TeeJet® 844-RA

Sprayer Control

Programming and Operating Manual
(1.03)

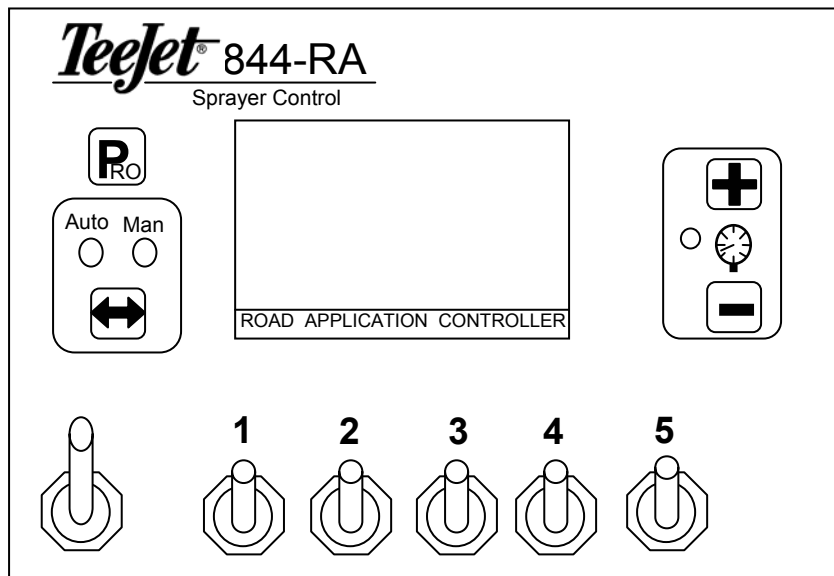## 98-70011-R0

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Programming Guidelines

Make sure that all hardware components are properly installed and tested. Before you start the programming process you should first check if the console and all sensors are working properly. Refer to the plumbing and installation manual supplied with this console.

IMPORTANT PRELIMINARY INFORMATION

Before you begin, we recommend that you review the following Programming Guidelines that control the programming process:

☞ To enter the program mode press and hold the 🄿 key for 3 seconds. The master switch must be in the off position.

☞ To exit the program mode press and hold the 🄿 key for 3 seconds, your inputs will be stored and the computer will exit the program mode. This action will not be necessary until the last programming step has been completed.

☞ To increase the value of a programmable digit, press the ⊞ key. To decrease the value, press the ⊟ key. These keys are located directly to the right of the display. For some programming steps, pressing and holding the ⊞ or ⊟ key will change the programmable value rapidly. Pressing the ⊞ or ⊟ key once will change the value by one increment.

☞ Pressing the ⊞ and ⊟ keys simultaneously in some programming steps will set the value to "0" or will start an automatic calibration.

☞ Pressing the ⬌ key in some steps will reset the value to the factory default value.

☞ Pressing the 🄿 key will advance you to the next programming step. After the last programming step, the console will return to the first programming step.

☞ **Note: Due to differences in fonts, some letters on the displays shown in this manual are not identical with the corresponding letters on the display of the controller. We tried to match them as close as possible**.

Powering Console On/Off

POWER ON

After all the necessary electrical connections have been made (refer to the Plumbing and Installation manual included with this kit) the console is ready to be powered on. To power the 844-RA on press the 🅿 key once. Initially the console will display the software version of the console in the top display and the serial number of the console in the bottom of the display for approximately 5 seconds. This information will be needed when calling for support. After 5 seconds the display will show the normal operating view.

sft	1.03
G51	0025

ROAD   APPLICATION   CONTROLLER

POWER OFF

To manually power the console off, press the ⊟ and 🅿 keys simultaneously. The console will then save any new information (area and volume counters) to memory and will power off.

ROAD   APPLICATION   CONTROLLER

Note: The console also has an Auto Power Down feature. Refer to this in the features section of this manual.

Programming the 844-RA Sprayer Control System

To enter the Program Mode, press and hold the 🅿 key for 3 seconds. The first programming step should appear on the display.

SELECTION OF WORKING UNITS

The 844-RA is capable of working in either GLM (Gallons Per Lane Mile) or GPA (Gallons Per Acre) units. In this step you select which units you will be using.

Use the ➕ and ➖ keys to switch from GLM to GPA units. Press the 🅿 key to accept the value and advance to the next program step.

PRO		
	gl n	
		unit
ROAD APPLICATION CONTROLLER		

Reset To Defaults

If you made a change to the units in the first programming step, before advancing to the next step the console will ask if you would like to reset all the program parameters to defaults specified for the units you have chosen.   Use the ➕ or ➖ key to select either yes or no. After you have made your selection, press the 🅿 key to begin resetting or advance to the next step.

PRO		
res	yes	
gpa		dfl t
ROAD APPLICATION CONTROLLER		

Note: If you did not make any changes to the units, this step will be skipped and you will automatically be advanced to Speed Sensor Calibration Step.

