

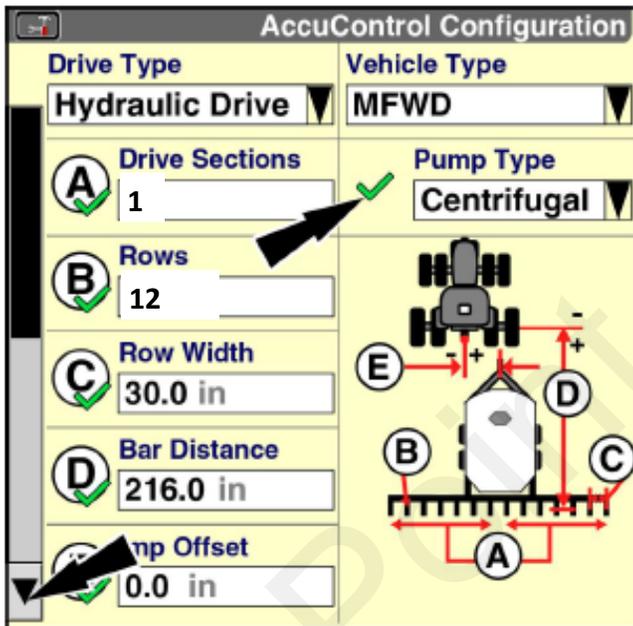
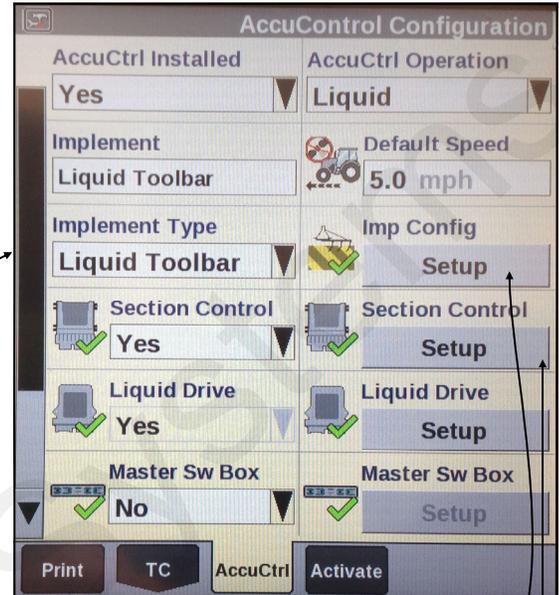


396-2940Y1 Pro 700 AccuControl Setup for Liquid PWM Control-QuickStart Guide

Your system may vary from the screens shown here. See the *AFS AccuControl Rate Controller Software Operating Guide* for additional information about configuring your system. The setup may not always happen in the order shown here.

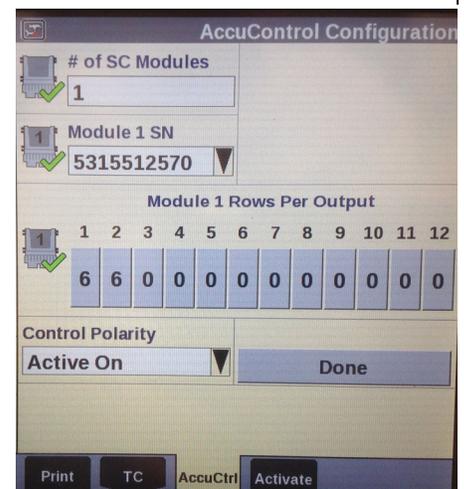
(Check with your Case (NH) dealer to verify that you have the latest software for your Pro 700 display, AccuControl, and Field-IQ module.)

1. Create an Operator (**Toolbox > Oper**)
2. Check GPS Status (**Toolbox > GPS**)
3. Create Implement (**Toolbox > Impl**)
4. Set up Product (**Toolbox > Product**)
5. Set up Container (Optional) (**Toolbox > Container**)
6. Basic Setup (**Toolbox > AccuCtrl**)
 - A. Select AccuCtrl Operation (Liquid)
 - B. Select AccuCtrl Installed (Yes)
 - C. Select Implement Type (Liquid Toolbar)



