

AORSI-200-DRV Workbook

Overview

A skill-building course covering core driving techniques in varied terrain and conditions, from throttle control to navigating obstacles. This course emphasizes hands-on practice, enabling participants to build confidence and competence in real-world off-road scenarios.

Learning Objectives

- Apply safe driving techniques on slopes, rocks, mud, and water.
- Manage momentum, braking, and throttle inputs effectively.
- Engage and disengage differential locks and traction aids.
- Demonstrate vehicle control in low-visibility and night operations.

Module 1: Core Driving Principles (Throttle, Braking, Steering)

Mastering throttle, braking, and steering is fundamental to safe off-road driving. Smooth throttle control prevents wheel spin, while proper braking techniques help maintain traction and stability. Steering inputs should be deliberate and gradual, avoiding overcorrection. Students should learn the difference between high- and low-range gearing and practice slow, controlled driving in technical areas.

Course Design Suggestion: Use a controlled practice field with cones and obstacles to teach precision steering and throttle management.

Exercise: Conduct a braking distance test on gravel vs. dirt to compare stopping effectiveness.

Reflection Question: Why is smooth throttle application more effective than aggressive acceleration in off-road driving?

Module 2: Terrain-Specific Techniques (Sand, Mud, Rocks, Snow, Water)

Different terrains require unique driving strategies. Sand demands momentum and reduced tire pressure, while mud requires steady throttle and avoiding sudden stops. Rock crawling emphasizes tire placement, spotting, and patience. Snow driving requires gentle inputs to prevent sliding, while water crossings require assessing depth, current, and entry/exit points. Students must practice adapting techniques to each condition.

Course Design Suggestion: Set up terrain stations where students rotate through sand, mud, rocks, and shallow water crossings under instructor supervision.

Exercise: Create a terrain comparison chart listing driving strategies for sand, mud, rocks, snow, and water.

Reflection Question: Why is tire pressure adjustment critical in certain terrain types?

Module 3: Using Vehicle Features: 4WD, Lockers, Hill Assist

Modern off-road vehicles include advanced features such as four-wheel drive (4WD), locking differentials, traction control, and hill assist systems. Students must learn when and how to engage these features to maximize traction and control. Incorrect use can damage drivetrains or reduce effectiveness. Practical demonstrations should focus on uphill starts, controlled descents, and navigating uneven ground with lockers engaged.

Course Design Suggestion: Conduct a workshop where students practice engaging and disengaging 4WD, lockers, and traction aids in controlled settings.

Exercise: Write down three scenarios where engaging lockers is essential, and three where it is unnecessary or risky.

Reflection Question: How does proper use of traction aids reduce strain on the vehicle and improve safety?

Module 4: Advanced Challenges & Practice Drills

Once students master fundamentals, they should advance to complex scenarios that combine multiple skills. These challenges may include obstacle courses, timed navigation drills, and recovery scenarios. The goal is to simulate real-world off-road challenges where decision-making and technical skills are tested together.

Course Design Suggestion: Design a skills course with obstacles requiring precise throttle, braking, spotting, and communication with a co-driver.

Exercise: Develop a practice plan that gradually increases difficulty over multiple training sessions.

Reflection Question: Why is progressive training (starting simple and building complexity) effective in skill development?

Final Assessment

Task: Complete a skills evaluation on a designated off-road course. Students must demonstrate proficiency in throttle and brake control, terrain-specific techniques, use of vehicle features, and advanced drills. Additionally, answer the following sample written questions:

1. Why is smooth throttle control critical in off-road driving?
2. What are two strategies for safely crossing deep mud?
3. When should differential lockers be engaged, and when should they not be used?
4. How can drivers adapt techniques for night or low-visibility conditions?
5. Why is it important to progressively increase challenge difficulty in training drills?

Duration: 10 hours (field intensive)