MORE BRS Range Rationales and Information

2016-08-30

In general, there are four basic physical skills a person needs to minimally have or obtain in order to ride a motorcycle (other than balance):

Friction Zone/Clutch and Throttle coordination (for starting out and straight-line riding)
Shifting
Stopping
Turning

The more ingrained or automated the basic physical skills are, the more attention a rider can devote to the riding environment to identify and respond to potential hazards.

Advanced physical skills in swerving and maximum braking may help riders if they have to react to avoid a hazard (instead of being able to anticipate and take pre-emptive actions to avoid the hazard).

Some general ideas in teaching / learning physical (motor) skills include: control and accuracy should be attained before trying to perform the task quickly and before increasing speed (miles per hour); alternating between stretching student skills (sometimes via higher-speed tasks) and bringing them back for control/accuracy practice can help improve skill acquisition; general processes or outlines are needed before skills can be fine-tuned; and appropriately-timed, positive coaching can increase skill acquisition and performance.

The Idaho STAR program uses a drill-based, single-objective method of teaching the skills needed for riding a motorcycle. The Motorcycle Safety Foundation (MSF) uses a more "natural" or mixed-skills practice approach to teaching motor skills. Both approaches can be appropriate depending on the intricacy and variations of the motor skill involved. Gross movements and general skills can be effectively (and sometimes need to be) learned in a drill-based format, until the learner has a good understanding of and can perform the basics of the skill. Finer movements and more variations of a skill can then be practiced in a non-drill format to develop the skill to a deeper level. The student is allowed to experiment and discover how to perform the basic skill under various conditions and in different situations. While there are only a few basic physical skills that motorcycle riders need (braking, shifting, turning), there are infinite variations of those skills that are used while riding on public streets.

The MORE BRS exercises, therefore, were loosely based on the Idaho STAR exercises and also incorporate elements of basic control skills to help provide more opportunities to practice and improve basic skills in a "natural" (non-drill-based) format. Turning from a stop, for example, is incorporated in many exercises as part of the path of travel. This allows riders more practice in stopping (and downshifting if necessary), stopping accurately (at the cones), clutch/friction zone / throttle coordination (starting out), looking ahead, and the turning skill itself along with the primary skill being learned in the exercise.

Control and accuracy in controls operation is desired and should be attained before asking students to either perform a task / operation more quickly (speed of action) or increase their

speed in miles-per-hour. While that concept runs through the entire course, it is especially critical to understand in the context of Exercise 2, Getting Underway.

Students must first have control of the friction zone / clutch lever and throttle (Rocking and Part A) and be relatively comfortable and accurate with those controls before being encouraged to attain a "good launch". They need control and accuracy in using / finding the friction zone before they should be asked to use the friction zone faster (speed of action). There also must be some comfort in using the throttle for a brisk acceleration (speed of action) before being asked to accelerate to a pre-shift speed (increased miles-per-hour).

Control and accuracy before speed of action or speed in mph also occur in other exercises in the MORE BRS. For example, tight turns from a stop (control & accuracy) are introduced in Exercise 4 before sharp perimeter turns (speed of action and, perhaps, speed in mph) are used in Exercises 6 & 7. Exercises 8, 9, 13, and 17 also follow that concept where basic control and accuracy is attained (Exercises 8 & 9) before speed of action (Exercise 13, 2nd split) or speed in mph (Exercise 17, 2nd split) is encouraged. (Note that the first split for Exercise 13 should typically still include working on control and accuracy before sending students out the 2nd time to enhance control and accuracy and work on speed of action. Similarly, the first split for Exercise 17 will still improve speed of action before increasing speed in mph.)

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Exercise 1: Locate / Operate Controls; Engine Start & Stop; Rocking

Purpose:

- Learn proper mounting and dismounting procedures
- Become familiar with the location and operation of their motorcycle's controls
- Successfully start & stop the engine
- Begin learning friction zone / clutch lever & throttle coordination

Skills learned / enhanced:

- Starting point for all skills – location / operation of controls, proper posture
- Start friction zone / clutch lever & throttle coordination

Students should demonstrate by the end of the exercise:

- Proper mount / dismount
- Proper starting & stopping engine procedure
- Friction zone / clutch lever control while rocking the m/c with power

Connections to other exercises:

- Starting point for all skills and proper posture (including covering clutch, all fingers around throttle unless actively braking, head & eyes up)

Other notes and information:

- Static practice for roll-off throttle, brake, roll-on throttle acquaints the students with proper front brake operation.
- Static practice (minimal) of friction zone / clutch lever use introduces general operation of the clutch lever.
    - Actual practice is provided during Rocking at the end of the exercise.
- Practice downshifting into 1st gear and shifting into neutral acquaints riders with the physical actions needed with the clutch lever and gear shift levers for starting out in first gear and for shifting into neutral for the ONE-C engine pre-start routine.
    - Shifting into 2nd gear is not needed at this point and is introduced in Exercise 3.
- Practice starting / stopping the engine acquaints students with actions need to start and stop the motorcycle's engine.
    - Rolling on the throttle and holding it at about a quarter turn helps students learn the sound associated with a running motorcycle and that it's okay for the motorcycle to make all that "noise".
- Rocking the m/c in first gear is a "summary" of the location / operation of some of the primary controls (clutch lever, throttle, gear shift lever) and provides a general introduction to getting underway.
    - Designed to allow students to learn the friction zone on their motorcycle
        - how far do they need to ease out before the motorcycle starts moving;
        - how much more "range" is there between the motorcycle starting to move and the clutch being fully engaged;
        - how much, if any, throttle is needed to keep the motorcycle running as the clutch lever is eased out.

