СКЦ ЮУрГУ

СУПЕРКОМПЬЮТЕРНЫЙ ЦЕНТР

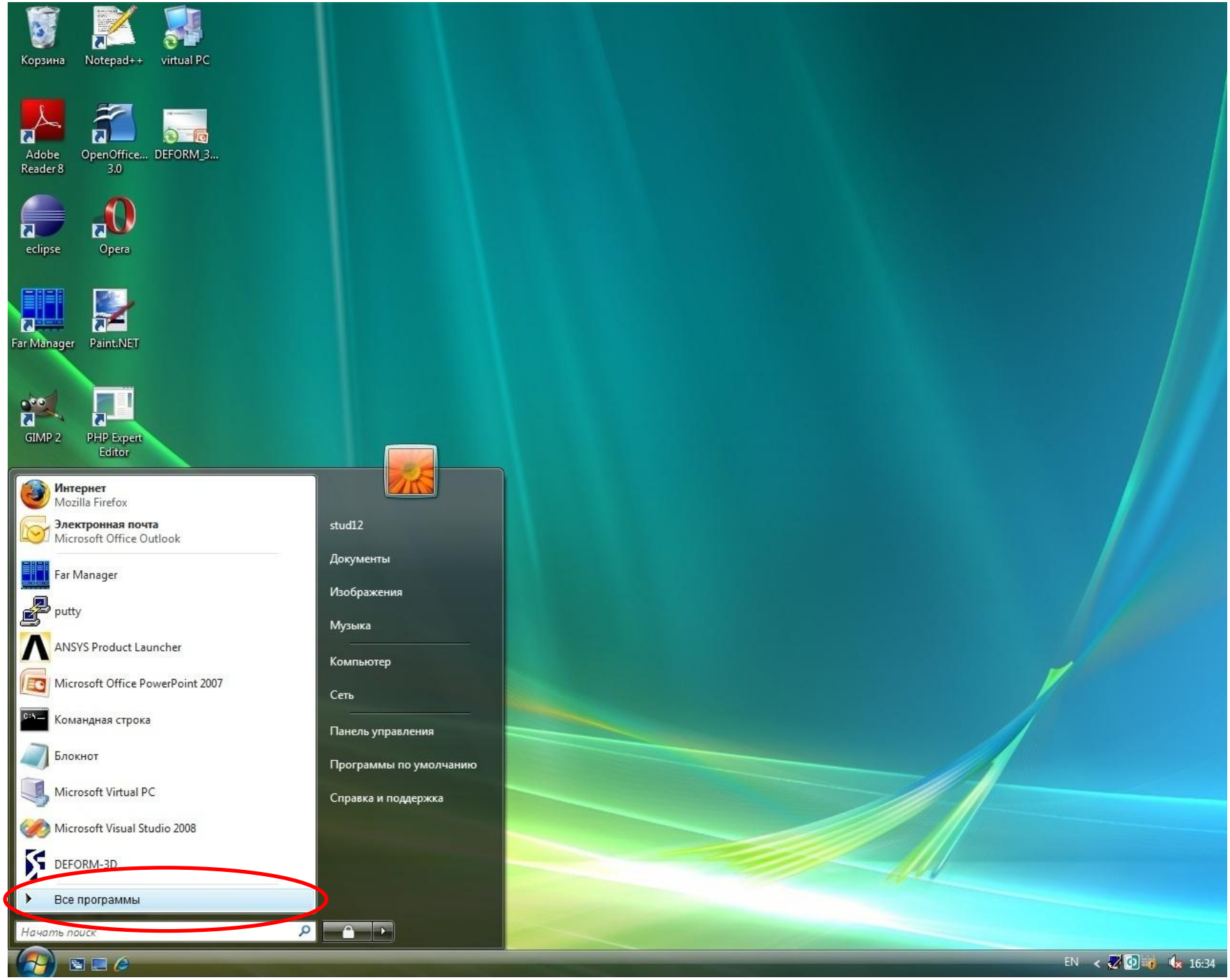
Южно-Уральского государственного университета

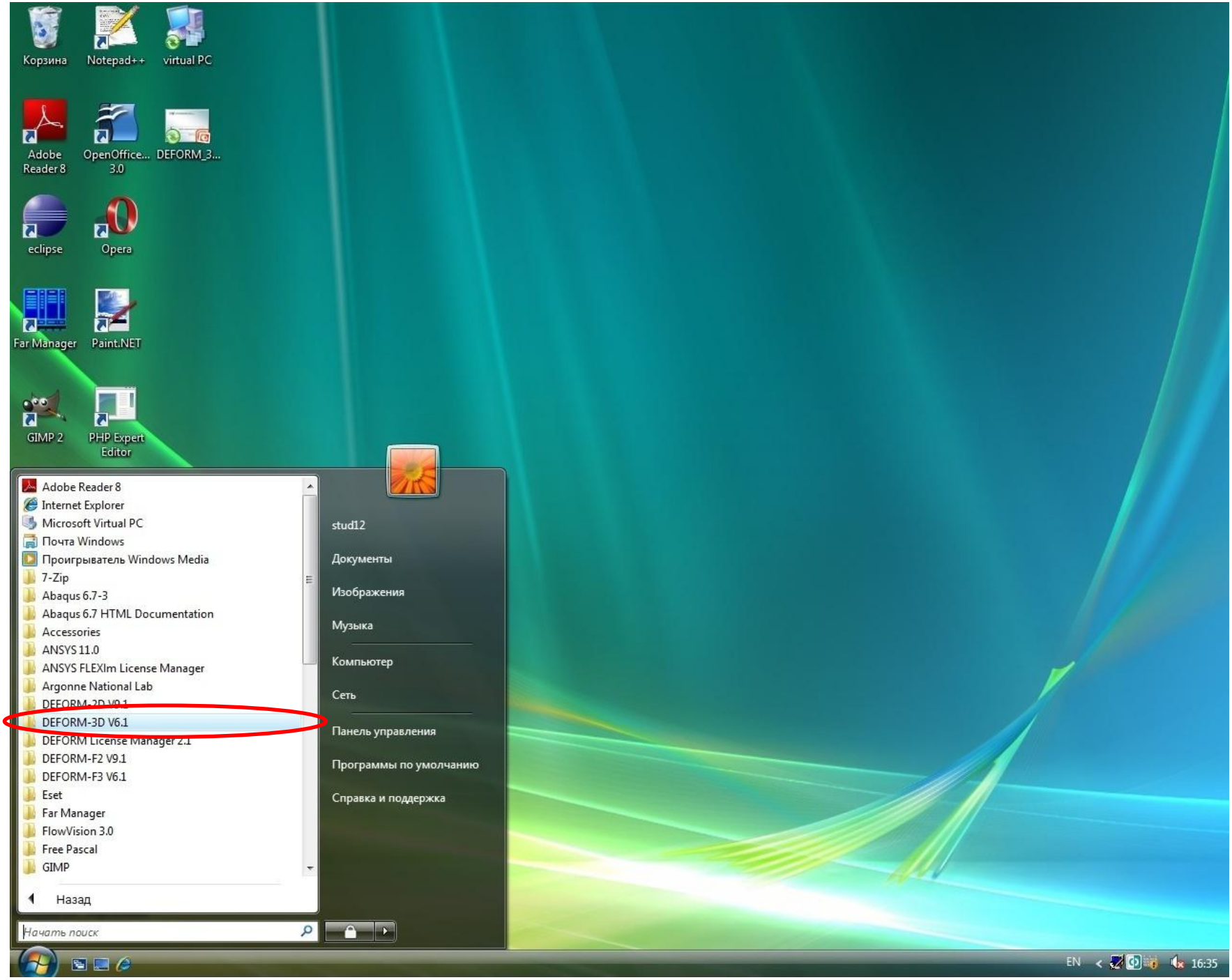
Пакет инженерного анализа DEFORM

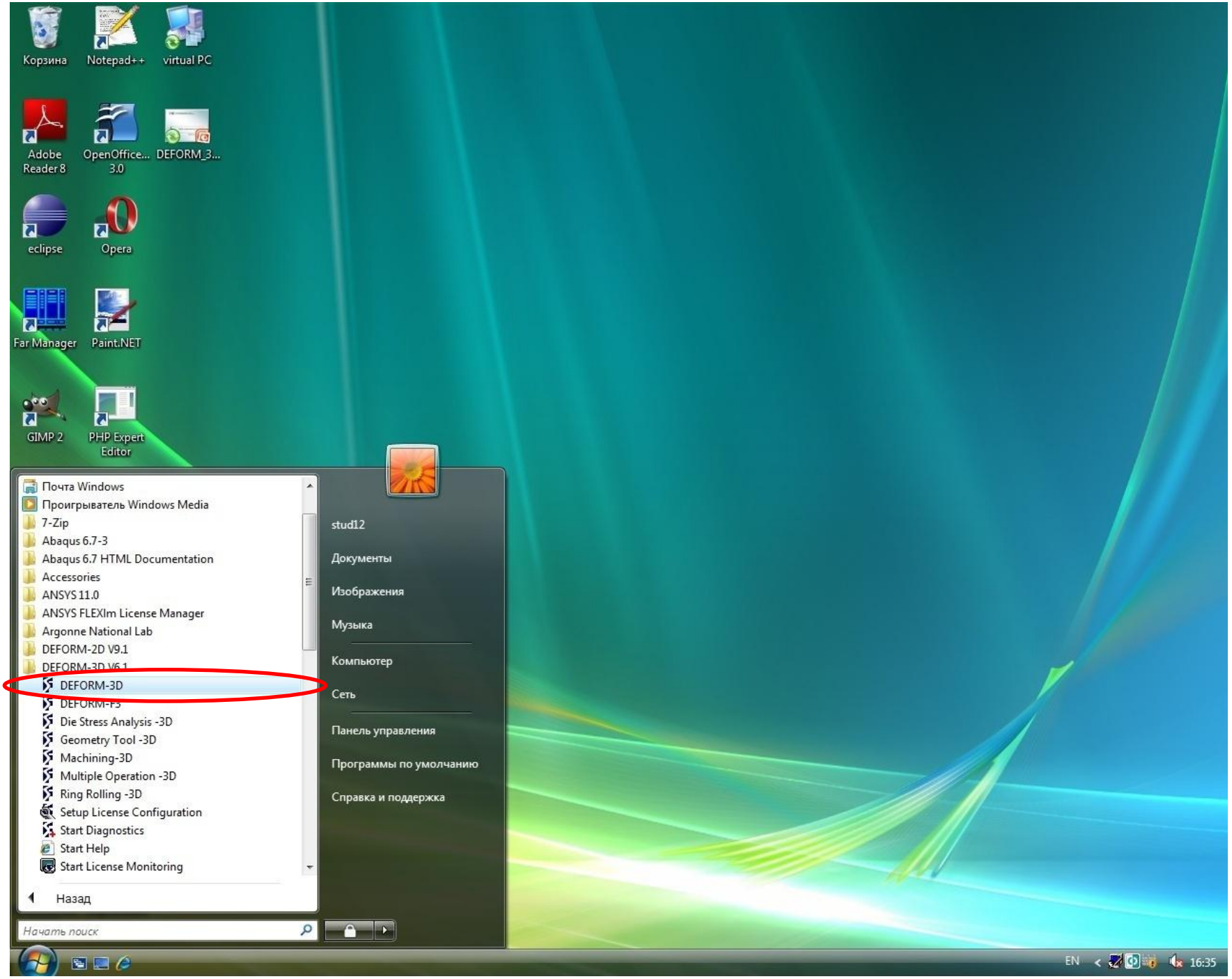
Лабораторные работы:
подготовка задач в препроцессоре

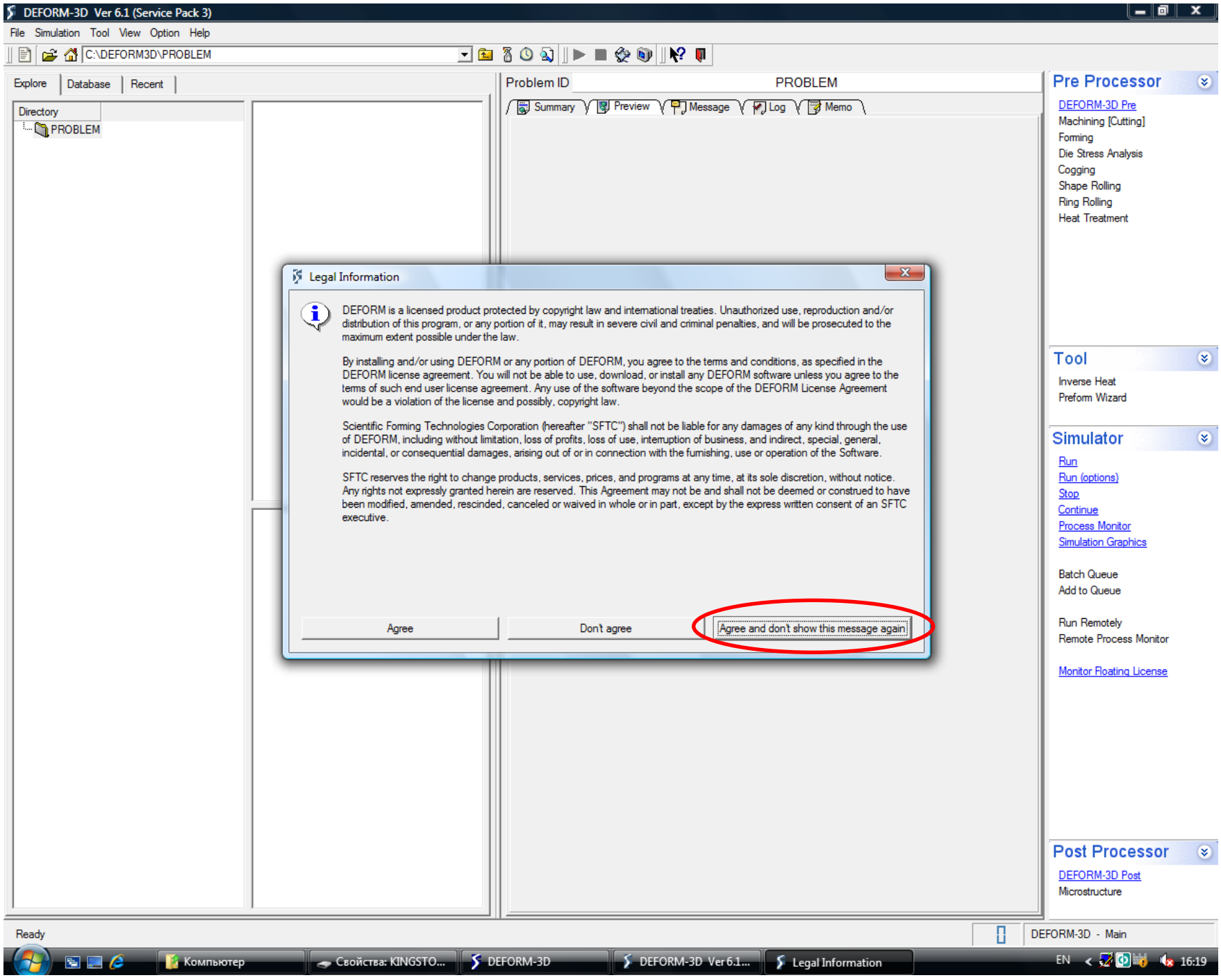
ЗАПУСК ОБОЛОЧКИ DEFORM-3D


Корзина
Notepad++
virtual PC
Adobe Reader 8
OpenOffice... 3.0
DEFORM_3...
eclipse
Opera
Far Manager
Paint.NET
GIMP 2
PHP Expert Editor
Google Chro...
putty
IrfanView
Restart Denwer
Lazarus
StarDict
Mozilla Firefox
Start Denwer
NetBeans IDE 6.5.1
Stop Denwer
EN
16:33


Корзина
Notepad++
virtual PC
Adobe Reader 8
OpenOffice... 3.0
DEFORM_3...
eclipse
Opera
Far Manager
Paint.NET
GIMP 2
PHP Expert Editor
Интернет
Mozilla Firefox
Электронная почта
Microsoft Office Outlook
Far Manager
putty
ANSYS Product Launcher
Microsoft Office PowerPoint 2007
Командная строка
Блокнот
Microsoft Virtual PC
Microsoft Visual Studio 2008
DEFORM-3D
Все программы
Начать поиск
stud12
Документы
Изображения
Музыка
Компьютер
Сеть
Панель управления
Программы по умолчанию
Справка и поддержка
EN
16:34


Корзина
Notepad++
virtual PC
Adobe Reader 8
OpenOffice... 3.0
DEFORM_3...
eclipse
Opera
Far Manager
Paint.NET
GIMP 2
PHP Expert Editor
Adobe Reader 8
Internet Explorer
Microsoft Virtual PC
Почта Windows
Проигрыватель Windows Media
7-Zip
Abaqus 6.7-3
Abaqus 6.7 HTML Documentation
Accessories
ANSYS 11.0
ANSYS FLEXlm License Manager
Argonne National Lab
DEFORM-2D V9.1
DEFORM-3D V6.1
DEFORM License Manager 2.1
DEFORM-F2 V9.1
DEFORM-F3 V6.1
Eset
Far Manager
FlowVision 3.0
Free Pascal
GIMP
Назад
Начать поиск
stud12
Документы
Изображения
Музыка
Компьютер
Сеть
Панель управления
Программы по умолчанию
Справка и поддержка
EN
16:35


Корзина
Notepad++
virtual PC
Adobe Reader 8
OpenOffice... 3.0
DEFORM_3...
eclipse
Opera
Far Manager
Paint.NET
GIMP 2
PHP Expert Editor
Почта Windows
Проигрыватель Windows Media
7-Zip
Abaqus 6.7-3
Abaqus 6.7 HTML Documentation
Accessories
ANSYS 11.0
ANSYS FLEXlm License Manager
Argonne National Lab
DEFORM-2D V9.1
DEFORM-3D V6.1
DEFORM-3D
DEFORM-F3
Die Stress Analysis -3D
Geometry Tool -3D
Machining-3D
Multiple Operation -3D
Ring Rolling -3D
Setup License Configuration
Start Diagnostics
Start Help
Start License Monitoring
Назад
Начать поиск
stud12
Документы
Изображения
Музыка
Компьютер
Сеть
Панель управления
Программы по умолчанию
Справка и поддержка
EN
16:35


DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
C:\DEFORM3D\PROBLEM
Explore Database Recent
Directory
PROBLEM
Problem ID
PROBLEM
Summary Preview Message Log Memo
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Legal Information
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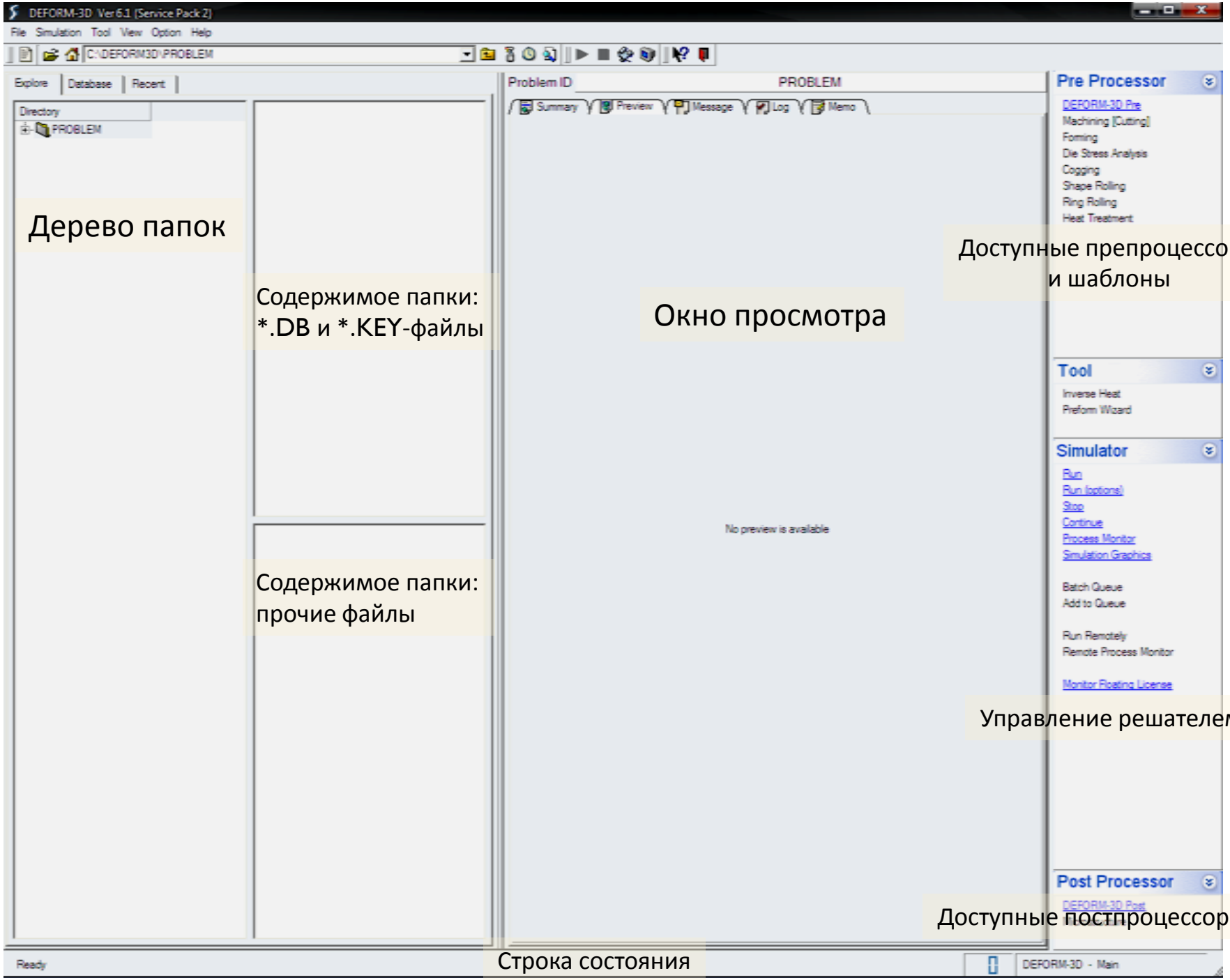
By installing and/or using DEFORM or any portion of DEFORM, you agree to the terms and conditions, as specified in the DEFORM license agreement. You will not be able to use, download, or install any DEFORM software unless you agree to the terms of such end user license agreement. Any use of the software beyond the scope of the DEFORM License Agreement would be a violation of the license and possibly, copyright law.
Scientific Forming Technologies Corporation (hereafter "SFTC") shall not be liable for any damages of any kind through the use of DEFORM, including without limitation, loss of profits, loss of use, interruption of business, and indirect, special, general, incidental, or consequential damages, arising out of or in connection with the furnishing, use or operation of the Software.
SFTC reserves the right to change products, services, prices, and programs at any time, at its sole discretion, without notice. Any rights not expressly granted herein are reserved. This Agreement may not be and shall not be deemed or construed to have been modified, amended, rescinded, canceled or waived in whole or in part, except by the express written consent of an SFTC executive.
Agree
Don't agree
Agree and don't show this message again
Ready
DEFORM-3D - Main
Компьютер
Свойства: KINGSTO...
DEFORM-3D
DEFORM-3D Ver 6.1...
Legal Information
EN
16:19



Дерево папок

Содержимое папки: *.DB и *.KEY-файлы

Содержимое папки: прочие файлы

Окно просмотра

Доступные препроцессоры и шаблоны

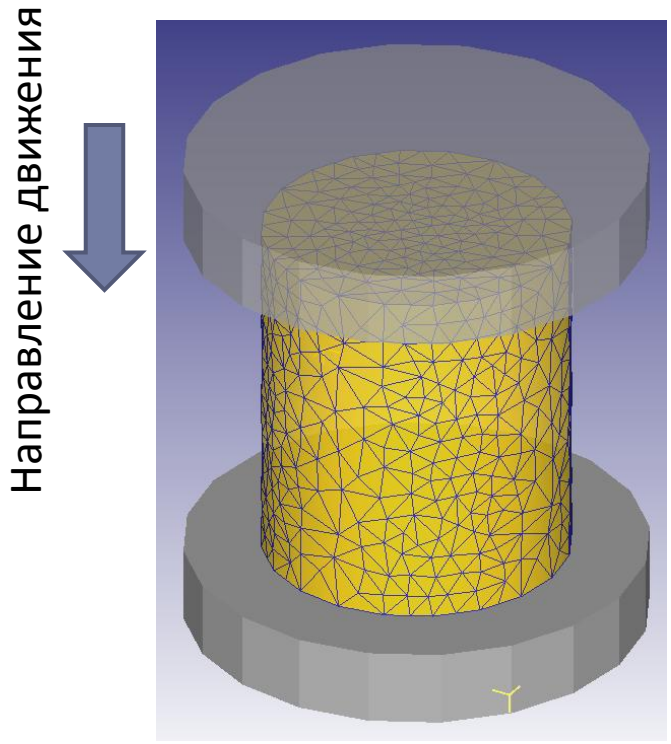
Управление решателем

Доступные постпроцессоры

Строка состояния

Лабораторная работа №1
ОСАДКА

Исходные данные



Операция:

- Осадка (пластическое деформирование)

Геометрия заготовки:

- Форма: цилиндр
- Диаметр: 200мм
- Высота: 230мм

Материал заготовки:

- Сталь AISI-1045

Геометрия штампа:

- Форма рабочей поверхности плит: плоская
- Диаметр плит: 300мм
- Высота плит: 50мм

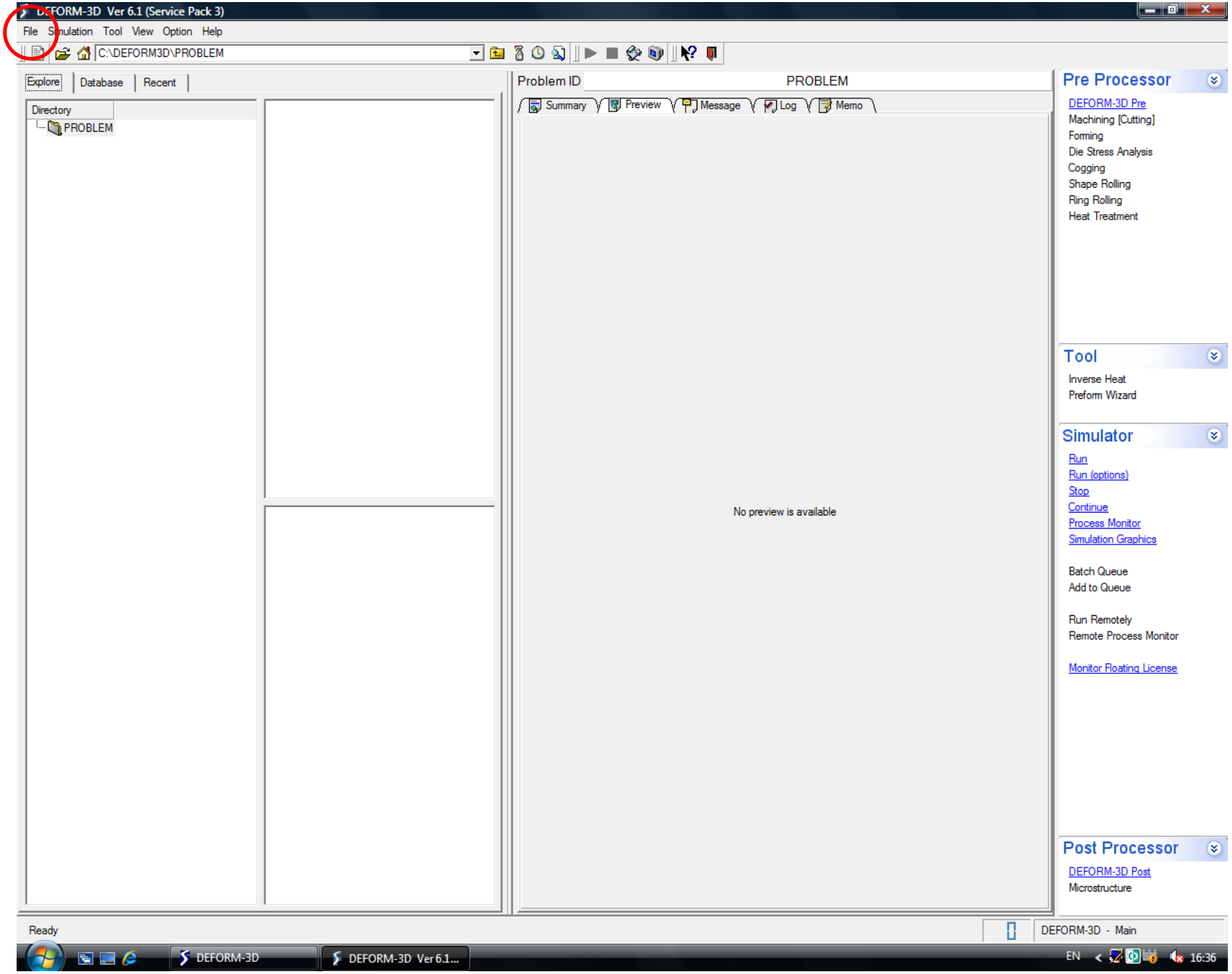
Кинематические параметры:

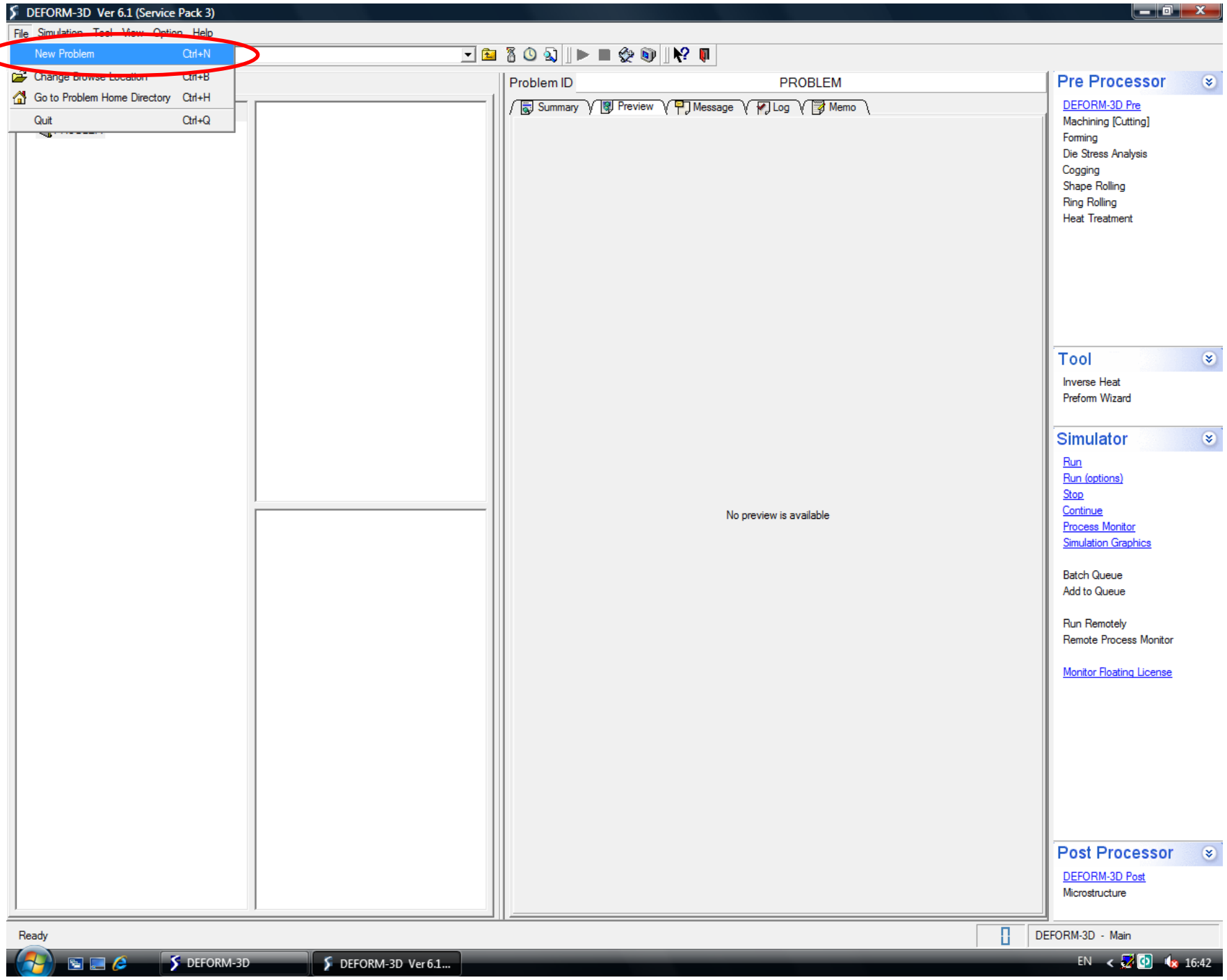
- Скорость движения верхней плиты штампа: 1мм/с
- Ход верхней плиты штампа: 50мм

