FLEET OPERATIONS & DRIVER ONBOARDING CURRICULUM

Long-Distance Intercity Coach (Autocar) Driver Training Manual

Point-to-Point Highway Operations, Tachograph & Rest Compliance, High-Speed Stability, Luggage Management & Fatigue Prevention

Vehicle Class	Route Profile	Program Duration	Compliance Basis
High-Deck Intercity Coach (Autocar / Category D)	Point-to-Point Express & Highway Corridors	5 Days (35–40 Hours)	EU Reg. 561/2006 & FIMO/CPC

1. Program Objectives & Operational Profile

Point-to-point long-distance coach (autocar) operations differ fundamentally from urban transit. Drivers manage high-center-of-gravity vehicles (up to 13.5–15 meters long and 3.8–4.0 meters high) at sustained highway speeds (90–100 km/h) over multi-hour corridors with minimal intermediate stops.

- **Core Safety Mandate:** Maintain absolute roll stability, manage long stopping distances (80+ meters at 100 km/h), and eliminate fatigue-induced lane departure.
- **Regulatory Discipline:** Strictly adhere to digital tachograph driving and rest limits, speed limiters (100 km/h max on motorways where permitted), and mandatory passenger seatbelt rules.
- **Passenger Experience:** Deliver smooth, predictive highway cruising, transparent departure/rest announcements, and secure underfloor baggage handling.

2. Module 1: Pre-Trip Inspection & Highway Readiness

A highway breakdown or tire blowout at 100 km/h poses severe safety risks. Before departing the depot or origin terminal, the driver must execute a structured 20-minute inspection.

Inspection Zone	Critical Highway Verification Points	Pass / No-Go Criteria
Tires, Wheels & Steer Axle	Check tread depth (minimum 1.6 mm legal, 3.0 mm fleet standard), sidewall cuts, dual-tire spacing, and wheel nut torque indicators. Verify front steer tires have zero retreads.	**NO-GO:** Any bulge, cord exposure, missing lug indicator, or under-inflation.
Air Brakes & Retarders	Verify dual-circuit air build-up (8.5–10 bar), static pressure drop (< 0.2 bar/min), low-air warning buzzer, and electric/ hydraulic retarder (Telma / Intarder) readiness.	**NO-GO:** Air leak above threshold, ABS/EBS fault lamp, or retarder fault.
Height & Exterior Clearance	Confirm exact vehicle height placard in cab (typically 3.65 m to 4.00 m). Inspect panoramic windshield, wipers, washer fluid, and heated wide-angle mirrors.	**NO-GO:** Cracked driver-zone glass, non-functioning defroster, or mirror damage.
Underfloor Luggage Bays	Inspect pneumatic bay locks, hinges, gas struts, and interior lighting. Verify spare wheel, wheel chocks, warning triangles, and high-visibility vests are secured.	**NO-GO:** Bay door fails to latch flush or dashboard door-ajar sensor fails.
Cabin Emergency & Comfort	Check roof hatches, emergency glass hammers, fire extinguishers, first-aid kit, WC water/chemical level, HVAC climate control, and PA microphone.	**NO-GO:** Missing safety hammers, expired extinguisher, or blocked emergency exit.

3. Module 2: Digital Tachograph & Driving Time Rules (EU 561/2006)

Point-to-point express routes require precise trip planning around mandatory driving and rest intervals. Drivers must insert their personal driver card before moving the vehicle and select the correct activity mode (Driving, Other Work, Availability, Rest).

Regulatory Rule	Standard Limit	Operational Application
Continuous Driving	Maximum **4 hours 30 minutes** before a mandatory break.	Schedule rest-area stops at 3h45m–4h10m to allow buffer for highway congestion.
Mandatory Break	**45 minutes** uninterrupted (or split into **15 min + 30 min** in that exact order).	Passengers may disembark at secured motorway service areas; lock luggage bays.
Daily Driving Time	Maximum **9 hours** (extendable to **10 hours** twice per calendar week).	Routes exceeding 9–10 hours require a scheduled driver relay or two-driver crew.
Daily Rest Period	Minimum **11 consecutive hours** (reducible to **9 hours** max 3 times between weekly rests).	Verify hotel/layover turnaround times allow full uninterrupted rest off the coach.
Weekly & Bi-Weekly Caps	Max **56 hours** in a single week; max **90 hours** across any two consecutive weeks.	Check remaining bi-weekly hours on tachograph printout prior to accepting dispatch.

Zero-Tolerance Compliance Rule

Never drive without a valid driver card inserted, never use another driver's card, and never falsify ferry/train or rest entries. If unforeseen traffic prevents reaching a safe parking area before the 4h30m limit, stop at the nearest safe bay and document the reason on a tachograph printout immediately (Article 12).

4. Module 3: Point-to-Point Boarding, Luggage & Departure Protocol

Even on direct two-point routes, disciplined terminal departure prevents luggage loss, schedule delays, and onboard safety incidents.

1. STEP 1 **Safe Bay Positioning:** Align parallel to the terminal platform, engage the parking brake, shift to Neutral, and activate hazard lights while loading.
2. STEP 2 **Underfloor Luggage Distribution:** Load heavy suitcases centrally and low in the belly compartments to keep the center of gravity balanced. Keep hazardous items (flammable liquids, e-scooter lithium batteries over limits, unsecured sharp objects) out of the hold.
3. STEP 3 **Ticket & Manifest Verification:** Scan passenger tickets against the exact headcount before closing doors. Ensure unaccompanied minors or passengers with reduced mobility (PRM) are seated appropriately.
4. STEP 4 **Mandatory Seatbelt & Safety Briefing:** Prior to departure, deliver a clear PA announcement (or play the official safety video) instructing all passengers to fasten seatbelts, stow overhead cabin bags securely, and note emergency exits.
5. STEP 5 **360-Degree Departure Scan:** Confirm all luggage bay doors are locked, check dash warning lights, signal early, and verify blind spots before pulling out of the bay.

