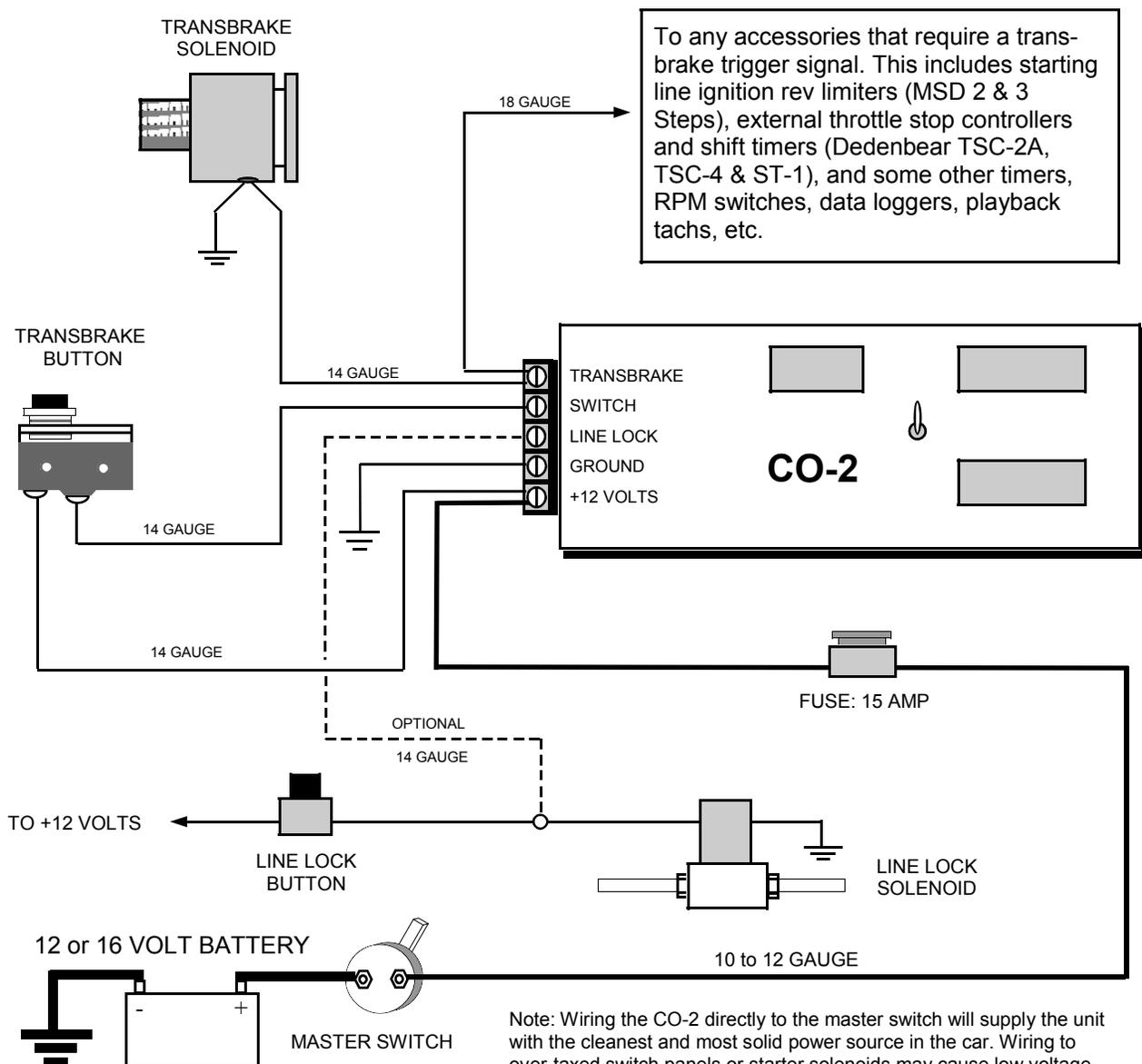


INSTALLATION

Using screws through the rubber grommets in the base, mount the CO-2 away from heat, vibration and the ignition system. Make sure the driver can reach the buttons when strapped in. Angle the unit so the thumbwheel switches can be easily read.

Wire the CO-2 as shown below. The CO-2 is 12 and 16 volt compatible; no voltage reducers are needed when using a 16 volt system. Make sure the power lead is fused and comes straight from the master switch. The ground should be wired to a solid chassis ground, not sheet metal panels.

The line lock output is optional. If wired, the line lock will set with the transbrake on the starting line reducing the chance of rocking. The line lock will release with the transbrake at launch. If you do not wish to use the line lock feature, simply do not wire it in.



Note: Wiring the CO-2 directly to the master switch will supply the unit with the cleanest and most solid power source in the car. Wiring to over-taxed switch panels or starter solenoids may cause low voltage problems. An on/off switch is not needed in the power wire as the CO-2 automatically turns itself on at application of the transbrake and off after transbrake release.

CO-2 DELAY SETTING

OPERATION

Set the thumbwheel switches to your desired delay setting. Switch the toggle up to “your tree” if you are pro tree racing or are the slower car bracket racing; switch the toggle down to “their tree” if you are the faster car bracket racing. You only need to set the dial-ins in the right hand side of the CO-2 when you are crossing over and the toggle switch is down in the “their tree” position. When the toggle is up in the “your tree” position, the dial-ins are not calculated and do not affect the delay setting.

