

GRADER

This Evaluation Guide for Skills Demonstration is to be used in the evaluation of an operator for certification on the specific piece of equipment stated above. It is intended that this Guide be followed closely during an evaluation, and the operator is expected to demonstrate competency in each of the items listed. However, variances may be made in some situations when, in the opinion of an evaluator, site conditions, operational constraints or the demonstrated skill of the operator requires that an item(s) be deleted or added to ensure a comprehensive evaluation.

1. Performs a thorough pre-op inspection and routine preventive maintenance, as needed

- a. Removes keys from ignition for safety
- b. Checks that warning and safety decals are in place
- c. Distinguishes when vehicle should not be operated
- d. Verifies vehicle is safe to operate
- e. States all safety warnings for machine
- f. Inspects the following machine components:
 - i. **Engine Compartment**
 - (1) Checks fuel sump drain cock for condensation; drains approximately once per week
 - (2) Checks wiring to see that master switch is off (if equipped)
 - (3) Checks hoses at turbocharger for leaks, cracking
 - (4) Checks restriction indicators on filters (if equipped) to make sure they are not broken
 - (5) Checks turbo charger for leaks and cracks, if applicable
 - ii. **Exterior**
 - (1) Checks dust bowl pre-cleaner (if equipped); cleans if necessary
 - (2) Checks tires/rims for correct pressure, wear, cuts and tread depth uniformity
 - (a) for traction tires, makes sure wedge is forward
 - (b) For non-traction tires, makes sure wedge is back
 - (3) Checks that warning and safety decals are in place
 - (4) Performs check on electrical system according to procedure in operator's manual
 - iii. **Drive Train**
 - (1) Checks clutch for adjustment (refer to operator's manual)
 - (2) Checks transmission for proper fluid level (refer to operator's manual)

- (3) Checks that drive shaft universal joints are greased and that the balancing weights are on
- (4) Checks differential (if equipped), and oil level (refer to operator's manual)
- (5) Checks that tandem thrust sleeve is lubricated
- (6) Demonstrates how to check chain housing for proper oil level

iv. **Articulation indicator (if applicable)**

- (1) Checks cylinder for leaks
- (2) Inspects hoses, and checks that wires are not rubbing together or pinched
- (3) Checks articulator locking pins (refer to operator's manual for application)
- (4) Checks that pivot/hinge point is greased, not bound (where applicable)
- (5) Checks that the gauge, dial and cable (including the area of attachment to articulation indicator) are intact

v. **Front axle steering**

- (1) Checks that steering mechanism is tight
- (2) Examines front wheel lean mechanism and checks for:
 - (a) tight tie rod ends
 - (b) no excessive play in wheels - king pins
 - (c) presence of grease seals

vi. **Scarifiers**

- (1) Inspects scarifier teeth in tool box, checks for proper amount for the job
- (2) Checks that scarifier teeth are locked on properly
- (3) Inspects hinge mechanism to see that hoses or ram are not leaking

vii. **A-Frame**

- (1) Examines draw bar ball adjustment and checks for:
 - (i) no excessive play
 - (ii) properly lubricated
 - (iii) not broken or cracked
 - (2) Inspects turntable for proper lubrication (refer to operator's manual)
 - (3) Checks split ball cap adjustments for excessive play
 - (4) With engine running, checks turntable - circle turns without binding
 - (5) Inspects moldboard for holes, damage; checks cutting edges and end bits for excessive wear
 - (6) Inspects mold board for holes, damage; checks cutting edges and end bits for excessive wear
 - (7) Inspects moldboard angle cylinder and hoses for oil leaks, rubbing or chaffing hoses
 - (8) Checks that saddle lock pin holes are lubricated (if applicable)
 - (9) Inspects turntable drive motor (if applicable), checks for:
 - (a) Proper oil and oil level
 - (b) Leaks in hydraulic motor
 - (c) Line leaks, chaffing
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- (10) Checks turntable drive rams and gears (if applicable) for leaks on rams and chaffing hoses

viii. **Cab interior**

- (1) Enters cab using 3-point climbing procedure
- (2) Performs general safety check of cab interior, including safety belts and fire extinguisher
- (3) Checks that gauges and controls are working
- (4) Checks to see if emergency brake is on
- (5) Adjusts seat and mirrors
- (6) Checks for presence of safety decals
- (7) Turns ignition key to first position, checks bulbs, and performs supplemental steering and braking check
- (8) Starts engine, checks gauges, warning lights and emergency brake
- (9) Checks brakes by depressing brake, placing transmission in low gear and observing if the brake holds
- (10) Moves cylinders, checks split balls and tow bar ball for excessive play and hydraulic leaks (refer to reference manual for further information)
- (11) Checks all safety lights, checks that lights are operating

2. **Starts and transports equipment in a safe manner**

- a. Applies parking brake, places transmission in neutral, and allows engine to warm up for 3 - 5 minutes (de-strokes main hydraulic pump for cold weather starting, if applicable)
- b. Transports with leading edge of blade pointed away from traffic
- c. Leans wheels as necessary

A skills demonstration is to include either one or both of the following activities (#3 and/or #4)

3. **Cuts material (ditch, shoulder, sod, and/or ice) using equipment features properly**

- a. Observes all safety precautions relative to operation of machine
- b. Works within work zone, allowing adequate distance between machine and flagger
- c. Sets blade, moldboard angle, side shift, circle shift and articulation (if applicable) so that machine either straddles the material being removed or is positioned outside the windrow
- d. Leans wheels with top toward side with discharge of material (if applicable)
- e. Finishes cut by raising blade to run out material

4. **Plows snow using equipment features properly**

- a. Does not use articulation (Champion has lock out pin)
 - b. Does not place transmission higher than 5th gear (if applicable)
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- c. Angles and rolls blade completely forward
 - d. Places blade in float
 - e. Applies wing attachment (if applicable)
 - f. Positions wing in trip mode (if applicable)
 - g. Places air intake in winter mode (if applicable)
 - h. Attaches tire chains to all 4 drive wheels (if necessary)
5. **Shuts down grader using proper procedure**
- a. Lowers all attachments to ground, or attaches safety chain
 - b. Applies parking brake
 - c. Places transmission in neutral
 - d. Uses proper engine shutdown procedure (idles engine 3-5 minutes)
 - e. Switches lights off
 - f. Shuts engine down
 - g. Completes post operational check according to local policy
 - h. Periodically washes/steams engine compartment (excluding alternator)
 - i. Lubricates all grease fittings (refer to operator's manual)
 - j. Checks tire pressure weekly
 - k. Removes keys and locks cab

The below signatures indicate the operator has successfully completed the skills demonstration.

Signature of
Evaluator: _____ Date: _____

Signature of
Operator: _____ Date: _____