Appendix E: Walk-around Grader Inspection

A Good Operator Takes Care of the Machinery

For maintenance and operator personnel safety, and maximum service life of the machine, make a thorough walk-around inspection when performing lubrication and maintenance work. Inspect under and around the machine for such items as loose or missing bolts, trash build-up, cut or gouged tires; damaged hydraulic lines or hoses; oil, fuel, or coolant leaks; and condition of blade.

The grease gun is a very important maintenance tool.

In addition to routine machine maintenance, it is very important to keep all warning devices clean and visible.
Appendix E: Walk-around Grader Inspection

Axles
Inspect for leaks.

Blade, End Bits, and Moldboard
Inspect for excessive wear or damage.

Operator’s Compartment
Inspect for damaged gauges and cleanliness.

Hydraulic System
Measure oil level and inspect for leaks.

Air Cleaner Indicator
Observe Indicator.

Engine PreCleaner
Inspect for dirt build-up.

Cooling System
Inspect for leaks and debris build-up on and near radiator.
Check coolant level.

Tires
Inspect for damage, excessive wear.

Circle Drive Housing
Inspect for leaks.

Blade Circle Shoes
Inspect for wear and adjustment.

Ball and Sockets
Inspect for looseness and insert wear.

Steps and Grab Irons
Inspect condition and cleanliness.

Pivot Area
Inspect for trash.

Tandem Housing
Inspect for leaks.

Engine Compartment
Inspect for leaks and trash build-up.
Check engine oil level.

Differentials and Transmission
Inspect for leaks.

HYDRAULIC CYLINDERS
Inspect for leaks and damage.

Front Wheel Spindle Bearing Housing
Inspect for leaks.

Figure 19: Walk-around Inspection Diagram (From Maintaining Gravel Roads Training Manual, 1999. Maine Department of Transportation, Federal Highway Administration.)
### MOTOR GRADER PREVENTATIVE MAINTENANCE CHECK LIST

<table>
<thead>
<tr>
<th>Vehicle #</th>
<th>Date</th>
<th>PM Location</th>
<th># Hours</th>
<th>OK</th>
<th>REPAIR</th>
<th>FOLLOW UP</th>
</tr>
</thead>
</table>

#### 150 HOUR SERVICE (90 DAYS)
- Change Engine Oil & Filter
- Check Air Filter Elements – replace if necessary
- Check Exhaust System
- Check Air Inlet System for Leaks
- Check Wiring for Chafing, Loose Connections, etc.
- Check Battery Electrolyte Level
- Check Front End
- Check and Tighten Wheel Studs
- Check Drive Axle Oil
- Check Oil Level in Tandem Drives
- Check Parking Brake Adjustment
- Check Oil Level in Circle Drive Gear Box

#### 300 HOUR SERVICE
- Change Fuel Filter
- Change Hydraulic Filter & Clean Magnets
- Change Transmission Filter
- Visually Inspect Engine Mounts
- Take Oil Sample
- Check and Adjust Brake Pedal Linkage
- Steam Clean Radiator

#### 1000 HOUR SERVICE
- Steam Clean Engine
- Check and Adjust Engine Speeds
- Check and Adjust Valve Clearance
- Clean and Repack Front Wheel Bearings
- Clean Hydraulic Tank Breather Filter
- Check Pivot Pins and Bushings
- Road Test Prior to Releasing to Using Agency

Performed by:__________________________________

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**Figure 20:** Motor Grader Preventative Maintenance Check List *(From *Maintaining Gravel Roads Training Manual*, 1999. Maine Department of Transportation, Federal Highway Administration.*)