


# IC18 SPRAYER/NH3 JOB COMPUTER

O E M M E N U S E T U P

Software version 1.09



A Subsidiary of  Spraying Systems Co.®

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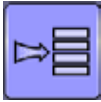
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#### **LIQUID PRESSURE SENSOR ACTIVATED (NH3 MODE)**

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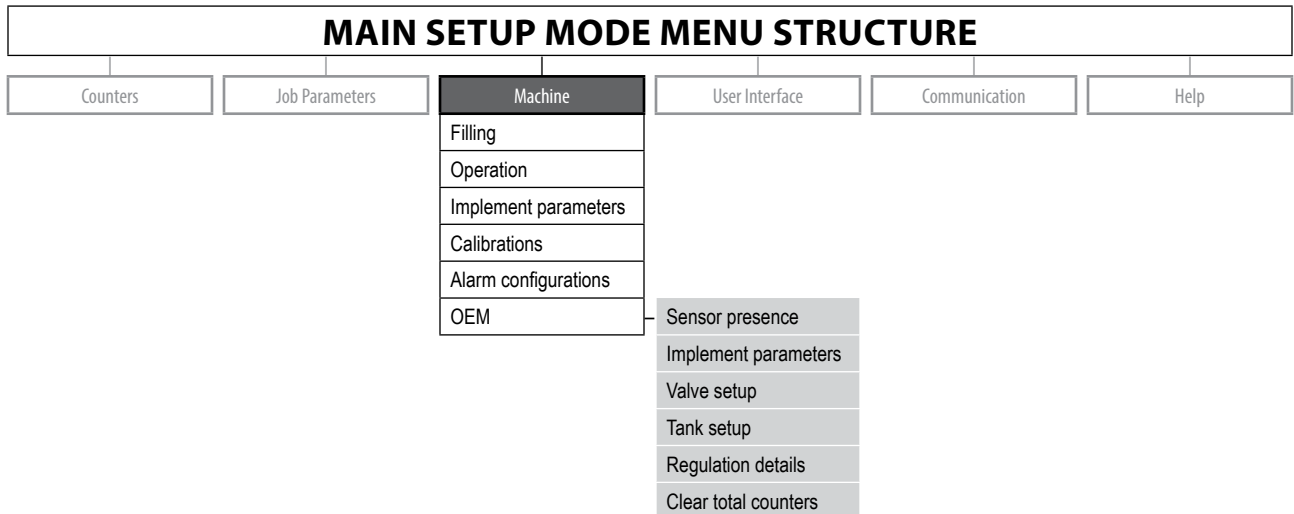
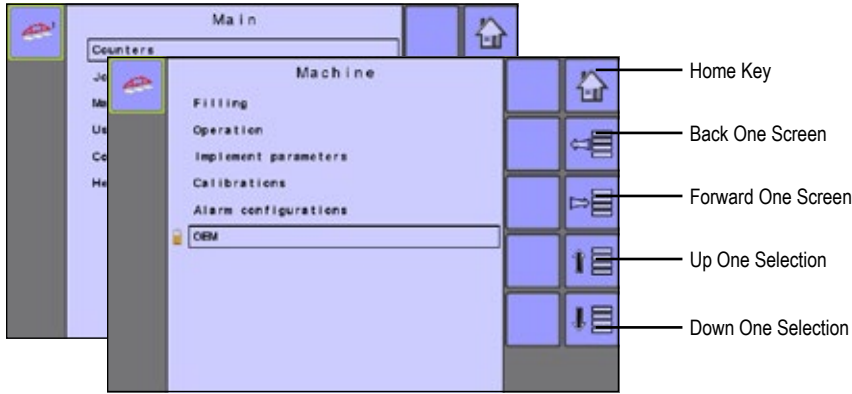
## OEM SETUP OPTIONS



Main Setup Mode configures the Counters, Job Parameters, Machine, User Interface, Communication and Help options. The OEM options will define the options available in the OEM menu.

