



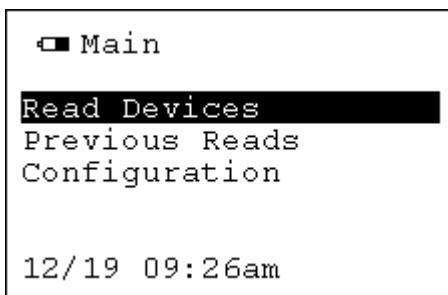
User Reference Guide

Active Handheld Reader

Turning a unit on

When a **HandBAT** is first picked up the display will normally be turned off. To turn the unit on press any key. If the display contrast appears too dark, or too light, press the **MAIN** function key and then the right or left arrow keys to change the contrast. The right arrow key each time it is pressed will darken the display. The left arrow key each time it is pressed will lighten the display.

Main

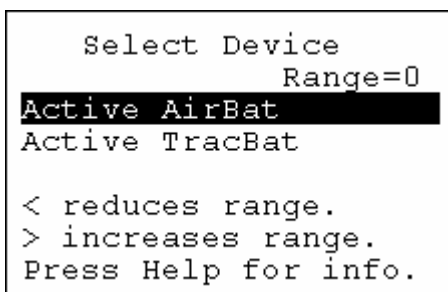


This screen is the Main Menu and is used as a selection screen for desired functions of the handheld reader. Select the function you wish to perform. You have three functions to choose from. The primary function of the HandBAT is to **Read Devices**. The second is for reviewing **Previous Reads** stored in the HandBAT. The third is for **Configuration** of the HandBAT itself.

At any time, and in any screen on the HandBAT, you can press the help key for assistance. All help screens are context sensitive.

Read Devices

This is the primary screen option used to read your BAT RF tags installed on your vehicles. To activate this option press the up or down keys to highlight this option, then press the **Enter Key** found in the middle of the up/down and left/right arrow keys. After depressing the **Enter Key** you will be presented with the **Select Device** screen as shown below.



Select the type of BAT RF Sensor you wish to read at this time. You have several choices to choose from: TracBAT sensors, and AirBAT sensors. Select your choice by using the up/down keys to highlight your desired Sensor type and pressing the **Enter Key**.

NOTE: Make sure you are within range of the sensor you are before attempting to read. If several sensors can be seen at once it may be necessary to change the range so that only close sensors can be read. Get close to the desired sensor with the lowest range setting so that you know which sensor you are reading.

For advanced Users only:

The Range setting allows for tweaking of the read range of the unit. Normally you want this to be set as close to zero as possible. On rare occasions the user may want to scan the area for tags that may not be right near them. In this case the HandBAT allows for range to be increased up to 5. After reading the sensor reduces the range back down so that the next user does not accidentally read sensors that are not in the line of sight.

READING TracBAT mileage sensors

If you have a TracBAT mileage sensor, then use the up/down keys to highlight this menu item. Point the hand held at the TracBAT you wish to read, and press the **Enter Key**. If the tag is not within range or there is a problem with the tag, then you will get the Read Failed screen as shown below.

```
TracBat Devices
Find TracBats R=0
Read#      Mileage

TracBats found, but
None were in range.
Get closer or change
range, See Help.
```

This may be caused by not holding your handheld reader within range of the TracBAT mileage sensor you wish to read. Please move to within the reading range and try again. If the problem persists, and you cannot read the desired sensor, then increase range just a bit. Be careful to not increase range too much since you may begin to see sensors behind you instead of the one of interest. See screen help for more info.

When a successful read of the TracBAT has taken place, the following screen will appear on the **HandBAT**. This screen is the main information screen for the TracBAT. There is a sub-screen available which will read the trip mileage data from the sensor.

```
TracBat
Rd#17 12/19/07 09:57
S/N    0005540/19 7

Life    0003265 mi
Trip    Press Down

Fluid Entry Press >
```

To read the trip mileage information, press the **Down** arrow key. Note that the trip mileage has a resolution of tenths of a mile. When you chose to get the trip mileage it will reread the mileage sensor and return a screen similar to that shown below. At this point all the life and trip information has been stored in the **HandBAT**.

```
TracBat
Rd#17 12/19/07 09:57
S/N    0005540/19 7
Revs   505 Revs/mi
Life   0003265 mi
Trip   000001.4 mi
Reset trip Press ^
```

Reset the trip mileage information that is stored in the TracBAT sensor, by pressing the up arrow key.

