

Intelligent Devices
MDC Truck Operator's Manual



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Introduction

Using a combination of user-selected options and sensors, the MDC will effectively monitor the conditions and therefore provide a better sense of how much ice and snow clearing material is used to clear the roads safely. This guide will show users how to select the proper options and provide an overview of the features of this unit.

Main Screen

<p>Region of Peel Working for you</p>	<p>Dim</p>	<p>Settings</p>	<p>03/11/11 10:17:51 MAIN MENU v3.1.4</p>
<p>DEMO</p> <p>TRUCK</p> <p>FRONT: ↓</p> <p>↓ WINGS ↓</p> <p>UNDER: ↓</p> <p>NO ERROR</p>	<p>NaCl</p> <p>Solid Rate: 350 kg / km</p> <p>MATERIAL</p> <p>Fusion 50%</p> <p>Liquid Rate: 20 L per tonne</p>	<p>DIRECTION: EAST</p> <p>Plow: ↑↑↑↑</p> <p>Treat: ↓↑↑↑</p> <p>HIGHWAY</p> <p>Speed: 0 km/h</p> <p>GPS: 34.066097° N 84.075128° W</p>	
<p>SNOW</p> <p>> .4 KM</p> <p>WEATHER</p> <p>AIR TEMP 2° C</p> <p>ROAD TEMP -4° C</p>	<p>ROAD</p> <p>DRY</p>	<p>Web Interface</p>	
<p>SNOW ACCUMULATION</p>		<p>ENGINE CODES ■</p>	

This screen will display summary information about the snow plow. The main screen contains seven main sections. These sections will display quick information on the main screen (such as air temperature, location, and material dispense rates). In addition, several sections may be clicked. Clicking these boxes will lead to menus for more information or changing settings.

Truck

This non-clickable section will display current information on the blades of the truck, including the front, belly, left wing and right wing. It will display the blade as either up or down, indicated by the arrow on the main screen. Depending on the configuration of the unit, one or more of the blades might not be displayed.

Material

The main screen will display the rate of the material used for treatment. If this part of the screen is clicked, the materials (and their percentages) can be selected and changed. The resulting screen would look like this:

MATERIAL ON BOARD		↩ MAIN MENU
SOLID	NaCl	SELECT MATERIAL
SOLID RATE (kg per km)	350	CHANGE RATE
LIQUID	Fusion 50%	SELECT MATERIAL
PREWET RATE (liters per tonne)	12	CHANGE RATE
DIRECT RATE (liters per tonne)	20	CHANGE RATE

This section is the portion of the program where the material is shown and selected. There are two parts to the materials: solids and liquids, with their separate screens. The Select Material screen appears below.









The yellow is the current selection. Click another box to change the selection.

The materials selection screen:

SELECT MATERIAL				↗ MATERIALS
NaCl	Winter Sand 12%NaCl	Sand/Salt Mix 25%NaCl	Sand/Salt Mix 50%NaCl	Pre-Wet Salt 20%Brine
Pre-Wet Salt 30%Brine	Pre-Wet Salt 40%Brine	Pre-Wet Salt 50%Brine	Pre-Wet Salt 30%Fusio	Pre-Wet Salt 50%Fusio
PREVIOUS PAGE		1	NEXT PAGE	

The material should be selected at the beginning of each drive and changed in the computer as the materials are changed. The main screen will display the rate of the material as it is currently being laid down using the sensors.

Highway

HIGHWAY		↗ MAIN MENU		
PLOW				
TREATMENT				

The main screen portion of the highway category will display current information about the speed of the truck, the current location in latitude and longitude, and direction the truck is headed in.

This is also the section where the lanes are selected. The “Plow” portion is for the lane the snow plow is currently driving on and the “Treatment” part is for the lanes that are currently being treated. These should be selected at the beginning of the drive as well as changed as the snowplow changes lanes. The selected highway lanes will appear as yellow.