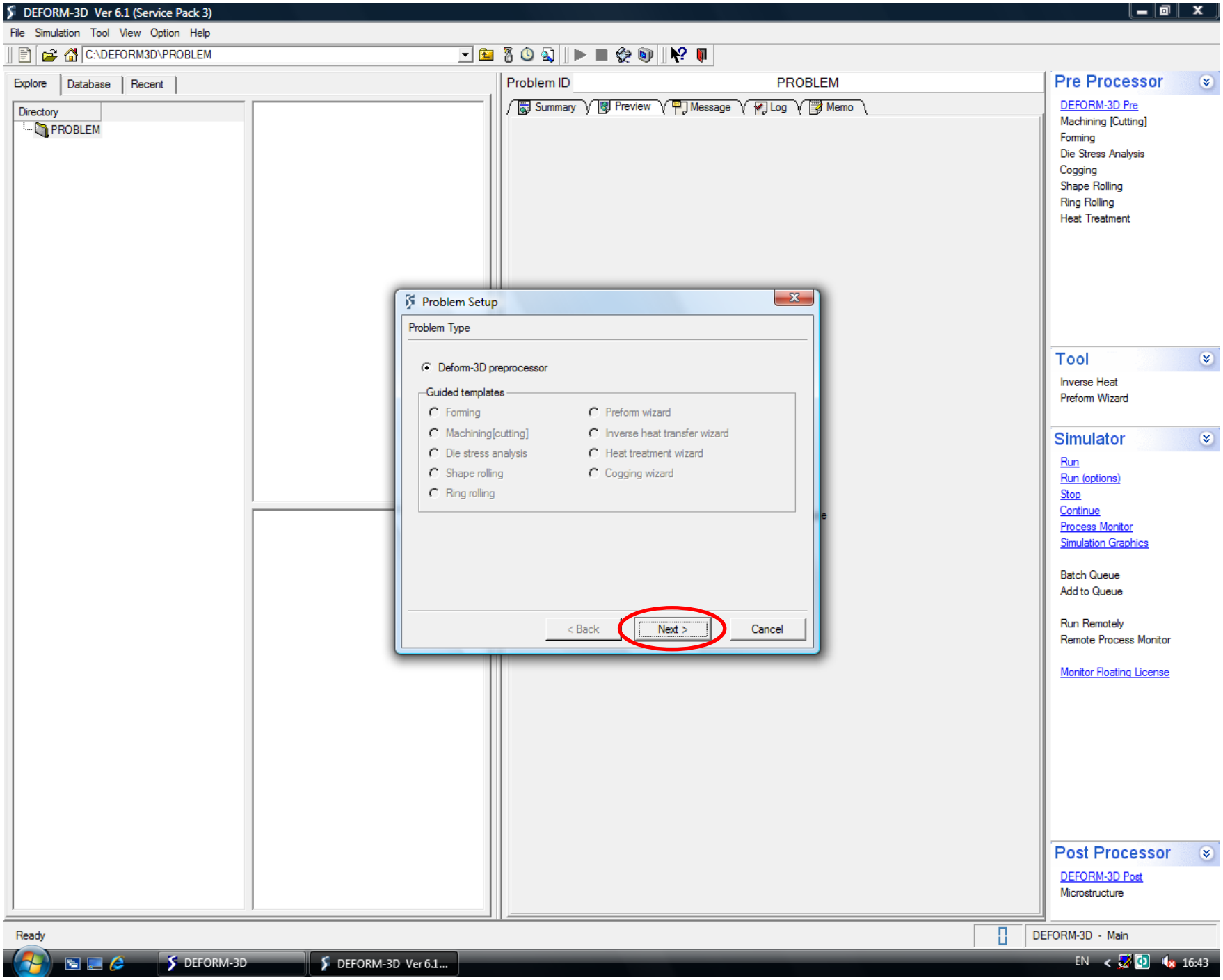
Базовые этапы создания модели

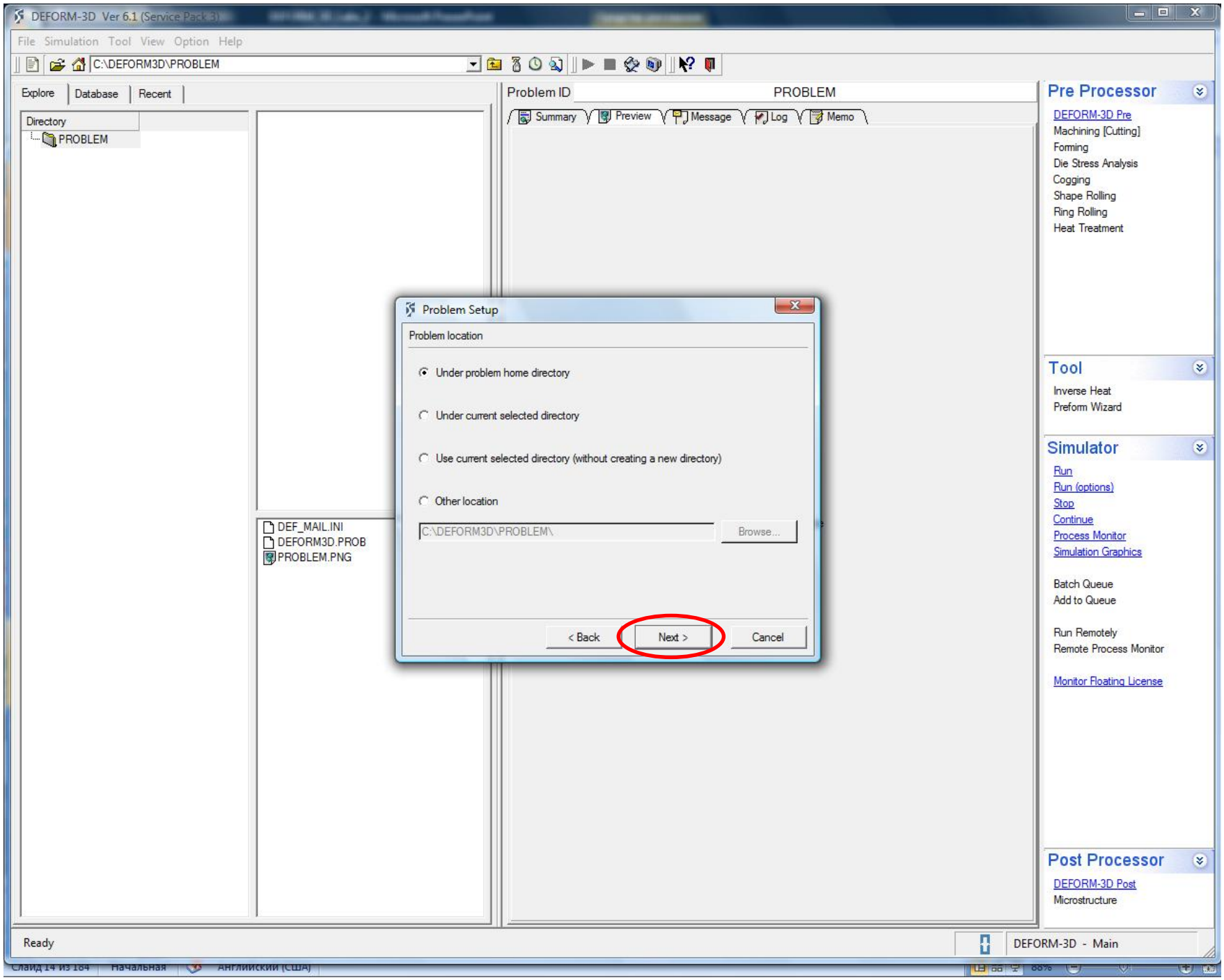
1. Выбор единиц измерения
2. Выбор типа моделирования
3. Создание геометрии заготовки
4. Создание сетки на заготовке
5. Выбор материала заготовки
6. Создание геометрии инструмента
7. Позиционирование заготовки и инструмента
8. Задание граничных условий
9. Задание условий контакта инструмента и заготовки
10. Настройка параметров моделирования
11. Формирование файла базы данных задачи

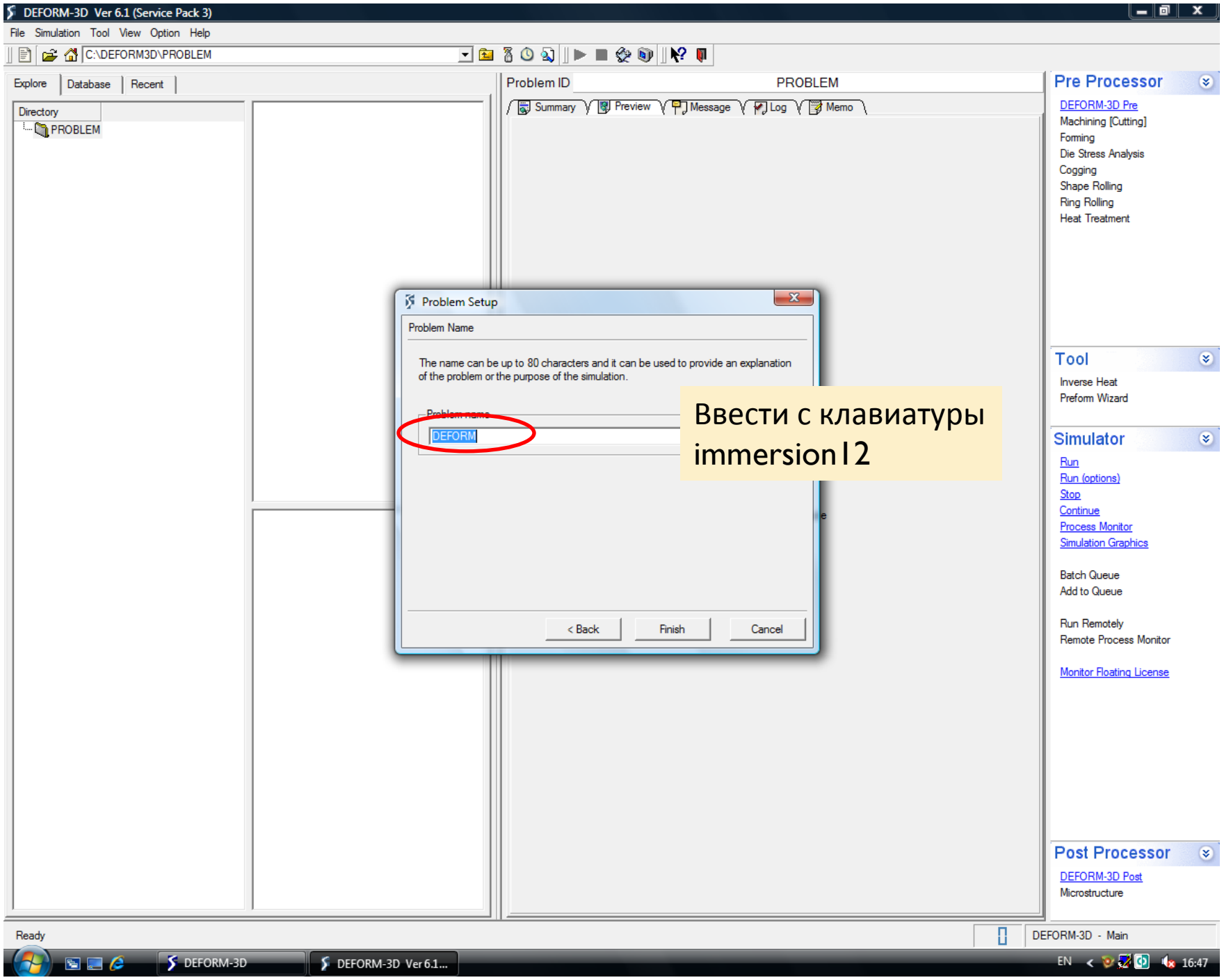
1. Создание папки задачи
2. Запуск препроцессора

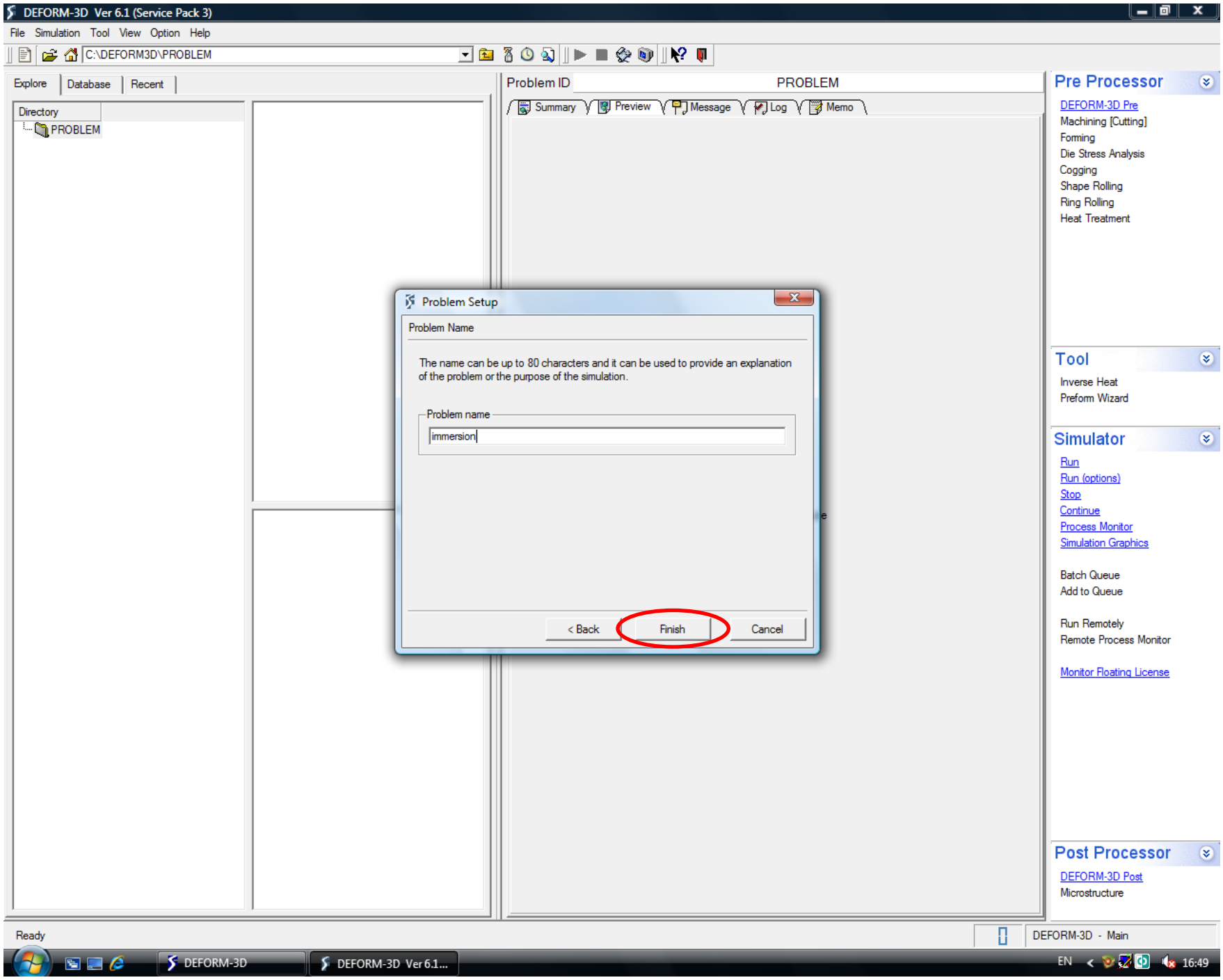

DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
C:\DEFORM3D\PROBLEM
Explore
Database
Recent
Directory
PROBLEM
Problem ID
PROBLEM
Summary
Preview
Message
Log
Memo
No preview is available
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Ready
DEFORM-3D - Main
DEFORM-3D
DEFORM-3D Ver 6.1...
EN
16:36

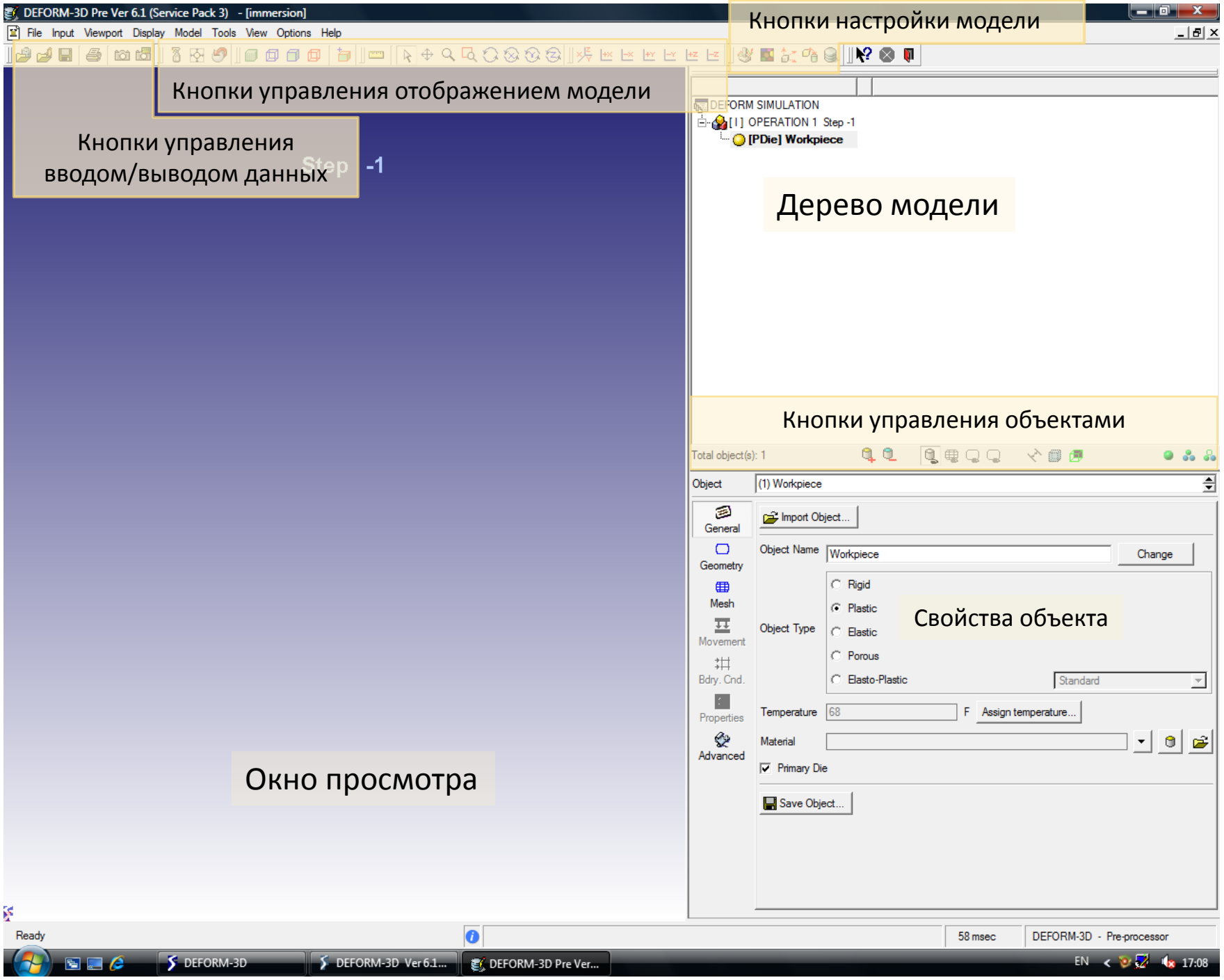

DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
New Problem Ctrl+N
Change Browse Location Ctrl+B
Go to Problem Home Directory Ctrl+H
Quit Ctrl+Q
Problem ID
PROBLEM
Summary
Preview
Message
Log
Memo
No preview is available
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Ready
DEFORM-3D - Main
DEFORM-3D
DEFORM-3D Ver 6.1...
EN
16:42


DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
C:\DEFORM3D\PROBLEM
Explore Database Recent
Directory
PROBLEM
Problem ID PROBLEM
Summary Preview Message Log Memo
Problem Setup
Problem Type
Deform-3D preprocessor
Guided templates
Forming
Machining[cutting]
Die stress analysis
Shape rolling
Ring rolling
Preform wizard
Inverse heat transfer wizard
Heat treatment wizard
Cogging wizard
< Back
Next >
Cancel
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Ready
DEFORM-3D - Main
DEFORM-3D
DEFORM-3D Ver 6.1...
EN
16:43


DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
C:\DEFORM3D\PROBLEM
Explore
Database
Recent
Directory
PROBLEM
DEF_MAIL.INI
DEFORM3D.PROB
PROBLEM.PNG
Problem ID
PROBLEM
Summary
Preview
Message
Log
Memo
Problem Setup
Problem location
Under problem home directory
Under current selected directory
Use current selected directory (without creating a new directory)
Other location
C:\DEFORM3D\PROBLEM\
Browse...
< Back
Next >
Cancel
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Ready
DEFORM-3D - Main


DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
C:\DEFORM3D\PROBLEM
Explore Database Recent
Directory
PROBLEM
Problem ID
PROBLEM
Summary Preview Message Log Memo
Problem Setup
Problem Name
The name can be up to 80 characters and it can be used to provide an explanation of the problem or the purpose of the simulation.
Problem name
DEFORM
< Back
Finish
Cancel
Ввести с клавиатуры immersion12
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Ready
DEFORM-3D - Main
DEFORM-3D
DEFORM-3D Ver 6.1...
EN
16:47


DEFORM-3D Ver 6.1 (Service Pack 3)
File Simulation Tool View Option Help
C:\DEFORM3D\PROBLEM
Explore Database Recent
Directory
PROBLEM
Problem ID
PROBLEM
Summary Preview Message Log Memo
Problem Setup
Problem Name
The name can be up to 80 characters and it can be used to provide an explanation of the problem or the purpose of the simulation.
Problem name
immersion
< Back
Finish
Cancel
Pre Processor
DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment
Tool
Inverse Heat
Preform Wizard
Simulator
Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics
Batch Queue
Add to Queue
Run Remotely
Remote Process Monitor
Monitor Floating License
Post Processor
DEFORM-3D Post
Microstructure
Ready
DEFORM-3D - Main
DEFORM-3D
DEFORM-3D Ver 6.1...
EN
16:49

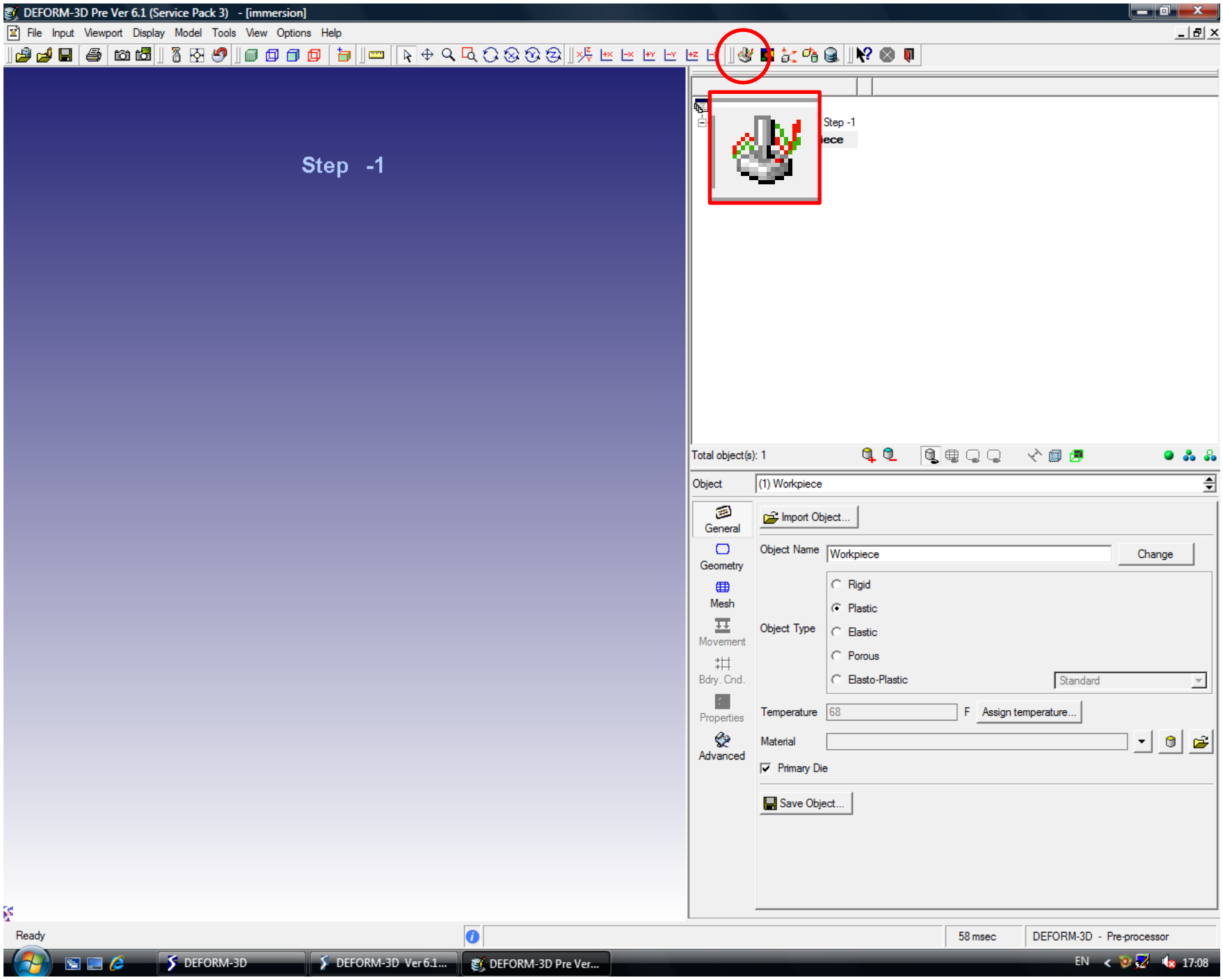

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Кнопки настройки модели
Кнопки управления отображением модели
Кнопки управления вводом/выводом данных
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
[PDie] Workpiece
Дерево модели
Кнопки управления объектами
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Свойства объекта
Temperature
68
F
Assign temperature...
Material
Primary Die
Save Object...
Окно просмотра
Ready
58 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:08