*** Caution, this will erase the trip information stored in the TracBAT. When you press the up arrow key, the following screen will appear on the HandBAT. At this point, all of the data for the current sensor being read has been stored in the HandBAT, and displayed.**

```
TracBat
Rd#17 12/19/07 09:57
S/N    0005540/19 7
Revs   505 Revs/mi
Life   0003265 mi
Trip   000001.4 mi
Reset trip succeeded
```

If you press the up arrow key, and the **HandBAT** does not succeed in resetting the trip for some reason error messages will be given with the option to try again. When the trip is reset the reset is logged into memory for later download.

If it is desired to enter a Fuel quantity instead of reading the Trip the following screens would have been shown when the **Fluid Entry** option was chosen.

```
Fluid Entry
Rd#19 12/19 11:14am
Fuel Amt  0000    Gal
Oil Amt   0      Qt
Save
```

The fluid quantities are entered by using the up and down arrows on each selected digit. When finished press enter then select the **Save** selection and press enter. A beep will sound confirming the save. If the screen is exited without saving the data will be thrown away.

READING AirBAT sensors

```
Select Device
                Range=0
Active AirBat
Active TracBat

< reduces range.
> increases range.
Press Help for info.
```

If you have an AirBAT sensor, then use the up/down keys to highlight **Active** AirBAT from back in the **Select Device** screen. Point the **HandBAT** at the AirBAT sensor you wish to read, and press the **Enter Key**. If the sensor is not within range or there is a problem with the sensor, then you will get the Read Failed screen as shown earlier in this manual. Use the help screens to diagnose the difficulty.

When a successful read of the AirBAT has taken place, the following screen will appear on the HandBAT. This screen is the main information screen for the AirBAT sensor. The data is now stored in the hand held reader for later viewing.

```
Dual AirBat
Rd#18 12/19/07 10:10
S/N    0046562/49 7
Outer          80 PSI
Inner          100 PSI
Low Limit      90 PSI

Set Limits  Press >
```

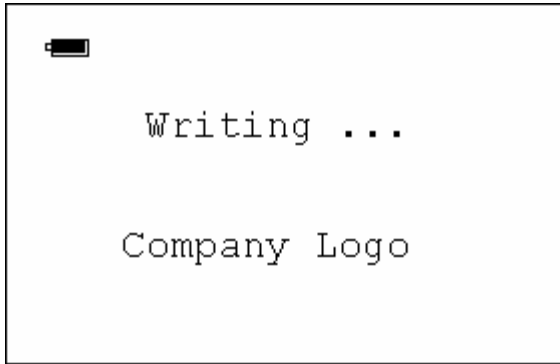
To change the pressure warning limits on the sensor press the right arrow key. A screen similar to the one shown below will be displayed.

```
Change Low Limit

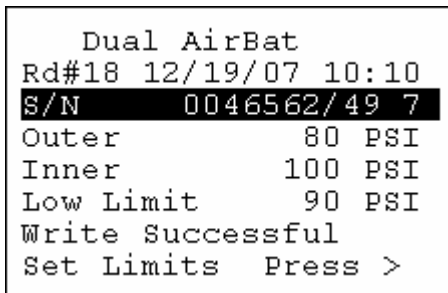
Write Limits
Set Low Limit      90

Select Write limits
and press Enter to
change this AirBat
```

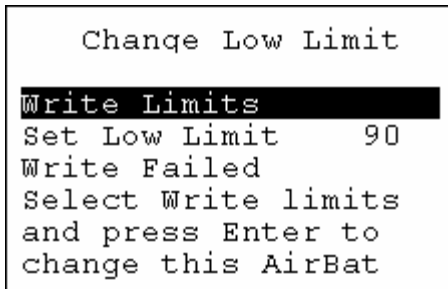
If you want to change the limits, use the arrow keys to navigate to the setting you want to change, then press enter and you will be allowed to change the limits in 5 PSI increments by once again pressing the up and down arrow keys. When the limits have been set to the desired values press the **Enter Key** which changes the default write settings then arrow to the **Write Limits** line and press **Enter**. This will write the limits to the desired tag. The writing screen will be shown as portrayed below.



