

# Sandvik Blasthole Drill Transit and Port Guide

DR410i Series Rotary Drill Equipment In Transit

Starting and Trimming Procedures and Troubleshooting

(Revision 01/10/2023)



***NOTE!***

**Place this manual in cabin of all crawler mounted equipment**

## GENERAL

The intended purpose of this manual is to assist truck drivers and shipping dock personnel with starting and moving Sandvik rotary drill machines.

1. The procedures listed herein can be used to as a guide to operate or troubleshoot starting or operating a Sandvik rotary drill machine.
2. The procedures listed have been recorded start or operational problems and symptoms that may limit machine start or machine operation.
3. When required machine specific procedures will be noted.
4. Check and/or correct the item or items noted.



### ***Attention Truck driver and/or dock personnel:***

If you have trouble starting or operating this machine and you alter this product in any form *Please make notice inside cabin of the discrepancy* for our recipients at final destination. Someone at final destination must make necessary troubleshooting repairs. Altering this product for the purpose of transport may affect product warranty.

Sandvik Mining and Construction  
Alachua, Florida USA  
386-462-4100 Product Support

After hours contact:  
David Gillenwalters 352-213-3069

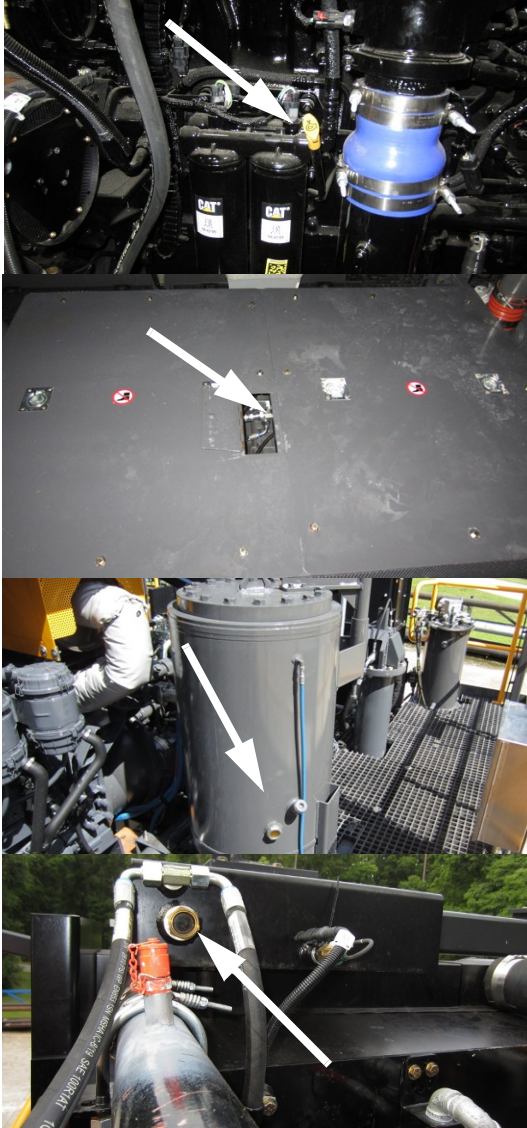
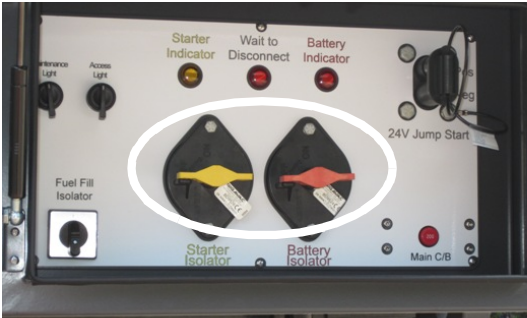
Prior to calling please note the machine model, by decal on frame, and the 6 digit numeric serial number (73xxxx) inside the cabin on the door. These two items are required so we can better assist with starting or operational problems:

