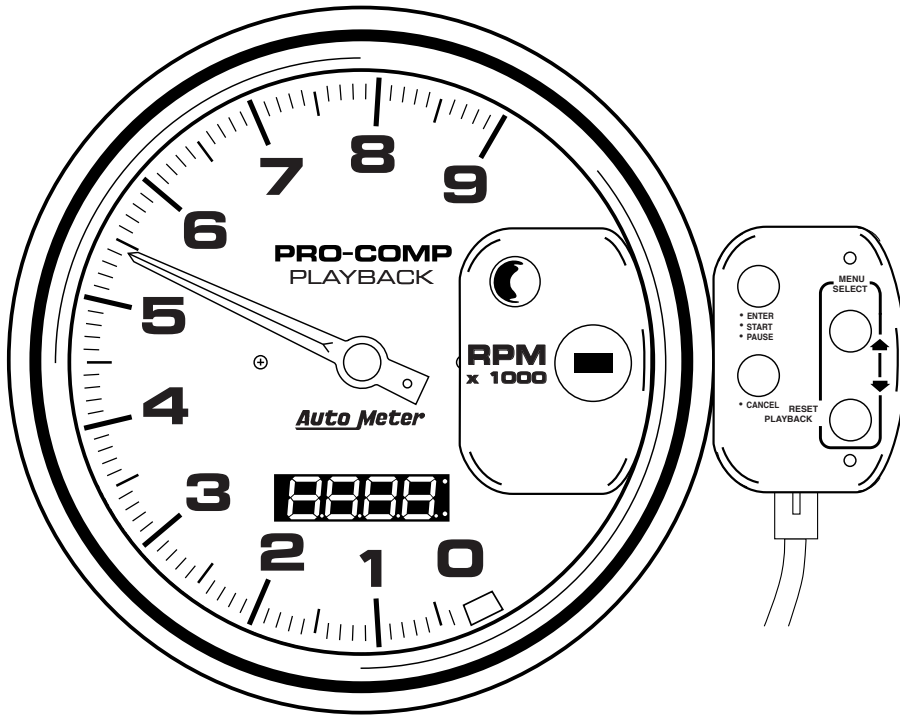




2650-895B

INSTALLATION INSTRUCTIONS

5" SINGLE CHANNEL PRO-COMP/PHANTOM TACH



Introduction

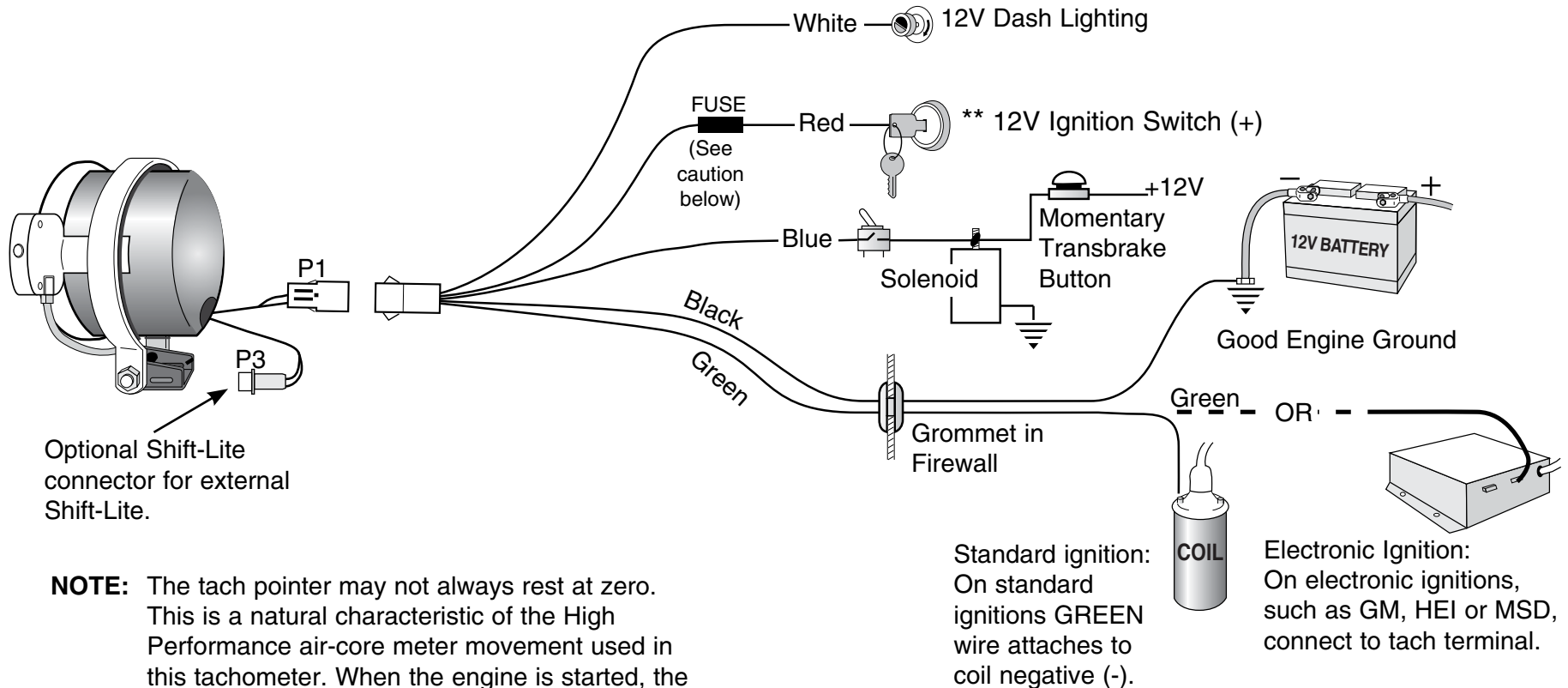
The Single Channel Pro-Comp/Phantom Playback Tach uses a menu system for configuration. Use the arrows (▲▼) to scroll up and down the menu. When you reach the bottom or top of the menu you will automatically jump to the other end of the menu.

To select a menu option press the ENTER button. If at any time you want to exit the menu you are currently in, press the CANCEL button. The CANCEL button will take you back to the TACH display and will not store the entries you have made.

Press the ENTER key to store the settings you have entered. After pressing ENTER, the only way to return to the original settings is to re-enter them.

When a display indicates a run (for example: 1234), the number will not be shown in this instruction. It will not be shown because any of the four runs could be displayed and we do not know which run you have selected/displayed. In this example, the instruction would show 1234.

1. Wiring



Optional Shift-Lite connector for external Shift-Lite.

NOTE: The tach pointer may not always rest at zero. This is a natural characteristic of the High Performance air-core meter movement used in this tachometer. When the engine is started, the pointer will position on the correct RPM.

