

# Funny Car Safety Shutoff Controller Sb002a or Command Module

12-16v  
Power In:

Power to  
existing Fuel /  
Clutch System

Ground  
Wire.

Analog Output

RF Disable Chute  
Air Switch.

**Ignition Power Source:**  
Connect **ONLY** the MSD  
8971 or Power Grid

MSD 8971 or  
Power Grid

Burst Panel  
Activates when the tether is pulled or  
circuit is opened.

6" Manifold  
Tether

Tether  
Anchor

Cable Hold  
Down

6 ft Extension  
Cable.

RF Receiver

To Primary Air  
Supply Only.  
200 psi max

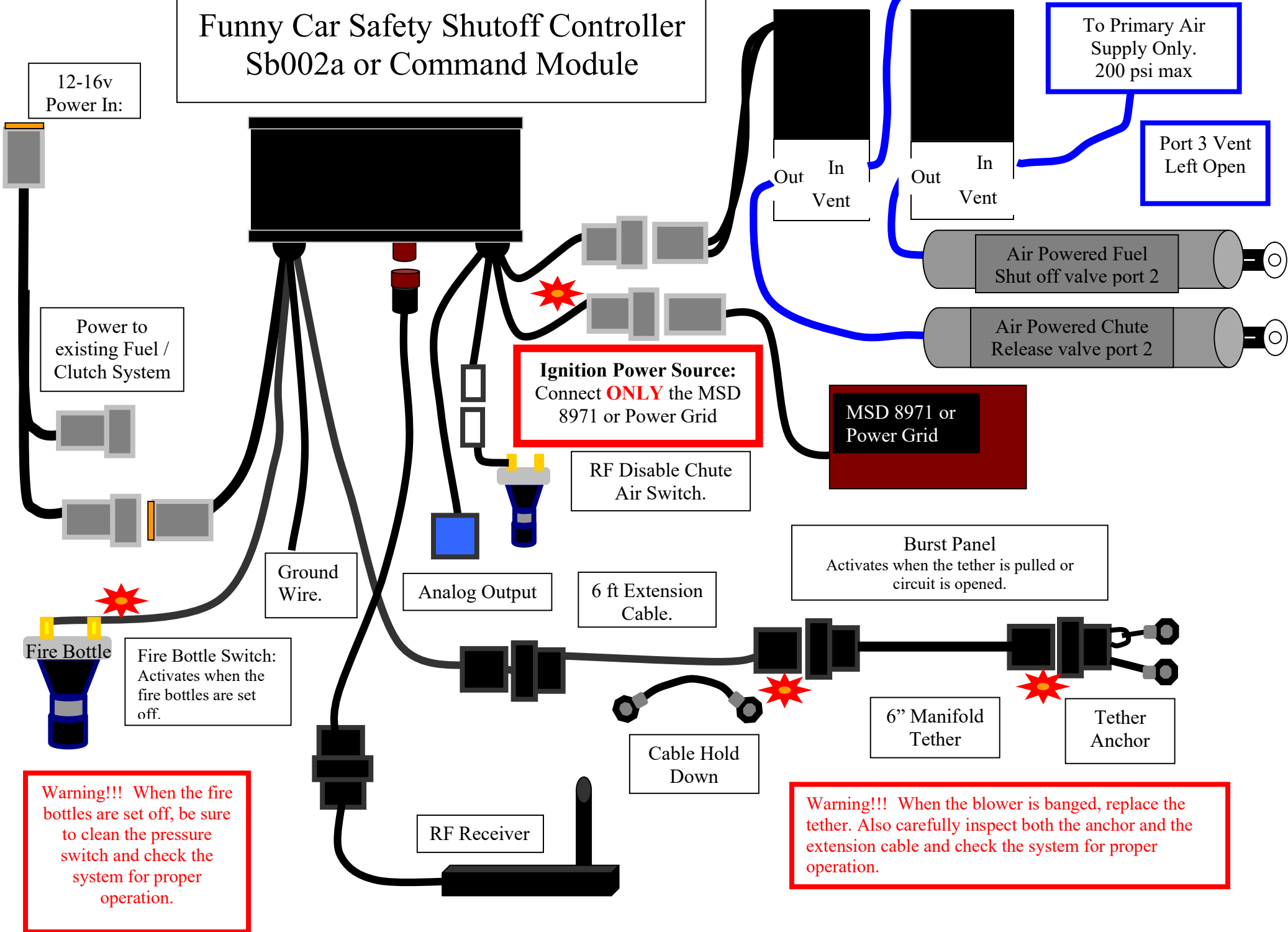
Port 3 Vent  
Left Open

Air Powered Fuel  
Shut off valve port 2

Air Powered Chute  
Release valve port 2

**Warning!!!** When the fire  
bottles are set off, be sure  
to clean the pressure  
switch and check the  
system for proper  
operation.