MACHINE MODEL	MACHINE SERIAL NUMBER 6 digit #
	

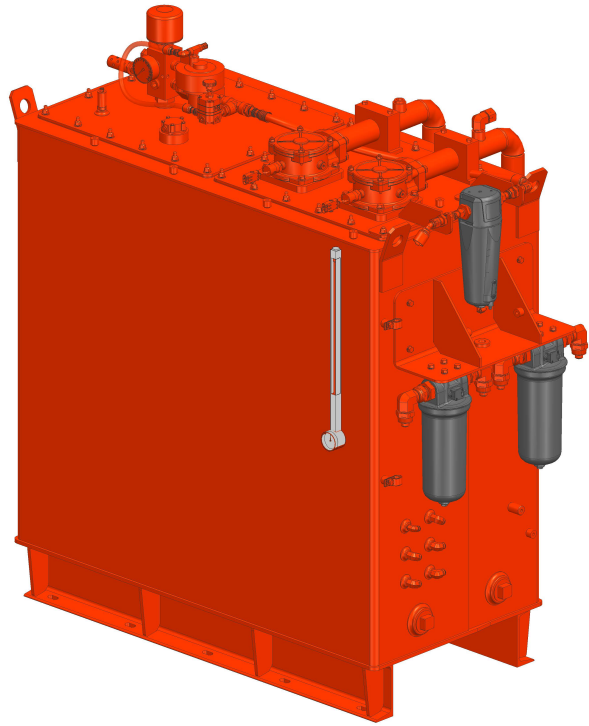
# TRUCK DRIVER INSTRUCTIONS





## 1. Starting the drill

Use the following table as a tool for starting the machine.

Function	Location
<p>1A. Check fluid levels.</p> <p>Engine oil (dipstick)</p> <p>Gearbox oil (dipstick)</p> <p>Compressor oil (center sight glass)</p> <p>Radiator coolant (sight glass)</p>	 <p>The 'Location' column for section 1A contains four photographs, each with a white arrow pointing to a specific fluid check point on the engine. The top photo shows the engine oil dipstick. The second photo shows the gearbox oil dipstick. The third photo shows the compressor oil sight glass. The bottom photo shows the radiator coolant sight glass.</p>
<p>1B. Set Starter Isolator and Battery Isolator to ON.</p>	 <p>The 'Location' column for section 1B contains a photograph of the control panel. A white oval highlights two toggle switches labeled 'Starter Isolator' and 'Battery Isolator', both of which are in the 'ON' position.</p>