7. Implement Configuration (**Toolbox > AccuCtrl > Imp Config**)
 - A. Press 'Setup'
 - B. Select Drive Type (will be Hydraulic Drive)
 - C. Select Vehicle Type
 - D. Set Number of Drive Sections (A) **Always = 1**
 - E. Pump Type will be set at **Centrifugal**
 - F. Set Total Number of Rows (B)
 - G. Enter Row Width (C)
 - H. Enter Bar Distance in Inches (axle to knife) (D)
 - I. Measure Implement Right/Left Offset
 - J. Scroll down to Enter Rows per Drive Section (same as Total Number of Rows)
 - K. Press 'Done'

8. Section Control Setup (If equipped with Section Shutoff Valves) **Toolbox > AccuControl > Section Control**
 - A. Select Section Control (Yes)
 - B. Press 'Setup'
 - C. Assign Module Serial Numbers
 - D. Assign Rows per Output (number of rows per Section)
 - E. Select Control Polarity (**Active On**)
 - F. Select 'Done'
9. Overlap/ Boundary Control (**Toolbox > Overlap**)
 - A. Turn **Overlap Control** and **Boundary Control ON**.
 - B. Adjust values as desired.

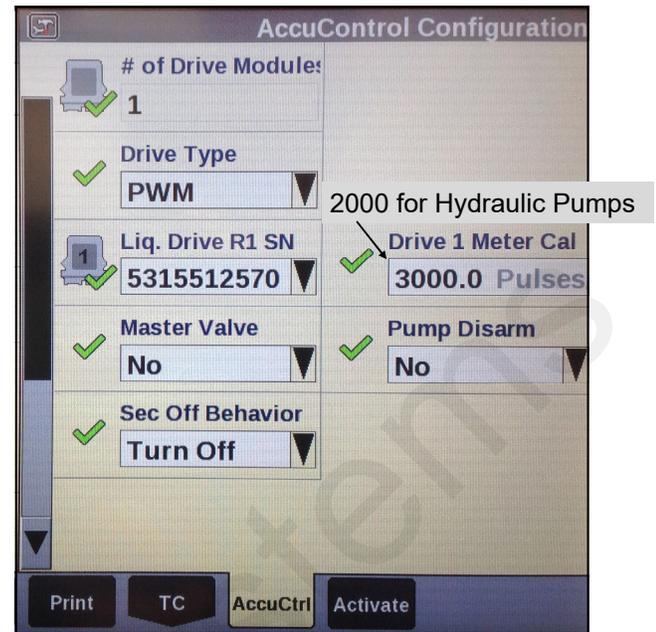


AccuControl Setup for Liquid

10. Liquid Drive Setup *Toolbox > AccuControl > Liquid Drive*

- A. Select Liquid Drive (Yes)
- B. Press 'Setup'
- C. Assign Liquid Drive Serial Numbers
- D. Select Drive Type (**PWM**)
- E. Select Master Valve Type (**NO**)
- F. Select Pump Disarm (**No**)
- G. Select Sec Off Behavior (**Turn Off**)
- H. Enter Drive Meter Cal Number (**3000** pulses/gal for electric systems; **2000** pulses/gal for hydraulic systems; with blue label or orange label SureFire flowmeters)
- I. Press 'Done'

Optional Master Switch Box and Foot Switch

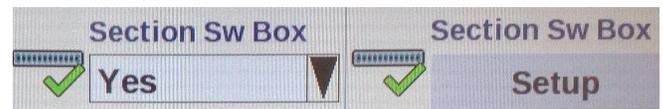


11. Master Switch Box (If equipped with External Switch Box)

- A. Select Master Sw Box (Yes or No)
- B. Press 'Setup'
- C. Verify Serial Number
- D. Select Foot Switch (if installed)
- E. Press 'Done'

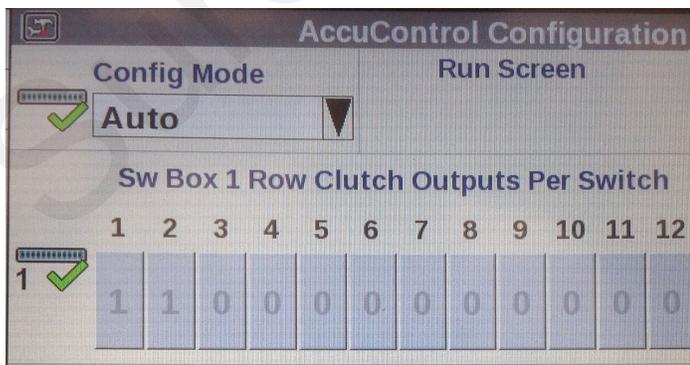
12. Implement Switch (if installed)

