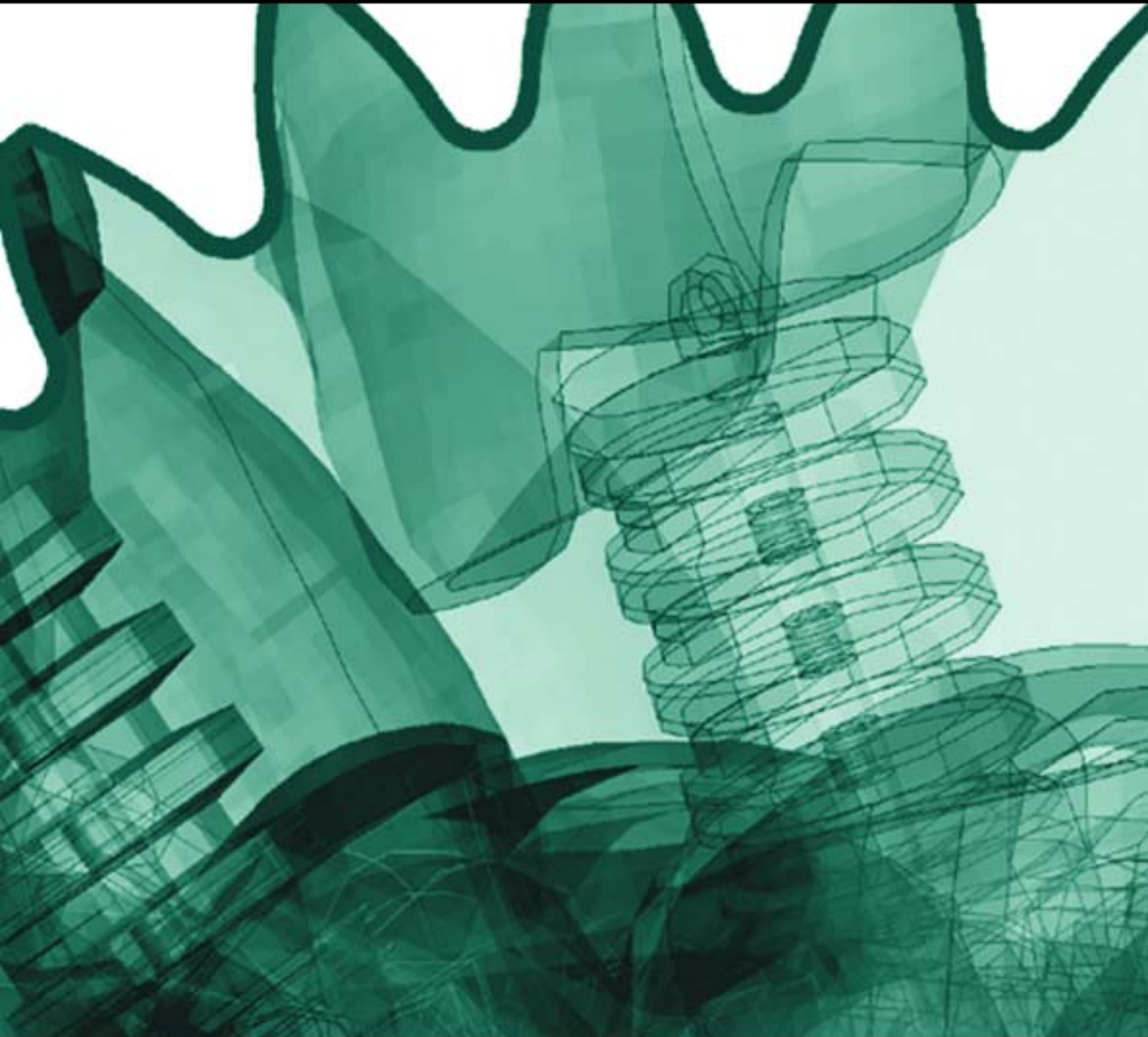


Oasys LS-DYNA Environment Software

Oasys T/HIS Version 9.3 RC1
Update and Release Notes



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1 Enhancements to Oasys T/HIS 9.3 RC1

This is a summary of enhancements of Oasys T/HIS 9.3 RC1 which have been added since 9.2.3. Details are available in the accompanying PPT slides.