Then you will be returned to the previous screen with a message about whether or not the write was successful. If the write to the AirBAT sensor works a screen similar to the one shown below will be returned. The new limits should be shown on the screen.



However if the write failed a different screen will appear with the failed message. If you should get the Write Failed message, you might move the hand held reader closer to the sensor being written to. By pressing the **Enter Key** again, it will try and write out the desired pressure limits.



To return to the Main menu depress the MAIN key.

To return to the previous screen press the BACK key.

To get Help (additional directions) depress the HELP key. If this instruction manual is differs from the on screen help then defer to the on screen help as it will always be more up to date.

Viewing Previous Reads

Each time you read any BAT RF tag, the data is stored in the **HandBAT**'s internal memory. The data is assigned a read sequence number. This allows the user to easily and quickly retrieve tag data previously stored in the **HandBAT**. The memory can hold up to 400 records. When this memory is full the **HandBAT** will replace the oldest record in the stored record list upon each new read event. This means that when the 401 record is stored, record 1 is erased, and replaced with the data for 401 then renumbered to 400. Record 2 now becomes the oldest record and will be renumbered to 1.

To view the records, from any screen, press the main key. This will return you to the main screen. Using the up or down arrow keys, highlight the **previous reads** option in the main menu and depress the **Enter Key**. The following screen will appear.

```
Previous Reads
View Records
Erase all records
Download to PC
```

Select **View Records** and press the **Enter Key** and the following screen will appear. The most recent records will be displayed. To view the detail data of any record, move the cursor up or down to highlight the desired record, and press the **Enter Key** to view the details on that record. The cursor moves up or down one record each time the up or down arrow key is pressed. You can move down 5 records by pressing the right arrow key, or you can move up 5 records by pressing the left arrow key. If you hold the keys down they will auto scroll.

```
View Records
Read#  Data
18 000 000i PSI
17 0003265 mi
16 000 000i PSI
15 080 100i PSI
14 0053543 km
13 0181269 mi
```

Highlight the desired record and press the **Enter key**. A sample record screen is shown below.

```
Dual AirBat
Rd#18 12/19/07 10:10
S/N 0046562/49 7
Outer 80 PSI
Inner 100 PSI
Low Limit 90 PSI
< Delete
```

This screen shows the information about the sensor that was read. The first line describes the sensor that was read then the read date is shown using military time. The S/N of the device follows then the information read from the device. The **Delete** record option is always allowed also if the **Left** arrow key is pressed. If a record is deleted it remains in the list so that numbers stay ordered but the data is removed. When a download occurs the deleted record serial number is sent but the data is flagged as erased.

Press the **Back** key two times to return to the **Previous Reads** menu. The second item in on this page is the Erase all Records feature.

```
Previous Reads
View Records
Erase all records
Download to PC
```

When this item is selected by pressing the **Enter key**, the following screen will be shown. Use the up and down arrow keys to highlight the desired selection. By selecting the **Yes** menu item, and pressing the **Enter key**, all of the stored records will be erased. Selecting **No** will return you to the previous menu.

NOTE: This will permanently erase all records, and they cannot be retrieved.

```
Erase all records
No
Yes
```

Press the back key, to look at the last item **Download to PC**. Highlight the **Download to PC** option and press **Enter**. You will be given a prompt to **Enter to Download** as shown below.

```
Download to PC
Enter to Download
```

To Begin the download make sure you are in range of a wireless download pod connected to a PC then press **Enter**. The following screen will be shown.

```
Download to PC
19 Records sent
Downloading...
Download complete
Press any key
```

If for some reason the download fails a message will be given to diagnose the problem. If a pod cannot be found the following is an example of one of the diagnostic messages.

```
Download to PC

19 Records sent
Downloading...
Download failed
No Pod found

Press any key
```

The records will be uploaded to the internet usually within a few minutes upon a successful completion. The HandBAT time is updated on each download to keep records synchronized to local time.

Configuration

This option of the main menu will allow you to configure various user **HandBAT** parameters. When selected the following screen will be shown.

```
Configuration

Version
HandBat settings

Factory Test
```

Configure – Version

When **Version** is selected the following screen will be shown.

```
Version
P/N 8200000
S/N 0010923/49 7
-----
MCU version 116
MCU build C40AF576
```

The version screen allows the user to tell which version and build numbers are currently programmed into the processors inside the unit. This screen will normally only be referenced for warranty or upgrade purposes.