Check Hydraulic Level

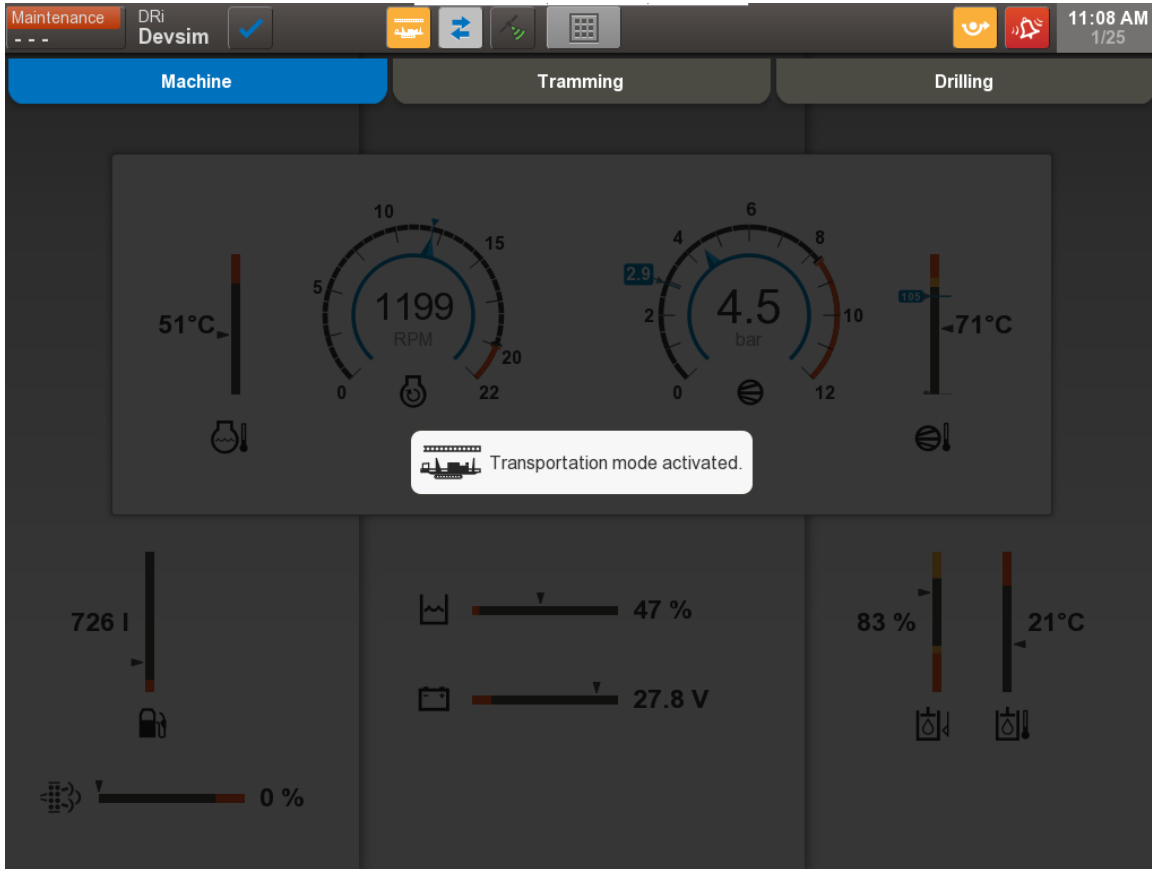


Function	Location
<p>1C. Operator controls in neutral position</p> <p>Do not push joysticks.</p> <p>1D. Ensure that E-Stop (red button) is not depressed.</p>	
<p>1E. Ensure the key switch under the left arm rest is on (I).</p>	
<p>1F. Key switch 'ON' and wait for display to power up prior to pressing 'START BUTTON'</p> <p>1G. Push the Start button.</p> <p><i>NOTE!</i> Some machines use an engine pre-lubrication system which activates by the START button. This function causes a slight delay before the engine begins to crank and is normal.</p> <p><i>NOTE!</i> If the engine fails to start or stay running, wait for receiver air pressure to drain to zero before attempting to restart.</p>	 <p style="text-align: center;"><b>KEY SWITCH</b></p>  <p style="text-align: center;"><b>START BUTTON      SHUTDOWN BUTTON</b></p>

## 2. Transportation Mode

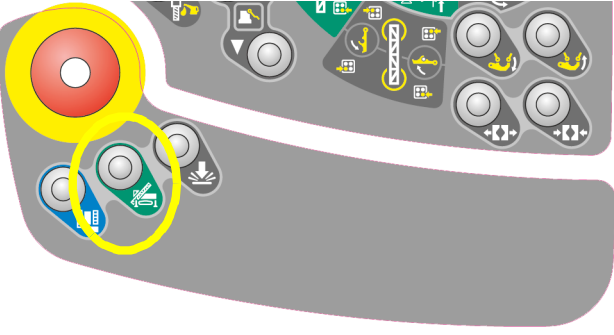
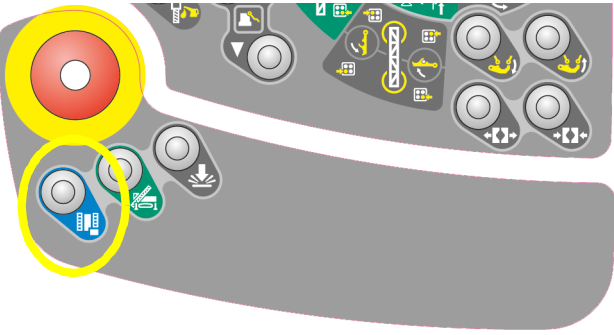
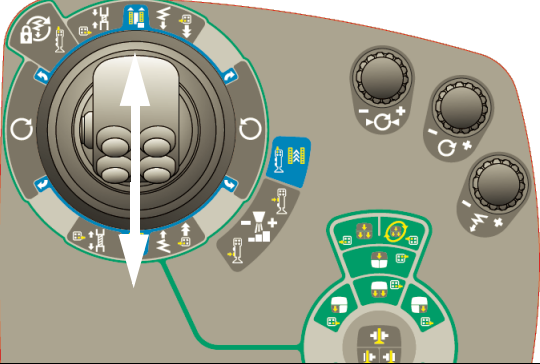
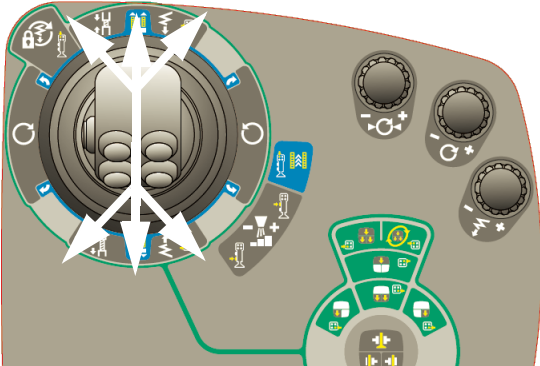
The machine is shipped from the factory with the transportation mode turned ON. In this mode, the bypasses are set to ON automatically and the machine is ready for tramping.