NOTE: When the tach is receiving input from the ignition, it will not playback a recording.

** You may connect the red wire to the battery through a separate switch from the ignition. This allows the tach to operate after the engine has been turned off.

CAUTION!!!

As a safety precaution, the +12V terminal of this product should be fused before connecting it to the 12V ignition switch. We recommend using a 4 Amp, 3 AG fast-acting type cartridge fuse (Littlefuse® # 312 004 or an equivalent).

WARNING

Warranty will be void if connected to coil when using an aftermarket ignition box such as, but not limited to products from the following manufacturers: MSD, Crane, Jacobs, Mallory, Holley, Etc.. Prior to installation of your tachometer, check with the ignition box manufacturer for recommended tachometer signal location.

B. Blue “Trigger” Wire Options

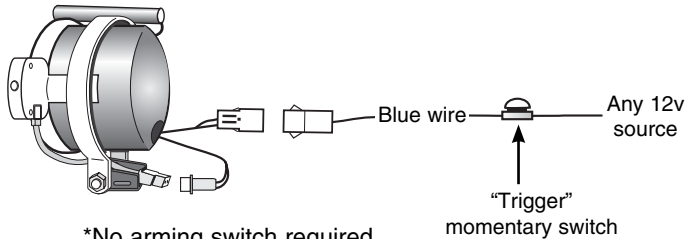
NOTE: Playback tachs, and Playback boxes must have 12 volts applied to the blue wire. Recording will begin when 12 volts is removed.

1. Momentary Switch

- No arming switch required.
- Activate the switch after you and your competitor have STAGED, or you may run out of recording time.