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- Instructors need to ensure all students understand and properly practice throttle / front brake use (all fingers on either brake or throttle), can downshift into first and shift back into neutral, and can use ONE-C and Thumb-Key-Valve to start/stop the engine.
- Control of the friction zone is also critical before the end of the exercise in preparation for exercise 2. Instructors need to make sure students have good control of the clutch lever (friction zone) to rock in place before ending the exercise. Students should be moving a foot or two at the most while rocking in place, and minimal throttle should be used.
    - To prevent stalling on a sloped range, students may need to use more throttle than if the range were level.
- If a range is sloped down from left-to-right (when viewed from the staging area), the diagrammed path of travel should be reversed for exercises 1 and 2. That is, the two outer lanes should be traveling “uphill”, and the middle lane should be traveling “downhill”.
    - Students should be positioned at the “bottom” of the slope, pointing “uphill” for the Rocking part of exercise 1. This may be frustrating for some who will stall repeatedly until they find the friction zone or add just enough throttle to keep the engine from stalling.
    - Having the two outside lanes running uphill provides more clutch lever / throttle coordination practice for the students in exercise 2.

Exercise 2: Getting Underway

Purpose:

- Practice Friction zone/clutch lever & throttle control
- Straight-line riding
- Braking to a stop

Skills learned / enhanced:

- Friction zone/clutch lever & throttle coordination
- Braking (front brake, then both brakes)
- Straight line riding

Helper skills:

- Motorcycle awareness (stopping at cones)
- Stopping in a slight curve (at the cones on the short ends of the range)

Students should demonstrate by the end of the exercise:

- Coordination of friction zone/clutch lever and throttle to smoothly (and briskly) start out from a stop
- Balance in straight line riding
- (Square handlebars at stops)
- Path of travel / traffic awareness (head/eyes up, looking ahead)

Connections to other exercises:

- Key exercise for students to learn and practice friction zone/clutch lever & throttle coordination for developing the "good launch" and "brisk acceleration" needed in future exercises
- Controls / accuracy exercise
- Early stability

Other notes and information:

- Most coaching is by correction after the run or minimal additional instruction prior to the next run.
    - The "speed up" signal is used sparingly near the end of Part C if necessary to reach a pre-shift speed.
- At the start of the exercise, each instructor sends their first student to the first start cone on the long side to start going cone-to-cone. When the student gets to their next cone, the next rider is sent to the start cone. That process is followed until all riders are out. This helps ensure there is space between the riders as they start out in order to minimize incidents should a student lose control.
- Middle lane start cones are 40' in from the perimeter to give novice students enough space to feel comfortable lining up behind one another (stacking). 20' is too close to the perimeter; there will be a tendency to have handlebars turned, and students who feel pressured may grab the front brake to avoid running into the student ahead of them.
- Students learn clutch lever / friction zone and throttle control and coordination to get the motorcycle moving; practice using the front brake lever smoothly to stop at each cone; start learning location of their front tire by stopping at the cones; and practice using both brakes from higher (faster than walking with power and pre-shift) speeds.

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- During Part A (cone-to-cone straddle walking with power):
  - Students should be encouraged to ease out the clutch lever far enough and quickly enough to be able to get to a brisk walk with power, and should squeeze in the clutch lever and smoothly apply the front brake to stop at each cone.
  - Stopping at each cone should be done smoothly with the front brake only. The stop should be a gradual squeeze, not a grab; students should be coached appropriately if they do not self-correct. Instructors may need to remind riders to use all fingers on the throttle until they need to stop and to put all fingers back around the throttle after the braking (stopping) is complete.
  - Instructors should encourage students to achieve a good "launch" by smoothly easing out the clutch and adding a bit of throttle as necessary.
  - Ideally, students will feel as if they should bring their feet up by the time they reach the next 20' cone.
  - Tentative students may not achieve a "good" launch, which is fine. They should be encouraged to improve at their own pace and level and should not be made to feel like they are "behind", aren't "getting it", or should leave. There are many opportunities throughout the course for them to continue practicing and improving their starts.
    - Control and accuracy are more critical than speed of action at this point.
- During Part B (riding half range length)
  - Students should be "briskly accelerating" from the start cone to the stop cones and using both brakes to come to a smooth stop. They should also be stopping with the front tire at / between the cones.
  - Again, tentative students may not show "brisk" acceleration, which is fine. (Control and accuracy are still needed before adding speed of action.) As with good launches, they should be encouraged to improve at their own pace and level as there are more opportunities during the course to develop better acceleration skills.
    - If students are not stalling but are not fairly consistently showing a "good" launch and "brisk" acceleration, it may be beneficial to take a short break between parts B and C. Weather (heat) and student fatigue are also considerations in determining whether to take a short break. (It's likely the first time students have been outside for a long period of time, and there is a lot of clutch use in the first exercises.)
- During Part C (full length of range; stopping with both brakes)
  - Students should be attaining pre-shift speed and stopping smoothly with both brakes. Front tire (contact patch), at stops, should be between cones.
  - Tentative students may *just* reach a minimal pre-shift speed. Again, encouragement to continue to improve at their own pace and level should be given, and students should not be made to felt as if they are behind.
- Students should also be looking well ahead in their path of travel (not watching their clutch lever or throttle use).
- Short side stops
  - Safety – keeps students from running into each other

- Additional stopping practice
- Stopping in a (slight) corner
- Students begin looking ahead (and to the side) for traffic management

Staging Notes

- Sending each student to staging one-at-a-time from the end of the middle (or far side) path helps ensure each student knows what the staging ("T") signal means and what they are to do when they get to the staging area, "forces" a time-and-space margin between riders going into the staging area for the very first time, and allows the other instructor time to guide each student to a T for parking and have each student shut down the motorcycle once stopped.
    - For most ranges, one instructor goes to the Staging area, and the other goes to the end of the path in the middle of the range. Before starting to stage, the middle coach must ensure no riders are on path on the staging area long side. Students may be called up the middle path to stack in order to ensure no students are still riding on the near side. Once the near side path is clear, the middle instructor shows the staging ("T") signal to the first student in the middle path and directs that student to stop on the T the other instructor points them to. Each student in turn must be shown the "T" staging signal and be directed to stop on the T indicated by the other instructor.
    - For ranges with a slope running "opposite" the range cards, the near side instructor moves to the end of the middle path of travel to direct students to the start of the far side path. The far side instructor moves to the end of the far side path and stacks students along the far side. Once all students have been directed to the far side path, the near side instructor goes to the staging area. The far side instructor then gives each student the staging "T" signal and directs them to stop on the T indicated by the other instructor, ensuring each student understands the "T" staging signal and allowing enough time and space between students so they can be individually staged by the near side instructor.

