



## **USING SCOOTERS IN THE BASIC RIDER TRAINING COURSE**

Although scooters and motorcycles are both single-track vehicles with similar features, there are some differences when it comes to using them in rider training. Here are some things to consider when students use scooters in our BRT courses.

### **Shifting**

Even though there is no need to shift manually, exercises that involve shifting should be ridden by the scooter rider. The more riding time they get, the better their overall skills become. Every exercise should be ridden. Scooter riders will ride the path of travel, but obviously your evaluation and coaching will not relate to shifting, friction-zone use, smooth clutch release, etc.

The exception to this would be for classes that are all scooters (like a specially arranged private class for scooters). In this case, there is no need to conduct the shifting exercise.

### **Brakes**

Instructors should familiarize themselves with scooters being used in their class. On some models, the brakes are levers located in front of each handgrip (typically the front brake is on the right and the rear brake on the left). On other models, there is a brake lever on the right handgrip for the front brake, and a brake pedal on the right side of the floorboard for the rear brake.

### **Mounting**

This can be done by either swinging the leg across the seat (as in mounting a motorcycle) or by "stepping through", as specified in many scooter-owner manuals. It doesn't matter which method they choose; just have them mount the machine. The important element is that they squeeze the front brake (to prevent rolling) as they mount, regardless of whether they swing their leg over or step through.

## **Posture**

Adjust the following evaluation criteria for posture for scooter riders: “knees against tank, four fingers covering clutch, and right foot covering brake pedal”.

The scooter evaluations are:

- The knees should be tucked in comfortably, within the limits of the front fairing of the floorboard.
- There is, of course, no clutch lever to “cover.”
- Generally, the right foot should be near the brake pedal. On most scooters, covering the brake pedal would require an uncomfortable position of the foot.

Scooter riders sometimes ride with their left foot placed well back on the floorboard. This could create a problem in hard, straight-line braking. As you know, weight shifts forward during braking. When the scooter rider braces him/herself to prevent sliding forward on the seat, they do so with the right foot. If the left foot is back, riders brace themselves by increasing the pressure on the brake pedal. This increases the potential for over braking and the problems associated with a lockup. Coach scooter riders to develop the habit of riding with their left foot forward so they can brace themselves for this weight shift with the left foot instead of the right.

## **Throttle Application and Automatic Clutches**

Scooters are commonly equipped with an automatic clutch. A clutch automatically engages the gears in the transmission at a pre-set engine speed above normal idle. When moving slowly, the clutch actually becomes disengaged and no power is transmitted to the rear wheel. This also creates a lag between rolling on the throttle and when power actually gets to the rear wheel for drive.

This means scooters actually coast for a longer period of time through low-speed turns. This has an implication for the Instructor in exercises that involve sharp turns. The scooter rider should enter these sharp turns at a slightly higher speed than a rider on a motorcycle. This allows for the aforementioned lag. The scooter has to coast through the sharp turns. Although the hand rolls on the throttle, power is not delivered to the rear wheel until the scooter is through the turn. Scooters will be coasting longer than motorcycles through these low-speed, sharp turns.

Another throttle application consideration is rolling on the throttle while the machine is not restrained by the brakes, or the rear wheel is not in contact with the ground (scooter resting on center stand). The throttle should not be applied in these situations without setting the parking-brake lock. A spinning rear wheel suddenly coming in contact with the ground could cause an accident.

Also, “revving” the engine actually activates the automatic clutch. Riders and Instructors alike must be aware of this.

Never leave a scooter unattended with the engine running.

### **Front Forks**

Motorcycles typically have telescopic front forks. Many scooters do not. Therefore, compression of the front fork is not always useful as an indicator of brake-application intensity for scooters. Watch the actual lever squeeze more closely and note shorter stopping distances as measures of the intensity of the front brake application.

### **Scooter Response to the “Press on the Handgrip”**

Generally, a scooter responds more quickly than a motorcycle to a press on the handgrip because it has smaller-diameter wheels, a shorter wheel base, a lower center of gravity, and a steeper steering-head angle. Instructors should tell scooter riders that the press on the handgrip in exercises that involve countersteering need not be as strong as the press desired on a motorcycle.

### **Classroom**

Instructors should be aware, and inform their scooter riders, of the precise classification and licensing requirements for scooters, which vary from state to state. The state Motorcycle Operator’s Manual and the ITD website are good resources for this. Also

There are many opportunities in the classroom modules to remind scooter riders about the distinct nature of riding a scooter. For example, in the “armchair practice” for turning and for swerving (Unit 6 and 7). The scooter riders should be told that their press on the handgrip need not be as strong as motorcycle riders.

These aren’t the only classroom examples that exist in the curriculum, but they give the Instructor an idea of where to point out the distinct nature of riding a scooter.

With a few adjustments, scooter riders can be incorporated into a regular BRT course. Scooters and small motorcycles are both single-track vehicles and have comparable weights. The adjustments mentioned here come from experience with sites that allow scooter riders to take the BRT. Scooter riders can co-function quite well with those riding motorcycles in the BRT, if you make these adjustments.