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COMMAND CENTER

Model CC-1 & CC-2 • INSTALLATION & OPERATING MANUAL



IMPORTANT!
PLEASE READ THESE INSTRUCTIONS COMPLETELY TO FULLY UNDERSTAND THE WIRING, PROGRAMMING, OPERATION, AND FUNCTIONS OF THE DEDENBEAR COMMAND CENTER.

INDEX

Installation Instructions	pg 1	Digital Tachometer	pg 5
PRO-FULL Feature	pg 2	Setting Shifter Types & Shift Point	pg 6
Button Use & Programming	pg 2-3	Indicator Lights	pg 6
Types of Delay Boxes	pg 3	Tips	pg 7
Setting Your Transbrake Delay	pg 3-4	Wiring Diagrams	pg 8-11
Setting Throttle Stop Types & Timers	pg 4-5	Remote Display Wiring	pg 11
Starting Line Control	pg 5	PRO-FULL Setting Parameters	pg 12
RPM Switch	pg 5	Service & Warranty	pg 12

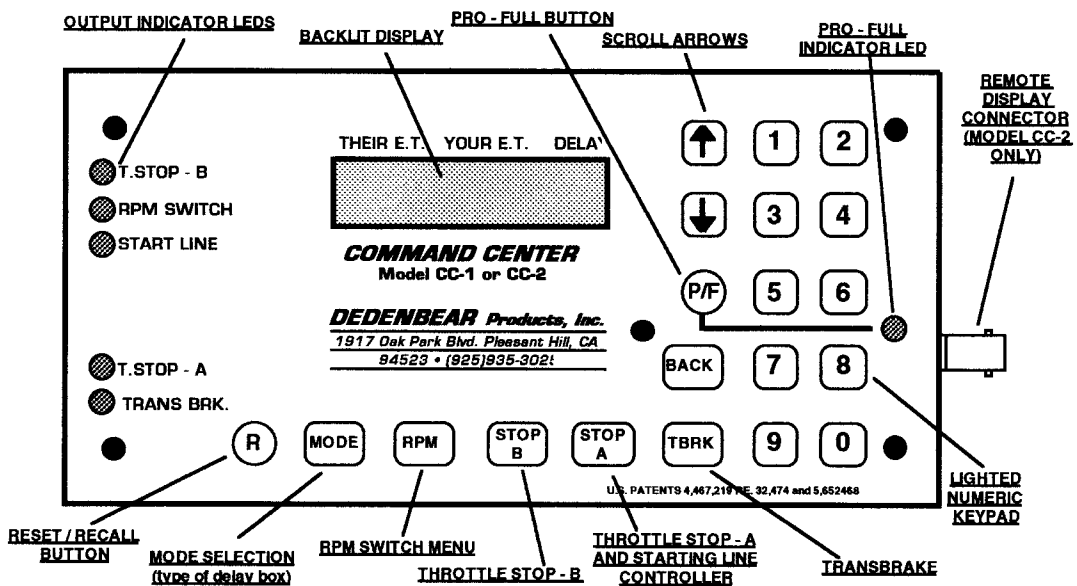
INSTALLATION

Using #8 screws through the rubber grommets in the base, mount the COMMAND CENTER away from heat, vibration, and the ignition system.

Make sure that you can reach the buttons when strapped in and that you are reading the display straight on. If you mount the box so that you view the display at an angle, it will be hard to read.

Wire the Command Center as shown in the wiring diagrams on pages 8 - 11 in the instructions. Make sure that the ground wire goes to a good chassis ground, **NOT** sheetmetal panels (these are not reliable grounds).

BUTTON USE AND SETTINGS

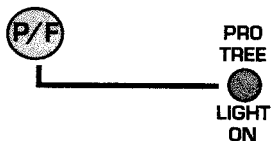


BUTTON USE AND SETTINGS

The CC has many selections that can be programmed with your settings. Each time you press the button for the particular settings you are adjusting, it will step to the next prompt screen. The CC will only ask you the settings for the particular mode you are in so that for example, when adjusting settings for STOP A, you don't have to step through the entire list of screens you would need to use for the Transbrake / Delay, etc. At each screen you can enter a setting, by using the scroll arrows or the number keys to make changes. If no adjustment is required for that setting, press the button again to step to the next screen. When your adjustments are completed, the CC automatically returns to run mode after 8 seconds.

PRO-FULL BUTTON

PRO-FULL BUTTON: The CC's PRO/FULL feature allows you to switch between 2 complete setting groups for delay box, throttle stop and RPM features. This enables you to program the box for your "Super" class settings in **PRO**, and then program your bracket race settings in **FULL**. Now you will no longer have to reprogram every setting between rounds when you "Super Class" race and Bracket race on the same day. You can even set two different bracket classes or pro classes for two different drivers! Just remember whether the light was on or off for whatever class you were in.



By pressing and holding the P/F button, you can switch between **PRO** and **FULL** setting groups. The red LED indicator on the right side of the box will indicate which setting group you are in. When you are in the **PRO** group, the **PRO/FULL** LED will turn on solid and stay on. When you are in the **FULL** group, the LED will be off except for momentary flashing while making adjustments. This is normal.

REMEMBER: It is extremely important when you change a setting that you confirm you are in the setting group (PRO or FULL) in which you want the change to occur since each group has its own complete set of settings.

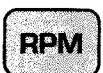
PROGRAMMING BUTTONS



TBRK button: This button accesses your Transbrake settings. Each time you press the TBRK button, different screens come up and allow you to change your Delay, Your ET, Their ET, Bottom Delay, CrossComp, Skip Up/Down, TB Pause, TB Lockout settings.



STOP A, STOP B buttons: These buttons access the 2 different 4-stage throttle stop timers, and the Starting Line Controller. Each time you press either the STOP A or STOP B buttons, different menus come up and allow you to change your Timer settings, Starting Line Control programming and your type of Throttle Stop.



RPM switch button: This button accesses the built in RPM activated switch. Each time you press this button you see your Shift Point, Disable Time, Shifter Type, and Number of Cylinders. By pressing and holding the R (Reset/Recall) button down while viewing the SETUP SHFT POINT screen, you will turn on the CC digital tachometer.



Arrow (scroll) buttons: When making minor changes to your delay setting or your/their dial -ins, you can use the scroll arrow buttons to add or subtract from the setting. This is especially handy when you only want to add just a little extra delay time if your reaction times are getting close to red lighting.



Number buttons: When you need to make large number changes such as dial--ins or throttle stop settings, you can simply type in the numbers using the number keypad. As an example, if you wanted to enter an E.T. of 12.73, you would simply type in 1273.



BACK button: If, when changing your settings, you accidentally advance past the screen where you would like to make an adjustment, you can go *backwards* by using the BACK button. Lets say for example you are setting your throttle stop settings, and you wish to change Timer #2. If you accidentally advance to Timer 3 or 4 and missed Timer 2, you simply press the BACK button to go backwards through the menus.



Reset/Recall button: Used in the set-up screens where you need to set the type of equipment you are using, for example, "Type of Throttle Stop", "Type of Shifter", "Number of Cylinders", etc. you simply press and hold the RESET/RECALL button.

This button also resets the Throttle Stop Timers if you are in the middle of a time-out. It also recalls information about a run after the run has been made.

