

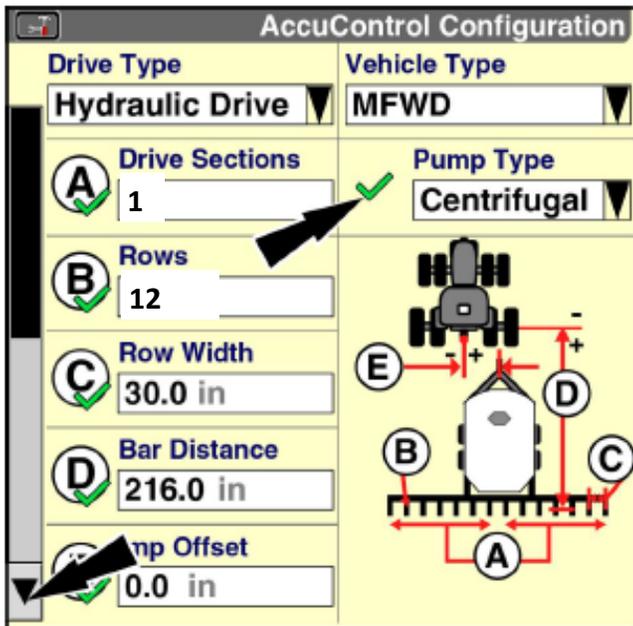


396-2940Y1 Pro 700 AccuControl Setup for Liquid PWM Control-QuickStart Guide

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.

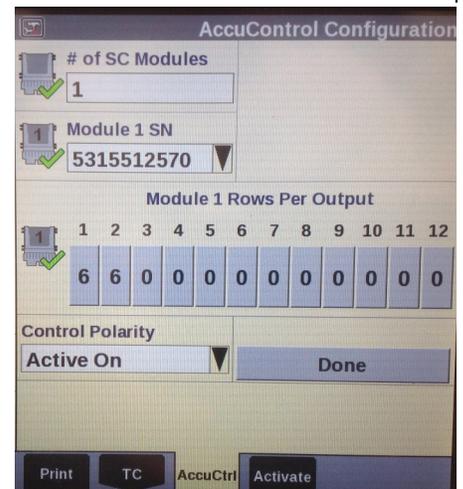
(Check with your Case (NH) dealer to verify that you have the latest software for your Pro 700 display, AccuControl, and Field-IQ module.)

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.

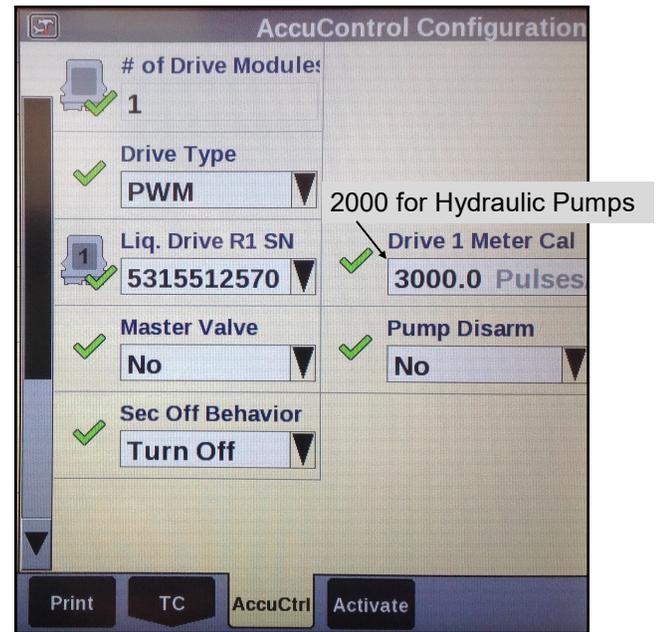
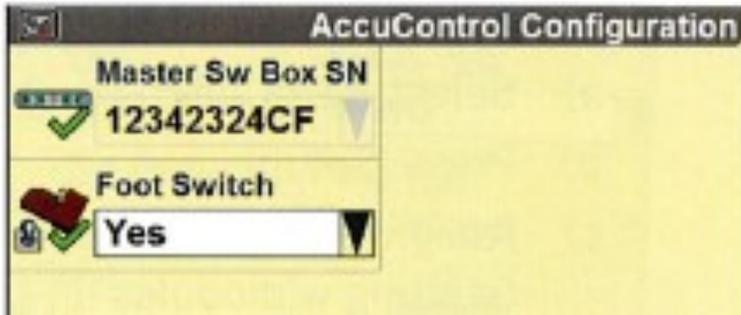


