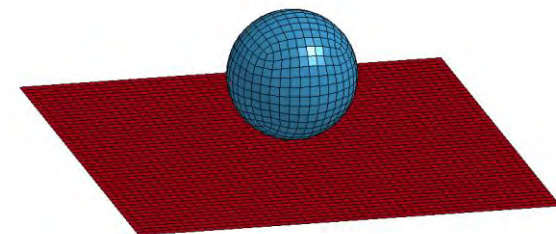




INTRODUCTION TO LS-DYNA



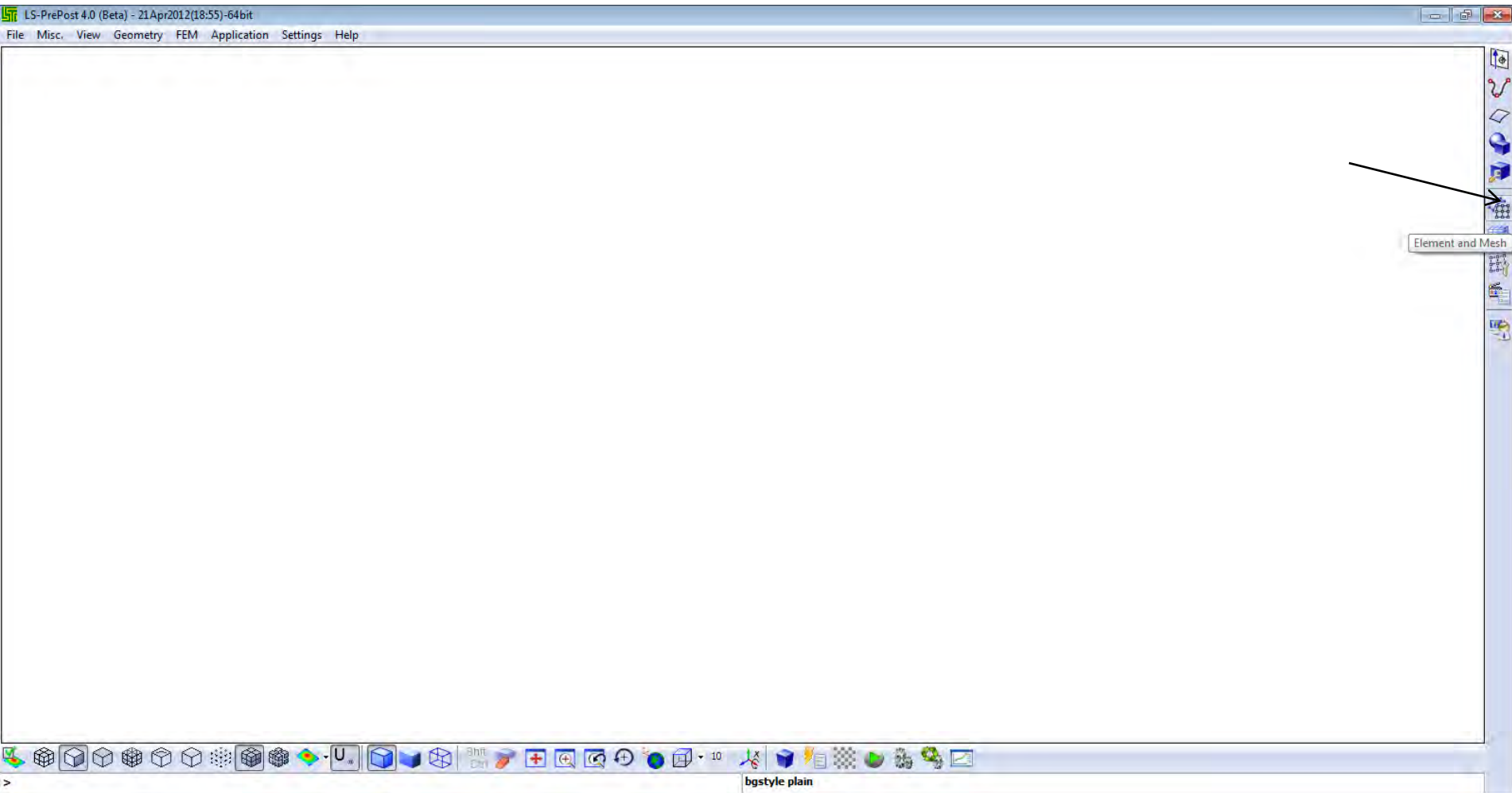
Tutorial 1

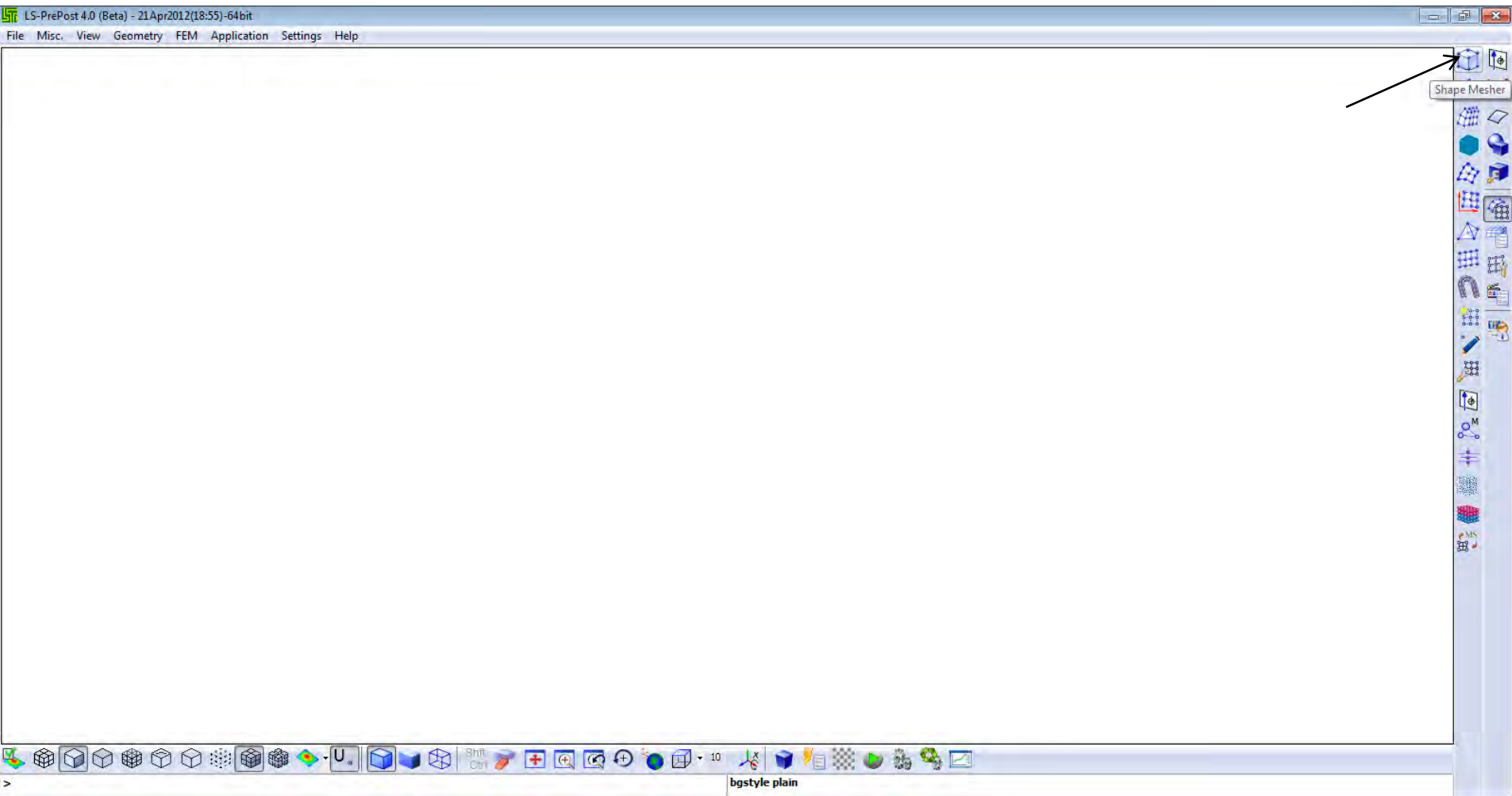
Preprocessing, Running LS-DYNA, & Postprocessing





LS-PRE Tutorial







LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit
File Misc View Geometry FEM Application Settings Help

Shape Mesher

Entity: Box_Solid

Region Create mesh for entity

	PMin	PMax
X	0	1
Y	0	1
Z	0	1

Number Size

Vx	10	1
Vy	10	1
Vz	10	1
Gap		

Target Name: _____
Target Part ID: 1
Start Element ID: 1
Start Node ID: 1

Create Reject Accept
Done

Sel. Nodes(0)

Pick Box In Adjacent ByNode
 Area Prox Out Attach ByElem
 Poly Circ Clear ByPart
 Sel1 Frin Add Save ByGPart
 Sphe Plan Rm Load BySubsys
ID: _____ Type: any
 Label selection 3DSurf Deselect BySET
 Whole ByEdge
 Visible ByPath
 Reverse BySegm
 ByCurve
 BySurf

ocenter clear
genselect clear



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc. View Geometry FEM Application Settings Help

Shape Mesher

Entity: Box_Solid
Reg
Box_Solid
Box_Shell
4V_Shell
Sphere_Solid
Sphere_Shell
Cylinder_Solid
Cylinder_Shell
Circle_Shell

X
Y
Z

0 1

Number Size

Vx 10 1
Vy 10 1
Vz 10 1
Gap

Target Name
Target Part ID 1
Start Element ID 1
Start Node ID 1

Create Reject Accept
Done

Sel. Nodes(0)

Pick Box In
 Area Prox Out
 Poly Circ
 Sel1 Frin Add
 Sphe Plan Rm

ID Type any
 Label selection 3DSurf

Adjacent
Attach
Clear
Save
Load
Deselect
Whole
Visible
Reverse

ByNode
 ByElem
 ByPart
 ByGPart
 BySubsys
 BySET
 ByEdge
 ByPath
 BySegm
 ByCurve
 BySurf

occiter clear
genselect clear



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit
File Misc. View Geometry FEM Application Settings Help

Sel. Nodes(0)

Pick Box In Adjacent ByNode
 Area Prox Out Attach ByElem
 Poly Circ Clear ByPart
 Sel1 Frin Add Save ByGPart
 Sphe Plan Rm Load BySubsys
 ID Type any Deselect BySET
 Label selection 3DSurf Whole ByEdge
 Visible ByPath
 Reverse BySegm
 ByCurve
 BySurf

Shape Mesher

Entity: 4N_Shell

<input checked="" type="checkbox"/>	P1	-100,-100,0
<input type="checkbox"/>	P2	100,-100,0
<input type="checkbox"/>	P3	100,100,0
<input type="checkbox"/>	P4	-100,100,0

NxNo. 50 NyNo. 50

Target Name: plate
Target Part ID: 1
Start Element ID: 1
Start Node ID: 1

occniter clear
genselect clear



The screenshot displays the LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit application window. The main workspace shows a red meshed plate. On the left, a tree view shows the assembly structure: Assembly 1, FEM Parts, Geom Parts, and Part 1. Below the tree is a 'Sel. Nodes(0)' dialog with various selection methods like Pick, Area, Poly, Sph, etc. On the right, a 'Shape Mesher' dialog is open, showing parameters for meshing the '4N_Shell' entity, including element types P1-P4 and node counts. The bottom of the window features a standard Windows taskbar with various icons and the text 'BUILD KENGERING DATA ac'.



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Shape Mesher

Entity: IN_Shell

- P1 Box_Solid
- P1 Box_Shell
- P1 IN_Shell
- P2 Sphere_Solid
- P2 Sphere_Shell
- P3 Cylinder_Solid
- P3 Cylinder_Shell
- P4 Circle_Shell

NdNo. 50 1
NyNo. 50 1

Target Name ball
Target Part ID 2
Start Element ID 2501
Start Node ID 2602

Create Reject Accept
Done

Sel. Nodes(0)

- Pick
- Area
- Poly
- Sel1
- Spha
- Box
- Prox
- Circ
- Frin
- Plan
- In
- Out
- Add
- Rm

Adjacent

- ByNode
- ByElem
- ByPart
- ByGPart
- BySubsys
- BySET
- ByEdge
- ByPath
- BySegm
- ByCurve
- BySurf