When the transportation mode is activated, home screen appears dim. Refer the image below.






### 3. Tramming the machine:

Use the following table as a tool for tramming the machine.

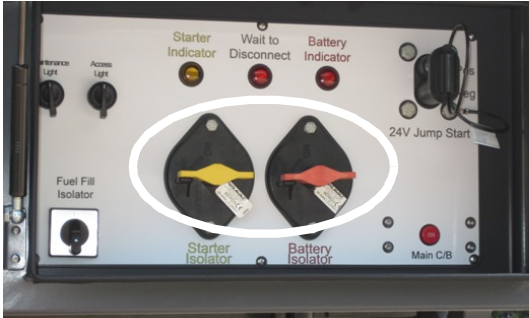
Function	Location
<p>3A. Ensure the jacks are fully up before tramming. If not, press the Setup button (green) and raise the jacks before attempting to tram.</p>	
<p>3B. Press the Tram Mode button (Blue button on Left Control Panel) to engage Tram mode and use joystick on Right Control Panel to move in desired direction.</p> <p><b>NOTE!</b> If the machine will not tram or shows any error messages, refer to the troubleshooting in Section 5.</p>	
<p>3C. Use the Right Joystick on the right armrest to tram the machine.</p> <p>3D. Push forward to tram forward on that same side. Pull rearward to tram rearward.</p> <p><b>NOTE!</b> The coolers are at the FRONT of the machine. The cab is at the REAR of the machine.</p>	
<p>3E. To turn the machine, use the Right Joystick.</p> <p>3F. Push the joystick forward and then push in the direction to turn. Pull the joystick rearward and then push in the direction to turn.</p> <p><b>NOTE!</b> Joystick must be forward or rearward. Only pushing left or right will not turn the machine.</p>	

## 4. Shutting down the drill

Use the following table as a tool for shutting down the machine.

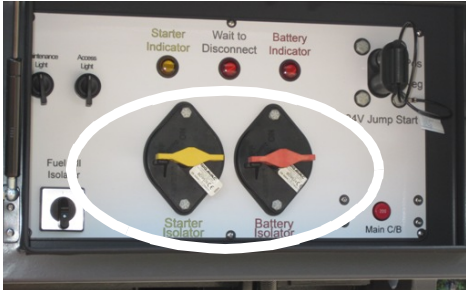

Function	Location
<p>4A. Operator controls in neutral position</p> <ul style="list-style-type: none"> <li>Do not push joysticks.</li> <li>DO NOT press E-Stop (red button).</li> </ul>	
<p>4B. Actuate the Shutdown button.</p> <p>4C. Press and release "Shutdown Button" Wait until the engine has shut down.</p> <p>4D. Key switch to 'OFF'.</p> <p>4E. Wait for the control screen to shut down (the display will turn dark or black).</p> <p><i>NOTE!</i> The control screen will not shut down until the key switch is turned OFF.</p>	 <p style="text-align: center;"> <span>START BUTTON</span>      <span>SHUTDOWN BUTTON</span> </p>  <p style="text-align: center;">KEY SWITCH</p>



Function	Location
<p><i>NOTE: Wait for green light (Wait to Disconnect) to go off before switching isolator switches to the off position.</i></p> <p>4F. Set Starter Isolator and Battery Isolator to OFF.</p>	

## 5. Troubleshooting

Use the following table as a tool for shutting down the machine.

Problem	Items to check/correct	Location
<p>4A. Engine will not start</p> <p><i>NOTE!</i> No power in cab (Control screen does not come on.)</p>	<p>Battery isolator switches</p>	
<p>4B. Engine will not start</p> <p>Any of up to four emergency stop push buttons interrupt starting</p>	<p>Emergency stop push button 1 on cab operator panel</p> <p>On the operator's Left Control Panel, turn red button counterclockwise to release</p> <p>Emergency stop push button 2 beside boarding ladder</p> <p>This switch may be removed from frame and tied for transit</p> <p>Turn red button counterclockwise to release</p> <p>Emergency stop push button 3 is located on Main Electrical Cabinet (MEC). Turn red button counterclockwise to release</p>	

4C. Engine will not start

Main circuit breaker on engine junction box  
Push to reset main breaker stamped with 105 or 175