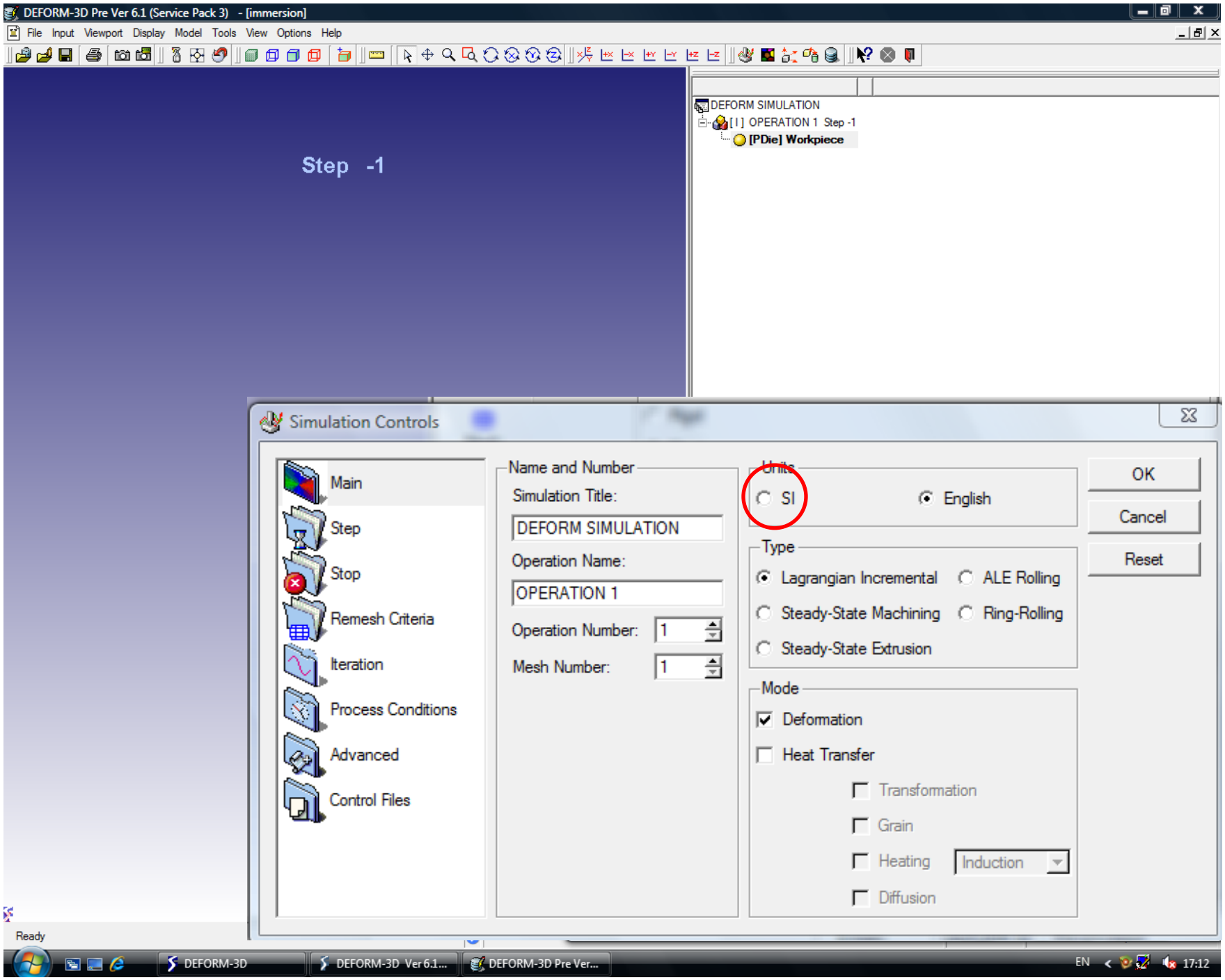
3. Выбор единиц измерения

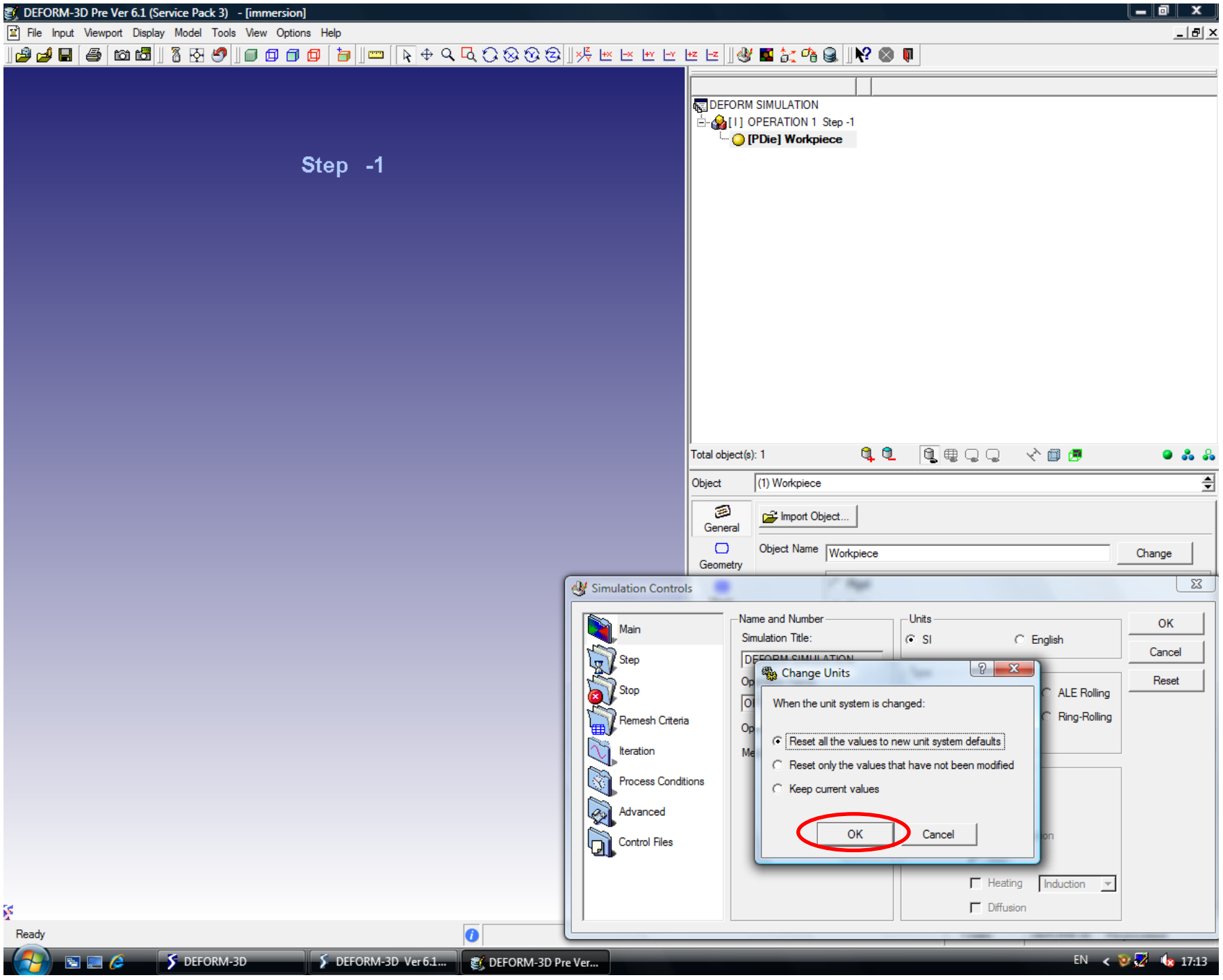
4. Создание геометрии заготовки

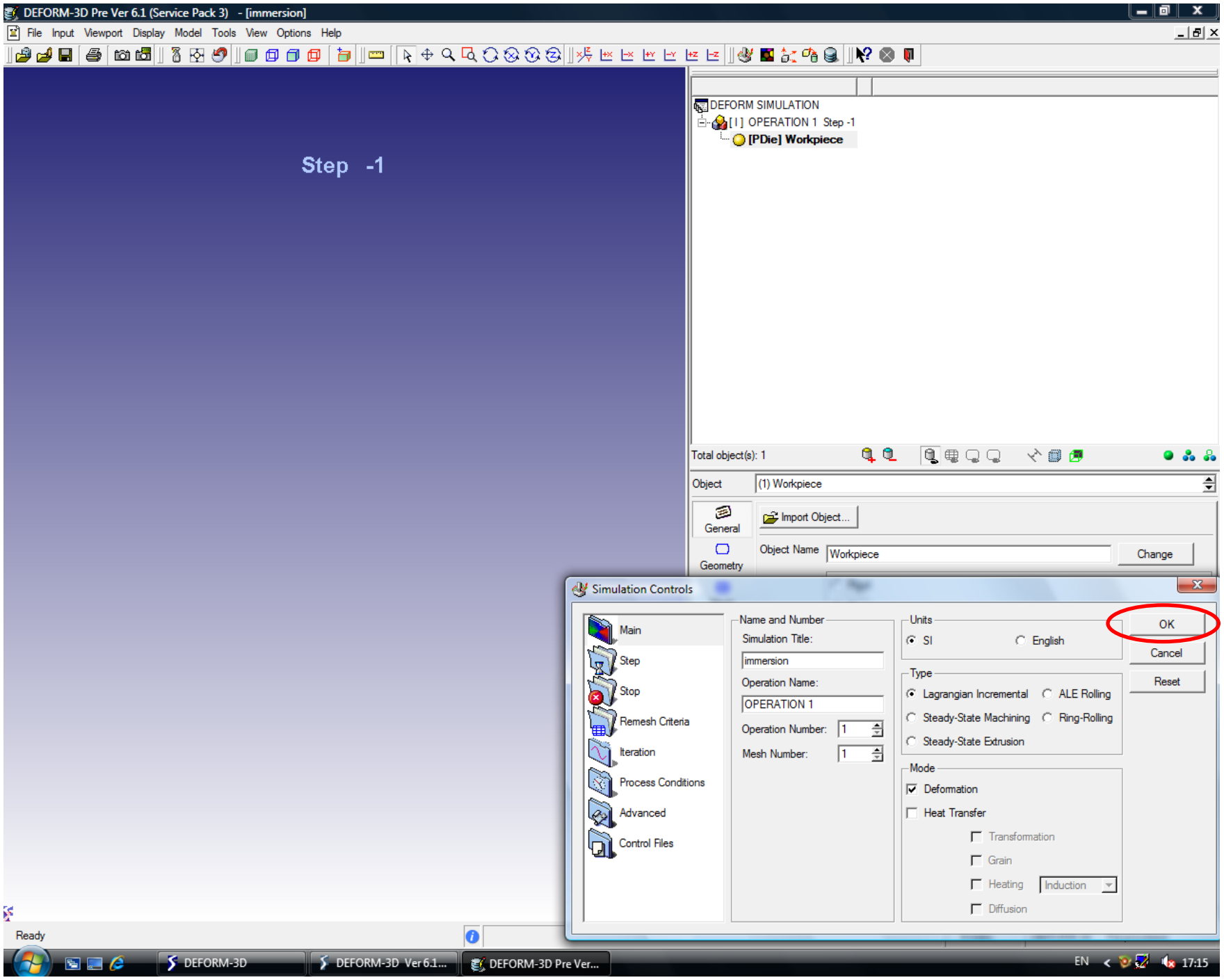
5. Создание сетки

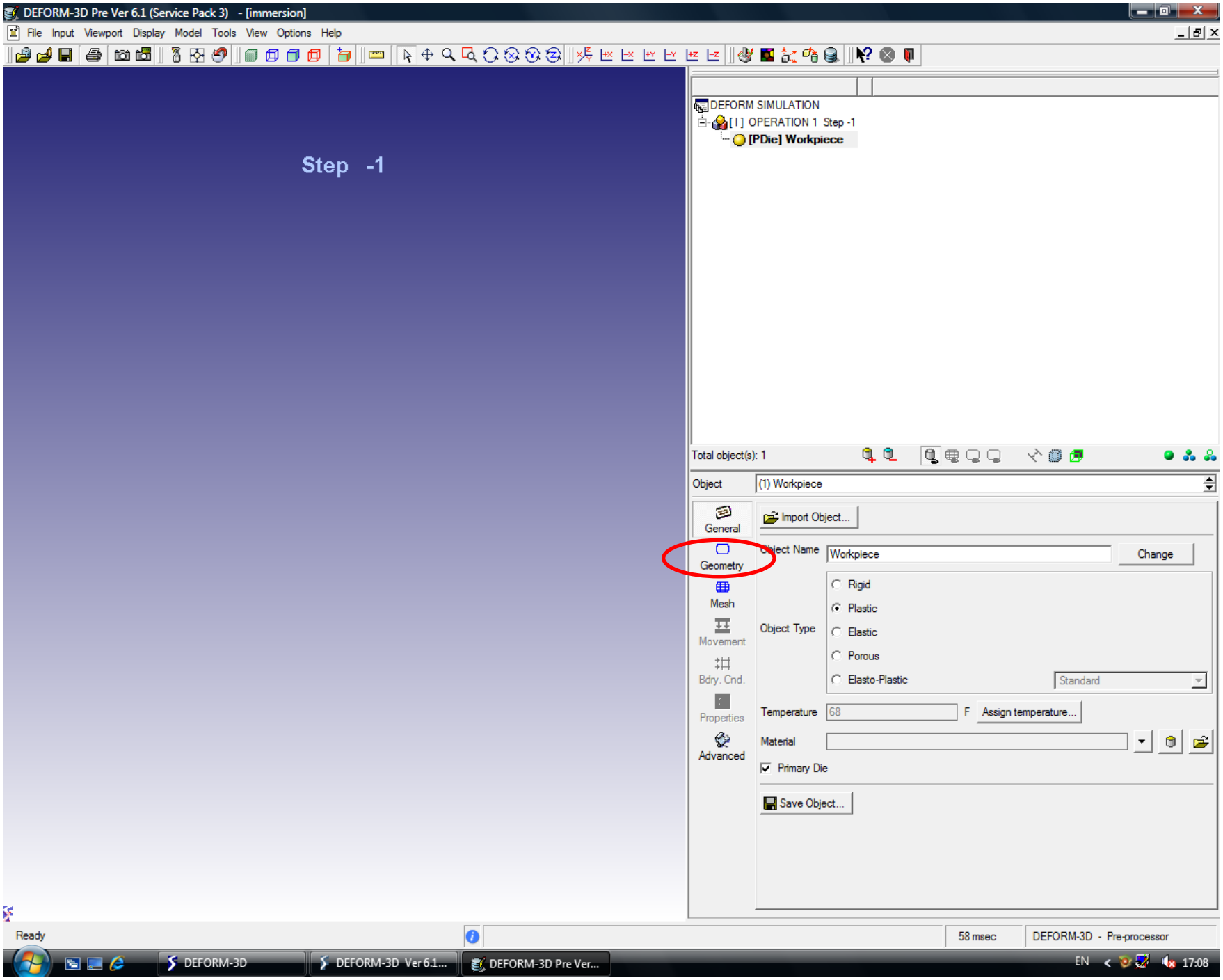
6. Выбор материала заготовки

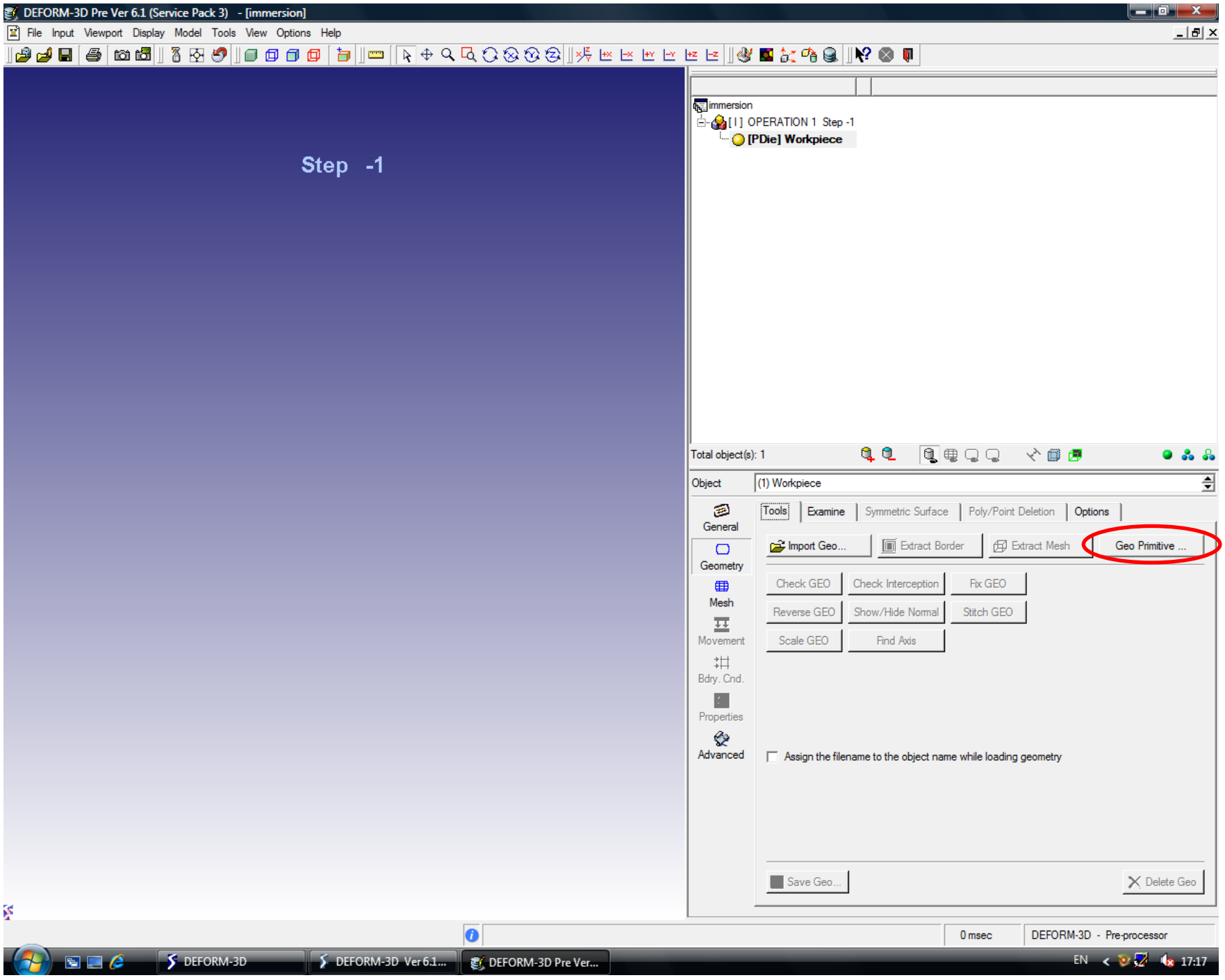

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
Step -1
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
68
F
Assign temperature...
Material
Primary Die
Save Object...
Ready
58 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:08

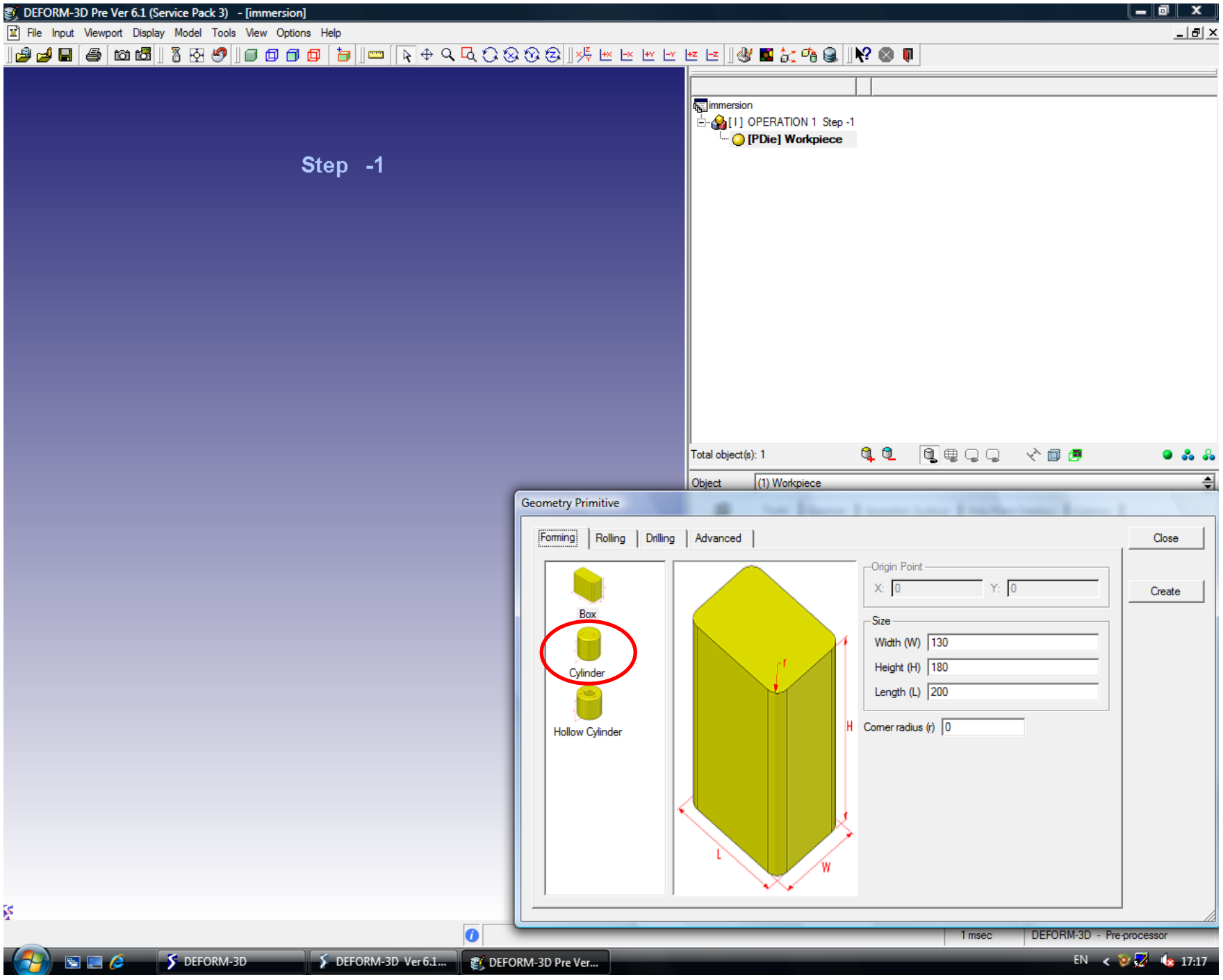

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
[PDie] Workpiece
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
Name and Number
Simulation Title:
DEFORM SIMULATION
Operation Name:
OPERATION 1
Operation Number: 1
Mesh Number: 1
Units
SI
English
Type
Lagrangian Incremental
ALE Rolling
Steady-State Machining
Ring-Rolling
Steady-State Extrusion
Mode
Deformation
Heat Transfer
Transformation
Grain
Heating
Induction
Diffusion
OK
Cancel
Reset
Ready
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:12

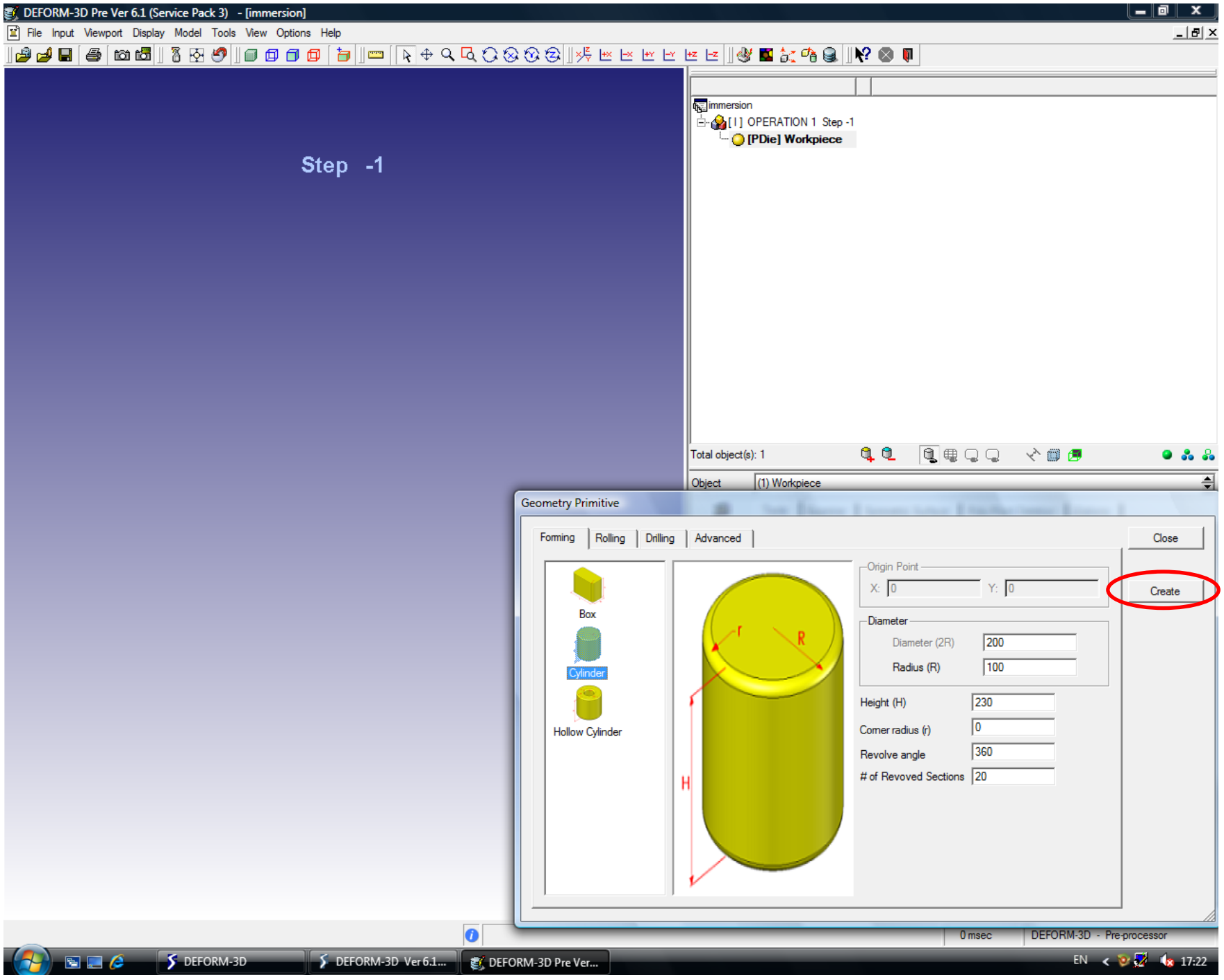

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
[PDie] Workpiece
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Import Object...
Object Name
Workpiece
Change
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
Name and Number
Simulation Title:
Units
SI
English
OK
Cancel
Reset
ALE Rolling
Ring-Rolling
Change Units
When the unit system is changed:
Reset all the values to new unit system defaults
Reset only the values that have not been modified
Keep current values
OK
Cancel
Heating
Induction
Diffusion
Ready
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:13

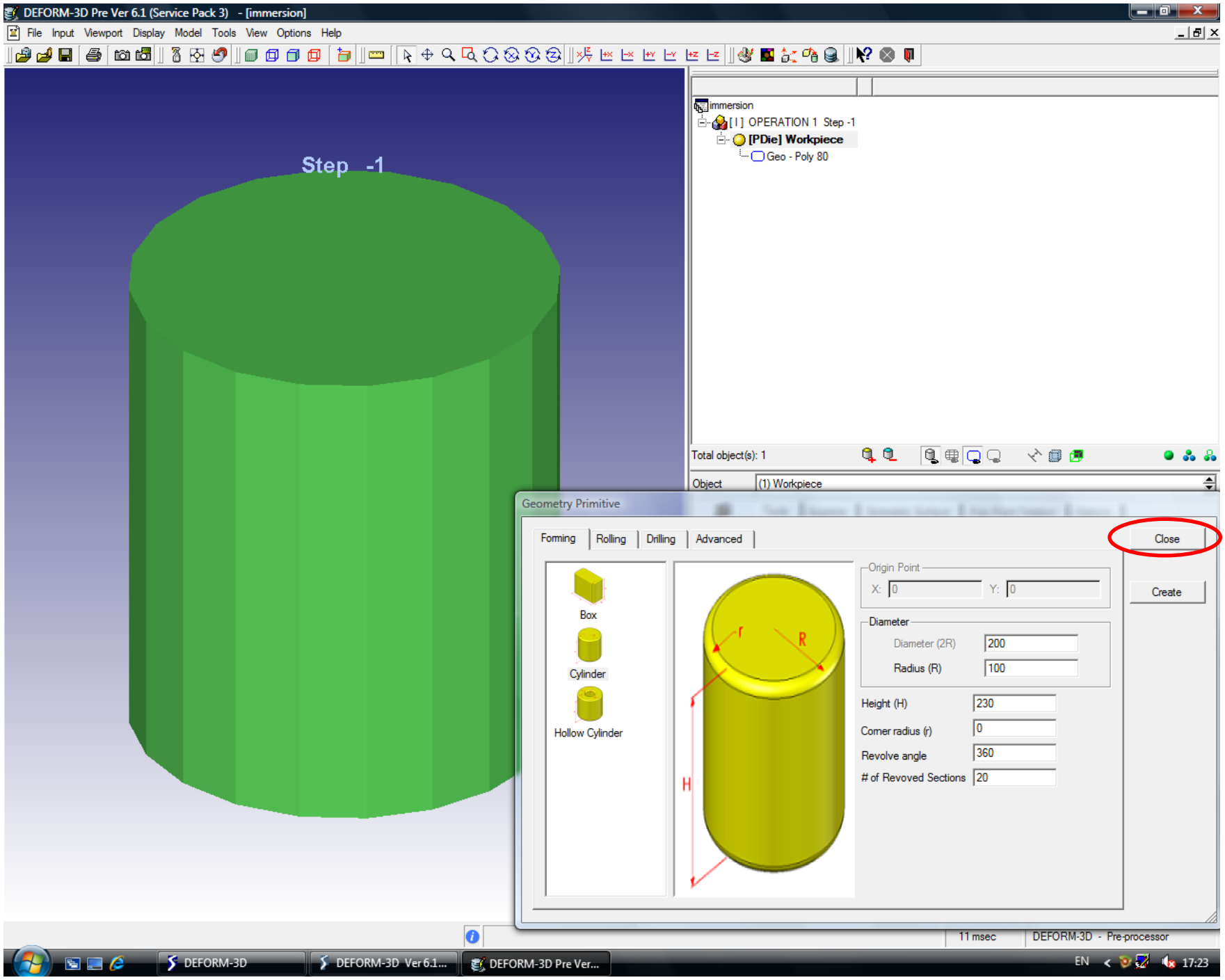

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
[PDie] Workpiece
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Import Object...
Object Name
Workpiece
Change
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
Name and Number
Simulation Title:
immersion
Operation Name:
OPERATION 1
Operation Number:
1
Mesh Number:
1
Units
SI
English
Type
Lagrangian Incremental
ALE Rolling
Steady-State Machining
Ring-Rolling
Steady-State Extrusion
Mode
Deformation
Heat Transfer
Transformation
Grain
Heating
Induction
Diffusion
OK
Cancel
Reset
Ready
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:15

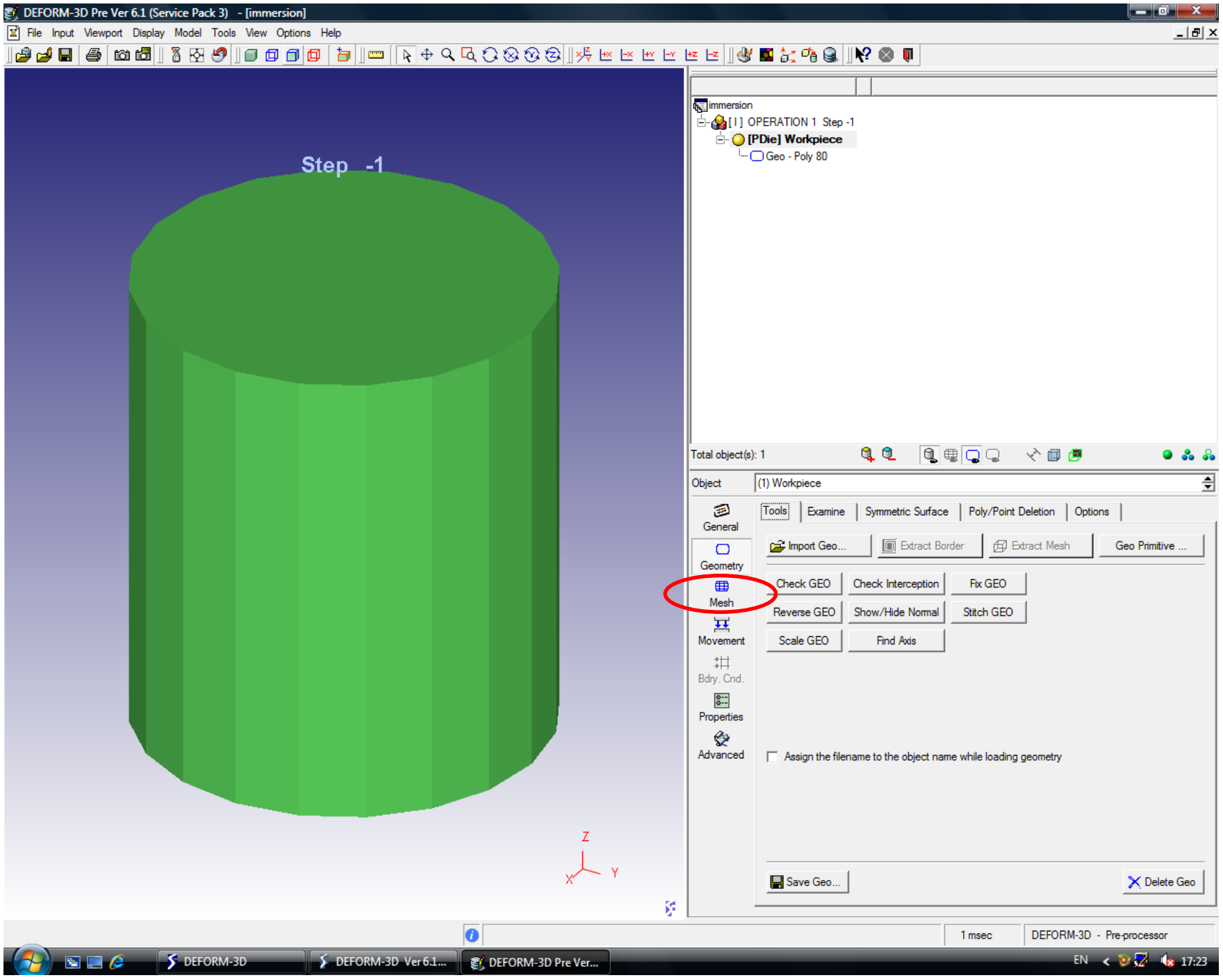

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
[PDie] Workpiece
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
68
F
Assign temperature...
Material
Primary Die
Save Object...
Ready
58 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:08