Attach
Clear
Save
Load
Deselect
Whole
Visible
Reverse

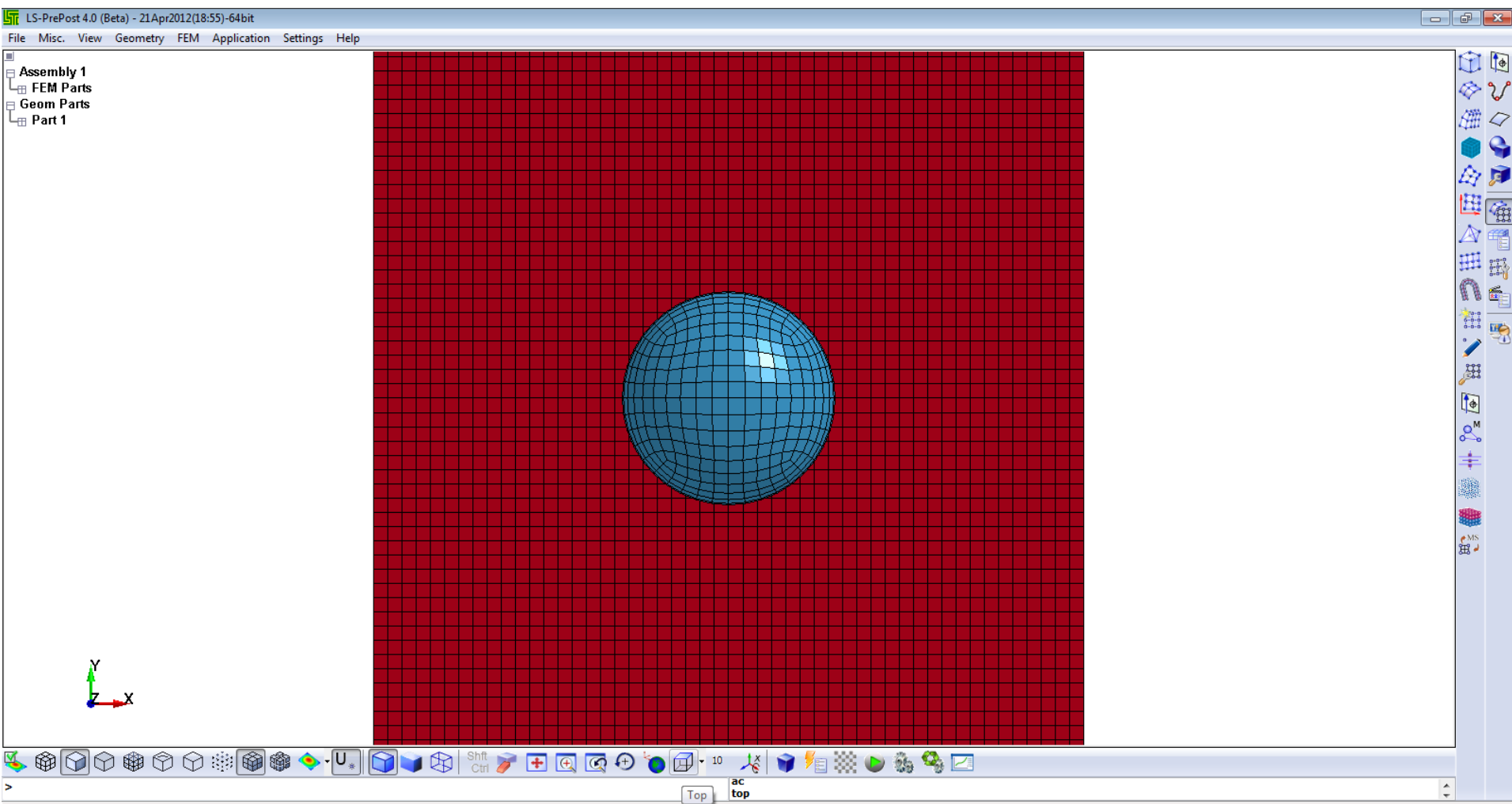
ID: Type: any

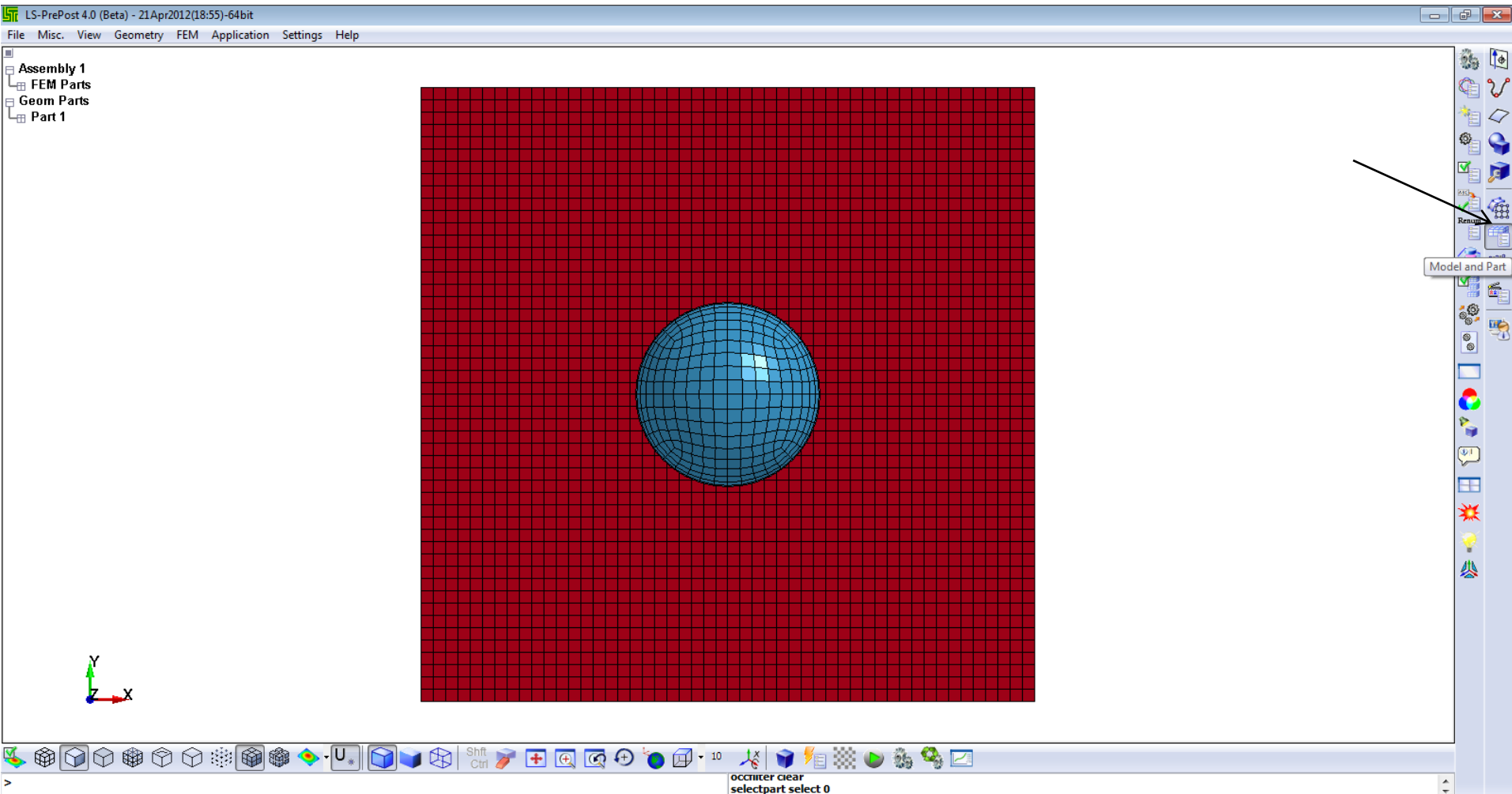
Label selection 3DSurf

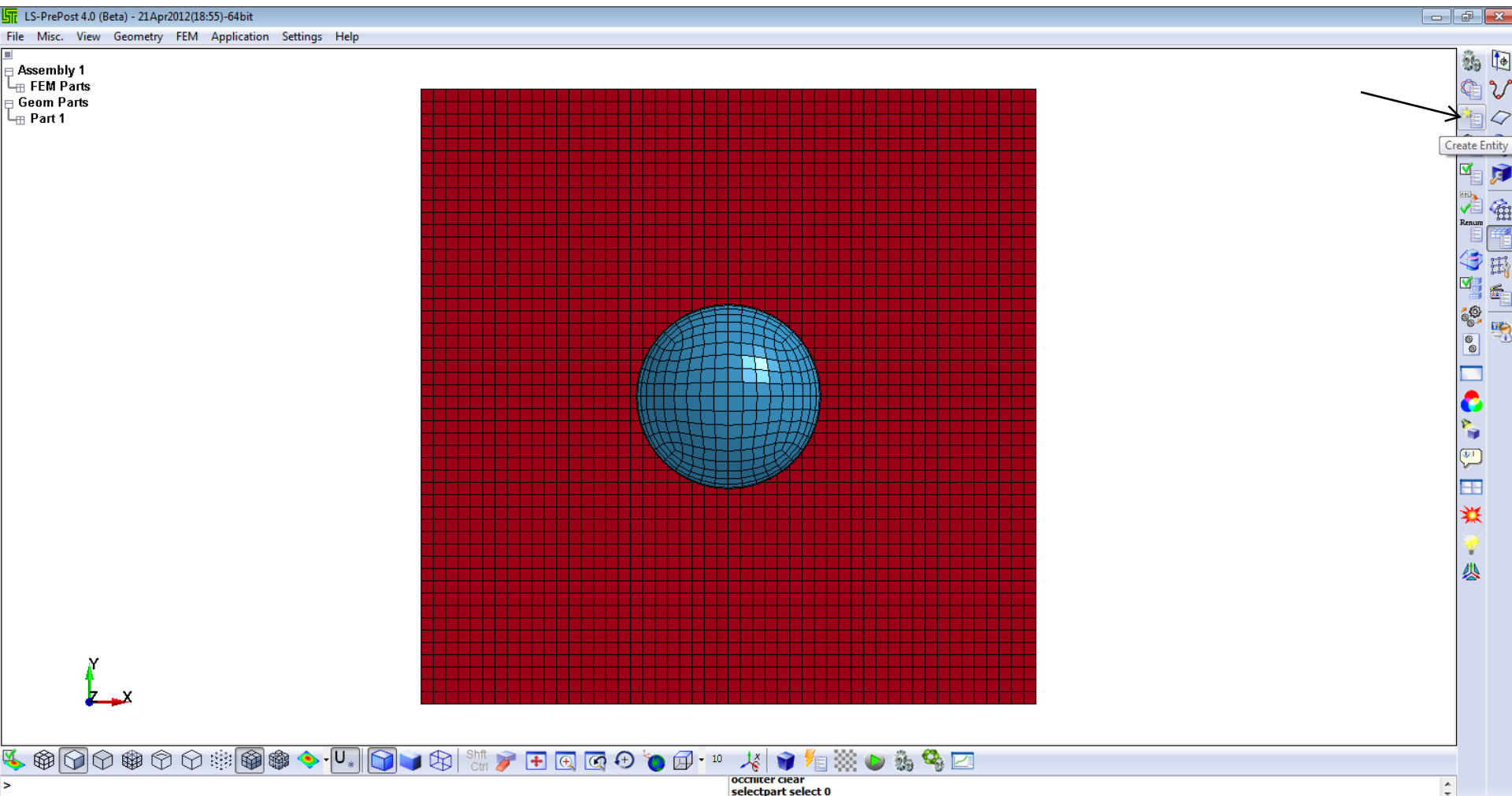
quat 0.470564 -0.085814 -0.139613 0.867014;
quat 0.471468 -0.096389 -0.147776 0.864054;



The screenshot displays the LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit application window. The main workspace shows a red meshed sphere. On the left, a tree view shows the assembly structure: Assembly 1, FEM Parts, Geom Parts, and Part 1. A 'Sel. Nodes(0)' dialog is open in the bottom-left corner, showing selection options like Pick, Area, Poly, Sel1, Sph, Plan, In, Prox, Circ, Frin, Rm, Add, and various selection methods (ByNode, ByElem, ByPart, etc.). The 'Shape Mesher' dialog is open on the right, with 'Sphere_Shell' selected as the entity. It shows parameters for Radius (30), Density (10), and Center (0, 0, 32). The 'Create' button is highlighted with an arrow. The bottom status bar shows 'Building rendering data' and 'ac'.









LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Entity Creation

- Airbag
 - ShellRefGM
- Application
- Boundary
- Spc**
- Constrained
- Contact
- Damping
- Database
- Define
- Element
- Initial
- Load
- Rigidwall
- Set Data

Show Cre Mod Del

Label: None

Node Set

Auto Merge Transfer BCode

Symmetry plane: All Fix[111111]

X	Y	Z	RX	RY	RZ
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Birth: 0.0
Death: 1.0E+20
CID: Match
NSID: NewId

All None Rev AList

Apply Cancel Write

Done

Entity Selection

Pick ent In Show
Area Out Blank
Partial Ident

Select entities inside/outside a window area

Type: Spc Keyin
All None Rev

ocriter clear
selectpart select 0



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Entity Creation

- Airbag
 - ShellRefGM
- Application
- Boundary
- Spc
 - Node
 - Set
- Constrained
- Contact
- Damping
- Database
- Define
- Element
- Initial
- Load
- Rigidwall
- Set Data

Label: None Create new SPC nodes

Node Set

Auto Merge: Transfer BCode

Symmetry plane: All Fix[111111]

X	Y	Z	RX	RY	RZ
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Birth: 0.0

Death: 1.0E+20

CID:

NSID: 1 NewId

All None Rev AList

Apply Cancel Write

Done

occr iter clear
genselct clear



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit
File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Click and drag
Do the 4 edges

Sel. Nodes(0)
Pick Area Poly Sel1 Sphe
Box Prox Frin Plan
In Out Add Rm
Adjacent Attach Clear Save Load Deselect Whole Visible Reverse
ByNode ByElem ByPart ByGPart BySubsys BySET ByEdge ByPath BySegm ByCurve BySurf

Entity Creation
Airbag
ShellRefGM
Application
Boundary
Spc
Constrained
Contact
Damping
Database
Define
Element
Initial
Load
Rigidwall
Set Data

Label: None
Node Set
Auto Merge Transfer BCode
Symmetry plane: All Fix[111111]
X Y Z RX RY RZ
Birth: 0.0
Death: 1.0E+20
CID:
NSTD: 1 NewId
All None Rev AList
Apply Cancel Write
Done

occenter clear
genselect clear



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File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Entity Creation

- Airbag
 - ShellRefGM
- Application
- Boundary
 - Spc
- Constrained
- Contact
- Damping
- Database
- Define
- Element
- Initial
- Load
- Rigidwall
- Set Data

Label: None

Show Cre Mod Del

Auto Merge Transfer BCode

Symmetry plane: All Fix[111111]

X	Y	Z	RX	RY	RZ
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Birth: 0.0
Death: 1.0E+20
CID:
NSID: 1 NewId

All None Rev AList

Apply Cancel Write

Apply entries for creation/modification

Done

Sel. Nodes(200)

<input type="radio"/> Pick	<input type="radio"/> Box	<input checked="" type="radio"/> In	Adjacent	<input checked="" type="radio"/> ByNode
<input checked="" type="radio"/> Area	<input type="radio"/> Prox	<input type="radio"/> Out	Attach	<input type="radio"/> ByElem
<input type="radio"/> Poly	<input type="radio"/> Circ	<input type="radio"/> Add	Clear	<input type="radio"/> ByPart
<input type="radio"/> Sel1	<input type="radio"/> Frin	<input type="radio"/> Rm	Save	<input type="radio"/> ByGPart
<input type="radio"/> Sphe	<input type="radio"/> Plan		Load	<input type="radio"/> BySubsys
ID: Type: any			Deselect	<input type="radio"/> BySET
<input type="checkbox"/> Label selection	<input type="checkbox"/> 3DSurf		Whole	<input type="radio"/> ByEdge
			Visible	<input type="radio"/> ByPath
			Reverse	<input type="radio"/> BySegm
				<input type="radio"/> ByCurve
				<input type="radio"/> BySurf

ioaupvect 0.000000 1.000000 0.000000;
genselect node add region in 0.721932 0.010929 0.280026 0.062842