Weather

WEATHER CONDITIONS			↗ MAIN MENU	
PRECIP TYPE	NONE	DRIZZLE	RAIN	SLEET
	HAIL	SNOW FLURRIES	SNOW	UNKNOWN
VISIBILITY	CLEAR	FOG	SMOKE	BLOWING SNOW
DISTANCE	NEAR ZERO	<.4 KM	>.4 KM	
WIND (KPH)	Calm <16	Light 16-32	Medium 32-48	Strong >48

This is a user-selected menu where the driver selects current weather conditions. Using the temperature sensors, the program will also display air temperature at the main screen. The conditions should be selected at start and reselected as conditions change. The conditions you must select include the current precipitation, the visibility levels, the distance the driver can see, and the amount of wind currently blowing (in mph). The yellow indicates a current selection. Click another box to change, and click main menu to save and exit to the main screen.



Snow Accumulation

SNOW ACCUMULATION		↗ MAIN MENU		
ROADWAY ACCUMULATION	NONE	<4 cm	4-10 cm	10-16 cm
	>16 cm			
ADJACENT ACCUMULATION	NONE	<4 cm	4-10 cm	10-16 cm
	>16 cm			

In this screen, select the inches of snow that has accumulated on both the road and the adjacent area. Press Main Menu to save and return to the home screen.