AccuControl Setup for Liquid

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

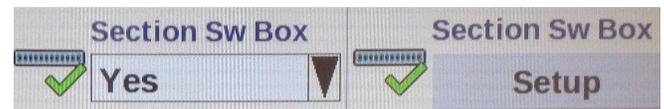
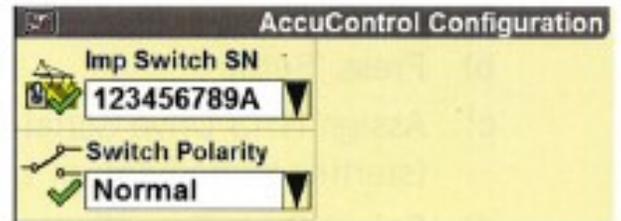


11. Master Switch Box (If equipped with External Switch Box)

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

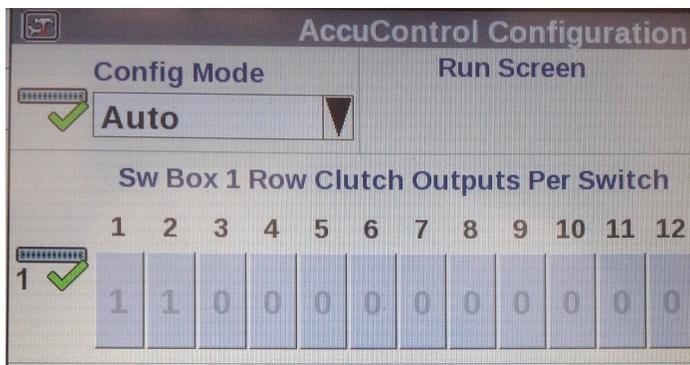
12. Implement Switch (if installed)