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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Entity Creation

- Airbag
 - ShellRefGM
- Application
- Boundary
 - Spc
- Constrained
- Contact
- Damping
- Database
- Define
- Element
- Initial
 - Velocity ←
- Load
- Rigidwall
- Set Data

Label: None

CreateType: Global

Vx Vy Vz

Vrx Vry Vrz

All None Rev AList

Apply

Done

Select by part

occiter clear
genselct clear



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File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Click the ball

Entity Creation

- Airbag
 - ShellRefGM
- Application
- Boundary
- Constrained
- Contact
- Damping
- Database
- Define
- Element
- Initial
 - Velocity
- Load
- Rigidwall
- Set Data

Show Cre Mod Del

Label: None

CreateType: Global

Vx Vy Vz
Vrx Vry Vrz

All None Rev AList

Apply

Apply entries for creation/modification

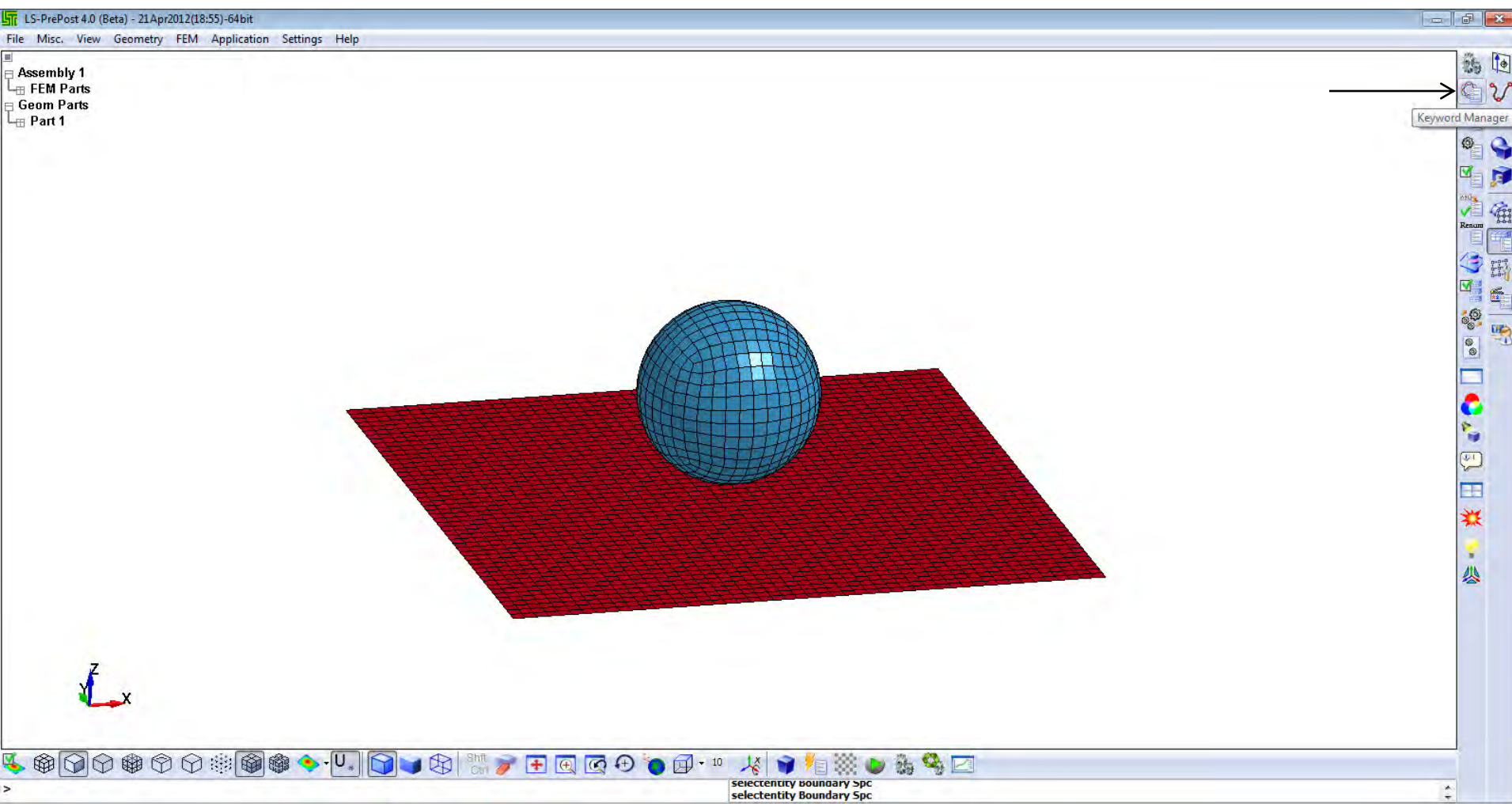
Then here

Done

Sel. Nodes(602)

- Pick Box In Adjacent ByNode
- Area Prox Out Attach ByElem
- Poly Circ Add ByPart
- Sel1 Frin Rm Save ByGPart
- Sphe Plan Load BySubsys
- ID: Type: any
- Label selection 3DSurf
- Adjacent ByNode
- Attach ByElem
- Clear ByPart
- Save ByGPart
- Load BySubsys
- Deselect BySET
- Whole ByEdge
- Visible ByPath
- Reverse BySegm
- ByCurve
- BySurf

genselect clear
genselect node add part 2/0





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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: [dropdown] Edit

Model All Edit the input keyword

Name	Count
SPRING_DAMPER	
SEATBELT	
SHELL	
SHELL_ALE	
SHELL_EFG	
SHELL_THERMAL	
SOLID	
SOLID_ALE	
SOLID_EFG	
SPH	
TSHELL	
SENSOR	
SET	
STOCHASTIC	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

selecentury boundary spc
selectentity Boundary Spc



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File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Input Form

Buttons: NewID, Draw, RefBy, Sort/T1, Add, Accept, Delete, Default, Done, Accept changes, Setting

Use *Parameter

*SECTION_SHELL_(TITLE) (0)

TITLE

SECID	ELFORM	SHRF	NIP	PROPT	QR/IRID	ICOMP	SETYP
1	2	1.0	2	1	0	0	1

T1	T2	T3	T4	NLOC	MAREA	IDOF	EDGSET
1	1	1	1	0.0	0.0	0.0	0

Repeated Data by Button and List

Data Pt. buttons: Replace, Insert, Delete, Help

T2:=Shell thickness at node n2, unless the thickness is defined on the *ELEMENT_SHELL_OPTION card.

Keyword Manager

Keyword Edit Keyword Search

Edit: SECTION_SHELL

Model All RefBy

Name	Count
SECTION	
ALE_ID	
ALE2D	
BEAM	
BEAM_AISC	
DISCRETE	
POINT_SOURCE	
POINT_SOURCE_MIXTURE	
SPRING_DAMPER	
SEATBELT	
SHELL	
SHELL_ALE	
SHELL_EFG	
SHELL_THERMAL	

Material arrange

GroupBy: All, Sort: Type, List: All

Buttons: Load From MatDB, Model Check, Keyword Del, ExpandAll, CollapseAll, Done



clearno part
partdata select 0

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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Input Form

NewID Draw RefBy Sort/T1 Add Accept Delete Default Done

Use *Parameter (Subsys: 1) Settings Close Keyword Input dialog

*SECTION_SHELL_(TITLE) (1)

TITLE

1	SECID	ELFORM	SHRE	NIP	PROPT	QR/IRID	ICOMP	SETYP
1	1	2	1.0000000	2	1	0	0	1
2	T1	T2	T3	T4	NLOC	MAREA	IDOF	EDGSET
2	1.0000000	1.0000000	1.0000000	1.0000000	0.0	0.0	0.0	0

Repeated Data by Button and List

Data Pt.
Replace Insert
Delete Help

Total Card: 1 Smallest ID: 1 Largest ID: 1 Total deleted card: 0

Keyword Manager

Keyword Edit Keyword Search Edit RefBy

Edit: SECTION_SHELL Model All

Name	Count
SECTION	
ALE1D	
ALE2D	
BEAM	
BEAM_AISC	
DISCRETE	
POINT_SOURCE	
POINT_SOURCE_MIXTURE	
SPRING_DAMPER	
SEATBELT	
SHELL	
SHELL_ALE	
SHELL_EFG	
SHELL_THERMAL	

Material arrange
GroupBy Sort List
All Type All
Load From MatDB
Model Check Keyword Del
ExpandAll CollapseAll
Done

clearo part
partdata select 0



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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: MAT_ELASTIC

Model All

Edit the input keyword

Name	Count
LOAD	
MAT	
000-ADD_EROSION	
000-ADD_PERMEABILITY	
000-ADD_THERMAL_EXPANSION	
000-NONLOCAL	
001-ELASTIC	
001_FLUID-ELASTIC_FLUID	
002-ORTHOTROPIC_ELASTIC	
002_ANIS-ANISOTROPIC_ELASTIC	
003-PLASTIC_KINEMATIC	
004-ELASTIC_PLASTIC_THERMAL	
005-SOIL_AND_FOAM	
006-VISCOELASTIC	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

scenario part
partdata select 0



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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager
Keyword Edit Keyword Search
Edit: MAT_ELASTIC
Model All RefBy
Name
LOAD Count

Keyword Input Form
NewID
MatDB RefBy Pick Add Accept Delete Default Done
Use *Parameter
*MAT_ELASTIC_(TITLE) (1)
Accept changes Setting

TITLE

1	MID	RO	E	PR	DA	DB	NOT USED
1	1	7.850e-009	2.100e+005	0.3000000	0.0	0.0	0

COMMENT:

Total Card: 1 Smallest ID: 1 Largest ID: 1 Total deleted card: 0

Scenario part
partdata select 0



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File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: MAT_PIECEWISE_LINEAR_PLASTICITY

Model All

Edit the input keyword

Name	Count
017-ORIENTED_CRACK	
018-POWER_LAW_PLASTICITY	
019-STRAIN_RATE_DEPENDENT_PLASTICITY	
020-RIGID	
021-ORTHOTROPIC_THERMAL	
022-COMPOSITE_DAMAGE	
023-TEMPERATURE_DEPENDENT_ORTHOTROPIC	
024-PIECEWISE_LINEAR_PLASTICITY	
025-GEOLOGIC_CAP_MODEL	
026-HONEYCOMB	
027-MOONEY-RIVLIN_RUBBER	
028-RESULTANT_PLASTICITY	
029-FORCE_LIMITED	
030-SHAPE_MEMORY	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

clearno part
partdata select 0



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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Input Form

Use *Parameter

*MAT_PIECEWISE_LINEAR_PLASTICITY_(TITLE) (1)

TITLE	MID	RO	E	PR	SIGY	ETAN	FAIL	TDEL
1	2	7.850e-009	2.100e+005	0.3000000	315.00000	0.0	1.000e+021	0.0
2	C	P	LCSS	LCSR	VP			
	0.0	0.0	0	0	0.0			
3	EPS1	EPS2	EPS3	EPS4	EPS5	EPS6	EPS7	EPS8
	0.0	0.0190000	0.0500000	0.1650000	0.3300000	0.4900000	0.6300000	1.0000000
4	ES1	ES2	ES3	ES4	ES5	ES6	ES7	ES8
	315.00000	315.00000	428.00000	500.00000	504.00000	506.00000	400.00000	0.0

Total Card: 1 Smallest ID: 2 Largest ID: 2 Total deleted card: 0

Keyword Manager

Keyword Edit Keyword Search

Edit: MAT_PIECEWISE_LINEAR_PLASTICITY

Model All RefBy

Name	Count
017-ORIENTED_CRACK	
018-POWER_LAW_PLASTICITY	
019-STRAIN_RATE_DEPENDENT_PLASTICITY	
020-RIGID	
021-ORTHOTROPIC_THERMAL	
022-COMPOSITE_DAMAGE	
023-TEMPERATURE_DEPENDENT_ORTHOTROPIC	
024-PIECEWISE_LINEAR_PLASTICITY	
025-GEOLOGIC_CAP_MODEL	
026-HONEYCOMB	
027-MOONEY-RIVLIN_RUBBER	
028-RESULTANT_PLASTICITY	
029-FORCE_LIMITED	
030-SHAPE_MEMORY	

Material arrange

GroupBy Sort List

All Type All

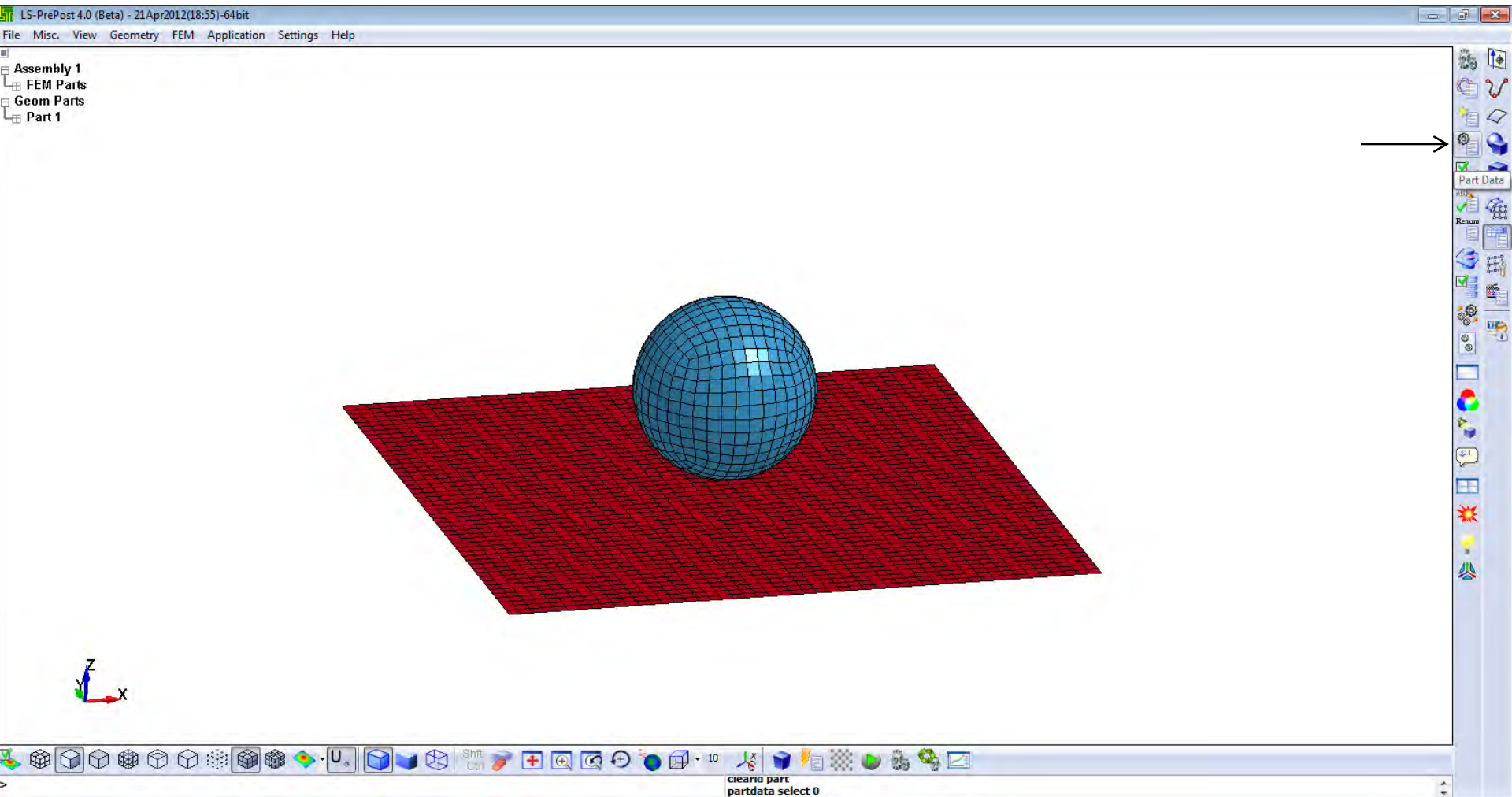
Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

creatio part
partdata select 0





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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Part Data

