4STB-E GENERAL OPERATION

SPECIAL NOTES: The transmission Shift pattern is P-R-N-(E/OD)3-2-1

**** Remember the Trans-brake must not be engaged while the vehicle is in motion!!**
Do not hit the trans-brake while in 1st gear and the car is moving.

Once the transmission has been shifted into 3rd, the toggle switch (or whatever switch you're using), can be closed causing the transmission to shift into over-drive (4th). It will stay in overdrive until the switch is opened. It is highly recommended that you open the switch before you come to a stop. If the switch is left closed (overdrive "On"), the transmission will shift directly into overdrive when the shift lever is moved from 2nd to 3rd gear when up-shifting. This is not recommended and transmission durability will be compromised.

OPERATION – Trans-brake

1. The transmission has a 3-speed Forward Shift Pattern. **The Trans-brake will apply only in low (1st) gear.** Reverse is engaged by shifting into reverse and then applying the Trans-brake button. **This is a built-in safety feature.**

2. Stage the car with the engine above 1000 RPM to obtain higher fluid pressure and volume which will provide a quicker trans-brake engagement.

3. Maximum engine rpm with the trans-brake applied, creates excessive heat very quickly. (40 to 50 degrees/sec) On a full tree, wait for the next to the last yellow bulb, before bringing the engine speed to the full stall rpm. Always use an adequate trans fluid cooler (min. 25,000 GVW capacity) and inspect the condition of the trans fluid very often.

4. For proper operation, the trans-brake solenoid should only be used with a fully charged 12 volt battery source in order for it to function properly.

5. If any operational problems occur with the trans-brake, check the activation button, all electrical connections, and the by-pass delay box if one is used.

6. If you should encounter a delay or hesitation in the release of the trans-brake, check the following:

   a. The fluid level in the transmission; a low level can cause a delay in trans-brake release.
   b. A faulty release switch; check operation of the switch used to release the trans-brake.

7. Since the trans-brake only works in 1st gear, if you should accidentally hit the activating switch while in any other gear, the mechanism will not engage. This is a built in safety feature.

8. The transmission will operate normally, even if you choose not to use the trans-brake. Simply flip the toggle switch to the off position. The trans-brake itself is an "added" feature for your transmission and cannot adversely affect the transmission's operation when it is not being used.

REACTION TIME is influenced by the following:

1. Position the driver stages the car in relation to the track timing lights.

2. The type of trans-brake button that is used, its location, and when the driver releases it.

3. Release speed of the trans-brake.

4. Weight of the racecar.

5. Horsepower of the engine and the rpm when it produces peak torque.

6. Stall speed and torque multiplication characteristics of the torque converter.

7. Gear ratio's of the transmission and rear axle.

8. Type of chassis and suspension, how it is set up and adjusted.

9. Diameter of the front tires.

10. Drag slick size, the sidewall construction, rubber compound, age or condition, inflation pressure, and the width of the rims they are mounted on.

11. Type and positioning of the race track timing lights (their height and distance apart).

NOTE: Racecars that produce quick reactions times on a "pro" start tree, are generally setup to lift the front tires out of the timing lights. This method works great on most cars, but will cause a consistency problem on some cars. Consistent reaction times require positioning the race car the same distance into the staging light beam every time.

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