

Industrial Rail Safety

On-The-Job Training

Part 1. E-Learning (Initial Orientation & Awareness)



Part 2. On-The-Job Training

Part 3. Competency Evaluation / Proficiency Evaluation

Overview

On-The-Job Training is typically the 2nd Part of your comprehensive Industrial Railway Training program and involves working closely with your on-site Industrial Railway Instructor.

You can expect Industrial Rail Safety 'On-The-Job Training' to take a minimum of 8 hours to complete and may be conducted over several days.

Your instructor will cover every aspect of Industrial Railway Safety and will use a variety of actions to teach each applicable point. Actions may include: 1. Explanations of processes and equipment used by your instructor, 2. Demonstrations by your instructor, 3. Questions to verify you understand the content or processes, and 4. Practical skill demonstrations by you, the trainee.

It is your responsibility to learn the skills and ask questions when you don't understand. Don't worry, your instructor will provide you with sufficient practice time until you are competent to operate in and around the railway equipment and track.



Industrial Rail Safety



On-The-Job (OTJ) Training

Explain

Demonstrate

Question

Practical

Basic Information

Trainee		Training Location(s)	
Instructor(s)			
Start Date			

OTJ > Company / Instructor Notes

The following 'On-The-Job' Training checklist was developed to assist instructors in providing learners with the necessary skills and concepts to safely operate in and around rail equipment. The performance categories and learning objectives/content outlined are designed to cover every aspect of the Industrial Rail training requirements as indicated in the Alberta Industrial Railway Regulation. Safety, personal responsibility, and problem-solving skills must be emphasized wherever possible.

Part of the training process involves increasing the trainee's confidence. Trainees should be given practice time sufficient to demonstrate the skill(s) necessary to proceed to the next stage.

For consistent evaluation of learner development/skill each of the teaching points (including all subheadings), where applicable must be fully covered in order for the training to be considered complete. In cases where the primary heading is not applicable (n/a), all subheadings will be 'not applicable'. The following letter designations (E, D, Q and P) denote the appropriate action to be taken with each teaching point. One or more may be required for each teaching point.

Action(s)	Description
E	Explanation of process/equipment by instructor.
D	Demonstration by instructor.
Q	Question to confirm understanding of content or process.
P	Practical skill performed by trainee.

Practical training will include hands-on demonstrations by the instructor or another competent employee and exercises by the trainee.

Note: Competency of any person authorized to deliver Industrial Railway training to employees must be determined by the employer. This competency may include, but is not limited to, the following criteria:

- successful completion of the site's Industrial Rail training program (90% score overall with demonstrated competency),
- knowledge and experience sufficient to explain and safely demonstrate all of the required training elements of this program,
- sufficient verbal and written communication skills, and
- strong interpersonal abilities to enable effective course delivery.

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Instructor Training Content/Criteria		Complete	
Action(s)	Introduction		N/A
E	Review process used to determine competency		
E	Ask trainee if there are any questions from the eLearning component		
	Review Site Specific Rules and Procedures for:		
D	<ul style="list-style-type: none"> Riding equipment 		
E	<ul style="list-style-type: none"> PPE use 		
E	<ul style="list-style-type: none"> Restricted clearances 		
E	<ul style="list-style-type: none"> Job briefings 		
E or D	<ul style="list-style-type: none"> Other (specify) _____ 		
Action(s)	Communication Methods		N/A
	Hand Signals		
E D	<ul style="list-style-type: none"> Stop; move forward; move backward; reduce speed; apply air brake; release air pressure 		
D	<ul style="list-style-type: none"> Night signals (sunset to sunrise) 		
E	<ul style="list-style-type: none"> Any doubt (regard it as a stop signal!) 		
D	<ul style="list-style-type: none"> During switching (given to employee controlling the engine) 		
	Radio Protocol		
E D	<ul style="list-style-type: none"> Reliability tests 		
D	<ul style="list-style-type: none"> Terms (stand by, over , out) 		
E D	<ul style="list-style-type: none"> Switching (pos. identification, identification of direction and distance to travel, when to STOP) 		
E D	<ul style="list-style-type: none"> Positive identification and content of communication 		
E D	<ul style="list-style-type: none"> Verification 		
E D	<ul style="list-style-type: none"> Emergency communication procedures 		
D	Audible Warning Devices		
E D Q	Blue Flag Light		
	Fixed Signals		
E D Q	<ul style="list-style-type: none"> Stress: When the distance indicated for the placement of signs or flags is not possible due to track configuration, the maximum distance available applies. 		
E D Q	Red Flag		
Action(s)	Dangerous Goods		N/A
E	Reference only <ul style="list-style-type: none"> TDG is only applicable to workers involved in shipping/receiving dangerous goods on the worksite. When this occurs, TDG certification is required. 		

