Grader Operator Assessment

Assessment	This document can be used:	
	 For gathering evidence in a training environment, 	
	 As a competency check of knowledge on an existing worker; or 	
	 As part of a summative assessment. 	
Candidate Name		
Assessor Name		
Date of Assessment		
Summary of	☐ The candidate met all outcomes of the worker assessment	
Assessment	The candidate has NOT met all outcomes of the worker assessment	
	□ Gap training plan developed	
Date of Reassessment		
Summary of	☐ The candidate met all outcomes of the worker assessment	
Reassessment	The candidate has NOT met all outcomes of the worker assessment	
Instructions	 Complete the assessment with the candidate, adding notes to justify your decisions. 	
	 Ensure the first page of this document is completed (all fields). 	
	 Develop a gap training plan for practical deficiencies if required. 	
	 Use the same form for reassessment (if applicable), only reassessing the areas where gaps exist. 	
	 Conduct the competency conversation before conducting the practical assessment. 	

Note: This worker assessment covers the technical components of a specific role. For general knowledge and a complete picture of a worker's competency, BC Forest Safety recommends the optional Basic Forest Worker competency profile and assessment tools that can be found at www.bcforestsafe.org.

Part 1 - Competency Conversation

General Instructions

To conduct a competency conversation, ask the worker the questions in this first part of the assessment to determine if they understand the knowledge components of their role.

It is acceptable to rephrase the question in a way that the worker understands, but the worker cannot be given hints to the correct answer.

The assessment should not be used as a training opportunity; instead, any deficiencies identified in this assessment should be collected into a gap training plan and addressed with the worker later.

Important Note: Do not conduct competency conversation while operating equipment.

Assessment Instruction	S - This means that the candidate must supply all responses listed, as the knowledge is safety critical or important.
	B - This means the candidate must at a minimum verbalize the bolded responses, and additional responses are further proof of competence.
	P - The candidate must give a percentage of responses correctly to reasonably show competence in the area.

Locator	Questions			
	Mechanized Harvesting/Road Building			
1.1	What are nine common and	specialty tools used on hea	vy equipment?	
	☐ Multi-testers			
	Inspection mirrors			
	Pick up magnets			
	□ Easy outs			
	Wrenches			
	\Box Taps and dies			
	Hammers			
	☐ Shovels			
	Drift and pry bars			
	Chisel			
	□ Files			
	□ Jack			
	☐ Air tools			
	Impact wrenches			
	□ Ratchets			
	Die Grinder			
	Greaser			
	☐ Hose press			
	Assessment Instruction: P – 9	from list		
	Assessment	Outcome met	Outcome not met	

1081 – Describe Tools and Equipment for Heavy Machinery

2.1	Name eight pieces of weld	ing equipment and supplies	s use on heavy equipment	
	Oxy acetylene cutting	g systems		
	□ Air arc			
	□ Chip hammers	□ Chip hammers		
	□ Propane gas torch 'ti	ger torch'		
	□ Wire brush			
	Chalk			
	Tip cleaner			
	Grinder			
	🗆 Drill			
	□ Cut off saw			
	□ Air tools			
	☐ Flux chippers			
	Cutting table			
	Plasma cutter			
	Assessment Instruction: P -	8 from list		
	Assessment	Outcome met	Outcome not met	
2.2	What are three types of we	elding commonly used on he	eavy equipment?	
	□ Stick			
	□ Wire feed			
	Brazing			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	

2.3	What PPE is mandatory when using welding equipment?		
	□ Gloves		
	Welding helmet		
	Cutting goggles		
	☐ Fire-proof clothing		
	Safety glasses		
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
3.1	What are common gas-powered tools used on heavy equipment?		
	□ Cut off saw		
	Pressure washers		
	☐ Gas or electric comp	ressors	
	Gas or diesel genera	tors	
	Plate compactor		
	Assessment Instruction: P – 4 from list		
	Assessment	Outcome met	Outcome not met