- 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

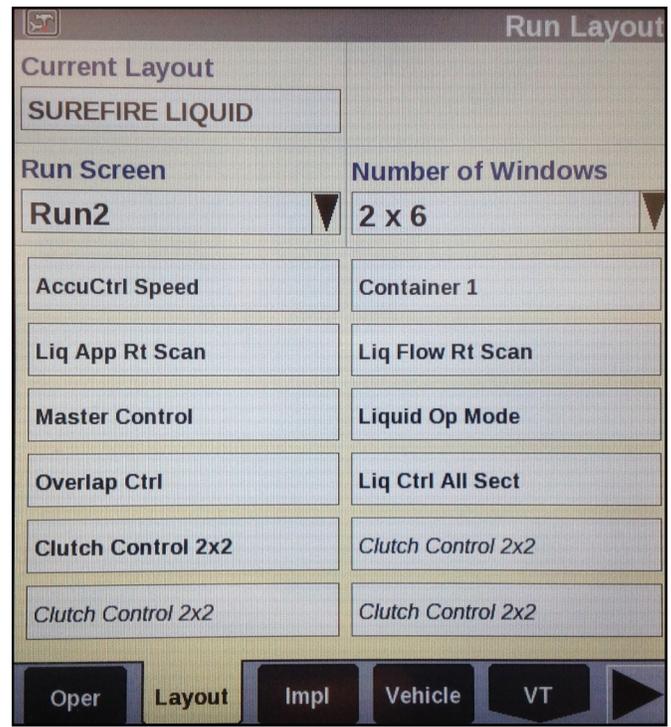
Go to **Toolbox>Layout**

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	

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

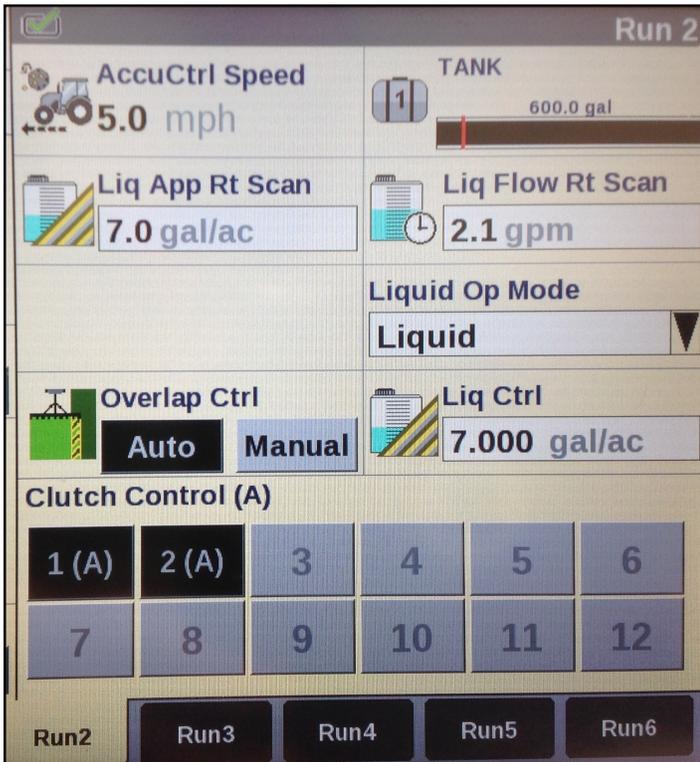
Master Control
Apply

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.

