

Release notes for LS-DYNA version Is971.7600.1224 and mpp971.7600.1224

These notes briefly highlight changes made to LS-DYNA since the last production release of version 971, i.e., revision 7600.1116

material models

Fix for load curve round-off in *MAT_076, *MAT_083, *MAT_099, and *MAT_175.

Fix bug related to iform=-14 in *MAT_FABRIC.

Fix minor problem for *MAT_024 with VP=1.

Fix memory problem affecting *MAT_ADD_EROSION when used with fully integrated solids, type 2.

Add fix for 10-node tet elements comprised of *MAT_059.

Make fixes to *MAT_037 and *MAT_186.

Fix load curve round-off problems related to *MAT_FABRIC and *AIRBAG_INTERACTION.

Shear stresses are zero for *MAT_ANISOTROPIC due to finite strain formulation used for material type 2. Element type 18 is linear. Added a linear version of *MAT_ANISOTROPIC.

Fix related to generating the stiffness matrix for *MAT_HONEYCOMB.

contact

Fix bug for *ELEMENT_PLOTEL affecting *CONTACT_SPOTWELD tying.

Fixed a potential memory error in segment-based (SOFT=2) contact.

Fix thick element check of SOFT=2 single surface contact.

Fix incorrect initial penetration warnings in edge-to-edge contact
*CONTACT_AUTOMATIC_GENERAL.

Minor fixes to automatic tiebreak contact (SMP only).

Fix memory issue for eroding contact involving 10-node tetrahedral elements.

Fix guided cable contact to correct small penalty stiffness which led to large penetrations.

Fix so that zero length tied contacts work for
*CONTACT_TIED_SHELL_EDGE_TO_SURFACE_BEAM_OFFSET.

Fix contact time step calculation to ignore infinitesimal masses of nodes created by *INTERFACE_LINKING_SEGMENT. Using their mass was causing an infinitesimal solution time step to be invoked when *CONTACT_ERODING was used.

Fix bug in *RIGID_TO_DEFORMABLE_INERTIA.

Fix round-off problem with rigid bodies and prescribed rotational motion using the local option.

Stop 'too many subgroups' termination when there are eroding solids.

Fix bug in d3part database if tshell and stress tensor are written in the database.

Fix memory clobber related to bulk viscosity energy calculation.

Add MADYMO=64 option

Fix bug in *LOAD_MOVING_PRESSURE.

Fix secforc output to consider failed beam elements.

Fix bug in *DEFINE_FUNCTION.

Fix jobid problem for *PERTURBATION.

Fix bug in *KEYWORD_ID in which the jobid was always upper case.

Eliminate false warning of empty segment set by reducing the tolerance for checking segments.

Fix bulk viscosity problem related to triangular shell elements.

Fix problems related to degenerate element sorting.

Fix problem with load curve ID's and airbags.

Fix cross-section force calculation for TSHELL formulations 2 and 3.

Fix 10-node tetrahedron element for large strain problems.

Fix to *CONSTRAINED_BUTT_WELD when the nodes of the weld form a closed loop.

Fix roundoff problem in rigid bodies in single precision calculations which is causing problems for customers in their transition from Radioss.

Fix Rayleigh damping problem when energy calculation is active.

Fix output issues with ESORT=2 option related to the deforc, elout, and d3plot files.

Fix *INITIAL_STRESS_SHELL where element offset is used instead of set offset.

Fix memory clobber that could occur when *DEFORMABLE_TO_RIGID is used in combination with beam elements.

Update behavior of Toyota beam spot weld failure.

Fix hourglass control type 6 problem with NCPU>1 for 2D solid elements.

Fix prescribed acceleration problem with scale factor being applied twice.

Implicit

Fix minor bug in implicit tied contact that can result in negative eigenvalues.

Fix bug in implicit dynamic relaxation related to thermal.

Fix *LOAD_THERMAL_LOAD_CURVE when invoked during implicit dynamic relaxation.

Fix implicit's treatment of *BOUNDARY_CYCLIC for rotating parts.

EFG

Implement *MAT_ADD_EROSION for EFG element formulation 41.

Enable *MAT_ADD_EROSION for EFG solid type 41 and 42.

Fix memory problem affecting *MAT_ADD_EROSION when used with solids type 41 (EFG).

Add new materials in EFG 3D.

Turn on Gauss integration scheme in EFG shell formulation 41.

SPH

Fix bug for SPH/SPH contact option. CONT=1 wasn't working

Fix bug in restart when SPH elements are used.