4 TYPES OF DELAY BOXES



MODE button: The MODE button will allow you to select on of 4 delay box types available in the CC, These are:

1. **(DELAY)** A simple 4 digit delay box for Pro-tree classes, and leaving off your top amber for full tree racers.
2. **(CROSSOVER)** A crossover box allows you to leave off your opponent's top amber when you are the faster car.


3. (INTERFACE) Interfacer is the same as a crossover box, except that you can take two hits at the tree. You leave off the opponent's top bulb, press the transbrake button again, and then release off your own top bulb. The delay box will launch the car on the *quicker* of the two releases. This is because a bad light is almost always a late light. This means if your release off the opponent's bulb gives you a .520 light and the release off your own top bulb gives you a .505 light, the box will launch the car on the .505 light.

4. (TWICE YOUR TREE) Twice your tree is the fourth option. It's essentially the same as interfacer, giving you 2 shots at the tree. You release off your top amber bulb, get back on the button, and release again off your bottom amber. The box will take the quicker of the two reaction times. This mode is great for bracket racers who can't see their opponent's side of the tree, or are the slower car leaving first.

TO CHANGE THE MODE, press and momentarily hold down the MODE button until the screen indicates a mode change. Continue until the mode you want appears.

TRANSBRAKE DELAY

The CC is very simple to program. When you are in any of the 4 delay box modes, it will ask you for the settings required for that mode only. Example: When you are in **RUN (DELAY)** it will not ask you for THEIR E.T. settings since you are not crossing over. All the settings that are used in each of the modes will transfer over to the other modes if they are needed. Example: your delay setting will transfer over to all four different delay box modes along with your SKIP, TB PAUSE, and TB LOCK OUT settings.

 **NOTE:** DUE TO SHARING THE SAME SOFTWARE, CC-1 OWNERS WILL FIND WHEN IN RUN DELAY, THE "YOUR E.T." SETTING WILL BE DISPLAYED ON THE SCREEN, THIS IS FOR CC-2 OWNERS USING THE REMOTE DISPLAY UNIT. FOR CC-1 OWNERS THIS SETTING DOES **NOT** NEED TO BE CHANGED, AND WILL **NOT** AFFECT YOUR DELAY TIME WHATSOEVER.



Press the **MODE** button until the screen shows the type of Delay Box you want to run. In this example, we'll use the Interface Mode.

THEIR E.T. YOUR E.T. DELAY

10.00 9.00 1.000
RUN (INTERFACE)

In this mode, the Command Center delay box functions as both a crossover delay box and a straight 4 digit delay box combined, giving you two chances at the tree. The screen shows your opponents E.T., your E.T., your Transbrake Delay and that the box is ready to run in Interface Mode.



Press the **TBRK** button to enter the TRANSBRAKE adjust settings menu. Each time you press this button it will advance to the next screen. (These screens have been listed in the order they will appear.) Once you have advanced through all the screens, the box returns back to RUN mode. If you happen to go too fast and pass the set-up menu screen you want, you can use the **BACK** button to back up. (The **STOP A**, **STOP B**, and **RPM** buttons all function in this same manner.)

NOTE: When you are through making adjustments to the settings, the box will automatically return back to RUN mode in 8 seconds.

SETUP MODE
DELAY 1.000

DELAY: When you first press the **TBRK** button, the delay setting will appear. Use the scroll arrows, or the number buttons to change this setting. For leaving off the top bulb on a full tree, this setting is typically around 1.000 second.

SETUP MODE
THEIR ET 10.00

THEIR ET: This is the next screen in INTERFACE MODE. This is where you enter your opponent's E.T. Use the scroll arrows or the number buttons to change this setting.

SETUP MODE
YOUR ET 09.00

YOUR ET: This is where you enter your own vehicle's E.T. Use the scroll arrows or the number buttons to change this setting. If you are running a Remote Display unit this is the setting that will be displayed upon return to run mode.

SETUP MODE
BOT DELAY .100

BOTTOM BULB DELAY TIME (BOT DELAY): BOT DELAY is the amount of delay you need (if any) for a bottom bulb release on a full tree (bracket tree). This is also the "Last Chance" delay setting. Use the scroll arrows or the number buttons to change your bottom bulb delay.

TRANSBRAKE DELAY (continued)

**SETUP MODE
CROSS COMP .015**

CROSSOVER COMPENSATION TIME (CROSS COMP): When you cross over and leave off your opponent's tree, you get a glancing view of his top bulb instead of a direct view like your side. This results in a reaction time that is usually .010 - .020 seconds slower. Crossover Compensation automatically subtracts this time from your delay setting whenever you crossover. Use the scroll arrows or the number buttons to change this setting.

**SETUP MODE
SKIP DOWN - .015**

SKIP DOWN or SKIP UP (depending on neg/pos number): This is the amount of time you want to add or remove from your pre-set delay if you feel you missed the tree. Each time you press your "skip" button, the box will add or remove this set amount of time from your delay. SKIP DOWN (-) subtracts time and shortens your delay. Use the scroll arrows to change your "skip" time.

**SETUP MODE
TB PAUSE .100**

TB PAUSE: TB PAUSE is the amount of time the box waits or pauses when the driver presses the transbrake button **BEFORE** applying the transbrake solenoid. This prevents accidental applies while driving down the return road or in the staging lanes. Usually set for 0.100 seconds.

**SETUP MODE
TB LOCK OUT 03**

TB LOCK OUT: TB LOCKOUT is the amount of time the box will lock out the transbrake button so the driver cannot re-apply the transbrake during the pass. Usually set for 03 - 04 seconds. Use the scroll arrows, or the number buttons to change your lock out time in increments of whole seconds.

THROTTLE STOP TYPE AND TIMERS

**STOP
A** **STOP
B**

The CC has 2 separate 4 stage throttle stop controls (**STOP A** and **STOP B**) plus an **SLC Starting Line Control** feature as a third output. Using these three controls, you can operate a Dedenbear "baseplate" style throttle stop on STOP A, a Dedenbear "linkage" style throttle stop on SLC Starting Line control, and a single stage of nitrous, timed shifter, or some other accessory device on STOP B. The combinations are unlimited.

One common use is the Dedenbear "Double" throttle stop where one side of the throttle stop is controlled by STOP A, and the other side of the throttle stop is controlled by STOP B.

STOP A and STOP B are both 4 stage timers, meaning they will activate at timer #1, de-activate at timer #2, activate again at timer #3 and de-activate again at timer #4. The timers can be set to either turn on or turn off power depending on what type of throttle stop or accessory device you plan on using.

Dedenbear "baseplate" stops require power to be on at all times to stay wide open. When power is removed, the throttle stop will close.

Dedenbear "linkage" stops are the exact opposite. They require no power to stay wide open and when power is applied, they will close. This is also the same for things like Nitrous Oxide and most "air" shifters.

You can change the output of each of the throttle stop timers individually by telling the box what "type" of throttle stop you are using.

IMPORTANT: Baseplate = ON-OFF-ON-OFF-ON Linkage = OFF-ON-OFF-ON-OFF

Watch the indicator LED's to see if the power sequence is correct.

**STOP
A** **TO SET YOUR THROTTLE STOP TIMERS:** Press the **STOP A** button to enter the STOP A settings menu. Each time you press this button it will advance to the next screen. The procedure for changing settings is the same as the Transbrake. After advancing through all the screens, the box returns back to RUN mode. If you happen to go too fast and pass a menu screen while in the adjust settings mode, you can use the **BACK** button to back up.