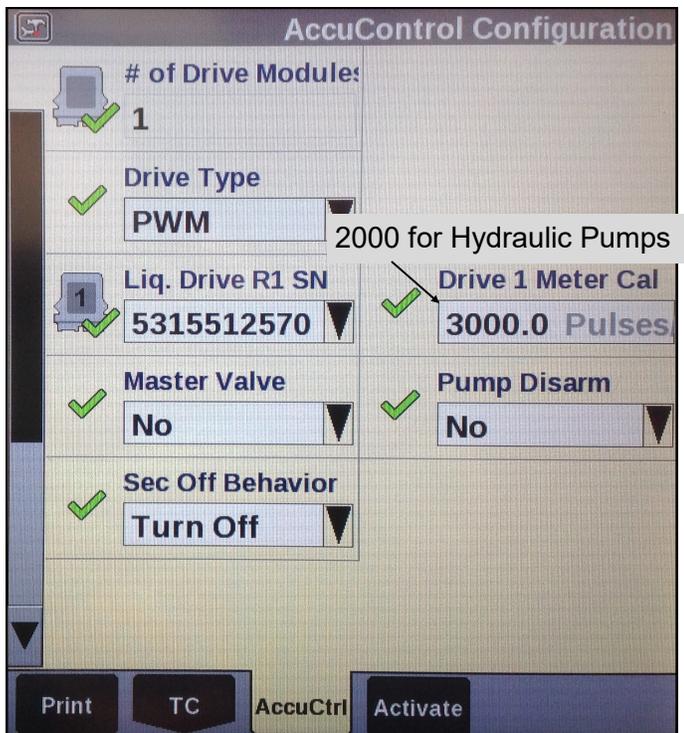
Liq Ctrl
6.000
Reset
On

Possible Run Screen Layout for system with 2 electric section valves

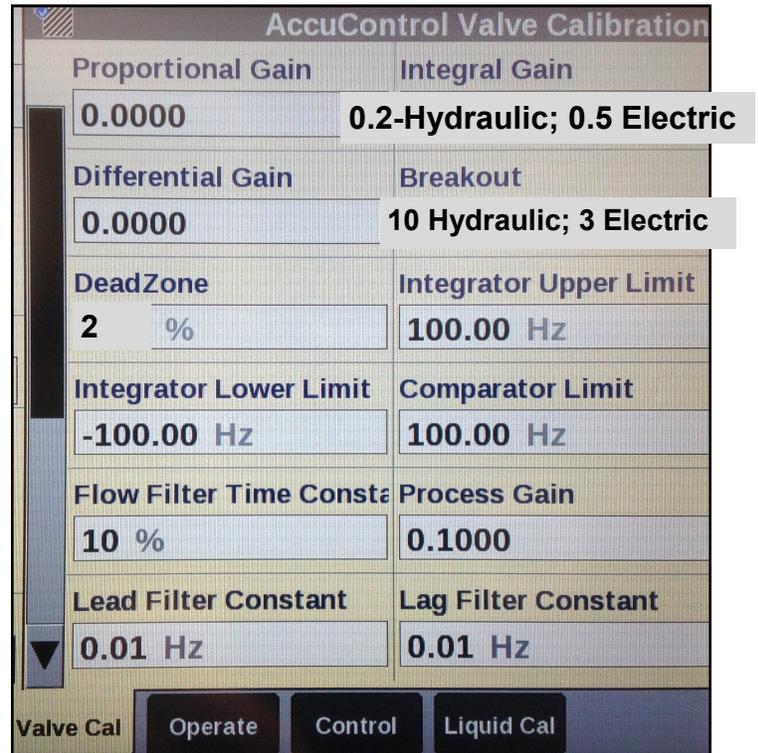


To use default AccuCtrl speed, turn Radar off.
Toolbox > Vehicle > Radar Installed > NO

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

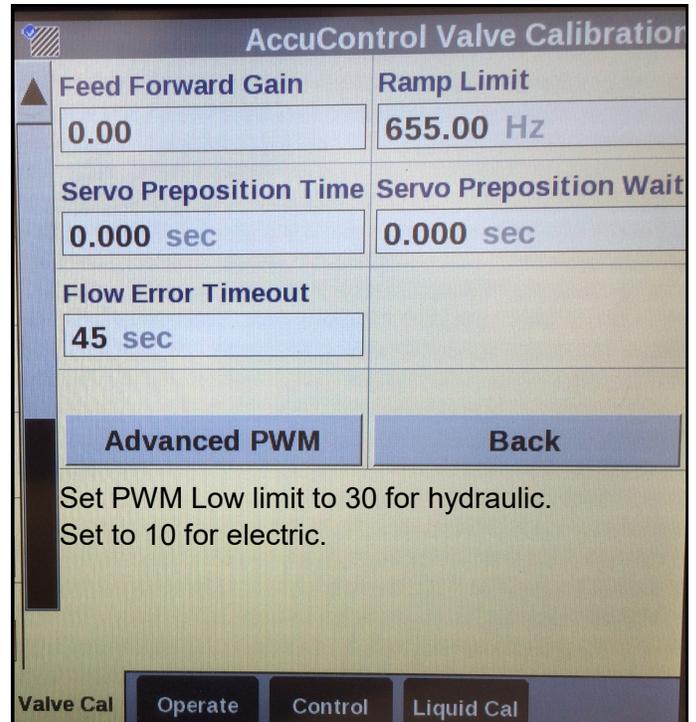


Start with these Valve Cal settings Work Condition > Valve Cal > Advanced Calibration



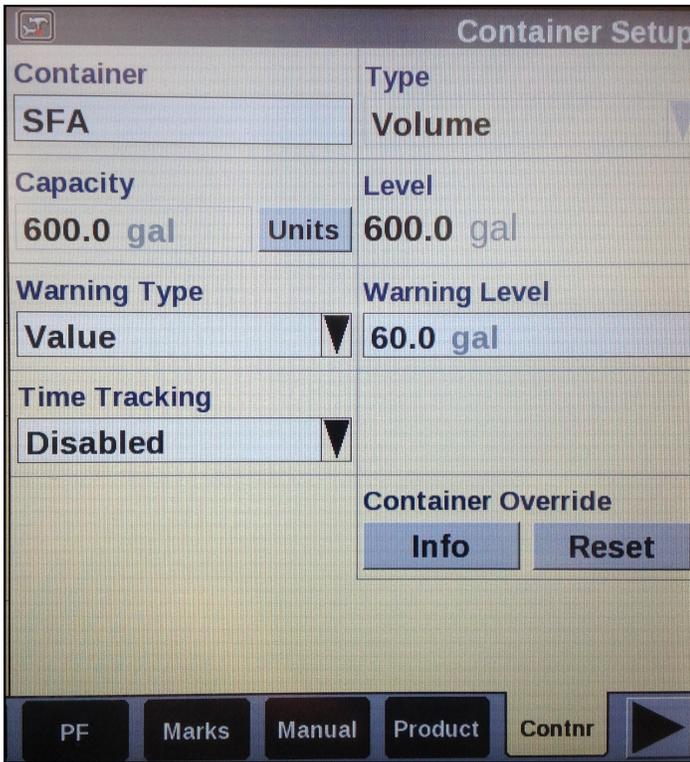
Screen showing Flow Error Timeout set to 45 sec