**Warning!!!** When the blower is banded, replace the  
tether. Also carefully inspect both the anchor and the  
extension cable and check the system for proper  
operation.



The Electrimotion Safety Shutoff box is designed to shut off the car as a result of a catastrophic event. The box has 3 trigger inputs (sb002a) or 5 inputs (Command Module), which will trigger 3 separate output events. The 3 trigger inputs are a burst panel input; a Fire Bottle trigger input and a wireless shut down input. The Command Module also has, a throttle release output.

For the Fire bottle trigger input, a typical 10lb air pressure switch is supplied. This air pressure switch should be plumbed into the fire bottle 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 following pages. ***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.

For the wireless shut down option, a small 3-pin connector is utilized. When the car passes the on track transmitter the Safety Box will trigger. The RF kill switch function can be disabled by the use of an air switch that is to be closed when the chutes are manually deployed. ***The chute air switch must have no air at power up or the ignition output will not turn on!***

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 8771/8971 to the Ignition power output. **(Max Current 2A).**

When any 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 throttle release output can be configured to trip via pan psi input (CM only)

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

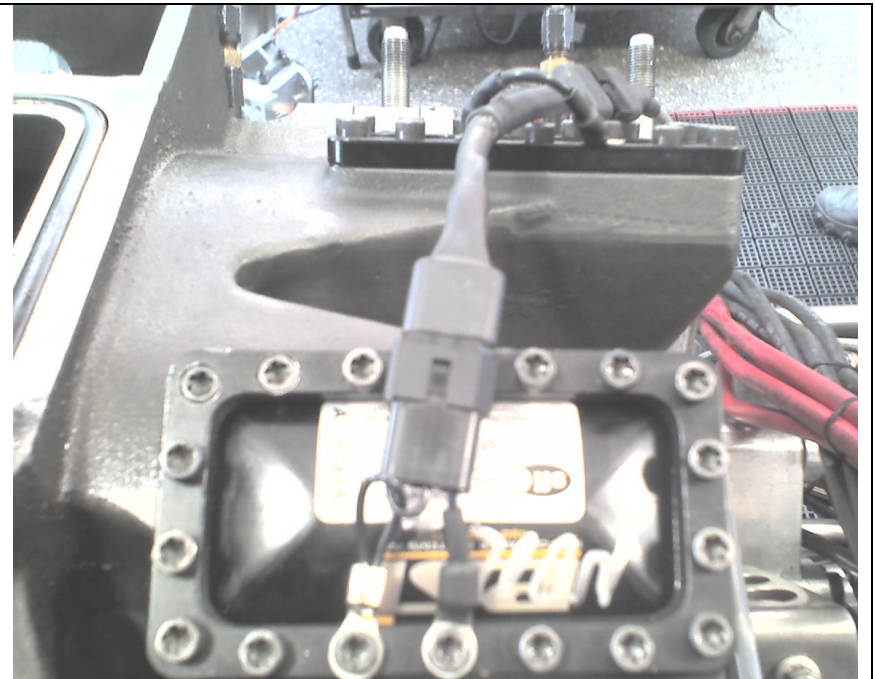
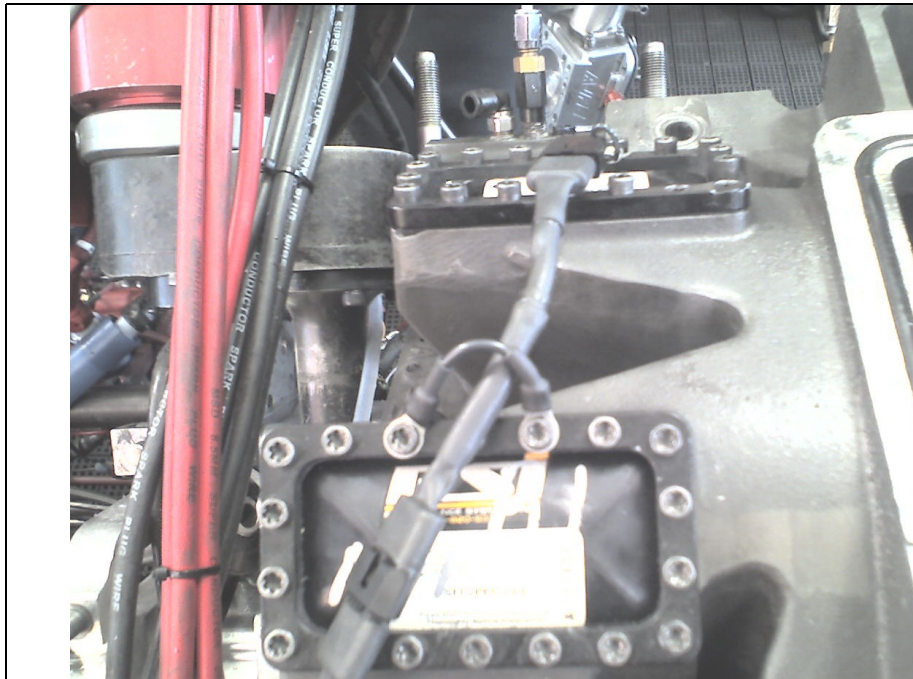
**Both air valves must be connected to the primary air supply, 200 psi max.**