Show Cre Mod Sear
 Assign Prop Replace

Part Type Beam Assign entered data to selected parts

SECID	MID	EOSID	HGID
-------	-----	-------	------

TMID	GRAV	ADPOPT
NA	NA	

Assign Part Apply

All None Rev

Del Write

S 1 plate
S 2 ball

Done

occuriter clear
partdata select 1



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File Misc View Geometry FEM Application Settings Help

- Assembly 1
 - FEM Parts
 - Geom Parts
 - Part 1

Part Data

Show Cre Mod Sear
 Assign Prop Replace

Part Type Shell

SECID	MID	EOSID	HGID
1	1	0	0

TMID GRAV ADPOPT
0 NA NA

Assign Part

Search for parts using user defined parameters

S 1 plate
S 2 ball

Done



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File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Part Data

Show Cre Mod Sear
Assign Prop Replace

Part Type Shell

SECID	MID	EOSID	HGID
1	2	0	0

TMID GRAV ADOPT
0 NA NA

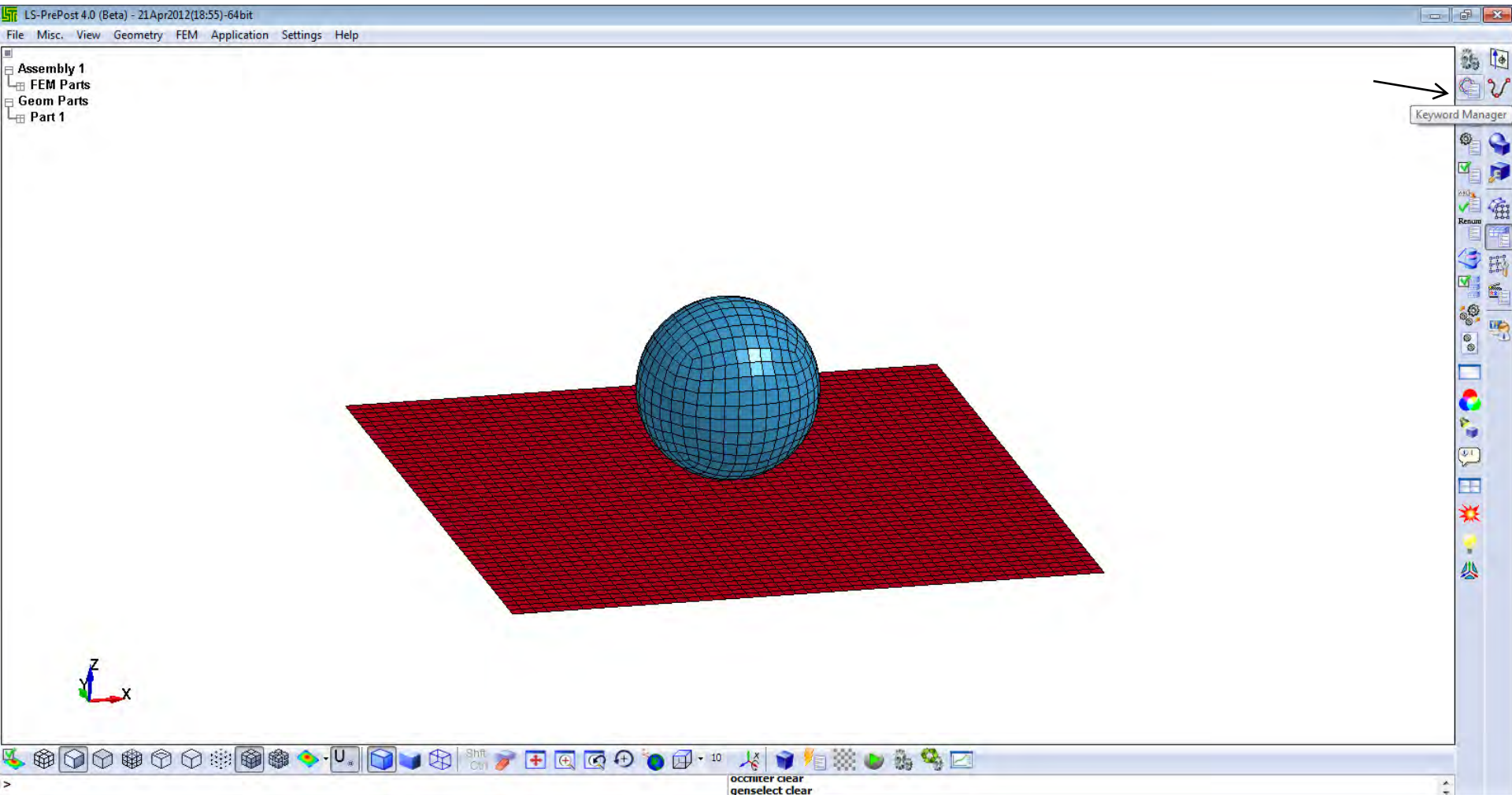
Assign Part Apply

All None Search for part using user defined parameters
Del Write

S 1 plate
S 2 ball

Done

creatio part
Shell Part #1

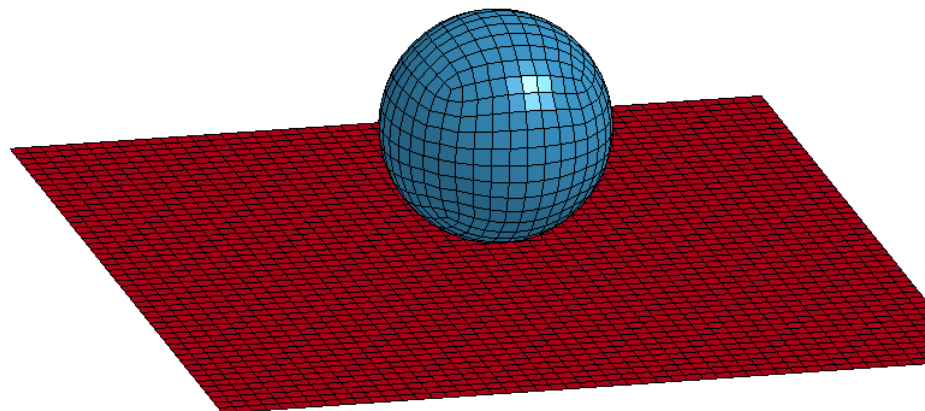




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File Misc. View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1



Keyword Manager

Keyword Edit Keyword Search

Edit: CONTACT_AUTOMATIC_NODES_TO_SURFACE Edit

Model All Edit the input keyword

Name	Count
CONSTRAINED	
CONTACT	
AIRBAG_SINGLE_SURFACE	
AUTOMATIC_BEAMS_TO_SURFACE	
AUTOMATIC_GENERAL	
AUTOMATIC_GENERAL_MPP	
AUTOMATIC_GENERAL_INTERIOR	
AUTOMATIC_NODES_TO_SURFACE	
AUTOMATIC_NODES_TO_SURFACE_SMOOTH	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE_SMC	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE_TIEE	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE_TIEE	
AUTOMATIC_SINGLE_OFFSET_SURFACE	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done



ocniter clear
genselect clear



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
 FEM Parts
 Geom Parts
 Part 1

Keyword Input Form

Buttons: NewID Draw Pick Add Accept Delete Default Done

Use *Parameter

*CONTACT_AUTOMATIC_NODES_TO_SURFACE_ID/TITLE/MPP (1)

1	CID	TITLE						
0								
2	IGNORE	BUCKET	LCBUCKET	NS2TRACK	INITITER	PARMAX	UNUSED	GPARM8
0	200		3	2	1.0005		0	
3	UNUSED	CHKSEGS	PENSE	GRPABLE				
	0	1.0	0					
4	SSID	MSID	SSTYP	MSTYP	SBOXID	MBOXID	SPR	MPR
2	1	3	3	0	0	0	0	0
5	FS	FD	DC	VC	VDC	PENCHK	BT	DT
0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	1.000e+020

Total Card: 1 Smallest ID: 1 Largest ID: 1 Total deleted card: 0

Keyword Manager

Keyword Edit Keyword Search

Edit: CONTACT_AUTOMATIC_NODES_TO_SURFACE Edit RefBy

Model All

Name	Count
CONSTRAINED	
CONTACT	
AIRBAG_SINGLE_SURFACE	
AUTOMATIC_BEAMS_TO_SURFACE	
AUTOMATIC_GENERAL	
AUTOMATIC_GENERAL_MPP	
AUTOMATIC_GENERAL_INTERIOR	
AUTOMATIC_NODES_TO_SURFACE	1 (0)
AUTOMATIC_NODES_TO_SURFACE_SMOOTH	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE_SMC	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE_TIE	
AUTOMATIC_ONE_WAY_SURFACE_TO_SURFACE_TIEE	
AUTOMATIC_SINGLE_OFFSET_SURFACE	

Material arrange

GroupBy: All Sort: Type List: All

Buttons: Model Check Keyword Del ExpandAll CollapseAll Done





LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: CONTROL_TERMINATION Edit Edit the input keyword

Model All

Name	Count
STRUCTURED_TERM	
SUBCYCLE	
TERMINATION	
THERMAL_NONLINEAR	
THERMAL_SOLVER	
THERMAL_TIMESTEP	
TIMESTEP	
UNIT	
VIBRO_ACOUSTIC	
DEFORMABLE	
DAMPING	
DATABASE	
ASCII_option	
TPRINT	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

occuriter clear
genseselect clear



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Input Form

Use *Parameter

*CONTROL_TERMINATION (0)

	ENDTIM	ENDCYC	DTMIN	ENDENG	ENDMAS
1	0.005	0	0.0	0.0	0.0

COMMENT:

ENDTIM: =Termination time. Mandatory.

Buttons: Clear, Accept, Delete, Default, Done, Accept changes 1), Setting

Keyword Manager

Keyword Edit Keyword Search

Edit: CONTROL_TERMINATION Edit RefBy

Model All

Name	Count
STRUCTURED_TERM	
SUBCYCLE	
TERMINATION	
THERMAL_NONLINEAR	
THERMAL_SOLVER	
THERMAL_TIMESTEP	
TIMESTEP	
UNIT	
VIBRO_ACOUSTIC	
DEFORMABLE	
DAMPING	
DATABASE	
ASCII_option	
TPRINT	

Material arrange

GroupBy: All Sort: Type List: All

Buttons: Model Check, Keyword Del, ExpandAll, CollapseAll, Done

Windows Taskbar: Shift Ctrl, 10, occriter clear, genseselect clear



LS-PrePost 3.1 - 07Sep2011 (09:02) - 64bit C:\00\model1.k
File Misc View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost

- Assembly 1
 - FEM Parts
 - Geom Parts
 - Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: CONTROL_ENERGY Edit RefBy

Model All

Name	Count
CONTACT	
COUPLING	
CPU	
COARSEN	
DAMPING	
DEBUG	
DYNAMIC_RELAXATION	
EFG	
ENERGY	
EXPLOSIVE_SHADOW	
FORMING_AUTO_NET	
FORMING_AUTOPOSITION_PARAMETER	
FORMING_AUTOPOSITION_PARAMETER_SET	
FORMING_BLANKMESH	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

genselec.cou
quat 0.639583 0.089879 0.162268 0.746005;



LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\model1.k
File Misc View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost

- Assembly 1
 - FEM Parts
 - Geom Parts
 - Part 1

Keyword Input Form

Use *PARAMETER

***CONTROL_ENERGY (0)**

1 HGEN RWEN SLNTEN RYLEN

2 1 2 1

COMMENT:

Clear Default **Accept** Delete Done

(Subs) Accept changes Setting

Keyword Manager

Keyword Edit Keyword Search

Edit: CONTROL_ENERGY Edit RefBy

Model All

Name	Count
CONTACT	
COUPLING	
CPU	
COARSEN	
DAMPING	
DEBUG	
DYNAMIC_RELAXATION	
EFG	
ENERGY	
EXPLOSIVE_SHADOW	
FORMING_AUTO_NET	
FORMING_AUTOPOSITION_PARAMETER	
FORMING_AUTOPOSITION_PARAMETER_SET	
FORMING_BLANKMESH	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

quatt 0.639583 0.089879 0.162268 0.746005;



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: DATABASE_BINARY_D3PLOT

Model All

Edit the input keyword

Name	Count
DEFORMABLE	
DAMPING	
DATABASE	
ASCII_option	
TPRINT	
TRHIST	
ALE_MAT	
BINARY_BLSTFOR	
BINARY_D3CRACK	
BINARY_D3ORLF	
BINARY_D3DUMP	
BINARY_D3PART	
BINARY_D3PLOT	
BINARY_D3PROP	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

ocnriter clear
genselct clear



LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Input Form

NewID

Use *Parameter

*DATABASE_BINARY_D3PLOT (1)