- A. Select Imp Switch (Yes)
- B. Press 'Setup'
- C. Select Imp Switch Serial Number
- D. Select Switch Polarity (Determine this by raising and lowering the implement and watch the Implement Status Arrow in Status/Warning Area for proper operation.)
- E. Press 'Done'



13. Section Switch Box (If system is equipped with External Section Switch Box or if you desire Manual Valve Section Control through Run Screens).

- A. Select Section Switch Box (Yes)
- B. Press 'Setup'
- C. Select Config Mode (Auto)
- D. Verify Sw Box Serial Number (if equipped)



If no external switchbox is installed, User Defined Windows can be assigned to a Run Screen (Toolbox>Layout).

Create A Layout

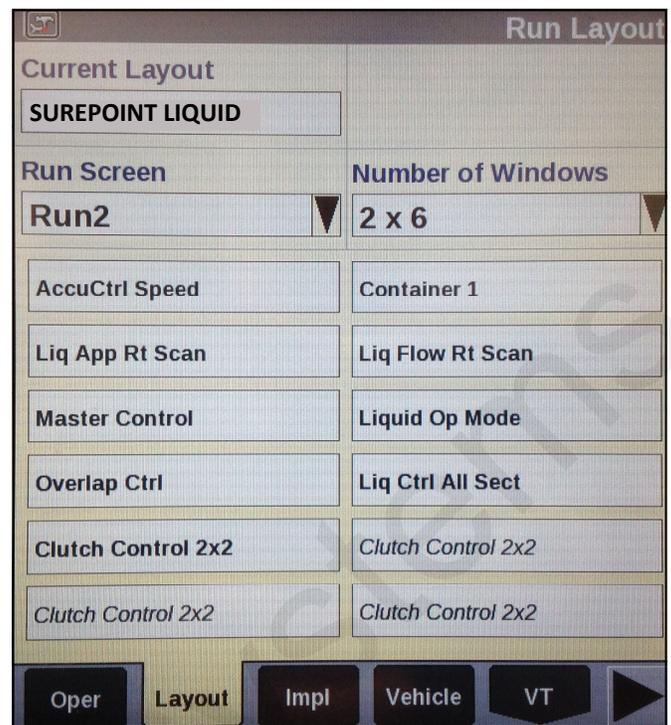
Go to **Toolbox>Layout**

Select Current Layout and then select New.

Name the Layout. Under Run Screen select a screen.

In the white boxes consider adding the following items to a **Run Screen**:

- AccuControl Speed
- Master Control
- Liquid Op Mode
- Liquid Control
- Liq App Rate Scan Container
- Liq Flow Rt Scan
- Section Control
- Overlap Ctrl Overlap Control
- Clutch Control 2 x 2 (May want this if the system has electric section valves. Must set up Section Switch Box, described on previous page)



The Run Screen Layout is largely a matter of operator preference. Some of these items may be added to the Left Hand Area if space is available there, or more than one Run Screen can be set up.

Valve Calibration

Work Condition > Valve Cal > Advanced Valve Calibration

The electric pump systems typically run well with the following default settings. There is more variation in hydraulic pump systems. The Valve Calibration procedure may work for a hydraulic pump system. It may also give some settings that don't work well at times. Try the following default values as a starting point and make adjustments as needed for your system.

See the pictures on the following pages for other values.

| | Integral Gain | Breakout | DeadZone | Integrator Upper Limit | Integrator Lower Limit | Comparator Limit | Advanced PWM |
|------------------|--------------------|----------|----------|------------------------|------------------------|------------------|--------------|
| Electric | 0.5 (0.4 to 0.6) | 3 | 2 | 100 | -100 | 100 | Low limit 10 |
| Hydraulic | 0.2 (0.18 to 0.25) | 10 | 2-3 | 100 | -100 | 100 | Low limit 30 |

Additional Tips for Getting Started

1. Set the **Flow Error Timeout at 30—45 seconds** until you get the system adjusted and operating correctly. The default is 5 seconds. This may result in the application being shut down before you have a chance to see how it is operating. After the system is operating correctly, this can be set lower to give you a quicker warning if something is wrong. (**Work Condition > Valve Cal > Advanced Calibration > Scroll down to 2nd page and Flow Error Timeout**)

2. **Set the Fault Speed to Slow or Off** until you get the system adjusted and operating correctly. The default is Normal. (**Work Condition > Operate > Fault Speed**) After the system is operating correctly, this can be set back to Normal. You can run this at Slow if the system gives too many Fault Warnings at Normal.