ADVANTAGES: • Quick and easy hook-up.

DISADVANTAGES: • Changes your starting line procedure by having to activate the momentary switch.
• Chance of activating recording too early, or too late.



*No arming switch required.

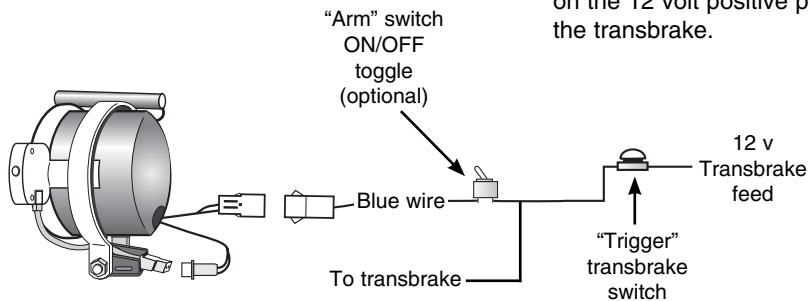
2. Transbrake Switch (not legal in all classes)

- An “arm” switch may be needed to avoid early activation.
- If an “arm” switch is used, turn on prior to staging.
- Recording will begin with the release of the transbrake switch (trigger).
- After the run, return the “arm” switch to the OFF position.

ADVANTAGES: • Accurate start of the recording process.

DISADVANTAGES: • Not legal in all classes.
• Slight change in starting line procedure having to activate the “arm” switch.

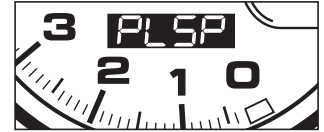
Note: Trigger wire must be installed on the 12 volt positive pole of the transbrake.



J. PLSP - Playback Speed Setting

Toggles playback speed between full speed and half speed.

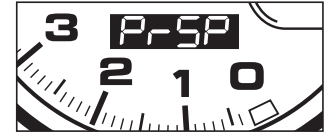
1. Press ENTER, the current speed will be displayed.
2. Press the up or down arrow to change the speed.
3. Press ENTER to store playback speed and return to the Main Menu.



K. PRSP - Printer Interface Speed Setting

Toggles the playback speed between full speed and half speed. This should normally be set to half speed.

1. Press ENTER, the current speed will be displayed.
2. Press the up or down arrow to change the speed.
3. Press ENTER to store the setting and return to the Main Menu.



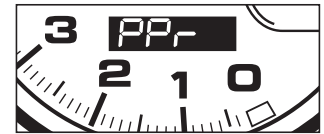
L. PPR - Pulse Per Revolution

Sets the Pulse Per Revolution Setting.

1. Press ENTER to display the current pulse per revolution setting.
2. Press the ▲/▼ arrows to change the PPR.

PPR Table	
2PPR =	4 Cy 4 STR
3PPR =	6 Cy 4 STR
4PPR =	8 Cy 4 STR

3. Press ENTER to store the setpoint and return to the Main Menu.



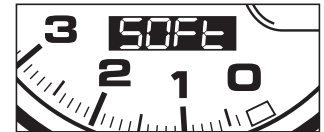
M. TYPE - Displays the Tachs Model Number

1. Press ENTER to display the model number.
2. Press ENTER to return to the Main Menu.



N. SOFT - Displays the Current Software Revision

1. Press ENTER to display the software revision number.
2. Press ENTER to return to the Main Menu.



G. SP1 - Set shift point #1 and “Hold Set Point 1” Delay

1. Press ENTER, the current setpoint will be displayed.

2. Adjust Shift Setpoint 1 as follows;

a. Press and hold the ▲/▼ arrow.

- The displayed RPM will change.
- Continue holding ▲/▼ and the RPM display will increase in speed.

NOTE: The RPM value increases in 13 RPM increments.

The display shows the RPM value in decimal form (RPM x 1000). The decimal point represents a comma (Example: 07.99=7,990).