SPEED SENSOR CALIBRATION

Note: During Speed Calibration, the 844-RA will automatically sense whether a Wheel Speed or Radar Speed Sensor is being used.

Proximity/Magnetic Pulses

The speed sensor needs to be calibrated in order to provide the proper speed and area readings. The value for this step is the number of pulses generated by the speed sensor in 300 ft., or by entering the number manually.
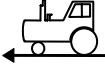
Automatic Calibration:
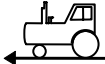
To automatically calibrate the speed sensor, first mark off a distance of exactly 300 ft. Next press and hold the ⊞ and ⊟ keys simultaneously for 3 seconds to clear the contents of the display and to activate the auto calibration mode. When the auto calibration mode has been activated, "CAL" will be displayed at the lower right of the display.
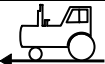
Now start driving toward the start point of the of 300 ft. (100 meter) course. As you cross the start point press the ⊞ key once to begin the calibration process. Continue across the course and the 844-RA will count the pulses as the sprayer moves. The speed at which you drive over the course is not important. As you cross the end point, press the ⊞ key once. The number displayed is your speed calibration number.

Note: The auto speed calibration process should take place with the sprayer tank ½ full.

Note: It is best to repeat the automatic speed calibration process at least twice and use and average of the speed calibration numbers.
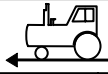
Note: If the auto calibration mode has been activated, no other functions are possible until the console receives speed pulses for calibration. To deactivate the auto calibration mode, press the ⊞ key twice.

During the automatic calibration step, the 844-RA automatically senses whether a proximity/magnetic or radar ground speed sensor is installed

Radar Speed Pulses

Automatic Calibration

The automatic calibration of a Radar speed sensor is similar to the automatic calibration of a proximity/magnetic wheel speed sensor. Refer to the directions above. When the console has determined that a Radar Speed Sensor is being used, "RAD" will be displayed in the lower left of the console display.

P_{RO}		
spd	cal	
rad	118	
ROAD APPLICATION CONTROLLER		
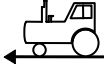
Note: To manually enter the radar calibration value, first press the 🅿 and ⊞ keys simultaneously to put the console into radar mode. When the control console is in the radar mode, "RAD" will be displayed in the lower left of the console display. Now use the ⊞ or ⊟ keys to adjust the value. Pressing the ⬌ Auto/Man key will reset the speed calibration to the default value.

When the correct value has been entered, press the 🅿 key to validate this value and advance to the next step.

DISTANCE COUNTER

This step is a feature, not a calibration step. No specific value needs to be entered here for the controller to operate correctly.

This feature will measure distance in feet. This can be used to confirm Automatic Speed Calibration (see note below). To activate the counter, turn the Master Boom Switch on. To avoid actually spraying during this task, toggle the individual boom sections off.

```
Pᴿᴼ    🚜

dst   ft

ctr         0

ROAD  APPLICATION  CONTROLLER
```

Anytime that the Master Boom Switch is on during this step to console will measure distance. If the Master switch is toggled off, the console will stop counting distance.

To clear an existing distance, press and hold the ⊞ and ⊟ keys simultaneously for 3 seconds.

Note: To confirm Automatic Speed Calibration, first complete the calibration procedure. Advance to Distance Counter step. Drive across the same 300 feet course turning the Master Switch ON at the start point and OFF at the finish point. Distance measured should be 300 feet (+/- 6 feet).

FLOW METER SENSOR INSTALLED?

This step indicates if a flow meter has been installed on the sprayer. Use the ⊞ or ⊟ keys to adjust the value. Either select YES if a flow meter is installed or NO if a flow meter will not be used.

When the correct value has been entered, press the 🅿 key to validate this value and advance to the next step.

```
Pᴿᴼ    ✳

      yes

flo         sens

ROAD  APPLICATION  CONTROLLER
```

Note: If you select NO in this step, the next step in the manual will not appear in the console programming selection.

FLOW METER PULSES

Note: This step may not appear in the console programming. It only appears if the Flow Meter Installed step is set to YES.

During the Flow Meter Pulses step, the ✳ symbol (flow meter turbine) will be flashing at the top of the console display.

In this step the flow meter calibration number can be entered manually from the factory calibrated flow meter pulse rate tag or an Auto calibration procedure can be activated to determine the flow meter pulses based on a know volume of fluid.

P_{RO}	✳
flo	cal
pls	650.0
ROAD APPLICATION CONTROLLER	

Manual Entry

First locate the factory calibrated flow meter pulse rate tag on the flow meter. If this varies from the default value (it usually does) of the console, use the ⊞ or ⊟ keys to modify the value.

Automatic Calibration

To complete an automatic calibration of the flow meter, press and hold the ⊞ and ⊟ keys simultaneously for 3 seconds. This will clear the existing value and initiate the calibration procedure.