Pro 700 & AccuControl Operation for Liquid Application

To start applying product:

Go to **Toolbox>AccuCtrl>Default Speed**

Enter a default speed. The applicator will default to this speed if all ground speed sources are lost.

The **Master Apply** button may need to be cycled twice to start the application.

1. Preparation

- A. Insert a data card in the display.
- B. Create or Select a Grower/Farm/Field/Task & Crop Type (Performance>Profile)

2. Product Setup: **Toolbox>Product**

- A. Name the product (28-0-0)
- B. Select the form for the product (Liquid)
- C. Select Usage (Fertilizer)
- D. Enter Default Application Rate
- E. Enter Minimum and Maximum Application Rate.



| Product Setup | |
|--------------------|----------------|
| Product Name | Form |
| 28-0-0 | Liquid |
| Usage | |
| Fertilizer | |
| Default App Rate | Delta App Rate |
| 6.000 gal/ac Units | 1.000 gal/ac |
| Min App Rate | Max App Rate |
| 0.000 gal/ac | 25.000 gal/ac |

3. Product Layer Assignment: **Work Condition>Layer** to assign a product to a control section of the applicator

- A. Select or Create a Work Condition.
- B. Select Layer 1 Control Type (AccuControl Liquid)

Liquid)

- C. Select Product for Layer 1 Control
- D. Select Container if using the Container
- E. Assign additional layers if needed.



| Layer Assignment | |
|--------------------|-------------|
| Work Condition | |
| Liquid | |
| Layer 1 | |
| AccuControl Liquid | |
| Product 1 | Container 1 |
| 28-0-0 | TANK |

4. Controller Setup—Anhydrous: **Work Condition>Control**

- A. Verify Implement
- B. Verify Work Condition
- C. Select Controller—Liquid
- D. Product Delay-Default is 1 .0 sec.
- E. Enter the Minimum Speed (if the speed drops below this, the applicator will keep applying at this speed)
- F. Enter a value for Off-target Alarm Limit (probably 15-20%)

| AccuControl Controller Setup | |
|------------------------------|----------------|
| Implement | Work Condition |
| Liquid Toolbar | Liquid |
| Controller | |
| Liquid | |
| Default Rate | Alarm Limit |
| 6.00 gal/ac | 10 % |
| Delta Rate | |
| 1.00 gal/ac | |
| Product Delay | |
| 0.7 sec | |
| Minimum Speed | |
| 3.0 mph | |
| Valve Cal | Operate |
| Control | Liquid Cal |

5. Enable Application: Run Screens

- A. Liquid Op Mode—Select Liquid
- B. Read the safety message and press Accept.
- C. Master Control—Press Apply on display or switch on Master Switch on switchbox (if equipped)