Exercise 3: Upshifting & Downshifting

Purpose:

- Learn and practice smooth upshifting and downshifting (matching gears to speed)
- Start looking farther ahead
- Guide motorcycle through "gates" / specific points on path of travel

Skills learned / enhanced:

- Shifting
- Braking
- Straight line riding
- Friction zone/clutch lever & throttle coordination
- Turning (around the perimeter)

Helper skills:

- Looking ahead
- Throttle control

Students should demonstrate by the end of the exercise:

- Smooth shifting between gears
- Downshifting at / before stop / starting in 1st gear
- Maintaining safety margins
- Following / maintaining path of travel
- Looking ahead

Connections to other exercises:

- Allows more options for riders to use in future exercises
- Continues straight line riding, friction zone/clutch & throttle coordination/control, adds some cornering
- Higher speed exercise between "accuracy" or "control" exercises

Other notes and information:

- Clutch release after shifting (either up or down) should be smooth.
    - Either instructor can school for dumping the clutch; the "sending" instructor may just need to remind the student to ease out the clutch before sending them on the next run.
- Students should be smoothly upshifting (and downshifting before they come to a stop) before going to part B.
- Both parts of the exercise provide an opportunity for students to discover how the motorcycle responds to their throttle inputs; allow students to experiment with speed adjustment using the throttle.
- Part A - students ride counter-clockwise
    - Where students shift to 2nd gear is not critical, although the shift should be no later than about 2/3 down the long side.
        - Skilled students may shift on the short side before rounding the first corner.
    - Instructors can see the shift to 2nd gear

- "Catching" instructor is (somewhere) between mid-point of range and double cones
- Students should NOT be stopping at the cones (not important at this point)
  - Critical point - Did they downshift?
  - Slightly less critical, Did they use both brakes?
- Students should be within the path of travel while waiting for their next part A run. (This may require the "catching" instructor to be closer to mid-range on the near side.)

- Part B – students ride clockwise
  - Instructors on outside of path of travel to see and school shifting
  - Ideally, students will be shifting between 2nd and 3rd gear, but matching the gear to road speed is more critical, so shifting between 1st and 2nd is also okay.

Staging Notes

- This is only the 2nd time students have been to staging, so the far side instructor must allow extra time before sending each student to staging to ensure there is enough time and space between riders to be safely staged.
- Near side instructor goes to staging. Students should be stopped on the far side of the range, with the first student far enough down range to allow space for all riders to stop on the long side. Once all students are stopped, the first rider is directed to make a U-turn and go up the middle of the range. When they reach the far end of the range, they should turn left to go into the staging area.

Exercise 4: Shifting, Stopping, and Tight Turns from a Stop

Purpose:

- Practice smooth starts, upshifting, downshifting at stop
- Learn tight turns from a stop

Skills learned / enhanced:

- Friction zone/clutch & throttle coordination
- Straight line riding
- Braking to a stop
- Shifting
- Turning (tight turns)

Helper skills:

- Motorcycle awareness

Students should demonstrate by the end of the exercise:

- Smooth shifts
- Smooth braking
- Stopping with the front tire (contact patch) between the cones
- Ability to make a tight turn from a stop
- Traffic awareness / interaction
- Maintaining safety margin
- Looking ahead

Connections to other exercises:

- Continuation of shifting practice, straight line riding skills
- Provides more practice starting out, working toward “brisk” acceleration
- Provides more motorcycle awareness (stopping at cones)
- Somewhat more controls / accuracy oriented than previous and next exercises

Other notes and information:

- Coach students to have contact patch between the cones when they stop.
- Remember to keep an eye on the TTFS on the far end of the range as that is an area for accidental drops
- Students can straddle walk with power through the tight turn from a stop until they are comfortable putting their feet up.

Staging Notes

- Students should be stopped at the start point for each of the two lines. The near side instructor calls the near side students into staging one at a time. The far side instructor directs the far side students to make a sweeping S-turn (right, then left) to line up behind the riders on the near side and then follow the directions of the other instructor.

Exercise 5: Weaving (20')

Purpose:

- Start learning effects of handgrip pressure, throttle control, following distance / safety margins

Skills learned / enhanced:

- Friction zone/clutch & throttle coordination
- Shifting (possible)
- Turning (weaves, short ends)

Helper skills:

- Visual directional control
- Motorcycle awareness (tires are where?)

Students should demonstrate by the end of the exercise:

- Smooth negotiation of 20' weave
- Maintain path of travel through gates on short ends
- Looking ahead
- Safety margins
- Friction zone/clutch & throttle coordination

Connections to other exercises:

- Builds on previous
- Speed between accuracy exercises, but may also help build throttle accuracy / control

Other notes and information:

- Let the students play and experiment – allow them to try 1st and 2nd gear and discover throttle adjustment and use. (Coach appropriately as needed for smooth control operation.)

Staging Notes

- Near side instructor goes to staging. Students are waved off the far side weave and stopped in a single file line on the far side, with the first student far enough down range so all students stop on the long side. Once all students are stopped, the first rider is sent to the staging area. Some space should be allowed between sending riders to staging.

Exercise 6: Weaving (15'x3' offset) and Sharp Perimeter Turns

Purpose:

- Practice basic skills (Friction zone/clutch & throttle control and brake coordination)

Skills learned / enhanced:

- Friction zone/clutch & throttle coordination
- Braking (possible)
- Shifting (possible)
- Turning (weaves & sharp perimeter turns)

Helper skills:

- Safety margins
- Looking ahead
- Motorcycle awareness

Students should demonstrate by the end of the exercise:

- Smooth negotiation of offset weave (Friction zone/clutch & throttle coordination, braking [rear] as needed)
- Attempts at going through sharp perimeter corners

Connections to other exercises:

- Builds on previous
- Controls / accuracy exercise

Other notes and information:

- Runs clockwise to vary the experience and allow students to start working on sharp corners to the right.
- If students are having difficulty, they should be coached to use their friction zone/clutch.
    - Students may need to be pulled out of the exercise for verbal coaching. If this is done, be sure they are far enough off the path of travel to avoid being hit (or being a target to fixate on), and ensure there is enough clear space to safely put the student back into the path of travel.

