Define or Edit a Material

```
      TransTech Systems
      Schenectady, NY, USA
      Soil Density Gauge

Patents
5,900,736  6,414,497  7,219,024
      Copyrighted 2009
      SDG Model 1.2

Initializing...
```

Turn the SDG on by pressing the ON button. After a few seconds the TransTech boot up screen will appear followed by the Main Menu screen.

```
             Main Menu

(1) Use Current Material
    DK BR SAND W GR
(2) Material Selection Menu
(3) Setup Menu
(4) Standardize Gauge
(5) Data Storage and Reporting
```

The Main Menu screen will display five options as shown:
Press 2 to view the Material Selection Menu

```
             Main Menu

(1) Use Current Material
    DK BR SAND W GR
(2) Material Selection Menu
(3) Setup Menu
(4) Standardize Gauge
(5) Data Storage and Reporting
```

```
       Material Selection Menu

(1) Select User Defined Material
(2) Edit User Defined Material


0 to Exit to Main Menu
```

Press 2 to Edit a User Defined Material

```
     Edit User Defined Material
DK BR SAND W GR
SOIL 2
SOIL 3
SOIL 4
SOIL 5
SOIL 6

UP/DOWN to Scroll
ENTER to Preview Material
0 to Exit to Main Menu
```

Use the up and down arrow keys to select the material you want to edit.
Highlight the material to be edited, and then press ENTER to view the first page of material properties.
Press the Up or Down arrow key to view the second page of material properties.

```
        Preview Material

Soil ID: 77.197
Description: DK BR SAND W GR
Max Dry Dens: 133.80
Opt Moisture: 6.60
PL: 0.00
LL: 0.00
Cu: 7.57
Cc: 0.99
UP/DOWN to Scroll
```

```
        Preview Material
%Gravel: 15.4
%Fines: 8.1
%Sand: 76.5
%Greater than 3 in: 0.0
%Greater than ¾ in: 7.3


UP/DOWN to Scroll
0 to Exit to Material Menu
ENTER to Edit Material
```
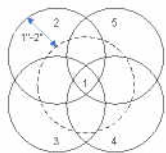
Confirm that the material displayed is the material to be edited then press ENTER. Use the arrow keys to scroll through the material properties and highlight the property to be edited. The active material property will be highlighted.

```
       Edit Material 1 of 12

Description: DK BR SAND W GR
Soil ID: 77.197
MAX Dry Dens: 133.80
Opt Moisture: 6.60
PL: 0.00
LL: 0.00

UP/DOWN to Select Property
Press ENTER to Edit Property
0 to Exit to Main Menu
```

```
       Edit Material 1 of 12

Soil ID: 77.197
MAX Dry Dens: 133.80
Opt Moisture: 6.60
PL: 0.00
LL: 0.00
Cu: 7.57

UP/DOWN to Select Property
Press ENTER to Edit Property
0 to Exit to Main Menu
```

Press ENTER to select the active material property and open an edit screen. Once the new property is correctly entered, press ENTER to accept the new property and return to the Edit Material screen. Press the up arrow to return to the Edit Material Menu without making any changes.

```
       Edit Material Property

ID: 77.197
New ID: 98.198




UP to Exit to Edit Material Menu
ENTER to Accept and Continue
```

Press 0 to return to the Main menu. The material that was just edited will now be the active material displayed on the Main Menu.

Running a Test
After charging the battery, configuring the gauge, and defining a material to test, the SDG is ready to make density measurements.
Measurement Pattern

A complete test consists of five individual measurements taken in a "cloverleaf" pattern at the test location. Upon completion of each reading, the SDG will prompt the operator to move to the next location.

When placing the SDG at a location for a measurement, DO NOT push down on the unit to 'seat' the unit in place. Set the unit down on the surface and check to see if it rocks side-to-side.

Do not touch the SDG while it is taking a measurement.