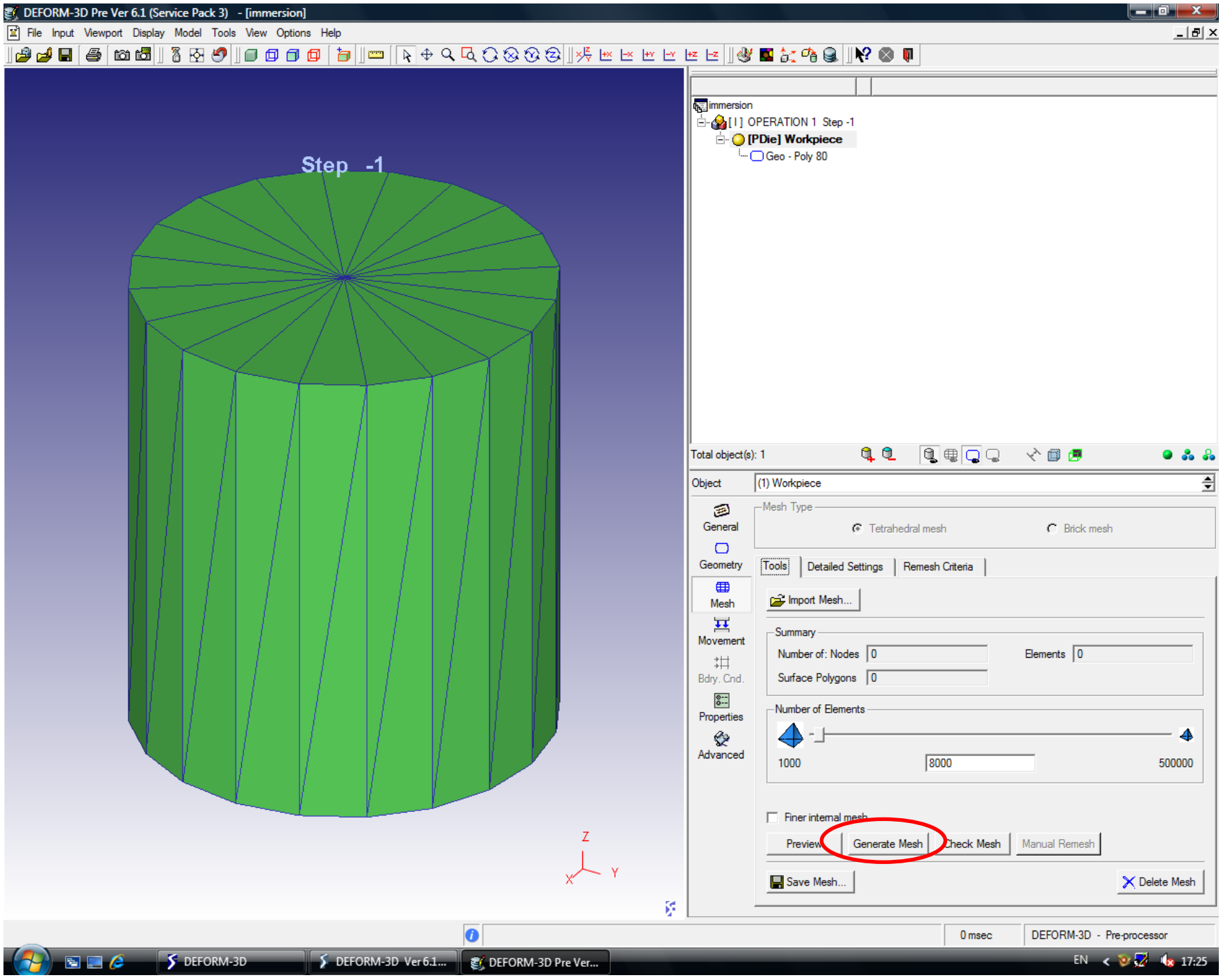

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
immersion
[I] OPERATION 1 Step -1
[PDie] Workpiece
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
0 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:17

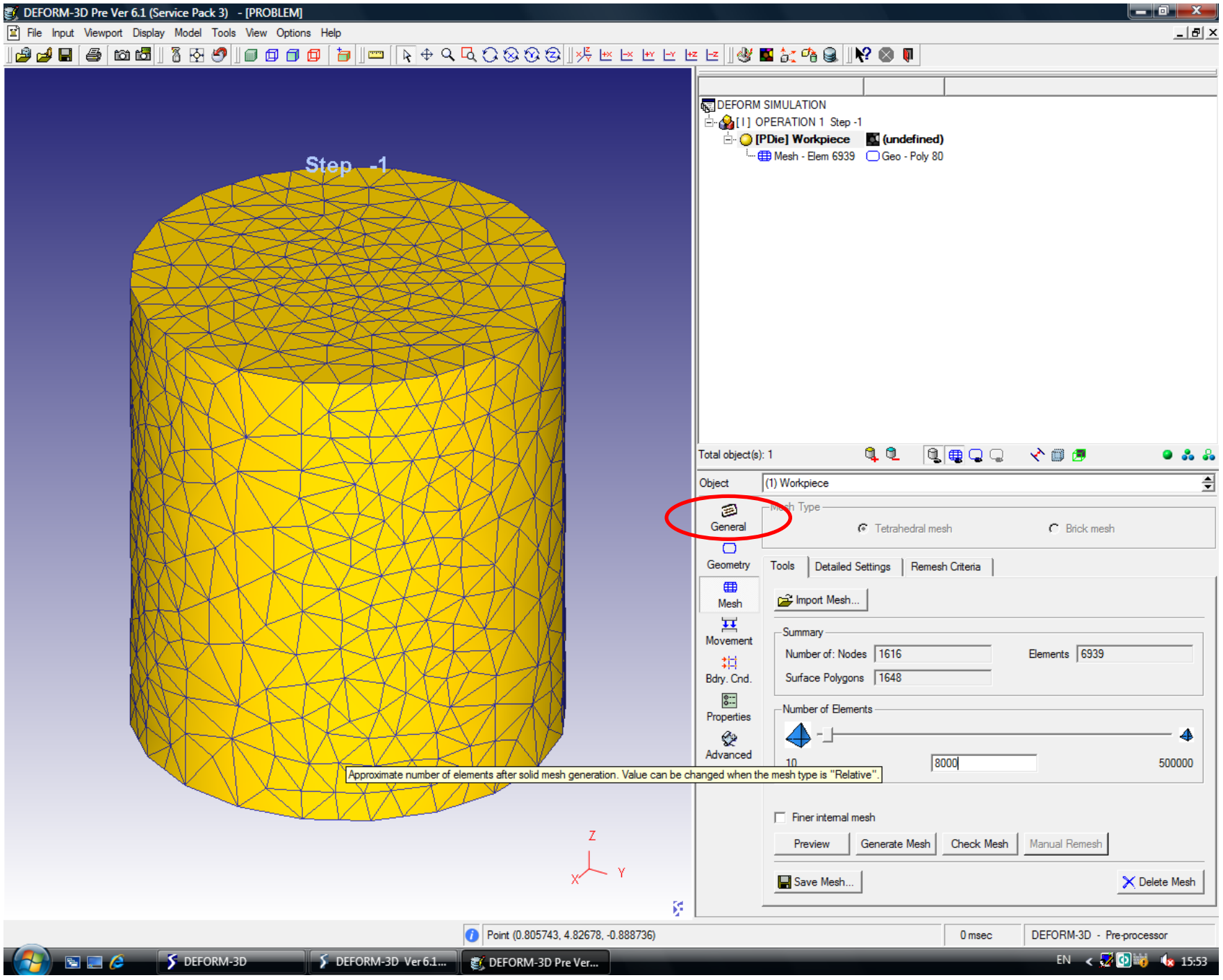

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
immersion
[I] OPERATION 1 Step -1
[PDie] Workpiece
Total object(s): 1
Object (1) Workpiece
Geometry Primitive
Forming Rolling Drilling Advanced
Close
Create
Box
Cylinder
Hollow Cylinder
Origin Point
X: 0 Y: 0
Size
Width (W) 130
Height (H) 180
Length (L) 200
Corner radius (r) 0
H
L
W
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:17

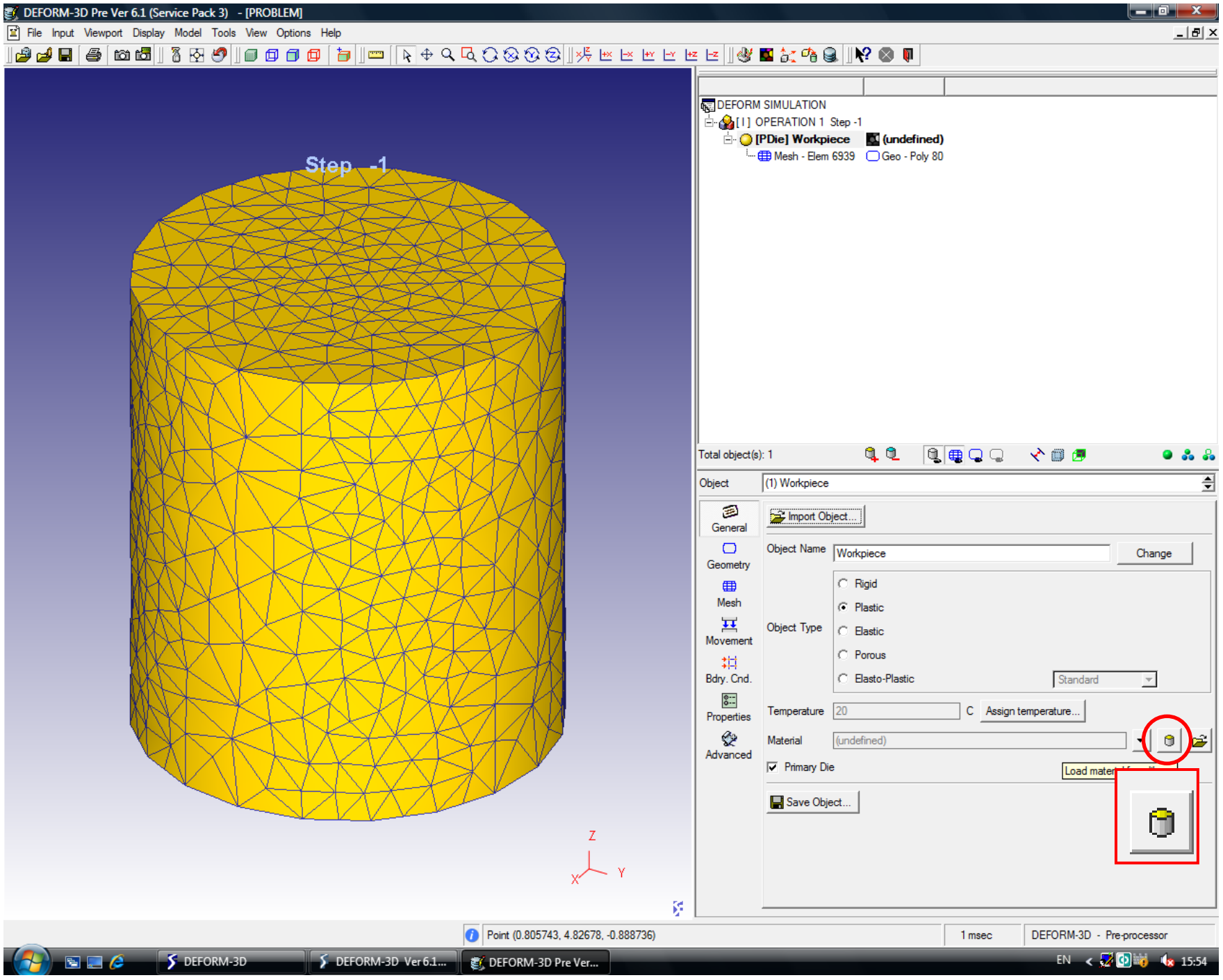

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
immersion
[I] OPERATION 1 Step -1
[PDie] Workpiece
Total object(s): 1
Object (1) Workpiece
Geometry Primitive
Forming Rolling Drilling Advanced
Close
Box
Cylinder
Hollow Cylinder
Origin Point
X: 0 Y: 0
Create
Diameter
Diameter (2R) 200
Radius (R) 100
Height (H) 230
Corner radius (r) 0
Revolve angle 360
# of Revoved Sections 20
r
R
H
0 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:22

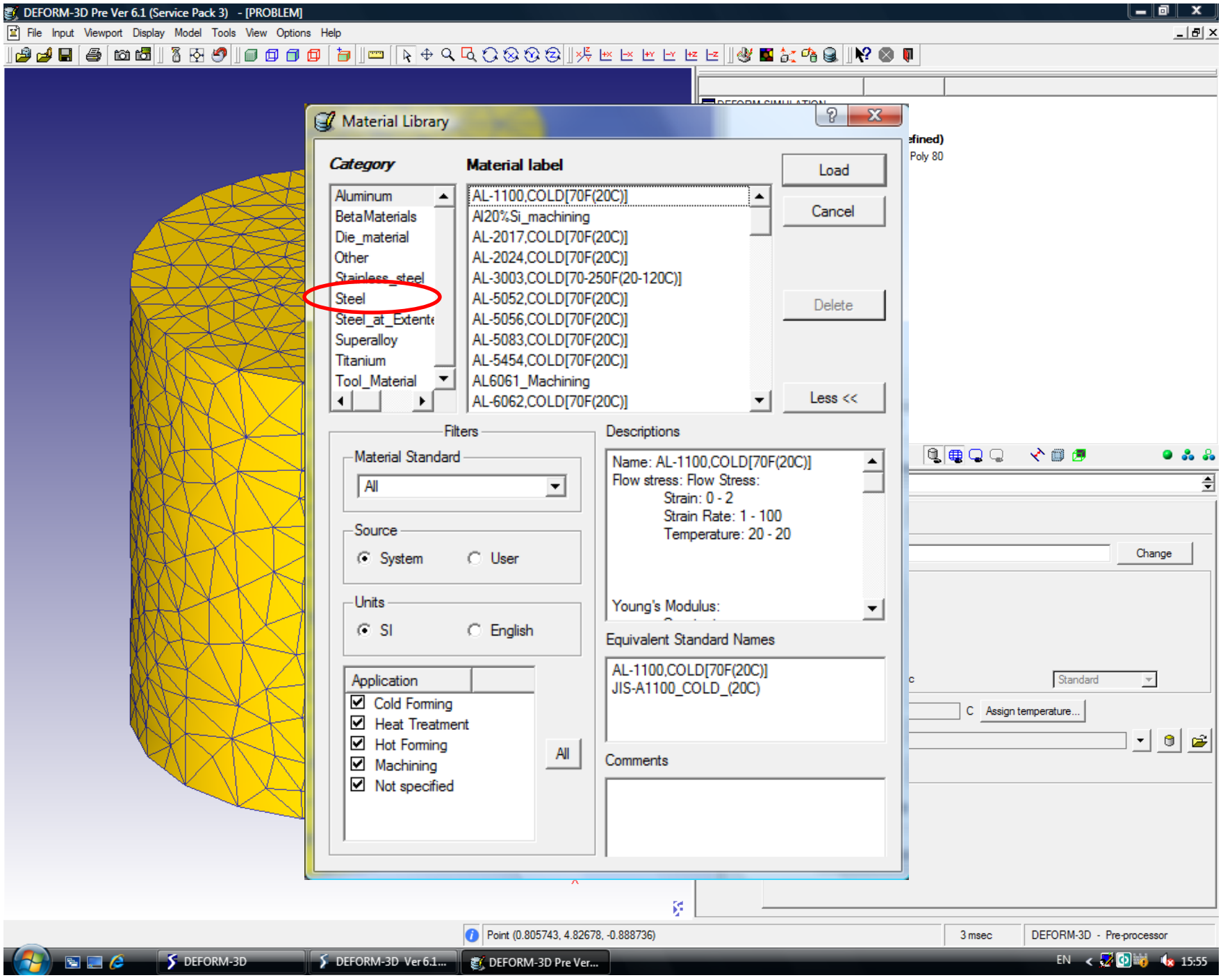

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
immersion
[I] OPERATION 1 Step -1
[PDie] Workpiece
Geo - Poly 80
Total object(s): 1
Object
(1) Workpiece
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Box
Cylinder
Hollow Cylinder
Origin Point
X: 0
Y: 0
Create
Diameter
Diameter (2R)
200
Radius (R)
100
Height (H)
230
Corner radius (r)
0
Revolve angle
360
# of Revoved Sections
20
r
R
H
11 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:23

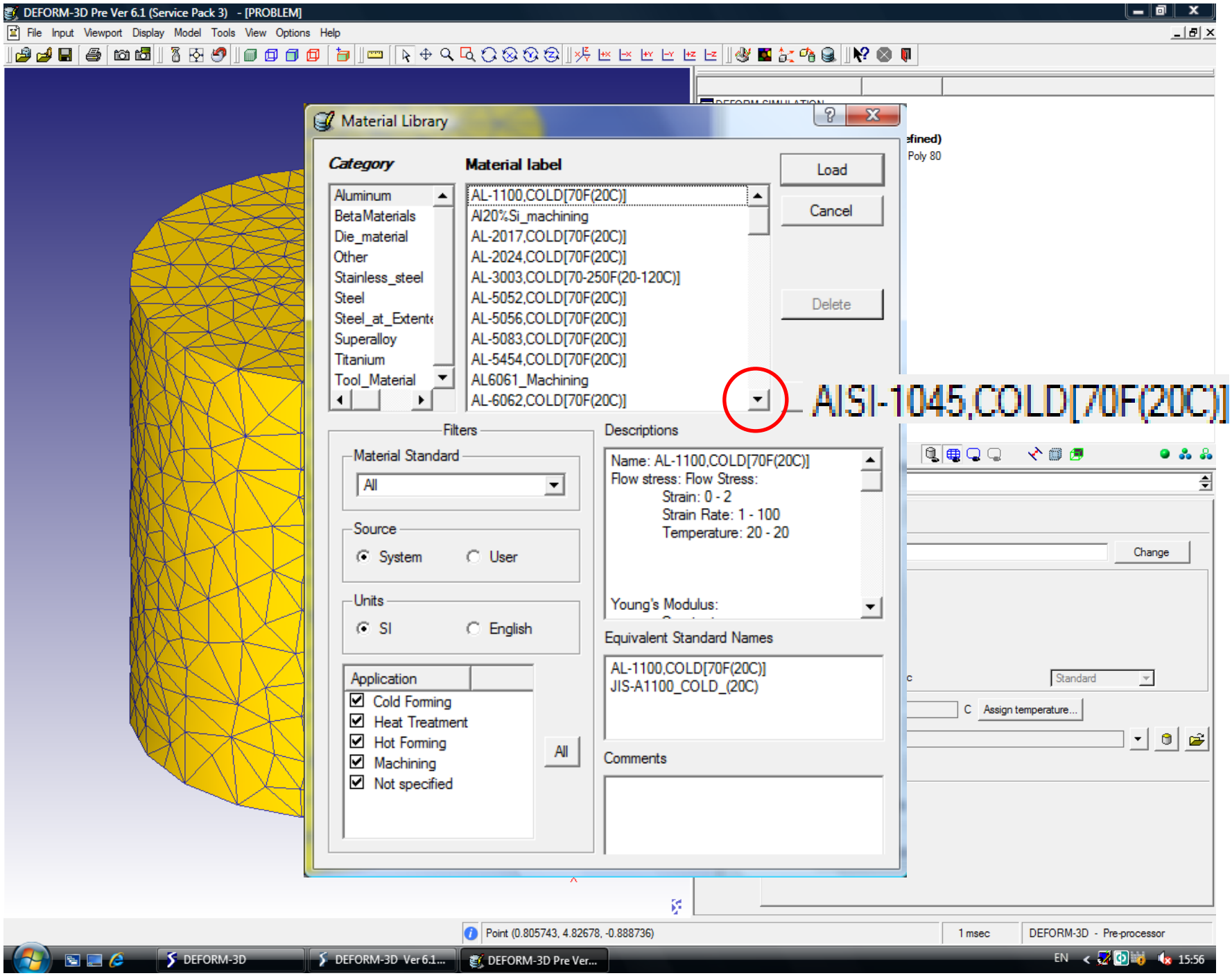

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
immersion
[I] OPERATION 1 Step -1
[PDie] Workpiece
Geo - Poly 80
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
Y
X
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:23

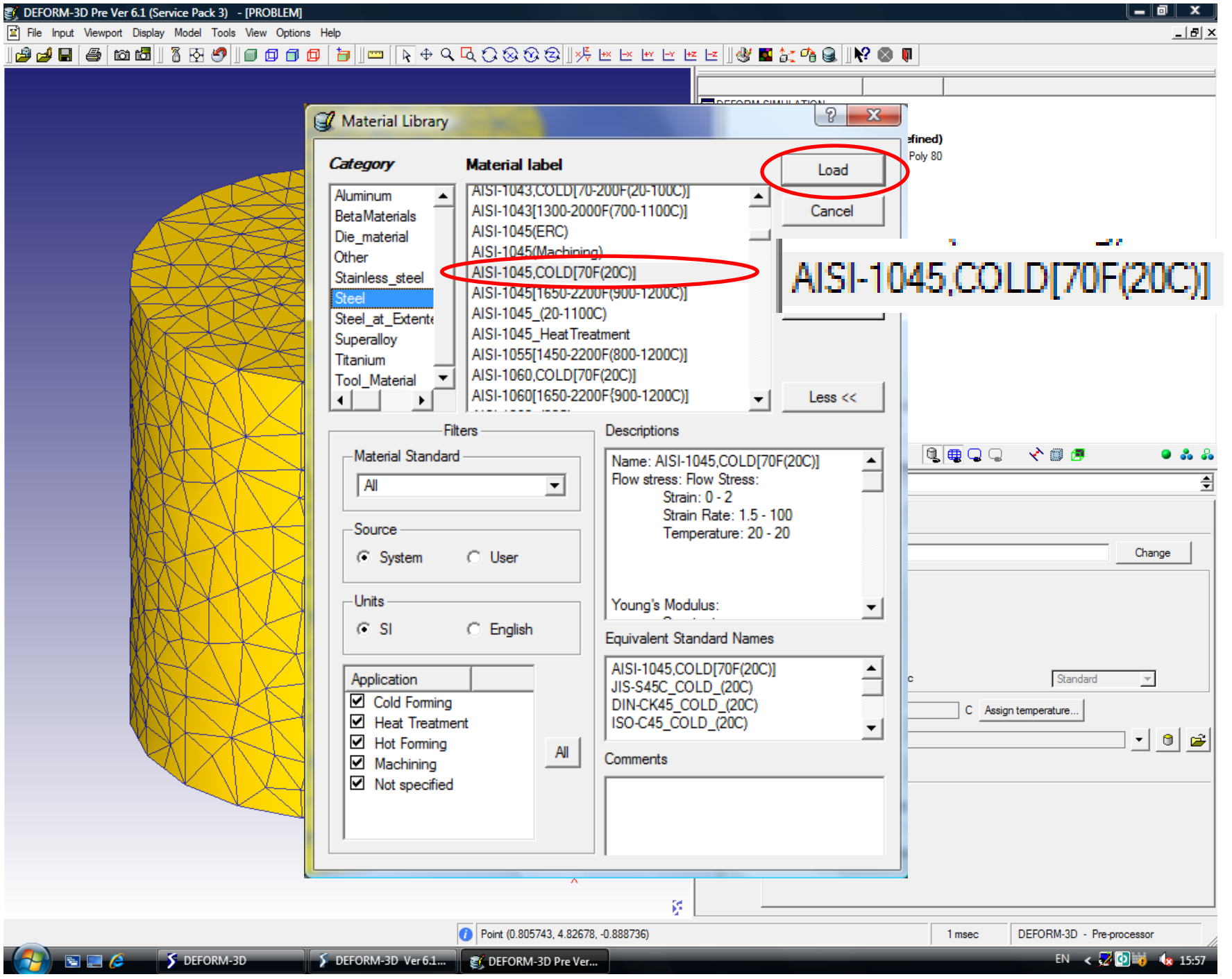

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
immersion
[I] OPERATION 1 Step -1
[PDie] Workpiece
Geo - Poly 80
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Mesh Type
Tetrahedral mesh
Brick mesh
Tools
Detailed Settings
Remesh Criteria
Import Mesh...
Summary
Number of: Nodes 0
Elements 0
Surface Polygons 0
Number of Elements
1000
8000
500000
Finer internal mesh
Preview
Generate Mesh
Check Mesh
Manual Remesh
Save Mesh...
Delete Mesh
Z
X
Y
0 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
17:25

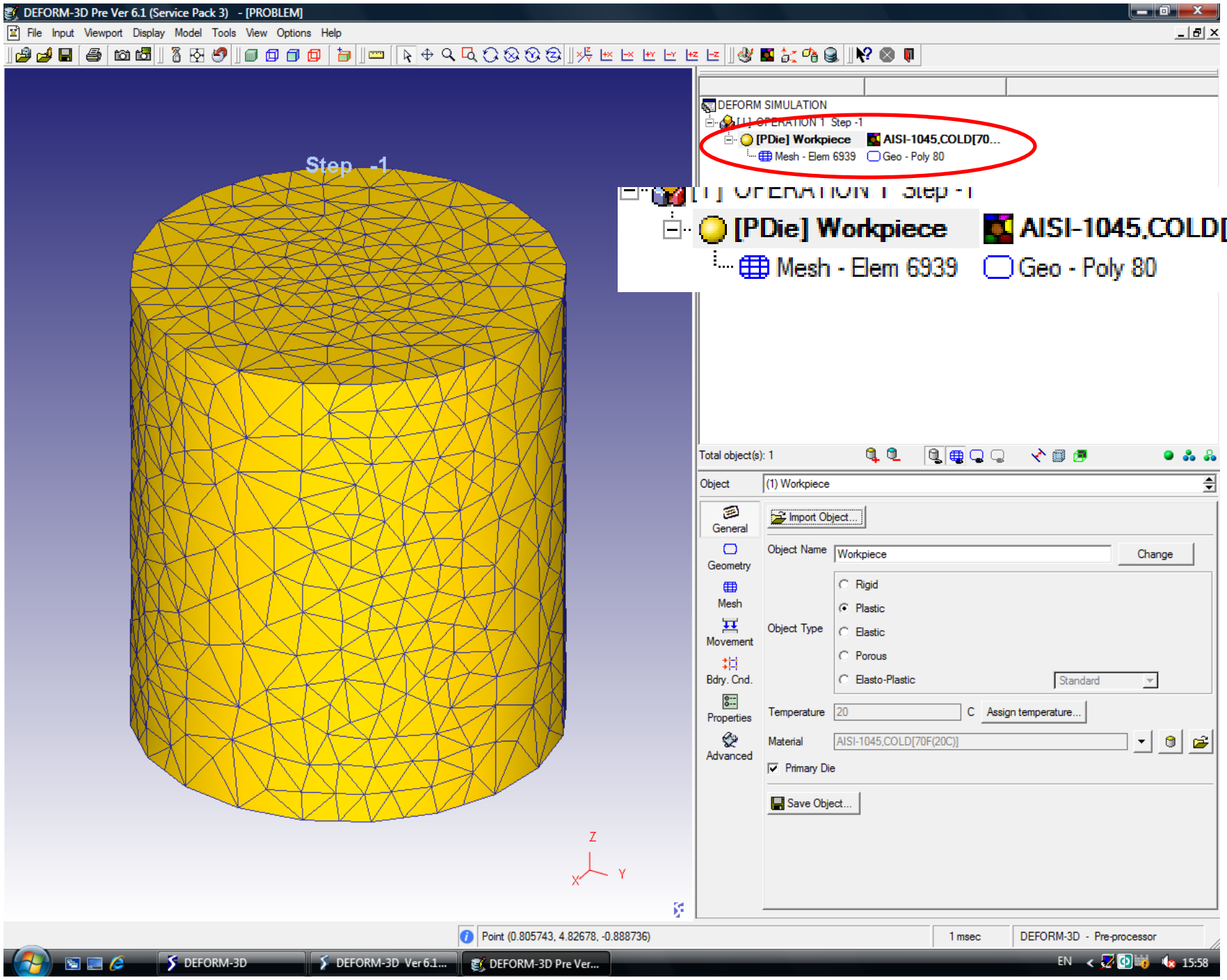

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
[PDie] Workpiece (undefined)
Mesh - Elem 6939 Geo - Poly 80
Total object(s): 1
Object (1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Mesh Type
Tetrahedral mesh
Brick mesh
Tools
Detailed Settings
Remesh Criteria
Import Mesh...
Summary
Number of: Nodes 1616
Elements 6939
Surface Polygons 1648
Number of Elements
10
8000
500000
Approximate number of elements after solid mesh generation. Value can be changed when the mesh type is "Relative".
Finer internal mesh
Preview
Generate Mesh
Check Mesh
Manual Remesh
Save Mesh...
Delete Mesh
Z
Y
X
Point (0.805743, 4.82678, -0.888736)
0 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:53


DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
[PDie] Workpiece (undefined)
Mesh - Elem 6939 Geo - Poly 80
Total object(s): 1
Object (1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature 20 C
Assign temperature...
Material (undefined)
Primary Die
Save Object...
Z
X
Y
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:54


DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Material Library
Category
Material label
Aluminum
BetaMaterials
Die_material
Other
Stainless_steel
Steel
Steel_at_Extente
Superalloy
Titanium
Tool_Material
AL-1100,COLD[70F(20C)]
Al20%Si_machining
AL-2017,COLD[70F(20C)]
AL-2024,COLD[70F(20C)]
AL-3003,COLD[70-250F(20-120C)]
AL-5052,COLD[70F(20C)]
AL-5056,COLD[70F(20C)]
AL-5083,COLD[70F(20C)]
AL-5454,COLD[70F(20C)]
AL6061_Machining
AL-6062,COLD[70F(20C)]
Load
Cancel
Delete
Less <<
Filters
Material Standard
All
Source
System
User
Units
SI
English
Application
Cold Forming
Heat Treatment
Hot Forming
Machining
Not specified
All
Descriptions
Name: AL-1100,COLD[70F(20C)]
Flow stress: Flow Stress:
Strain: 0 - 2
Strain Rate: 1 - 100
Temperature: 20 - 20
Young's Modulus:
Equivalent Standard Names
AL-1100,COLD[70F(20C)]
JIS-A1100_COLD_(20C)
Comments
Change
Standard
Assign temperature...
Point (0.805743, 4.82678, -0.888736)
3 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:55