NOTE: When you are through making adjustments to the settings , the box will automatically return back to RUN mode in 8 seconds.

**A1: 1.00 A3: 3.00
A2: 2.00 A4: 3.00**

The first screen that will be displayed is a summary screen that shows you all 4 of your throttle stop timer settings in one quick screen. Notice that each of the timers 1, 2, 3, and 4 are preceded with the letter A. This is to show that you are looking at STOP A settings. Again, the screen will disappear after 8 seconds.

Notice how timer A2 is higher than timer A1, and A3 & A4 are the same setting? The timers must always be in order, meaning timer 2 must be equal to or higher than timer 1. Timer 3 must be set equal to or higher than timer 2 and timer 4 must be set equal to or higher than timer 3. If you accidentally set a timer setting lower than the previous timer, you will see an error message on the main "RUN" screen = "STOP A SET WRONG".

In this example, timer #3 and #4 cancel each other out since they will both activate at the exact same point on the run and the output will not change.

THROTTLE STOP TYPE AND TIMERS (continued)

The next screen, **SETUP THRTL STP A1** is where you change your **Timer 1** settings. Use the scroll arrows, or the number buttons if you wish to change this setting. Remember, this is the time from the release of the transbrake off the starting line.

SETUP THRTL STP A2 is where you change your **Timer 2** settings. Again, this is the time from the release of the transbrake off the starting line.

SETUP THRTL STP A3 is where you change your **Timer 3** settings. This is the time from the release of the transbrake off the starting line.

SETUP THRTL STP A4 is where you change your **Timer 4** settings. This is the time from the release of the transbrake off the starting line.

SETUP THRTL STP TYP A is where you can change your **Throttle Stop Type**. Press and hold the R RESET/RECALL button for 1-1/2 seconds if you wish to change this setting. This setting controls the output polarity for whatever device you've wired to the STOP A terminal.

TYPICAL DEVICES AND THE CORRECT SETTING OR "TYPE":

- Under the carb or "Base Plate" throttle stops use: **BASE PLATE STYLE** (turns **OFF** at timer #1)
- In-line "Linkage" throttle stops use: **LINKAGE STYLE** (turns **ON** at timer #1)
- Nitrous Oxide systems use: **LINKAGE STYLE** (turns **ON** at timer #1)
- Air or CO2 shifters use: **LINKAGE STYLE** (turns **ON** at timer #1)
- Dedenbear Solenoid Shifter (holding type) use: **BASE PLATE STYLE** (turns **OFF** at timer #1).

STARTING LINE CONTROL



SLC - STARTING LINE CONTROL: To program your Starting Line control, access it through the STOP A button. Press the STOP A button until you see the SLC START LINE CONTROL screen.

This screen is where you can set your **SLC Starting Line Control** option.

Press and hold the R RESET/RECALL button for 1-1/2 seconds if you wish to change this setting.

The Starting Line Control feature will control a "linkage" type throttle stop on your carburetor to control staging engine rpm.

When you stage the car, and apply the transbrake, the SLC will close the carburetor(s) or injectors down to the linkage stop's pre-set setting. This feature saves wear and tear on the torque converter and prevents engine damage from misfiring ignitions using a "2-step".

THE THREE DIFFERENT SETTINGS ARE:

- **TOP BULB:** The linkage throttle stop will go wide open when your top amber bulb turns on. This is when you release the button when you are not crossing over and leaving off your own top bulb, or after the handicap when you are "crossing over".
- **TURNED OFF:** The linkage throttle stop will do nothing on the starting line.
- **2-STEP:** The linkage throttle stop will go wide open when your transbrake releases, like a 2-step ignition rev limiter would.

TIP: Press and release the transbrake button and watch the START LINE indicator LED. When the light is on, the throttle would be closed. Experiment with the 3 different settings and compare the action of the LED indicators for the START LINE and TRANSBRAKE. You will be able to see when the throttle would go wide open compared to the release of the transbrake solenoid.

SHIFTER TYPE AND SHIFT POINT

The CC has a built in RPM activated switch that when tied into a electronic ignition system such as MSD or Mallory, will read the tach signal and activate an automated shifter system. This can be used to operate Dedenbear's Solenoid Shifter or any of the CO2 "air" shifters. A single shift rpm is selected and each time the engine reaches this setting during a pass, the CC will activate the shifter.

A unique feature is the digital tachometer. The CC will display the engine rpm on screen when the driver wishes to double check the signal or double check the accuracy of the tachometer in the car (some racers don't have tachometers installed in the vehicles, and this can be used instead to see engine rpm at any time).

Below we will walk through all the screens you will see in setting the RPM activated switch.



RPM SWITCH: Press the RPM button on the face of the box to access the rpm activated switch settings. The screen will show **SETUP SHFT POINT** and will display the pre-set rpm shift point. Use the scroll arrows, or the number buttons to change your shift point.

Press the **RPM** button to advance to the next screen *or* . . .

While this screen is being displayed, you can press and hold the R RESET/RECALL button for 1-1/2 seconds and the CC's built-in **DIGITAL TACHOMETER** will display on the screen (**TACHOMETER**). If your engine is running, the screen will

SHIFTER TYPE AND SHIFT POINT (continued)

display the rpm of the engine. If the engine is not running, the display will show 000 rpm. As soon as you let go of the R RESET/RECALL button the screen returns back to the SETUP SHIFT POINT screen.

Press the **RPM** button to advance to the next screen.

The screen will show **SETUP DISABL TIM** (disable time).

This is the amount of time from the release of the transbrake solenoid that the rpm sensing circuitry is disabled. If the car experiences tire spin or converter flash right off the line, this setting will prevent accidental shifting from low to high for the amount of time programmed in. After the time expires, the rpm sensing circuitry will then "look" at the engine rpm, and when the rpm is reached, it will shift the shifter.

Use the scroll arrows, or the number buttons to change your shift disable time.

Press the **RPM** button to advance to the next screen.

The screen will show **SETUP SHFTER TYP** (shifter type) and **ELECTRIC** or **AIR**.

Press and hold the R RESET/RECALL button for 1-1/2 seconds to change from one to the other.

"ELECTRIC" = Power on until shift point rpm is reached, then **turned off**. This is used with "holding" type solenoid shifters. They are designed to hold back the spring loaded ram until power is removed, then the ram moves forward and makes the shift.

"AIR" = There is no power output until the shift point rpm is reached, then power is **turned on**. Most "air" shifters (including Dedenbear) use this setting.

NOTE: When the rpm activated switch reaches the setting, it will activate until the rpm's drop approx. 200 rpm below the setting. When the rpm's come down below the shift point approx. 200 rpm, the rpm box resets.



NOTE: If you are using a "push" style solenoid shifter that requires battery power to "push" forward, **DO NOT WIRE TO RPM OUTPUT TERMINAL. These types of solenoid shifters require over 45 amps to "push" the shifter forward!** Wire the RPM SWITCH OUTPUT to their supplied relay or starter solenoid, and let the relay/solenoid handle the high current.

(Dedenbear SS-2 "Solenoid Shifter" is considered a holding style solenoid shifter and can be wired directly to the RPM Switch output.)

Press the **RPM** button to advance to the next screen.




