



Locations:

Livermore Software Technology Corp.
7374 Las Positas Rd. Livermore, CA 94551
1740 West Big Beaver Road Troy, MI 48084

Contact: classes@lstc.com
www.lstc.com/training

Metal Forming Training using LS-PrePost® and LS-DYNA®

Instructor: Xinhai Zhu, Li Zhang

2 Days - \$400, Students \$200 w/student ID

Includes on-site continental breakfasts, lunches, breaks, class notes, class dinner

Includes 30-day demonstration license for practice

Prerequisite: Attendees should have basic knowledge of LS-DYNA®

Description: The course will review some of the important metal forming features developed in LS-DYNA. Using the hands-on workshops provided, students will be able to use LS-PrePost and its metal forming interface to generate required input files for LS-DYNA and conduct metal forming simulation.

Contents:

Part I: LS-DYNA® Basic and Advanced Metal Forming Features (Day 1)

- 1) Introduction and industrial trend
- 2) Element selection; normal stress on shells and its application
- 3) Advanced material models and nonlinear failure prediction (Formability Index)
- 4) Enhanced drawbead definitions (NBEAD)
- 5) Mesh size, adaptivity, moving adaptive box for fission and fusion
- 6) Tool mesh autocheck, fixing; tool kinematics and time step
- 7) Loading and boundary conditions
- 8) Computation accuracy and efficiency
- 9) 2-D and 3-D trimming of shells and solids; blanking
- 10) Bestfit GUI for *CONTROL_FORMING_BESTFIT
- 11) Implicit method in gravity loading, springback, denting, one-step forming, one-step unflanging, etc.
- 12) Parametric input, tool/blank auto-position, and tool auto-move during simulation.
- 13) Database and evaluation of forming results
- 14) Forming for the most accurate springback prediction; best fitting for springback correlation
- 15) Stoning—surface defect prediction
- 16) Enhanced scrap trimming and fall simulation
- 17) Enhanced blank size development

Metal Forming Training using LS-PrePost® and LS-DYNA®

Instructor: Xinhai Zhu, Li Zhang

Part II: LS-PrePost® Introduction and Metal Forming Interface (Day 2)

- 1) Overview of LS-PrePost4.3 on the Metal Forming GUI
(Ispp_parameter, configuration files, etc.)
- 2) LS-PrePost general operation - Workshop P1
- 3) Mesh editing - Workshop P2, P3
- 4) Mesh transformation - Workshop P4
- 5) Mesh generation - Workshop P5
- 6) Tool & blank mesh - Workshop 1
- 7) Tooling offset & check - Workshop 2
- 8) Multi-stage process simulation - Workshop 3
- 9) Post-processing forming and springback results - Workshop 5
(NUMISHEET2002 Fender Outer) (180 min)