Configure – HandBAT settings

The **HandBAT settings** screen allows you to set default parameters in the system. When selected a screen similar to the one below will be shown.

```
HandBat settings
Select Units Gal
Fuel Resolution 1.0
Set Low Limit 90
Power Down Time 15
Read Range R=0
```

The **Select unit** allows the user to select the desired fuel entry units that will be used when entering fuel. The **Fuel Resolution** sets whether .1 or 1.0 resolution is used. The **Set Low Limit** option is the low tire pressure setting that will be used as a default but can be overridden when actually writing the low limits in an AirBAT. The **Power Down Time** sets the amount of time in minutes that a HandBAT screen will remain on when it is left inactive. Finally the **Read Range** option sets the read range of the HandBAT but can also be set when reading units for ease of use.

Note: When the HandBAT device goes to sleep and turns off the screen it is very easy and quick to wake up the HandBAT and use it again with just the touch of any key on the handheld.

Configure – Factory Test

```
Configuration
Version
HandBat settings
Factory Test
```

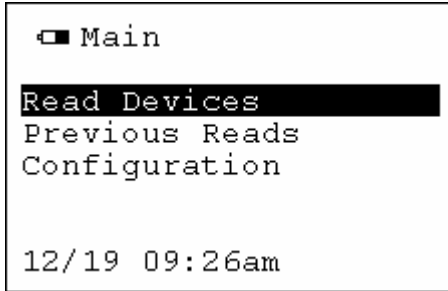
With the Factory Test menu item highlighted, press the **Enter Key**, and the following screen will appear

```
Enter Password
WARNING
Unauthorized access
may void warranty
-----
|                               |
-----
```

This menu is password protected and is for factory use only; it **cannot be accessed by end user**. Press the **Main key**, or the **Back key** to exit.

If for some reason customer service asks you to go into this screen for diagnostic purposes you will be given a password that will last for two hours.
The password will be a number that is entered on the keypad.
The Right arrow key corresponds to +4
The Left arrow key corresponds to -4
The Up arrow key corresponds to +1
The Down arrow key corresponds to -1
The password will be a minimum of 5 digits.

Battery indicator



The battery indicator is shown in the upper left hand corner of the main screen (as shown above). It will show the current status of the battery. When the battery gets sufficiently depleted the unit will not allow the user to keep the device turned on. If a HandBAT becomes severely discharged the **HandBAT** will display a low battery message and then turn itself off automatically.

Battery Charging

If the **HandBAT** is plugged into a charger the battery indicator will be replaced by a plug icon with either a C (charging) or F (full) until the unit is fully charged.

Care and Handling of the HandBAT

The HandBAT is not hermetically sealed and will be damaged if left in water.

Troubleshooting

The system can be reset holding down the **Back** and **Down** arrow keys simultaneously for approximately 4 seconds; the screen will flash and redraw. No records or data will be lost.

RF exposure information

Safety specifications or Specific Absorption Rate info


Under United States FCC guidelines, part 15 section 247, this device is categorically excluded from routine environmental evaluation for demonstrating RF exposure compliance with respect to MPE and/or SAR limits.

- 1.) Exposure falls under general population/Uncontrolled exposure.
- 2.) Device transmits less than 10 mW of power in the 2.4 to 2.48 GHz band.
- 3.) The device should be considered a spread spectrum transmitter.
- 4.) Typical exposure times are less than 5 seconds during any tag reading.
- 5.) This device is tested and evaluated under US FCC part 15 section 247.
- 6.) The device is tested as a production unit.

The unit uses a meander line radiator with less than 3 dBi of gain and less than 10 mW of output power.

CERTIFICATIONS

This unit complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

 FCC ID: SRA-8200000

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying Rf exposure compliance.

Should you need any additional assistance with any problems or issues please contact STEMCO Customer Service at (800) 527-8492.

This product meets the applicable Industry Canada technical specifications/Le présent matériel est conforme aux spécifications techniques applicables d'Industrie Canada.
IC: 7413A-8200000



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