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

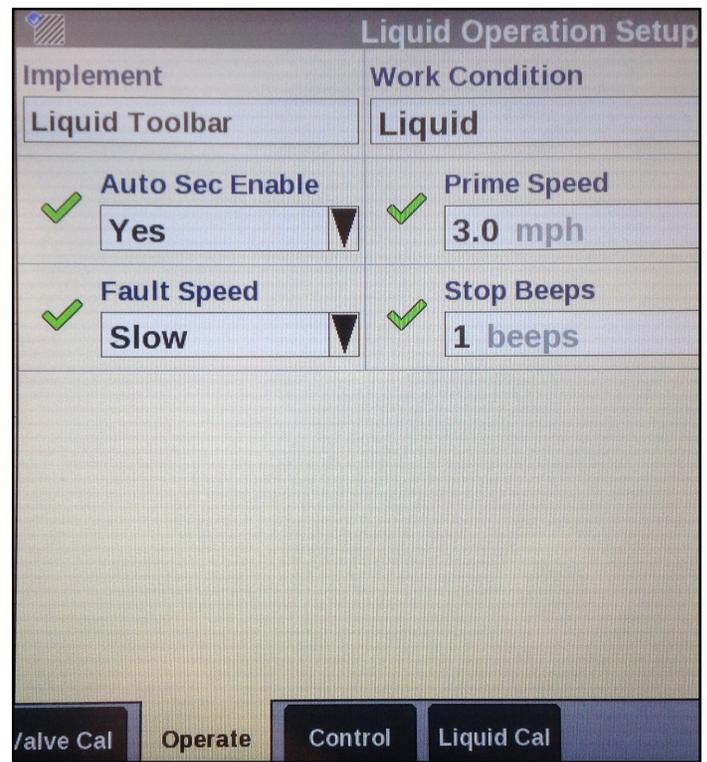


Set PWM Low limit to 30 for hydraulic.
Set to 10 for electric.

Container Setup (Sample) Toolbox > Contr



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



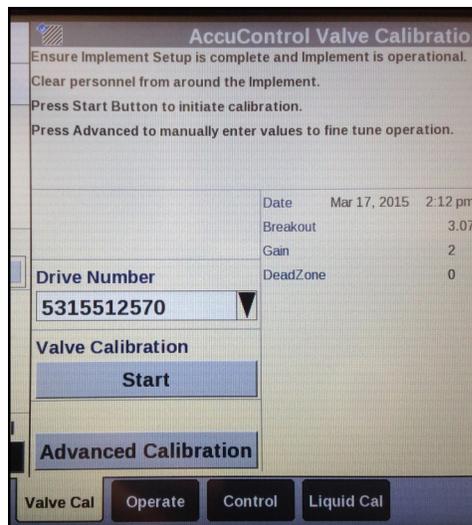
Implement Setup (Sample) Toolbox > Impl



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:



Work Condition > Valve Cal > Start.

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

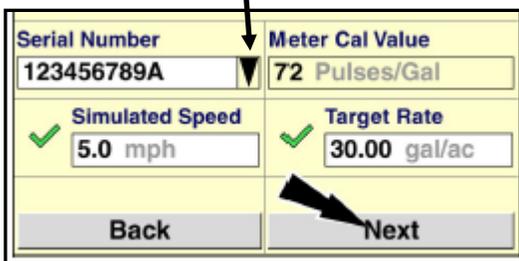
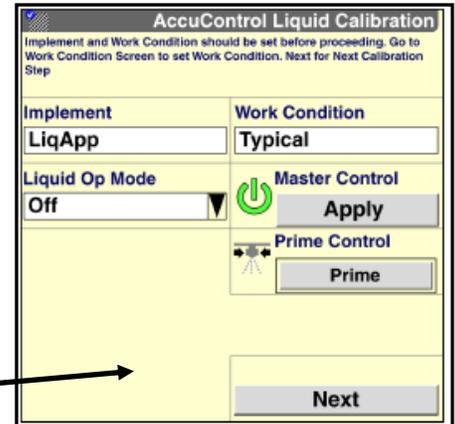
Setup and Troubleshooting the Pro 700 AccuControl Liquid PWM System