Dimensions of the sb002a box are 4.5"W x 2.0H x 1.75"D.

## Funny Car Safety Box Kit PN SB002FC

Part	Qty	Part Number
Safety Box	1	SB002a or Command Module
6ft Tether Extension Cable	1	n/a
Manifold Tether	1	n/a
Tether Anchor	1	n/a
Cable Hold Down	1	n/a
10lb Air Switch	1	n/a
High Flow Air Switches	2	n/a
7/8" Bore Air Cylinders	Not Included	Fabco 7/8" F-0875D02-03A
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

### Typical Manifold Tether Installation



# Analog Output Table

The SB002A 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 SB002a to Command Module

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

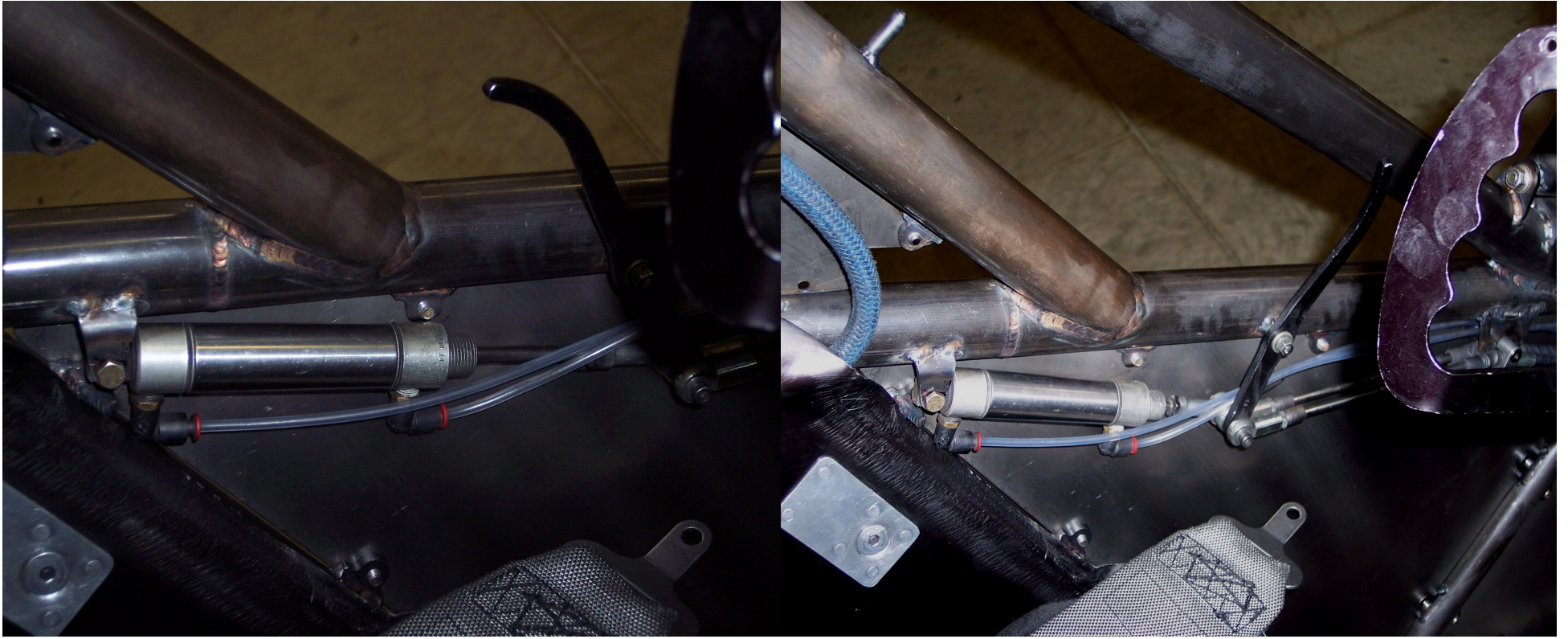
RF Analog output = +0.75v change

RF Override Analog output = +1.0v change

RPM Analog output = +2.0v change

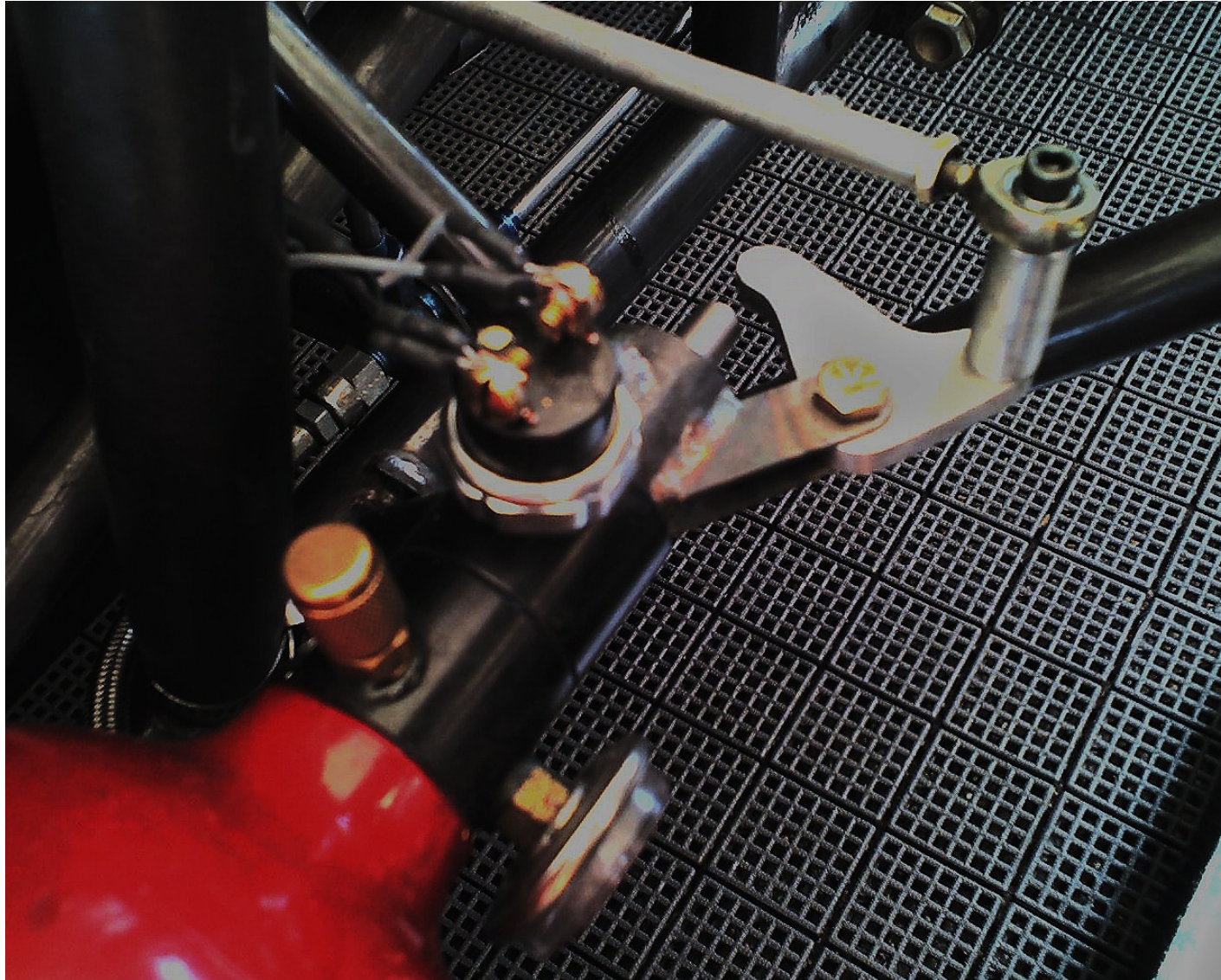


## Typical Mounting of Fuel Shutoff Air Cylinders.





## Typical Mounting of Fire Bottle Air Switch.





# Typical Mounting of Chute Release Air Cylinders.



## 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](http://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!