The screen will show **SETUP # OF CYLINDERS: 8**.



Press and hold the R RESET/RECALL button for 1-1/2 seconds to change from 8 cylinders to 6 cylinders, again for 4 cylinders, and again to return back to 8 cylinders.

MEMORY

The microprocessor chip will remember all your settings, even after turning off the power supply. There are no internal batteries to ever go dead. Anytime you make a change to a setting, it will remember that new setting when it returns back to the "RUN" screen. Your settings will be stored until you change them, so even if you remove the CC from the car during the Winter, and re-install it in the Spring, the last race you had set in the box will still be stored in memory.

INDICATOR LIGHTS

-  **T.STOP - B**
-  **RPM SWITCH**
-  **START LINE**

-  **T.STOP - A**
-  **TRANS BRK.**

On the left hand side of the box, you will see 5 indicator LED's. These lights show you the output status of the CC. If the light is on, then there is power present at that terminal. Different throttle stops and shifters require power turned on to activate, or power turned off to activate. These lights are very convenient for testing, because it's the same as putting a test light onto the terminals. All you have to do is watch the light to see if there is power at that terminal.

THROTTLE STOP OUTPUTS: "Baseplate" type throttle stops need power to be wide open. "Linkage" type throttle stops require no power to be wide open. This is reversible in the Throttle Stop setup menus, you just tell the box what type of throttle stop you're using.

STARTING LINE CONTROL: The starting line rpm control is typically used on "linkage" type throttle stops, and only on the starting line. Therefore its output will be "off" until the transbrake is applied.

RPM SWITCH OUTPUT: Most "air" shifters require power to be applied to shift, while Dedenbear's SS-2 Solenoid Shifter (spring type) requires power to be removed to shift. This is also reversible in the RPM switch setup menus. You just tell the unit what type of shifter you're using.

TIPS, TRICKS, AND DEFINITIONS

RESET / RECALL BUTTON - If pressed during a Throttle Stop Timeout, it will cancel the timers and go back to the "Ready to Run" condition.

- If pressed after a run, it will recall the "How Late" information from multiple hits at the tree and it will also tell you how many times you "Skipped".

- It is used to change settings about the type of equipment on your car, for example - number of engine cylinders, the polarity of your throttle stops and shifter, how you want the starting line controller set up, etc. To use it for these applications, go to the set-up display for the particular feature you are interested in adjusting. Press and hold the "RESET / RECALL" button until the box changes its set-up.

ARP (Accidental Release Protection) - Occasionally, you anticipate the lights and let go too quickly. ARP lets you recover from this situation. In DELAY or CROSSOVER mode, you simply press the transbrake button again and the CC will instantly reset itself. In TWICE YOUR TREE and INTERFACE mode, because the CC expects you to press the switch a second time, you can use the "Last Chance" feature.

LAST CHANCE - This feature is available in TWICE YOUR TREE and INTERFACE mode. If you think either or both your releases were too quick, press the transbrake button again (a third time) and the first two releases are cancelled. Release the button when your bottom bulb turns on, and after the BOTTOM BULB delay times out, the transbrake releases. (Bottom Bulb delay and Last Chance delay are the same thing).

HOW LATE - In modes where you take two "hits" at the tree (Interface and Twice Your Tree), the how late feature tells you which of the "hits" was first and how much it was quicker than the second "hit". In Interface mode, the display will say "THEIR TREE BY: .XXX, YOUR TREE BY: .XXX" or "LAST CHANCE WAS ACTIVATED". As an example, if you were in Twice Your Tree mode, the display might read "TOP BULB BY: .023". This means that you were quicker leaving off your top bulb than off your bottom bulb and that you were .023 seconds quicker. The CC released the Transbrake off the top bulb "hit" in this example (the quickest light always releases the brake). If you cancelled the "hits" by pressing the button a third time, the display "LAST CHANCE ACTIVATED" confirms that you left off your bottom bulb only as a last chance.

After a run is made, the "How Late" Information is recalled by pressing and holding the **RESET/RECALL** button. The display will show the "How Late" information along with the jump information.

SKIP RECALL - Skip Recall tells you the number of times that you pressed the "skip" button during the delay box time out. By checking **TBRK** set-up you can determine how much time each skip was added or subtracted time to the delay setting. By multiplying the skip time by the number of skips, you can calculate the amount of time that was added or subtracted to your delay setting. The number of skips during a run is displayed by pressing and holding the **RESET/RECALL** button at the end of a run. The display will alternate between the how late time and the number of skips. If the display reads "SKIPPED: 2X", this means you pressed the skip button twice.

THROTTLE STOP SETTINGS INCORRECT - If a Throttle Stop Timer is set incorrectly, an error message explaining the problem will be displayed on the screen. If a run is made anyway, the Throttle Stop will be left at wide open for the full run, so that you still have a chance to win the round. Pressing the **RESET/RECALL** button after the run will show that the run was made with incorrect settings.

LINE LOCK OUTPUT - The Line Lock Output is exactly the same as the Transbrake Output except that it is diode protected. This means that the delay box will operate the Line Lock on the starting line, but the Line Lock will not back feed the Transbrake when you are doing your burnout.

DIAL-INS INCORRECT - If their E.T. is set smaller than your E.T., the screen will display an error message. If you make a run anyway, the box will assume the handicap is zero and will use only the delay setting. Pressing the **RESET/RECALL** button after the run will show that the run was made with incorrect settings.

LEAVING SET-UP MENUS - FIVE WAYS TO LEAVE

- 1) Do nothing and unit will return to RUN mode automatically after 8 seconds.
- 2) Press the Transbrake button and the box will instantly switch to RUN mode.
- 3) Clock through the menu by repeatedly pushing the setting button until you get back to the RUN mode.
- 4) Go backwards to RUN mode by repeatedly pushing the **BACK** button.
- 5) Change set-up modes (i.e. in Transbrake set-up, you can press the **STOP A** set-up button & jump to the set-up menus for the **STOP A**, etc.)

In all cases, the box always goes back to the RUN mode so you will always be able to make a pass.

TEMPERATURE - If the display ever gets dark and unreadable, it is in direct sunlight and it is too hot. Cover the unit with a towel to let it cool off and the display will return to normal. This should rarely happen as it would also be very uncomfortable for the driver. The unit itself does not generate much heat internally.

BATTERY CHARGERS - It is very common to leave the master on-off switch on between rounds so the waterpump and fan can continue to run and cool down the motor. When a battery charger is attached to the charging jacks of the vehicle there can be a massive voltage spike if the battery charger was already turned on or plugged into the AC outlet. This voltage spike can damage electronics. It is best to attach the battery charger **FIRST** to the car and **SECOND** to the AC outlet. You can also turn off the master on-off switch when connecting the charger to the car and then once connected, turn the master on-off back on and continue to cool down the motor. Not only do race vehicle electronics have a problem with this, but production vehicles with computer controls can also be damaged.