*NOTE: The menu structure on your display might vary from the one displayed in this User Manual depending on the universal terminal being used.*



Figure 1-1: Soft Keys



# IC18 Sprayer/NH3 OEM Options

The OEM setup menu is password protected and the settings in this menu are directly related to the fitted OEM equipment. Once the OEM Menu is unlocked, it will remain unlocked until the IC18 is powered off.

To access the OEM screens:

1. From the Main Setup Screen , select MACHINE.
2. Select OEM.
3. Select the Access Code Entry Box to the right of the menu option.
4. Use the number pad or slide bar to enter the access code.
5. Select the ACCEPT KEY  to complete the unlock process.
6. Select from:
  - ▶ Sensor presence – used to establish sensors for Flow, Liquid Pressure, Fill Flow and the Tank
  - ▶ Implement parameters – used to establish the Sprayer Mode, Number of Sections and Circulation
  - ▶ Valve setup – used to establish the Regulation Valve Type, Section Valve Behavior and Section Valve Type
  - ▶ Tank setup – used to establish maximum and minimum tank content, Auto Filling mode and Auto Filling Offset value
  - ▶ Regulation details – used to adjust the control of the regulation valve
  - ▶ Clear total counters – used to delete the Total Count system counter for Area, Volume and Time back to the default settings



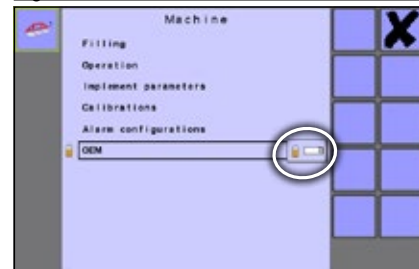
**NOTE:** Settings are NOT automatically saved when selected. The ACCEPT KEY  must be selected to save the setting. Select the ESCAPE KEY  to escape without saving settings and return to the previous menu. OEM

Figure 1-2: Machine to OEM



Figure 1-3: OEM Unlock



## Sensor Presence

Sensor Presence establishes sensors for Flow, Liquid Pressure, Fill Flow and the Tank. If the fitted sensors are not registered here, the sensor options will not be available in the calibration menus.

### Flow Sensor

Flow Sensor sets the associated sensor availability to yes or no.

- To set the Flow Sensor, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

### Liquid Pressure Sensor

Liquid Pressure Sensor sets the associated sensor availability to yes or no.

- To set the Liquid Pressure Sensor, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

### Fill Flow Sensor (Sprayer Mode)

Fill Flow Sensor sets the associated sensor availability to yes or no. Available only in Sprayer Mode.

- To set the Fill Flow Sensor, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

### Tank Sensor (Sprayer Mode)

Tank Sensor sets the associated sensor availability to yes or no. Available only in Sprayer Mode.

- To set the Tank Sensor, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

## Implement Parameters

Implement Parameters establishes the Sprayer Mode, Number of Sections and if there is tank Circulation.

### Sprayer Mode

Sprayer Mode sets the implement parameter to either Crop Sprayer, Turf or NH3.

- To set the Sprayer Mode, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

*NOTE: When sprayer mode is changed, power must be cycled before all settings will be displayed correctly.*

### Number of Sections

Number of Sections establishes how many sections are on the boom.

*NOTE: The number established here affects options under Main -> Implement Parameters -> Section Width -> Boom Section Width and on the Operations Screen.*

- To set the Number of Sections, use the number pad or slide bar.

### Circulation (Sprayer Mode)

Circulation sets if there is No, Semi or Full tank circulation. Available only in Sprayer Mode.

