



AORSI Instructor Guide

Course Title: Vehicle Transport & Securement (TRAN)

Duration: 5 Hours (shop + field practice)

Audience: Off-road operators, transport drivers, and logistics personnel

Course Overview

This course prepares participants to safely load, secure, and transport off-road vehicles using trailers or shipping methods while complying with regulations. Participants gain practical knowledge of trailer systems, securement techniques, and legal requirements to ensure safety and compliance during transport operations.

Learning Objectives (Instructor Notes)

- Safely load and unload vehicles on trailers. (Tip: Use live demonstrations).
- Apply proper tie-down and securement techniques. (Tip: Emphasize common errors).
- Understand towing capacities, hitches, and braking systems. (Tip: Bring visual aids).
- Recognize regulatory requirements for cross-state transport. (Tip: Provide case study scenarios).

Module 1: Trailer Types & Hitch Systems (1 hour)

- Explain trailer types (flatbed, enclosed, off-road haulers) and hitch systems (ball, pintle, gooseneck).
- Course Design Suggestion: Hands-on demo of hitch types and trailer inspections.
- Exercise: Compare three hitch systems in terms of load capacity, ease of use, and safety.
- Reflection: How does the wrong trailer or hitch compromise safety?

Module 2: Loading, Balance, and Center of Gravity (1.5 hours)

- Teach proper load balancing (60% weight in front of axle, low center of gravity).
- Course Design Suggestion: Field exercise measuring tongue weight with a scale.
- Exercise: Draw diagram of proper weight distribution for a two-axle trailer.
- Reflection: What risks occur with too much weight at the rear?

Module 3: Cargo Securement Standards (DOT, ANSI) (1.5 hours)

- Discuss securement regulations, tie-down methods, and working load limits.
- Course Design Suggestion: Lab activity applying tie-downs and testing for movement.
- Exercise: List five common securement errors and their correct methods.
- Reflection: Why is compliance with DOT standards critical beyond avoiding fines?

Module 4: Cross-State & International Shipping Considerations (1 hour)

- Explain regulatory challenges for state and international transport.
- Course Design Suggestion: Scenario activity planning shipment across state borders.
- Exercise: Identify three regulatory differences in cross-state transport.
- Reflection: How does international shipping complexity affect planning and cost?

Final Assessment

Task: Conduct a trailer loading and securement exercise. Students demonstrate safe loading, proper balance, and tie-down techniques under instructor supervision. Complete a short written exam covering:

- What is the purpose of maintaining a low center of gravity when loading trailers?
- How can tongue weight be measured, and why is it important?
- List the minimum number of tie-downs required for most vehicles (DOT standards).
- What are two common mistakes operators make when securing loads?
- What permits or documents may be required for cross-state transport?

Instructor Preparation Checklist

- Prepare different trailer and hitch types for demonstration.
- Bring tongue weight scale for balance exercise.
- Provide tie-down straps, chains, and binders for securement lab.
- Develop cross-state transport scenarios with regulatory differences.

Suggested Timing

- Introduction – 15 min
- Module 1 – 60 min
- Module 2 – 90 min
- Module 3 – 90 min
- Module 4 – 60 min
- Final Assessment – 30 min
- Wrap-up & Questions – 15 min