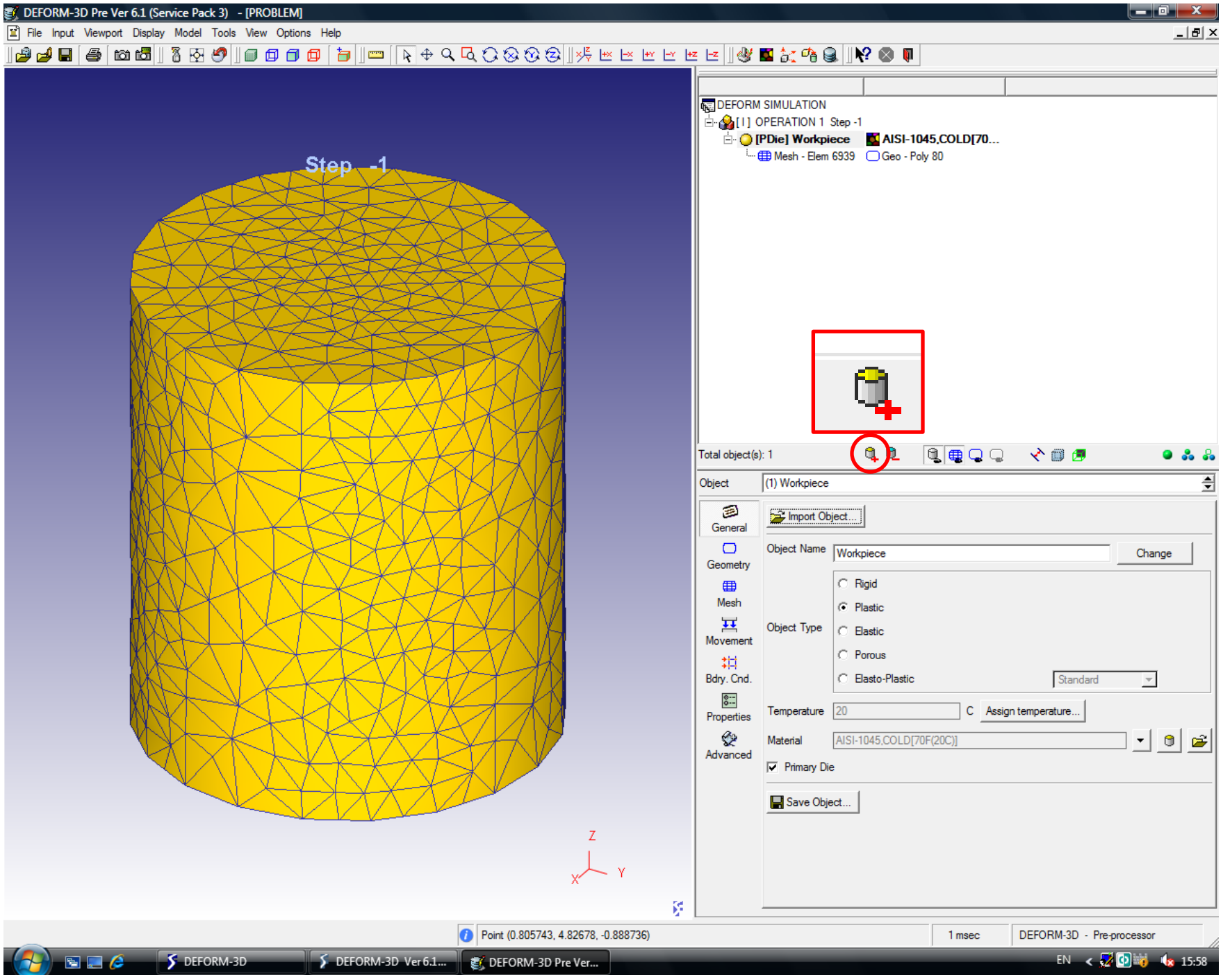

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Material Library
Category
Material label
Load
Cancel
Delete
Aluminum
BetaMaterials
Die_material
Other
Stainless_steel
Steel
Steel_at_Extente
Superalloy
Titanium
Tool_Material
AL-1100,COLD[70F(20C)]
Al20%Si_machining
AL-2017,COLD[70F(20C)]
AL-2024,COLD[70F(20C)]
AL-3003,COLD[70-250F(20-120C)]
AL-5052,COLD[70F(20C)]
AL-5056,COLD[70F(20C)]
AL-5083,COLD[70F(20C)]
AL-5454,COLD[70F(20C)]
AL6061_Machining
AL-6062,COLD[70F(20C)]
AISI-1045,COLD[70F(20C)]
Filters
Material Standard
All
Source
System
User
Units
SI
English
Application
Cold Forming
Heat Treatment
Hot Forming
Machining
Not specified
All
Descriptions
Name: AL-1100,COLD[70F(20C)]
Flow stress: Flow Stress:
Strain: 0 - 2
Strain Rate: 1 - 100
Temperature: 20 - 20
Young's Modulus:
Equivalent Standard Names
AL-1100,COLD[70F(20C)]
JIS-A1100_COLD_(20C)
Comments
Change
Standard
Assign temperature...
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:56

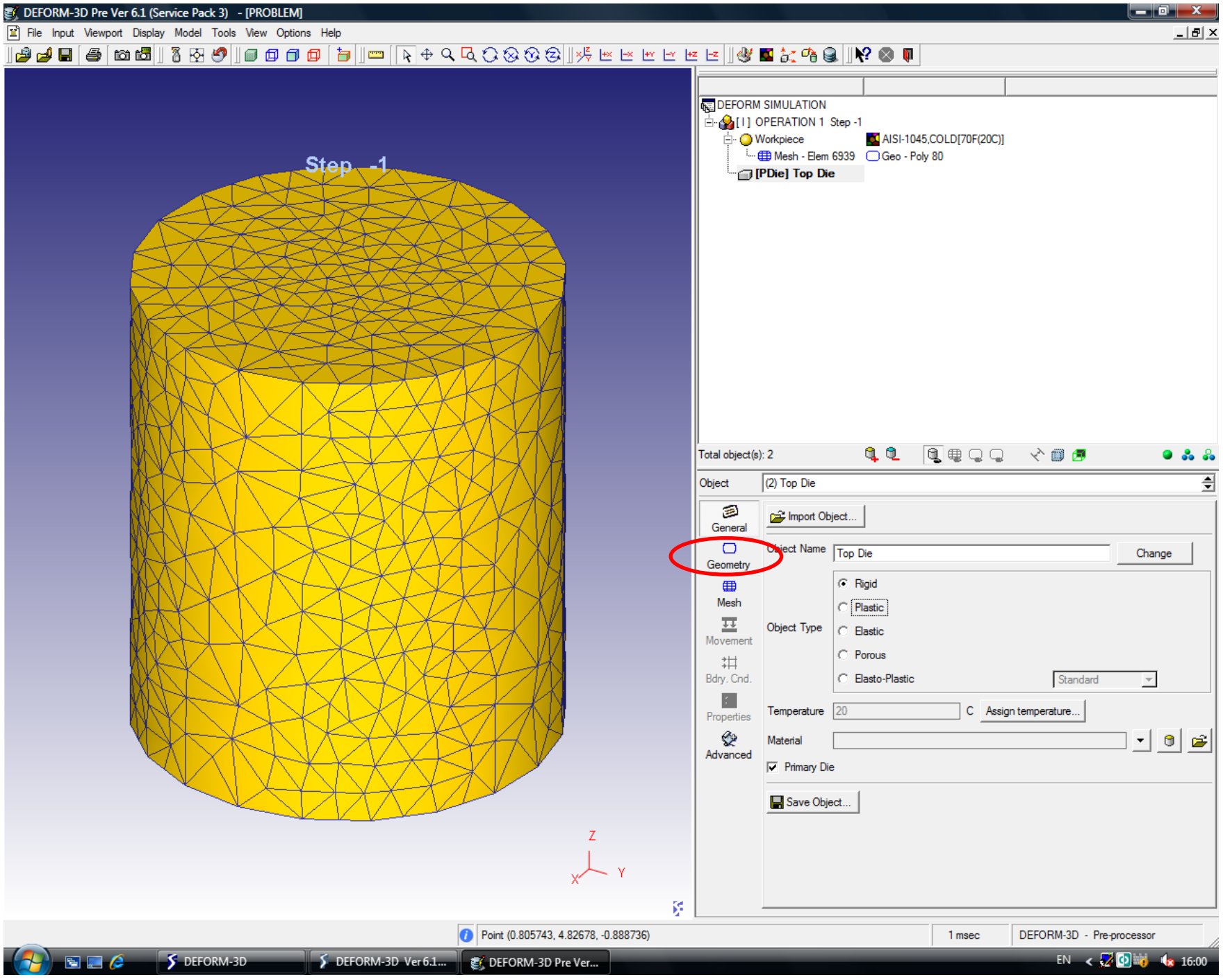

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Material Library
Category
Material label
Load
Cancel
Less <<
Aluminum
BetaMaterials
Die_material
Other
Stainless_steel
Steel
Steel_at_Extente
Superalloy
Titanium
Tool_Material
AISI-1043,COLD[70-200F(20-100C)]
AISI-1043[1300-2000F(700-1100C)]
AISI-1045(ERC)
AISI-1045(Machining)
AISI-1045,COLD[70F(20C)]
AISI-1045[1650-2200F(900-1200C)]
AISI-1045_(20-1100C)
AISI-1045_Heat Treatment
AISI-1055[1450-2200F(800-1200C)]
AISI-1060,COLD[70F(20C)]
AISI-1060[1650-2200F(900-1200C)]
AISI-1045,COLD[70F(20C)]
Filters
Material Standard
All
Source
System
User
Units
SI
English
Application
Cold Forming
Heat Treatment
Hot Forming
Machining
Not specified
All
Descriptions
Name: AISI-1045,COLD[70F(20C)]
Flow stress: Flow Stress:
Strain: 0 - 2
Strain Rate: 1.5 - 100
Temperature: 20 - 20
Young's Modulus:
Equivalent Standard Names
AISI-1045,COLD[70F(20C)]
JIS-S45C_COLD_(20C)
DIN-CK45_COLD_(20C)
ISO-C45_COLD_(20C)
Comments
Change
Standard
Assign temperature...
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:57

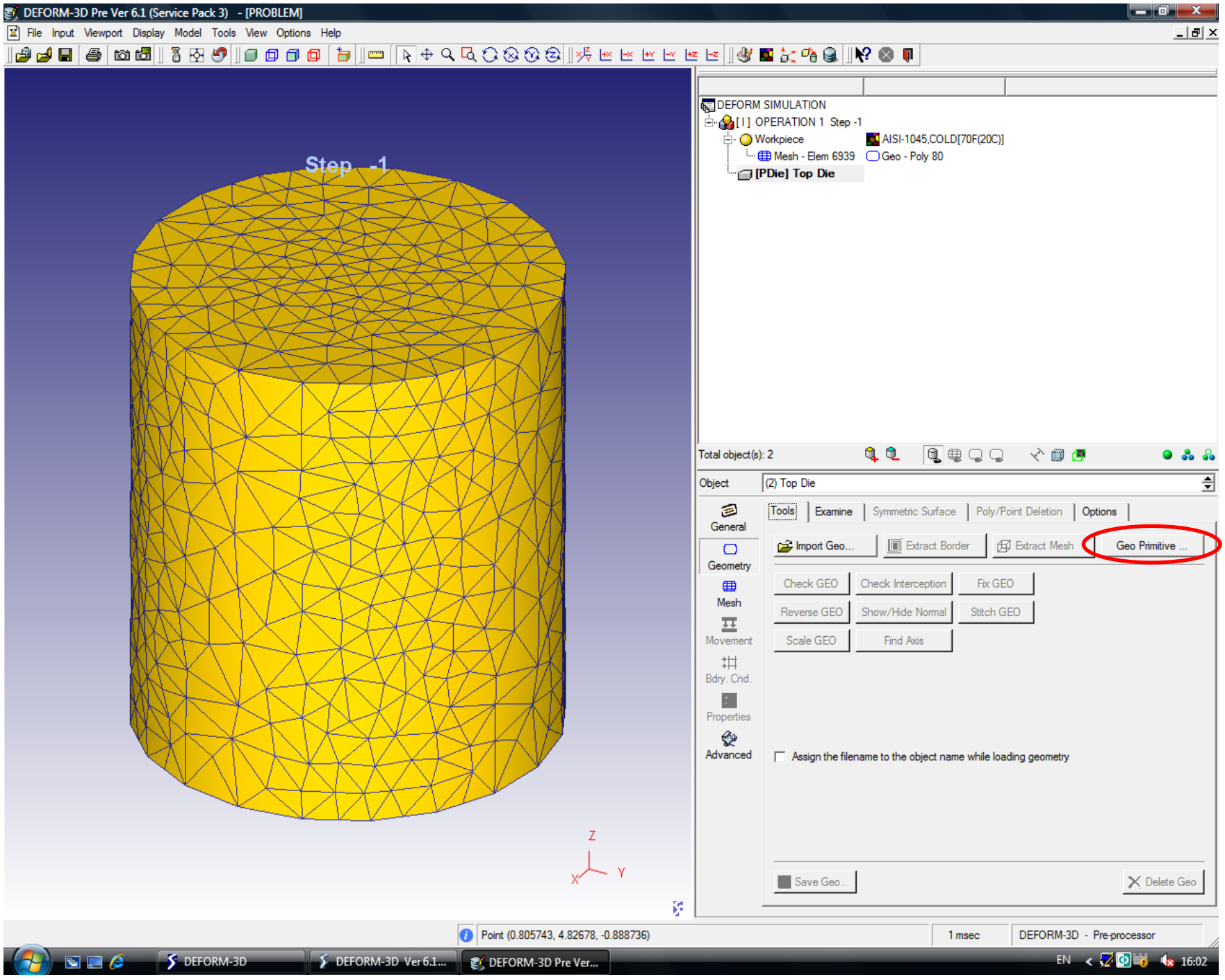

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
[PDie] Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6939
Geo - Poly 80
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
Y
X
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:58

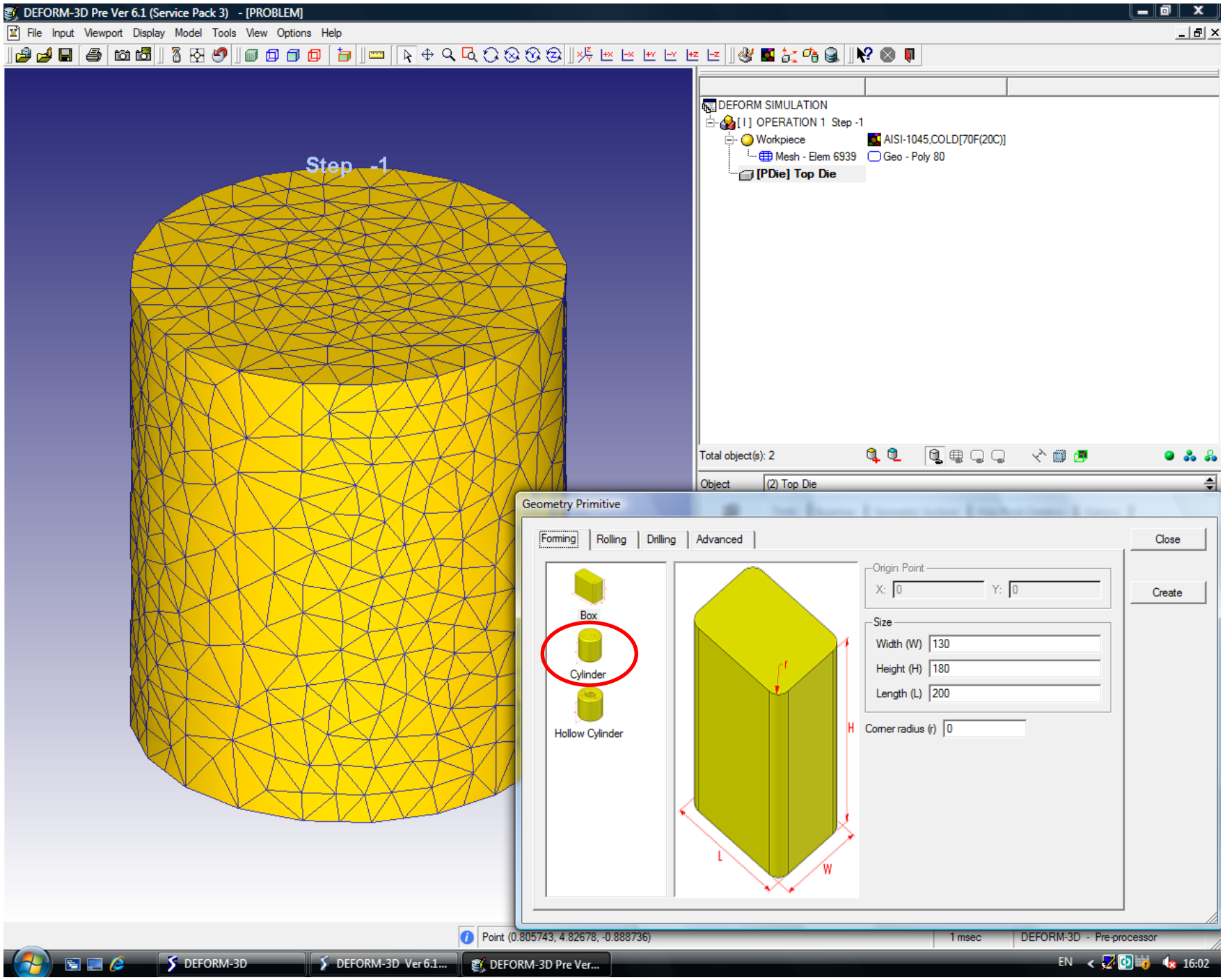
7. Создание геометрии инструмента

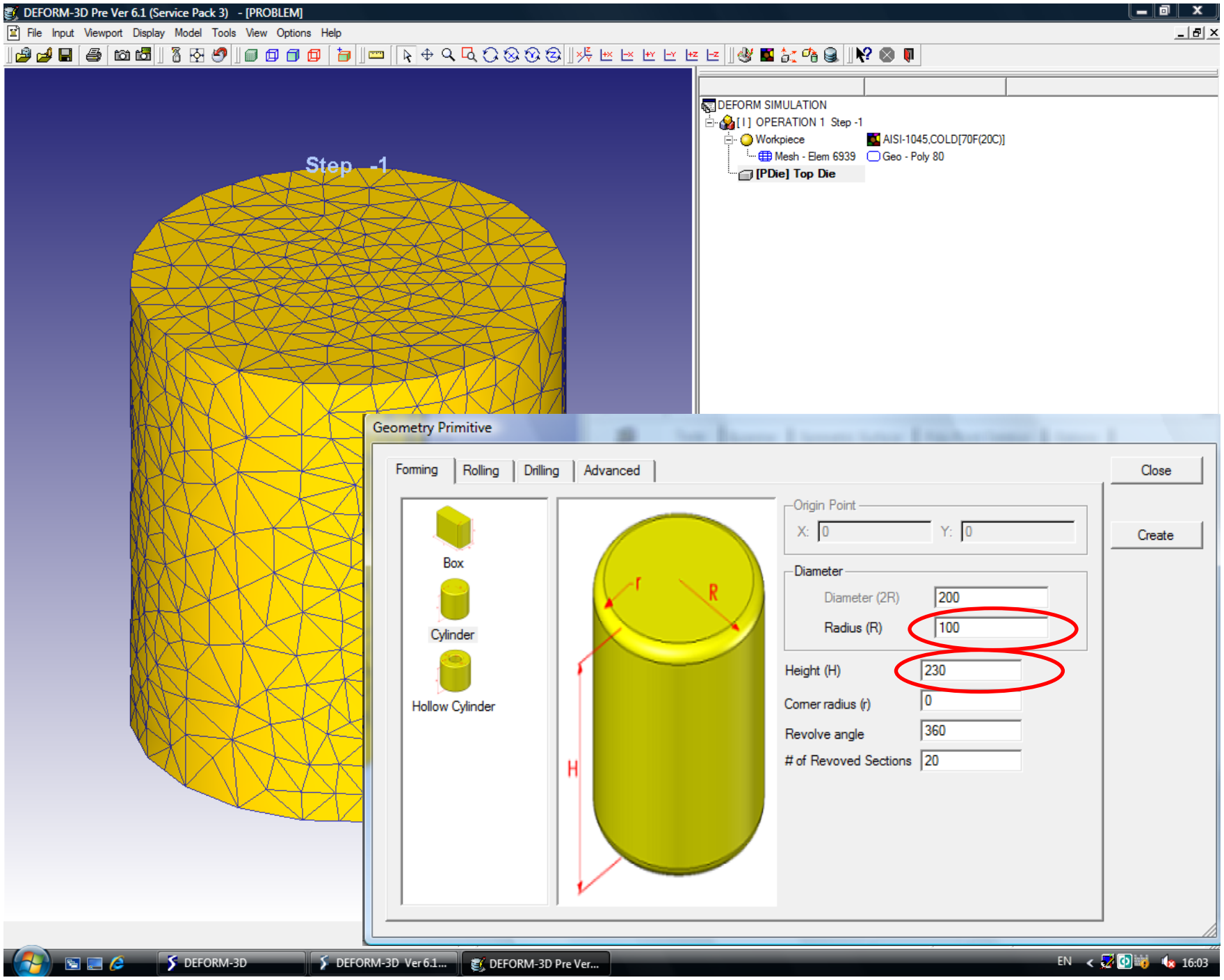
8. Задание расположения инструмента

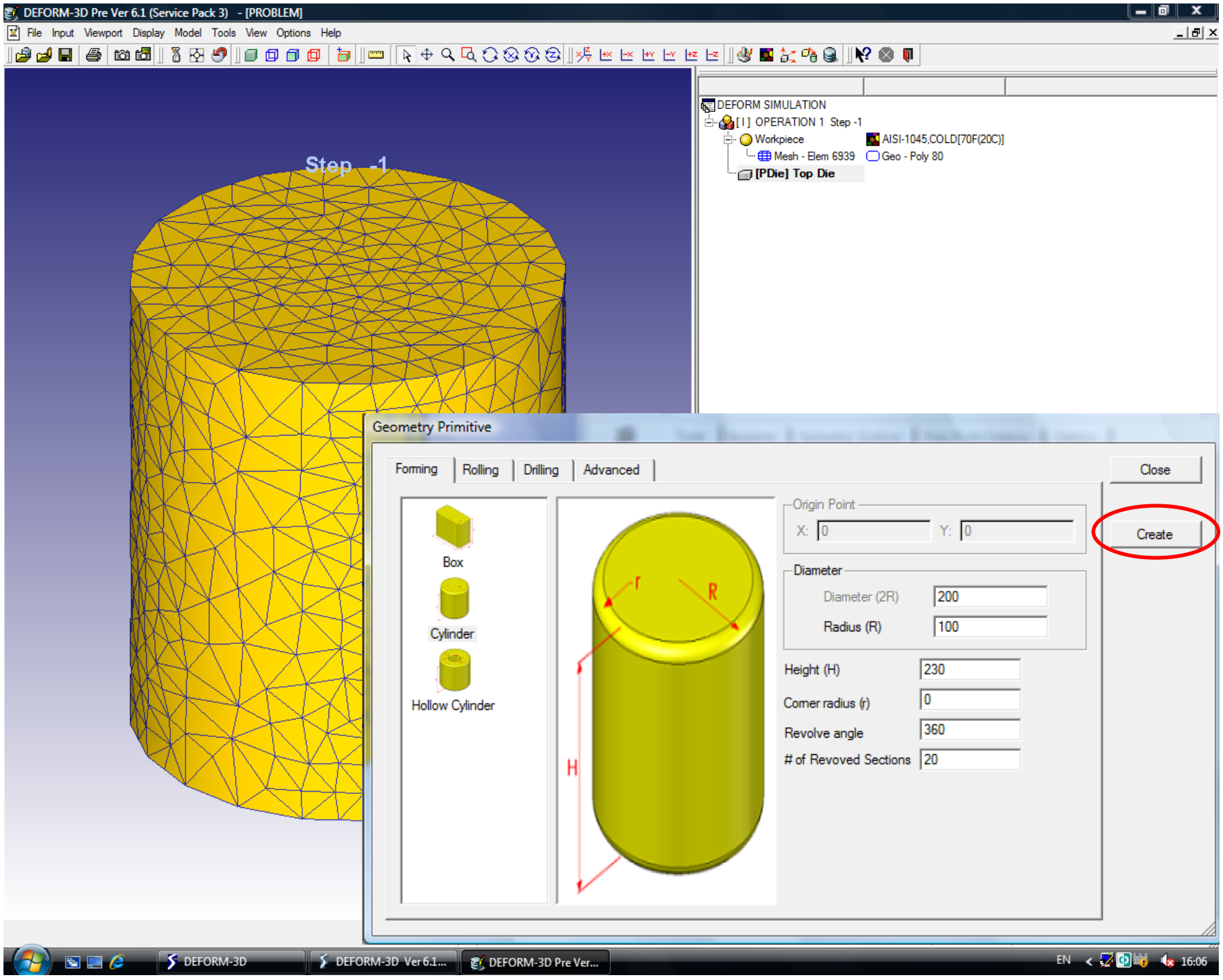

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
[PDie] Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6939
Geo - Poly 80
Total object(s): 1
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
X
Y
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
15:58

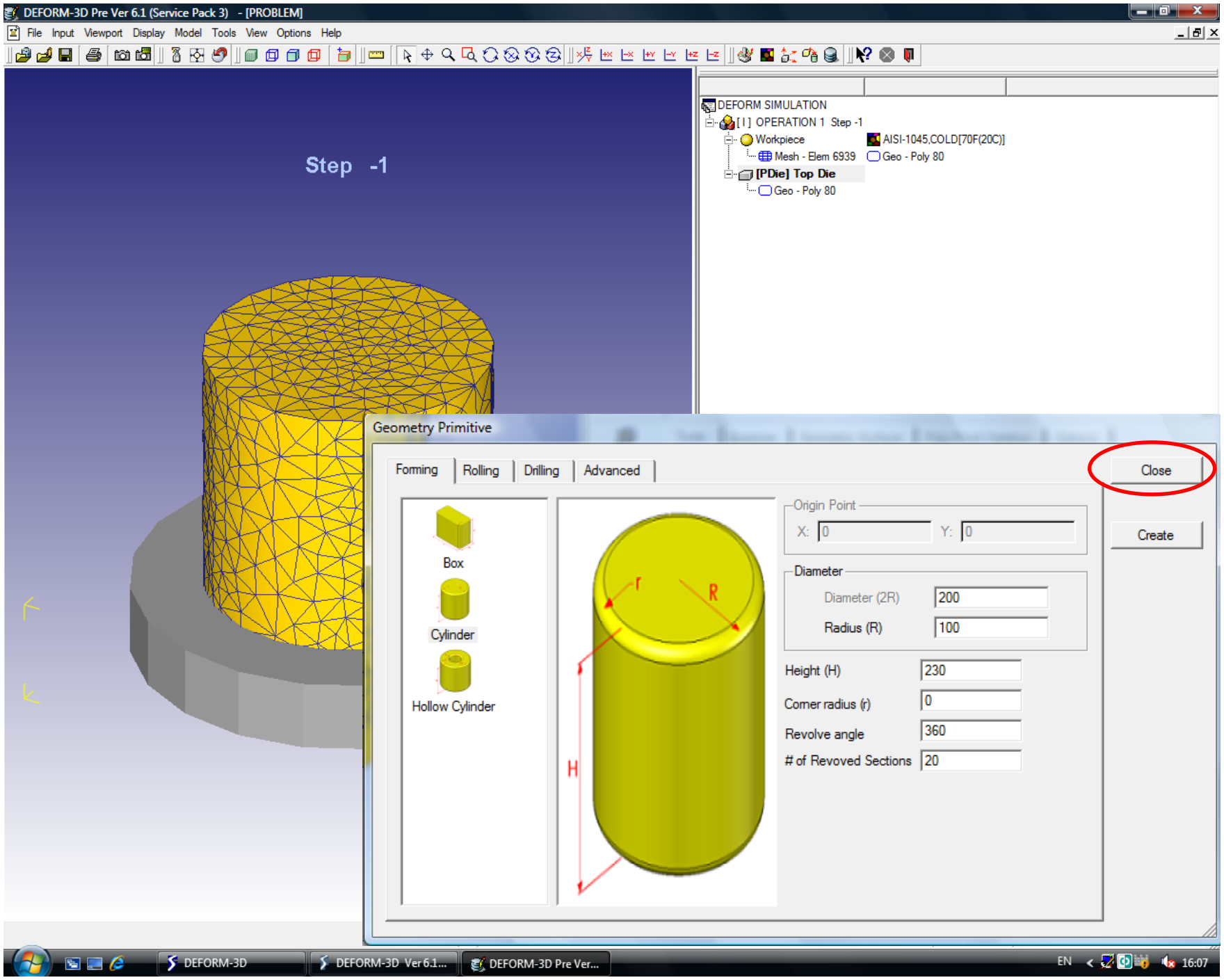

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Total object(s): 2
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Top Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
X
Y
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:00

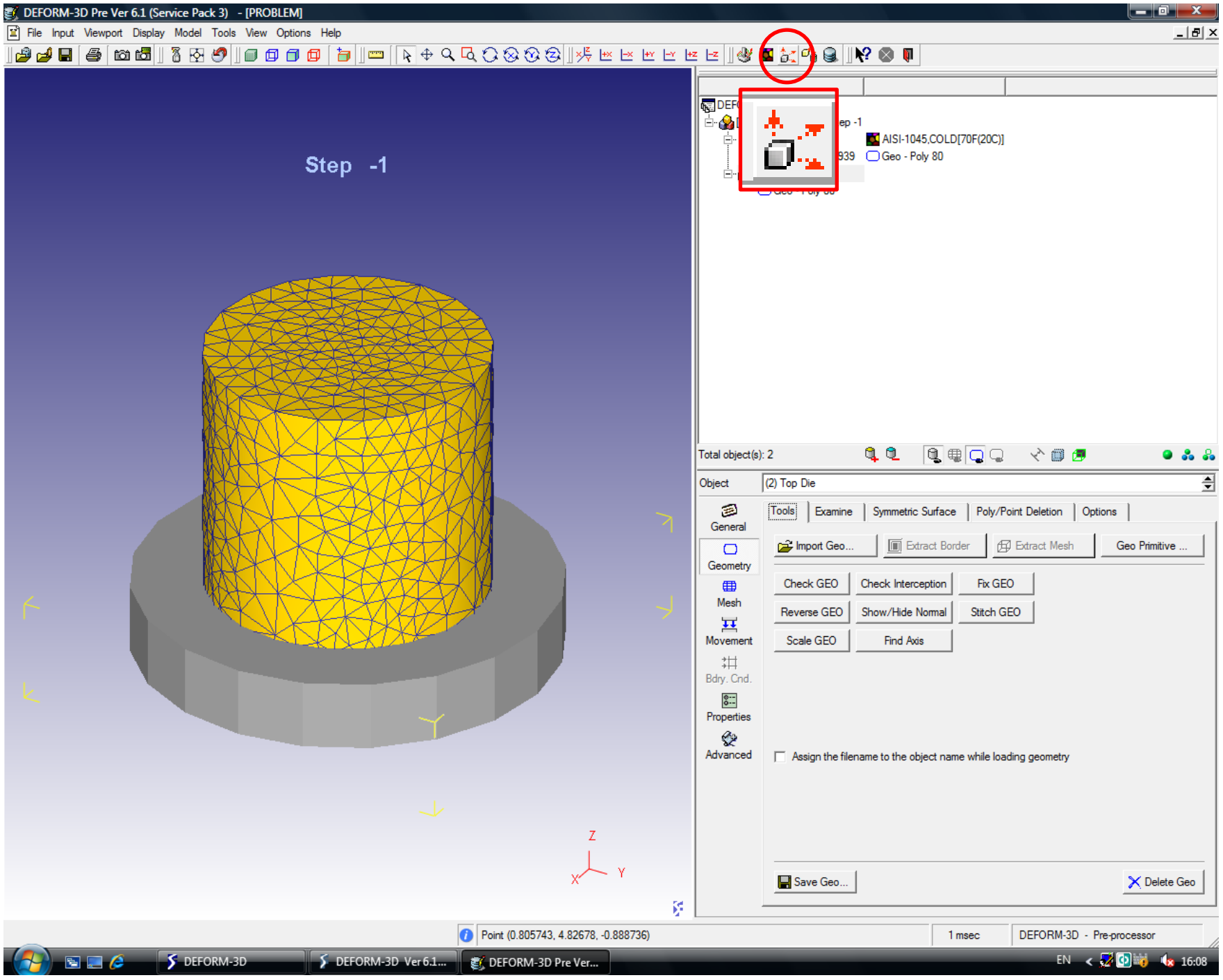

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Total object(s): 2
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
X
Y
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:02