Master

| Liquid Op Mode |
|----------------|
| Liquid |

| Master Control |
|----------------|
| Apply |

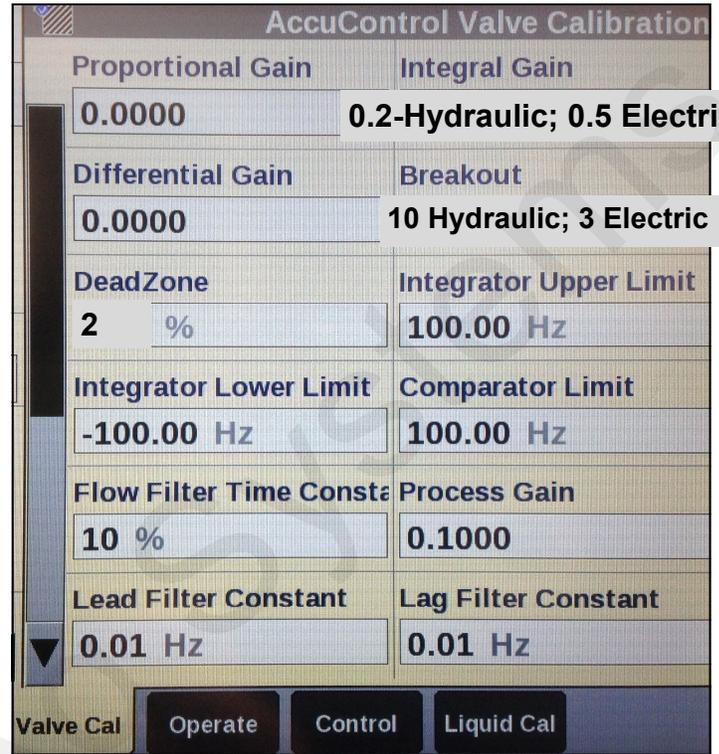
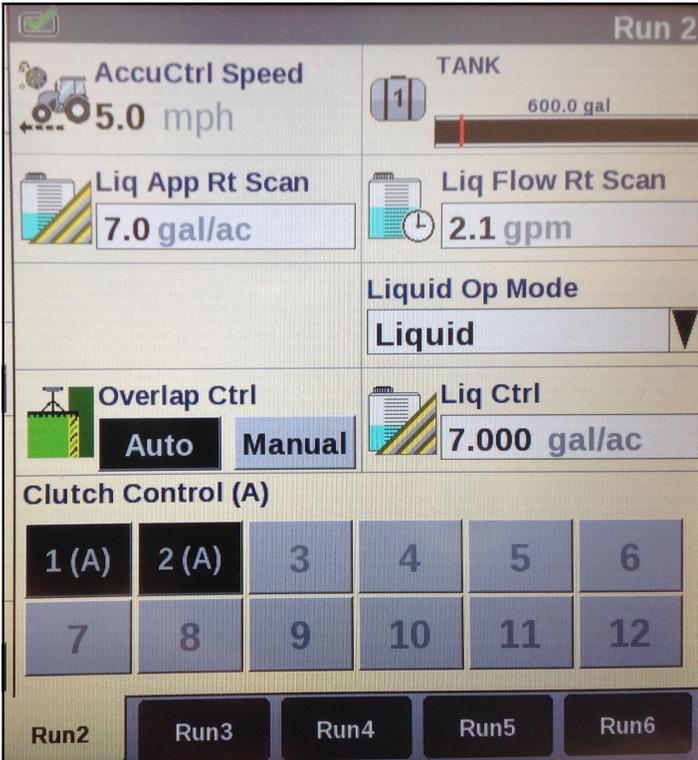
6. Liquid Rate Control

- A. Liquid Control defaulted to ON
- B. Increase or decrease rate if needed
- C. Automatic rate control (prescription) is assigned in Performance>Rx Setup.

| Liq Ctrl |
|----------|
| 6.000 |
| Reset |
| On |

Possible Run Screen Layout for system with 2 electric section valves

Start with these Valve Cal settings Work Condition > Valve Cal > Advanced Calibration