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Instructor Training Content/Criteria		Complete	
Action(s)	Car Securement Systems	✓	N/A
	Airbrake		
E D	Review key airbrake components including: <ul style="list-style-type: none"> 1. Air brake hose; 2. Angle cock; 3. Air brake emergency portion; 4. Air brake service portion; 5. Auxiliary reservoir; 6. Brake cylinder; 7. Brake cylinder pipe; 8. Combined dirt collector & branch pipe cut-out cock; 9. Emergency reservoir; 10. Pipe bracket. 		
	Handbrake		
E	<ul style="list-style-type: none"> Key handbrake components 		
D	<ul style="list-style-type: none"> Procedure for accessing the platform to apply/release the handbrake(s) 		
D Q P	<ul style="list-style-type: none"> Procedure for applying the handbrake <ul style="list-style-type: none"> Release the air brake or bleed off the brake cylinder. (Communicate) When an air brake application is required (i.e. heavy grades with heavy cars), it must be as light an application as possible to prevent movement while hand brakes are being applied. Fully apply the brake with your normal physical capability (force). Confirm braking surfaces are free of ice and snow during winter. (Communicate) Cars must be stationary; don't apply hand brakes on a moving car. 		
D Q P	<ul style="list-style-type: none"> Procedure for releasing the handbrake <ul style="list-style-type: none"> Confirm the brake is FULLY RELEASED before moving car(s) to avoid damage to wheels. Note: hand brakes have the ability to provide far more brake shoe force than air brakes. Verify that the vertical rod and chain are slack. 		
D Q P	<ul style="list-style-type: none"> Procedure for testing hand brake effectiveness: <ul style="list-style-type: none"> Never leave equipment unattended without first conducting a PUSH or PULL TEST. Fully apply the hand brake and move the car, or cut of cars slightly to confirm the required minimum hand brake(s) application applies the necessary retarding force to prevent movement. <ul style="list-style-type: none"> *Observe that the slack does not run out on cars as the equipment stops, (i.e. when the car mover or cars coupled to the car mover stop, so do the secured car(s)). 		
D Q P	<ul style="list-style-type: none"> Procedure for descending the platform following handbrake application/release 		
Action(s)	Equipment Handling	✓	N/A
E D Q P	<ul style="list-style-type: none"> Red Zone Application 		
E D Q P	<ul style="list-style-type: none"> Coupling / uncoupling freight cars <ul style="list-style-type: none"> Body position Procedure (speed, testing to confirm proper coupling) Adjusting misaligned coupler 		
Action(s)	Switching Strategies	✓	N/A
E D Q P	<ul style="list-style-type: none"> Inspection <ul style="list-style-type: none"> Switch points Targets (lined, locked, checked) 		

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Instructor Training Content/Criteria		Complete		
D P	<ul style="list-style-type: none"> Opening / closing Body Position Keeper 			
E D P	<ul style="list-style-type: none"> Hand operated switches (throwing cleaning, positions - normal/alternate/normal/reverse) 			
E D P	<ul style="list-style-type: none"> Semi-automatic switches (reflective target indicating normal route, alignment for movement, impediments to switching) 			
Action(s)	Railcar Inspection	✓	N/A	
D P	Visual identification of obvious mechanical defects of freight cars within the normal work routine (select car type inspected below)			
	<ul style="list-style-type: none"> Flatbed railcar 			
	<ul style="list-style-type: none"> Box car 			
	<ul style="list-style-type: none"> Hopper car 			
	<ul style="list-style-type: none"> Tank car 			
D P	Include: <ol style="list-style-type: none"> Car Body <ul style="list-style-type: none"> Leaning or listing to the side Sagging downward Positioned improperly on the truck Object dragging below car body Object extending from the side of car body Door insecurely attached, <ul style="list-style-type: none"> If the railcar is a box car, the following are considered defects <ul style="list-style-type: none"> More than 1 door missing/broken Door safety hangers missing/inoperative Sliding or plug type doors off rails Plug type doors not closed/secured Door rail support cracked/broken Broken/missing safety appliance, handholds, ladders, sill steps Lading leaking from placarded DG car Coupling (open couplings are functional) Hand Brake (functional) Air Brake, if applicable (functional) Other Apparent Safety Hazard(s) 			
	Action(s)	Core Safety Rules	✓	N/A
	E	Crossing through rail equipment		
	E	Rules for on or about the tracks		
	D P	Getting On/Off standing equipment (include 3 pt. protection)		