ID	DT	LCOT	BEAM	NPLTC	PSETID
1	1.000e-004	0	0	0	0
2	IOOPT	0			

COMMENT:

Total Card: 1 Smallest ID: 1 Largest ID: 1 Total deleted card: 0

Buttons: Pick, Accept, Delete, Default, Done, Accept changes 1), Setting

Keyword Manager

Keyword Edit Keyword Search

Edit: DATABASE_BINARY_D3PLOT

Model All RefBy

Name	Count
DEFORMABLE	
DAMPING	
DATABASE	
ASCII_option	
TPRINT	
TRHIST	
ALE_MAT	
BINARY_BLSTFOR	
BINARY_D3CRACK	
BINARY_D3DRLF	
BINARY_D3DUMP	
BINARY_D3PART	
BINARY_D3PLOT	
BINARY_D3PROP	

Material arrange

GroupBy: All Sort: Type List: All

Buttons: Model Check, Keyword Del, ExpandAll, CollapseAll, Done





LS-PrePost 4.0 (Beta) - 21Apr2012(18:55)-64bit

File Misc View Geometry FEM Application Settings Help

Assembly 1
FEM Parts
Geom Parts
Part 1

Keyword Manager

Keyword Edit Keyword Search

Edit: DATABASE_ASCII_option Edit

Model All Edit the input keyword

Name	Count
DEFORMABLE	
DAMPING	
DATABASE	1
ASCII_option	
TPRINT	
TRHIST	
ALE_MAT	
BINARY_BLSTFOR	
BINARY_D3CRACK	
BINARY_D3DRLF	
BINARY_D3DUMP	
BINARY_D3PART	
BINARY_D3PLOT	1
BINARY_D3PROP	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done

occuriter clear
genselect clear



LS-PrePost 3.1 - 07Sep2011 (09:02)-64bit C:\00\model.k

File Misc View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost

- Assembly 1
- FEM Parts
- Geom Parts
- Part 1

Keyword Input Form

Use *PARAMETER

GLSTAT **DT** **BINARY** **LCUR** **IOOPT**

0.00001 0 0 1

GLSTAT_MASS **DT** **BINARY** **LCUR** **IOOPT**

0.0 0 0 1

JNTFORC **DT** **BINARY** **LCUR** **IOOPT**

0.0 0 0 1

MATSUM **DT** **BINARY** **LCUR** **IOOPT**

0.0 0 0 1

MOVIE **DT** **BINARY** **LCUR** **IOOPT**

0.0 0 0 1

MPGS **DT** **BINARY** **LCUR** **IOOPT**

0.0 0 0 1

NCFORC **DT** **BINARY** **LCUR** **IOOPT**

0.0 0 0 1

***DATABASE_OPTION (2)**

Accept Done

(Subsys: 1) Setting

*DATABASE_ASCII_OPTION keyword cards updated

Keyword Manager

Keyword Edit Keyword Search

Edit: DATABASE_ASCII_option Edit

Model All RefBy

Name	Count
BOUNDARY	200
CASE	
CESE	
CHEMISTRY	
COMMENT	
COMPONENT	
CONSTRAINED	
CONTACT	1
CONTROL	1
DEFORMABLE	
DAMPING	
DATABASE	1
ASCII_option	
BINARY_BLSTFOR	

Material arrange

GroupBy: All Sort: Type List: All

Load From MatDB

Model Check Keyword Del

ExpandAll CollapseAll

Done



Finished reading model
quat 0.524231 -0.004493 -0.079312 0.847863;



LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\model.k
File Misc View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost

- Assembly 1
 - FEM Parts
 - Geom Parts
 - Part 1

Keyword Input Form

Use *PARAMETER

***DATABASE_OPTION (2)**

	DT	BINARY	LCUR	IOOPT
<input checked="" type="checkbox"/> RCFORC	0.00001	0	0	1
<input type="checkbox"/> RWFORC	0.0	0	0	1
<input type="checkbox"/> SBTOUT	0.0	0	0	1
<input type="checkbox"/> SECFORC	0.0	0	0	1
<input type="checkbox"/> SLEOUT	0.0	0	0	1
<input type="checkbox"/> SPCFORC	0.0	0	0	1
<input type="checkbox"/> SPHOUT	0.0	0	0	1
<input type="checkbox"/> SCSTAT	0.0	0	0	1

Accept Done

(Subsys: 1) Setting

*DATABASE_ASCII_OPTION keyword cards updated

Keyword Manager

Keyword Edit Keyword Search

Edit: DATABASE_ASCII_option Edit Re/BY

Model All

Name	Count
BOUNDARY	200
CASE	
CESE	
CHEMISTRY	
COMMENT	
COMPONENT	
CONSTRAINED	
CONTACT	1
CONTROL	1
DEFORMABLE	
DAMPING	
DATABASE	1
ASCII_option	
BINARY_BLSTFOR	