Staging Notes

- Near side instructor goes to staging. Students are waved out of the weave on the far side and are stopped on the far side, with the first student far enough down range so all students stop on the long side. Once all students are stopped, the first rider is directed to make a U-turn and go up the middle of the range. When they reach the far end of the range, they should turn left to go into the staging area.

Exercise 7: Lane Changes, Sharp Turns, and Weaving (20' straight)

Purpose:

- Learn and practice proper lane change procedure
- Practice sharp turns
- Practice / improve basic skills (Friction zone/clutch & throttle control, brake coordination [weave])

Skills learned / enhanced:

- Turning
- Shifting (possible)
- Braking (possible Stopping)

Helper skills:

- Lane change (press / turn)

Students should demonstrate by the end of the exercise:

- Ability to execute proper lane changes
- Increasing comfort level in weave and sharp turns

Connections to other exercises:

- Basic skills
- Sharp turns (somewhat introduced in Exercise 4, and Exercise 6 has sharp perimeter turns to the left)
- More practice on sharp turns for future exercises

Other notes and information:

- 20' weave up center to allow students to further practice and improve basic skills
- Students are not required to stop by the instructor at the end of the lane change path / before the sharp perimeter corner. As a result, the exercise may become a continuous circuit, and instructors should watch for appropriate safety margins (following distances).
    - If verbal schooling is needed, a student should be pulled out of the path of travel unless the other students remain stopped at the start point.

Staging Notes

- Stop students at the start points for each of the two lines. The near side instructor calls the near side students into staging. Far side instructor waits until the center path is clear before sending students in a sweeping S (right, then left) to follow the near side students into staging.

Exercise 8: Pressing to Initiate Lean

Purpose:

- Learn effects of handgrip pressure (with steady throttle)

Skills learned / enhanced:

- Turning
- (Braking)

Helper skills:

- Throttle control
- Looking ahead (through curve)

Students should demonstrate by the end of the exercise:

- Ability to adjust handgrip pressure to adjust / maintain path of travel
- Maintain steady throttle through curve
- Looking ahead (through curve)
- Leaning with motorcycle

Connections to other exercises:

- Students likely started using handgrip pressure in exercise 3 shifting (negotiating short end gates), exercises 5 & 6 (weaving), and possibly in exercise 7 (weave, change of lane)
- Impacts cornering and swerving exercises (brisk acceleration to steady speed)

Other notes and information:

- Only the 2 start gates and the far side entry gates should be set up at the beginning of the exercise. Set up near side entry and middle gates only when needed.
    - Students will tend to try go through any cones that are on the range.
    - Be sure to pick up the far side entry cones when the students are reversed to do the large left turn.
- This exercise is run in 1st gear so students can focus on the handgrip pressure required to initiate a lean and the pressure required to adjust the motorcycle's lean.
    - While some motorcycles (e.g., TWs) may sound like they should be shifted, remaining in 1st gear is critical for students to effectively learn the "press".
    - Students using 2nd gear become more concerned about slowing down (usually by rolling off the throttle) because they are not used to or comfortable with the pressure and lean required to turn at the speed they are going.
    - "Good" students can be encouraged to work on other areas (like maintaining a rock-steady speed, making increasingly narrower [or wider] curved paths, and looking farther ahead) to keep them engaged and help hone their skills while staying in 1st gear.
- Students should be looking through the turn (toward the opposite side of the range and then toward the instructors) as they start and complete their turns.
- Students should have a brisk acceleration to a steady speed and should be maintaining that steady speed / steady throttle from when they go through the cue cones until they are well on their way to returning to the end of the line.
    - Steady throttle; look; steady press.

        - Squared-off corners should be coached (steady press, maintain steady press, etc.); path should be an arc.
    - Critical point is for students to maintain a steady throttle so they can find out (discover, experiment with) the results of pressing on one handgrip.
        - 1st runs to right for full width of range (or however far across the range they happen to go, based on the amount of "press" added to the right handgrip).
        - 2nd runs to left for full width of range to experience how pressing on the left handgrip is different than pressing on the right handgrip (no longer dealing with both throttle and press, left is just press with throttle input required from other hand).
        - 3rd runs to left through a target "gate". Adds a "press more" requirement to previous experiences; allows student to figure out (experiment / determine) how much more press is actually needed.
        - 4th runs to right through a closer target gate. Allows students to determine how much more pressure is needed for yet a tighter turn / corner and how to adjust that pressure while maintaining a steady throttle.

Staging Notes

- One instructor goes to staging. The other instructor directs the students to make a sweeping S-turn to go around (or through) the start gate on the near side then into staging.