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Action(s)	Engine Operation	✓	N/A													
E D P	<p>Operating Derails (types and location)</p> <ul style="list-style-type: none"> • Body position • Flagging • Applying / removing 															
	Railcar Mover (RCM) - Control and Safety Devices															
	<ul style="list-style-type: none"> • Pre-operational checklist 															
E	<ul style="list-style-type: none"> • Where to obtain one 															
E	<ul style="list-style-type: none"> • What to do with completed ones 															
E	<ul style="list-style-type: none"> • Purpose and proper use 															
E D	<ul style="list-style-type: none"> • How to perform the required inspections. Checklist items include: <table border="1"> <tbody> <tr> <td>1 Brake systems</td> <td>Test brake; include safety control systems</td> </tr> <tr> <td>2 Hand brake</td> <td>Verify hand brake(s) are in working condition</td> </tr> <tr> <td>3 Headlights</td> <td rowspan="2">Verify all lights are in working condition</td> </tr> <tr> <td>4 Oscillating lamps</td> </tr> <tr> <td>5 Running gear</td> <td>Verify running gear is free of safety defects</td> </tr> <tr> <td>6 Safety control equipment</td> <td>Verify safety controls are functioning</td> </tr> <tr> <td>7 Any apparent safety hazards</td> <td>Note any Identified hazards</td> </tr> </tbody> </table> 	1 Brake systems	Test brake; include safety control systems	2 Hand brake	Verify hand brake(s) are in working condition	3 Headlights	Verify all lights are in working condition	4 Oscillating lamps	5 Running gear	Verify running gear is free of safety defects	6 Safety control equipment	Verify safety controls are functioning	7 Any apparent safety hazards	Note any Identified hazards		
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7 Any apparent safety hazards	Note any Identified hazards															
D P	<ul style="list-style-type: none"> • Complete inspection checklist 															
E	<ul style="list-style-type: none"> • Review responsibility for maintenance (i.e. site specific) 															
D P	<ul style="list-style-type: none"> • Initial movement procedure <ul style="list-style-type: none"> • Confirm front & rear road wheels are in the 'up' position and remain there. • Fasten seat belt (if applicable). • Communicate travel intention and direction. • Release parking brake. • Position transmission selector in desired direction (forward/reverse). • Select desired speed range (operate "on rail" in position 1 or 2). • Depress the accelerator to begin movement. • Verify brake operation (on initial movement). • Confirm with spotter that rail wheels are properly seated on the rail and are not being forced off. • When changing travel direction, bring RCM to a complete stop before moving transmission direction selection lever. 															


OTJ Training Checklist

Instructor Training Content/Criteria		Complete	
D P	<ul style="list-style-type: none"> • Start-up procedure <ul style="list-style-type: none"> • Confirm parking brake is set. • Place transmission direction selector in neutral. • Verify road wheels are up (when on rails), down (when off rails). • Leave accelerator in idle position. • Turn key switch to start position and hold firmly in this position. <ul style="list-style-type: none"> • Engine starts: release key, depress accelerator to attain the desired warm-up speed (warm up could take 5 minutes). • Engine fails to start: release key, allow starting motor to cool at least 30 seconds before another attempt. • Engine fails to start after 4 attempts: conduct inspection. • Confirm oil pressure range is 5 - 25 psi depending on engine temperature. Idle and normal operating temperature range should be 5 - 10 psi. • Monitor air pressure indications: <ul style="list-style-type: none"> • Air reservoir: 110-120 psi (normal) • Train air: 90 psi (normal). • Confirm amp-meter indicates slight charge (+). <ul style="list-style-type: none"> • When engine reaches normal operating temperature (185° - 195° F), confirm transmission is in neutral and check high engine RPM (RPM is governed at 3000 RPM). • Verify transmission temperature gauge is between 185° to 195° F. <ul style="list-style-type: none"> • Maximum allowable temperature is 250° F. • Check all audible warning devices, headlights, back-up warning alarm and beacon light for proper operation. • Check operation of windshield wiper (if needed for weather conditions). 		
D P	<ul style="list-style-type: none"> • Shut-down procedure <ul style="list-style-type: none"> • Place the transmission speed range selector to "1". • Place the transmission direction selector in neutral. • Set the parking brake. • Turn the ignition switch off. • Move all electrical controls to their off positions. • Close all windows. • Report any malfunctions or maintenance issues. 		
D P	<ul style="list-style-type: none"> • Air brake control (procedure) 		
D P	<ul style="list-style-type: none"> • Red zone protection (procedure for applying / entering) 		
E D P	<ul style="list-style-type: none"> • Review RCM Bell, Horn and Controls (use) 		
Locomotive - Control and Safety Devices			
E	<ul style="list-style-type: none"> • Pre-operational checklist <ul style="list-style-type: none"> • Where to obtain one 		
E	<ul style="list-style-type: none"> • What to do with completed ones 		
E	<ul style="list-style-type: none"> • Purpose and proper use 		