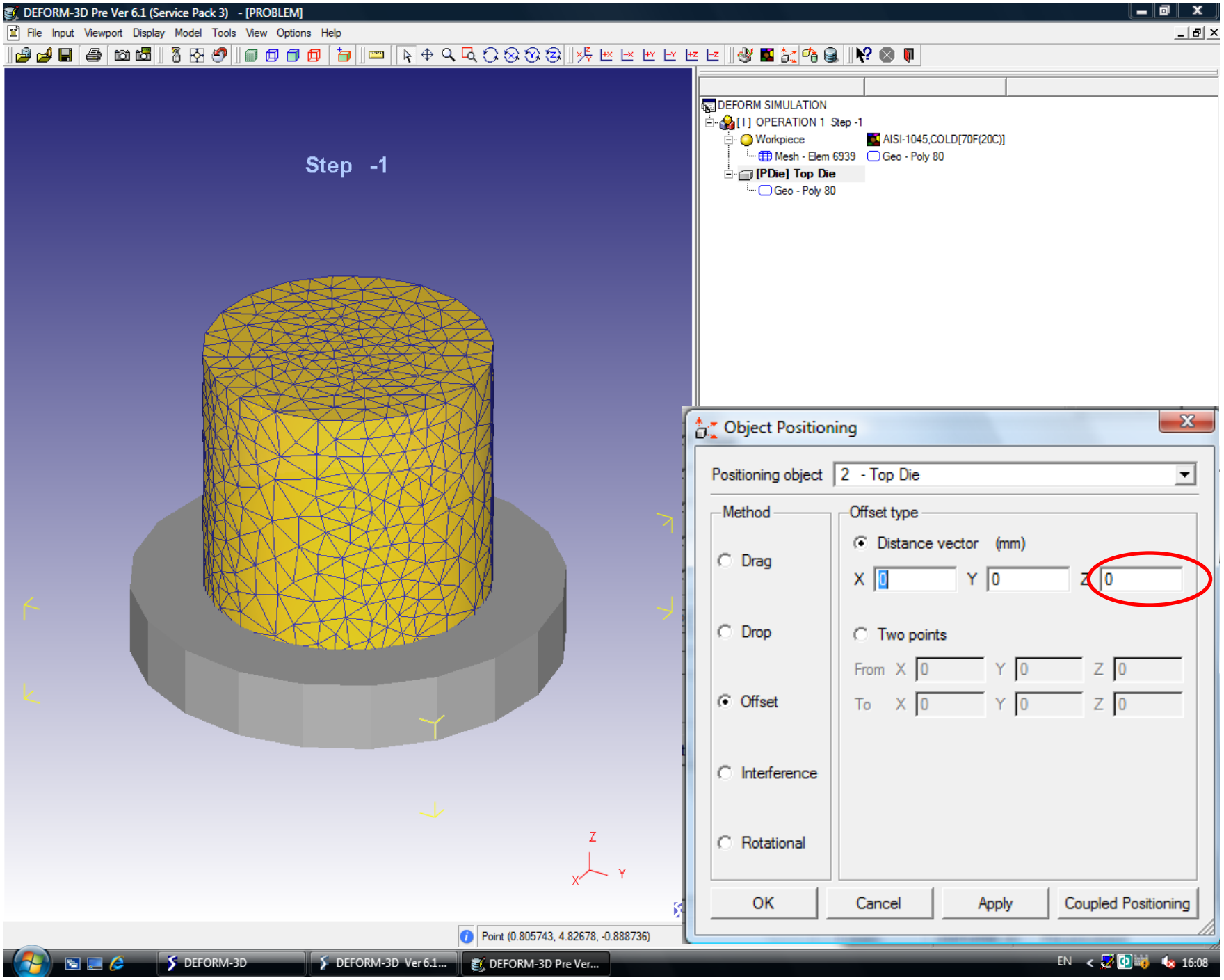

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Total object(s): 2
Object
(2) Top Die
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Create
Box
Cylinder
Hollow Cylinder
Origin Point
X: 0
Y: 0
Size
Width (W) 130
Height (H) 180
Length (L) 200
Corner radius (r) 0
H
L
W
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:02

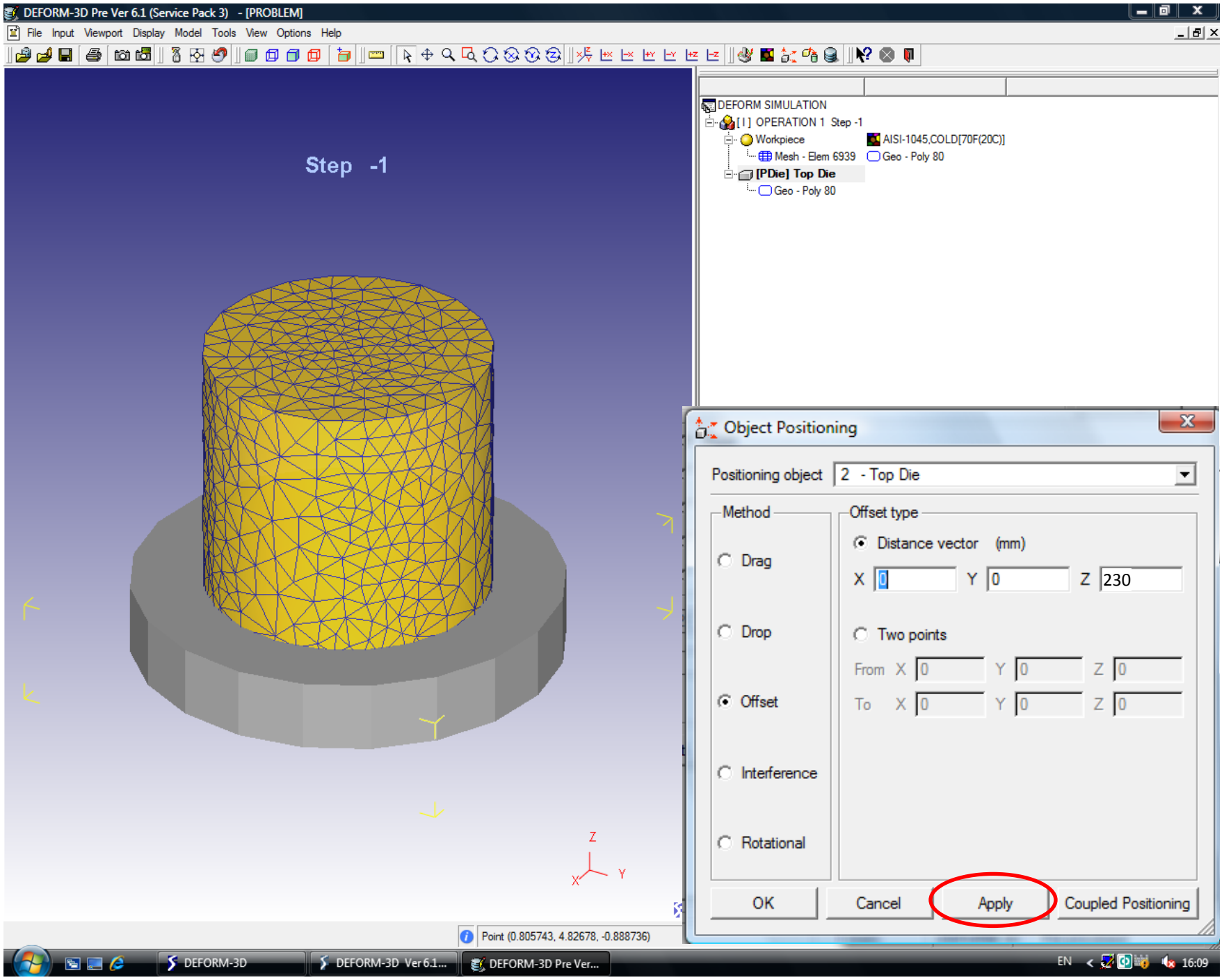

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Create
Box
Cylinder
Hollow Cylinder
r
R
H
Origin Point
X: 0
Y: 0
Diameter
Diameter (2R) 200
Radius (R) 100
Height (H) 230
Corner radius (r) 0
Revolve angle 360
# of Revoved Sections 20
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:03

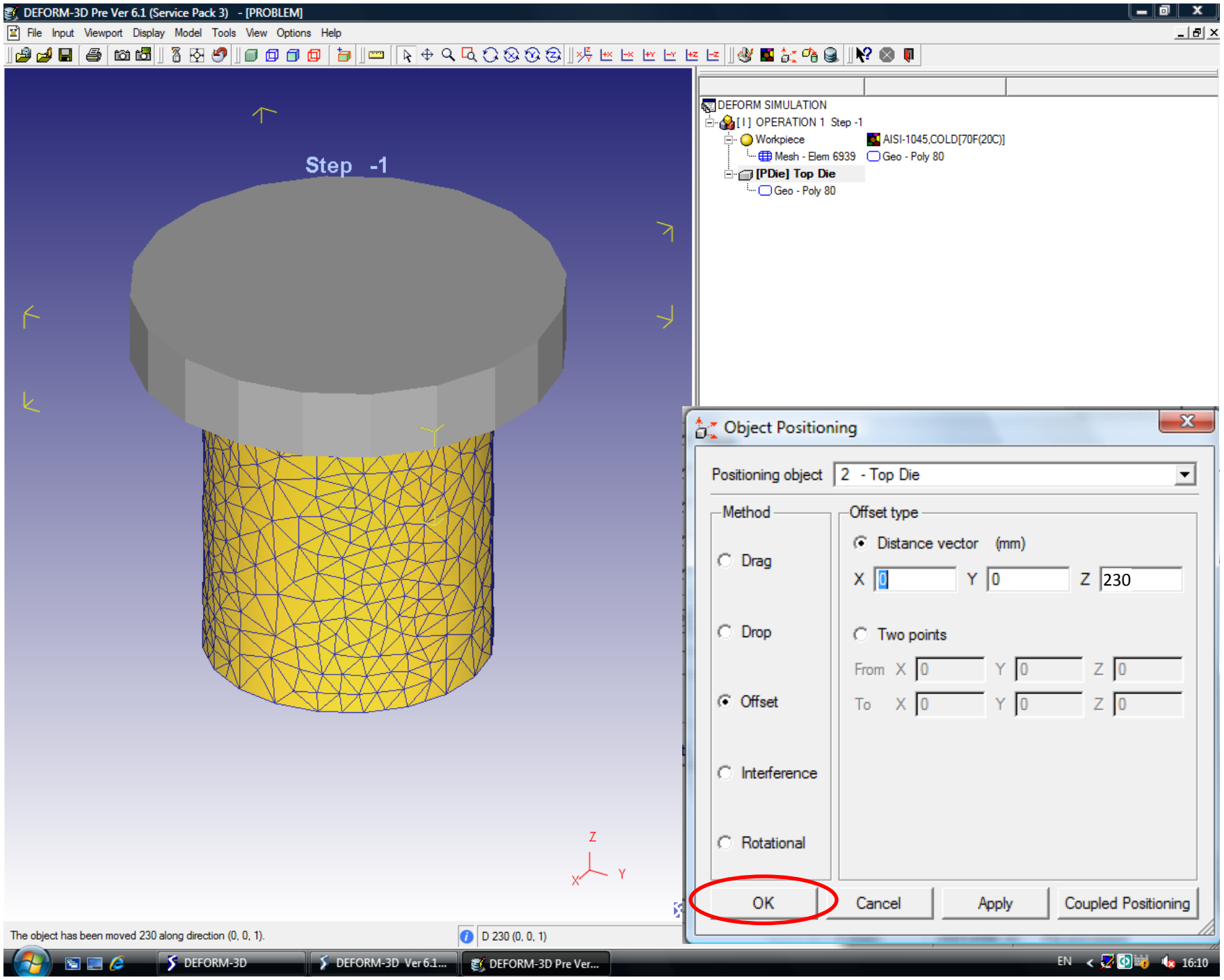

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Box
Cylinder
Hollow Cylinder
r
R
H
Origin Point
X: 0
Y: 0
Create
Diameter
Diameter (2R) 200
Radius (R) 100
Height (H) 230
Corner radius (r) 0
Revolve angle 360
# of Revoved Sections 20
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:06

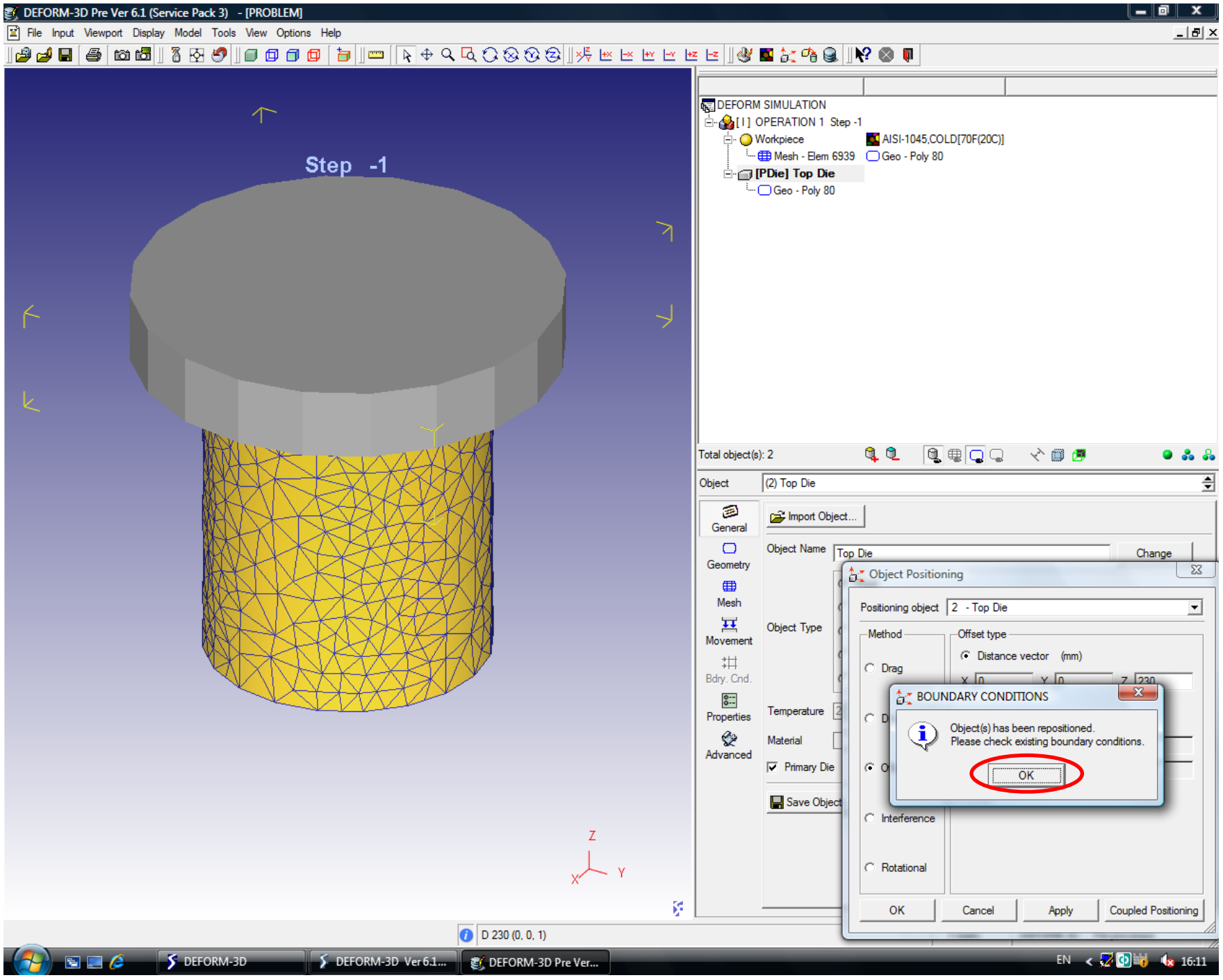

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Box
Cylinder
Hollow Cylinder
r
R
H
Origin Point
X: 0
Y: 0
Create
Diameter
Diameter (2R) 200
Radius (R) 100
Height (H) 230
Corner radius (r) 0
Revolve angle 360
# of Revoved Sections 20
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:07

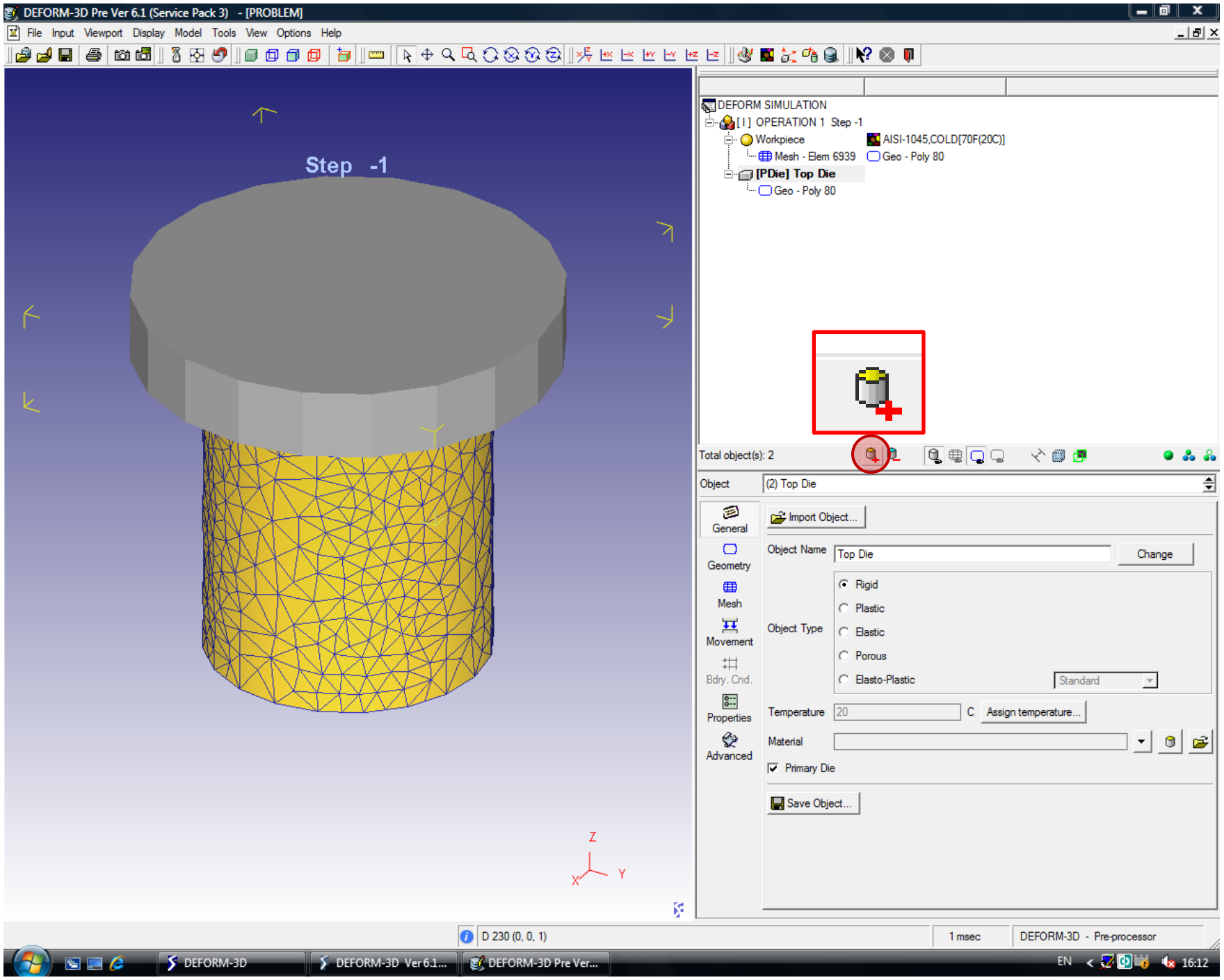

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
AISI-1045,COLD[70F(20C)]
Geo - Poly 80
Total object(s): 2
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
X
Y
Point (0.805743, 4.82678, -0.888736)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:08

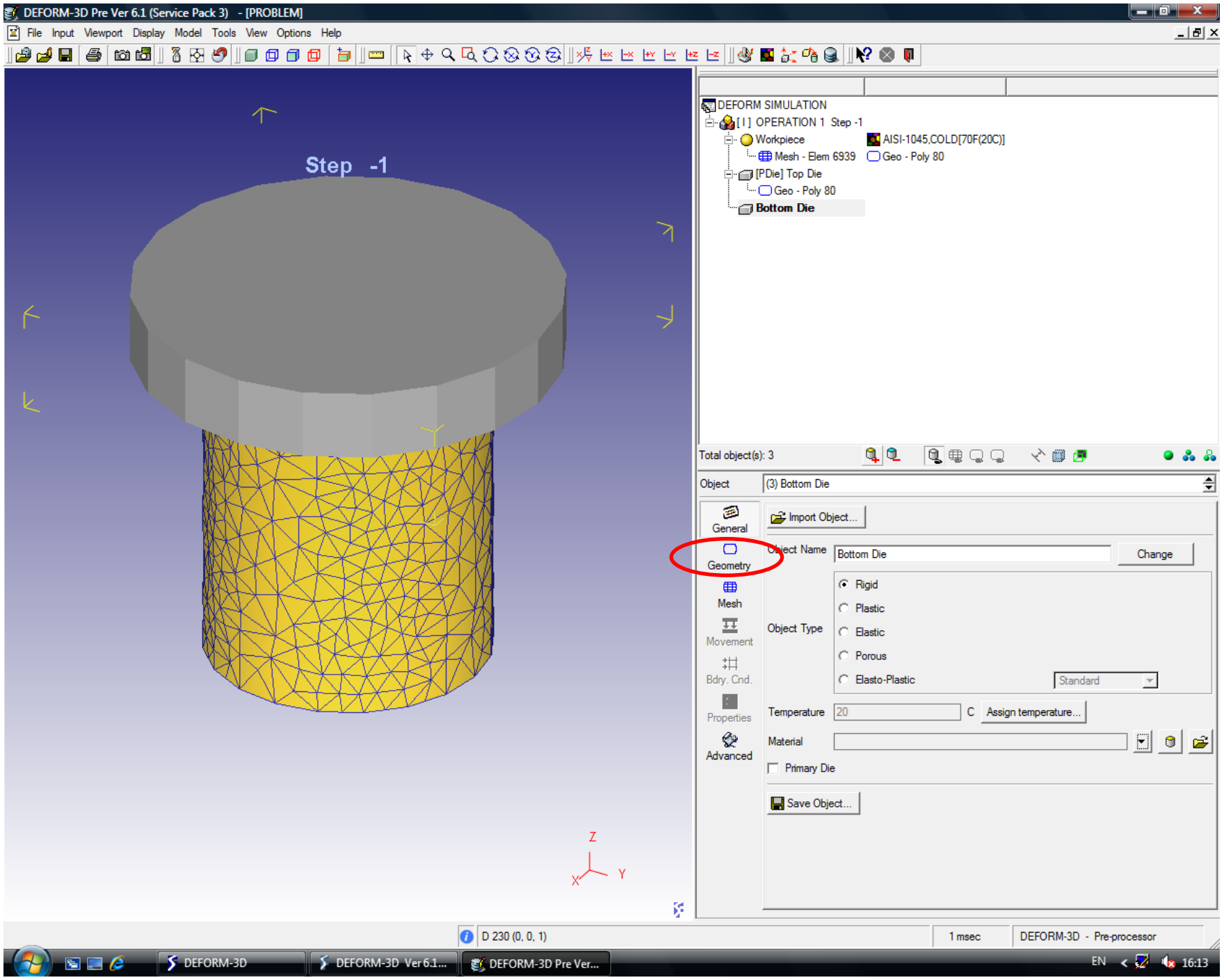

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Object Positioning
Positioning object 2 - Top Die
Method
Drag
Drop
Offset
Interference
Rotational
Offset type
Distance vector (mm)
X 0 Y 0 Z 0
Two points
From X 0 Y 0 Z 0
To X 0 Y 0 Z 0
OK
Cancel
Apply
Coupled Positioning
Point (0.805743, 4.82678, -0.888736)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:08

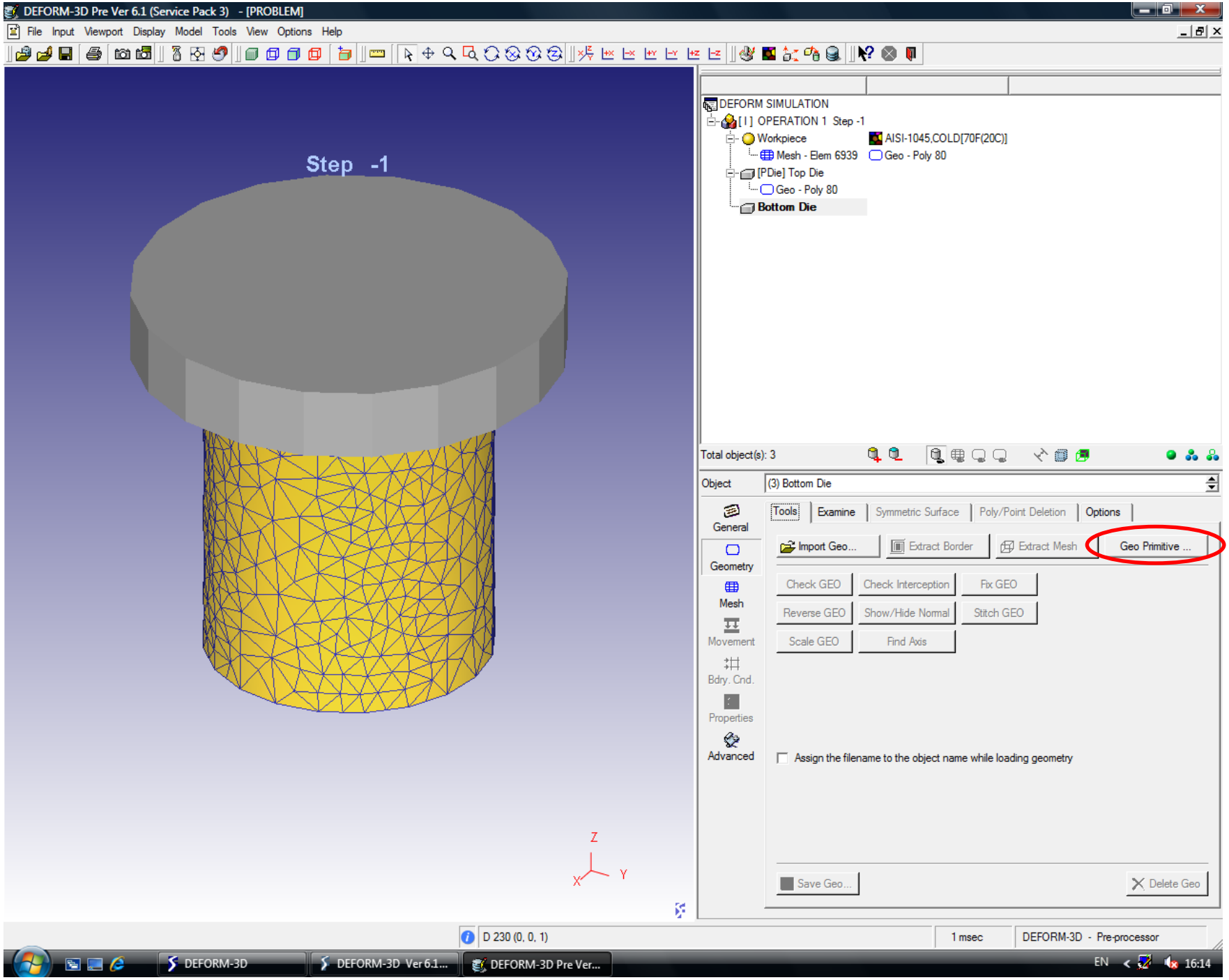

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Object Positioning
Positioning object 2 - Top Die
Method
Drag
Drop
Offset
Interference
Rotational
Offset type
Distance vector (mm)
X 0 Y 0 Z 230
Two points
From X 0 Y 0 Z 0
To X 0 Y 0 Z 0
OK
Cancel
Apply
Coupled Positioning
Z
Y
X
Point (0.805743, 4.82678, -0.888736)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:09