Exercise 9: Intro to Cornering

Purpose:

- Puts exercise 8 to practical use – adjusting pressure on handgrip to maintain a path of travel in different curves in a continuous path

Skills learned / enhanced:

- Turning
- Shifting (possible)
- Braking (possible)

Helper skills:

- Throttle control
- Looking ahead (through curve)

Students should demonstrate by the end of the exercise:

- Looking through curves
- Adjusting pressure on handgrip to maintain path of travel

Connections to other exercises:

- Directly influenced by exercise 8, Pressing to Lean
- "Primer" for exercises 13 Basic Cornering (SLRP) and 17 Cornering Practice (Ready-Set-Go)

Other notes and information:

- This is an extension of exercise 8, Pressing to Lean:
    - Students figure out how much (or little, or different) press is required for various radii curves
    - NOT about speed (control and accuracy are still being developed)
        - Students should NOT be encouraged to increase their speeds. They need to be allowed to experiment with handgrip pressure in a continuous motion circuit to stay within the path of travel.
    - Steady throttle; vary the press
- Students use 2nd gear in this exercise
    - Introduces (slightly) higher speeds, requiring more pressure to stay in the path or possibly some speed adjustment prior to the curves
    - Students on higher-geared motorcycles may stay in 1st gear
- Students need only 3-4 laps in each direction
    - Having students ride in one direction only then stopping (staging) allows them some "consolidation" time to start to allow the physical actions to be maintained (muscle memory)
    - Also allows instructors a short time to individually coach students needing help or having difficulties with the exercise
- Coach in staging area - focus on steady throttle through the curves and adjusting handgrip pressure
- The debrief should focus on what the students experienced through the different corners – what differences they noticed between the curves (and possibly in the direction of travel [clockwise or counter clockwise]); what they found they had to do in

order to maintain the path of travel, and how well they were able to maintain (or slightly increase) speed through the curves while staying within the path of travel.

Staging Notes

- Counterclockwise (left): students are stopped on the far side, with the first rider far enough in the path of travel to allow all students space to stop on the long straight. Once all students are stopped, the first rider is directed to go into staging.
    - Note: If appropriate for the group and instructors' skill levels, once the first group of riders is stopped on the far side, the second group *may* be directed to start on the path of travel. This will allow the staging area to be almost clear as the first group of riders returns to staging.
    - All students in the 2nd group *must* be in staging before the 1st group can be directed to start the new *clockwise* path of travel.
- Clockwise (right): students are stopped near the end of the diagonal path, with the first student far enough along the path to allow all students to stop on the long straight. Once all students are stopped, the first rider is directed to make a U-turn to the left to go into staging.
    - Note: if appropriate for the group and instructors' skill levels, once the first group of riders is stopped, the second group *may* be directed to make a U-turn to the left around the double cones of the near side corner to start onto the path of travel.

Exercise 10: U-turns, Sharp Turns, and Weaving (12' straight)

Purpose:

- Improve slow speed control and ability to maneuver in limited spaces

Skills learned / enhanced:

- Friction zone/clutch & throttle coordination
- Turning (U-turns, TTFS, turns from stop, perimeter corner, weave)
- Shifting (possible)
- Braking to stop

Helper skills:

- Counterweighting
- Looking ahead (through the turns)

Students should demonstrate by the end of the exercise:

- Ability to maneuver in (more) limited spaces
- Friction zone/clutch and throttle control (U-turns, TTFS)

Connections to other exercises:

- Basic skills exercise / warm up for day 2
- Skill test evaluation (U-turn)

Other notes and information:

- This exercise is designed to be the warm-up exercise for Day 2 range.
    - If necessary, a few minutes may be spent on the Rocking step from the end of Exercise 1 / start of Exercise 2. (May be needed in split week schedules.)
    - Motorcycles should be warm (at the start of the exercise, before students mount) so students can concentrate on the skills instead of worrying about the motorcycle stalling or having to adjust the choke.
- One method of sending riders out, depending where staging is in relation to the near side start point, is to send the first group around the perimeter to the far side start point, and have the second group go to the near side start point.
- TTFS *must* be done (and coached) when student is leaving the stop box after the U-turn to help protect the line of students waiting on the other side
    - Have rider look toward right perimeter corner (to help prevent target fixation on the other students)
- Students not stopping at the TTFS after the weave can be coached to do so before leaving the stop box.
    - The TTFS after the weave is for additional practice; if not stopping but still going through the corner, they are still at least getting sharp corner experience.

Staging Notes

- Students are at start points of the exercise. Near side instructor has near side riders make a big loop left to go into staging. Far side instructor directs far side students to make a slight right to follow the near side group into staging.

Exercise 11: Stopping Quickly

Purpose:

- Practice and improve stopping quickly in a straight line

Skills learned / enhanced:

- Braking
- Shifting (possible)
- Turning (sharp corners)

Helper skills:

- Looking ahead (for traffic, not down at cones)
- Motorcycle awareness (front tire before / at / past cones)
- Brisk acceleration (middle path)

Students should demonstrate by the end of the exercise:

- Smooth, non-skidding quick stops (gradually increase front brake pressure; light to lighter application of rear brake)
- Downshifting to 1st during stop (if applicable)

Connections to other exercises:

- Brisk acceleration from Exercise 2
- Basic stopping procedure from Exercise 4
- Influenced by any (all) exercises requiring a stop at / by cones
- Skill test evaluation

Other notes and information:

- Outside lanes in 2nd gear – practice stopping and downshifting to 1st during stop
    - Students on higher-geared motorcycles may need to stay in 1st gear.
- Middle lane – brisk acceleration in 1st gear only (used in skill test)
- Demo starts with normal (not quick) stop because the last braking exercise was early on Day 1 (Exercise 4).
- Students should not be immediately trying to make extremely good quick stops.
- Anticipation should only be coached *after* the quick stop skill is at least minimally acquired. Concentrate on developing good quick stop skills first.

Staging Notes

- Students are at the start point for each of the two lines. The near side instructor calls the near side students into staging. The far side instructor directs the far side students to make a sweeping S-turn (right, then left) to line up behind the riders on the near side and then follow the directions of the other instructor.

Exercise 12: Stopping Quickly in a Curve (Straighten, then Brake)

Purpose:

- Practice and improve stopping in a curve using the Straighten, then Brake technique.

Skills learned / enhanced:

- Braking
- Shifting (possible)
- (Turning)

Helper skills:

- Looking ahead (through curve)

Students should demonstrate by the end of the exercise:

- Separating straightening from braking
- Downshifting to 1st during the stop
- Handlebars square at the stop

Connections to other exercises:

- Continues braking (quick stop) practice from Exercise 11
- Square handlebar (from Exercise 2)

Other notes and information:

- Static practice has students *leaning* the motorcycle before straightening, not turning the handlebars.
- The "stop" signal must not be quick or sudden. Students should not be surprised.
- Students learn skill for stopping in curve before putting them on a curved path of travel with higher speeds and other riders
- Students on higher-geared motorcycles may need to stay in 1st gear

Staging Notes

- Students are at the start point for each of the two lines. Near side students are directed to make a big loop to the left to return to staging. Far side students are then directed to make a sweeping S-turn (right, then left) to follow the near side students into staging.