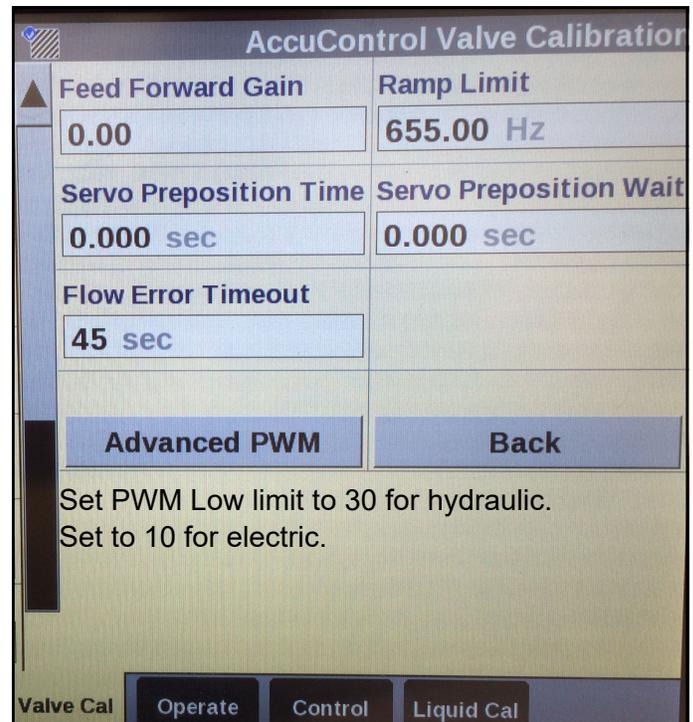
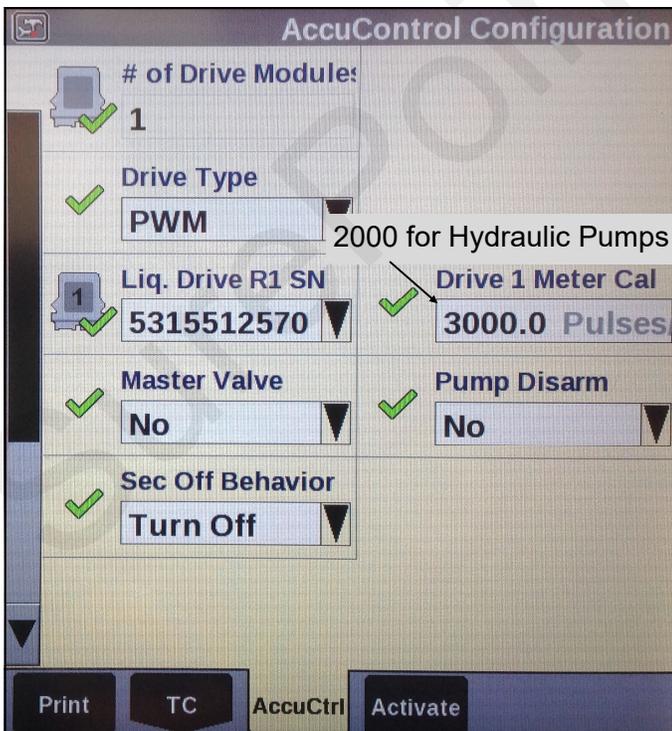


To use default AccuCtrl speed, turn Radar off.
Toolbox > Vehicle > Radar Installed > NO

Screen showing Flow Error Timeout set to 45 sec

Work Condition > Valve Cal > Advanced Calibration > Scroll down to 2nd page and Flow Error Timeout)

Screen showing AccuControl Liquid Drive Setup
Toolbox > AccuCtrl > Liquid Drive Setup



Set PWM Low limit to 30 for hydraulic.
Set to 10 for electric.

Container Setup (Sample) Toolbox > Contr

The screenshot shows the 'Container Setup' screen with the following fields and values:

| | | | |
|---------------|-----------|--------------------|-----------|
| Container | SFA | Type | Volume |
| Capacity | 600.0 gal | Level | 600.0 gal |
| Warning Type | Value | Warning Level | 60.0 gal |
| Time Tracking | Disabled | Container Override | |
| | | Info | Reset |

Bottom navigation bar: PF, Marks, Manual, Product, Contr

Fault Speed, Beeps, etc... Work Condition > Operate

The screenshot shows the 'Liquid Operation Setup' screen with the following fields and values:

| | | | |
|-----------------|----------------|----------------|---------|
| Implement | Liquid Toolbar | Work Condition | Liquid |
| Auto Sec Enable | Yes | Prime Speed | 3.0 mph |
| Fault Speed | Slow | Stop Beeps | 1 beeps |

Bottom navigation bar: Valve Cal, Operate, Control, Liquid Cal

Implement Setup (Sample) Toolbox > Impl

The screenshot shows the 'Implement Setup' screen with the following fields and values:

| | |
|------------------|----------------|
| Implement | Liquid Toolbar |
| Implement Width | 360.0 in |
| Swath Width | 360.0 in |
| Implement Offset | 0.0 in |
| Max Steer Angle | 55 ° |

Bottom navigation bar: Oper, Layout, Impl, Vehicle, VT

Your system setup may vary from the screenshots shown here. There may be other setup items that need to be completed for your system. Your system may not require all the setups shown here.

See the manuals from Case IH for the Pro 700 display and for AFS AccuControl for more information about setup and operation of your system.