Measure Density

```
        Preview Material

Soil ID: 77.197
Description: DK BR SAND W GR
Max Dry Dens: 133.80
Opt Moisture: 6.60
PL:
LL:
Cu: 7.57
Cc: 0.99
UP/DOWN to Scroll
```

```
        Preview Material
%Gravel: 15.4
%Fines: 8.1
%Sand: 76.5
%Greater than 3 in : 0.0
%Greater than ¾ in : 7.3


UP/DOWN to Scroll
0 to Exit to Main Menu
ENTER to Accept Material
```

The Main Menu will display the currently selected material. Press the 1 key to display and verify its properties.

```
Start Measurement


Current Material
DK BR SAND W GR



ENTER to Start Measurement
0 to Exit to Main Menu
```

Use the arrow keys to view all of the user defined material properties.

Verify that the properties of the current material are correct for the material being measured and press ENTER to accept it and proceed to make a measurement.

```
Average Measurements
Soil type DK BR SAND W GR
1/30 Tests
Please move gauge to location 1



ENTER to Take Measurement
0 to Exit to Start Measurements
```

```
Location 1 of 5
Soil type DK BR SAND W GR




==================→
```

Move the gauge to locations 2, 3, 4 and 5 and continue to take measurements. .

```
% Compaction:    107.0
% Moisture:       6.3
Wet Dens:    152.2 lb/ft³
Dry Dens:    143.2 lb/ft³
Vol. Moisture: 9.0  lb/ft³
Latitude: 42 47.1681N
Longitude: 73 54.7788W
ENTER to Start Next Reading
0 to Exit to Main Menu
```

At the conclusion of a test the results are calculated and displayed.
View and/or record the results and press ENTER to make another measurement on the same material or press 0 to return to the Main Menu.

Data Storage and Downloading Data
The SDG saves two types of data files. One file contains information that is referred to as *diagnostic* data, the other file contains information that is referred to as *measurement* data. Data files can be removed from the SDG via a USB flash drive.

Measurement Data
The measurement data is an electronic record of all complete tests. It is a comma delimited text file containing the following information:
Test Number, Dry Density, Wet Density, Moisture Content, Volumetric Moisture,   % Compaction, Material Name, Time, Date, Latitude, Longitude, UTC Time, UTC Date.
The measurement data is saved to a file that is automatically named by the SDG at the time of download. The following naming format is used:

month:month:day:day:hour:hour:minute:minute.mnt
03061510.mnt for March 6, 3:10 PM

The SDG is designed to store 30 complete tests (30 sets of five measurements).
As the maximum storage capacity is approached (at 25 measurements) the SDG will issue a warning that the operator will need to download records from the data base. At this time it is advised that users download the data then clear the database.

Downloading Data

```
Main Menu

(1) Use Current Material
 DK BR SAND W GR
(2) Material Selection Menu
(3) Setup Menu
(4) Standardize Gauge
(5) Data Storage and Reporting
```

```
Data and Reports Menu

(1) Download Data to USB Drive
 17/30 tests

(2) Clear Memory


0 to Exit to Main Menu
```

From the Main Menu press 5 to enter the Data and Reports Menu

```
Download Menu
(1) Download Diagnostic Data
(2) Download Measurement Data


0 Exit to Data and Reports Menu
```

Press 1 to download the current diagnostic data

```
Insert USB Flash Drive

ENTER to Download
0 to Exit to Data and Reports Menu
```

There will be a prompt to insert a USB flash drive and press enter to continue

```
Downloading

04251115.dat




>   >   >   >   >
```

Press ENTER to initiate the download. An audible indication will be given upon completion of the download and the display will return to the Data and Reports Menu.

Clearing the Data Base
Verify that the desired data files have been downloaded the proceed to clear the database.

```
Main Menu

(1) Use Current Material
 DK BR SAND W GR
(2) Material Selection Menu
(3) Setup Menu
(4) Standardize Gauge
(5) Data Storage and Reporting
```

```
Data and Reports Menu

(1) Download Data to USB Drive
 17/30 tests

(2) Clear Memory


0 to Exit to Main Menu
```

From the Main Menu press 5 to enter the Data and Reports Menu.

Press 2 to clear the data base

```
Delete Data

||||||
You Are About To Clear the
 Memory
||||


0 Exit to Data and Reports Menu
ENTER to Clear Memory
```

Press ENTER on the Delete Data screen and the data base will be cleared.