- Case 10065

In version 9.2 of T/HIS the \$RUN_NAME and \$RUN_TITLE variables in FAST-TCF were always set to those of the 1st model if T/HIS had opened multiple models from a model list file. In version 9.3 \$RUN_NAME and \$RUN_TITLE still contain the information from the first model but the variables \$RUN_NAME_n and \$RUN_TITLE_n are also created for each model where (n) is the model number.

Other enhancements include the following:

- *Multiple graph windows*
- *Quick-pick*
- *Quick-pick - Multiple Curves*
- *Quick-pick - Functions*
- *Floating legend*
- *Dragging axes and legend*
- *Picking automatically initiated*
- *Axis display*
- *Curve editing*
- *Curve editing – Modify Point*
- *Curve editing – Insert Point*
- *Support for LS971 output*
- *Images – New formats*
- *Images – Postscript / PDF*
- *Images – Background*
- *Digitising – using a background image*
- *New colours*
- *New preference options & command-line*
- *FAST-TCF*

2 Bugs Fixed in Oasys T/HIS 9.3 RC1

- Case 10036

In T/HIS 9.2 the \$RUN_NAME and \$RUN_TITLE variables would not be set correctly if FAST-TCF was run in batch mode with a model list file. This has been fixed in version 9.3.

- Case 10026

In T/HIS 9.2 if multiple curves were input from the KEYBOARD and then written out to a FAST-TCF script the curve tags were applied to the wrong curves.

- Case 9861

In version 9.2 of T/HIS the data extracted from the THF for Part Groups could be wrong if the Parts had not been defined in order of increasing ID. This has been fixed in version 9.3.

- Case 9807

In version 9.3 of T/HIS the 'ERR' function now generates an output curve which is the difference between the 2 input curves. The values reported by the 'ERR' function are stored with the new output curve and can now be accessed from within FAST-TCF as follows using the property words (max_err, pc_err, pc_max_err, av_err, av_max_err, area_err, err)

```
tab test.txt curve_1 max_err      Maximum Difference & time
taba test.txt curve_1 pc_err      Max Difference as %age
taba test.txt curve_1 pc_max_err  Max Difference as %age or peak reference
taba test.txt curve_1 av_err      Average Difference
taba test.txt curve_1 av_max_err  Average Difference as %age or peak reference
taba test.txt curve_1 area_err    Area Weighted Difference
taba test.txt curve_1 err        Error Value
```

- Case 9802

In version 9.2 of T/HIS additional uncommented lines would be written out to a curve file if the NASTRAN Table D1 format was used and more than one curve was written to the file. These additional lines would then have to be removed before NASTRAN could read the data. The additional uncommented lines are no longer written out in version 9.3.

- Case 9791

In version 9.3 a new 'tabcr' command has been added to the FASTTCF options. This option is the same as the existing 'tabc' command except that it also forces the next output onto a new line. 'tabc' and 'tabcr' can be mixed in a script so that multiple output can be appended to a line using 'tabc' and then a new line can be started by using 'tabcr' for the last output on the line.

- Case 9785

In version 9.2 of T/HIS results for *CONSTRAINED_JOINT_STIFFNESS... joints are not read correctly from the JNTFORC ASCII file, all the results are reported as 0.0. This has been fixed in 9.3.

- Case 9687

In version 9.2 of T/HIS the CSV and CSV2 FAST-TCF output options only expect a single curve input. A curve tag with a wildcard 'curve_*' can be used to specify multiple curves but there is no easy way to select a subset of curves.

In version 9.3 multiple curves can be specified for both of these commands.

- Case 9686

In version 9.2 of T/HIS the 'Key in' option in the curve selection menu correctly highlights curves in the menu but the curves are not selected for output to a file. This has been fixed in version 9.3

- Case 9549

Fix for bug 9459 - rewritten routines for reading SLEOUT and RCFORC ASCII and binout files. The CONTACT->ENERGIES option now has one component 'TOTAL ENERGY'. If a contact surface has energy values for both the Master and Slave sides then the values are summed. If the contact only has a slave side value (single surface contacts) then that value is reported.

- Case 9502

In versions of T/HIS prior to 9.3 the first point in the curve generated by the rolling average operation was always set to zero. In version 9.3 T/HIS correctly sets the first point of the same value as the input curve.

- Case 9491

In version 9.3 of T/HIS the minimum and maximum values for the CLIP function are tested when the APPLY button is pressed to see if the minimum is larger than the maximum. If the values are defined the wrong way round then the values are swapped and the menu updated before the function is applied.