Locator	Questions			
	Mechanized Harvesting/Road Building			
1.1	What are the major mecha maintenance and inspection	nical components or systen	ns that require	
	□ Engine systems			
	Hydraulic systems			
	Electrical systems			
	Attachments			
	Undercarriage			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
1.2	What are common sympto	ms or indicators of failure?		
	🗆 Noise			
	Vibration			
	□ Smells			
	Leaks			
	Cracks			
	Lack of power			
	Improper function			
	Exhaust colour			
	Gauges			
	Warning lights			
	Assessment Instruction: P -	7 from list		
	Assessment	Outcome met	Outcome not met	

1082 – Describe General Heavy Equipment Inspection and Maintenance Procedures

2.1	What are the three main pre-start procedures?			
	External visual equipment checks			
	Fluid checks			
	Operational (in cab) checks			
	Assessment Instruction: S			
	Assessment Outcome met Outcome not met			
2.2	What are the main considerations for shut down procedures?			
	Parking position			
	□ Attachments grounded			
	Cool down time			
	□ Maintenance log			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	

2.3	What are common maintenance procedures on heavy equipment?			
	Lock out or zero energy	rgy state		
	Greasing			
	Adding fluids and fue	1		
	Draining fuel sumps a	and water separators		
	☐ Tightening loose hare	dware		
	Repair leaks			
	Replacing O-rings			
	Replacing hoses	Replacing hoses		
	□ Replacing filters			
	□ Bleeding air from fuel systems			
	□ Adjust track tension			
	Adjust belt tension			
	Maintain tire pressure	e		
	□ Clean and maintain batteries			
	Assessment Instruction: P – 10 from list			
	Assessment	Outcome met	Outcome not met	

1083 – Describe Heavy Equipment Mechanical Systems

Locator	Questions			
	Mechanized Harvesting/Road Building			
1.1	What are two basic components of an engine and their function?			
	Turbo charger – increases power on an engine			
	🗌 Air compressor – bui	☐ Air compressor – builds up air supply		
	Cylinder head – Allow	ws air/fuel into/out of combusti	on chamber	
	Piston – creates com	pression		
	Assessment Instruction: P -	2 from list		
	Assessment	Outcome met	Outcome not met	
1.2	Name two things a driver s	should check in an engine lu	Ibrication system	
	Oil level			
	Oil pressure			
	□ Grade of oil required			
	Assessment Instruction: P -	2 from list		
	Assessment	Outcome met	Outcome not met	
1.3	What are two components	of a cooling system and the	eir function?	
	Radiator – allows air	and water flow to cool engine		
	□ Hoses – water to circ	culate		
	□ Fan – draw air into radiator			
	\Box Fan belts – drive the fan			
	Assessment Instruction: P -	2 from list		
	Assessment	Outcome met	Outcome not met	

1.4	What are three component	s of a fuel system and their	function?	
	Tanks – holds fuel			
	\Box Lines – deliver fuel from tank to engine			
	☐ Filters – removes for	eign debris from fuel		
	Pump – Deliver fuel t	o engine		
	Assessment Instruction: P -	3 from list		
	Assessment	Outcome met	Outcome not met	
1.5	What are three component	of air induction and exhaus	st systems and their	
	function?			
	Pre-cleaner – Takes	course particulates from air su	lpply	
	Air filter – Removes f	ine particulates from		
	☐ Air to air – Delivery s	ystem of air to the turbo charg	led engine	
	□ After treatment (DEF) – System that minimizes air pollution in exhaust			
	Assessment Instruction: P -	- 3 from list		
	Assessment Outcome met Outcome not met			
2.1	What are three component of hydraulic systems including function?			
	Pumps – pump fluid			
	Motor – propulsion or	n components		
	Cylinders – move atta	achments or implements		
	Hoses – delivers fluid	d or motors or cylinders		
	Valves – Controls flor	WS		
	\Box Tank and fluid level in	ndicator – identify levels of flui	ds	
	Assessment Instruction: P -	- 3 from list		
	Assessment	Outcome met	Outcome not met	