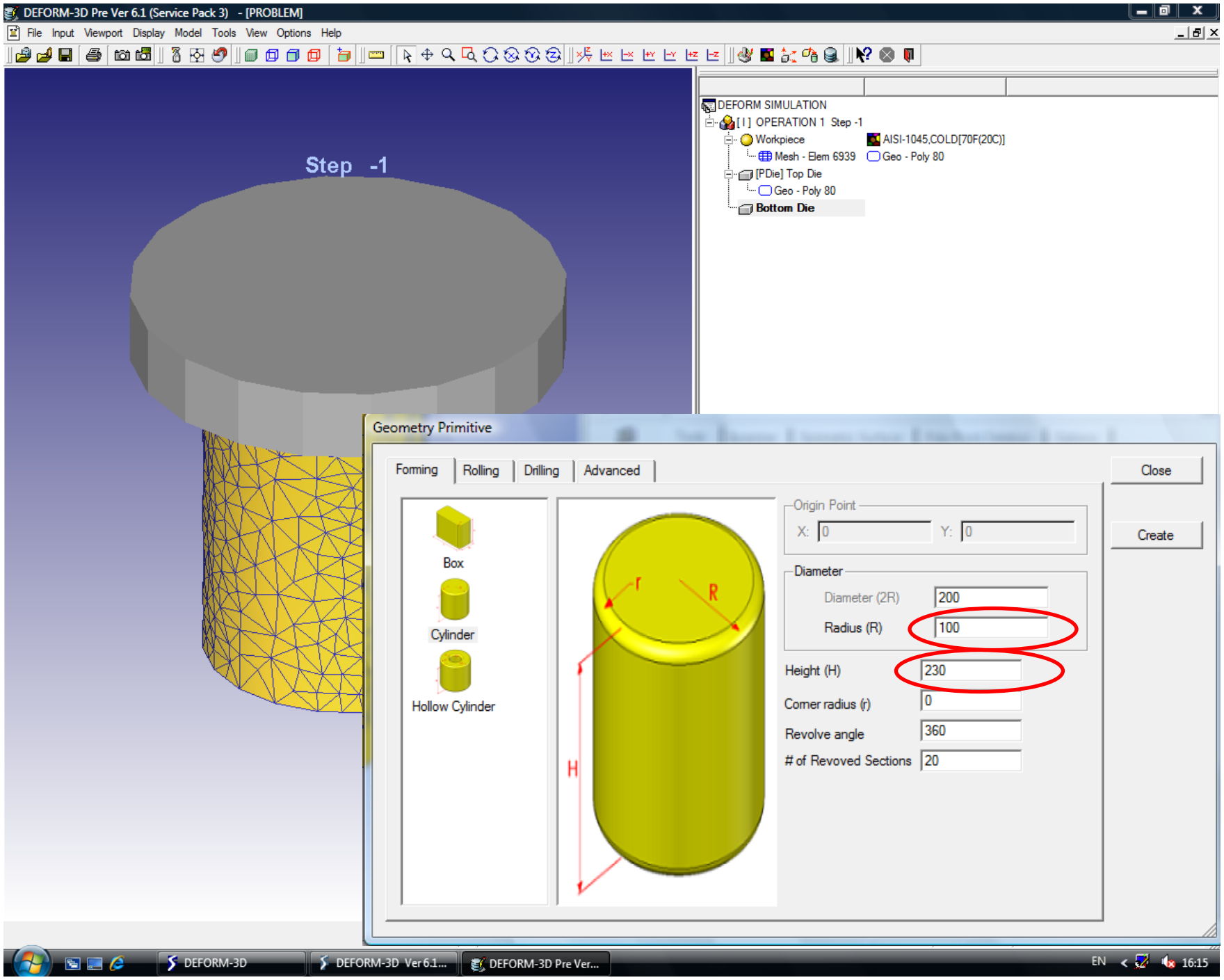

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Object Positioning
Positioning object 2 - Top Die
Method
Drag
Drop
Offset
Interference
Rotational
Offset type
Distance vector (mm)
X 0 Y 0 Z 230
Two points
From X 0 Y 0 Z 0
To X 0 Y 0 Z 0
OK
Cancel
Apply
Coupled Positioning
Z
Y
X
The object has been moved 230 along direction (0, 0, 1).
D 230 (0, 0, 1)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:10

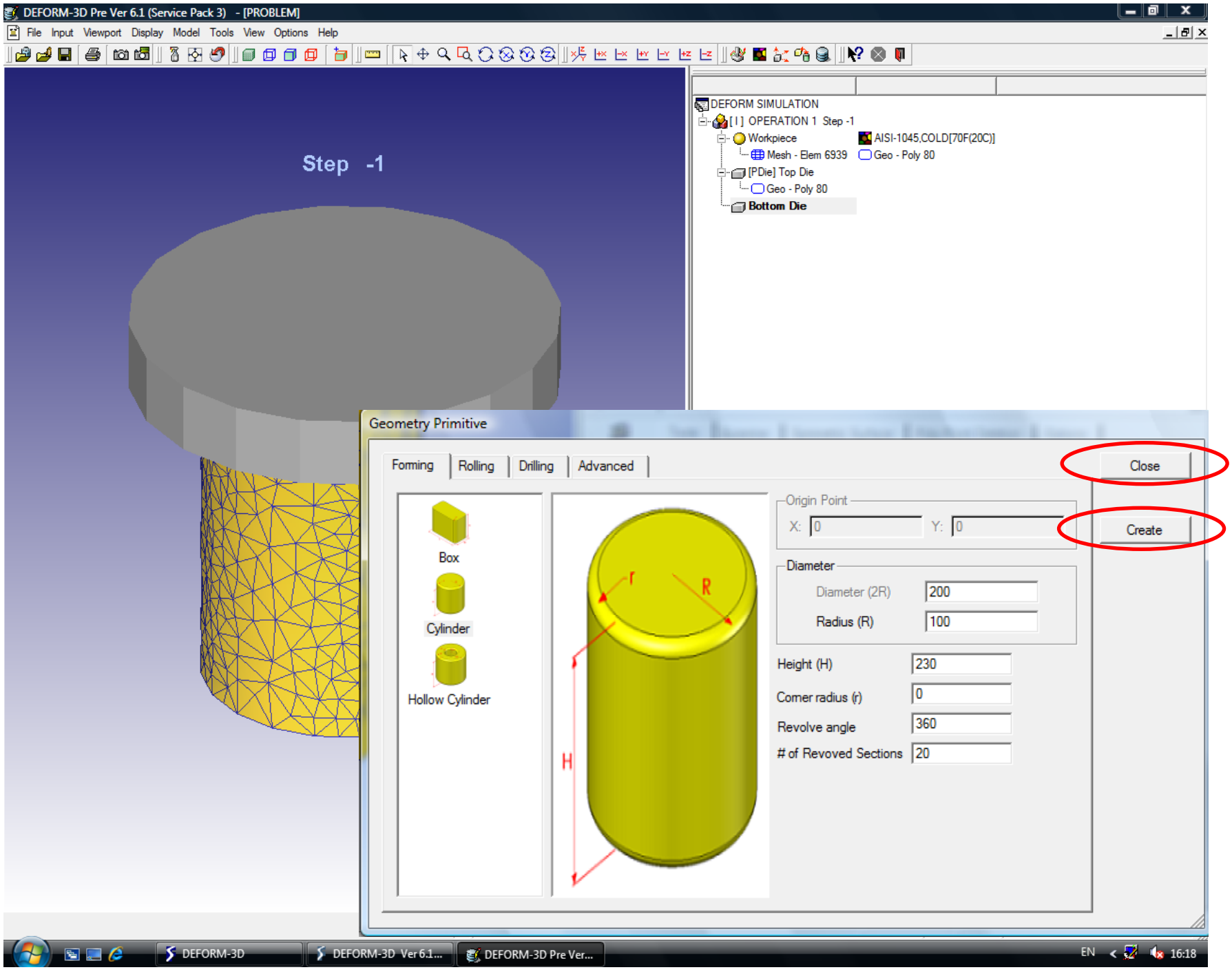

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Total object(s): 2
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Top Die
Change
Object Type
Temperature
Material
Primary Die
Save Object
Object Positioning
Positioning object
2 - Top Die
Method
Drag
Interference
Rotational
Offset type
Distance vector (mm)
BOUNDARY CONDITIONS
Object(s) has been repositioned.
Please check existing boundary conditions.
OK
OK
Cancel
Apply
Coupled Positioning
D 230 (0, 0, 1)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:11

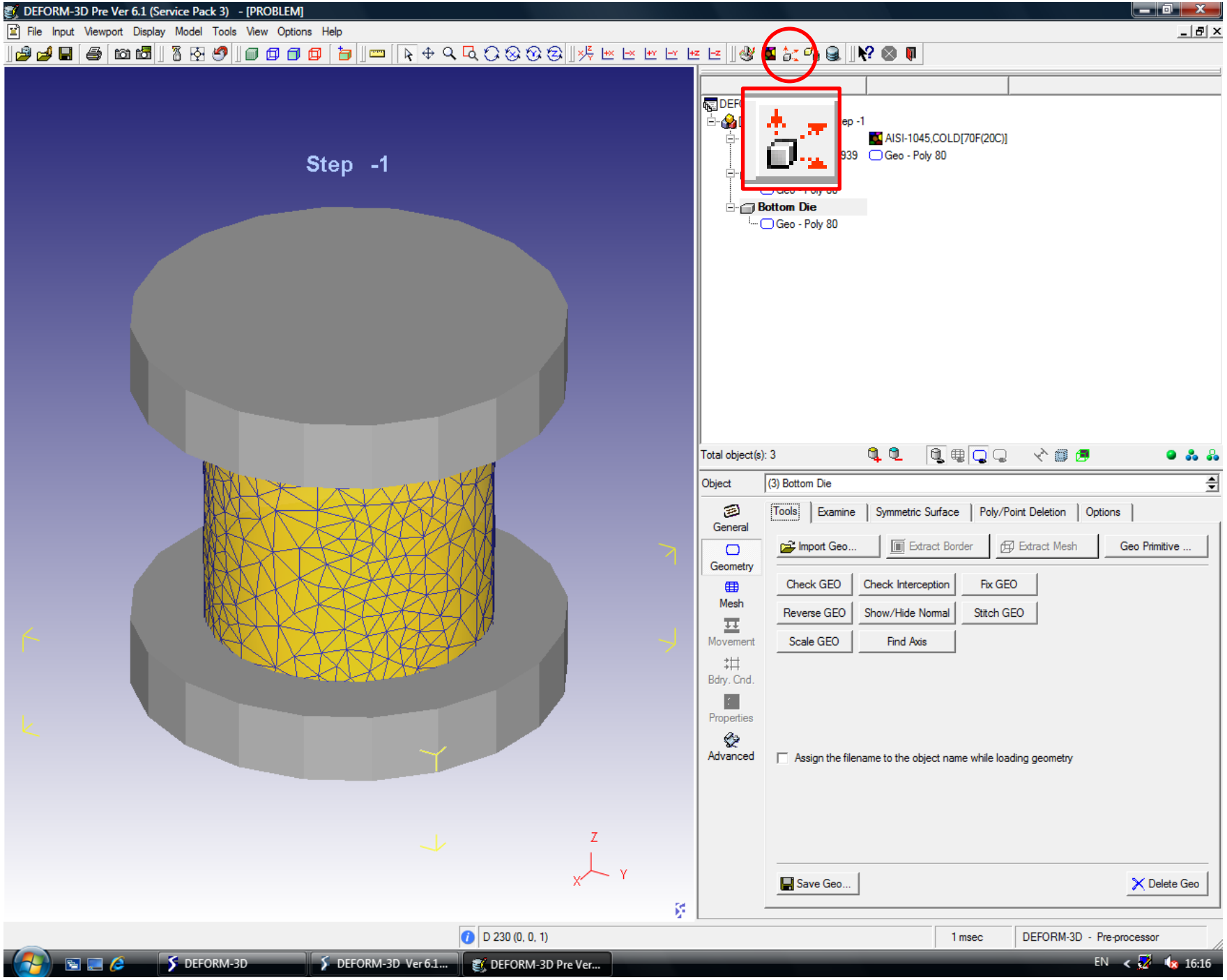

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Total object(s): 2
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Top Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
Y
X
D 230 (0, 0, 1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:12

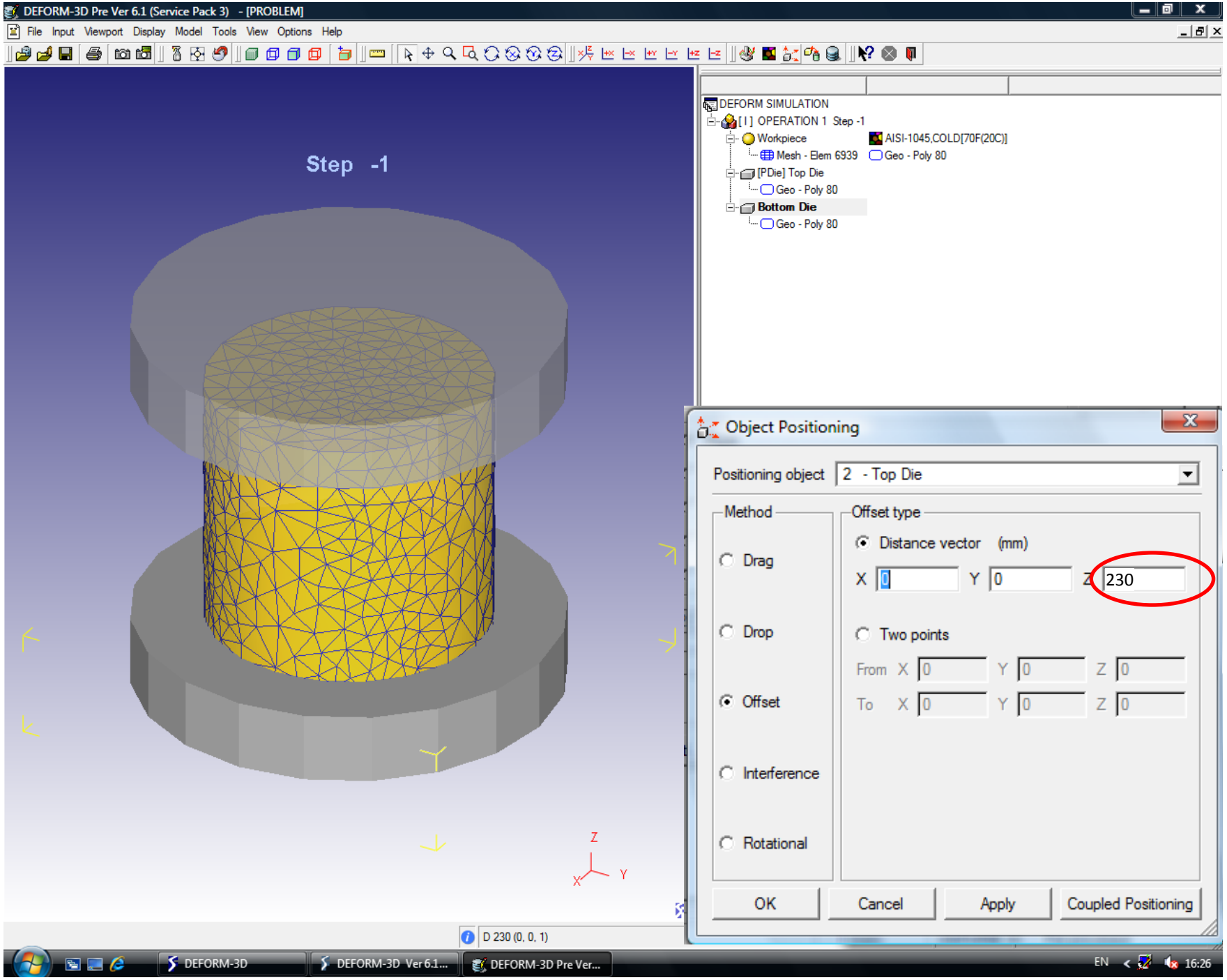

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Bottom Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
X
Y
D 230 (0, 0, 1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:13

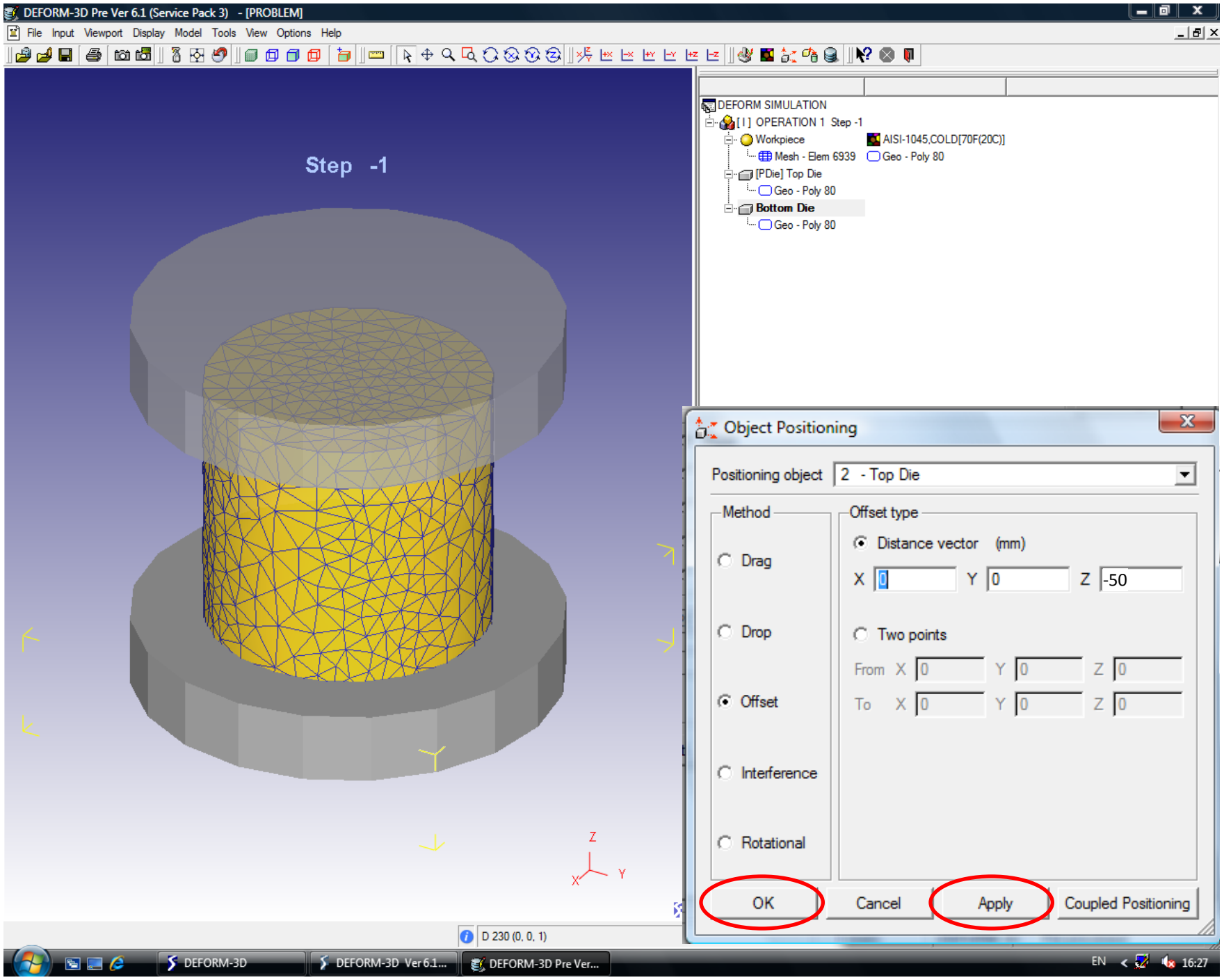

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
X
Y
D 230 (0, 0, 1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:14

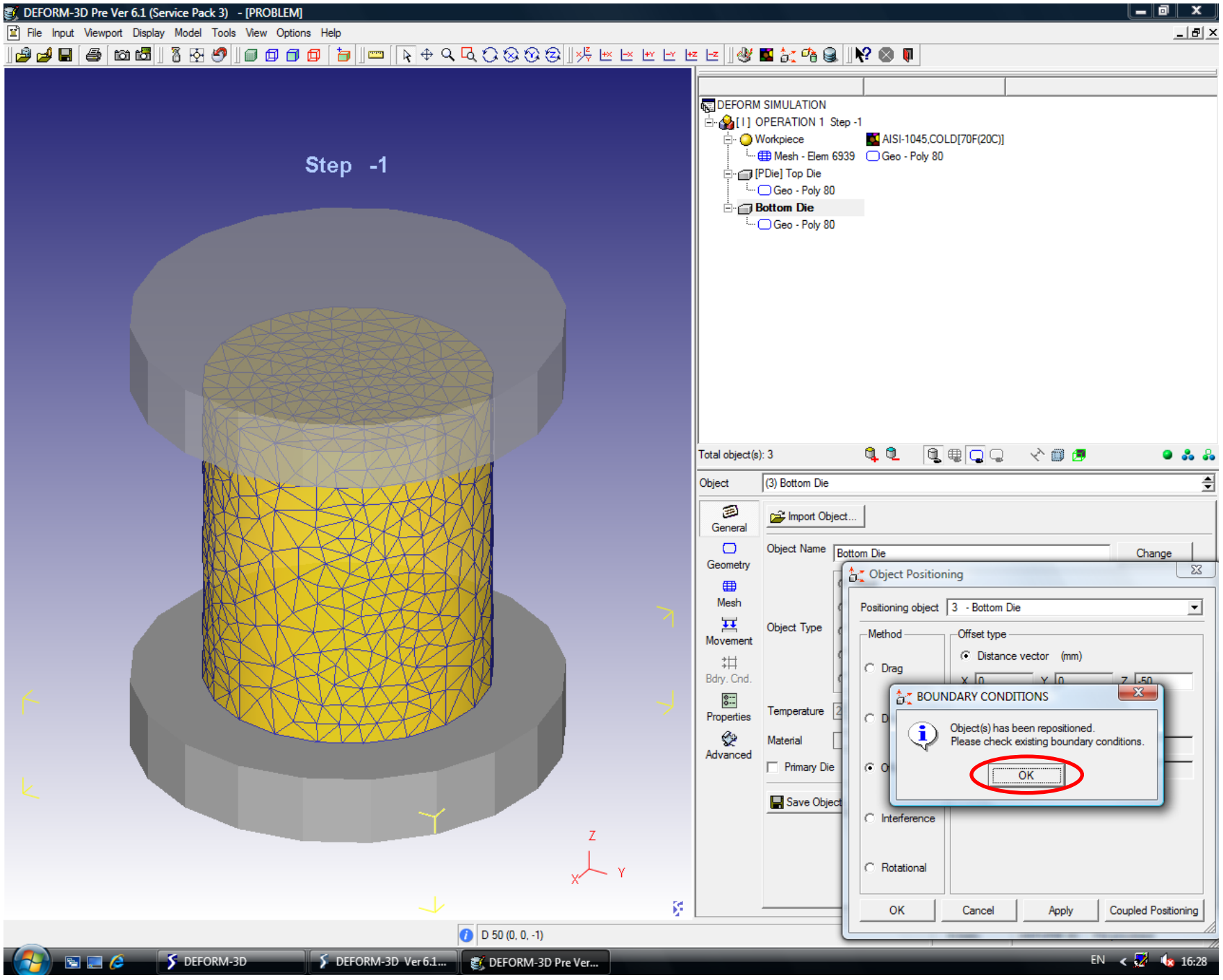

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Create
Box
Cylinder
Hollow Cylinder
r
R
H
Origin Point
X: 0
Y: 0
Diameter
Diameter (2R) 200
Radius (R) 100
Height (H) 230
Corner radius (r) 0
Revolve angle 360
# of Revoved Sections 20
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:15

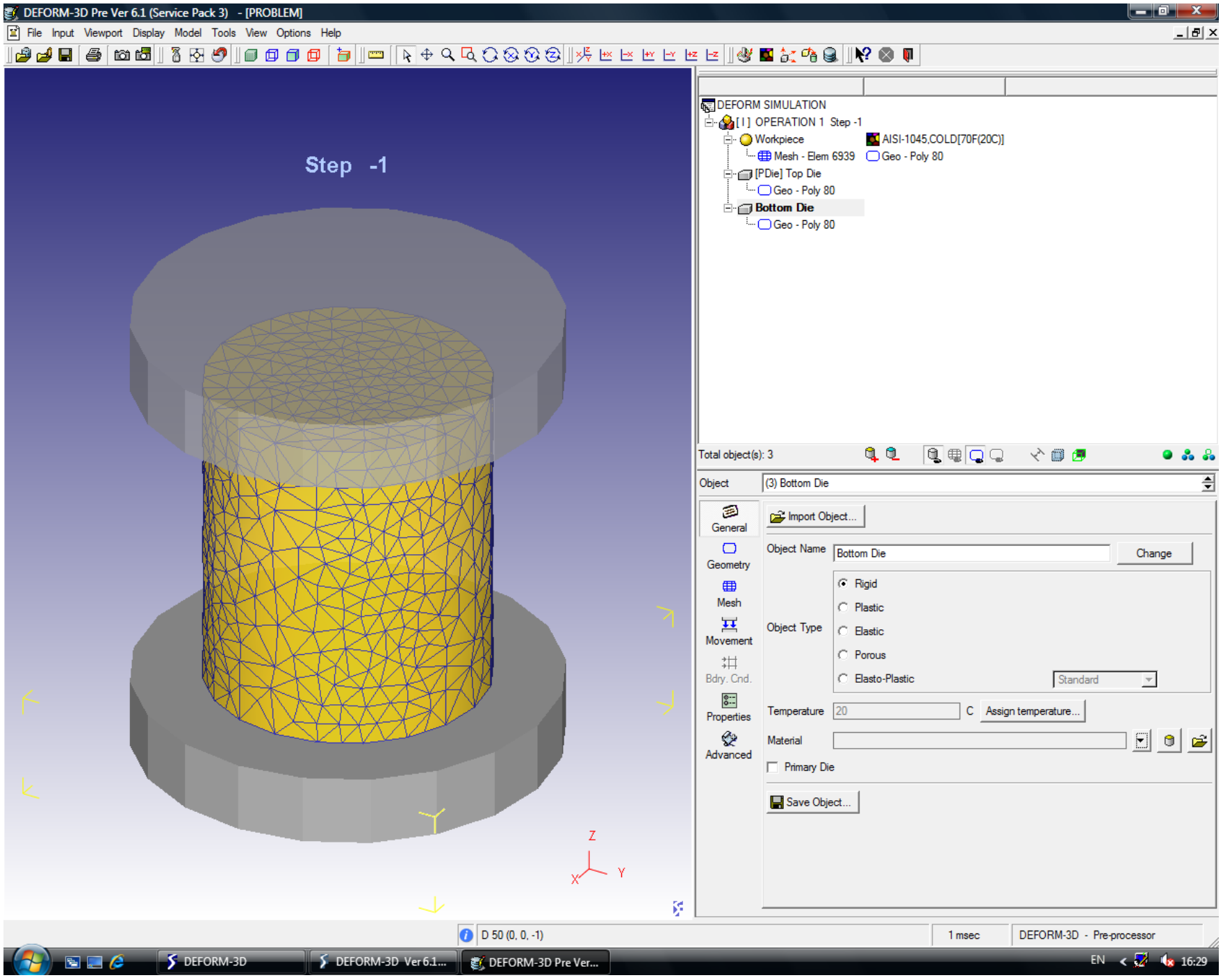

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geometry Primitive
Forming
Rolling
Drilling
Advanced
Close
Create
Box
Cylinder
Hollow Cylinder
r
R
H
Origin Point
X: 0
Y: 0
Diameter
Diameter (2R) 200
Radius (R) 100
Height (H) 230
Corner radius (r) 0
Revolve angle 360
# of Revoved Sections 20
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:18


DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
AISI-1045,COLD[70F(20C)]
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
Y
X
D 230 (0, 0, 1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:16

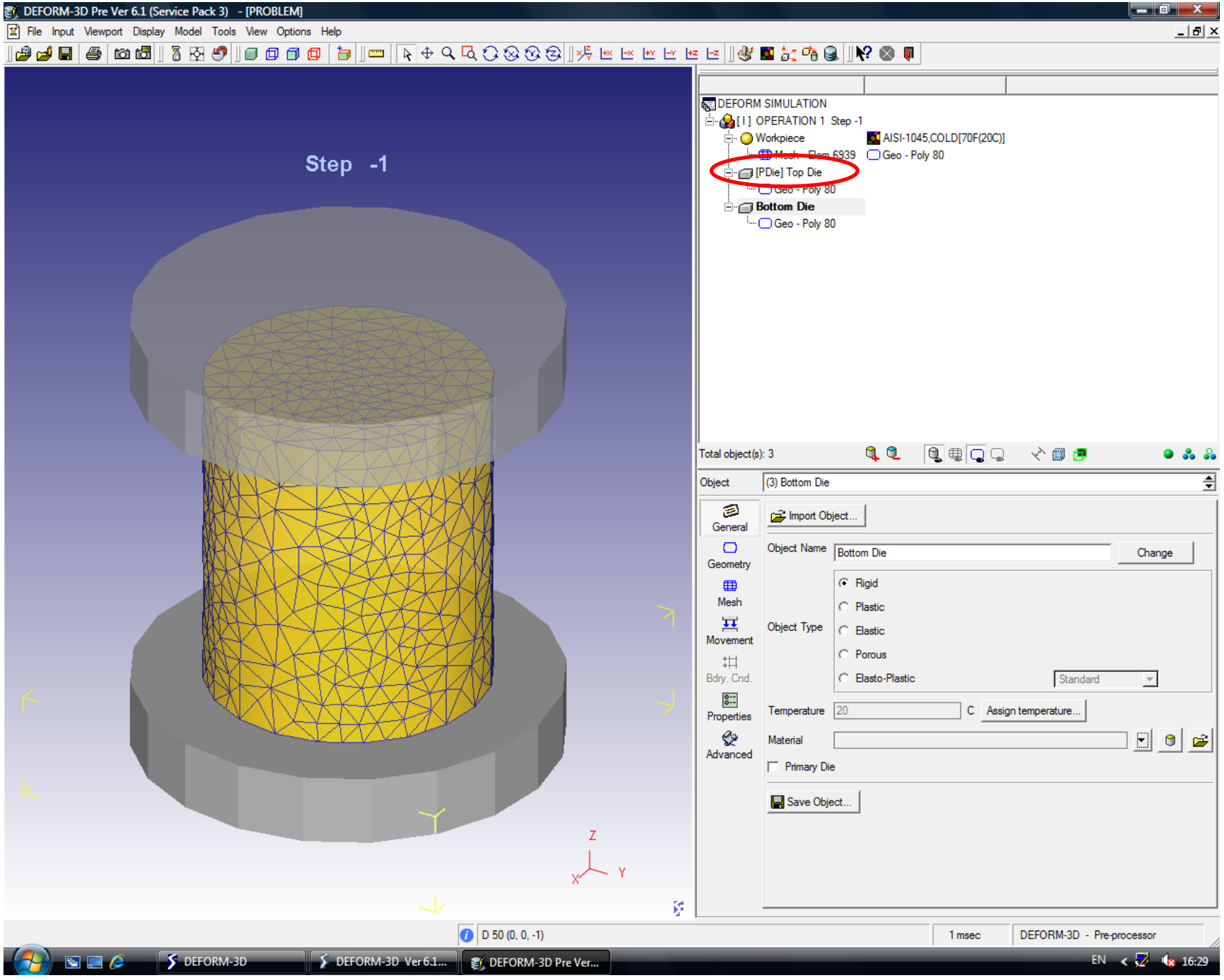

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Object Positioning
Positioning object
2 - Top Die
Method
Drag
Drop
Offset
Interference
Rotational
Offset type
Distance vector (mm)
X 0
Y 0
Z 230
Two points
From X 0 Y 0 Z 0
To X 0 Y 0 Z 0
OK
Cancel
Apply
Coupled Positioning
D 230 (0, 0, 1)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:26