- To set the Circulation, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

*NOTE: For this option to appear, Sprayer Mode must be set to Crop Sprayer.*

Figure 1-4: Sensor Presence - Sprayer Mode

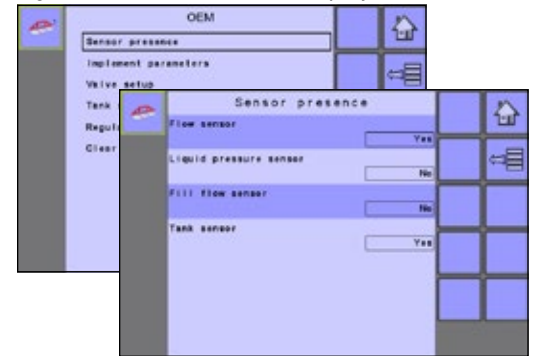


Figure 1-5: Sensor Presence - NH3 Mode

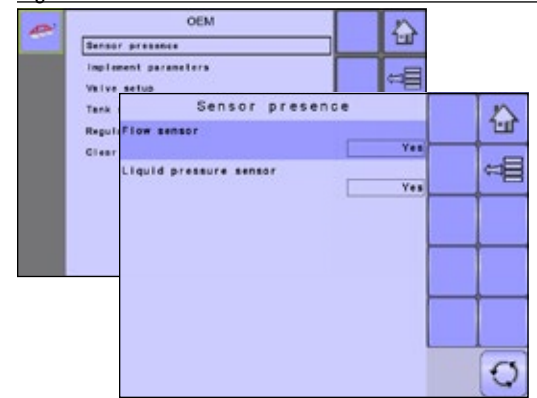


Figure 1-6: Implement Parameters - Sprayer Mode

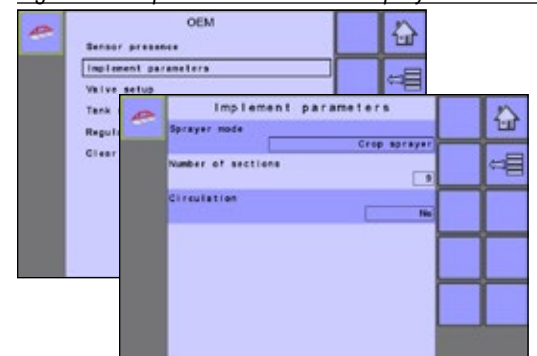
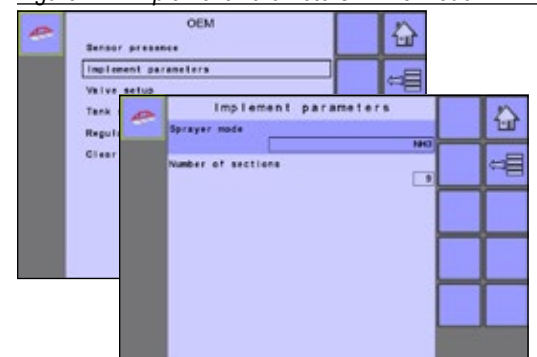


Figure 1-7: Implement Parameters - NH3 Mode



# IC18 Sprayer/NH3 OEM Options

## Valve Setup

Valve Setup establishes the Regulation Valve Type, Section Valve Type and Section Valve Behavior.

### Regulation Valve Type

Regulation Valve Type sets the valve type to either Throttle or Bypass.

- To set the Regulation Valve Type, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

### Section Valve Behavior

Section Valve Behavior sets the valve to either Independent or Follow Master.

- To set the Section Valve Behavior, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

### Section Valve Type (Sprayer Mode)

Section Valve Type sets the valve type to either 2-way or 3-way. Available only in Sprayer and Turf Mode.

- To set the Section Valve Type, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

## Tank Setup

Tank Setup establishes maximum and minimum tank content, Auto Filling mode and Auto Filling Offset value.

### Maximum Content

Maximum Content establishes the maximum tank volume.

- To set the Maximum Content, use the number pad or slide bar.

### Minimum Content

Minimum Content establishes the minimum tank volume at which the tank agitation should automatically be shut off.

- To set the Minimum Content, use the number pad or slide bar.

### Auto Filling (Sprayer Mode)

Auto Filling sets the automatic filling mode to either on or off. Available only in Sprayer Mode.

- To set the Auto Filling mode, select an option from the drop down menu or use the UP/DOWN ARROWS to highlight the option.

### Auto Filling Offset (Sprayer Mode)

Auto Filling Offset establishes the volume that will still run into the tank after the fill valve has started shutting. Available only in Sprayer and Turf Mode.

- To set the Auto Filling Offset volume, use the number pad or slide bar.

