SENSOR REPLACEMENT UTILITY

SOFTWARE MANUAL
VERSION 1.00

Scanivalve Corp.

PREFACE

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CONTACT INFORMATION

If there are any questions or concerns regarding any Scanivalve product please do not hesitate to contact us at the following:

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TABLE OF CONTENTS

SECTION 1: INTRODUCTION

OVERVIEW

The Sensor Replacement Utility was developed as an easy to use method to move sensor coefficients. It is compatible with:

- DSA3007
- DSA3207
- DSA3307
- DSA3017

- DSA3018
- DSA3217
- DSA3218

The software is designed to upload and download Sensor Profile Files (.spf files).
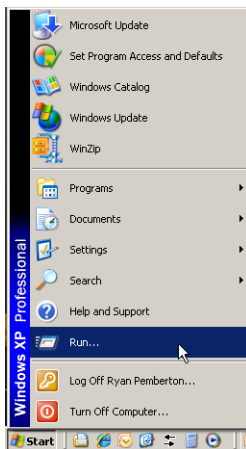
SYSTEM REQUIREMENTS

Windows XP SP3
Windows 7
Pentium IV or better processor
512 Mb RAM
Microsoft Framework.net V2.0 or higher*

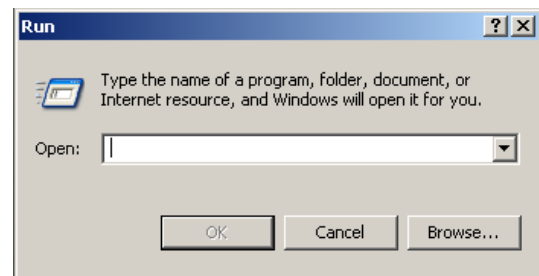*.NET Framework is available as a free download from Microsoft

INSTALLATION

To install the software,
1. Place the installation CD in a CD or DVD drive
2. Click **Start**, then **Run**.

3. Select **Browse**.

4. Open the drive where the CD is installed, highlight **Setup.exe** and click **Open**.
5. Click **Ok** in the 'Run' window to begin the installation.
6. Follow the on screen prompts to complete the installation.

If the Sensor Replacement Utility has been downloaded from the Scanivalve website, unzip the file and double-click the **Setup.exe** file. Follow the on screen prompts to complete the installation.

OPERATION

GETTING STARTED

The main window of the Sensor Replacement Utility can be seen in Figure 2.1. It is made up of the menus across the top in traditional Windows format, the IP address field, the channel number field and the status panel.
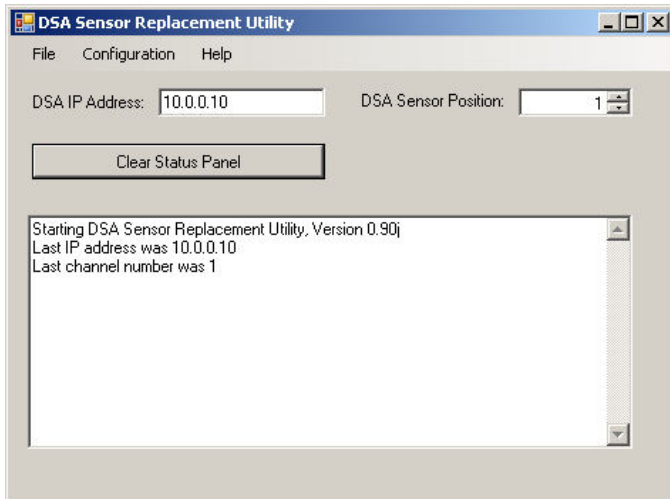

FIGURE 2.1 - MAIN WINDOW

Under the **File** menu (Figure 2.2) are three options:

'**Create SPF...**' - This option downloads coeficients from a specified channel of a specified module and creates a Sensor Profile File (.spf).