3.1	What are three component	t of a powertrain system inc	luding function?	
	Travel motor – allows	s machine/component to move	9	
	Transmissions – tran	sfer power form engine to driv	ve systems	
	Differentials – transfers power from transmission to axles			
	Swing gear – allows machine to rotate			
	Final drives – drives tracks			
	Engine – primary source of power			
	Pumps – secondary s	source of power		
	Assessment Instruction: P -	3 from list		
	Assessment	Outcome met	Outcome not met	
4.1	What are three component	s of track systems including	g function?	
	Tracks – enables ma	chine to move		
	\Box Idler – allows track to rotate around			
	Sprocket – drives track to rotate around			
	Bottom and top (carrier) rollers – reduce friction within the undercarriage system			
	Track adjuster – keel	os track tight		
	Assessment Instruction: P -	3 from list		
	Assessment	Outcome met	Outcome not met	
5.1	What are four types of bra	king systems?		
	Air system			
	Hydraulic system			
	Air / hydraulic system	ı		
	Engine braking syste	m (compression, exhaust)		
	Hydrostatic system			
	Assessment Instruction: P -	4 from list		
	Assessment	Outcome met	Outcome not met	

6.1	Name three common parts	of electrical systems and the	heir function	
	□ Alternators – creates	Alternators – creates electrical current		
	□ Starters – starts the engine			
	□ Batteries – powers the starter			
	□ Fuses – fail safe for s	system		
	Solenoids – an electr	romagnetic switch		
	□ Switches - turns pow	er on and off		
	Assessment Instruction: P -	3 from list		
	Assessment Outcome met Outcome not met			
6.1	What are the two common	types of electrical systems	?	
	□ 12 V and 24 V			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
7.1	Name three types of groun	Name three types of ground engaging systems and their function		
	Blades – pushes mat	terial		
	Buckets – carries ma	iterial		
	Scarifiers – digs up g	round		
	Grapples – grabs log	S		
	🗌 Rock hammer – brea	iks rocks		
	Compactors – compresses material			
	Drill hammer – drills holes in rocks			
	Assessment Instruction: P -	- 3 from list		
	Assessment	Outcome met	Outcome not met	

Locator	Questions		
Road Building			
2.1	What are common instruments used in road building?		
	Rotary laser		
	Pipe laser		
	Electronic measurem	ent systems	
	🗌 Chain (tight chain, str	ing box)	
	Clinometers		
	□ Compass		
	Assessment Instruction: P – 6 from list		
	Assessment	Outcome met	Outcome not met
3.1	What can an operator do to	o confirm that identified slop	be is correct?
	Station mark on map	matches the field	
	\Box Read the cross section	on and profiles	
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
3.2	How is slope expressed?		
	Percentage/degrees		
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met

1077 – Describe Job Control and Engineering Basics

3.3	How is slope stability maintained during road construction?		
	\Box A ratio that is dependent on the type of material excavated		
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
3.4	What are the main causes	of road constructed initiated	d slides?
	Over steepened fill sl	opes	
	Not maintaining wate	r control	
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
3.4	How is this risk mitigated?		
	End haul		
	☐ Maintain original water courses		
	☐ Maintain ditches and culverts concurrent with construction		
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
4.1	Where are instructions on working in proximity to utilities found?		
	Operational map		
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
4.2	What are techniques used to expose existing utilities?		
	□ Take small amounts	of material away at a time	
	Vacuum trucks		
	□ Clean up bucket (no	teeth)	
	Expose by hand		
	Assessment Instruction: P-3	from list	
	Assessment	Outcome met	Outcome not met

1078 – Describe Soils and Aggregates

Locator	Questions			
	Road Building			
1.1	What are common types of soil?			
	□ Cohesive (hard panned clay)			
	☐ Granular (sand or gravel types)			
	□ Organic (topsoil or layers)			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
1.2	What determines suitability	y of soil types for road cons	struction?	
	Drainage characteris	tics		
	Compactibility Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
1.3	Name four characteristics	of soil		
	Load bearing			
	Density			
	☐ Adhesion			
	□ Shearing resistance			
	Permeability			
	Plasticity (water reter	ntion)		
	Elasticity			
	Gradation			
	Assessment Instruction: P -	4 from list		
	Assessment	Outcome met	Outcome not met	