Figure 1-8: Valve Setup - Sprayer Mode

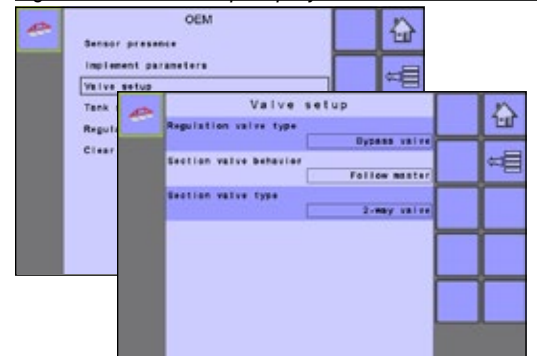


Figure 1-9: Valve Setup - NH3 Mode

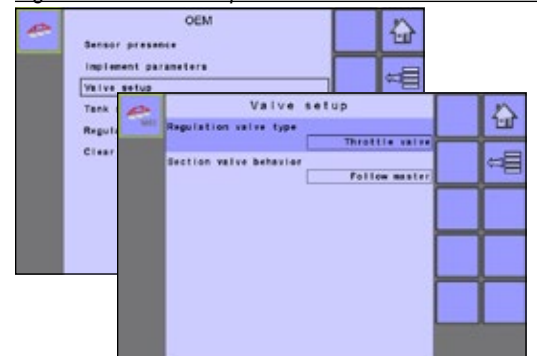


Figure 1-10: Tank Setup - Sprayer Mode

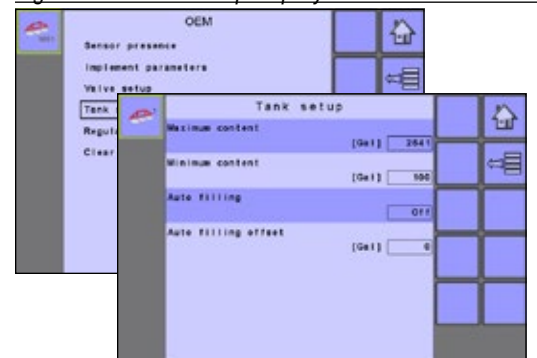
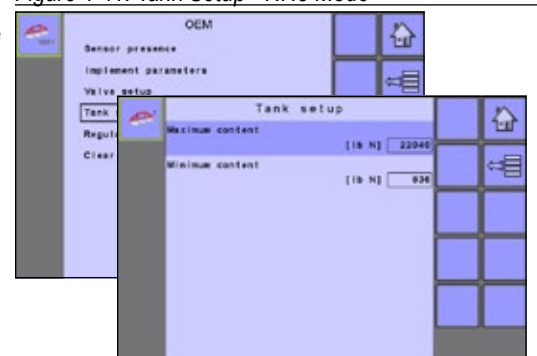


Figure 1-11: Tank Setup - NH3 Mode



## Regulation Details

Regulation Details adjust the control of the regulation valve.

### Minimum Regulation Pressure

Minimum Regulation Pressure establishes the minimum pressure. The working pressure will not drop lower than this level, even if a lower pressure is required by the regulation system (the controller). If the actual pressure on the sprayer becomes lower than this value, the regulating system will continue to increase the pressure until the minimum pressure level has been reached.

- To set the Minimum Regulation Pressure, use the number pad or slide bar.

### Maximum Regulation Pressure

Maximum Regulation Pressure establishes the maximum pressure. The working pressure will not rise higher than this level, even if a higher pressure can be obtained by the regulation system (the controller). If the actual pressure on the sprayer becomes higher than this value, the regulating system will continue to decrease the pressure until the maximum pressure level has been reached.

- To set the Maximum Regulation Pressure, use the number pad or slide bar.

### Regulation Valve Time

Regulation Valve Time establishes the time, in seconds, for the regulation valve to go from fully closed to fully open (or vice versa).

- To set the Regulation Valve Time, use the number pad or slide bar.