(aka IntelliView IV IntelliRate)

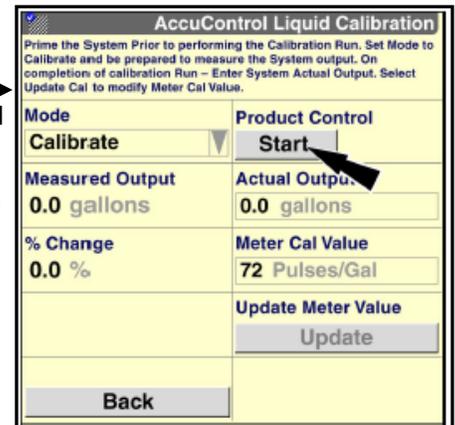
The Default speed setting may not work when the Pro 700 is plugged into a tractor that has Radar, Wheel, or GPS speed capability. Try this: To use default AccuCtrl speed, turn Radar off. Toolbox > Vehicle > Radar Installed > NO. If the system will recognize the Default Speed, you can run the system from 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.)

213-02-3764Y2

Trimble Field IQ Adapter Cable 30-pin to 12-pin Product and 14-pin Sections

Wire 18AWG unless otherwise specified

30-pin Cinch Connector



+12V	A1
+12V	B1
+ 5V	C1
Impl Switch 5V	D1
Servo +/-PWM	E1
Section 5	F1
Section 4	G1
Section 3	H1
Section 2	J1
Section 1	K1
Pressure 1 Signal	A2
Pressure 2 Signal	B2
Flow Signal	C2
Impl Switch Signal	D2
Servo -/PWM	E2
Section 10	F2
Section 9	G2
Section 8	H2
Section 7	J2
Section 6	K2
GND	A3
GND	B3
Flow GND	C3
	D3
	E3
	F3
GND	G3
POWER	H3
Section 12	J3
Section 11	K3

POWER IN

2 Pin Connector – Deutsch DTP04-2P Male



GND	1
+12VDC	2

Aux/Dump Valve Signal

12 Pin Connector Deutsch DTM04-12P



1	PNK
---	-----

Run/Hold



A	Imp Sw Signal
B	
C	Imp Sw 5V

Dust Cap



SECTIONS 1-6

14-pin Deutsch HDP24-18-14PE



RED 14 AWG	A	HC PWR 1
RED 14 AWG	B	HC PWR 2
BLK 14 AWG	C	HC GND 1
BLK 14 AWG	D	HC GND 2
YEL	E	PWM 1 (+)
GRN	F	PWM 1 (-)
PUR	G	Pressure 1
PNK	H	AUX/Dump Valve
BLK	J	Sect 1
BRN	K	Sect 2
BLU	L	Sect 3
BLK/WHT	M	Sect 4
BRN/WHT	N	Sect 5
BLU/WHT	P	Sect 6

PUMP

12-Pin Deutsch Female DT06-12SA



RED	1	+12V DC
BLK	2	GND
BLU	3	Flow Signal 1
PUR	4	Pressure 1
YEL	5	PWM (+)
GRN	6	PWM (-)
	7	
	8	
	9	
	10	
BLK	11	Section 1
BRN	12	Section 2

SECTIONS 7-12

14-pin Deutsch HDP24-18-14PE



RED 14 AWG	A	HC PWR 1
RED 14 AWG	B	HC PWR 2
BLK 14 AWG	C	HC GND 1
BLK 14 AWG	D	HC GND 2
	E	PWM 1 (+)
	F	PWM 1 (-)
PUR/WHT	G	Pressure 2
PNK	H	AUX/Dump Valve
WHT/BLK	J	Sect 7
WHT/BRN	K	Sect 8
WHT/BLU	L	Sect 9
PNK	M	Sect 10
WHT/YEL	N	Sect 11
WHT/GRN	P	Sect 12



Part No:

213-02-3764Y2

Drawn By:

Mark Wolters

Description:

Trimble Field IQ Adapter Cable 30-pin to 12-pin Product and 14-pin Sections

Last Edit Date:

10/12/2018

Revision

A-02

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