

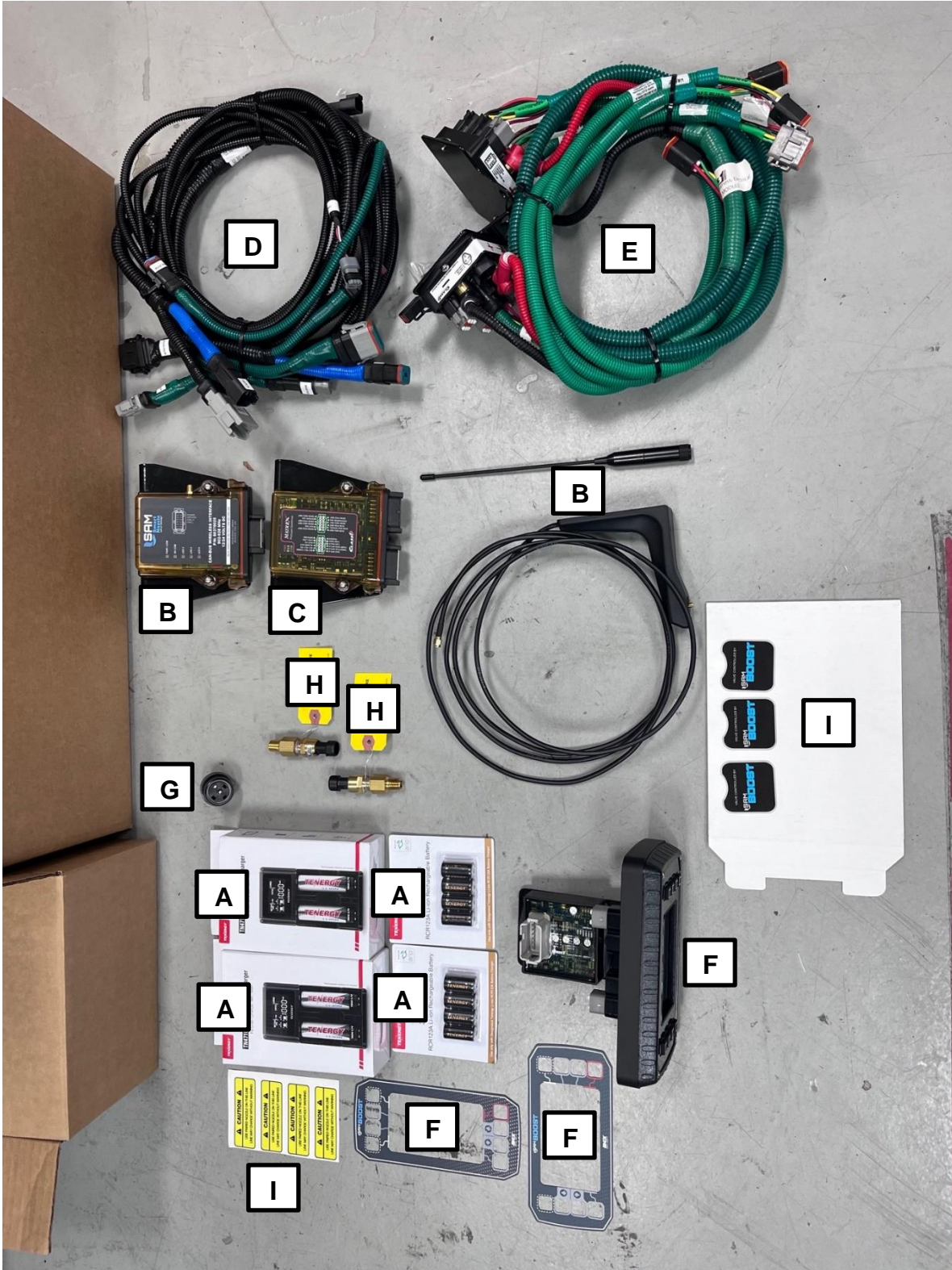


**SAM BOOST™ WITH
SMART NOZZLE N₂P
QUICK START GUIDE**

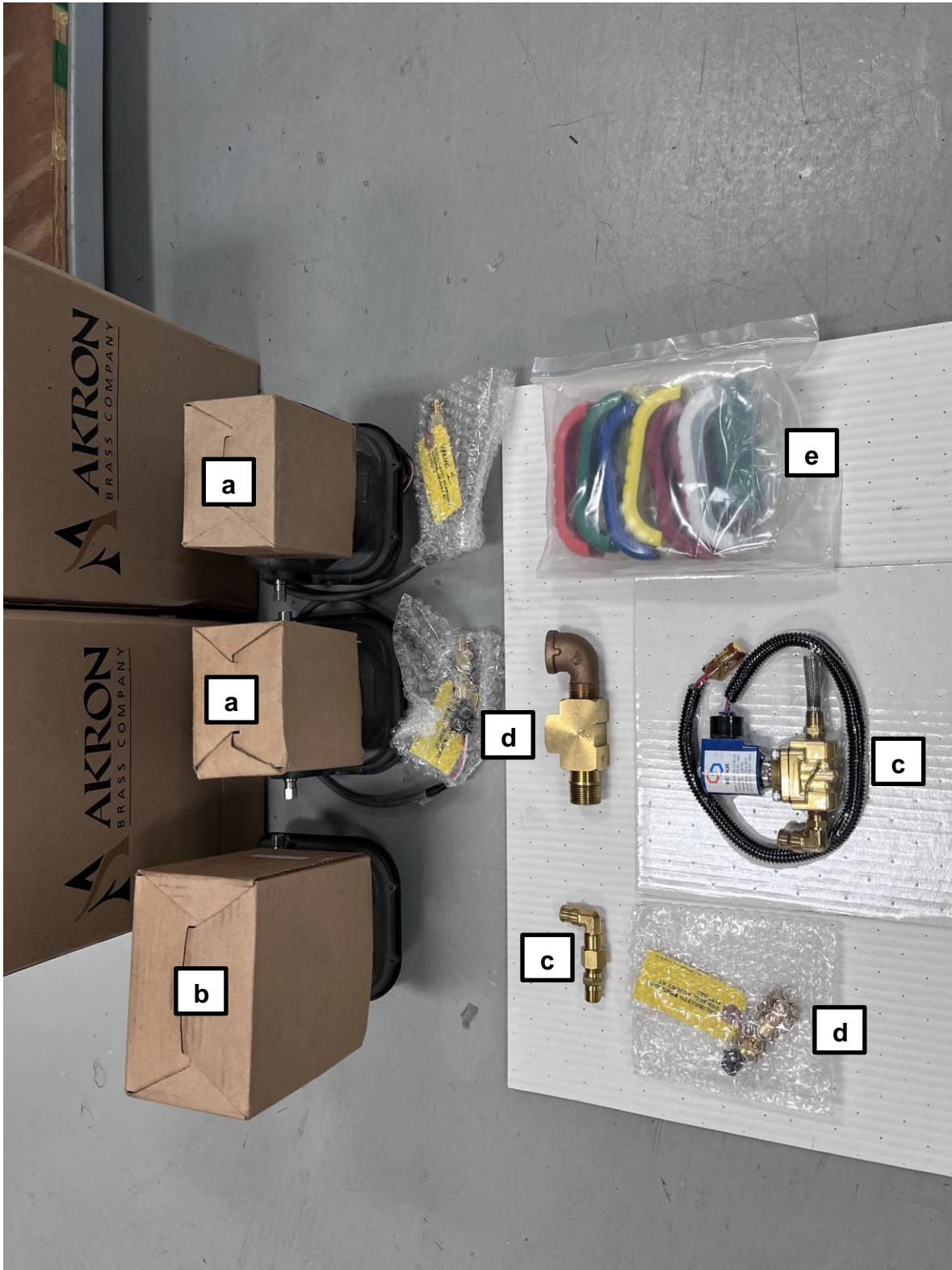


**SAM BOOST™ SYSTEM
FULLY INSTALLED WITHOUT
ANTENNA & WATER TANK
LEVEL SENSOR**

SAM BOOST™ Electronic Components



SAM BOOST™ Valves & Venting Components



1. WHAT'S INCLUDED

1.1 SAM BOOST™ Electronic Components

- A. Batteries & Battery Chargers
- B. Wireless CAN Module & Antenna
- C. Matrix Module
- D. SAM BOOST™ System Harness
- E. Cross Pump Backbone Harness with CAN Hubs
- F. SAM BOOST™ Display, Display Labels, Power Module, & Adapter Plate
- G. Alarm Buzzer (Optional)
- H. Master Intake & Master Discharge Pressure Sensors
- I. Caution Labels & Push-Pull Cover Placards

1.2 SAM BOOST™ Valves & Venting Components

- a. 2" Preconnect Boost Valves, Pressure Sensors, & Valve Harnesses
- b. Tank-to-Pump Boost Valve & Valve Harness
 - Customer Specified, 3" or 4" Valve Size Available
- c. Pump Venting Solenoid & Fittings
- d. Water Tank Level Sensor & Fittings
- e. Nozzle Color Handle Kit

2. PREPLAN INSTALLATION

A successful SAM BOOST™ application starts with identifying the engine control type so the installation works the first time without custom rework. Note the following compatible engine/truck configurations:

- 2015 or newer Cummins CAN controlled Engine (500k Baud Rate)
- 2012 or newer with Cummins CAN controlled Engine (250k Baud Rate)
- 2001 or newer with Analog controlled Engine with J1939 engine data
- 2019-2022 Ford OBDII (F550-650)
- It is not an Aerial Apparatus
- Apparatus has Class1 TPG, TPG-A, Sentry or FRC Pump Boss PBA200-400 series Pump Pressure Governor
- Apparatus is not utilizing FRC Datalink Network with the existing FRC governor.