"CAL" will be displayed in the screen. This indicates that the controller is ready to begin the calibration process.

P_{RO}	✳
	cal
ROAD APPLICATION CONTROLLER	

Engage the sprayer pump. Push the ⊞ key to activate the calibration. Now turn the boom sections on and begin spraying a known volume of fluid (e.g. 100 gallons). As you spray the known amount, the console will count the pulses.

P_{RO}	✳
	cal
23	2777
ROAD APPLICATION CONTROLLER	

After the known volume has been sprayed out, turn the Master switch off to stop counting pulses.

Now press the **P** key. The console will now ask what volume was sprayed.

Use the **+** and/or **−** keys to adjust the value to match the volume sprayed (in gallons).

PRO	✳
gal	100 **Vol**
ROAD APPLICATION CONTROLLER	

Now press the **P** key to return to the programming mode. Your new flow meter calibration number will be displayed. To accept this value press the **P** to advance to the next step. If you wish to repeat the calibration procedure refer to the steps above.

Note: To achieve an accurate flow meter calibration, a volume of at least 50 gallons should be sprayed during calibration. The more volume used for calibration the more accurate the flow meter will be.

PRO	✳
fl o	cal
pl s	625
ROAD APPLICATION CONTROLLER	

PRESSURE SENSOR INSTALLED?

This step indicates if a pressure sensor has been installed on the sprayer. Use the **+** or **−** keys to adjust the value. Either select YES if a pressure transducer is installed or NO if no pressure transducer will be used.
When the correct value has been entered, press the **P** key to validate this value and advance to the next step.

Note: If you select NO in this step, the next 2 steps in the manual will not appear in the console programming selection.

PRO	
	no
PRS	sens
ROAD APPLICATION CONTROLLER	

PRESSURE TRANSDUCER LOW PRESSURE CALIBRATION (P REF)

This step is used to calibrate the "0" pressure setting of the pressure transducer installed in your system. The pressure transducer used with the 844-RA is a current type transducer and uses a 4-20 mA reading. 4.0 mA represents 0 pressure.

This step uses an auto-calibration feature to calibrate the transducer. Make sure that the sprayer pump is turned off and there is absolutely no pressure in the system (release pressure held by boom control valves and nozzle body check valves). In some cases it may be best to remove the sensor from the plumbing system to complete the calibration. Press and hold the ⊞ and ⊟ keys simultaneously for 3 seconds to activate the auto-calibration feature.

The lower left portion of the display will count 1-10 during the calibration.

When the display finishes counting, a number close to 4.0 (+/- 0.2) should be displayed. The low
pressure value of the transducer is now calibrated.

Press the 🅿 key to advance to the next step.

PRO	
0	4.00
PSI	
ref	sens
ROAD APPLICATION CONTROLLER	

PRO	
0	4.00
10	52
ROAD APPLICATION CONTROLLER	

PRO	
0	4.08
ref	na
ROAD APPLICATION CONTROLLER	

PRESSURE TRANSDUCER MAXIMUM RATING (P HI)

This step is used to set the maximum rating of the pressure transducer in your system. This number can be found stamped on the pressure transducer itself. If your transducer has a maximum rating of 145 psi (10 bar) and that number is shown in the display, then advance to the next step by pressing the 🅿 key. If however, the maximum rating is 363 psi (25 bar), use the ⊞ or ⊟ keys to change the value. Press the 🅿 key to advance to the next step.

```
PRO
┌─────────────┬──────────────┐
│  145        │              │
│             │  phi         │
│ PSI         │              │
├─────────────┼──────────────┤
│             │              │
│  prs        │  sens        │
│             │              │
├─────────────┴──────────────┤
│ ROAD  APPLICATION  CONTROLLER │
└────────────────────────────┘
```

SENSOR SELECTION

The 844-RA system can be used with either a flow meter, pressure transducer or both. This step tells the computer which sensor you will be using on your sprayer to control the regulation.

The default value is set for a "FLO" based system using a flow meter. If this is what you have installed on your sprayer, then press the 🅿 key to advance to the next step.

```
PRO
┌─────────────┬──────────────┐
│             │              │
│  reg        │  flo         │
│             │              │
├─────────────┼──────────────┤
│             │              │
├─────────────┴──────────────┤
│ ROAD  APPLICATION  CONTROLLER │
└────────────────────────────┘
```

If however you have installed a pressure transducer instead, us the ⊞ or ⊟ key to select "PRS" for a pressure based system. Then press the 🅿 key to advance to the next step.

Warning
The pressure based regulation may only be used when you are using linear tips. For non-linear tips you should always use flow based regulation. Most tips are linear and may be used with Pressure Based regulation, but ConeJet tips are non-linear.

If both sensors have been installed on the sprayer, this step will determine which sensor will be used by the 844-RA to determine regulation. If "FLO" is selected, the flow meter will be used to control flow and the pressure transducer will be used only to display the actual pressure. If "PRS" is selected, the pressure transducer will be used to control the flow and display the actual pressure.

