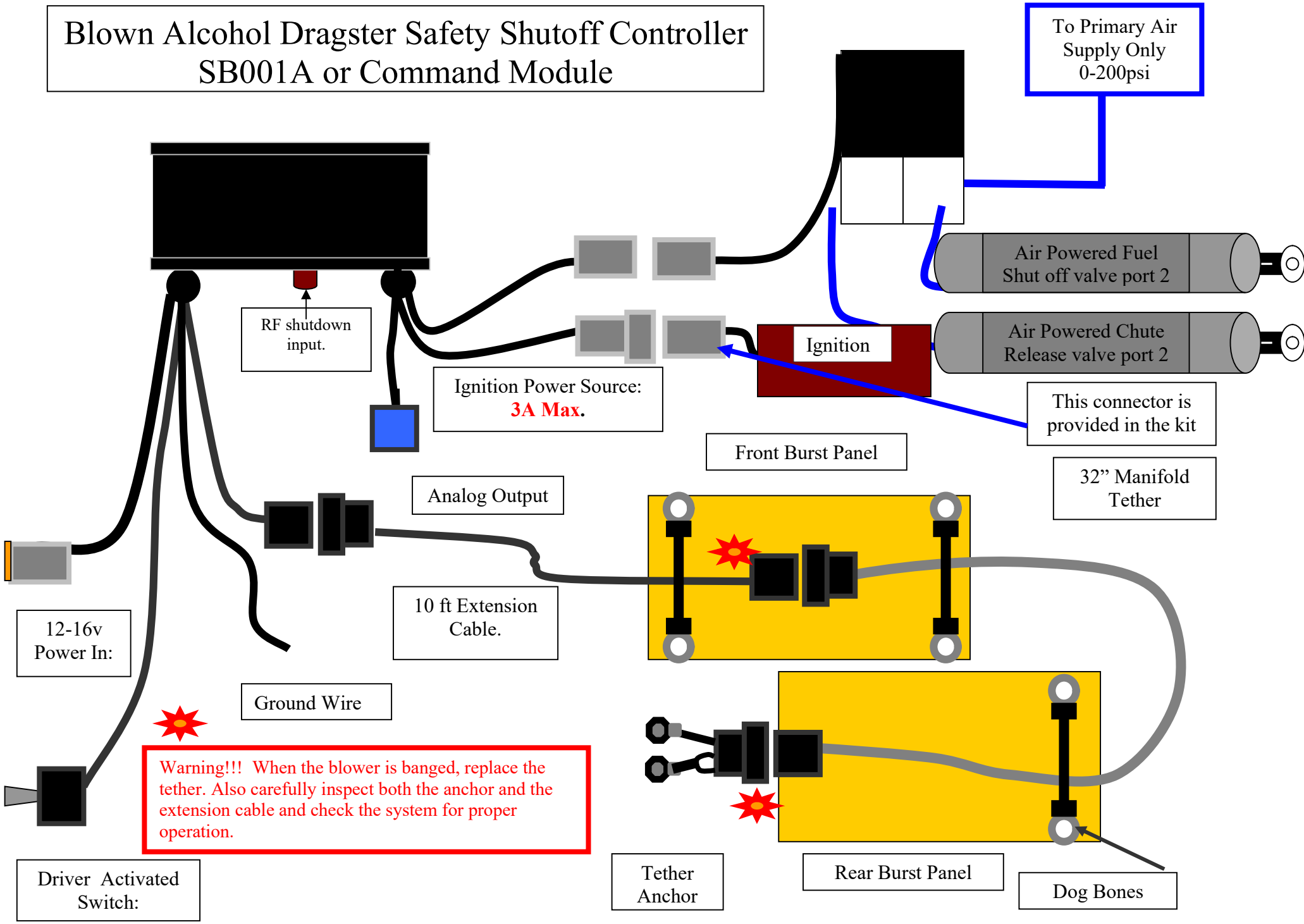
Blown Alcohol Dragster Safety Shutoff Controller SB001A or Command Module



Blown Alcohol Safety Box Kit PN SB001AF

Part	Qty	Part Number
Safety Box	1	SB001a or Command Module
10ft Tether extension cable	1	n/a
32” Manifold Tether kit	1	n/a
Toggle Switch	1	n/a
Ignition Power Connector (if required)	1	n/a
High Flow Air Switches & Hardware	2	n/a
7/8" Bore Air Cylinders	Not Included	Clippard 7/8" UDR-14-3
PFA Teflon 1/4" Air Line	Not Included	Mc Master Carr PN 51805K86
PFA Teflon 5/32" Air Line	Not Included	Mc Master Carr PN 5733K52

* Tether kit includes 32” tether cable 3 dog bones and the tether anchor.