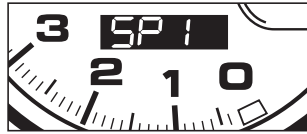
b. When the desired reading is displayed, press ENTER.

c. The word *DEL* will now be displayed, press ENTER to continue.

d. The Hold Setpoint 1 Delay is now displayed. The tach reads a profile of RPM increase and decrease as a shiftpoint. The delay feature prevents inadvertently triggering a shiftpoint due to wheel spin or inconsistent throttle off the launch.

e. Set the delay time slightly before your known first shiftpoint with the ▲/▼ arrows.

3. Press ENTER to store the setpoint and return to the Main Menu.



H. SP2, SP3 & SP4 - Set Shift Setpoint #2, 3 & 4

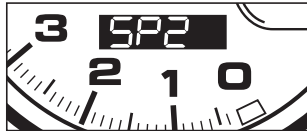
1. Press ENTER, the current setpoint will be displayed.

2. Adjust the Shift Setpoints as follows;

a. Press and hold the ▲/▼ arrow.

- The display RPM will change one count.
- Continue holding ▲/▼ and the RPM display will increase in speed.

3. When the desired reading is displayed, press ENTER and return to the Main Menu.



I. brn5 - Burnout Setpoint

When the burnout RPM goes above/below this RPM, the burnout recording will start/stop.

1. Press ENTER, the current setpoint will be displayed.

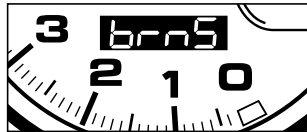
2. Adjust Shift Setpoint 1 as follows;

a. Press and hold the up or down arrow.

- The pointer will move one count at a time.
- Continue holding ENTER and the pointer will start to move slowly.
- Continue holding ENTER and the pointer will start to move faster.

b. When the desired reading is indicated, press ENTER.

c. Press ENTER to store the setpoint and return to the Main Menu.

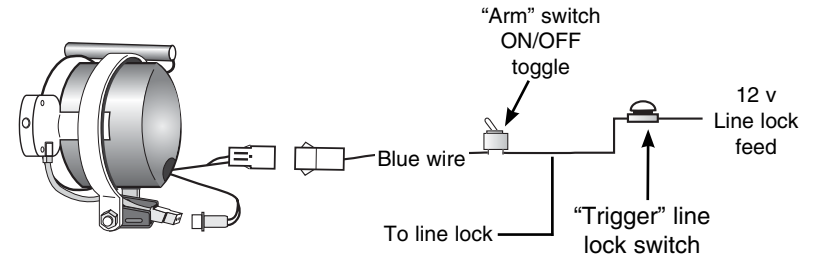


3. Line Lock Switch With “Arm” Switch

- An “arm” switch is required when using a line lock, and not recording the burnout.
- A line lock switch needs an “arm” switch (ON/OFF toggle) to avoid early activation.
- Turn the “arm” switch ON after you have STAGED the vehicle.
- Recording will begin with the release of the line lock switch.
- After the run, return the “arm” switch to the OFF position.

ADVANTAGES: • Accurate start of the recording process.

DISADVANTAGES: • Slight change in starting line procedure having to activate the “arm” switch.



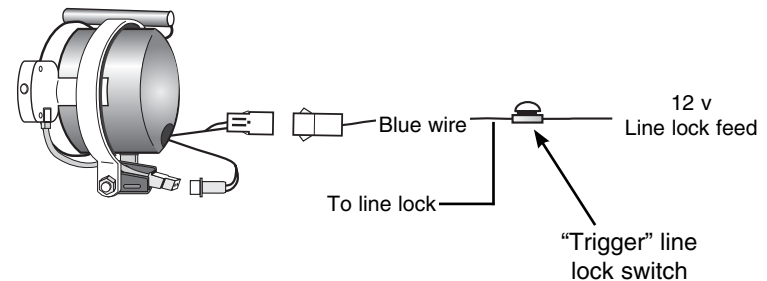
4. Line Lock Switch Without “Arm” Switch

- USE THIS METHOD IF LINE LOCK IS USED AT LAUNCH ONLY.
- Once the vehicle is STAGED, activate the line lock as normal. This will also “arm” the tach.
- The tach will begin recording with release of the line lock switch.

ADVANTAGES: • Accurate start of the recording process.

• Does not change starting line procedure.