Select the appropriate sensor setting then press the 🅿 key to accept the value and advance to the next programming step.

SECTION WIDTH

The 844-RA can control up to 5 boom sections individually. The next 5 programming steps indicate the width of each individual section.

Use the ⊞ or ⊟ keys to adjust the value so that it matches the width of boom section 1 in inches. Then press the ℙ key to advance to section 2.

Repeat this procedure until all 5 boom sections have been programmed. Any individual boom switches not being used for a boom section must be programmed to a "0" value.

After programming the boom section width for section switch 5, press the ℙ key to advance to the next step.

ℙRO	
sec	120
1	inch
ROAD APPLICATION CONTROLLER	

ℙRO	
sec	120
5	inch
ROAD APPLICATION CONTROLLER	

REFERENCE PRESSURE

In the following programming steps, reference flow rates must be entered for each boom section. Those flows must be referenced at a specific reference pressure. Select a pressure that you will use to reference the flow rates and enter that pressure here.

Use the ⊞ and ⊟ keys to adjust the value. Press the ℙ key to advance to the next step.

ℙRO	
REF	40.0
PRS	
ROAD APPLICATION CONTROLLER	

REFERENCE SECTION FLOW

In this step you must enter the reference flow for boom section 1 in GPM. This is the total flow rate for the boom section if it were spraying at the reference pressure indicated in the previous step.

To find the total flow rate for a boom section, add all of the individual tip flow rates at the referenced pressure.

Use the ⊞ or ⊟ key to adjust the value to match the actual flow rate.

After you have entered the flow rate for section 1 press the 🅟 key to advance to section 2 flow rate. Repeat the procedure above until all 5 boom section reference flow rates have been entered.

Note: Any individual boom section not being used must be programmed to a "0" value.

When you have programmed and validated the last Reference Section Flow press the 🅟 key to advance to the next programming step.

PRO	
sec	gpn
1	2.40
ROAD APPLICATION CONTROLLER	

PRO	
sec	gpn
5	2.40
ROAD APPLICATION CONTROLLER	

Boom Section 1
4 Tips – XR8006VS
(1) XR8006VS = 0.60 GPM
@40 PSI
4 X 0.60 = 2.40 GPM @40PSI

Boom Section 2
3 Tips – XR8006VS
(1) XR8006VS = 0.60 GPM
@40 PSI
3 X 0.60 = 1.80 GPM @40PSI

BOOM SECTION 1	BOOM SECTION 2	BOOM SECTION 3
1 2 3 4	1 2 3	1 2 3 4
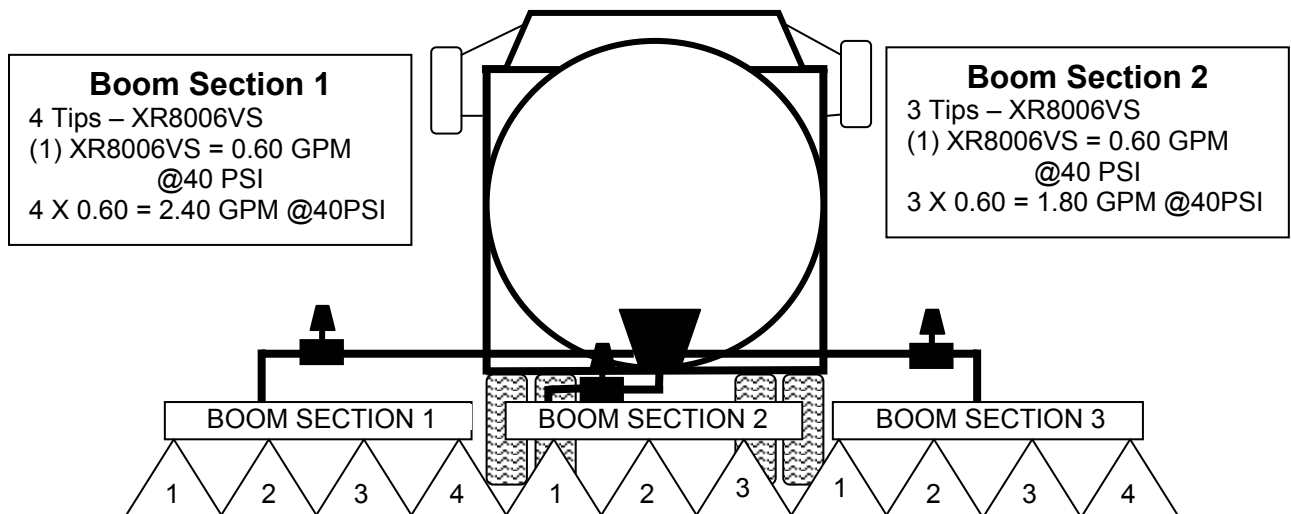
Reference Section Flow Example

PRESSURE REGULATING MODE

This step tells the 844-RA where the regulating valve has been plumbed. Once set correctly, this value should not change unless the regulating valve is physically moved to a new point in the plumbing. For more information about plumbing refer to the Plumbing and Installation manual supplied with this kit.