Class1 TPG, TPG-A



FRC Pump Boss



Class1 Sentry



Refer to FSG-MNL-00232 for complete listing of Safety Hazards & Warnings

Additional items for dealers to qualify prior to installation

- Find optimal location for Antenna within 8' of Wire to Wireless CAN Module
- Lay out all components included in kit on pump as shown in System Layout
- Verify harnesses are within reach of components

3. VALVE INSTALLATION

- Remove Original Valve Components (Controls, drains, etc.)
- Install Boost Valves
 - May require rotating electric actuators for clearance. If valve is rotated then position sensor calibration (password 08266) must be performed
- Install Pressure Sensor into Drain Line or Gauge Line near Valve
- Connect Harnesses to Valve Electric Actuator
 - Point Electrical Connection Ports down or sideways to avoid water intrusion

4. DISPLAY INSTALLATION

- Remove Original Equipment Pressure Governor
- Mount SAM BOOST™ Display with Adapter Plate
- Replace Original Equipment Master Intake & Discharge Pressure Sensors

If Buzzer Included in Kit:

- Remove Original Equipment Buzzer
- Install SAM BOOST™ Display Buzzer

If Buzzer NOT Included in Kit:

- Connect Buzzer into SAM BOOST™ Display

5. WATER TANK COMPONENT INSTALLATION

- Install Pump Venting Solenoid to 1/4" NPT Port on Discharge Side of Pump
- Install Check Valve Assembly to Water Tank or Discharge Side of Tank Fill Valve
- Connect & Route 3/8" Push-On Hose Tubing between Solenoid & Check Valve
- Locate & Remove OEM Water Tank Sensor
- Install OEM Water Tank Sensor to SAM BOOST™ Tank Assembly
- Install SAM BOOST™ Tank Assembly to Water Tank

6. ELECTRONIC MODULE INSTALLATION

- Mount Matrix & Radio Modules to Valves
 - Adapter fits 2.5", 3", or 4" Valves



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7. HARNESS INSTALLATION

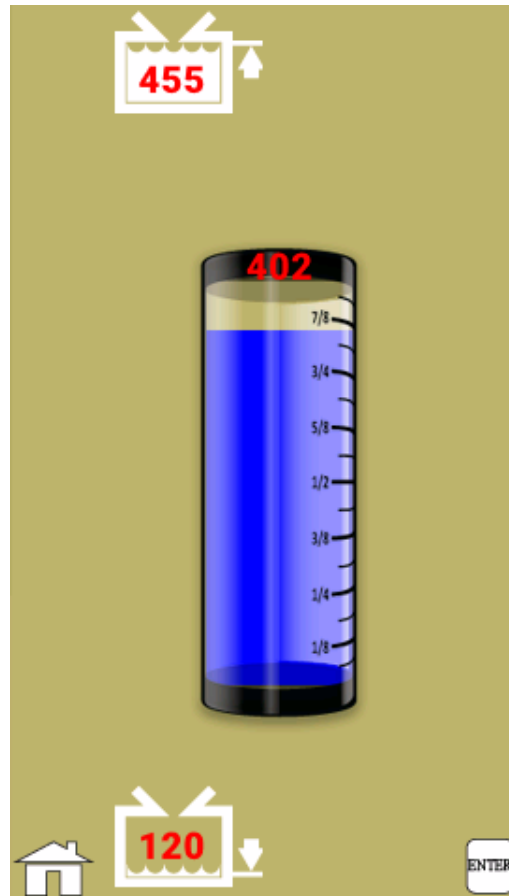
- Connect all Harnesses shown on System Layout
- Connect OEM Power & Ground to SAM BOOST™ Power & Ground
 - Do NOT wire to circuit with heavy motor loads (such as primer, foam system)
 - Wire to switched power source with 60 AMP protection on positive (+) side

8. WARNING LABEL & PLACARD INSTALLATION

- Locate & Place Warning Labels where Preconnect Hoses are Deployed
- Locate & Place Cover Placards over Original Valve Control Push Rods Panel Holes

9. SOFTWARE QUICKSTART

- Assign SAM BOOST™ Display UI Layout (Password: 14000)
- Calibrate Water Tank Level Sensor (Password: 08265)