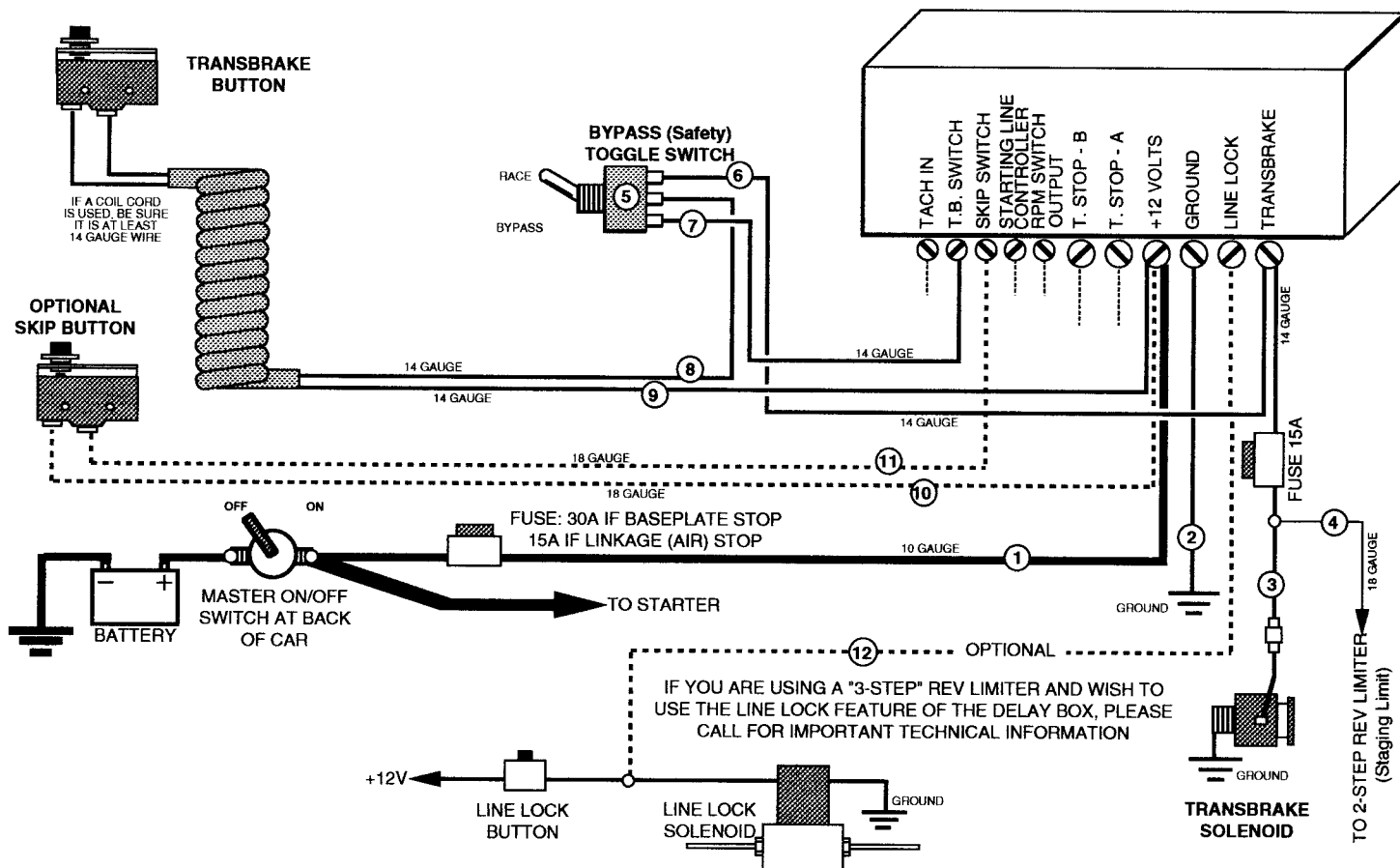
Wiring the Command Center

TRANSBRAKE BUTTON, SOLENOID, BYPASS TOGGLE AND SKIP BUTTON

TIPS: When ever wiring a race vehicle, it is best to use high quality, multi-strand copper wire and terminals. Soldering a terminal is **not** required and in some cases can be bad if too much solder is used. It is better to use a high quality "ratcheting" crimper instead. The solder may cause the wire to become brittle and break, causing intermittent activation.

When ever possible, use color coded wires or labeled wires. By using different colors, it is easier to trace where a wire goes. When the wires are all bundled up, it would be nearly impossible to trace a single wire when all the wires are the same color.

1. Wire the +12v power supply wire to the CC directly from the master on-off switch at the back of the car. Use at least a 10-gauge wire since this will be a long run and it must handle the current of many accessories. **DO NOT** wire the power supply to the starter solenoid, Ford solenoid, overhead switch panels or existing fuse blocks. There is almost always at least 1/2 volt or more drop at these locations. You **MUST** wire this unit to the master on-off switch as shown. Install the appropriate size fuse or circuit breaker to protect the CC from damage should a wire or solenoid short out and fail. It is always cheaper to replace a fuse than it is to repair the delay box if your solenoid dies. Usually you can repair the problem, replace the fuse, and buy back in. Damage to the delay box is not covered under warranty, but can be repaired at Dedenbear's facilities within 24-48 hours.
2. Install a 14 gauge wire from the CC's Ground terminal to a good chassis ground stud. Do not ground the unit to aluminum panels. Most chassis manufacturer's will have welded a 1/4-inch stud to the roll cage in various locations, use one of these. If your chassis doesn't have any good chassis grounds available, the engine block or heads are a great ground.
3. Wire the transbrake solenoid directly to the CC's Transbrake terminal using 14-gauge wire and use an inline fuse (15A) to protect the CC from your solenoid.
4. If you are going to use an ignition rev limiter on the starting line, you need to tie the rev limiter activation wire or terminal to this transbrake wire. This is so the rev limiter turns on with the transbrake and will stay on until the transbrake releases.
5. Mount the Bypass "safety" toggle switch where it will be convenient for the driver to reach. This toggle must be used to bypass around the delay box when using a pro-brake valve body. The pro-brake valve bodies require the driver to press the transbrake button to put the transmission into reverse. If the toggle switch is not used, the CC will start timing out all the throttle stops and transbrake delay when the driver is done backing up. This can be very annoying and dangerous, since the throttle stops (especially a linkage type) will be opening and closing as the driver is pulling forward into the stage beams. By flipping the toggle down to "bypass" the box is literally removed from the system and the transbrake will be powered directly off the transbrake button.
6. Run another 14 gauge wire from the transbrake terminal of the CC to the top terminal of the bypass toggle switch.
7. Run a 14 gauge wire from the bypass toggle switch bottom terminal to the T.B. Switch terminal on the CC.
8. Run a 14 gauge wire from the center of the bypass toggle switch to the transbrake button the driver will be using to activate and launch the car with. If this button is mounted on the steering wheel, be sure the wire or coil cord is at least 14 gauge or there will be a large voltage drop when you bypass the delay box. Some manufacturers use 18 gauge and smaller wire. There is 1.2v drop on 18 gauge coil cords that might prevent the transbrake from applying when in bypass.
9. Supply power (battery positive) to your transbrake button's second terminal directly off the CC's "+12V" terminal as shown, using at least 14 gauge wire again.
10. If you wish to use the "Skip" feature, install another button where the driver can reach it and supply it power from the CC's "+12V" terminal.
11. Run a wire from the other side of the "Skip" button to the "Skip Switch" terminal on the CC. The 2 wires for this button can be as small as 18 gauge.
12. **OPTIONAL:** If you wish to hold the car solid on the starting line, the optional Line Lock terminal can be wired to your line lock solenoid. This terminal will have the same delay as the transbrake and is diode protected so it will not backfeed into the box. **PLEASE CALL IF YOU ARE USING A 3-STEP REV LIMITER.**