'**Open SPF...**' - This option uploads a Sensor Profile File (.spf) to the specified channel of a specified module.
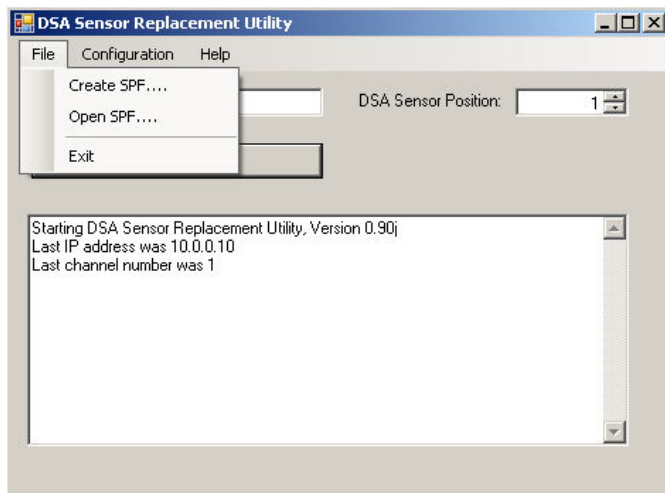

FIGURE 2.2 - FILE MENU

'**Exit**' - This option closes the Senor Replacement Utility.

Under the **Configuration** menu (Figure 2.3) is one option:

'**Debug**' - This option either enables or disables additional debug information to be printed to the status panel. This information is not needed for most applications however it provides useful information when trying to understand problems with the software.
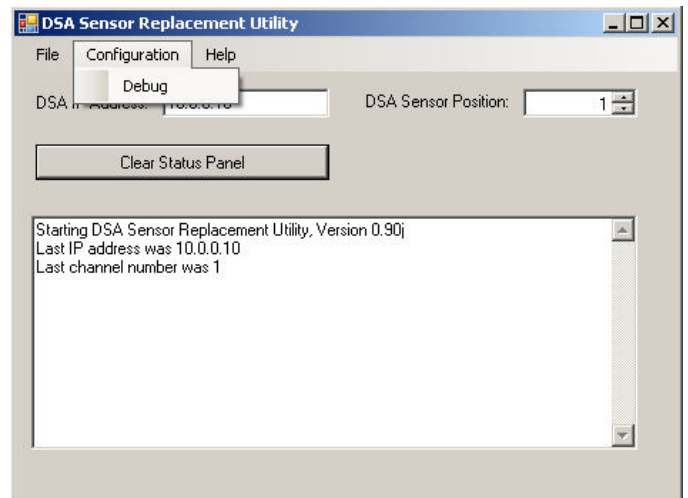

FIGURE 2.3 - CONFIGURATION WINDOW

The **Help** menu (Figure 2.4) provides one option:

'**About**' - This option provides basic information about the Sensor Replacement Utility including the software version.
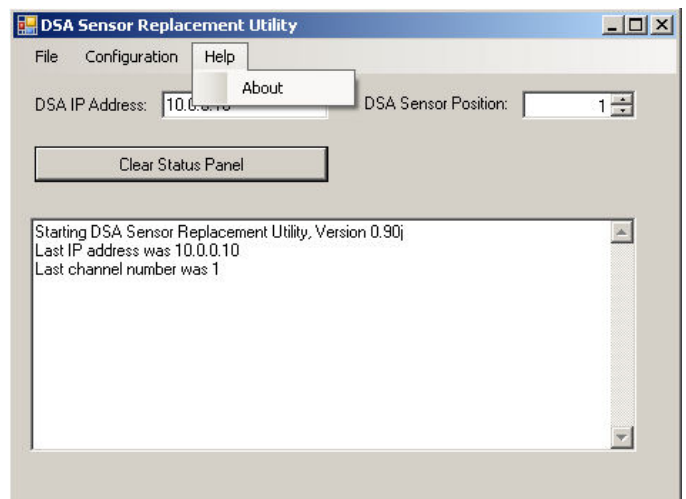

FIGURE 2.4 - HELP MENU

The **DSA IP Address** field (Figure 2.5) is a configurable field used to define the IP Address of the DSA module being communicated with. Simply enter the IP Address of the DSA module being communicated with before attempting to establish a connection.
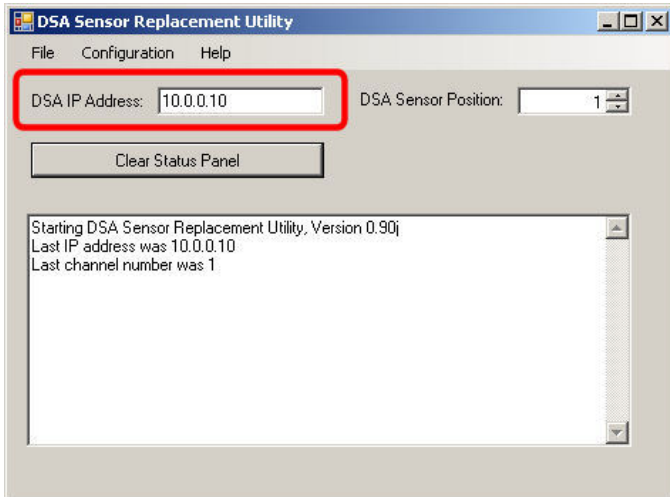