Exercise 13: Basic Cornering - SLRP

Purpose:

- Practice and improve basic 4-step cornering procedure of Slow, Look, Roll, Press

Skills learned / enhanced:

- Turning
- Braking
- (Shifting)

Helper skills:

- Looking ahead (through curves)
- Throttle control

Students should demonstrate by the end of the exercise:

- Slowing prior to curves (may be throttle roll off only, but ideally both brakes)
- Looking through curves
- Maintaining steady or slightly increasing throttle roll through curves
- Adjusting handgrip pressure to maintain path of travel

Connections to other exercises:

- Expands on Exercise 9 Intro to Cornering by adding (some) slowing and maintaining or adding slight roll on
- Students practice basic cornering procedure (SLRP) in preparation for using cornering strategy (Ready-Set-Go) in Exercise 17 Cornering Practice

Other notes and information:

- Coaching in staging area should emphasize 4 separate parts of SLRP
    - Any slowing (rolling off or braking) should be done before entry cones
    - Look through the curve (to the exit and beyond)
    - Steady (or slight roll on) throttle should start at entry cones
    - Adjust press on handgrip to stay within boundary lines / cones
- Higher speeds are NOT required in this exercise, but students should be in 2nd gear. Due to the higher gear, speeds will likely be higher than in Exercise 9, Intro to Cornering, and students must be coached to slow enough before the entry cones to allow a steady or slightly increasing throttle throughout the curve.
    - Speeds on the long straights should be just high enough to allow for use of both brakes to slow prior to the corner.
- First time out for both groups should still work on control and accuracy with SLRP.
    - Second time out increases speed of action with the four parts of the technique.
- Students on higher-geared motorcycles may need to stay in 1st gear.

Staging Notes

- Students are stopped near the end of the diagonal path, with the first student far enough along the path to allow all students to stop on the long straight. Once all students are stopped, the first rider is directed to make a U-turn to the left to stage.
- Note: if appropriate for the group and instructors' skill levels, as the riders come into staging, the riders in staging *may* be sent out for the exercise, but the "out" instructor *must* be ready to stop the new group of students to prevent path of travel conflicts.

Exercise 14: Swerving

Purpose:

- Avoid hazards by swerving around them

Skills learned / enhanced:

- Turning (advanced)
- Friction zone/clutch & throttle coordination

Helper skills:

- Throttle control
- Brisk acceleration
- Motorcycle awareness (front tire at cones)

Students should demonstrate by the end of the exercise:

- Ability to swerve around an obstacle while maintaining steady throttle

Connections to other exercises:

- Brisk acceleration (from Exercise 2 and beyond)
- Skill test evaluation

Other notes and information:

- Long sides – students need to maintain a steady speed through the swerve.
    - Students can use 1st or 2nd gear on the long sides of the perimeter as long as they are traveling fast enough to need a crisp press to swerve
- Students should stay in 1st gear for the two middle swerves. They should briskly accelerate and then maintain a steady speed / throttle through the swerve path before slowing to stop at the next start point.

Staging Notes

- Stage riders in place (at the start points for the long sides); they can dismount and meet midway between the lines to debrief and hear instructions for the next exercise.
- Sending students back to the staging area is also acceptable, with the near side students being called into staging first and the far side students making a sweeping S-turn (right, then left) to follow the near side students into staging.

Exercise 15: Controls Practice (Braking, Swerving, Sharp Turns, Weaving)

Purpose:

- Practice and improve motorcycle control and hazard avoidance skills

Skills learned / enhanced:

- Friction zone/clutch & throttle coordination
- Braking
- Turning

Helper skills:

- Throttle control
- Brisk acceleration
- Looking ahead
- Motorcycle awareness (where is my front tire / when can I start to brake or swerve)

Students should demonstrate by the end of the exercise:

- Appropriate speeds for braking & swerving evaluations
- Ability to negotiate 12' weave and sharp turns

Connections to other exercises:

- Previous exercises build to this one, including all the stopping at cones (motorcycle awareness – should limit anticipation issues…)
- Skill test evaluations (braking, swerving, weave, sharp turns)

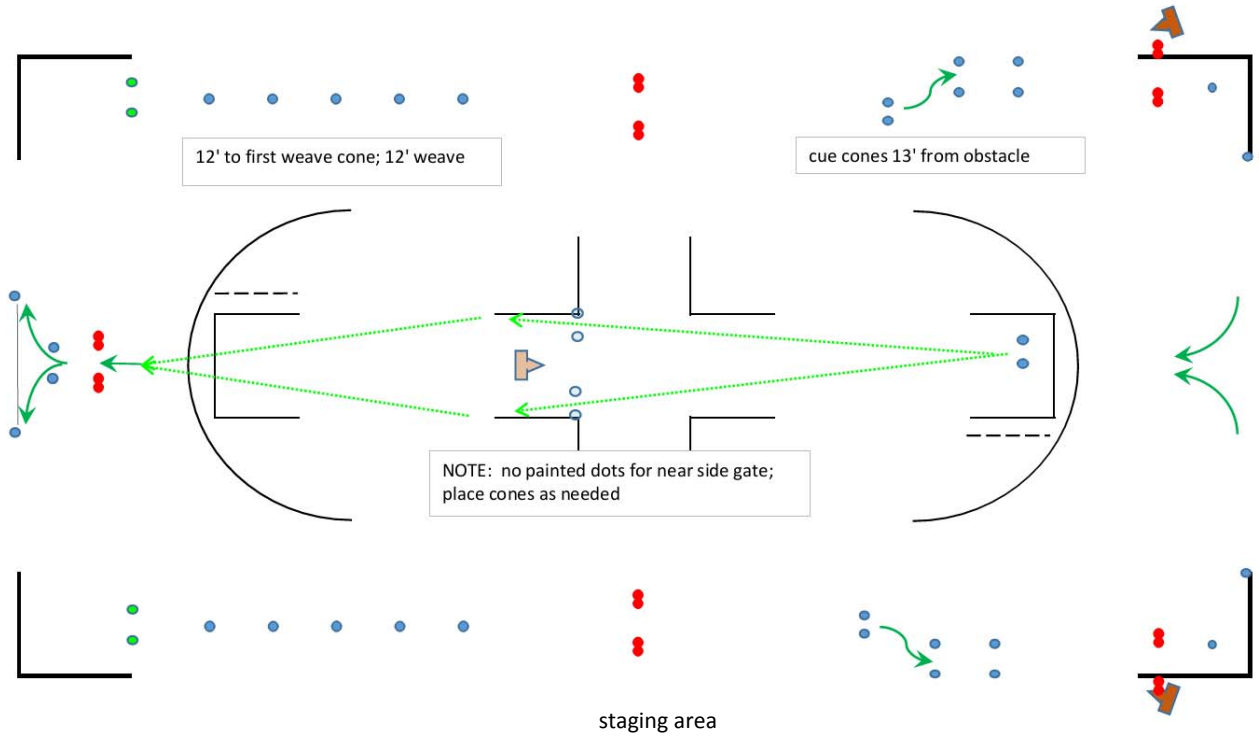
Other notes and information:

- Coaching must *still* happen in this exercise…
    - Brisk acceleration followed by steady throttle
    - Steady throttle before and through swerve (rolling off after a brisk acceleration effectively defeats the purpose…)
    - Quick stop (effective hard braking) up center lane without anticipating
    - Students may not stop for the sharp turn at the end of the middle path – that's okay, but they should be encouraged to do them for more practice
- Can move to center of range to coach anticipation or other issues
    - After the first few runs to ensure adequate speed (brisk acceleration then maintaining an appropriate speed) for the swerve, one instructor may choose to move to the middle of the range and coach anticipation and improvements in the quick stop.
    - If this is done, an option is to create two stop gates and direct students to the open gate for practicing their quick stop. The middle instructor coaches both stops and directs riders to stop at the end of the range, do the sharp corner, and get in the shorter line or alternate sides. (See diagram on next page.)
    - Instructors must still ensure visual control of the entire range.

Staging Notes

- Students are at the start point for each of the two lines. The near side instructor calls the near side students into staging. The far side instructor directs the far side students to make a sweeping S-turn (right, then left) to line up behind the riders on the near side and then follow the directions of the other instructor.

Exercise 15: Optional path of travel with Instructor in middle of range:



Exercise 16: Traffic Interactions & U-Turns (aka "Safety Town")

Purpose:

- Use all skills learned to negotiate traffic situations
- Practice U-turns and sharp perimeter corners

Skills learned / enhanced:

- All

Helper skills:

- Looking ahead
- Throttle control

Students should demonstrate by the end of the exercise:

- Ability to safely interact with traffic
- Improved skill/comfort level with U-turn
- Staying within lane (especially with turns from stop)

Connections to other exercises:

- Summary of all skills learned

Other notes and information:

- The second of the skills practice exercises before the skill test, this exercise combines live traffic interaction with the opportunities to practice different types of left and right sharp turns and left U-turns, as well as practical use of SIPDE and turn signals.
- Many students will want to practice the U-turns, and they may follow one another into that path of travel. As long as a reasonable following distance is observed, this is typically not a problem. If a student runs wide on the U-turn, the following student should allow the errant rider back into the expected path of travel.
- Safety issues (turning into the wrong side of a lane, crossing through the "yard" to get into or out of a lane or U-turn area, not stopping before re-entering the perimeter, etc.) must be corrected.
- Care should be taken not to let the exercise run too long. Students have already had a full day, and the skill test is still ahead of them.
- Instructor positions are roughly diagonal from one another to allow a good view of the intersection while still watching the perimeter corners and mid-range exits to the perimeter.
- Coaching should occur as needed (from helping through the U-turn to reminders to cancel [or use!] turn signals), but students should be allowed to practice.
- A reasonable debrief question may be: "Based on this exercise, do you think you are ready to ride on the street?" Students with minimal skills (who are honest with themselves) will likely say they want to practice a lot more first.

Staging Notes

- One method is for the near side instructor to go to the middle of the intersection and direct students back out to the perimeter. The other instructor stops riders on the far side perimeter (before entry/exit cones), and once all riders are stopped (and the near side instructor is in staging) sends the riders into staging.

- An option is that the near side instructor goes to middle of intersection to direct all students back out to the perimeter (near side exit) or to stop at the far side exit. Far side instructor stops all riders on the perimeter path of travel before the far side exit / entry point. Near side instructor goes to staging. Far side instructor sends riders to stage.
    - There are multiple ways to manage the two lines of riders (perimeter, far side exit), but in staying with the "traffic" concept, riders should alternate – rider on the right (on the perimeter) should go first, then the next student at the (now 2-way stop) intersection (from the middle path), and continue alternating until all riders are in.