Wiring for Baseplate Throttle Stops and Nitrous Oxide

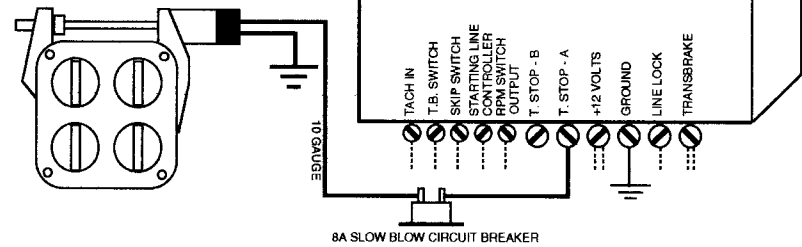
THROTTLE STOP-A USED ON A SINGLE "BASEPLATE STYLE" THROTTLE STOP

Wire the throttle stop to "T.STOP-A" terminal using the appropriate size wire. Use at least 10-gauge wire if it's an electric solenoid, and 18-gauge wire if it's an air solenoid. Be sure to use a rubber grommet in the firewall so the wire does not get accidentally cut.

Set the throttle stop type for "Baseplate Style"

If T.STOP-B is not going to be used, set it for "Linkage Style" and set all the timers for the same number. This will turn off the indicator light and keep it from flashing while going down the track.

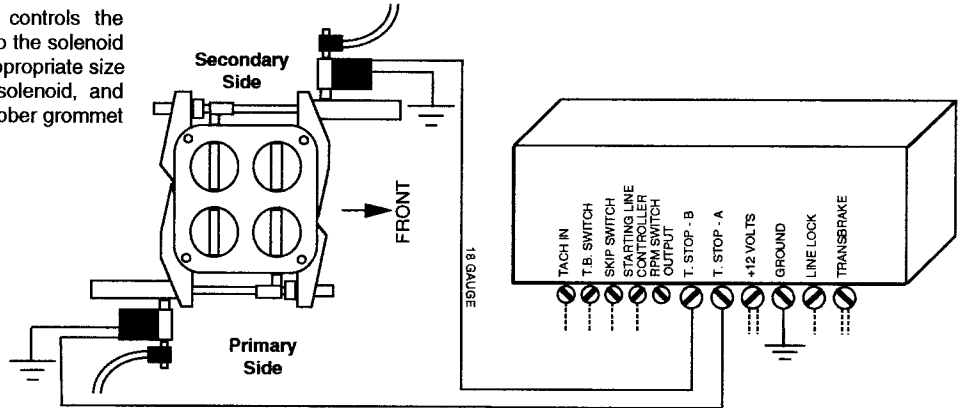
Baseplate Style Throttle Stop (Single Solenoid)



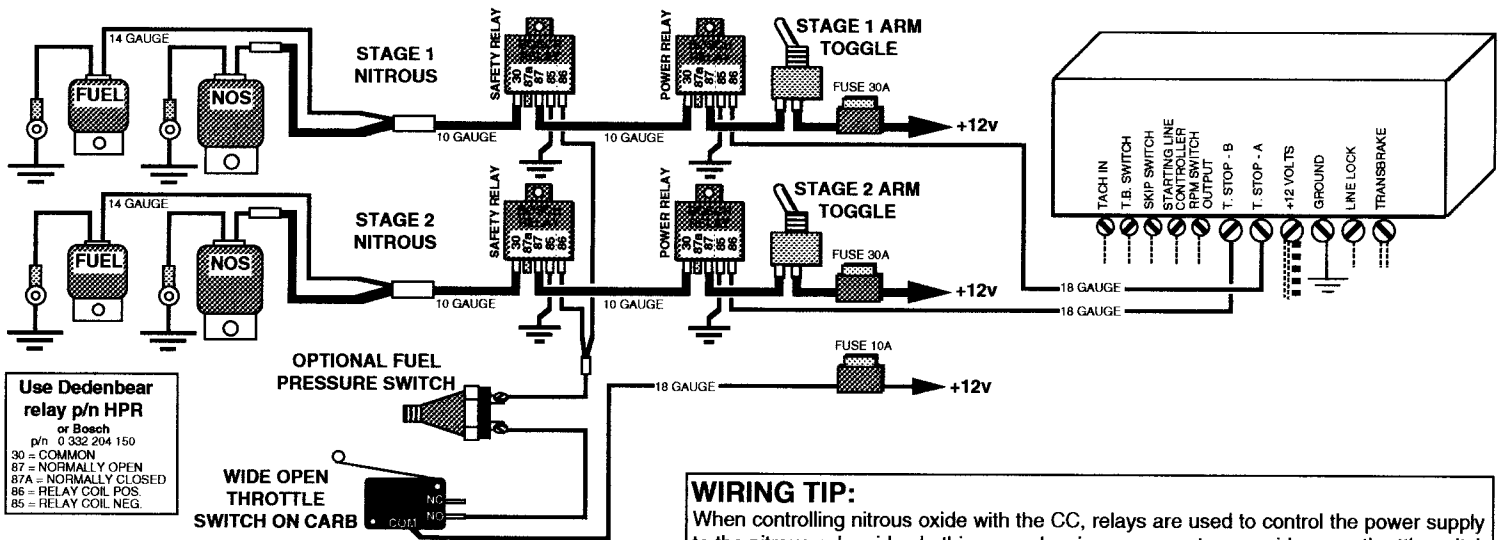
THROTTLE STOP-A AND STOP-B USED ON A "DOUBLE AIR BEAR" THROTTLE STOP

Wire the "T.STOP-A" terminal to the solenoid that controls the primary (front) butterflies, and the "T.STOP-B" terminal to the solenoid that controls the secondary (rear) butterflies, using the appropriate size wire. Use at least 10-gauge wire if it's an electric solenoid, and 18-gauge wire if it's an air solenoid. Be sure to use a rubber grommet in the firewall so the wires do not get accidentally cut.

Set the throttle stop types for "Baseplate Style"



THROTTLE STOP-A AND STOP-B USED ON 2 STAGES OF NITROUS OXIDE



Wire the power relays as shown. Using T.STOP-A terminal to control stage 1 nitrous and T.Stop-B terminal to control stage 2 nitrous. You can use 18-gauge wire to trigger the relays, and should wire at least 10 gauge wire from the "arm" toggles to the relays and from the relays to the nitrous/fuel solenoids.

Set the throttle stop "types" as "LINKAGE TYPE".

Timer #1 turns on the Nitrous, Timer #2 turns off the nitrous. Timer #3 & #4 should be set for the same number past the finish line.

LINKAGE THROTTLE STOP WIRING

Wiring linkage type throttle stops and 3 different options

Linkage type throttle stops are popular for use on today's drag race vehicles. There are generally 3 different uses or applications where they are used. 1) Starting Line engine rpm control, 2) Down Track E.T. control, and 3) Both: Starting line and Down Track.