1.4	How are soils classified?			
	□ Texture			
	□ Structure			
	Colour			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
1.6	What are common sedime	nt control techniques?		
	□ Silt fences/geotextile			
	□ Hay bales			
	□ Water management			
	Sumps			
	□ Hydro seeding			
	□ French drains			
	Culvert placement			
	□ Water bar			
	Assessment Instruction: P -	6 from list		
	Assessment	Outcome met	Outcome not met	
2.1	What are types of rippable	rocks?		
	□ Shale			
	□ Rotten			
	Conglomerate			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
2.1	What are types of non-ripp	able rocks?		
	Granite			
	Limestone			
	Basalt			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	

2.2	What are the characteristics of aggregates?			
	Permeability			
	Load bearing			
	Resistance to shearing			
	Gradation			
	Plastic limit			
	Liquid limit	Liquid limit		
	Assessment Instruction: P -	4 from list		
	Assessment	Outcome met	Outcome not met	
2.3	What are the three steps in	aggregate processing?		
	□ Screening			
	Assessment Instruction: S			
	Assessment	Outcome met	Outcome not met	
2.4	What are common product	ts or uses for aggregates?		
	Pit runs			
	□ Screened road base	3" minus		
	Bedding sand			
	□ Crushed road mulch			
	□ Asphalt aggregates			
	Drain rock			
	Chips, driveway chips	S		
	Recycled asphalt			
	Concrete sand, C 33			
	□ Stucco sand			
	Assessment Instruction: P -	6 from list		
	Assessment	Outcome met	Outcome not met	

3.1	What are principles of compaction in relation to effects of moisture?				
	□ Dry soils resistant to	compaction			
	\Box Water acts as lubricant to help overcome the cohesive nature of soil particles				
	Moisture increases d	Moisture increases density			
	Assessment Instruction: P -	1 from list			
	Assessment	Outcome met	Outcome not met		
3.2	What types of equipment are used for compaction?				
	□ Water trucks				
	Plates				
	□ Rollers				
	Hoe packs				
	□ Rammers				
	□ Tamping bars				
	Dynamic compaction				
	Assessment Instruction: P – 4 from list				
	Assessment	Outcome met	Outcome not met		
3.3	What are methods to test compaction?				
	Nuclear density testir	ng			
	□ Sand cone test				
	Cone penetrometer				
	Deflectometer				
	□ Clegg impact soil tes	ter			
	□ Load testing/roll test				
	Assessment Instruction: P -	4 from list	1		
	Assessment	Outcome met	Outcome not met		

Locator	Questions			
	Road Building			
1.1	Why is public perception of forestry activities important?			
	Can result in protests	3		
	Public pressure			
	Public perception drive	ves politics		
	Assessment Instruction: P -	1 from list		
	Assessment	Outcome met	Outcome not met	
1.2	What impact on fish can ro	oad building have?		
	Effect of silt			
	Effect of water temperature			
	Drainage effect			
	Effect of increased flows			
	Assessment Instruction: P – 2 from list			
	Assessment	Outcome met	Outcome not met	
2.2	What are potential sources	s of spills related to constru	cting resource roads?	
	🗌 Broken lines/mechan	ical failure		
	Refuelling			
	Fuel storage			
	☐ Storage of other proc	lucts		
	Sewage			
	Assessment Instruction: P -	4 from list		
	Assessment	Outcome met	Outcome not met	

1079 – Describe Environmental Awareness, Protection and Enhancement

2.3	What can be used to reduce risk of petroleum spills?		
	□ Security		
	□ Safe storage facilities		
	□ Spill kits		
	Training		
	Assessment Instruction: P – 2 from list		
	Assessment	Outcome met	Outcome not met

1087 – Describe and Operate Grader

Locator	Questions		
Road Building			
1.1	Name two places that an operator can look to find information on operation capabilities, limitations and restrictions of road building equipment		
	Operator manuals		
	Standard operating procedures Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met

1.2	What are common hazards related to operating road building equipment?			
	\Box Slips and falls			
	Pinch points			
	□ Roll over			
	□ Crush injuries			
	Other worker in work	area		
	Energized machines			
	Communication failur	e		
	Unstable soil			
	□ Slippery machine sur	faces		
	Equipment fire			
	Debris entering operator's area			
	□ Logs entering cab			
	☐ Jill pokes			
	□ Other road users			
	Assessment Instruction: P -	10 from list		
	Assessment	Outcome met	Outcome not met	
5.1	What does tipping the mou	Idboard affect?		
	\Box Affects cutting action			
	□ Affects rolling action			
	\Box Tends to compact material			
	Assessment Instruction: P –	2 from list		
	Assessment	Outcome met	Outcome not met	