FIGURE 2.5 - IP ADDRESS FIELD

The **DSA Sensor Position** field (Figure 2.6) is a configurable field used to define the position that the Sensor Profile File (.spf) will be uploaded to or downloaded from. This field uses 1-16 channel numbering*. The channel can be changed by either clicking the up and down arrows or manually entering the desired channel.
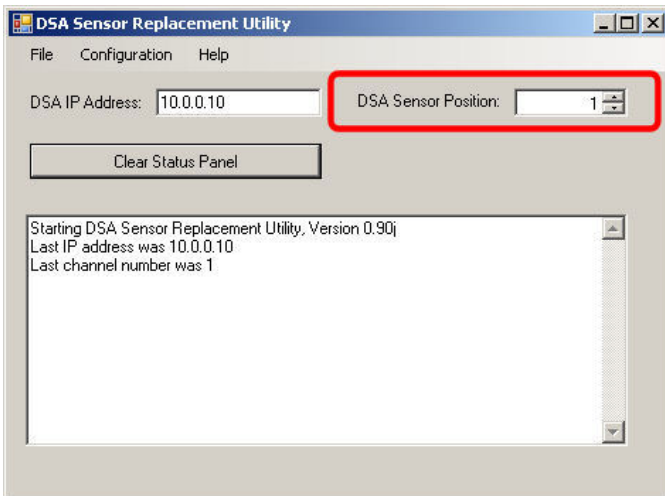

FIGURE 2.6 - DSA SENSOR POSITION FIELD

The **Status Panel** (Figure 2.7) is a text window on the main screen that displays information about the configuration and activity during a Sensor Profile File (.spf) creation or upload. The text in the **Status Panel** is not editable, however it can be selected, copied and pasted into a text document for review or archiving.

FIGURE 2.7 - STATUS PANEL

The **'Clear Status Panel'** button (Figure 2.8) is located above the **Status Panel**. When clicked, all text displayed in the **Status Panel** is cleared. The data displayed in the **Status Panel** can very quickly become cluttered and difficult to sort through, this feature makes it very easy to eliminate unwanted data.

FIGURE 2.8 - CLEAR STATUS PANEL BUTTON

*NOTE: DSA software references channel 0-15, while the hardware is numbered 1-16. The Sensor Replacement Utility uses 1-16 numbering.
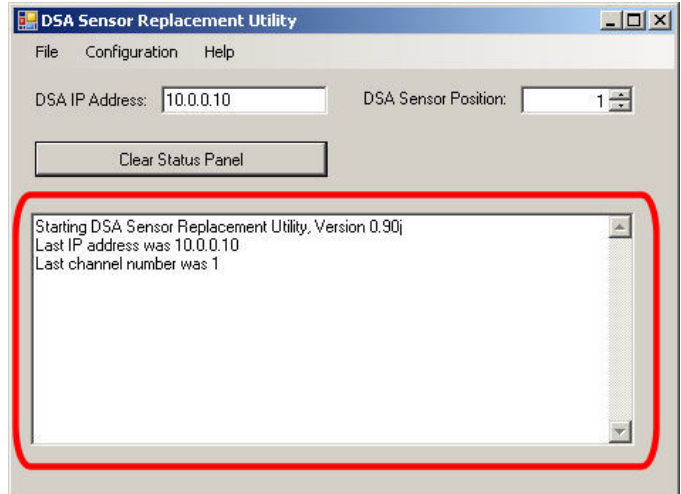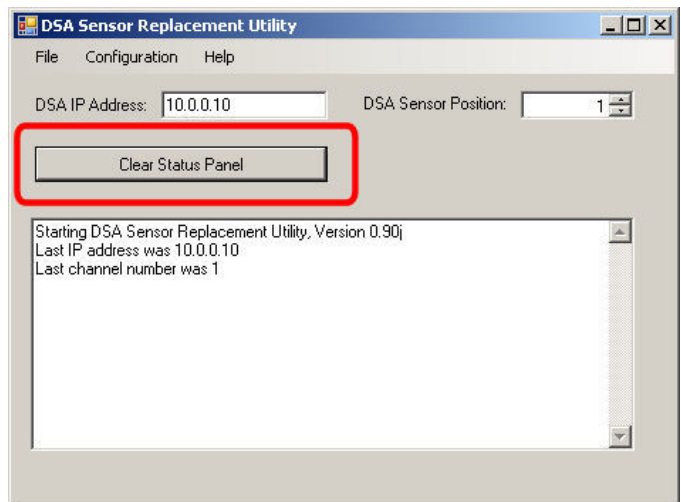
CREATING A SENSOR PROFILE FILE (.SPF)