Material arrange

GroupBy Sort List

All Type All

Load From MatDB

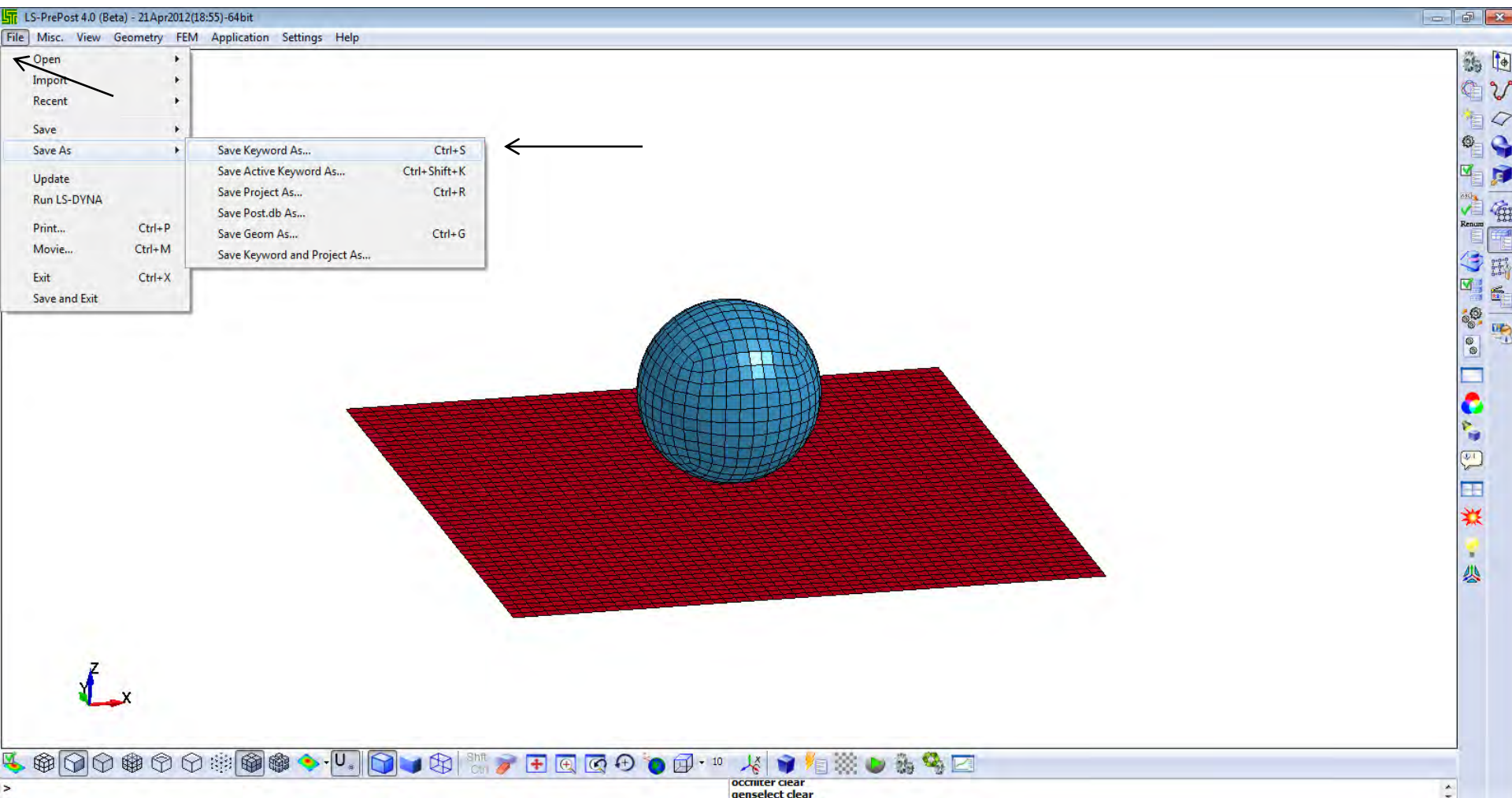
Model Check Keyword Del

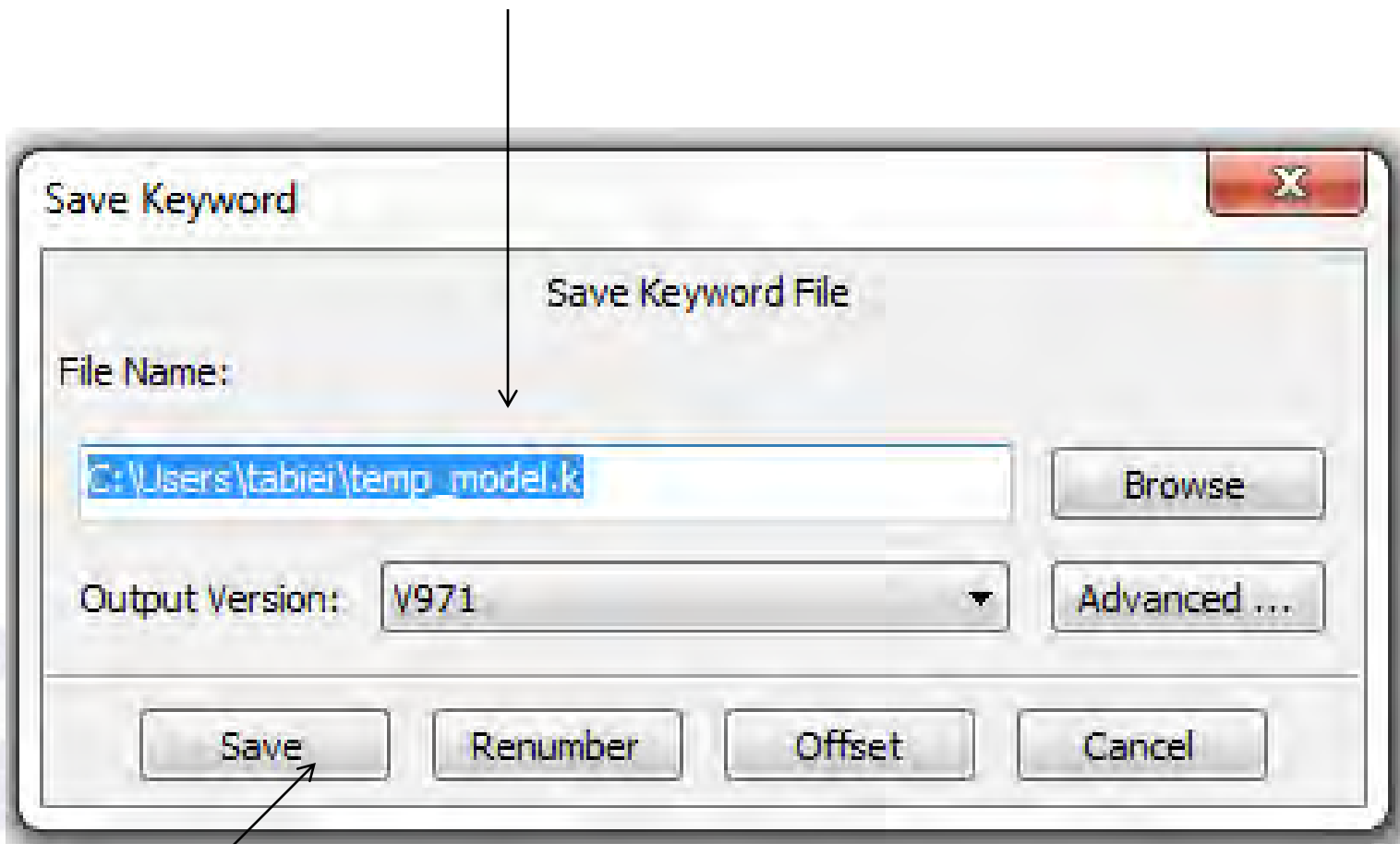
ExpandAll CollapseAll

Done



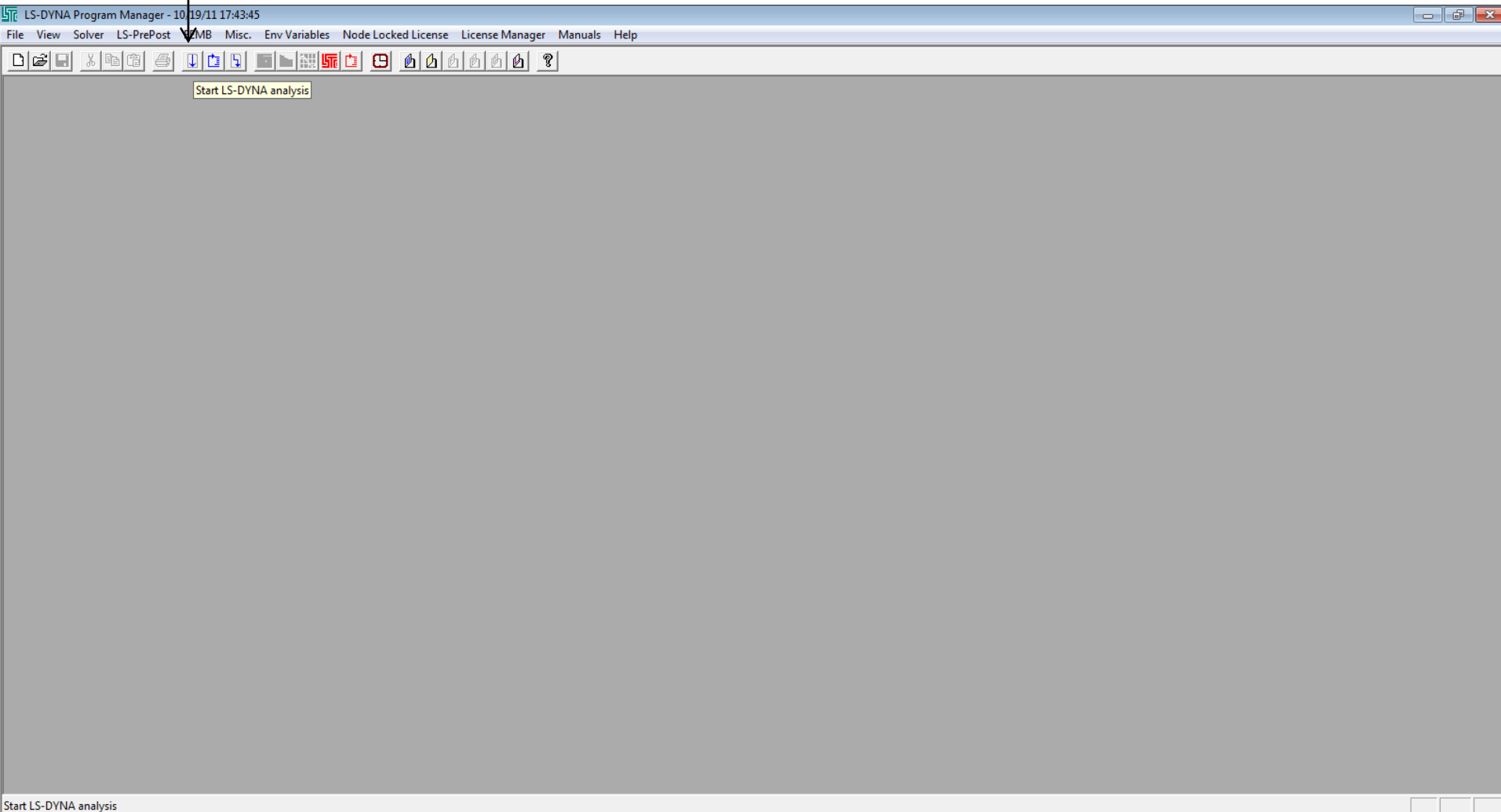
umat 0.524231 -0.004493 -0.079312 0.847863;







Running LS-DYNA





LS-DYNA Program Manager - 10/19/11 17:43:45

File View Solver LS-PrePost FEMB Misc Env Variables Node Locked License License Manager Manuals Help

Start Input and Output

Select input and output file(s) folder and name(s).

Input File I = [C:\00\model.k] Browse.. RUN Cancel

Output Print File O = [C:\00\vd3hsp] Browse.. Default

Set Command Line Parameters

NCPUR 2 MEMORY 30000000 MCHECK model check 10 cycles

Type More Cmd: CASE run multiple load case

Click More Options to input endtime, para. incycle, scale factor. More Options

Click Advance button to select more input and output files. Advanced



C:\LSDYNA\program\ls971_d_R5.1.1_win64_p.exe I=C:\00\model.k O=C:\00\d3hsp NCPU=2 MEMORY=30000000

License option : check local license only
Date: 12/04/2012 Time: 13:26:05

Executing with LSTC local workstation license

```

Livermore Software Technology Corporation
7374 Las Positas Road
Livermore, CA 94551
Tel: (925) 449-2500 Fax: (925) 449-2507
www.lstc.com
  
```

```

LS-DYNA, A Program for Nonlinear Dynamic
Analysis of Structures in Three Dimensions
Version : ls971d R5.1.1 Date: 03/23/2011
Revision: 65543 Time: 12:57:02
  
```

```

Features enabled in this version:
Shared Memory Parallel
ANSYS Database format
  
```

32 Bit IEEE Binary File

Licensed to: Ala Tabiei - 228

```

Platform : WINDOWS X64
OS Level : Windows XP/Vista/7 SRU 2003/2008
Compiler : Intel Fortran 10.1 & MSVC++ 2008
Hostname : tabiei-PC
Precision : Double precision (18R8)
SUN Version: 65578
  
```

Unauthorized use infringes LSTC copyrights

Input file: C:\00\model.k

The native file format : 64-bit small endian
Memory size from command line: 30000000

on UNIX computers note the following change:

ctrl-c interrupts ls-dyna and prompts for a sense switch.
type the desired sense switch: sw1., sw2., etc. to continue
the execution. ls-dyna will respond as explained in the users manual

type	response
quit	ls-dyna terminates.
stop	ls-dyna terminates.
sw1.	a restart file is written and ls-dyna terminates.
sw2.	ls-dyna responds with time and cycle numbers.
sw3.	a restart file is written and ls-dyna continues calculations.
sw4.	a plot state is written and ls-dyna continues calculations.
lpri	toggle implicit lin. alg. solver output on/off
nlpr	toggle implicit nonlinear solver output on/off
iter	toggle implicit output to d3iter database on/off
conv	force implicit nonlinear convergence for current time step

***** notice ***** notice ***** notice *****
* * * * *

Ready



```

C:\LSDYNA\program\ls971_d_R5.1.1_win64_p.exe I=C:\00\model.k O=C:\00\d3hsp NCPU=2 MEMORY=3000000
6262 t 3.0997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:11
6464 t 3.1997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:11
6666 t 3.2997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:11
6868 t 3.3997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:11
7070 t 3.4997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:11
7272 t 3.5998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:11
7474 t 3.6998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
7676 t 3.7998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
7878 t 3.8998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
8080 t 3.9998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
8282 t 4.0998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
8484 t 4.1998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
8686 t 4.2998E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:12
8888 t 4.3997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13
9090 t 4.4997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13
9292 t 4.5997E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13
9494 t 4.6996E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13
9696 t 4.7996E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13
9898 t 4.8996E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13
10000 t 4.9500E-03 dt 4.95E-07 Flush i/o buffers 12/04/12 13:26:13
10100 t 4.9995E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13

*** termination time reached ***
10100 t 5.0000E-03 dt 4.95E-07 write d3dump01 file 12/04/12 13:26:13
10100 t 5.0000E-03 dt 4.95E-07 write d3plot file 12/04/12 13:26:13

Normal termination ← 12/04/12 13:26:13

Memory required to complete solution : 464782
Additional dynamically allocated memory: 121910
Total: 586692

Timing information
-----
CPU(seconds) %CPU Clock(seconds) %Clock
-----
Initialization ..... 1.0000E+00 12.50 7.3500E-01 9.28
Element processing ... 5.0000E+00 62.50 6.2150E+00 78.43
Binary databases .... 0.0000E+00 0.00 2.9800E-01 3.76
ASCII database ..... 0.0000E+00 0.00 2.0000E-03 0.03
Contact algorithm ... 2.0000E+00 25.00 6.6200E-01 8.35
Interf. ID 1 2.0000E+00 25.00 6.1600E-01 7.77
Contact entities .... 0.0000E+00 0.00 0.0000E+00 0.00
Rigid bodies ..... 0.0000E+00 0.00 1.2000E-02 0.15
Implicit Nonlinear ... 0.0000E+00 0.00 0.0000E+00 0.00
Implicit Lin. Alg. ... 0.0000E+00 0.00 0.0000E+00 0.00
-----
T o t a l s 8.0000E+00 100.00 7.9240E+00 100.00

Problem time = 5.0000E-03
Problem cycle = 10100
Total CPU time = 8 seconds ( 0 hours 0 minutes 8 seconds)
CPU time per zone cycle = 223 nanoseconds
Clock time per zone cycle= 229 nanoseconds

Number of CPU's 2
NLQ used/max 136/ 136
Start time 12/04/2012 13:26:05
End time 12/04/2012 13:26:13
Elapsed time 8 seconds( 0 hours 0 min. 8 sec.) for 10100 cycles

Normal termination ← 12/04/12 13:26:13

Click close button or execute exit command to quit the Window
C:\00>

```



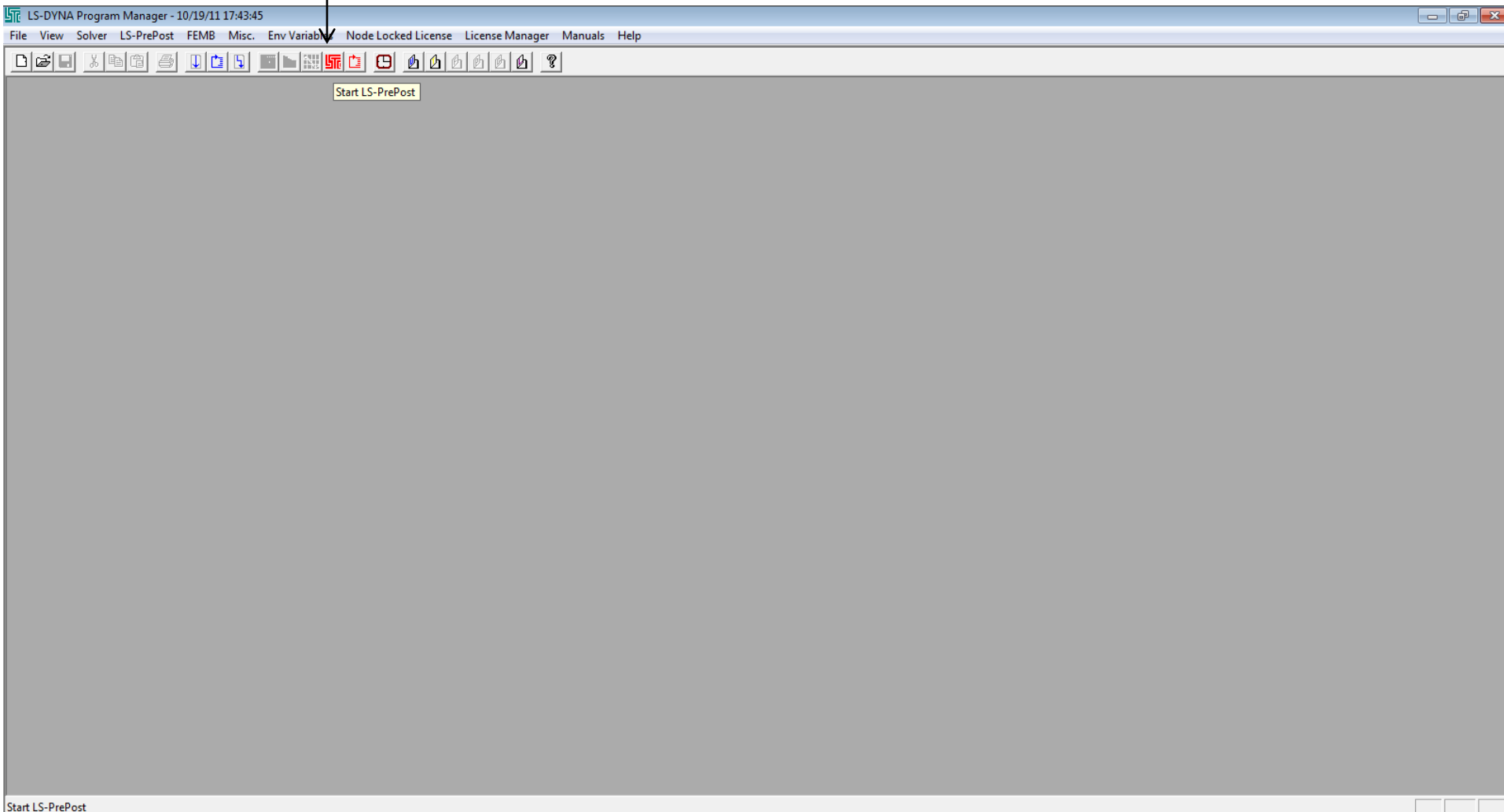

Name	Date modified	Type	Size
d3dump01	12/4/2012 3:45 PM	File	4,368 KB
d3hsp	12/4/2012 3:45 PM	File	1,101 KB
d3plot	12/4/2012 3:45 PM	File	248 KB
d3plot01	12/4/2012 3:45 PM	File	53,497 KB
d3plot02	12/4/2012 3:45 PM	File	1,052 KB
glstat	12/4/2012 3:45 PM	File	482 KB
ldcrvv	12/4/2012 1:26 PM	File	0 KB
messag	12/4/2012 3:45 PM	File	14 KB
model.k	12/4/2012 3:45 PM	K File	541 KB
rforc	12/4/2012 3:45 PM	File	152 KB
status.out	12/4/2012 3:45 PM	OUT File	1 KB