Shallow stage the car. Press the transbrake button to set the transbrake. Release the transbrake button at the flash of all three amber bulbs (pro tree) or at the flash of the top amber bulb (full tree). The CO-2 will continue to hold the transbrake for the preset delay time. When the time expires, the CO-2 will release the transbrake solenoid, launching the car.

If you accidentally release the transbrake button before the christmas tree starts, you can press the button back down before the delay time expires. The CO-2 will reset itself and go back to the full delay time allowing you to release like normal.

The CO-2 has no down track transbrake lock out. If you accidentally press the transbrake button after launch, the CO-2 will power out and reset the transbrake. To avoid this, mount the transbrake button in a location where it is easy to release, but not easily bumped.

PRO TREE RACING

The CO-2 is used to keep a car from red lighting on a pro tree by delaying the release of the transbrake. The toggle should be up in the “your tree” position. Typical delay settings on a pro tree range from 0.001 to 0.050. If your car will not red light on a pro tree, set the CO-2 to 0.000.

FULL TREE RACING

By delaying the release of the transbrake it becomes possible to release the transbrake button on the top (first) amber bulb of the christmas tree. Releasing off the top bulb is the preferred method because it is more consistent than a bottom bulb release. The increased consistency comes from not anticipating the bottom bulb and being able to just “hit” the top bulb as quick as possible allowing for a more natural human reaction. Top bulb release also allows the driver to stage and release the button the same every pass. If the car is launching late or early, changes to reaction times can now be made by adjusting the CO-2 instead of having the driver try to mentally speed up or slow down.

Typical delay settings for launching off the top bulb are 0.950 to 0.990 for door cars and 1.020 to 1.080 for dragsters and altereds. Delays as low as 0.850 for slower cars and as high as 1.100 for very hard launching cars can be reached.

CROSSING OVER

When racing a full bracket tree or a cross talk tree, if you are the faster car, your opponent will be leaving first. This means his/her top amber bulb will light first on a bracket tree, or both top bulbs will light at the same time on a cross talk tree. In this situation you need to cross over. Crossing over allows you to release the transbrake button on your opponent’s top amber (full tree) or your top amber (cross talk tree). Crossing over is done with the CO-2 by switching the toggle down to the “their tree” position and entering your dial-in and your opponent’s dial-in to the thumbwheels on the right hand side of the CO-2. The CO-2 will automatically calculate the handicap and add it to your delay setting allowing you to launch off your opponent’s top amber. For example your delay setting is 1.020 and you are dialed in at 8.50, your opponent dials in at 9.70. The CO-2 will subtract your dial from your opponent’s dial ($9.70 - 8.50 = 1.20$) then add it to your delay setting ($1.20 + 1.020 = 2.220$).

ADJUSTING FOR EARLY (RED) LIGHTS

When a car red lights, it has left too early. To compensate for this in the CO-2, you must add time to the delay setting. For example, if you had 0.980 in your delay setting and went -0.040 red, you would want to add at least 0.040 to your setting making it 1.020. In addition, a “cushion” of 0.010 is usually added on top to avoid cutting another red light making the delay setting 1.030.

ADJUSTING FOR LATE (GREEN) LIGHTS

When a car green lights, it has left too late. To compensate for this in the CO-2 you must subtract time from the delay setting. For example, if you had 0.980 in your delay setting and went $+0.040$ green, you would want to subtract 0.040 from your setting making it 0.940. A “cushion” of 0.010 is usually added back to the delay setting to avoid cutting a red light making the delay setting 0.950.

SERVICE AND WARRANTY

SERVICE

DO NOT RETURN TO DISTRIBUTOR, CALL DEDENBEAR DIRECTLY.

If you think your box has a problem or needs to be serviced, call us first before removing it from the car (we may be able to troubleshoot the unit while it is still in the car). If it is necessary to return the unit to our facility, call first; then package it carefully and include a note describing the problem. Provide your name, address, work and home phone numbers so we can contact you regarding return shipment. Turn-around time on repairs is typically 24-48 hours.

CALL DEDENBEAR, MONDAY TO FRIDAY, 8 AM TO 5 PM CST
SHIP TO: DEDENBEAR PRODUCTS, REPAIR DEPARTMENT, 413 West Elm Street, Sycamore IL 60178

LIMITED 1 YEAR WARRANTY

Dedenbear Products components are warranted directly by Dedenbear Products against defective material or workmanship under normal use and service for a period of one (1) year after purchase. Dedenbear Products will repair or replace the defective unit at Dedenbear Products option, free of charge. This warranty does not cover any damage to the component caused by abuse, mishandling, alteration, accident, electrical current or voltage fluctuations, failure to follow installation/operating instructions, storage and environmental conditions, or repair attempts made by anyone other than Dedenbear Products authorized service facility.

DEDENBEAR PRODUCTS SHALL NOT BE LIABLE FOR INJURY, CONSEQUENTIAL, OR OTHER TYPE DAMAGES RESULTING FROM THE USE OF ITS PRODUCTS, OTHER THAN THE LIABILITY STATED ABOVE. This warranty is in lieu of all other warranties of merchantability or fitness of use. This warranty gives you specific legal rights, and you may also have other rights which vary state to state.

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