The default value "BYP" indicates that the pressure regulating valve is plumbed in a bypass line. If this is correct press the Ⓟ key to accept the value and advance to the next step.

> **Note**: When programmed in the bypass mode, with the controller in "MAN" mode, the pressure regulating valve should close when the ⊞ key is pressed and open when the ⊟ key is pressed.

```
Pro                    [icon]

reg  | byp

─────────────────────────────
ROAD  APPLICATION  CONTROLLER
```

If you have plumbed the pressure regulating valve in a supply line to the booms, this is considered a throttling position. If you have located your regulating valve in this position, use the ⊞ or ⊟ key to change the value to "thr" (throttling mode). By doing this, you have reversed the polarity that the console uses to control the regulating valve.

> **Note:** When programmed in the throttling mode with the controller in "MAN" mode, the valve should open when the ⊞ key is pressed and close when the ⊟ is pressed.

```
Pro                    [icon]

reg  | thr

─────────────────────────────
ROAD  APPLICATION  CONTROLLER
```

Press the Ⓟ key to advance to the next step.

REGULATING VALVE CAPACITY

Enter the maximum flow capacity of the regulating valve you are using in Gallons Per Minute (GPM). The regulating parameters needed to drive the regulating valve smoothly are different depending on the size of the valve. This step optimizes these parameters of the 844-RA for the size of valve you are using.

Use the ⊞ or ⊟ keys to adjust the value so that it matches the maximum flow capacity (GPM) of the regulating valve you are using.

Note: Reference the valve manufacturer's literature to determine the flow capacity of the regulating valve.

Press the 🅿 key to advance to the next step.

P_{RO}		
reg	gpn	
cap		32
ROAD APPLICATION CONTROLLER		

Common TeeJet Regulating Valves

344AE-2RL .... 27 GPM
344AE-2RB .... 30 GPM
344AE-2PR .... 12 GPM
AA346ZR .... 85 GPM
AA346ZRB .... 85 GPM

REGULATING VALVE SPEED FACTOR

This step allows you to adjust the speed of the pressure regulating valve to accommodate different application needs. Operating conditions may necessitate a higher or lower response speed for the regulating valve. This is accomplished by adjusting both the coarse and fine adjustment values.

Coarse Adjustment

The coarse adjustment controls the speed of the valve when large adjustments in flow are required by the controller. To change the response time number, simply use the ⊞ or ⊟ keys to increase or decrease the number. Any number between 0 and 19 may be selected. **0 = Slow : 19 = Fast**

If your regulating valve is plumbed in a by-pass line, the valve speed coarse adjustment number of 15 works very well in most applications.

P_{RO}		
reg	10.2	
spd		
ROAD APPLICATION CONTROLLER		

If your regulating valve is plumbed in the throttling position (supply line), start with a valve coarse adjustment speed number of 5 and adjust the number according to your application requirements.

Press the 🅿 key to accept the value and advance to the Fine Adjustment setting.

Fine Adjustment

The fine adjustment controls the speed of the valve when small adjustments in flow are required by the controller. To change the response time number, simply use the ⊞ or ⊟ keys to increase or decrease the number. Any number between 0 and 9 may be selected.
0 = Slow : 9 = Fast

It is recommended that you start with a fine adjustment speed of 2. This works well in most situations. This number may need to be optimized during the spraying operation.

```
┌─────────────────────────────────┐
│ P                          🔆    │
│  RO                              │
│─────────────┬───────────────────│
│             │         ⌢⌢⌢      │
│  reg        │   1o.⁽2⁾         │
│             │         ⌣⌣⌣      │
│─────────────┼─────────┬─────────│
│             │         │         │
│  spd        │         │         │
│─────────────┴─────────┴─────────│
│ ROAD  APPLICATION  CONTROLLER   │
└─────────────────────────────────┘
```
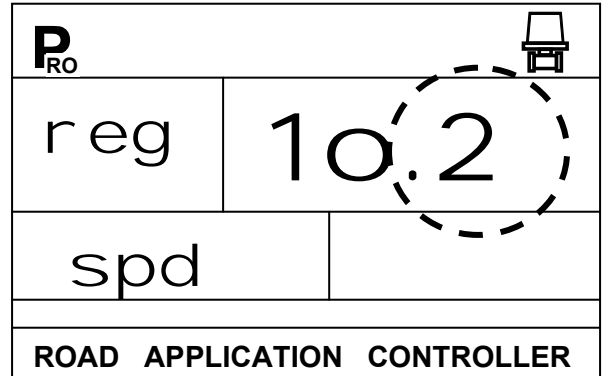
Note: Adjusting agitation volumes can often assist the regulating valve operation.