Exercise 17: Cornering Practice – Ready-Set-Go

Purpose:

- To allow riders to transition to and practice the "Ready-Set-Go" cornering strategy.
- To use higher approach speeds so riders can judge the amount of braking needed to slow to a suitable entry speed for the corners.
- To increase rider's comfort level with cornering (leaning)

Skills learned / enhanced:

- Cornering
- Braking

Helper skills:

- Looking ahead (through curves)
- Throttle control

Students should demonstrate by the end of the exercise:

- Higher approach speeds
- Effective braking to a suitable entry speed
- Effective path entry selection at beginning of curves
- Head turns
- Staying within the path of travel
- Smooth throttle (and other control) inputs
- (Ideally, a constant or gradually increasing throttle through the corners)

Connections to other exercises:

- Extension / continuation of skills learned in Exercises 9 & 13
- Part of skill test

Other notes and information:

- Designed to transition riders from SLRP procedure to Ready-Set-Go strategy of cornering
    - Ready = Slow to appropriate entry speed
    - Set = Look through and select path
    - Go = Roll and Press to negotiate the curves
- Acceleration and Slowing between the two corners on the "right" (short) side of the range (looking from staging) is not required.
- When students are out the first time, they may need to improve speed of action before being encouraged to increase speed in mph.
- Higher speeds are expected (and should be coached after speed of action is attained). Students have had additional experience in braking and can now also swerve. (They have a higher skill set to work with / from than they had in Exercise 13.)
    - Students should be maintaining a higher speed for a longer period / distance on the straights, and the slow prior to the corner should be smooth, quick (hard), and with both brakes to slow enough so they can start a slight roll before entering the corner.
    - Students will slow, but often not quickly enough, so they may be coasting into the corner and not applying throttle until a third to halfway through the curve.

        - That is not necessarily a bad technique (delayed apex, late entry), but they need to be aware of what they are doing… Are they coasting in because they didn't slow enough? Or slow early enough? Or because they were going too fast and *couldn't* slow quickly enough?
        - When they are on the street, they may be approaching at a legal straight line speed, but they need to be able to fairly accurately judge how much they need to slow and how quickly as they get closer to the corner.
- Demo needs to show brisk acceleration on the long straights to around 20mph, a smooth, quick (hard) slow with both brakes before the entry cones, and a slightly increasing throttle through the corner along with an excellent head turn / look.
- Depending on the class, instructors may consider dividing students into two groups by skill level and speed preference.
    - More than two groups should be used sparingly as additional groups will increase the time needed for the exercise, students still need to complete the rider skill evaluation, and fatigue may become an issue.

Staging Notes

- Students are stopped near the end of the diagonal path, with the first student far enough along the path to allow all students to stop on the long straight. Once all students are stopped, the first rider is directed to make a U-turn to the left to go into staging.
    - Note: due to potential speeds, each group should stay in staging until the other group is back in staging or is at least completely out of the path of travel.

Skill Test Evaluation Rationales

The Skill Test used by the MORE BRS is a combination of the Rider Skill Test (RST) currently used by the Ohio Bureau of Motor Vehicles (BMV) and the Alt-MOST (Alternate Motorcycle Operator Skill Test), which was used by BMV before the RST. It also adds a cornering evaluation as many single-vehicle motorcycle crashes in Ohio occur in curves.

Skill Test evaluations are to be run in the order indicated. The evaluations start with testing basic motorcycle control skills and increase in difficulty of skill tested. (The RST allows for the test to be stopped for point accumulation so a rider is not asked to perform more difficult motorcycle control skills if they show a lack of proficiency with less demanding skills.) The MORE BRS skill test is not stopped for point accumulation (unless the points were scored for falling or dropping the motorcycle).

Stalling:

- Stalling the engine is an indication of lack of clutch and throttle control. In traffic, the inability to coordinate the controls could create an unsafe condition.

Cone Weave and Normal Stop:

- The cone weave measures the ability of the rider to coordinate clutch and throttle operation and basic handling skills to complete turns and avoid hazards. The normal stop evaluates the rider's ability to stop in a designated area (a 3' x 5' box), such as before a crosswalk or stop sign, without interfering with traffic or pedestrian right-of-way.
- While the 12' straight line cone weave may not seem challenging to an experienced rider, starting only 12' away from the first cone can be a challenge for those who do not have good friction zone/clutch & throttle coordination.
- Stopping with the front tire in the box without skidding tests general braking skills, the rider's knowledge of where the motorcycle's front tire is, and their ability to put the motorcycle where they want it.

Turn From a Stop and U-Turn:

- Riders approximate a real-world situation by demonstrating the ability to turn right following a boulevard stop while maintaining correct lane position and avoiding oncoming traffic. Riders demonstrate low speed control skills by completing a left-hand U-turn and stopping in a 3' x 5' box.
- The sharp right turn from a stop mimics a skill needed for making a right turn at a controlled intersection. Riders are typically some feet away from the roadway onto which they are turning, and they will need to be able to miss any traffic in the opposing lane.
- The left U-turn is used to evaluate the rider's skills in a limited space to the left. While not used as often as a sharp right turn from a stop, the ability to negotiate the turn allows the rider to demonstrate motorcycle control skills and coordination.

MORE BRS Range Rationales and Information

Quick Stop:

- Many crash-involved riders fail to correctly use their brakes in an emergency situation. The Quick Stop evaluation measures the rider's ability to stop quickly and safely, while maintaining control of the motorcycle.
- The quick stop evaluation is from the Alt-MOST to provide a longer run-in for students to finish briskly accelerating, stabilize their speed, and then smoothly apply their brakes. Students were exhibiting a tendency to roll on really hard then grab the brakes to stop when using the 40' total distance from the RST. The Alt-MOST evaluation was chosen to help reduce the probability of a front tire skid by anxious students late in the day.

Obstacle Swerve:

- Research has shown that over 30% of all crash-involved riders fail to take any evasive action and over 75% improperly execute evasive action in an emergency situation. The Obstacle Swerve measures the rider's ability to maneuver quickly to avoid a hazard while maintaining control of the motorcycle. Swerving right was chosen as it fit the overall range layout and in traffic, the rider would be swerving away from oncoming vehicles.

Cornering:

- Many motorcycle crashes in Ohio result from the rider going off the road or across the road into oncoming traffic in curves. A minimum approach speed is used to test the rider's judgment of the amount of braking needed to reach a suitable entry speed for the corner. The rider's ability to stay within the path of travel (roadway lane) is also tested.
    - Maintaining a constant or slightly increasing speed through the corner is NOT a requirement (that is, decelerating by rolling off or braking into or through the corner is acceptable).
        - Cornering crashes can be from the rider rolling on too soon or too much in a corner, from not slowing enough prior to the corner, or from not applying enough steering input (pressure on handgrip) to remain on the road.