If the suggested Valve Cal numbers don't work, try running the Valve Calibration procedure at:

The screenshot shows the 'AccuControl Valve Calibration' screen with the following fields and values:

| | | |
|----------------------|--------------|---------|
| Date | Mar 17, 2015 | 2:12 pm |
| Breakout | | 3.07 |
| Gain | | 2 |
| DeadZone | | 0 |
| Drive Number | 5315512570 | |
| Valve Calibration | Start | |
| Advanced Calibration | | |

Bottom navigation bar: Valve Cal, Operate, Control, Liquid Cal

Work Condition > Valve Cal > Start.

Sometimes this gives good values to run the system. Sometimes it doesn't.

Setup and Troubleshooting the Pro 700 AccuControl Liquid PWM System

(aka IntelliView IV IntelliRate)

The Default speed setting may not work when the Pro 700 is plugged into a tractor that has Radar, Wheel, or GPS speed capability. Try this: To use default AccuCtrl speed, turn Radar off. Toolbox > Vehicle > Radar Installed > NO. If the system will recognize the Default Speed, you can run the system from the Run Screen. If not, set the Default Speed to 0, and run it from the Liquid Cal mode as described below.

To test the Pro 700 AccuControl on initial startup and in a troubleshooting situation, use the *Liquid Cal* mode. (Work Condition > Liquid Cal)

1. Set up the **Toolbox > AccuControl** configuration page so all AccuControl items are set.
2. Set up the **Work Condition > Valve Cal > Advanced Calibration** screen to match the settings shown in the earlier pages of this document. The Valve Calibration procedure may or may not give results that will work. It may be fairly good except for an Upper Integrator Limit that is too low, or it may have totally unworkable numbers in Dead Zone and other fields.

3. Set the **Flow Error Timeout** (on page 2 of the Valve Calibration setup) to 45 sec. This will let the system run for a while before it shuts down if it is not detecting flow.

4. Go to **Work Condition > Liquid Cal**

5. If the **Prime** button does not show up here:

Home > Toolbox > AccuControl > Imp Config > Setup > Scroll down > Liquid Prime > Enabled. (Pressing the Prime button will run the pump for 10 seconds. To keep the pump running, press and hold the Prime button.)

6. To run the system from here with a simulated speed and target rate:

Liquid Op Mode > On Master Control > Apply > Next

7. Enter a **Simulated Speed** and **Target Rate** (these can be changed while running in this mode to test other speeds or rates). Press **Next**.

8. Press **Start** to start the pump. System should run at Simulated Speed and Target Rate. **Measured Output** should count up as product is pumped. To see actual flow in gpm, you need to set up a Layout for the Left Area with **Liq Flw Rt Scn**. This is very useful when diagnosing pump or system issues. It needs to be in the **Left Area** so you can see it while running in this

mode. (Remember, when testing with water, the pressure will be much less than it will be with a fertilizer product. If the pressure is too low, all the rows may not flow because there may not be enough pressure to open all the check valves. Increase the rate until all rows are flowing.)

9. If the pump does not run here, perform the other troubleshooting tests for hydraulic or electric pumps. You can start the system here and use a voltmeter to verify that there is PWM voltage at the EPD or hydraulic valve. (If it is not reading flow, it will quickly ramp up to maximum pump speed and shut off, giving a "Motor Stalled" error message. To make this happen more slowly, set the Integral Gain to 0.1 to allow time for diagnostic observation. "Motor Stalled" typically means it has taken the PWM Duty Cycle to maximum and is still not getting enough (or any) flow.)
10. If the pump runs and liquid is flowing but no flow is showing in the Liq Flw Rt Scn box, check for 12 v at the flowmeter connection (pins B & C) and do a tap test (pins A & C) to see if flow will register on the display (see note in #9 about setting Integral Gain).
11. If the pump runs, but is surging, lower the Integral Gain. If it is pumping, but getting to rate very slowly, raise this.
12. If the system has section valves, they should open when this test is started. If they don't open, check the AccuControl Configuration setup (Toolbox > AccuControl > Section Control > Setup {should have green checkmarks, Control Polarity is Active On}). Check Section Sw Box Setup > Config Mode > Auto (should say Run Screen in upper right corner). Set up a Run Screen layout with Clutch Control 2X2 to have section switches on the display. Be sure Boundary Control and Overlap Control are ON (Toolbox > Overlap). If they still don't open, check for constant voltage (pins A&B) and signal voltage (pins B&C) at valve. (See the full manual for all harness drawings.)

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