*NOTE: The time is determined by the type of regulation valve used and should be set to the recommendations included with the regulation valve.*

### Minimum Regulation Voltage

Minimum Regulation Voltage establishes the lowest voltage at which the regulation valve will start to move. The controller uses variable voltage to control the valve; the closer the actual rate is to the target rate, the lower the voltage sent to the valve is. The minimum voltage must therefore be found when the valve is under pressure, as this affects the force required to move the valve.

- To set the Minimum Regulation Voltage, use the number pad or slide bar.

### Regulation Dead Band

Regulation Dead Band establishes an acceptable regulation dead band in percent. Regulation will stop when the difference between the target rate and the actual rate is lower than the entered dead band (percent of the target rate). This is to prevent the valve from oscillating when the actual rate is near the target rate.

- To set the Regulation Dead Band, use the number pad or slide bar.

### Regulation Backlash

Regulation Backlash establishes the time in seconds it takes before the valve starts moving after a direction change.

- To set the Regulation Backlash, use the number pad or slide bar.

### Anticipation Factor

Anticipation Factor establishes the anticipation factor to ensure that the regulation valve is in a suitable position when switching the master valve on (when turning at headland).

- ▶ 0 = Off. The regulation valve remains stationary at the position when the main valve is switched off.
- ▶ 100 = Full. The regulation valve will move completely to the calculated position.

The number of boom sections open, the target rate, the average forward speed, the regulation valve time and the maximum reg. valve capacity are used to calculate a theoretical position of the regulation valve when the master valve is off (when turning at headland).

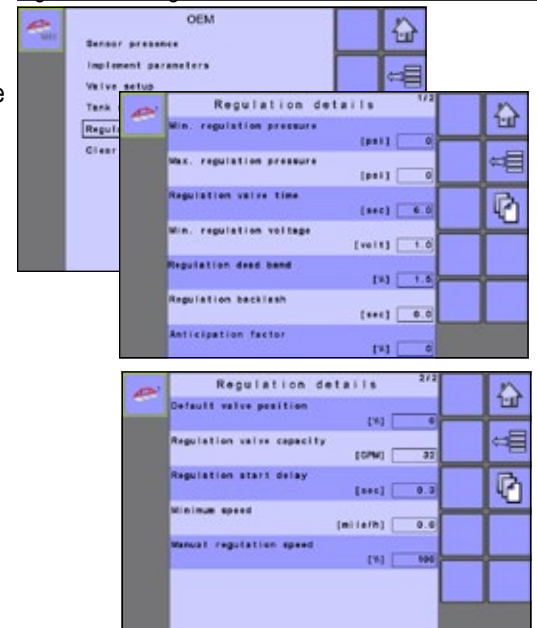
- To set the Anticipation Factor, use the number pad or slide bar.

### Default Valve Position

Default Valve Position establishes the percentage value for the valve position.

- To set the Default Valve Position, use the number pad or slide bar.

Figure 1-12: Regulation Details



# IC18 Sprayer/NH3 OEM Options

## Regulation Valve Capacity

Regulation Valve Capacity establishes the capacity of the regulation valve in volume per minute.

- To set the Regulation Valve Capacity, use the number pad or slide bar.

## Regulation Start Delay

Regulation Start Delay establishes the delay in seconds from when the main valve is switched on until regulation starts.

- To set the Regulation Start Delay, use the number pad or slide bar.

## Minimum Speed

Minimum Speed establishes the forward speed at which the system should automatically switch the master valve off.

- To set the Minimum Speed, use the number pad or slide bar.

## Manual Regulation Speed

Manual Regulation Speed establishes the percentage of the regulation valve controlling the speed at which the regulation valve should move in manual operation mode.

- To set the Manual Regulation Speed, use the number pad or slide bar.


## Restrictor Plate Flow (Sprayer Mode)

Restrictor Plate Flow establishes the capacity of the restrictor plate in volume per minute and is to be used when working with return flow (circulation). Available only in Sprayer Mode.

- To set the Restrictor Plate Flow, use the number pad or slide bar.

## Clear Total Counters

Clear Total Counters deletes the Total Count system counter for Area, Volume and Time back to the default settings of "0".