DISADVANTAGES: • None

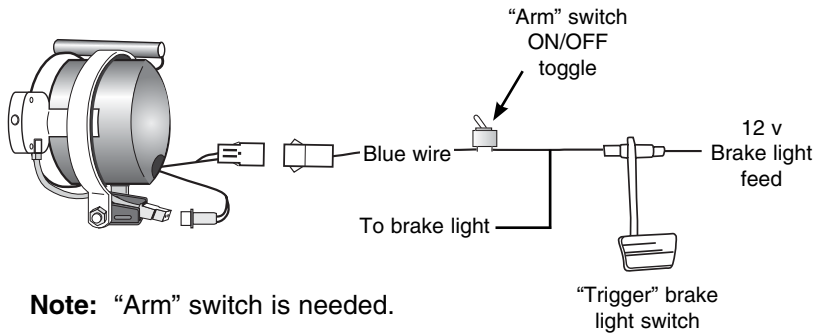


5. Brake Light Switch

- A brake light switch needs an “arm” switch (ON/OFF toggle) to avoid early activation.
- Place the “arm” switch in the ON position after you have PRESTAGED the vehicle. Then pull forward with the brakes applied lightly to STAGE, or after you have STAGED the vehicle, place the “arm” switch in the ON position.
- When the brake pedal (trigger) is released, recording will begin.
- After the run, return the “arm” switch to the OFF position.

ADVANTAGES: • Accurate start of the recording process.

DISADVANTAGES: • Slight change in starting line procedure having to activate the “arm” switch.



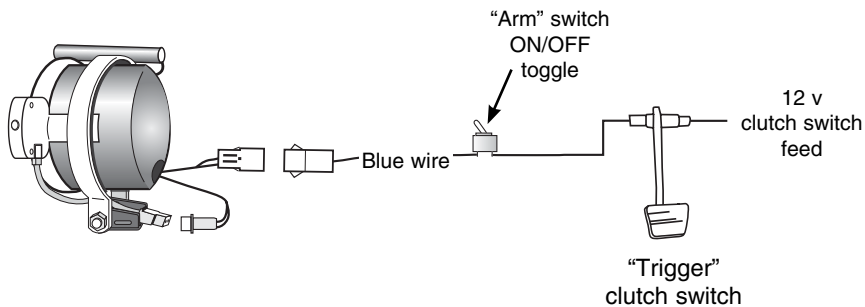
Note: “Arm” switch is needed.

6. Clutch Switch

- A clutch switch needs an “arm” switch (ON/OFF toggle) to avoid early activation.
- Place the “arm” switch in the ON position when you have STAGED the vehicle.
- Recording will begin when the clutch pedal (trigger) is released.
- After the run return the “arm” switch to the OFF position.

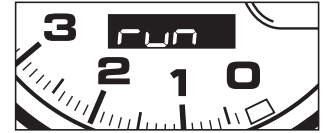
ADVANTAGES: • Accurate start of the recording process.

DISADVANTAGES: • Slight change in starting line procedure having to activate the “arm” switch.



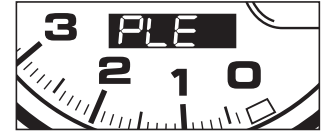
D. Run - Run Select (Select the run number to play, download or record to)

1. Press ENTER to select the Run Select Mode. The display will read *run*.
2. Press the up and down arrows to select the new run.
3. Press ENTER when the desired run is displayed.



E. PLE - Playback Engine Recording (shows burnout, pre-race, and race)

1. Press ENTER to select engine playback.
2. *run* will be displayed (press ENTER to continue).
3. *CH1* Burnout will playback.
4. When burnout is complete, the burnout time will be displayed.
5. Press ENTER to move to Prerace playback. *PrE* will display.
6. Press ENTER to start Prerace playback. The display will count down from 2 seconds to 0 (launch).
7. When Prerace is complete: *CH1* will appear on the display. The pointer will move to the starting RPM (this is the start of the engine race recording).
8. Press ENTER to start engine race playback.
9. Playback can be paused at any time.
10. When playback stops the LED will display the time the recording stopped.
11. Press ENTER to return to the Main Menu.