OTJ Training Checklist

Instructor Training Content/Criteria		Complete															
E D	<ul style="list-style-type: none"> How to perform the required inspections. Checklist items include: <table border="1"> <tr> <td>1 Brake systems</td> <td>Test brake; include safety control systems</td> </tr> <tr> <td>2 Hand brake</td> <td>Verify hand brake(s) are in working condition</td> </tr> <tr> <td>3 Headlights</td> <td>Verify all lights are in working condition</td> </tr> <tr> <td>4 Bell / Whistle / Other</td> <td>Verify audible warning devices are working</td> </tr> <tr> <td>5 Running gear</td> <td>Verify running gear is free of safety defects</td> </tr> <tr> <td>6 Flagger equipment</td> <td>Verify flagging equipment is fully supplied</td> </tr> <tr> <td>7 Any apparent safety hazards</td> <td>Note any Identified hazards</td> </tr> </table> 	1 Brake systems	Test brake; include safety control systems	2 Hand brake	Verify hand brake(s) are in working condition	3 Headlights	Verify all lights are in working condition	4 Bell / Whistle / Other	Verify audible warning devices are working	5 Running gear	Verify running gear is free of safety defects	6 Flagger equipment	Verify flagging equipment is fully supplied	7 Any apparent safety hazards	Note any Identified hazards		
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D P	<ul style="list-style-type: none"> Complete inspection checklist 																
E	<ul style="list-style-type: none"> Review hazards (hot engine; low lube oil indications; tripped crankcase over pressure device; governor shutdown (low lube oil) indication) 																
E	<ul style="list-style-type: none"> Review responsibility for maintenance - i.e. site specific 																
D P	<ul style="list-style-type: none"> Start-up procedure <ul style="list-style-type: none"> Locomotive Cab <ul style="list-style-type: none"> Place the isolation switch in the START position. Verify that the battery knife switch is closed. Reset any tripped circuit breakers and place the control/fuel pump switch to the ON position. Confirm that the fuses are properly positioned. Confirm throttle or MU shutdown button is not in the STOP position. Engine Room <ul style="list-style-type: none"> Reset engine protective devices that are tripped, except do not reset a crankcase over-pressure device. Check engine lube oil, cooling water, air compressor lube oil levels: <ul style="list-style-type: none"> If any of the levels is at or below the LOW level, do not start the engine - mechanical repairs may be required. If all of the levels are above the LOW level, start the engine. Starting the Engine <ul style="list-style-type: none"> Prime the fuel system. Crank diesel engine until it starts, but not longer than 30 seconds. <ul style="list-style-type: none"> Hold layshaft lever (if so equipped) at 1/3 travel (there may be a delay of up to 15 seconds before the engine begins to crank). If the diesel engine fails to start, repeat this procedure. If it does not start after a 2nd attempt, mechanical repairs may be required. 																
D P	<ul style="list-style-type: none"> Shut-down procedure <ul style="list-style-type: none"> Place the isolation switch in the START position. Stop the engine by pressing the engine stop button. Open the radio circuit breaker. Open the battery knife switch. 																
D P	<ul style="list-style-type: none"> Emergency shut-down procedure <ul style="list-style-type: none"> Depress emergency fuel cut-off switch. 																
D P	<ul style="list-style-type: none"> Leaving a locomotive unattended procedure 																

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Instructor Training Content/Criteria		Complete	
	<ul style="list-style-type: none"> • Independent brake cut-in and in the FULL APPLICATION position. • Automatic brake cut-in and in the: <ul style="list-style-type: none"> • FULL SERVICE position, if the locomotive is coupled to railcars. • RELEASE position, if the locomotive is not coupled to a train. • Throttle in the IDLE position. • Reverse lever removed and stored. • Control/fuel pump switch in: <ul style="list-style-type: none"> • ON position, if the engine is running. • OFF position, if the engine is shut down. • Generator field switch in the OFF position. • Engine run switch in the OFF position. • Isolation switch in the ISOLATE position on all locomotives in the locomotive consist. • Battery knife switch on all locomotives in the consist is: <ul style="list-style-type: none"> • CLOSED - if the engine is to be left running. • OPENED - after the diesel engine is manually shut-down and no mechanical system restart is planned. • In areas of high vandalism, special instructions on securing locomotive(s) may differ to allow removal of removable brake handles (site specific). 		
Action(s)	Moving Railcar(s)		N/A
	Railcar Mover (RCM) - Control and Safety Devices		
E D	<ul style="list-style-type: none"> • Railcar moving procedure(s) <ul style="list-style-type: none"> • Giving proper signal (received and acknowledged) • Using approved vehicle or devices • Fouling Point (i.e. clear from moving equipment passing on other tracks) 		