1. Fill Water Tank & Hit Button above Full icon
2. Empty Water Tank & Hit Button below the Empty icon
3. Hit Enter when complete to save

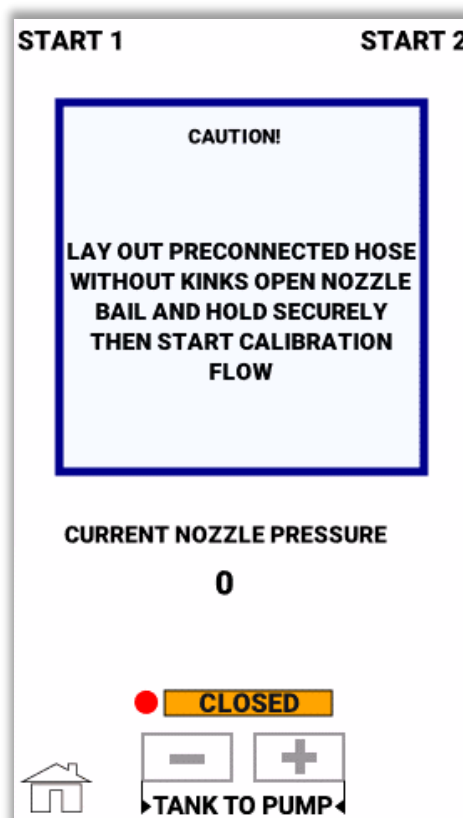


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- Verify Nozzle Names & Colors on Home Page
 - If incorrect, change on password 00401 page
 - Valve 1 is valve associated with top left icon of the screen
 - Valve 2 is valve associated with top right icon of the screen
- Calibrate Nozzle Preset (Password: 10610)

⚠ CAUTION

Nozzle Preset Calibration will open discharge valve associated with nozzle and automatically increase line pressure. Calibration must be performed with two people



1. Engage Pump while inside Calibration Screen
2. Wake up Nozzle by Pressing 1 Button
3. Follow Instructions on Display
4. Press START 1 or START 2 to Calibrate Nozzle 1 or 2
5. Valve will open and line pressure will automatically increase until nozzle meets desired pressure message
 - Verify that Nozzle Bail is Fully Open when calibrating
6. The calibration process will automatically stop & close line when nozzle pressure is reached

⚠ WARNING

Refer to FSG-MNL-00232 for complete listing of Safety Hazards & Warnings

10.FINAL COMMISSIONING CHECKLIST

INITIAL	PASS	CRITERIA
	<input type="checkbox"/>	Verify Display shows SAM BOOST™ Splash screen while Pump in Road Mode & Transmission in Drive Gear with Two People for Safety
	<input type="checkbox"/>	Operate Preconnect Valves from Display - Full Open and Full Close (Not required to be in Pump Gear)
	<input type="checkbox"/>	Operate Tank-to-Pump Valve from Display - Full Open and Full Close (Not required to be in Pump Gear)
	<input type="checkbox"/>	Put into Pump Gear and verify no Warnings appear
	<input type="checkbox"/>	Increase and Decrease Engine RPM with the Display (If unable to do so, verify Governor Settings [Password: 00311]) Reference FSG-MNL-00232 for complete instructions on how to adjust Engine Type, Baud Rate and other governor settings)
	<input type="checkbox"/>	Verify Emergency Idle functions with the Display Press Mode button to revert to PSI Mode
	<input type="checkbox"/>	While in PSI Mode, Increase Set Pressure to 100 PSI (or value that increases Engine RPM.) Verify that Pump Set Pressure on Display matches Master Discharge Gauge Pressure
	<input type="checkbox"/>	Operate Nozzles to Open the Paired Preconnect Valves
	<input type="checkbox"/>	With Two People for Safety, Validate Nozzle Calibration is correct by having one person hold the bail Full Open & the other person at the display checking Actual Pressure equals Rated Pressure with Full Hose Length by pressing the Info Button on valve page
	<input type="checkbox"/>	Validate Nozzle Signal Strength is reading appropriately. This can be checked by pressing the info button on the valve page
	<input type="checkbox"/>	Validate Truck voltage is reading appropriately. This can be checked by pressing the info button on the valve page (If incorrect, adjust on 06565 password page)
	<input type="checkbox"/>	Drain tank while in Tank Mode and trip low tank warning audio & visual. Warning should trip at ¼ tank level (Validate buzzer operation and tank calibration)
	<input type="checkbox"/>	Apply hydrant pressure, close tank-to-pump, and validate that nozzle changes to a blue color
	<input type="checkbox"/>	Check Engine Oil Pressure & Temperature



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