
L/BLUE	18G	E348	1600	–
YELLOW/WH	18G	E233	1600	–
WHITE	18G	E228	1600	–
GREEN/RD	18G	E331	1600	–
BLUE/RD	18G	E214	1600	–
YELLOW/RD	18G	E332	1600	–
WHITE/RD	18G	E	1600	–
ORANGE/RD	18G	E	1600	–
GREEN/WH	18G	E234	1600	–
GREY/WH	18G	E237	1600	–
PURPLE	18G	E226	1200	–
BLACK	18G	E219	10600	–
ORANGE/WH	18G	E232	1200	–
RED/WH	18G	E231	1200	–
BLACK	16G	E239	2200	–
RED	16G	E241	2200	–
RED	18G	E221	9000	–

ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE
1	1	CONNECTOR 24 PIN, PLUG, AMP		Y636
2	1	BACKSHELL, 37 WAY		Y228
3	22	TERMINAL, AMP FEMALE		Y072
4	14	HIRSHMANN PLUG, 3 PIN		ECS0015
5	1.05m	PVC, BLACK 16mm ID, SLEEVE		E324
6	8.2m	PVC SLEEVE 6mm ID, BLACK		E297
7	0.08m	HEAT SHRINK 50mm ID, GLUE LINED		E350
8	1	WEATHERPACK 3 PIN SKT F/M		Y204
9	2	WEATHERPACK 2 PIN SKT F/M		Y207
10	7	WEATHERPACK, GREEN SEAL		Y208
11	7	WEATHERPACK, TERMINAL FEMALE		Y210

LOOM TOLERANCES UNLESS OTHERWISE STATED
– LINEAR DIMENSIONS (mm)
0 – 300: +5; –3
300 – 1000: +10; –5
1000 – 3000: +20; –10
3000 – 5000: +40; –20
OVER 5000: +60; –30
– STRIP LENGTHS (mm): +0.5; –0

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D
	11/01/05		CHANGED TO EAGLE E15 FF	BK
			3 WIRE VALVES LOOM	

MATERIAL/FINISH:

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

TOLERANCES
X ±1
X.X +/−0.2
X.XX AS STATED
ANGULAR ±0.25°

	DRAWN	APPROVED
	OM	BK
	21/10/04	23/2/05

PART OF ASSY: A1995

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PART NO: H874

TITLE: EAGLE E15 FULL FEATURED 3 WIRE VALVES LOOM

PROJECT:

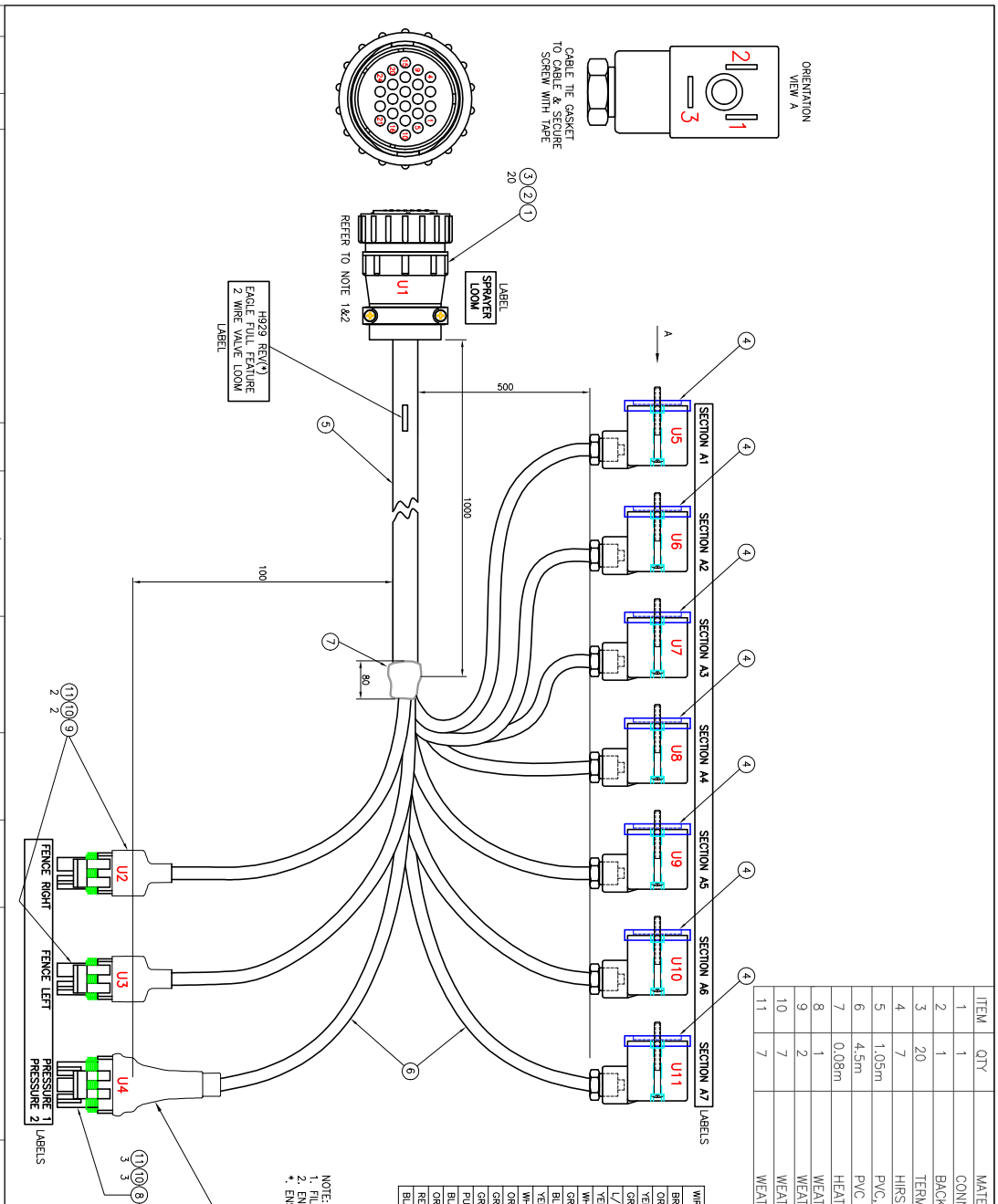
DRAWING NO: 1944

FILE NAME: 1944_10.DWG

SCALE N/A

SHEET 1 OF 2

REV 1.0



ITEM	QTY	MATERIAL/DESCRIPTION	DWG. NO.	CODE
1	1	CONNECTOR 24 PIN, PLUG, AMP		Y636
2	1	BACKSHELL, 37 WAY		Y228
3	20	TERMINAL, AMP FEMALE		Y072
4	7	HIRSHMANN PLUG, 3 PIN		ECS0015
5	1.05m	PVC, BLACK 16mm ID, SLEEVE		E324
6	4.5m	PVC SLEEVE 6mm ID, BLACK		E297
7	0.08m	HEAT SHRINK 50mm ID, GLUE LINED		E350
8	1	WEATHERPACK 3 PIN SKT F/M		Y204
9	2	WEATHERPACK 2 PIN SKT F/M		Y207
10	7	WEATHERPACK, GREEN SEAL		Y208
11	7	WEATHERPACK, TERMINAL FEMALE		Y210

WIRE COLOUR	GAUGE	CODE	LENGTH	TOTAL
BROWN	18G	E220	1600	–
ORANGE	18G	E222	1600	–
YELLOW	18G	E223	1600	–
GREEN	18G	E347	1600	–
L/BLUE	18G	E348	1600	–
YELLOW/WH	18G	E233	1600	–
WHITE	18G	E228	1600	–
GREEN/RD	18G	E331	1600	–
BLUE/RD	18G	E214	1600	–
YELLOW/RD	18G	E332	1600	–
WHITE/RD	18G	E	1600	–
ORANGE/RD	18G	E	1600	–
GREEN/WH	18G	E234	1600	–
GREY/WH	18G	E237	1600	–
PURPLE	18G	E226	1200	–
BLACK	18G	E219	1600	–
ORANGE/WH	18G	E232	1200	–
RED/WH	18G	E231	1200	–
BLACK	16G	E239	2200	–

NOTE:
1. FULL BACKSHELL U1 WITH SILICON NEUTRAL CURE; FULL RACK BACKSHELLS DONE UP TIGHT;
*. ENSURE REVISION AS STATED ON THE TITLE BLOCK

LOOM TOLERANCES UNLESS OTHERWISE STATED
– LINEAR DIMENSIONS (mm)
0 – 300: +5; –3
300 – 1000: +10; –5
1000 – 3000: +20; –10
3000 – 5000: +40; –20
OVER 5000: +60; –30
– STRIP LENGTHS (mm): +0.5; –0

REV	DATE	DCR NO.	DESCRIPTION OF CHANGE	APPR'D

DO NOT SCALE UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES

MATERIAL/FINISH:

TOLERANCES x. +/–1 x.xx +0.2 –0 x.xx AS STATED ANGULAR ±0.25°

DRAWN: OM 11/01/05

APPROVED: BK 23/2/05

PART OF ASSY: A2103

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PART NO: H929

TITLE: EAGLE E15 2 WIRE VALVES LOOM

PROJECT:

DRAWING NO: 2002

FILE NAME: 2002_10.DWG

SCALE N/A

SHEET 1 OF 2

REV 1.0

Personal Notes

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POWERING FARM PRODUCTION

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