- Do Not use Polypropylene or Polyurethane air lines

General Warnings:

IT IS THE RESPONSIBILITY OF THE PERSON INSTALLING ANY CONTROL SYSTEM COMPONENT OR KIT TO DETERMINE THE SUITABILITY OF THE COMPONENT OR KIT FOR THAT PARTICULAR APPLICATION. IF YOU ARE NOT SURE HOW TO SAFELY USE THIS COMPONENT OR KIT, YOU SHOULD NOT INSTALL OR USE IT. DO NOT ASSUME ANYTHING. IMPROPERLY INSTALLED OR MAINTAINED CONTROL SYSTEMS ARE DANGEROUS. IF YOU ARE NOT SURE, GET HELP OR RETURN THE PRODUCT. YOU MAY OBTAIN ADDITIONAL INFORMATION AND TECHNICAL SUPPORT BY CALLING ELECTRIMOTION AT (740) 362-0251, OR VISIT OUR WEB SITE AT WWW.ELECTRIMOTION.COM. USE OF ELECTRIMOTION TECHNICAL SUPPORT DOES NOT GUARANTEE PROPER INSTALLATION. YOU, OR THE PERSON WHO DOES THE INSTALLATION, MUST KNOW HOW TO PROPERLY USE THIS PRODUCT. IT IS NOT POSSIBLE OVER THE PHONE TO UNDERSTAND OR FORESEE ALL THE ISSUES THAT MIGHT ARISE IN YOUR INSTALLATION. LIABILITY ON DEFECTIVE MERCHANDISE OR MERCHANDISE NOT CONFORMING TO MANUFACTURER’S SPECIFICATIONS IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE ITEM. RACING EQUIPMENT MUST BE MAINTAINED AND SHOULD BE CHECKED REGULARLY FOR FATIGUE, DAMAGE, AND WEAR. DO NOT OPERATE ANY VEHICLE ON UNTESTED CONTROL SYSTEMS!

The Electrimotion Safety Shutoff box is designed to shut the car off as a result of a catastrophic event. The box has 3 trigger inputs, which will trigger 3 separate output events. The 3 trigger inputs are a burst panel input, a driver activated driver button trigger input and a wireless input.

For the driver activated trigger input, a momentary toggle switch is supplied. This switch should be mounted in reach of the driver. The wireless input is triggered by an on track transmitter mounted past the finish line.

For the burst panel input, a tether is supplied with an extension cable. The tether is to be installed across the manifold burst panels. A typical installation is shown on the previous page. ***The tether must be installed at power up or the ignition output will not turn on!*** This is by design to make sure the tether is connected. If during normal operation the tether connectors are unplugged, the circuit is opened and the controller is triggered.

The 3 outputs are Ignition Power, fuel shutoff air, and parachute air. The fuel and parachute outputs are hi flow air valves. To mechanically complete the system, 2 air cylinders are required. The suggested air cylinder is 7/8" bore, 3" stroke Fabco PN **F-0875D02-03A** or Clippard PN UDR-14-3 with Rod End RE-1285**.** The air cylinders are available from EM upon request. Typical installations for both fuel shutoff and chute activation are shown on the following pages. The Ignition power output is a 2 pin Deutsch connector. **Only** connect the MSD 7730 to the Ignition power output. **(Max Current 2A)**. If no retard system is used, the ignition system must be shut off via the Chute or Fuel shutoff air that is provided. This can be done by using an "Air Kill" device or even the use of another air cylinder to manually press a kill button that you may already have.

When either of the inputs becomes true, the 3 outputs will immediately trigger. ***Both parachutes must be deployed in the event that the safety system is tripped.***

The controller will receive power from the existing +12-16v battery pack that is already used.

Both air valves must be connected to the primary air supply.

Dimensions of the box are 4.5"W x 2.0H x 1.75"D.

Analog Output Table

The SB001A has an analog (0-5v) output (Blue Molex Connector) that will help you determine which event triggered the Safety Box. The Chart below shows each voltage change for each input.

The Blue Molex Analog out connector can be connected to any data logger 0-5v input.

		0.25V	0.5V	1V	2V	Voltage Change
Output Voltage	Standby Voltage	Tether	Fire Bottle	RF Input	RF override	
0.25	X					Standby
0.5	X	X				Tether Enabled
0.75	X		X			FB Enabled
1	X	X	X			Tether and FB enabled
1.25	X			X		RF enabled
1.5	X	X		X		RF and Tether enabled
1.75	X		X	X		RF and FB enabled
2	X	X	X	X		RF and Tether and FB enabled
2.25	X				X	RF override enabled
2.5	X	X			X	RF override and Tether enabled
2.75	X		X		X	RF override and FB
3	X	X	X		X	RF override and FB and Tether
3.25	X			X	X	RF override and RF
3.5	X	X		X	X	RF override and RF and Tether
3.75	X		X	X	X	RF override and RF and FB
4	X	X	X	X	X	RF override and RF and FB and Tether

- Analog voltage output levels have changed from SB001a to Command Module

  Command Module Safety Box Analog output.

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Standby Analog output	=	0.125v
Fire Bottle/Driver Button Analog out	=	+0.125v change
Tether Analog output	=	+0.25v change
Pan Psi Analog output	=	+0.5v change
RF Analog output	=	+0.75v change
RF Override Analog output	=	+1.0v change
RPM Analog output	=	+2.0v change

Typical Mounting of Fuel and Parachute Air Cylinders.