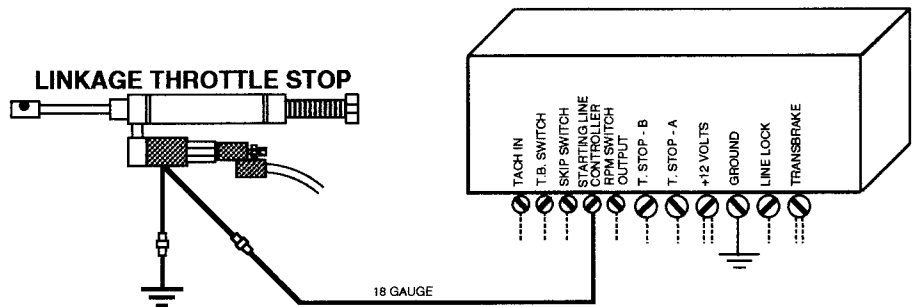
Starting Line: In this application, the linkage throttle stop closes on the starting line when the transbrake is applied. This is to control staging rpm of the engine. See page 5 of the CC instructions for SLC Starting Line Control options.

Down Track E.T. Control: In this application, the throttle stop is used only during the pass, to control the vehicle's elapsed time. Typically, racers will close the throttle stop a fraction of a second after the transbrake releases, and reopen the throttles a few seconds later. The 4 stage throttle stop timers built into the CC will accomplish this.

Both: Starting Line & Down Track E.T. Control: This last application allows the racer to use the throttle stop on the starting line to control staging engine rpm and again during the run to control the E.T. of the vehicle.

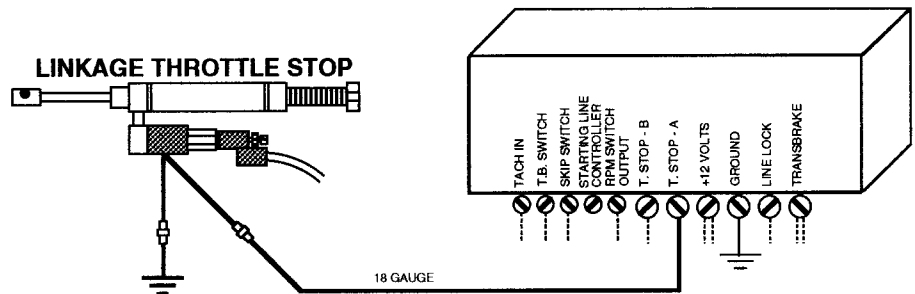
LINKAGE THROTTLE STOP USED FOR STARTING LINE ENGINE RPM CONTROL ONLY.

In this application, simply wire your linkage type throttle stop directly to the **STARTING LINE CONTROL** terminal on the side of the CC. You can access the SLC options by pressing the STOP-A button. (see page 6 of the instructions)



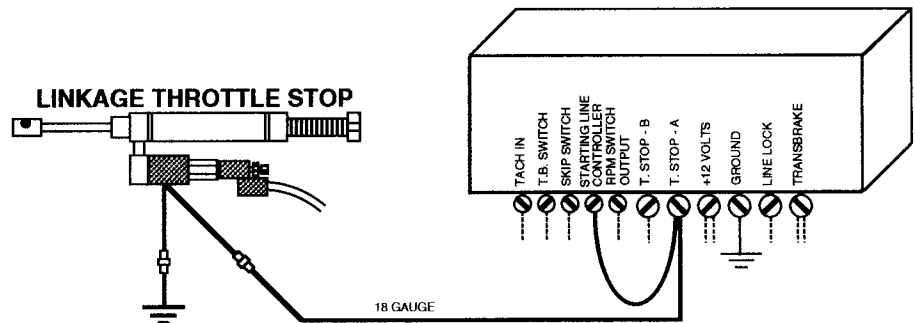
LINKAGE THROTTLE STOP USED FOR DOWN TRACK E.T. CONTROL ONLY.

In this application, simply wire your linkage type throttle stop directly to the **T.STOP - A** terminal on the side of the CC. You can access the throttle stop options by pressing the STOP-A button. (see page 5 of the instructions)



LINKAGE THROTTLE STOP USED FOR BOTH: STARTING LINE CONTROL & DOWN TRACK E.T. CONTROL.

In this application, wire your linkage type throttle stop directly to the **T.STOP - A** terminal on the side of the CC, and install a jumper wire from **T.STOP - A** to **STARTING LINE CONTROL** terminal. You can access the throttle stop options by pressing the STOP-A button. (see page 5 of the instructions)



AIR AND ELECTRIC SHIFTER WIRING

There are 3 different types of automated shifters commonly used in drag racing: They are: 1) CO2 or "air" shifters; 2) "HOLD" type Electric Solenoid shifters, and 3) "PUSH" type solenoid shifters.

It is important to know which type of electric solenoid shifter you are going to use or have installed in your vehicle.

CO2 or "Air" shifter: CO2 or "air" shifters require +12 volts to be applied to fire the shifter and make the gear change.

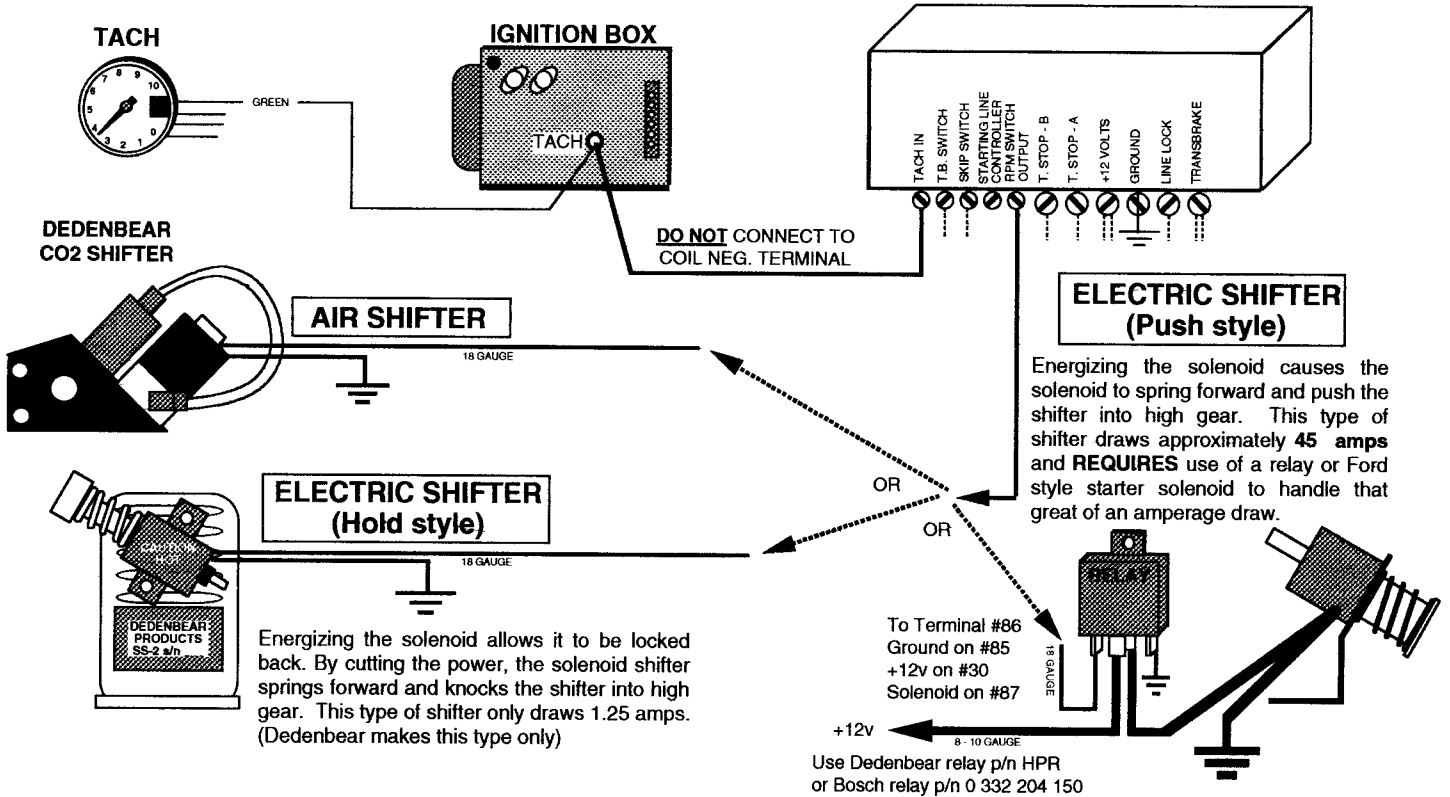
Set the RPM Switch type for "AIR" shifter.

