

Release Notes for R11.2.1

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§1 Release notes revision

This file constitutes revision 0 of the release notes for LS-DYNA version R11.2.1.

§2 License

The string “REVISION 11” must appear in the LS-DYNA license file in order to run version R11.2.1. Please contact your LS-DYNA distributor or your Ansys sales representative if you have to have your license updated.

§3 Documentation

Documentation of R11.2.1 is provided in the R11.0 User’s Manuals which may be downloaded from www.lstc.com/download/manuals. For features mentioned in these release notes but which appear to be missing from the R11.0 User’s Manuals, please refer to the DRAFT User’s Manuals at www.lstc.com/download/manuals. Please note that not all features in the DRAFT User’s Manuals are available in version R11.2.1.

§4 Notes

The remainder of this file describes what’s been added or fixed in version R11.2.1 since the release of version R11.2.0. See the release notes of R11.2.0 and R11.1.0 to see what was added or fixed in those releases since R11.0.0. The changes are primarily bug fixes.

The items are arranged by category. In many cases, a particular item could fall under more than one category. For the sake of brevity, each item is listed only once under a single category.

§5 Airbag cards

1. *AIRBAG_PARTICLE:

- Fixed issue in calculating the total leakage energy caused by uninitialized variables for porous energy leakage from internal fabric parts. This issue gave random results.
 - Fixed issue associated with the initial air particle assignment for a multiple airbags model. The bug caused results to depend on the order of the airbags in the input.
 - Store maximum temperature for nonlinear C_p curve to keep the value monotonic for the energy calculation.
 - Fixed error in vent mass flow rate calculation after the switch from the corpuscular particle method airbag to the the uniform pressure airbag. This error occurs with or without a chamber definition (CHM on Card 6).
 - Fixed issue in reading XMi (Card 12) in the *AIRBAG_PARTICLE input that occurred when the ID associated with *DEFINE_CPM_-GAS_PROPERTIES has 9 digits.
 - Added to the CPM interface forces file the ratio of the impact from the initial air inside the bag to the impact from the inflator particles, p_{air} . This output allows you to visualize the initial air effect for IAIR = 2 and 4.
2. Distribute control volume airbag data to local structure scratch file. The old scheme produced inconsistent results between runs when using more than one compute node.

§6 Contact

1. Added new pfile command “contact { groupable_exclude_ag }”. This command will exclude *CONTACT_AUTOMATIC_GENERAL from groupable contacts, overriding any other setting. In some cases, groupable does not work well for AUTOMATIC_GENERAL in releases before R12.

§7 Control cards

1. Fixed a bug in 3D r -adaptivity (***CONTROL_ADAPTIVE** with ADPTYP = 7) that was causing incorrect stresses in non-adapted parts.

§8 Initial cards

1. Moved some initialization code for ***INITIAL_VEHICLE_KINEMATICS** to prevent it from referencing some data that did not yet exist, which was resulting in a segmentation fault.

§9 Discrete Element Method

1. Adjust and extend searching distance for DES to surface coupling searching for when the particle is moving between segments. This change gives a smoother contact force when the partical moves between segments and avoids the edge effect.

§10 eXtended Finite Element Method (XFEM)

1. Fixed bug in 2D XFEM (***SECTION_SHELL_XFEM** using ELFORM = 52) with plasticity material laws that was causing simulations to crash.

§11 MPP

1. Fixed load curve input processing error for MPP with pre-decomposition which was causing initialization errors in some rare cases.
2. Added new feature to ***CONTROL_MPP_DECOMPOSITION_REDECOMPOSITION** to estimate the element decomposition cost based on the element being in contact and the stress state of the element for better load balancing after redecomposition.

Listing 1

```
1 *PARAMETER
2 $   PRMR1      VAL1      PRMR2      VAL2
3 RuPLscXXa1 &R1uP11SARuPLscXXt1      0.0
```

§12 Miscellaneous

1. To improve memory performance, removed initial large allocation that was zeroing all of memory and thereby physically allocating it on Linux. This change restores behavior that existed in releases prior to R11.2.
2. Fixed bug in reading data cards of ***PARAMETER** that occurs if there is no space between a symbol and a value like in [Listing 1](#).