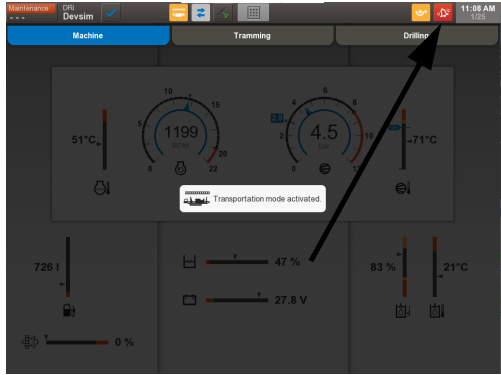


## 6. For Dock Personnel

### Steps for starting and operating rotary drill

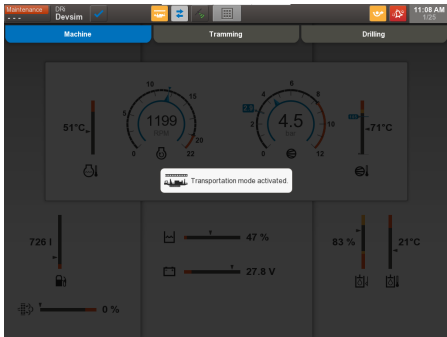
Refer to the truck driver instructions for starting and operating.

Use the following table as tool for troubleshooting the machine. This section notes technical details that may require hand tools to troubleshoot and get machine operating.

Problem	Items to check/correct	Location
<p>1A. Engine will not start Engine turns over spinning fast</p> <p>No evidence of fuel</p> <p>No start condition</p>	<p>Power when key is engaged</p> <p>Check fuel level.</p> <p>After engaging Start, the machine will continue to try starting until E-Stop is pressed.</p>	<p>Reference emergency stop switches.</p> <p>Reference fire suppression switch.</p> <p>On left armrest.</p>
<p>1B. Engine will not start</p> <p>Engine turns over spinning fast</p> <p>No start condition</p>	<p>Check alarm log by pressing red bell icon (top right of display screen) for active alarms.</p> <p>Engine problem requires technician</p> <p>Call factory with machine model and serial number</p>	 <p>The image shows a digital display interface for a machine. At the top, there are tabs for 'Machine', 'Training', and 'Diagnosis'. The main display area contains several gauges: a temperature gauge on the left showing 51°C, a central speedometer showing 1199 RPM, a pressure gauge on the right showing 4.5, and another temperature gauge on the far right showing -71°C. Below these are other indicators like '726 l', '47%', '27.8 V', '83%', and '21°C'. A red bell icon is located in the top right corner of the display, and a black arrow points to it from the right. A notification at the bottom of the screen reads 'Transportation mode activated'.</p>

## Technical subjects needing technician

The following may require hand tools and technical support.

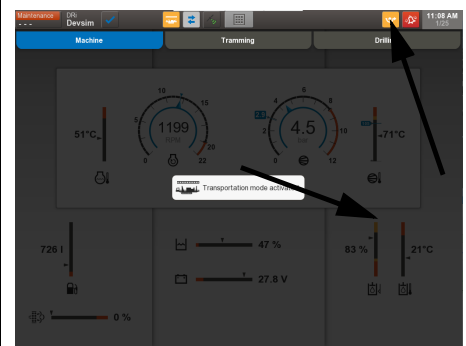
Problem	Items to check/correct	Location
<p>2A. Engine starts and engine stops</p> <p>Engine starts then stops No start condition</p>	<p>Low air pressure in air receiver tank</p> <p>Check air hoses, inlet control valve, or call factory with machine model and serial number.</p>	<p>After system start air pressure will rise to 8.5 bar.</p> <p>NOTE: Should not exceed into red range on gauge</p> <p>If air pressure is in the red, tank is over-pressurizing and an alarm will notify operator of exceeding pressure within the receiver tank.</p> <p>If receiver tank pressure is below 2 bar, the system will shut down and alarm will activate notifying operator of low pressure.</p> <p>Note: Low compressor oil pressure alarm will be activated</p> 

2B. Engine starts and engine stops

Engine starts then stops No start condition

Check fluid levels.

Turn the ignition key OFF and allow the GUI to shut down. Turn the ignition key ON, allow the GUI to reboot, and restart.



**Attention Truck Driver and/or Dock Personnel:**

if you have trouble starting or operating this machine and you alter this product in any form Please make note below and leave this form in the cabin for our recipients at the machine's final destination.

Our representative at the final destination is responsible for making any necessary trouble-shooting repairs. Please be aware that altering this product for the purpose of transport may affect the product warranty.

**Notes:**

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