"HOLD" type solenoid shifters (Dedenbear's SS-2): Hold type solenoid shifters such as Dedenbear Products model SS-2 require +12 volts applied at all times, and when the power is cut, the solenoid's spring fires forward and makes the gear change.

Set the RPM Switch type for "ELECTRIC" shifter.

"PUSH" type solenoid shifters (other manufacturers): This type of solenoid is quite large and uses a relay or starter solenoid to handle the amperage. These solenoids use the +12 volts applied to push the shifter lever and make the gear change. **You must use the relay or starter solenoid to avoid damage to the CC's rpm activated switch.** (These solenoids draw over 45 amps to make the shift).

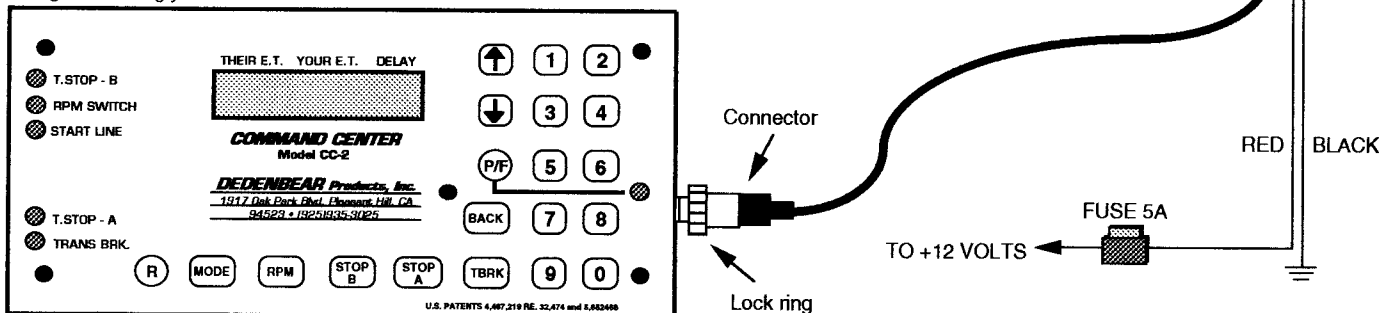
Set the RPM Switch type for "AIR" shifter.



REMOTE DISPLAY WIRING (CC-2 ONLY)

Wire the Remote Display unit as shown, use at least 18 ga. wire connecting the black wire to a solid chassis ground and the red to +12 volts. Use a 5 amp fuse in the red wire to protect the Remote Display from damage. Connect the display to your CC-2 using the transmitting cable included with the display unit. Slip the connectors into the jacks and turn the lock ring clockwise to lock in place.

The display unit needs no set up. Just power both units up and the Remote Display will show whatever is dialed in to the "Your E.T." section of the CC-2. When you make a change to the "Your E.T." setting in the CC-2 and the box returns to the run mode, the Remote Display will change accordingly.



FACTORY SETTINGS

PRO-FULL SETTING PARAMETERS:

Switch set for "PRO" P/F LIGHT ON
 Switch set for "FULL" P/F LIGHT OFF

FACTORY SETTINGS

	RANGE	PRO	FULL
DELAY:	0.000 to 1.999 sec.	.010	1.000
THEIR ET:	00.00 - 19.99 sec. E.T.	10.90	10.00
YOUR ET:	00.00 - 19.99 sec. E.T.	9.90	9.00
BOTTOM DELAY:	0.00 TO .299	.010	.100
CROSS COMP:	.000 to .099 sec.	.015	.015
SKIP UP / SKIP DOWN:	+ .050 to - .050 sec.	.010	.010
TB PAUSE:	0.000 to 1.999 sec.	.010	.010
TB LOCK OUT:	00 to 19 seconds	01	03
THROTTLE STOP A, Timer 1:	0.00 to 19.99 sec.	.30	1.00
THROTTLE STOP A, Timer 2:	0.00 to 19.99 sec.	1.50	2.00
THROTTLE STOP A, Timer 3:	0.00 to 29.99 sec.	3.00	3.00
THROTTLE STOP A, Timer 4:	0.00 to 29.99 sec.	3.00	3.00
THRRTL STP TYP A:	Baseplate or Linkage	BASE	BASE
SLC-START LINE CONTROL:	Top Bulb, Off, 2-step	2 STEP	TOP
THROTTLE STOP B, Timer 1:	0.00 to 19.99 sec.	1.50	1.00
THROTTLE STOP B, Timer 2:	0.00 to 19.99 sec.	2.00	2.00
THROTTLE STOP B, Timer 3:	0.00 to 29.99 sec.	3.00	3.00
THROTTLE STOP B, Timer 4:	0.00 to 29.99 sec.	3.00	4.00
THRRTL STP TYP B:	Baseplate or Linkage	BASE	BASE
SHIFT POINT:	2000 to 9999 rpm	7500	7500
SHIFT DISABLE TIME:	0.000 to 3.999 sec.	.500	.500
SHIFTER TYPE:	Electric or Air	ELEC	ELEC
NUMBER OF CYLINDERS:	4, 6, 8 cylinders	8	8

SERVICE AND WARRANTY

SERVICE:

DO NOT RETURN UNIT TO DISTRIBUTOR, CALL DEDENBEAR DIRECTLY.

Dedenbear Products, Inc. prides itself on its knowledgeable technical service staff and the industry's best customer service. If you feel you have a problem, have a question or two, need help wiring, or if you have special wiring needs, just call us. We are here to help you use your Dedenbear equipment to its full potential.

If you think the box needs to be serviced, call us first before removing it from the car (we might be able to troubleshoot it while it's still in the car). If it is necessary to return the box to our facility, **call first**; then package it carefully in a box, and enclose a note describing the problem. Give your name, address, work and home phone numbers so we can contact you regarding return shipment or other questions. Turn-around is 24 to 48 hours.

**CALL DEDENBEAR • Mon. - Fri. 8am - 5pm Pacific Time
 (925)935-3025 • Fax (925)935-2287**

Ship to: DEDENBEAR PRODUCTS, INC. • REPAIR DEPT. • 1917 Oak Park Blvd. • Pleasant Hill, CA 94523

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 fluctuations, failure to follow installation/operating instructions, maintenance, 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 from state to state.