The ability to create a Sensor Profile File (.spf) is used when a sensor is being moved from one position to another. This can also be done between modules. The procedure for removing and replacing sensors is covered in detail in the appropriate DSA hardware manual. Take great care with procedure as damage can easily be done to the sensor and/or the module. It is recommended before moving a sensor from one module to the next you contact Scanivalve Corp. to confirm compatibility.

Before removing the sensor from the original module, a Sensor Profile File (.spf) should be created. The .spf file contains all of the sensor's unique calibration coefficients as well as it's associated configuration variables.

Begin by configuring the Senor Replacement Utility.

1. Enter the IP Address of the module being communicated with in the **DSA IP Address** field*.
2. Select the sensor position (channel number) in the **DSA Sensor Position** field.
3. Under the **'Configuration'** menu, enable or disable the **'Debug'** function as desired.
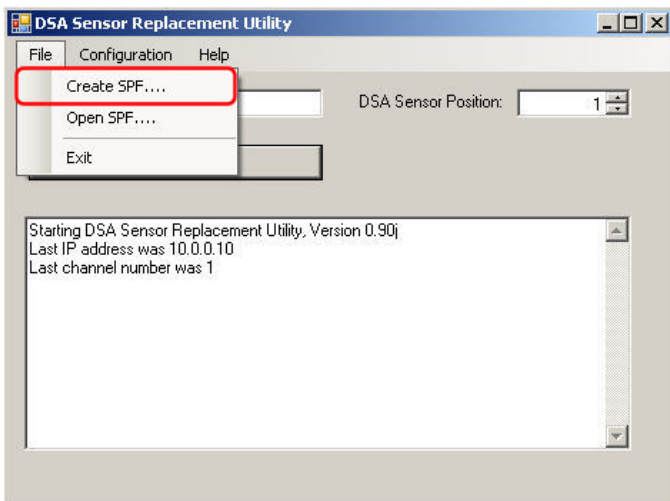4. Under the **'File**' menu, select **'Create SPF...'.**

FIGURE 2.9 - CREATE SPF

5. A window will open to allow you to input the desired name of the Sensor Profile File (.spf) to be created. Navigate to the desired directory where the .spf file will be created, then put the desired file name of the .spf file in the **'File Name'** field.
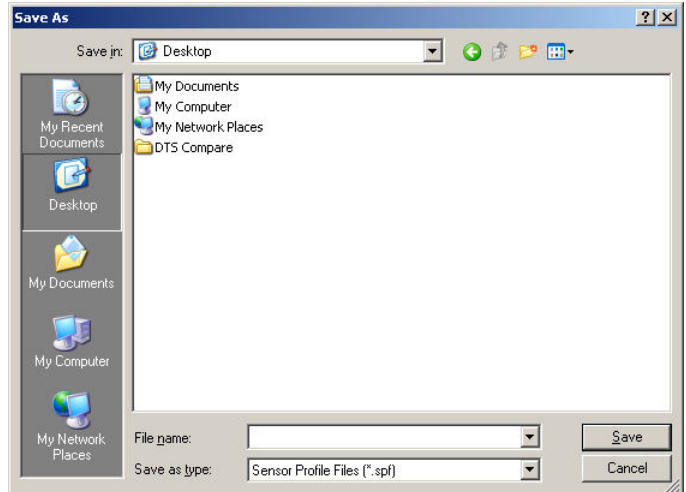
FIGURE 2.10 - SAVE .SPF FILE

6. Click **'Save'** and the Sensor Replacement Utility will create the Sensor Profile File (.spf) in the specified location.
7. Navigate to the specified directory and confirm that the Sensor Profile File (.spf) was successfully created.