To accept your Regulating Valve Actuating Factor and advance to the next step, press the 🅿 key.

Note: This speed value can be adjusted to optimize system performance. If you notice that the valve seems to "search" for the programmed application rate by cycling the pressure up and down continuously, reduce the number until the "searching" is minimized or eliminated. Conversely, a higher number will increase the valve response speed and speed up the rate of adjustment.

COMMUNICATIONS

If your 844-RA has been upgraded to be communications compatible, this step lets you select what type of communication you will be using. The choices available are the default of "no con" (no communications), "cnt prt" (Contractor printing), "usr prt" (User printing), "gps" (Global Positioning System communication capability), "log"

```
┌─────────────────────────────────┐
│ P                                │
│  RO                              │
│─────────────┬───────────────────│
│             │                    │
│  no         │   con             │
│             │                    │
│─────────────┼─────────┬─────────│
│             │         │         │
│             │         │         │
│─────────────┴─────────┴─────────│
│ ROAD  APPLICATION  CONTROLLER   │
└─────────────────────────────────┘
```
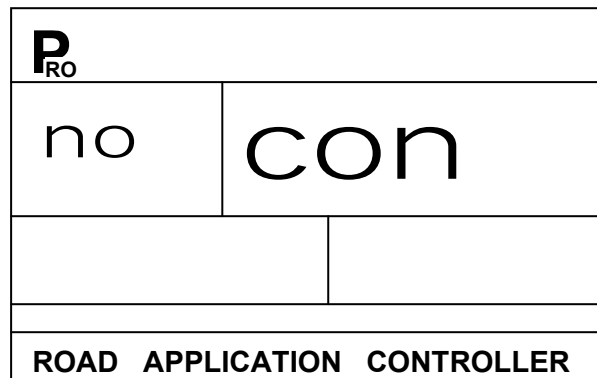
(Downloading to a PC on the go capability), or "pc" (PC link – not used).

If, however, your 844-RA has been upgraded with the communications package, use the ⊞ and ⊟ keys to select the type of communication you will be using.

After selecting the communication you will be using, press the ℙ key to advance to the next step.

SIMULATED GROUND SPEED

Simulated ground speed allows you to check out the functions and operations of the console and of the sprayer, spraying water, without actually moving the sprayer. This can and should be done prior to any spraying activity.

The 844-RA has a low and high simulated ground speed. This allows you to switch between the two to simulate a speed change to ensure the console is regulating properly during the Sprayer Checkout.

Low Speed

To set the Low simulated speed use the ⊞ and ⊟ keys to adjust the value.
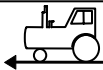
 When the low value has been set, press the ℙ key to advance to the High Simulated speed step.

```
┌─────────────────────────────────┐
│ Pro  🚜←                         │
│                                  │
│  sin  │  spd                     │
│───────┼──────────────           │
│ 20.0   MPH │  lo                 │
│                                  │
│ ROAD  APPLICATION  CONTROLLER    │
└─────────────────────────────────┘
```
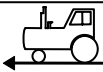
High Speed

To set the High simulated speed use the ⊞ and ⊟ keys to adjust the value.

When the high value has been set, press the ℙ key to advance to the next programming step.

```
┌─────────────────────────────────┐
│ Pro  🚜←                         │
│                                  │
│  sin  │  spd                     │
│───────┼──────────────           │
│ 30.0   MPH │  high               │
│                                  │
│ ROAD  APPLICATION  CONTROLLER    │
└─────────────────────────────────┘
```

To activate the simulated speed, while in the normal operating mode with the master switch ON, press the ℙ and ⊟ keys for low simulated speed; press the ℙ and ⊞ keys for high simulated speed. The simulated speed will remain in the normal operating mode display until the console receives actual speed pulses.

Note: Once the sprayer begins moving and the 844-RA receives actual speed pulses, the simulated speed feature is deactivated. If you are using a Radar Speed Sensor, disconnect the Radar connection from the main console. Because of the sensitivity of this speed sensor, any movement can disable simulated speed.

MEMORY LOAD FUNCTION

The memory load function is used to restore all programming values to previously set values. A sprayer manufacturer may pre-program this console for specific parameters on a sprayer and save those values internally. If for some reason you need to get back to those pre-programmed values this step allows you to do that. Use the ⊞ or ⊟ keys to select either YES or NO.

```
┌─────────────────────────────────┐
│ P                               │
│  RO                             │
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│ ├──────────┴──────┬───────────┤ │
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│ └─────────────────┴───────────┘ │
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│  ROAD  APPLICATION  CONTROLLER  │
└─────────────────────────────────┘
```

The default NO means that your programming values will be saved as you have entered them. The YES selection will likely change the program values. It is recommended that you leave this setting at NO unless otherwise instructed.