- To clear the total counters, select TRASH CAN KEY . A confirmation screen will be displayed.

### Area

Displays total applied area for all trips.

### Volume

Displays total volume of material applied during all trips.

### Time

Displays total time traveled for all trips.

Figure 1-13: Clear Total Counters - Sprayer Mode

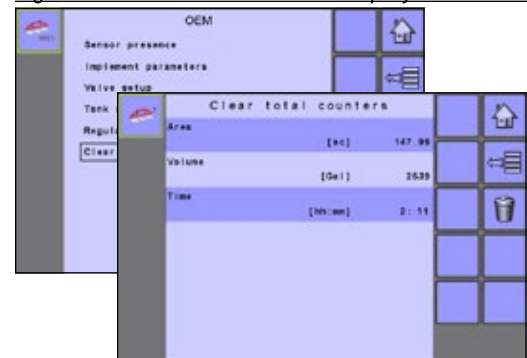


Figure 1-14: Clear Total Counters - NH3 Mode

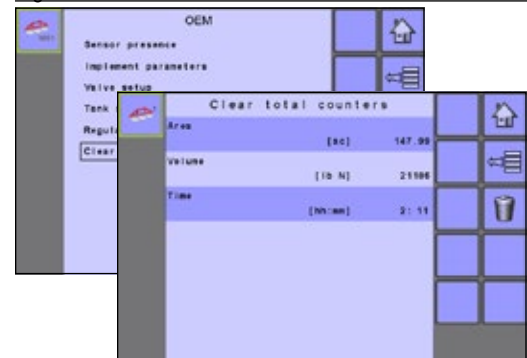


Figure 1-15: Confirm Total Counter Clearance





## CHANGES ON OPERATION SCREEN



The Operation Screen accesses the working aspects of the IC18 including boom section control, rate control and trip/count/ application information. When OEM options are turned on or off, different Operations screen options become available. This chapter details these changes.

*NOTE: The menu structure on your display might vary from the one displayed in this User Manual depending on the virtual terminal being used.*

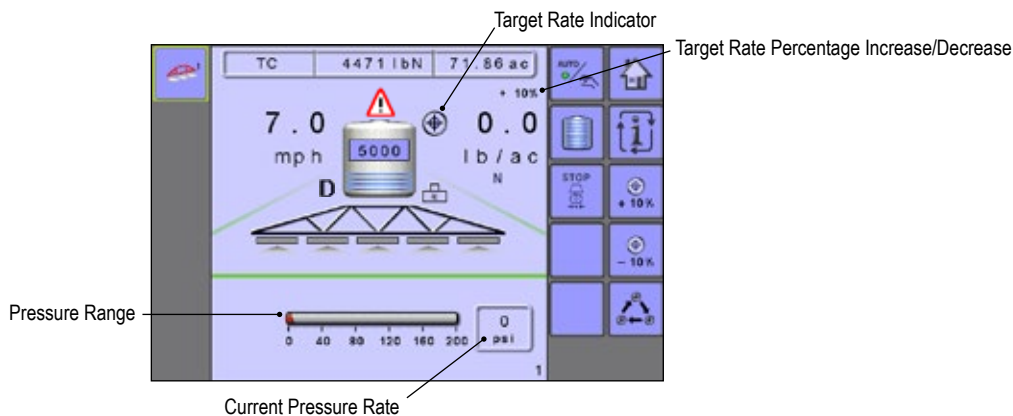
## LIQUID PRESSURE SENSOR ACTIVATED (NH3 MODE)

The following options will be made available when the Liquid Pressure Sensor is installed and turned on in the OEM setup menu while in NH3 mode.


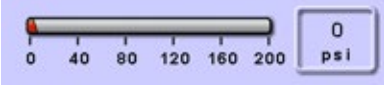


### Operation Mode Overview

Information on the Operation screen will vary depending on the parameters set by the user and the OEM.