A Sensor Profile File (.spf) can be opened and viewed using any text editor such as Notepad or Microsoft® Word.

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*NOTE: Ensure that the IP Address of the module is compatible with the IP Address of the host computer. For more information on this, contact Scanivalve.

UPLOADING A SENSOR PROFILE FILE (.SPF)

When a sensor is relocated in a DSA module or a new sensor is installed the unique calibration coefficients associated with the sensor need to be uploaded to the module. The Sensor Profile File (.spf) contains all of these unique calibration coefficients as well as the configuration variables associated with the sensor.

All replacement sensors are delivered from Scanivalve with the associated Sensor Profile File (.spf). If the sensor is being removed from another module, the Sensor Profile File (.spf) can also be created from the old module before the sensor is removed using the Sensor Replacement Utility. See the "Creating a Sensor Profile File (.spf)" section of this manual for more information on creating .spf files.

 To upload a Sensor Profile File (.spf), begin by configuring the Sensor Replacement Utility software:

1.   Enter the IP Address of the module being communicated with in the **DSA IP Address** field*.
2.   Select the sensor position (channel number) in the **DSA Sensor Position** field.
3.   Under the **'Configuration'** menu, enable or disable the **'Debug'** function as desired.
4.   Under the **'File**' menu, select **'Open SPF...'.**
5.   A window will open to allow you to select the desired
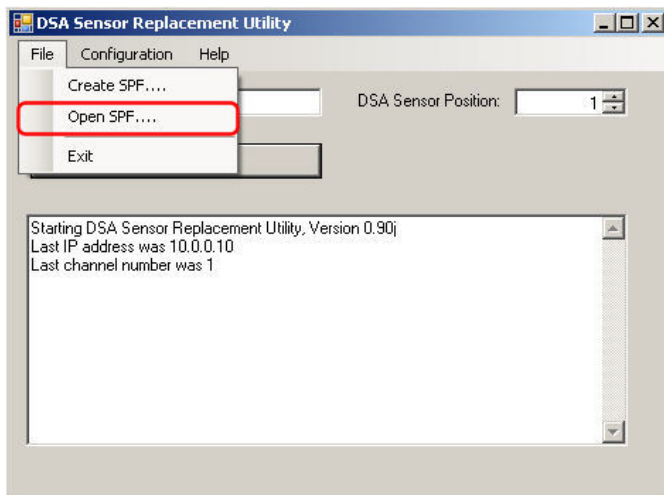

FIGURE 2.11 - OPEN SPF

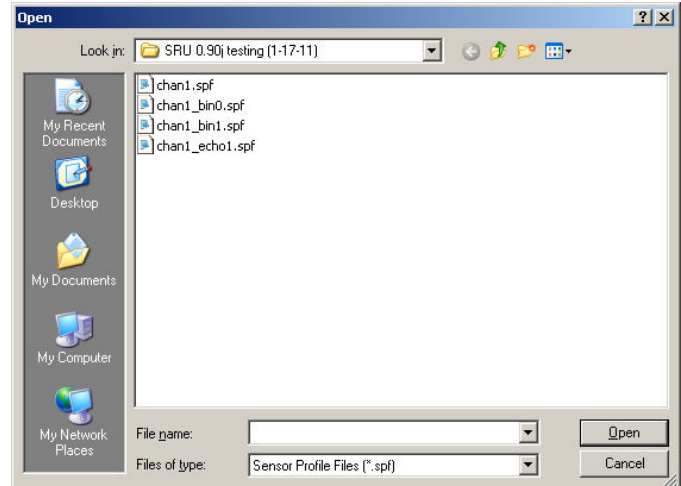Sensor Profile File (.spf) to be uploaded.

FIGURE 2.12 - SELECT .SPF FILE TO UPLOAD

6.   Select **'Open'** to begin uploading the Sensor Profile File (.spf) to the DSA module.
7.   To confirm that the upload was successful, connect to the DSA module through Telnet, HyperTerminal or another Ethernet communications venue. Send the command:

list mi X 0 69

(X = the sensor location the .spf file was uploaded to. Note that here a 0-15 channel numbering system is used. If a .spf file was uploaded to channel 1 through the Sensor Replacement Utility, 'list mi 0 0 69' would display the uploaded coefficients.)