Press the 🄿 key to advance to the next step. This should take you to the beginning of the program mode.

Now press and hold the 🄿 key for three seconds to exit the program mode and save the programming information to the computer's memory.

Note: For your protection, the 844-RA console will not automatically power down while in the Program Mode. You must exit properly as described above to enable the console's auto power down feature.

Note: Cutting the power to the controller while in the Program Mode will not save any changes into the computers memory.

Target Application Rate

To adjust the Target Application Rate you must have the console in the normal operating mode with the Master boom switch in the OFF position and the control console set to Auto mode. Press the ⊞ key to increase the target rate or ⊟ key to decrease the target rate.

When the desired application rate has been entered, You can begin spraying by turning the Master boom switch and appropriate individual boom section switches on.

```
           ◎
 38    50.0
PSI
   0.0  MPH    255  Vol

ROAD   APPLICATION   CONTROLLER
```
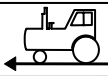
Operating Instructions

SPRAYER CHECKOUT

Before spraying check all connections related to the Sprayer Control Assembly. Particular attention should be given to the sensors to be sure the console receives good uninterrupted signals. Be sure connections are made and the sensors are properly secured.

Very Important: Whenever you are working around a sprayer or chemicals, be sure to wear protective clothing and eyewear.

Partially fill the sprayer tank with water to flush the system and to make a visual check of the spray tips to be sure all tips are delivering a good spray pattern.

Follow these steps, in sequence, being sure the Master Boom Switch is in the "OFF" position:

♦ Be sure the tank shut-off valve is open.

♦ Start the engine, engage pump and set the rpm to that which will be used when spraying.

♦ Switch the computer on by pressing the 🄟 key.

♦ Ensure that the preset reference flow number matches the set of tips you are using.

♦ Ensure that the console recognizes the simulated speed. If the simulated speed has been disable due to movement of the sprayer simply activate the simulated speed by first turning the Master boom switch on then pressing the 🄟 and ⊟ keys simultaneously for low simulated speed or pressing the 🄟 and ⊞ keys for high simulated speed.

♦ Turn "ON" the toggle switches for each of the spray boom sections on your sprayer.

♦ Press the ⬌ Auto/Man key so that the red LED light indicates "MAN" mode.

♦ Now, toggle the Master boom switch to "ON".

♦ Adjust the pressure with the ⊞ and ⊟ keys. The pressure should increase when you press the ⊞ key and decrease when you press the ⊟ key.

At this point, the sprayer will be activated and spray tip performance can be visually checked.

♦ Now press the ⬌ Auto/Man key so that the red LED light indicates "Auto" mode. The control console should regulate to the target application rate for the simulated speed indicated.

♦ Press the 🅿 and ⊞ keys simultaneously (while spraying) to switch the console to "high" simulated speed. The control console should increase the pressure and regulate to the target application rate for the new simulated speed.

♦ Press the 🅿 and ⊟ keys simultaneously (while spraying) to switch the console to "low" simulated speed. The control console should decrease the pressure and regulate to the target application rate for the new simulated speed.

To stop spraying, toggle the Master boom switch to "OFF".

The above steps provide a quick way to check out your sprayer and computerized control system.

However, it is recommended that you calibrate your entire sprayer to prepare the machine for operation and to diagnose spray tip wear. Worn tips can contribute to costly chemical waste and inaccurate spraying regardless of your use of a sprayer control. Calibration is important and necessary to obtain the benefits associated with a computerized sprayer control.

THE SPRAYING OPERATION

You have filled the sprayer tank and have thoroughly mixed the solution. Your application rate has been determined as well as the nozzles you will be using, with the sprayer data programmed into the computer.

♦ Turn the control console on by pressing the ▣ key.

♦ Toggle the individual boom switches to the "ON" position, for each of the booms on your sprayer.

♦ The ▣ Auto/Man key should be switched to "AUTO".

♦ In the Auto mode, when the Master boom switch is "OFF", the target application rate as well as the target symbol will be displayed in the console display. When the Master boom switch is "ON", the actual rate will be displayed and the target symbol will no longer appear.

♦ While spraying with the Master boom switch "ON", the display will always display the actual application rate, vehicle speed, application area covered/total volume applied and pressure (only if a pressure transducer has been installed).

♦ As you get to the point where you will begin spraying, turn the Master boom switch to the "ON" position. This will activate the spraying operation. Maintain your usual vehicle speed for spraying. Moderate changes in vehicle speed will not affect your application rate, because such changes are compensated by automatic pressure increases or decrease by the controller.

If for any reason you need to stop, turn the Master boom switch to "OFF".

Alarm warnings can occur momentarily while the pressure regulating valve is searching for a new setting (i.e. after the close of a boom section or other change in normal operation). However, if the alarm stays on for a longer time, the valve may have reached its limit and your system will be unable to regulate flow beyond the limit.