Figure 1-16: Operation Mode Screen Overview




### Section and Icon Descriptions


Section or Icon	Description
Application Rate	Displays the actual application rate per hectare/acre <i>NOTE: When the Master is "On" the actual application rate per hectare/acre will be displayed. When the Master is "Off" the target rate is displayed and the TARGET RATE ICON  appears</i>
Pressure Range	This information section displays the pressure range and the current working pressure. 
Current Working Pressure	Displays the current working pressure <i>NOTE: This pressure range should not exceed the recommended pressure range.</i> <b>IMPORTANT! ALWAYS REFER TO THE RECOMMENDED NOZZLE PRESSURE VALUES WHEN SETTING NOZZLE PRESSURE.</b> 
Current Pressure Rate	Displays the current pressure on the system. 

# IC18 Sprayer/NH3 OEM Options


## Application Rate Options

### Target Rate Percentage Increase/Decrease

Target Rate Percentage Increase/Decrease Keys increase/decrease the application target rate per the established percentage set in the Machine Operation setup screen under Application Rate Step. Automatic regulation mode will automatically adjust the application rate based on the current speed in reference to the target rate. Preset Application Rates define up to five (5) target rates of product being applied per hectare/acre. These can be toggled using the Toggle Preset Target Rate Key  on the Operation Screen or Home Screen.

- To adjust the Target Rate, press the BOOST/STEP % INCREASE/DECREASE KEYS .


### Target Rate

Preset Application Rates define up to five (5) target rates of product being applied per hectare/acre. These settings will set the same for all active trips. Target rates set to "0.0" will not be included in the toggle preset target rate options  on the Operation Screen or Home Screen.

If a switchbox is being used to control the boom sections, current target application rate can be set on the Operation Screen.

When a switchbox is not connected to the system current target application rate needs to be established on the Home Screen before entering Operation Mode.

### With Switchbox

- To toggle between Target Application Rates, press the TOGGLE PRESET TARGET RATE KEY .

### Without Switchbox


- To toggle between Target Application Rates, press the TOGGLE PRESET TARGET RATE KEY .

Figure 1-17: Target Rate Percentage Increase/Decrease



Figure 1-18: Target Application Rate

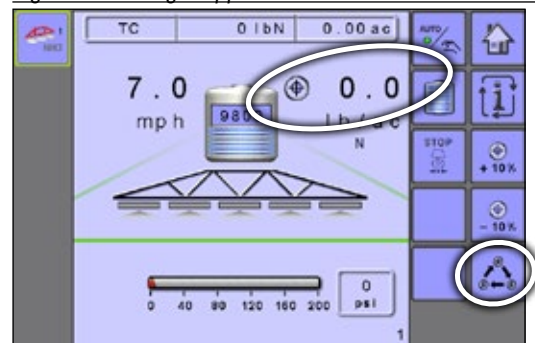
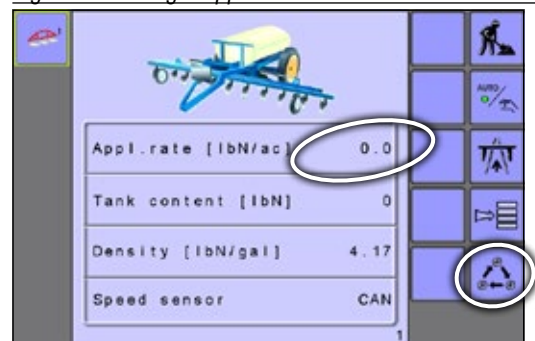


Figure 1-19: Target Application Rate



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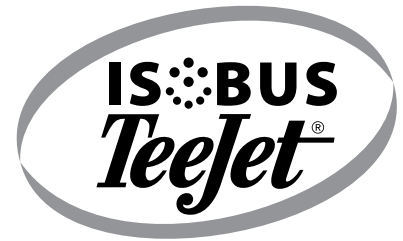
To ensure optimal use of the equipment, please read this manual thoroughly. Please contact TeeJet Technologies Customer Support or an authorized TeeJet Technologies dealer if additional support is required.

# IC18 SPRAYER/NH3 JOB COMPUTER

O E M M E N U S E T U P

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SOFTWARE VERSION 1.09



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