5.3	If the mouldboard angle is at or near 0 degrees what is this used for?		
	Bulldozing material straight ahead		
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
5.3	Why would a mouldboard	be angled between 10 and 3	0 degrees?
	Increase stability		
	Reduce side to side r	notion	
	Cover more area		
	Assessment Instruction: P -	2 from list	
	Assessment	Outcome met	Outcome not met
5.3	Why would a mouldboard be angled between 30 to 50 degrees?		
	□ Improve rolling of we	t sticky material	
	☐ Move larger loads		
	Ditching		
	☐ Minimize hooking on	protruding rocks	
	Assessment Instruction: S		
	Assessment	Outcome met	Outcome not met
5.4	Why is lean control used?		
	Reduce turning radiu	S	
	☐ Minimize side to side	motion by counteracting side	thrust of mouldboard
	□ Adjust wheels to vert	ical when working a slope or o	ditch
	Adjust the elevation of mouldboard	of the cutting edge along the e	entire length of the
	Assessment Instruction: P -	3 from list	
	Assessment	Outcome met	Outcome not met

5.4	What is frame articulation used for?			
	Reduce turning radius			
	\Box Keep drive wheels behind the load to increase power			
	\Box Allow for the application of more power to a wider area with more stability			
	 Allow for placement of front tires on smooth surfaces while mouldboard and drive wheels are shifted to work area Allow positioning of rear drive wheels outside of ditch while front steering wheels are in ditch or vice versa 			
	□ Used to get unstuck			
	☐ Allows crab steering			
	□ Generally, improves manoeuvrability, flexibility, and productivity			
	Assessment Instruction: P – 6 from list			
	Assessment	Outcome met	Outcome not met	

Part 2 – Practical Assessment

General Instructions

To conduct the practical assessment, monitor the worker in a variety of situations to determine if they can consistently perform the skill components of their role in a safe and effective manner. Once confident that the worker can conduct the skills consistently, mark the outcome met. If the worker cannot consistently perform the skills required, add this component to the gap training plan.

Remember not to distract the operator when conducting the practical assessment.

Training and	Assessment Rubric
	Skills: Can complete the task but only with direct instruction and supervision, may lack consistency in application.
Outcome Not Met	Knowledge: Does not understand what they are doing, or are not aware of a knowledge deficiency, or need guidance and support.
(ONM)	Attributes: Displays limited or no professional attributes including being fit for work, prepared for the day, working in an organized manner, achieving work outcomes, or lacks in consistency.
	Skills: Consistently completes the task using safe work practices multiple times in a variety of contexts.
Outcome Met (OM)	Knowledge: Has a solid grasp of underpinning knowledge, consistently applies it, and can explain it.
	Attributes: Consistently displays professional attributes including being fit for work, prepared for the day, working in and organized manner and achieving work outcomes.

A) PREPARE FOR THE DAY	ОМ	ONM	N/A
Arrived on time			
Clothing for conditions			
 Layered clothing appropriate to the elements for working and transport conditions 			
Nutrition and water			
Adequate food for the day			
 Sufficient hydration for work and weather conditions 			
Fit for work			
 Candidate is physically able to do the task 			
3-point contact on and off machine			
Able to get up and down machine			
Able to perform simple maintenance			
Able to change attachments			
Can fit through escape hatch			
Not noticeably impaired			
 Candidate is not obviously physically or mentally impaired (by drugs, alcohol, personal situations, fatigue) 			
Knows where ERP is located			

B) PERSONAL PROTECTIVE EQUIPMENT (where applicable)	ОМ	ONM	N/A
Hard hat			
 CSA – less than 3 years old / ANSI – less than 5 years old 			
 No dents/cracks, modifications 			
 Suspension maintained (4-point min) 			
Hi-Vis			
 Minimum 120 square inches front and back 			
 Not faded, discoloured, torn or permanently dirty 			
 Contrasts with the work environment 			
Leg protection			
Minimum 3600/4100 FPM rating			
 Kevlar not compromised or exposed 			
 Pants maintained and repaired (no loose tears to outer layer) 			