- Case 9490

In T/HIS 9.2 if the zoom shortcut 'Z' is used while using the Point function the Point menu is still displayed after the zoom operation has completed but the point function is no longer active. In T/HIS 9.3 the point function is automatically restarted after the zoom operation is finished.

- Case 9488

The inputs for the CLIP function have been changed so they are now displayed using 7 significant figures.

- Case 9477

If in version 9.2 of T/HIS a FAST-TCF script was run that attempted to reference a curve that was not defined within the script then the following error message was generated which was not very clear.

Number exceeds the current curve count:

In version 9.3 I have modified this error message so that it now displays the following Attempt to reference a curve not defined in this script. If you want to use this script to process curves that you select interactively then you should convert this script to a MACRO function. See section 5.13 of the manual for more details.

- Case 9474

Version 9.2 could crash on some platforms if the minimum and maximum axis values were set the same. In version 9.3 (and 9.2.4 onwards) a minimum or maximum value for an axis is only applied if it is not the same as the other value.

- Case 9384

In version 9.2.x of T/HIS LSDA files would be ignored if a LS-DYNA MPP run did not output a binout0000 file. In version 9.3 T/HIS checks for any binout file produced and opens the first one it finds.

- Case 9381

In version 9.3 a new 'tabcr' command has been added to the FASTTCF options. This option is the same as the existing 'tabc' command except that it also forces the next output onto a new line. 'tabc' and 'tabcr' can be mixed in a script so that multiple output can be appended to a line using 'tabc' and then a new line can be started by using 'tabcr' for the last output on the line.

- Case 9241

In previous versions of T/HIS if a FAST-TCF script was made containing curves generated with a function like NIJ then the script would contain 1 NIJ command for each of the curves and the resulting plot would then contain multiple copies of curves. In version 9.3 only one NIJ command is correctly generated in the FAST-TCF script.

- Case 9207

T/HIS 9.2 issues a warning if it thinks you are trying to filter a curve which is in ms instead of seconds. If you try and filter multiple curves then the same warning is displayed for each curve. In T/HIS 9.3 there are now 2 new options 'Always Ignore' and 'Always Convert'.

If 'Always Ignore' is selected then T/HIS will no longer issue the warning message and all curves will be filtered without any conversion.

If 'Always Convert' is selected then T/HIS will no longer issue the warning message and any curves that T/HIS thinks should be converted will automatically be converted from ms to s before filtering.

I have also added a option to the Setting menu to rest this.

- Case 9074

Version 9.2 of T/HIS could crash if an old style command file was replayed which was recorded after some menus has already been setup. On playing the command file back T/HIS would crash if a variable which was setup up in one of the menus that was not recorded in script was not initialised.

The following script would crash

```
Read .... 31 3 2 3 0 0 0 0
Read .... 31 3 2 3 0 0 0 0
M1:Node10000132 : 11 4 3 1 0 0 0 0
```

as it tried to access a Node 10000132 without selecting NODES first. If the script is modified as follows

```
Read .... 31 3 2 3 0 0 0 0
Read .... 31 3 2 3 0 0 0 0
Nodes .... 32 3 2 153 0 0 0 0
M1:Node10000132 : 11 4 3 1 0 0 0 0
```

to select NODES before node number 10000132 then the script runs.

T/HIS 9.3 has been modified in a number of routines to add error traps to stop these crashes.

- Case 8993

In version 9.3 of T/HIS the Automotive 3ms clip function has been modified so that it nolonger generates a seperate output curve containing the clipped curve region. From version 9.3 onwards the clip region is marked on the input curve along with the value. This change has been made to make the 3ms clip function consistent with the HIC function and to correct a bug that prevented the 3ms clip value from being displayed when a FAST-TCF script was replayed.

- Case 8912

Added options to specify a T/HIS curve file on the command line.

```
-curve_list=filename  where 'filename' is a file containing a list of T/HIS curve files to be read
-curve=filename       'filename' is a single file containing a T/HIS format curve
-bdf=filename         'filename' is a single T/HIS BDF format file
```

You can also specify a T/HIS command file by giving the filename as the last item on the command line. If the filename at the end of the command line has a '.cur' extension it is assumed to be a T/HIS curve file, '.bdf' is assumed to be a BDF file and anything else is used as the name of a model file to open.