Features

AREA/VOLUME DISPLAY

The 844-RA Sprayer Control will count application area and measure the total volume applied while the master boom switch is in the "ON" position. The area counter will measure treated acres and is dependent on the value programmed for swath width. The volume measure is dependent on flow meter pulses and is available on flow based models only.

The lower right of the display window will alternately show the treated area sprayed and the total volume applied since the last clearing of the area counter/volume measure.

To clear the area counter/volume measure, press and hold the ⬌ Auto/Man key for three seconds (Master switch must be off). The controller will ask if you are sure you want to clear the field counter. Use the ⊞ or ⊟ keys to select either YES or NO. Push the ℗ key to accept and advance back to the normal operating mode.

38	50.0	
PSI		
20.0 **MPH**		255 **Vol**
ROAD APPLICATION CONTROLLER		

38	50.0	
PSI		
20.0 **MPH**		255 **Vol**
ROAD APPLICATION CONTROLLER		

Note: The area/volume measure can only be cleared from the normal operating mode.

Note: The area memory counter/volume measure only works when the Master boom switch is turned "ON".

Note: If you are using a pressure based controller, the volume feature is disabled. The total area will then be displayed at all times.

APPLICATION ALARM

If the 844-RA senses a continuous discrepancy of 10% or more between the Target Application Rate and the Actual Application Rate, the application rate will flash in the display window. This alarms the operator to a problem with the sprayer plumbing, operation or programming.

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│  │ PSI  │                    │       │
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│  │ 20.0   MPH  │   255   Vol │       │
│  ├─────────────┴─────────────┤       │
│  │ ROAD  APPLICATION  CONTROLLER │   │
│  └───────────────────────────────┘   │
```

NO FLOW ALARM

If the 844-RA stops receiving pulses from the flow meter the turbine symbol will flash at the top of the display. This alarm indicates that the flow meter has stalled and alerts the operator that there is a problem with the flow meter or elsewhere in the system.

This alarm will occur only when the Master boom switch and at least one boom toggle switch is "ON".

```
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│  │ ROAD  APPLICATION  CONTROLLER │
│  └───────────────────────────────┘
```

BOOST MODE

The 844-RA is cable of boosting the target application rate either up or down in 10% increments.

Boost Up

To activate the boost up mode, press the ⊞ key. Then each subsequent pressing of the ⊞ key will boost the target rate up 10%. The amount you have boosted up will be recorded on the display. The target symbol will flash anytime that you are in the boost mode to alert the operator of the "off target" condition.

	◉	
up	65.0	
30	255	**Vol**
ROAD APPLICATION CONTROLLER		

To return to the target application rate the operator can either use the ⊟ key to get back in 10% increments or can push the ⊞ and ⊟ keys simultaneously to get back to the target in one step.

Boost Down

To activate the boost up mode, press the ⊟ key. Then each subsequent pressing of the ⊟ key will boost the target rate up 10%. The amount you have boosted up will be recorded on the display. The target symbol will flash anytime that you are in the boost mode to alert the operator of the "off target" condition

To return to the target application rate the operator can either use the ⊞ key to get back in 10% increments or can push the ⊞ and ⊟ keys simultaneously to get back to the target in one step.

	◉	
dn	35.0	
30	255	**Vol**
ROAD APPLICATION CONTROLLER		

AUTO POWER DOWN

The 844-RA console is designed to power itself off after 10 minutes of no inputs. This feature keeps the console from draining the battery on the sprayer if the operator inadvertently leaves the console powered on for an extended period. This will only occur when the Master boom switch is turned OFF and the console is not receiving inputs from any of the sensors (the sprayer is inactive).

To manually power the console off, refer to the Powering Console On/Off section of this manual.

Note: The Auto Power Down feature is disabled any time the console is in any program mode. The console will not power down while in a program mode. You must exit the program mode properly first before powering down to ensure all the information has been saved to the computer's memory.

PRINTING

An Optional printer is available for printing a spraying report directly from the 844-RA. The printing feature is only available on 844-RA consoles that have been upgraded with the communications package. The optional printer and 844-RA communications package are available through your TeeJet supplier.

The printout that you get from the 844-RA contains memory information that the 844-RA collects.

To set the 844-RA for printing, advance to the Communications step in the Program Mode and select either "user prt" or "cn prt" depending on which report you want. This must only be done once. Now you can exit the program mode by pressing the 🅿 key for three seconds.
Next, connect the printer to the 844-RA and make sure that the LED's to the printer are lit indicating that the printer has power. Ensure that the console is in the normal operating mode with the Master switch "OFF". Press on the print key on the printer to begin printing.

Note: Printing is only available to 844-RA consoles that have been upgraded with the communications package. To determine if your console is communication ready, look at the left end plate of the console. A communication ready console will have an RS232 nine pin connector attached to the left end plate. If the end plate has no connection, then your console has not been upgraded with the communication package.