APPENDIX A - SAMPLE SENSOR PROFILE FILE (.SPF)

SET TEMPM0 595.000000
SET TEMPB0 -14075.000000
SET ABS0 0
SET MAX0 0.210000
SET MIN0 -0.210000
SET NEGPTS0 4
INSERT 0 0 -0.200240 -15093 M
INSERT 0 0 -0.149860 -11376 M
INSERT 0 0 -0.100210 -7667 M
INSERT 0 0 -0.049350 -3897 M
INSERT 0 0 0.000000 -233 M
INSERT 0 0 0.049030 3401 M
INSERT 0 0 0.100280 7209 M
INSERT 0 0 0.150260 10907 M
INSERT 0 0 0.200420 14608 M
INSERT 5 0 -0.200140 -15066 M
INSERT 5 0 -0.150300 -11374 M
INSERT 5 0 -0.100320 -7667 M
INSERT 5 0 -0.049090 -3878 M
INSERT 5 0 0.000000 -230 M
INSERT 5 0 0.049610 3451 M
INSERT 5 0 0.099560 7142 M
INSERT 5 0 0.150160 10883 M
INSERT 5 0 0.200270 14573 M
INSERT 15 0 -0.200160 -14986 M
INSERT 15 0 -0.150210 -11293 M
INSERT 15 0 -0.099660 -7583 M
INSERT 15 0 -0.049790 -3892 M
INSERT 15 0 0.000000 -203 M
INSERT 15 0 0.049840 3482 M
INSERT 15 0 0.099920 7181 M
INSERT 15 0 0.150260 10880 M
INSERT 15 0 0.200420 14564 M
INSERT 25 0 -0.200090 -14912 M
INSERT 25 0 -0.150040 -11218 M
INSERT 25 0 -0.099860 -7532 M
INSERT 25 0 -0.050070 -3861 M
INSERT 25 0 0.000000 -170 M
INSERT 25 0 0.049810 3506 M
INSERT 25 0 0.100100 7203 M
INSERT 25 0 0.150120 10869 M
INSERT 25 0 0.200080 14540 M
INSERT 35 0 -0.200190 -14854 M
INSERT 35 0 -0.150240 -11183 M
INSERT 35 0 -0.099890 -7493 M
INSERT 35 0 -0.049850 -3811 M
INSERT 35 0 0.000000 -134 M
INSERT 35 0 0.049730 3535 M

INSERT 35 0 0.099900 7222 M
INSERT 35 0 0.150050 10895 M
INSERT 35 0 0.200080 14559 M
INSERT 45 0 -0.200200 -14813 M
INSERT 45 0 -0.150140 -11147 M
INSERT 45 0 -0.099850 -7449 M
INSERT 45 0 -0.049670 -3754 M
INSERT 45 0 0.000000 -96 M
INSERT 45 0 0.049680 3565 M
INSERT 45 0 0.099920 7266 M
INSERT 45 0 0.150160 10937 M
INSERT 45 0 0.200170 14604 M
INSERT 59 0 -0.200170 -14786 M
INSERT 59 0 -0.150130 -11111 M
INSERT 59 0 -0.099870 -7409 M
INSERT 59 0 -0.049620 -3712 M
INSERT 59 0 0.000000 -41 M
INSERT 59 0 0.049690 3634 M
INSERT 59 0 0.100140 7345 M
INSERT 59 0 0.150150 11016 M
INSERT 59 0 0.200190 14687 M
INSERT 64 0 -0.200270 -14772 M
INSERT 64 0 -0.150060 -11082 M
INSERT 64 0 -0.100060 -7396 M
INSERT 64 0 -0.049680 -3652 M
INSERT 64 0 0.000000 -1 M
INSERT 64 0 0.050290 3699 M
INSERT 64 0 0.099560 7343 M
INSERT 64 0 0.150400 11086 M
INSERT 64 0 0.200360 14756 M
INSERT 69 0 -0.200230 -14743 M
INSERT 69 0 -0.150640 -11066 M
INSERT 69 0 -0.100150 -7371 M
INSERT 69 0 -0.049910 -3657 M
INSERT 69 0 0.000000 37 M
INSERT 69 0 0.049990 3741 M
INSERT 69 0 0.099770 7412 M
INSERT 69 0 0.150460 11148 M
INSERT 69 0 0.200270 14807 M

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