5. Module 4: Highway Driving Physics, Retarders & ADAS

An autocar carries 50+ passengers seated roughly 2 meters above the road surface. High lateral forces or abrupt steering inputs can trigger rollover or loss of control.

5.1 Speed, Following Distance & Crosswind Management

- **Four-Second Minimum Gap:** At 90–100 km/h (25–28 m/s), maintain at least a 4-second following distance (100–115 meters) in dry conditions, increasing to 6+ seconds in rain, fog, or night driving.
- **Crosswind & Bridge Exposure:** The tall, flat side profile of a coach acts like a sail. Reduce speed by 15–20 km/h when crossing exposed viaducts, coastal highways, or passing heavy goods vehicles in gusty winds.
- **Curve Entry Discipline:** Complete all braking in a straight line *before* entering highway exit ramps or tight curves. Accelerate gently only after the apex.

5.2 Retarder Mastery & Brake Fade Prevention

- **Primary Speed Control:** Use the multi-stage hydraulic/electromagnetic retarder (stalk or foot-pedal integrated) for 80–90% of highway deceleration and downhill speed control, preserving service brake pads for final stops and emergencies.
- **Long Mountain Descents:** Select a lower gear early before descending steep grades. Keep engine RPM in the optimal cooling band (1,500–2,000 RPM) so the retarder heat exchanger dissipates thermal load efficiently.
- **Low-Grip Surface Warning:** Disengage or reduce retarder intensity on snow, black ice, or heavy standing water to prevent rear-axle lockup or fishtailing.

5.3 Advanced Driver Assistance Systems (ADAS)

- **Adaptive Cruise Control (ACC) & AEBS:** Use ACC on open motorways to reduce foot fatigue, but remain ready to override in construction zones or merging bottlenecks where Automatic Emergency Braking (AEBS) could react abruptly to cutting-in cars.
- **Lane Departure Warning (LDWS):** Treat any LDWS acoustic or seat-vibration alert as an immediate early warning sign of driver micro-fatigue.

6. Module 5: Fatigue Countermeasures & Emergency Procedures

Monotonous point-to-point highway corridors create high risk for highway hypnosis and circadian drowsiness, particularly between 02:00–05:00 and 14:00–16:00.

> **Fatigue Intervention Protocol**
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> If you experience heavy eyelids, yawning, drifting within the lane, or missing road signs, **do not push through**. Pull into the next designated motorway service area, secure the vehicle, drink caffeine if desired, and take a 15–20 minute power nap before resuming driving.

- **Highway Breakdown** / **Blowout:** Grip the steering wheel firmly, avoid slamming the service brakes, allow the coach to decelerate smoothly onto the hard shoulder as far right as safely possible, activate hazard lights, and deploy warning triangles 100–150 meters behind the coach.
- **Passenger Evacuation on Motorway:** If a fire, smoke, or severe mechanical hazard occurs, evacuate passengers through the safest doors away from live traffic lanes and move everyone behind the steel highway guardrail immediately.
- **Low-Bridge & Toll Plaza Clearance:** Always use truck/coach-dedicated toll lanes (marked 3.5 m+ or "Autocars / Poids Lourds") and never follow car-only GPS shortcuts off the main highway corridor.

7. 5-Day Training Schedule & Practical Road Assessment

Day	Morning Session (Classroom & Yard)	Afternoon Session (Practical Behind-the-Wheel)
Day 1	Vehicle systems, high-deck walkaround inspection, emergency equipment & height awareness.	Yard maneuvering: precision reversing into terminal bays, mirror blind-spot calibration, and luggage door checks.
Day 2	EU Reg. 561/2006 driving/rest rules, digital tachograph manual entries & route planning.	Suburban-to-highway transition: toll plaza lane selection, motorway merging, and 4-second gap discipline.
Day 3	Coach physics, center of gravity, retarder thermal management & ADAS limitations.	Sustained highway run (150+ km): smooth cruise control, retarder-only descent braking, and crosswind handling.
Day 4	Passenger boarding, luggage balance, seatbelt briefing, PRM assistance & conflict handling.	Simulated point-to-point express trip with scheduled 45-min rest stop and simulated mechanical/medical incident.
Day 5	Written theory exam (tachograph scenarios, highway safety, emergency protocols).	Final graded point-to-point road evaluation (2.5 hours) and instructor certification debrief.

Instructor Practical Evaluation Checklist

Evaluation Competency	Required Performance Standard	Result
Pre-Trip & Tachograph Setup	Completes full safety walkaround, checks tire/air pressures, and configures tachograph correctly.	[ ] Pass [ ] Fail
Terminal Docking & Briefing	Positions smoothly in bay, balances luggage hold, and delivers clear seatbelt announcement.	[ ] Pass [ ] Fail
Highway Lane & Speed Control	Maintains 4+ second following gap, obeys 100 km/h speed limit, and avoids abrupt lane changes.	[ ] Pass [ ] Fail
Retarder & Curve Smoothness	Uses retarder progressively; brakes before curves; zero passenger lateral discomfort.	[ ] Pass [ ] Fail
Rest Stop & Time Compliance	Executes mandatory break within legal window and secures coach/luggage bays while parked.	[ ] Pass [ ] Fail

Certification Sign-Off: To pass certification, the trainee must score 100% on critical safety & tachograph compliance items and demonstrate smooth, fatigue-free highway operation.

Trainee Name: _____ **License / Driver Card #:** _____

Instructor Signature: _____ **Date:** _____ **Status:** [ ] CERTIFIED [ ] RETEST