Face/Eye protection		
Face screen free of holes		
 Moves freely between down and raised position 		
Safety glasses used when appropriate		
Hand protection		
 Not damaged and free of holes 		
Appropriate to weather conditions		
Sized correctly for hands		
Hearing protection		
Minimum 24 NRR		
Maintained and in working condition		
Footwear		
 Good condition including sole tread pattern 		
Must be laced		
Has fire extinguisher in cab		
Dust mask		
NIOSH N95 compliant		
PPE inspected and maintained		
PPE used consistently as required		

C) PRE-WORK ACTIVITIES	ОМ	ONM	N/A
Equipment manuals available			
Pre-start equipment checks			
Walk around and check for leaks			
Check for loose components			
Check for cracks, loose, missing bolts			
Check for damage to machine			
Obstructions			
Fluid levels			
Water / Coolant			
Hydraulic			
Engine			
Night switch			
Check track pads (where applicable)			
Tire pressure (where applicable)			
Check for tire damage (where applicable)			
Wheels and wheel nuts (where applicable)			
Close air reservoir (where applicable)			
Safety equipment check			
Start-up procedures			
 Maintain 3-point contact on and off machine 			
Find key			
Check gauges			
Warning systems			
Start and warm up hydraulics			
Check transmission			
Warning lights			
Wipers			
Seatbelt			
Lock out			
Parking brake			
All controls and major systems			
Escape hatch			
Housekeeping			
Radio operational			

D) COMMUNICATION	ОМ	ONM	N/A
Attend pre-work meetings			
Ensures hazards are understood			
Communicates hazards throughout workday			
Uses signals as required			
Consistently communicates work plans			
Professional communication throughout workday			

E) ERGONOMICS	ОМ	ONM	N/A
Lifts correctly (where applicable)			
Best practice for body position while operating			
Walks safely in the bush (where applicable)			

F) COMPLETE TASKS	ОМ	ONM	N/A
Shut down procedures			
Safe parking location			
Brake on (where applicable)			
Lower boom / blade / attachments			
 Position for ease of access and egress 			
Level position for fluid checks			
Cool down before shut-down			
Walk around and general check			
Secure / lock machine			
3-point contact on and off			
Turn off night switch			
Close air reservoir access (where applicable)			

Daily maintenance tasks		
Lubrication systems		
Air intake systems		
Air system reservoir		
Fuel tank sump		
 Drain air system / water separator 		
Drain fuel filters / water separator		
 Inspect and clean components 		
Housekeeping		
 Track tension (where applicable) 		
Tire pressure (where applicable)		
Greasing		
Fueling		
Check for leaks		
Basic repairs		
 Hydraulic hoses / fittings / O-rings 		
Fuel / air filter		
Engine oil change		
Belt tension		
Battery terminals		
Change saw teeth		
Change lights		
Repair wiring		

G) OPERATE GRADER	ОМ	ONM	N/A
Maintains 3-point contact on and off machine			
Ability to use multiple functions while operating equipment			
Monitors equipment performance while operating			

Operator functions on grader		
Function of blade movement		
 Typical changes for multi pass grading 		
Sloping positions		
Tight blading		
Ditching		
Recovering material		
Smooth operation		
Safe coordination with other equipment		
Form and Handle Windrows		
Gear and engine speed		
Blade position		
 Cutting material to form a windrow 		
Moving materials over area		
Water management in windrows		
Manages windrows and traffic (signs and communication)		
Install attachments		
Maintain attachments		
Use attachments - Graders		
Use safely and with operational control to manufacturer specifications		
Perform inspections		
 Take on and off safely to specifications 		
Brush cutters		
Rippers		
Scarifiers		
Roller / wobbler compactor		
Front blade		
Snow wings		
Strip surface materials		
Cut and fill materials		
Create slopes		
Create ditches		

Construct shouldering		
Form road base (sub grade)		
Place aggregates to specified elevations		
Maintains situational awareness at all times		

This is the last page of the competency conversation.

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