

# **STRATEGIES FOR TEACHING THE CLUTCH AND USE OF A STANDARD TRANSMISSION FOR TEEN DRIVERS**

**PUBLISHED BY  
THE DRIVING SKILLS INSTITUTE**

Teaching the coordination of a clutch and the engagement of a standard transmission is typically one of the most frustrating learning experiences for both the teen driver and parents. The coordination of psychomotor skills to control the accelerator, clutch and brake pedals must become a subconscious activity as quickly as possible. It is a very complex psychomotor activity; the biggest difficulty is trying to coordinate the release of the clutch with the reciprocal movement of depressing the accelerator pedal. This is too much to do at the conscious level, and the brain simply overloads.

We have developed an effective learning strategy for the new driver to learn the operation of the clutch with as little frustration, yelling, screaming and crying as possible (for both the teen and the parents). It creates less wear and tear on the clutch than the typical learning process. It also creates less blood pressure and therefore results in fewer strokes and heart attacks than the typical process of learning to use the clutch.

First, it is important for the parents to remember, while learning to operate the clutch, your child is operating totally at the conscious level because there is NO programming in the brain for that psychomotor skill. It is a lot like an adult visiting England or Australia for the first time and renting a car to drive around. Since everything is on the "wrong" side of the road, and you even drive from the "wrong" side of the car, you have to do everything at the conscious level. It becomes very difficult for even the most experienced driver. Please remember this as you start the process.

The most effective way to learn (program the subconscious) any psychomotor activity is to take the activity to the smallest denominator. As the smallest pieces of any activity are learned, they can then be put together into a "CHUNK" of activity. The objective is to be able to perform the activity without even thinking about it.

**PRELIMINARY:** Find a flat, empty parking lot with as few landscape dividers as possible, and with as little traffic as possible. Do not use your driveway at your house, a public street, etc.

**STEP 1:** With the engine running, car in neutral, and emergency brake on, have the student sit behind the steering wheel with both hands on the wheel in a 9:00 and 3:00 position. It is very important for the teen to begin to develop a habit of good hand positions. (By the way, how are YOUR hand positions?)

Ask the student to depress the clutch pedal, with the left leg, all the way to the floor, and then release the clutch at a slow and smooth pace. Be sure to watch for any "jerkiness" on the release. The objective is to achieve muscle memory for the left leg to release the clutch smoothly and automatically. This should take about 3-4 seconds each time, and should be done 80-100 times. Don't cut corners here, or everyone will pay for it later. The left leg is learning what you want it to do at the subconscious level. If you have a clutch that is very tight or requires heavy pressure, the teen may need a break to relax the left leg.

**STEP 2:** Have the student depress the accelerator pedal to approximately 2,000 rpm's (or one quarter throttle if you do not have a tachometer), hold for 2-3 seconds and then release. It is VERY IMPORTANT for the student to hold at approximately 2,000 rpm's for the 2-3 seconds, and not just "jab" at the throttle. It should be a squeezing type of motion with the foot. The objective is to get the throttle control of the engine to the subconscious (automatic) level. Repeat 80-100 times. Again, do not cut corners here.

Although 2,000 rpm's is slightly more than what is necessary for the typical vehicle to start from a static position, the teen will tend to give the engine too few rpm's, or let off the accelerator entirely. This is what causes the "bucking" back and forth of the vehicle when the clutch is released.

**STEP 3:** With the engine running, release the emergency brake. This is the first step in which you will begin to move. Have the student depress the clutch pedal, and put the transmission into first gear. Now take the engine to approximately 2,000 rpm's with the right foot, and begin to slowly release the clutch.

(NOW IS THE KEY TO THE ENTIRE PROCESS!!! USUALLY WHEN THE NEW DRIVER STARTS TO RELEASE THE CLUTCH, THE CAR STARTS TO MOVE AND THE DRIVER PANICS, JERKS OUT THE CLUTCH AND RELEASES THE ACCELERATOR PEDAL. THIS RESULTS IN A "BUCKING" MOTION OF THE VEHICLE.)

As the clutch starts to release and the vehicle just begins to move forward a few inches, have the student depress (push in) the clutch to the floor (rather than release the clutch). After several repetitions, this will give the foot the programming it needs to automatically realize the release point of the clutch. Repeat this step 35 to 40 times.

If the student has problems with this step, go back and repeat steps 1 and 2 a few additional times.

**STEP 4a:** After several repetitions of step 3, and after achieving a consistent pattern of success, have the student release the clutch fully and accelerate up slightly in speed, while in first gear, for 50-70 feet. Then slow the car, depress the clutch, and stop. Repeat this several times until the movement becomes automatic.

**STEP 4b:** The student should then start from standing still in first gear, accelerate up slightly in speed, depress the clutch, shift to second gear, and release the clutch smoothly while simultaneously accelerating. It is better to repeat several repetitions from first gear to second gear, combining a downshift to first gear while still moving and releasing the clutch smoothly. This will probably result in several little "jerks", but this normally happens while the student is learning to incorporate all these movements into the subconscious level.

**ADVANCED TECHNIQUES:** The student needs to learn how to handle a start from an up-slope condition in a safe place. DO NOT try to teach this on the street. This is a situation, which can cause a lot of anxiety, and can create a very high stress situation!

On steeper hills, the student should learn to activate the emergency/parking brake, take the engine to 2,000 rpm's, release the clutch slowly, and as the transmission begins to engage, slowly release the handbrake. This technique also works with the foot operated emergency/parking brake. It is, however, a more complicated maneuver for some people.

\*\*\*\*\*

The Driving Skills Institute (DSI), a Colorado not-for-profit corporation, was founded in 1987 by Ronn Langford. DSI is an IRS approved non-profit research and education foundation.

The DSI was created for the purpose of identification and implementation of ways to decrease traffic fatalities and injuries by increasing driving skills and awareness, as well as altering public attitudes toward driving. DSI presents various auto safety and educational programs.

Since 1987, DSI has conducted the following research programs:

- Development of more effective preparation strategies for youthful drivers.
- Problems and solutions for senior drivers.
- Development of a totally unique driving rehabilitation program for people with head injuries, stroke victims, and phobic conditions resulting from traumatic crashes.

All material contained herein is copyright 1993 by The Driving Skills Institute. You have our expressed permission to reproduce this document, but only in its entirety including credit given to DSI. If you find the strategy helpful, we ask only that you consider a contribution to DSI in an amount equal to your perception of its value. The Driving Skills Institute, 3280 E. Woodman Road, Suite 100, Colorado Springs, CO 80920. (719) 260-0999