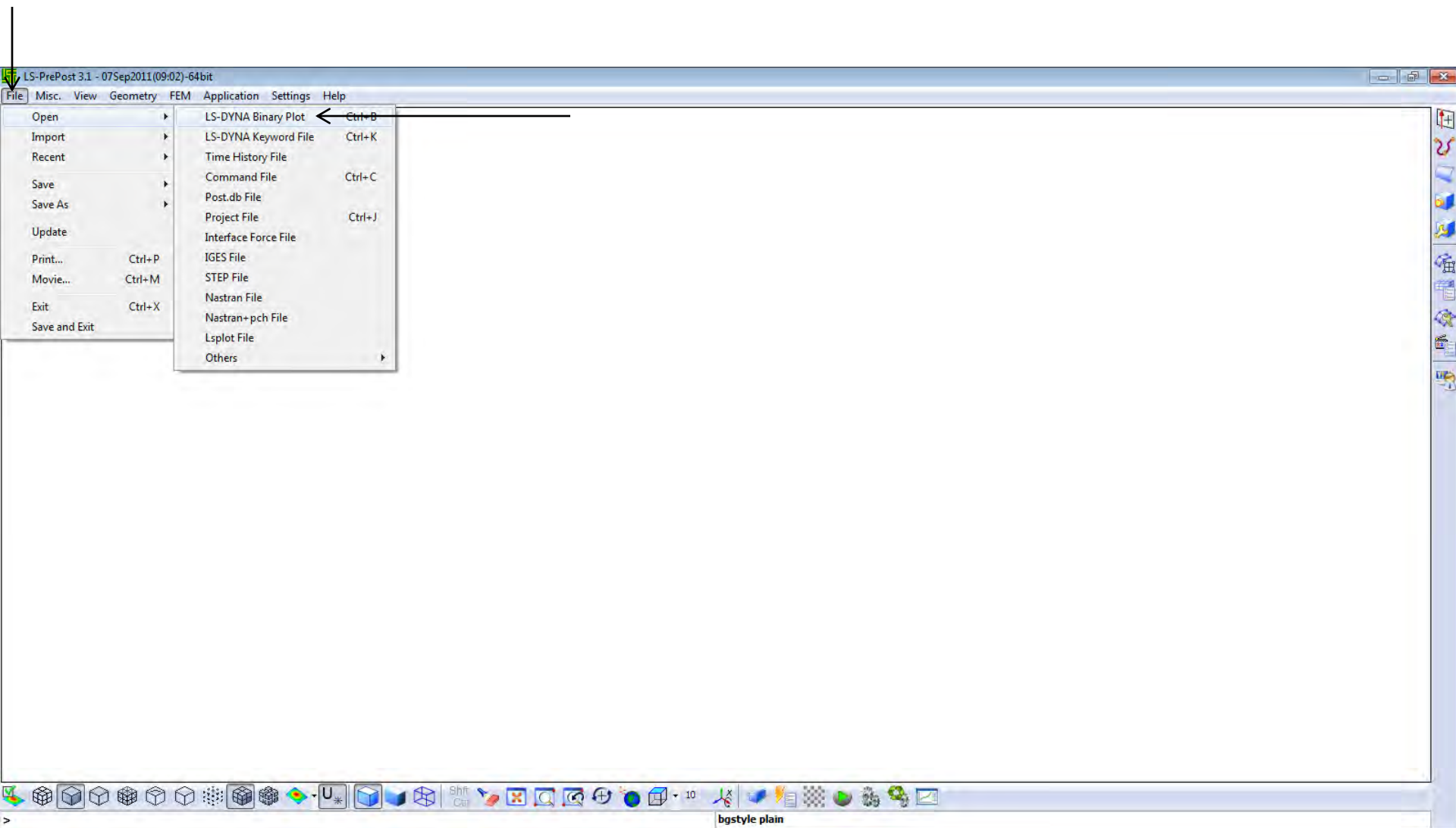
Binary file for restart
Ascii file echo of input file & other info
Binary files, results
Ascii file, global results
Ascii file, messages
Ascii file, contact forces results
Ascii file, status of run

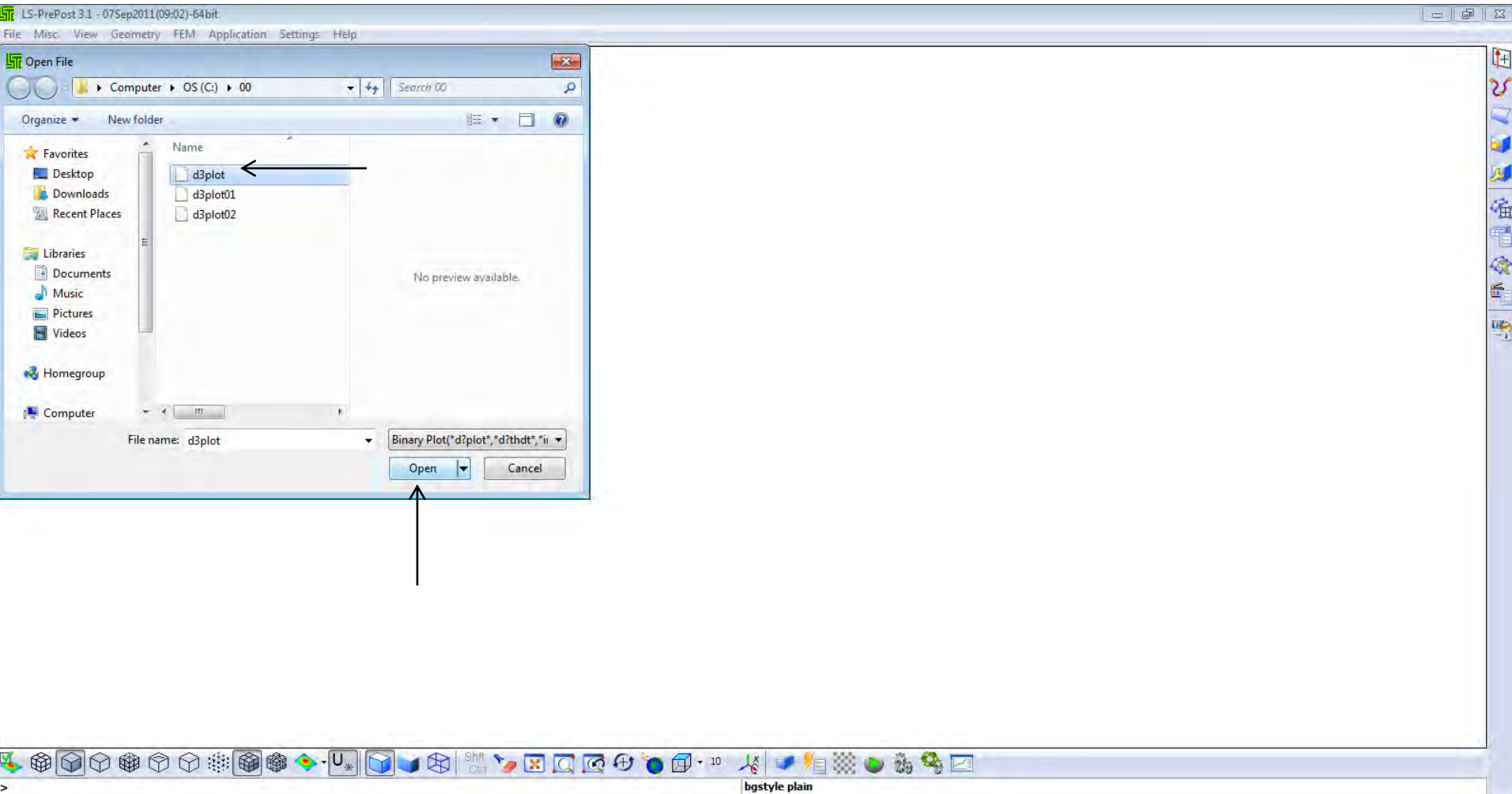
model.k Date modified: 12/4/2012 3:45 PM Date created: 12/4/2012 1:22 PM
K File Size: 540 KB



LS-POST Tutorial









LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

Time = 0

Y
Z
X

Animate

Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0 State: 1

Animate Loop

S F

3

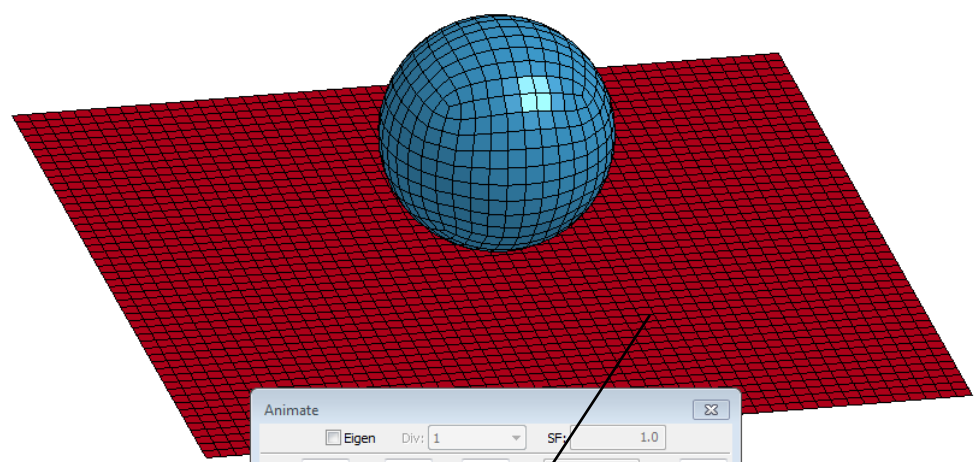
Need model data to operate command



LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

Time = 0.00059955



Animate

Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0.000599546 State: 7

Animate [Navigation Buttons] Loop

S F

3

Fringe Component

- Hut
- XY
- Ascii
- Big Out
- [Color Legend]
- [Plot]
- [View]

[Toolbar icons]

anim stop; state 7;



LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

Time = 0.0046996
Contours of Effective Stress (v-m)
max IP. value
min=0.205863, at elem# 2650
max=48.8976, at elem# 1276

Fringe Component

- Stress
 - x-stress
 - y-stress
 - z-stress
 - xy-stress
 - yz-stress
 - zx-stress
 - plastic strain
 - pressure
- Misc
 - von mises stress**
 - 1st-prin dev stress
 - 2nd-prin dev stress
 - 3rd-prin dev stress
 - Tresca (max shear stress)
 - 1st-principal stress
 - 2nd-principal stress
 - 3rd-principal stress
 - max inplane stress
 - min inplane stress
- Infin
- Green
- Almans
- S.Rate
- Residu
- FLD
- Beam
- SH
- CFD
- Forming
- LSPLOT
- User
- Apply
 - inpt 2
 - inpt 3
- Frin
- Max
- Glob

Done

Fringe Levels

- 4.890e+01
- 4.646e+01
- 4.403e+01
- 4.159e+01
- 3.916e+01
- 3.672e+01
- 3.429e+01
- 3.186e+01
- 2.942e+01
- 2.699e+01
- 2.455e+01
- 2.212e+01
- 1.968e+01
- 1.725e+01
- 1.481e+01
- 1.238e+01
- 9.944e+00
- 7.510e+00
- 5.075e+00
- 2.640e+00
- 2.059e-01

Animate

Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0.00469964 State: 48

Animate [Navigation Buttons] Loop

S F

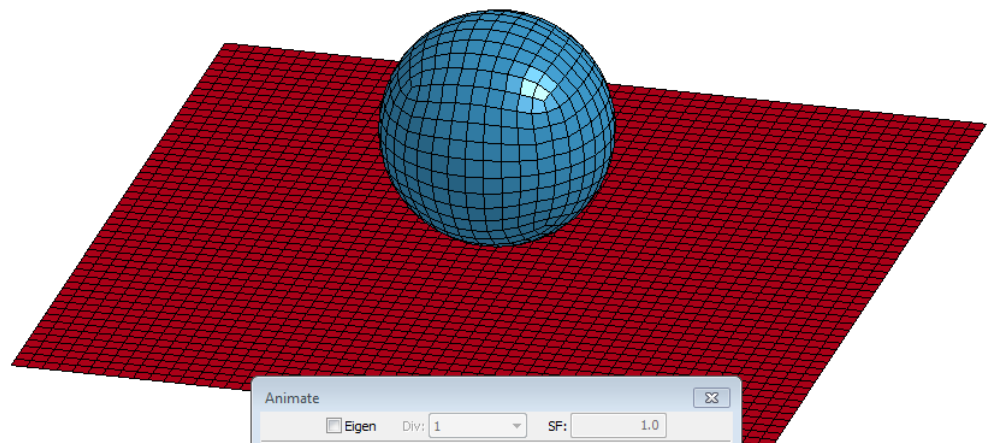
state 48;



LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

Time = 0.0025997



Animate

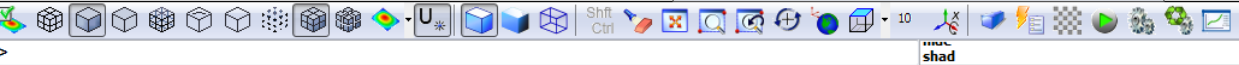
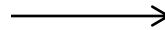
Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0.00259968 State: 27

Animate Loop

S F

3

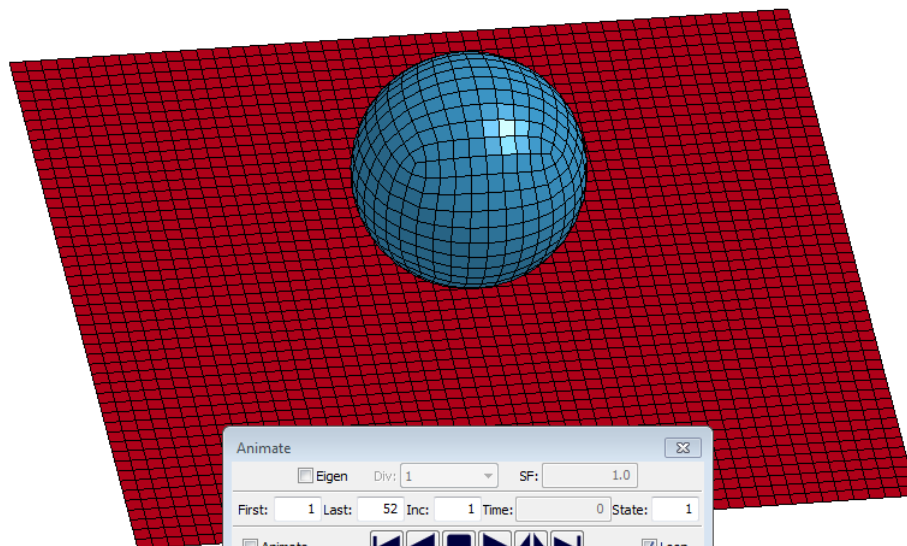




LS-PrePost 3.1 - 07Sep2011(09:02)-64bit C:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost
Time = 0



ASCII

File g1stat *
Load rcforc *
matsum
abstat

Un Load existing file for selected ASCII file type

G1stat Data

All RGWall Id

Clear

Rev

Info

1-Kinetic Energy
2-Internal Energy
3-Total Energy
4-Energy Ratio
5-Spring & Damper Energy
6-Hourglass Energy
7-Damping Energy

Popup Main

Plot Padd New

Clear Raise Pop

File loaded

Multiple Select

All Clear Reverse

Done

Animate

Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0 State: 1

Animate Loop

S F

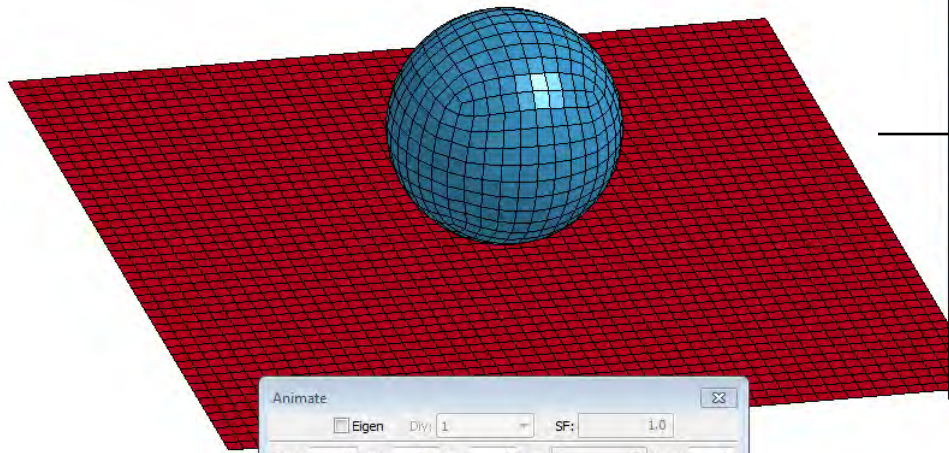
need model data to operate commands
quat 0.434243 -0.054720 -0.064293 0.896831;



