



ETA is a Proud Distributor of LS-DYNA® in Indiana, Michigan and Western Ohio.

Livermore Software Technology Corporation (LSTC) is the developer of LS-DYNA®. ETA offers customer service, training and support for its LS-DYNA customers, as well as the customers of its proprietary software packages eta/DYNAFORM and eta/VPG.

Engineering Services

ETA also provides engineering services using LS-DYNA. Using its CAE Centric Design Process™, The experienced team is able to analyze all aspects of the product design cycle from the initial CAE and design through tool design and manufacturing. For more information, please visit www.eta.com.

LS-DYNA®

LS-DYNA® is one of the most flexible finite element analysis software packages available. A general-purpose transient dynamic finite element program, LS-DYNA® is widely used to simulate complex real world problems.

Automotive Crashworthiness & Occupant Safety

LS-DYNA® is commonly used in the automotive industry to analyze vehicle designs. The program accurately predicts automotive behavior in collisions, as well as the effects of the collision on the car's occupants. With LS-DYNA®, automotive manufacturers and suppliers can test auto designs without having to tool or experimentally test a prototype, which reduces the length and cost of the product design cycle.

Sheet Metal Forming With LS-DYNA®

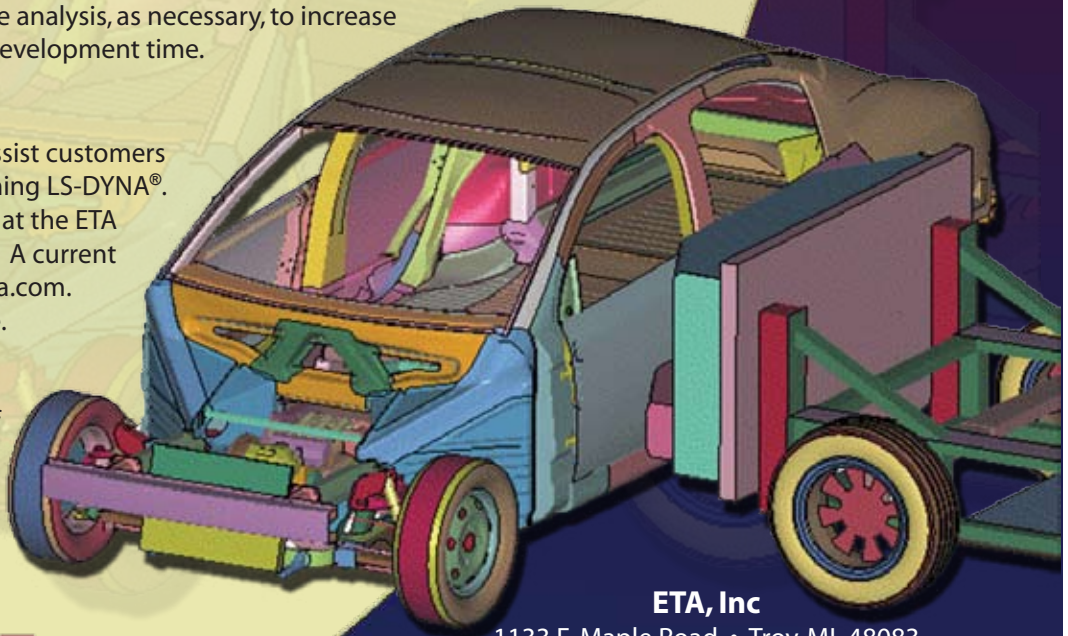
LS-DYNA® is extensively used for sheet metal forming applications. The program accurately predicts sheet metal stresses and deformations with simulation, allowing the engineer to determine if the metal will fail in a particular design. LS-DYNA® supports adaptive remeshing and refines the mesh during the analysis, as necessary, to increase accuracy and reduce product development time.

LS-DYNA® Training

ETA offers training courses to assist customers in installing, using and maintaining LS-DYNA®. A monthly training class is held at the ETA Headquarters in Troy, Michigan. A current schedule is available at www.eta.com. On-site training is also available.

LS-DYNA® Support

ETA features a support team of experienced LS-DYNA® users. The support staff is pleased to offer one-on-one support for its LS-DYNA® customers.



eta

ETA, Inc

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www.eta.com

LS-DYNA® Applications & Capabilities

Metal Forming Applications:

- Metal stamping
- Hydroforming
- Forging
- Deep drawing
- Multi-stage processes

Additional Applications:

- Drop testing
- Can and shipping container design
- Electronic component design
- Glass forming
- Plastics, mold, and blow forming
- Biomedical
- Metal cutting

Analysis Capabilities:

- Nonlinear dynamics
- Rigid body dynamics
- Quasi-static simulations
- Normal modes
- Linear statics
- Thermal analysis
- Fluid analysis
- Eulerian capabilities
- ALE (Arbitrary Lagrangian-Eulerian)
- Fluid-structure interactions
- FEM-rigid multi-body dynamics coupling (MADYMO, CAL3D)

Automotive Features:

- Seatbelts
- Sliprings
- Pretensioners
- Retractors
- Sensors
- Accelerometers
- Airbags
- Hybrid III dummy models
- Inflator models

Material Models:

- Metals
- Plastics
- Glass
- Foams
- Fabrics
- Elastomers
- Honeycombs
- Concrete & soils
- Viscous fluids
- User-defined materials

Aerospace Applications:

- Blade containment
- Bird strike (windshield, engine blade)
- Failure analysis
- Earthquake engineering
- Failure analysis
- Sports equipment (golf clubs, golf balls, baseball bats, helmets)
- Civil engineering (offshore platforms, pavement design)

- Underwater shock
- Failure analysis
- Crack propagation
- Real-time acoustics
- Design optimization
- Implicit springback
- Multi-physics coupling
- Structural-thermal coupling
- Adaptive remeshing
- Smooth particle hydrodynamics
- Element-free meshless method

Element Library:

- Solids
- 8-node thick shells
- 4-node shells
- Beams
- Welds
- Discrete zero length beams
- Trusses and cables
- Nodal masses
- Lumped inertias



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