F. Prn - Printer Interface Download

1. Press ENTER to enter printer interface download mode.
 - a. *burn* will be displayed.
 - b. The initial rpm will be displayed.
 - c. Playback will pause.
2. Press ENTER to start burnout download.
3. If the burnout printout is not needed it can be skipped by pressing ENTER again. Any Playback print can be skipped by pressing ENTER.
4. All playbacks can be printed from this mode. They will appear in the following order:
 - Burnout (*burn*)
 - Prerace (*PrE*)
 - Channel 1 / Race (*CH1*)
5. Press ENTER to return to the Main Menu.



3. Main Menu Options

A. TACH - Tach Mode

In Tach Mode, the Tach operates as a standard tach. It displays RPM and operates the shift light. All 4 shift points are active only when the blue wire is used. When the blue wire is not used, only the first shift point is active. When the tach RPM is less than 3,000 RPM the tach will return to shiftpoint 1, and hold shiftpoint 1, and the delay timer will be reset. Timer will not

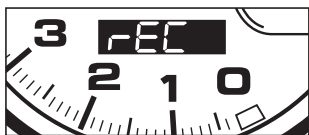


start again until blue wire is activated. The shift-lite will not light after the fourth shift and *done* will be displayed. The shift-lite will not operate when the blue wire is connected to a +12V source or when the hold setpoint delay is running. Momentary 12 volts will activate the delay and shift sequence.

B. REC - Record Mode (Records Burnout, Pre-race, and Race)

1. Press Enter to Activate Record Mode.

- The display reads *rdy* (Ready), indicating the tach is ready for operation.
- To skip the burnout recording and go directly to prerace, press enter.
- The shift light will use setpoint 1 until the tach enters the race record mode.



2. When the Engine rev's above the Burnout Setpoint, Burnout recording will begin.

- The display will read *burn*, indicating the tach is in Burnout mode.
- The Burnout mode will record for 20 seconds. If engine rpm drops below the burnout setpoint before 20 seconds is reached, recording will stop.
- If the engine rpm does not stay above the burnout setpoint for more than 2 seconds, burnout mode will not be entered and the display will read *rdy* again.

3. After the minimum 2 second burnout recording, the tach will go to the prerace record mode and read *PRE*.

- The prerace mode will continue until triggered by your launch.
- The prerace mode has a floating 2 second recording window. When you launch, the tach will store 2 seconds of recording prior to the launch.

4. Race recording will start when:

- The tach receives a trigger signal (12V is applied and removed).

5. Race recording will stop when:

- 20 seconds has elapsed.
- The Cancel button is pressed.

C. PERC - Peak Recall

1. Press ENTER, the current peak RPM value will be displayed and a LED on the right side of the display will light up.

2. Press ENTER to return to the MAIN Menu or press \blacktriangledown to clear the Peak Recall value. The display will change to *CLR*. Press ENTER and the peak will be cleared.



7. Throttle Activated Switch

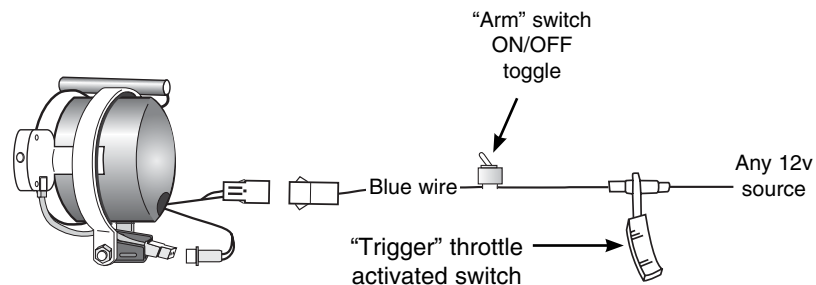
- A throttle activated switch may need an "arm" switch (ON/OFF toggle) to avoid early activation.
- Place the "arm" switch in the ON position when burnout is complete.
- A (normally closed) momentary switch is needed (see schematic).
- Recording will begin upon W.O.T. (trigger).
- After the run, return the "arm" switch to the OFF position.

ADVANTAGES:

- Works better than a manually operated momentary switch.
- Consistent from one run to the next.

DISADVANTAGES:

- Slight change in starting line procedure having to activate the "arm" switch (if used).



2. Operational Flowchart