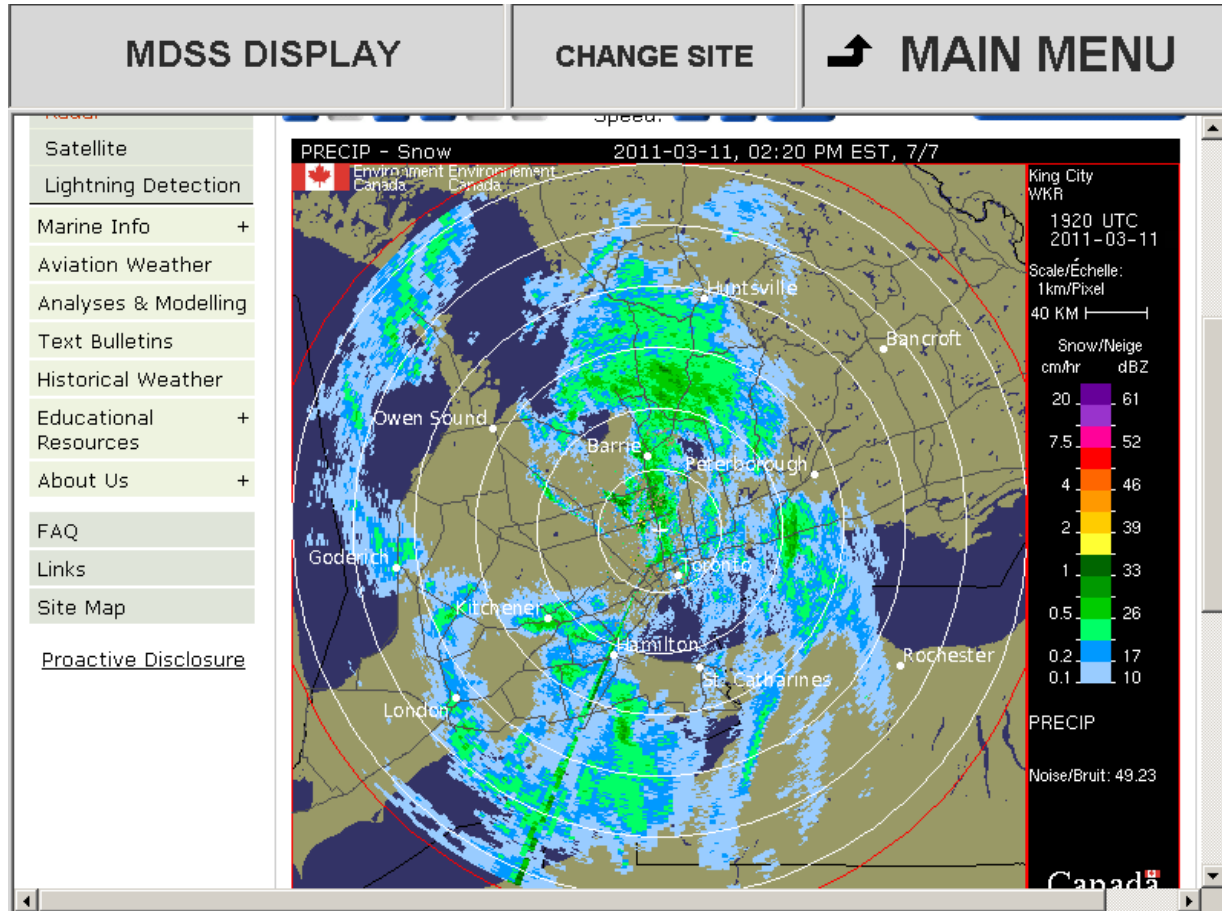
Road

ROAD CONDITIONS		↗ MAIN MENU		
ROAD CONDITION	DRY	WET	FROST	LOOSE SNOW
	PACKED SNOW	DRIFTED SNOW	SLUSH	ICE
SURFACE TEMP	23.3°C			

The driver should select the current road conditions under this screen, except for the surface temperature which is done through sensors. Please select the closest match to the status of the road at this particular screen.

Web Interface

The Web Interface will access the internet remotely.

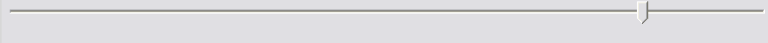


If a different website is desired, click the "change site" button to browse to 10 pre-selected websites. To browse to that website, click on the link. To return, click the back arrow.

Settings

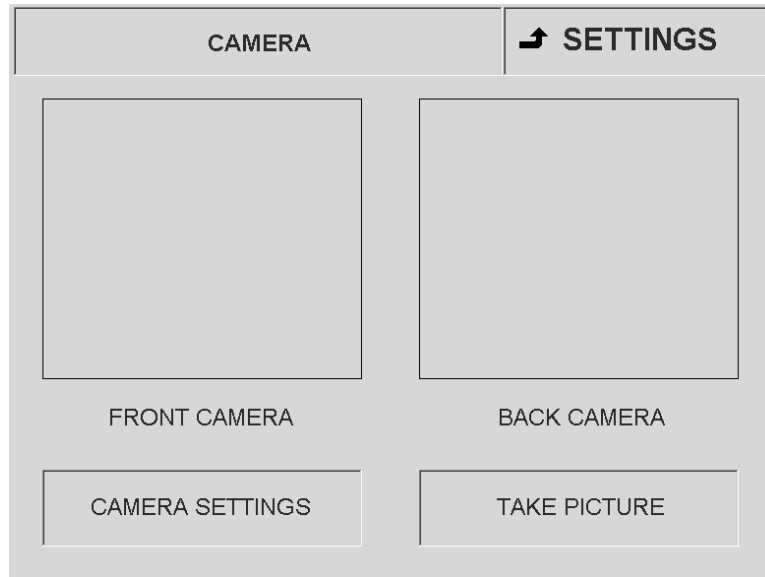
SETTINGS		↗ MAIN MENU
BRIGHTNESS	DEVICE SETTINGS	
PLOW BLADES	CAMERA	
LOAD APPLICATION CONFIG	LOAD USER INTERFACE CONFIG	
CHANGE PASSWORD	DIAGNOSTICS	

The settings menu will change various options affecting the operation of the MDC. Clicking Brightness will lead to the following:

BRIGHTNESS	MAIN MENU
Day	
	
<input checked="" type="radio"/> Background <input type="radio"/> Text	
Night	
	
<input checked="" type="radio"/> Background <input type="radio"/> Text	

This will change the current display settings of the unit. The settings include both text and background brightness and contrast. There are both night and day settings, which can be changed in the Settings menu and selected using the DIM and BRIGHT button at the top of the main menu.

Clicking Camera will show the following:



The boxes will display a preview of the camera. Click "Take Picture" to save a picture.

Other settings require administrative access.