LS-PrePost 3.1 - 07Sep2011 (09:02) - 64bit c:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost
Time = 0



ASCII

File: [1] g1stat *
rcforc *
matsum
abstat
ncforc

G1stat Data
All: RGWall Id

Clear
Rev
Info

1-Kinetic Energy
2-Internal Energy
3-Total Energy Press Ctrl key for multiple selection
4-Energy Ratio
5-Spring & Damper Energy
7-Damping Energy
8-Sliding Energy

Popup Main

Plot Padd New
Clear Raise Pop

File loaded
c:\00\g1stat

Multiple Select
All Clear Reverse

Done

Animate

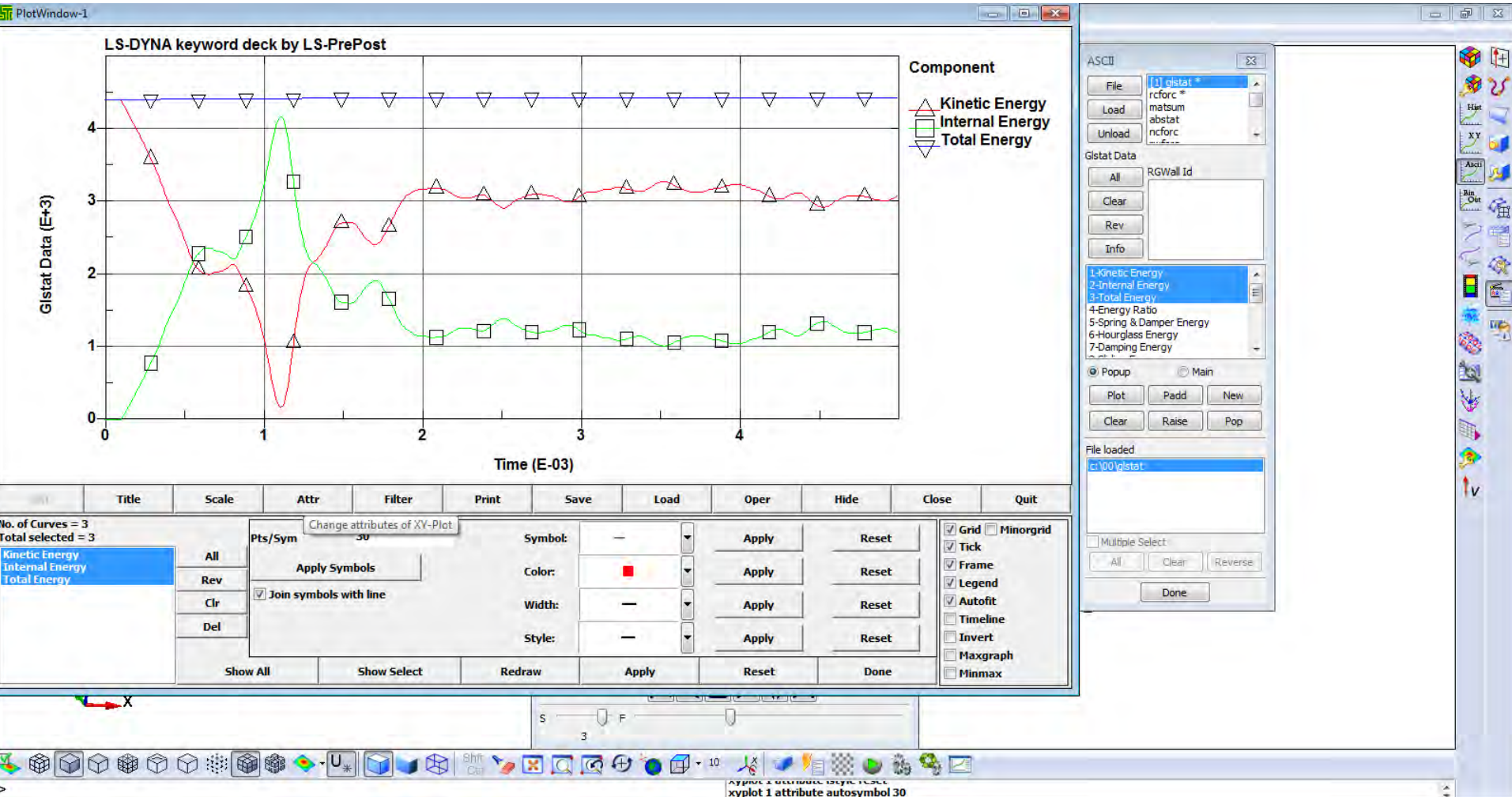
Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0 State: 1

Animate [Navigation Buttons] Loop

S [Slider] F [Slider]

ascii g1stat open "c:\00\g1stat" 0

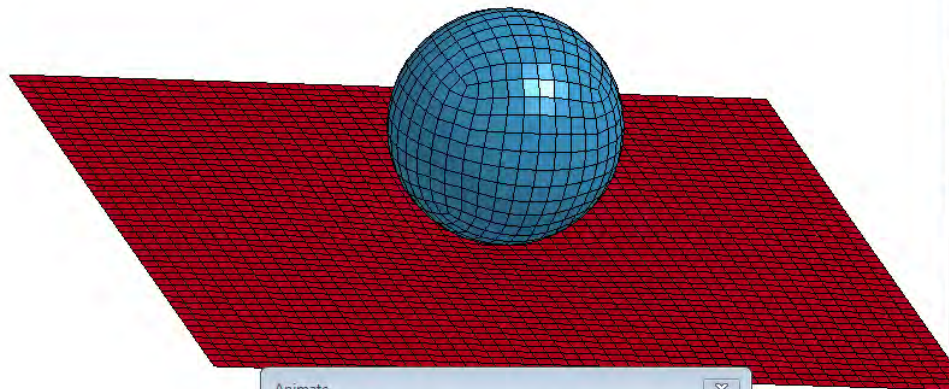




LS-PrePost 3.1 - 07Sep2011 (09:02) - 64bit c:\00\d3plot

File Misc View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost
Time = 0.0017997



ASCII

File [1] g1stat *
Load [1] rcforc *
matsum
abstat

Url Load existing file for selected ASCII file type

Rcforc Data

All Si-1: Contact # 1 (c
Clear Ma-1: Contact # 1 (

Rev

Info

1-X-force
2-Y-force
3-Z-force
4-Resultant Force
5-Mass
6-X-moment
7-Y-moment

Popup Main

Plot Padd New

Clear Raise Pop

File loaded

c:\00\rcforc

Multiple Select

All Clear Reverse

Done



Animate

Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0.00179973 State: 19

Animate [Navigation icons] Loop

S F



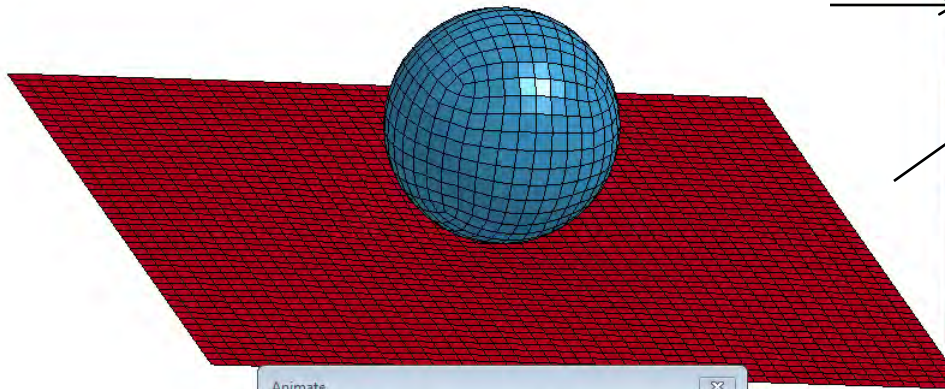
ascii rcforc open "c:\00\rcforc" 0



LS-PrePost 3.1 - 07Sep2011 (09:02) - 64bit c:\00\d3plot

File Misc. View Geometry FEM Application Settings Help

LS-DYNA keyword deck by LS-PrePost
Time = 0.0017997



ASCII

File [1] g1stat *
[1] rcforc *

Load matsum
abstat
ncforc

Unload

Rcforc Data

All SI-1: Contact # 1 (C
Ma-1: Contact # 1 (C

Clear

Rev

Info

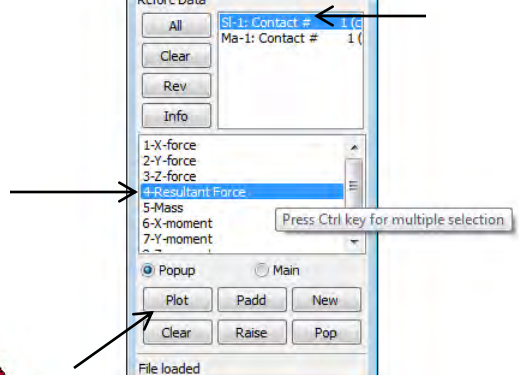
1-X-force
2-Y-force
3-Z-force
4-Resultant Force
5-Mass
6-X-moment
7-Y-moment

Plot Padd New
Clear Raise Pop

File loaded
c:\00\rcforc

Multiple Select
All Clear Reverse

Done



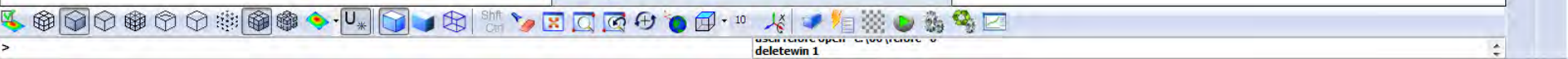
Animate

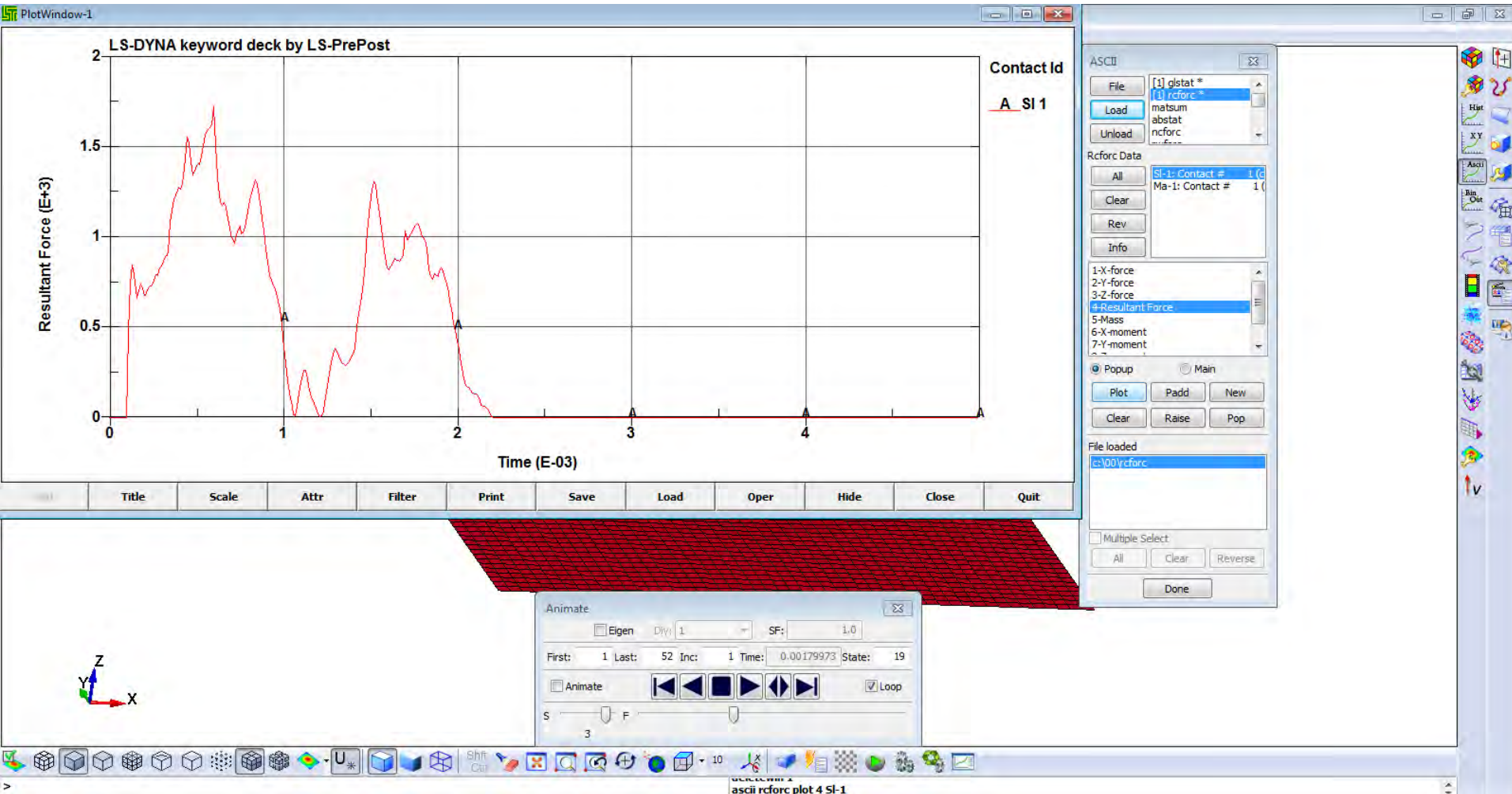
Eigen Div: 1 SF: 1.0

First: 1 Last: 52 Inc: 1 Time: 0.00179973 State: 19

Animate [Navigation icons] [Loop]

S F







Notes



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Notes



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