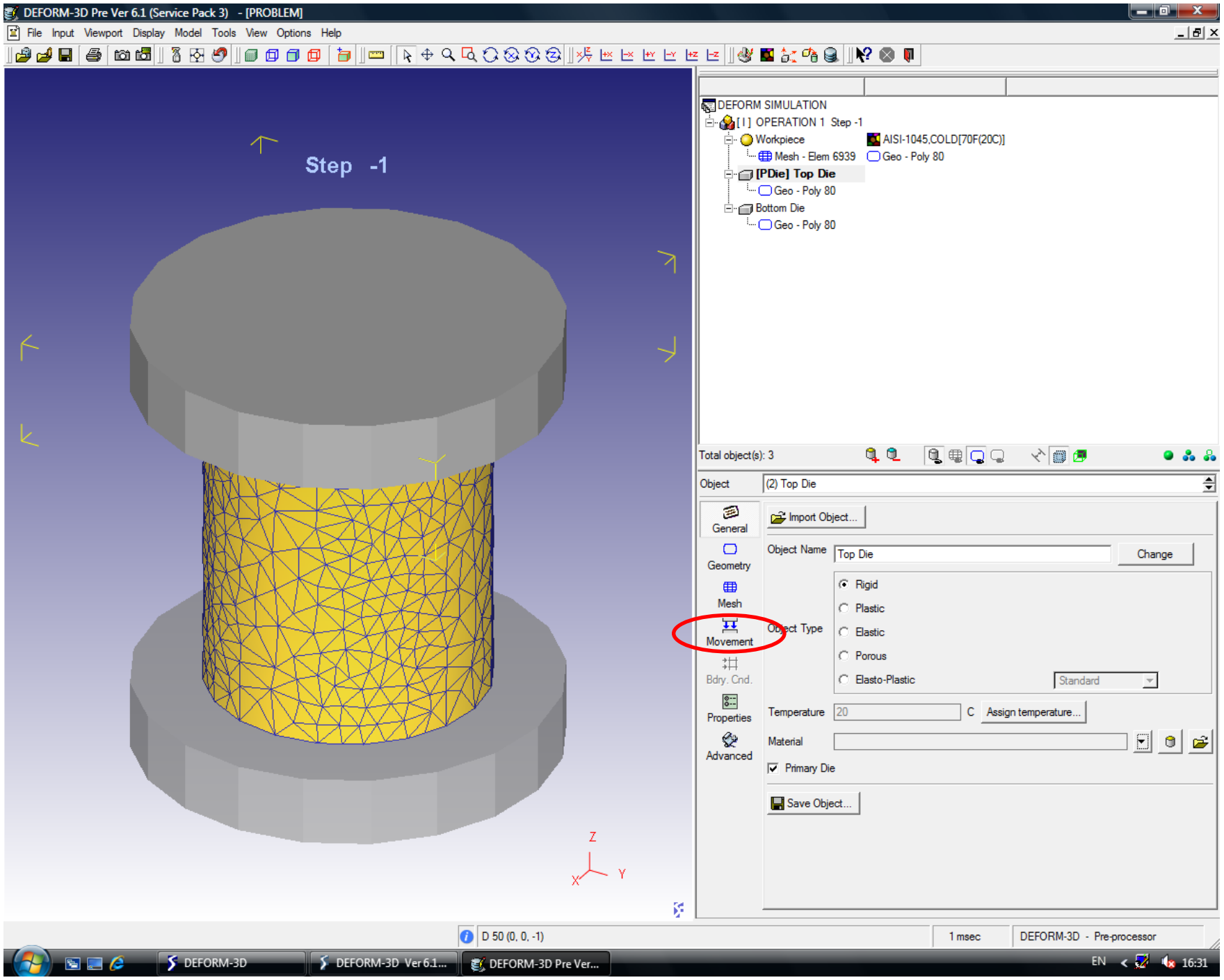

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Object Positioning
Positioning object
2 - Top Die
Method
Drag
Drop
Offset
Interference
Rotational
Offset type
Distance vector (mm)
X 0
Y 0
Z -50
Two points
From X 0 Y 0 Z 0
To X 0 Y 0 Z 0
OK
Cancel
Apply
Coupled Positioning
D 230 (0, 0, 1)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:27

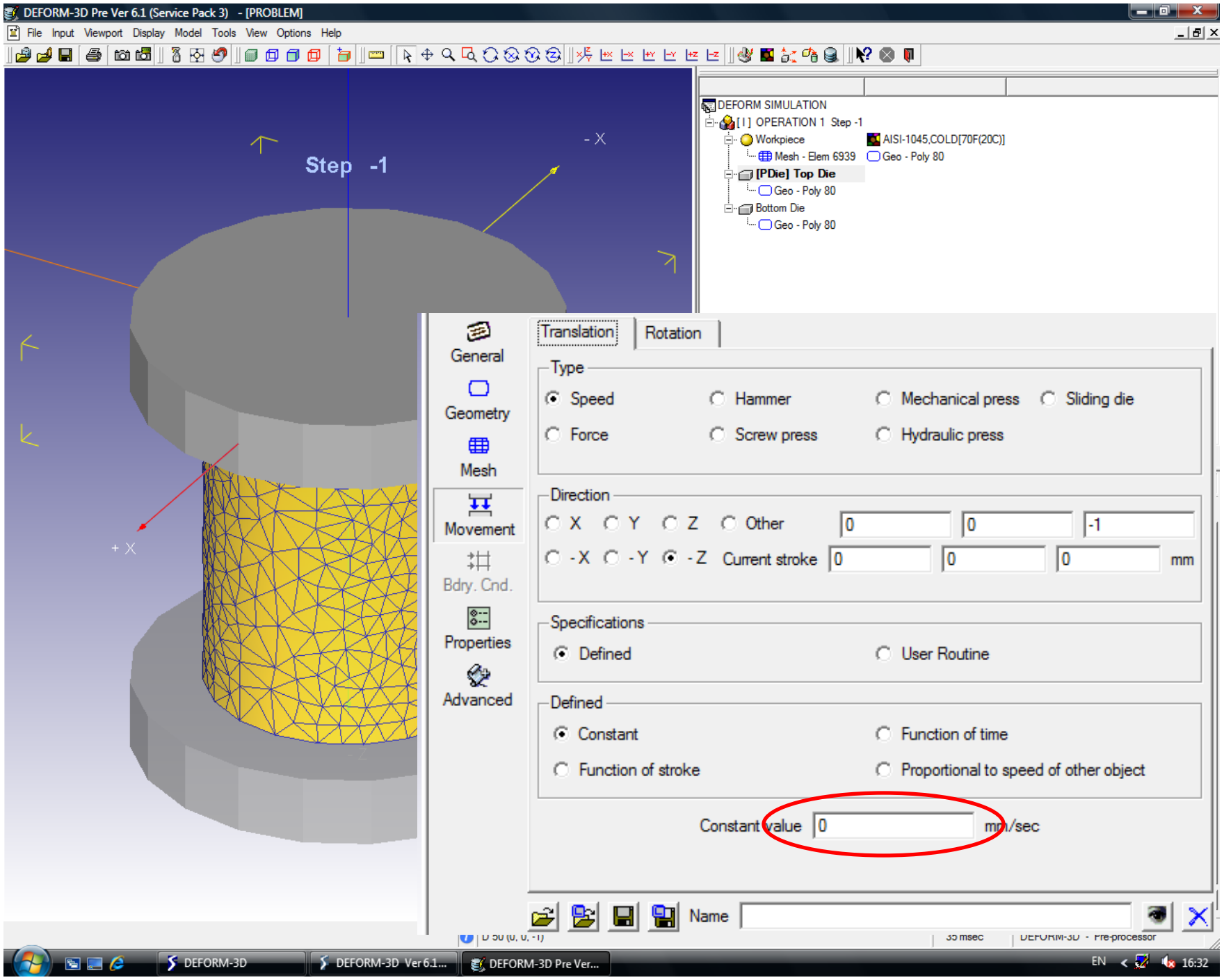

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Bottom Die
Change
Object Type
Temperature
Material
Primary Die
Save Object
Object Positioning
Positioning object
3 - Bottom Die
Method
Drag
Interference
Rotational
Offset type
Distance vector (mm)
BOUNDARY CONDITIONS
Object(s) has been repositioned.
Please check existing boundary conditions.
OK
OK
Cancel
Apply
Coupled Positioning
D 50 (0, 0, -1)
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:28

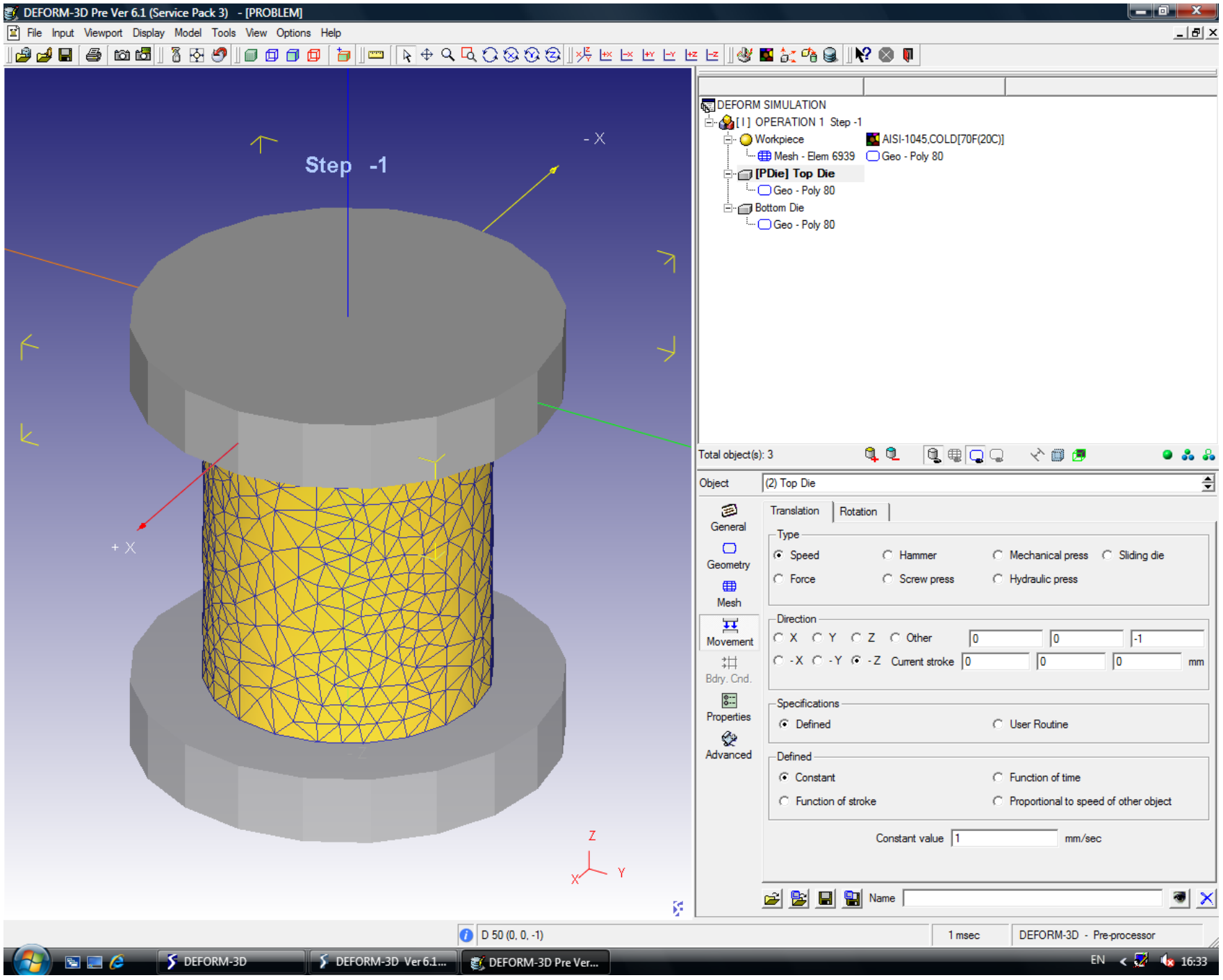

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Bottom Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
Y
X
D 50 (0, 0, -1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:29

9. Задание движения верхнего инструмента

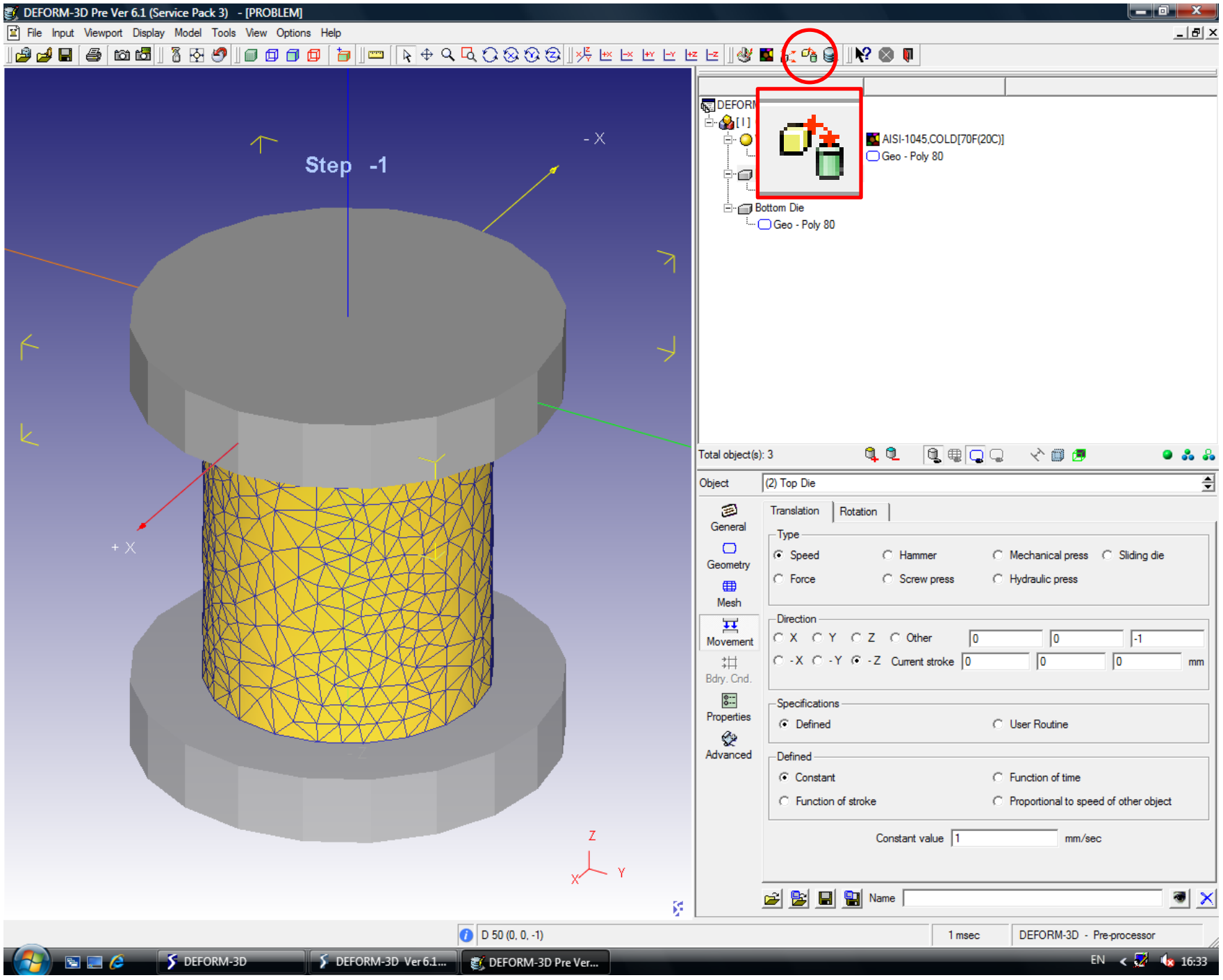

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Bottom Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
Y
X
D 50 (0, 0, -1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:29

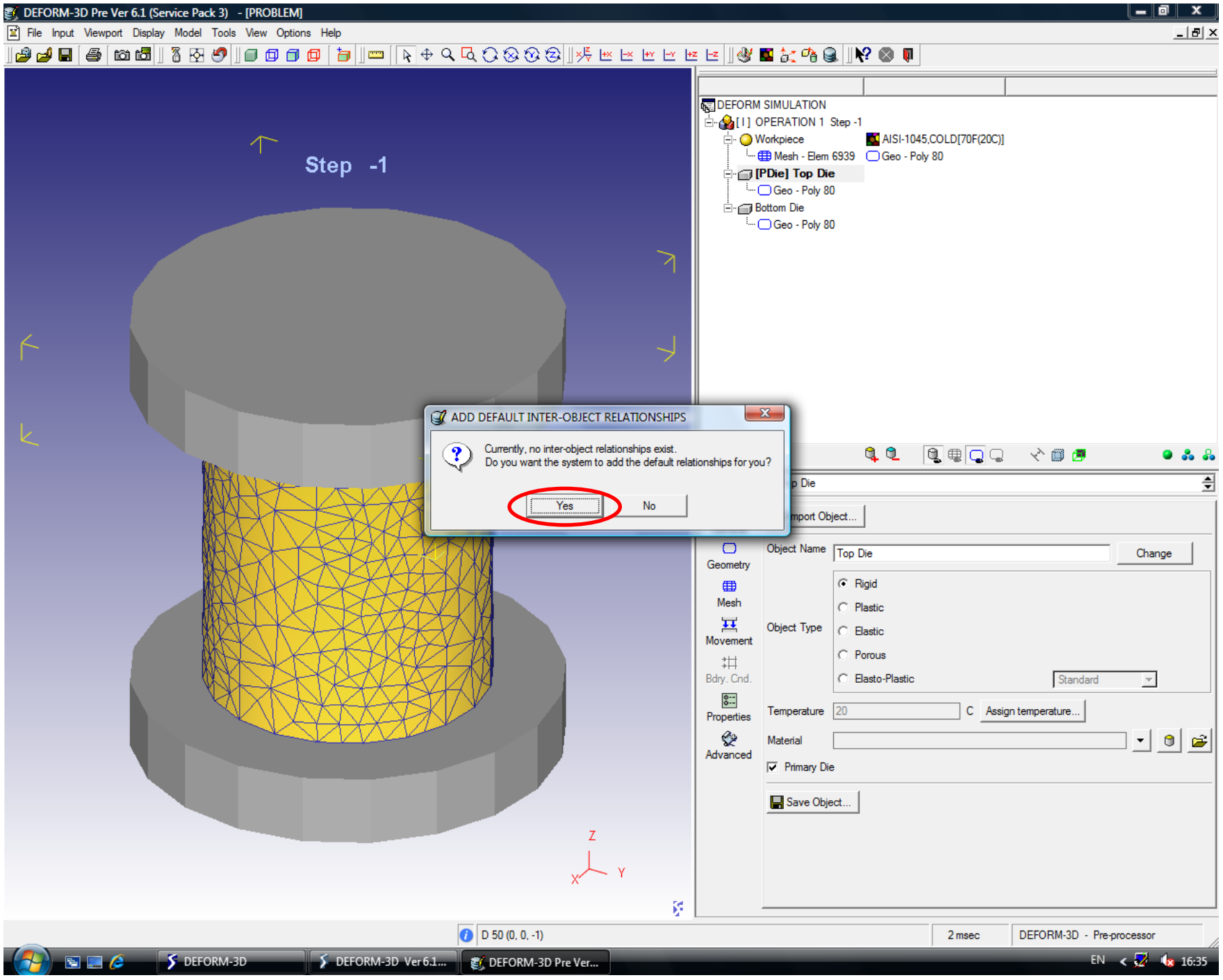

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Top Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
X
Y
D 50 (0, 0, -1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:31

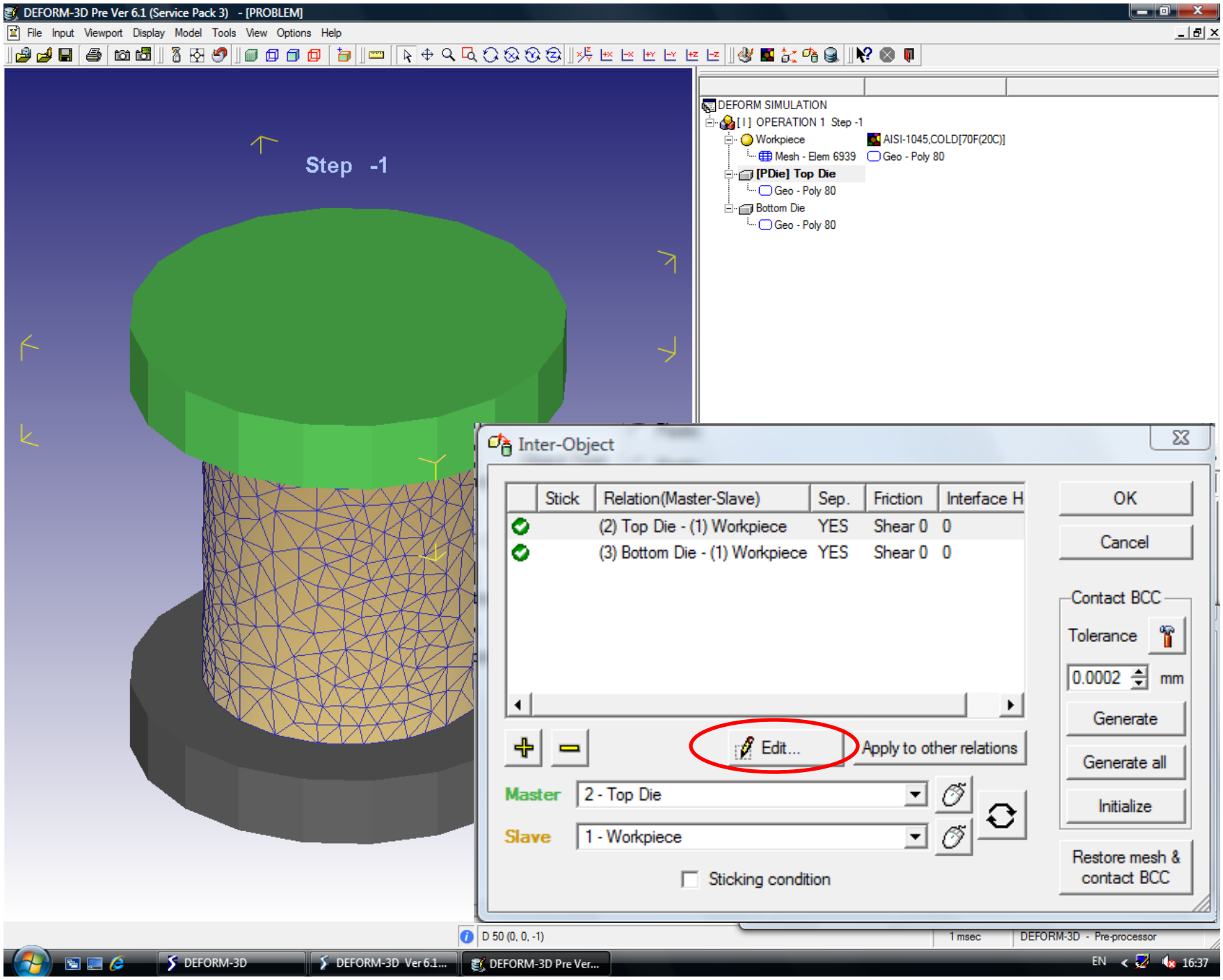

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
- X
+ X
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Translation
Rotation
Type
Speed
Hammer
Mechanical press
Sliding die
Force
Screw press
Hydraulic press
Direction
X
Y
Z
Other
0
0
-1
-X
-Y
-Z
Current stroke
0
0
0
mm
Specifications
Defined
User Routine
Defined
Constant
Function of time
Function of stroke
Proportional to speed of other object
Constant value
0
mm/sec
Name
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:32

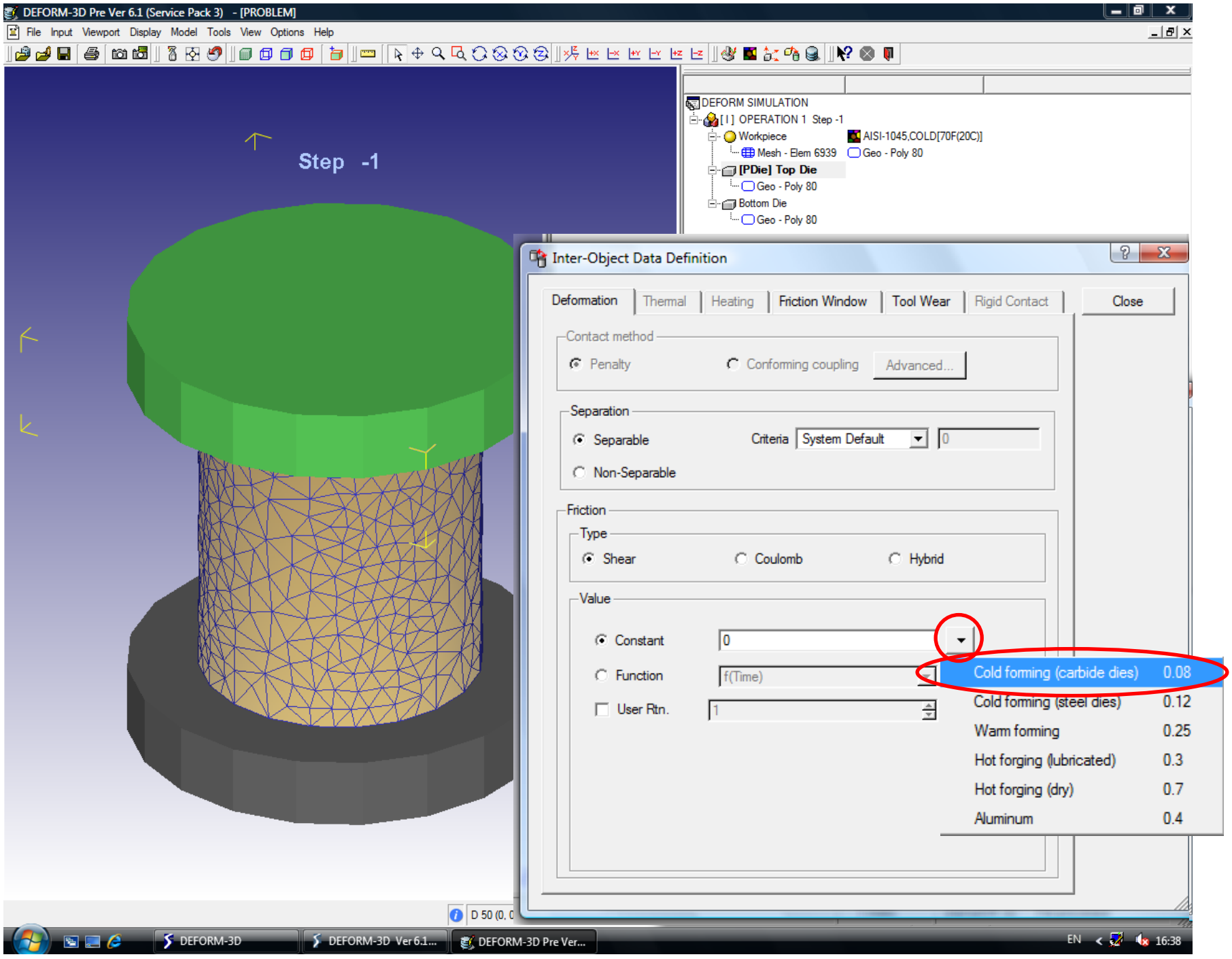

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
- X
+ X
Z
Y
X
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Translation
Rotation
Type
Speed
Hammer
Mechanical press
Sliding die
Force
Screw press
Hydraulic press
Direction
X Y Z Other 0 0 -1
-X -Y -Z Current stroke 0 0 0 mm
Specifications
Defined
User Routine
Defined
Constant
Function of time
Function of stroke
Proportional to speed of other object
Constant value 1 mm/sec
Name
D 50 (0, 0, -1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:33

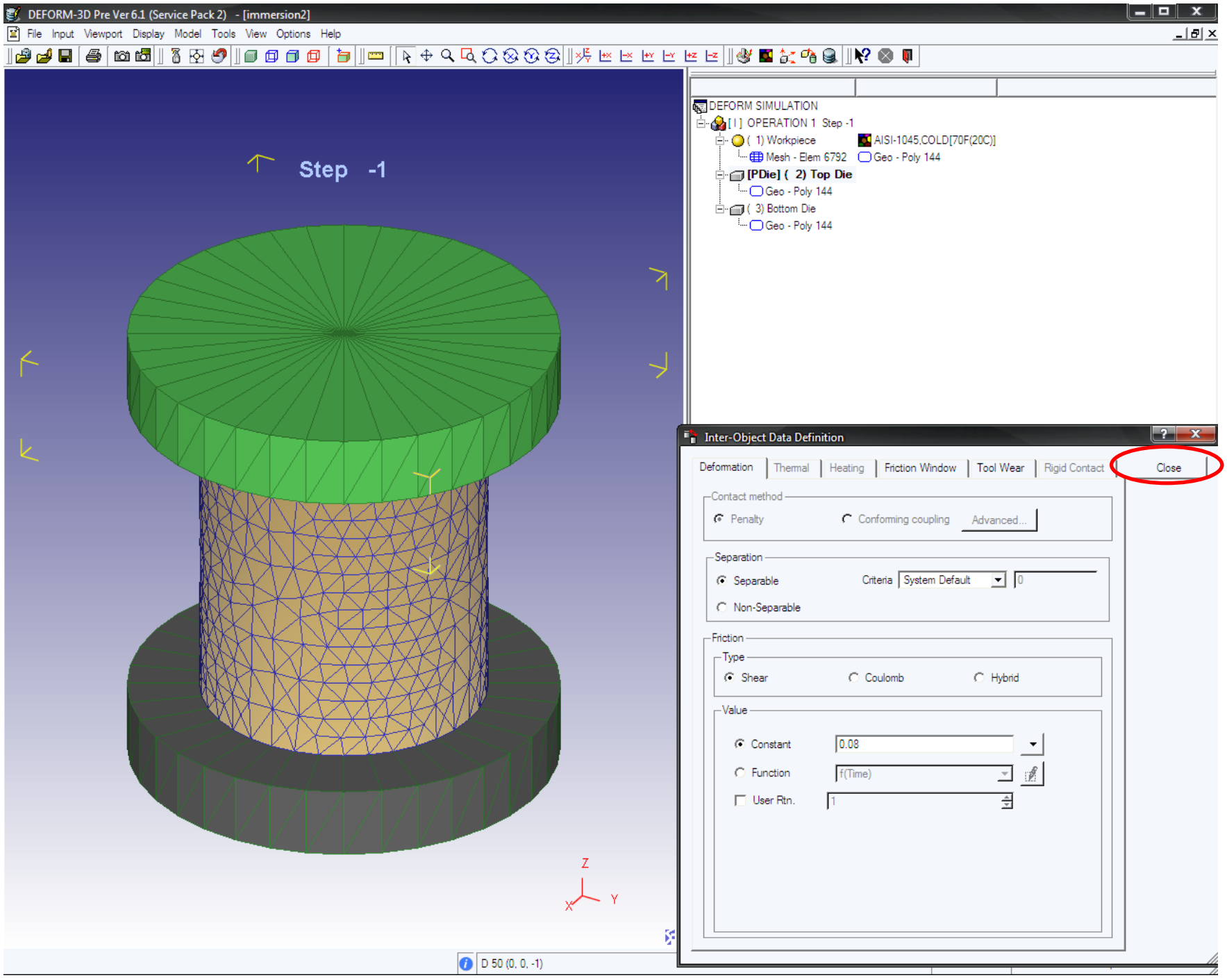
10. Задание контакта инструментов и заготовки

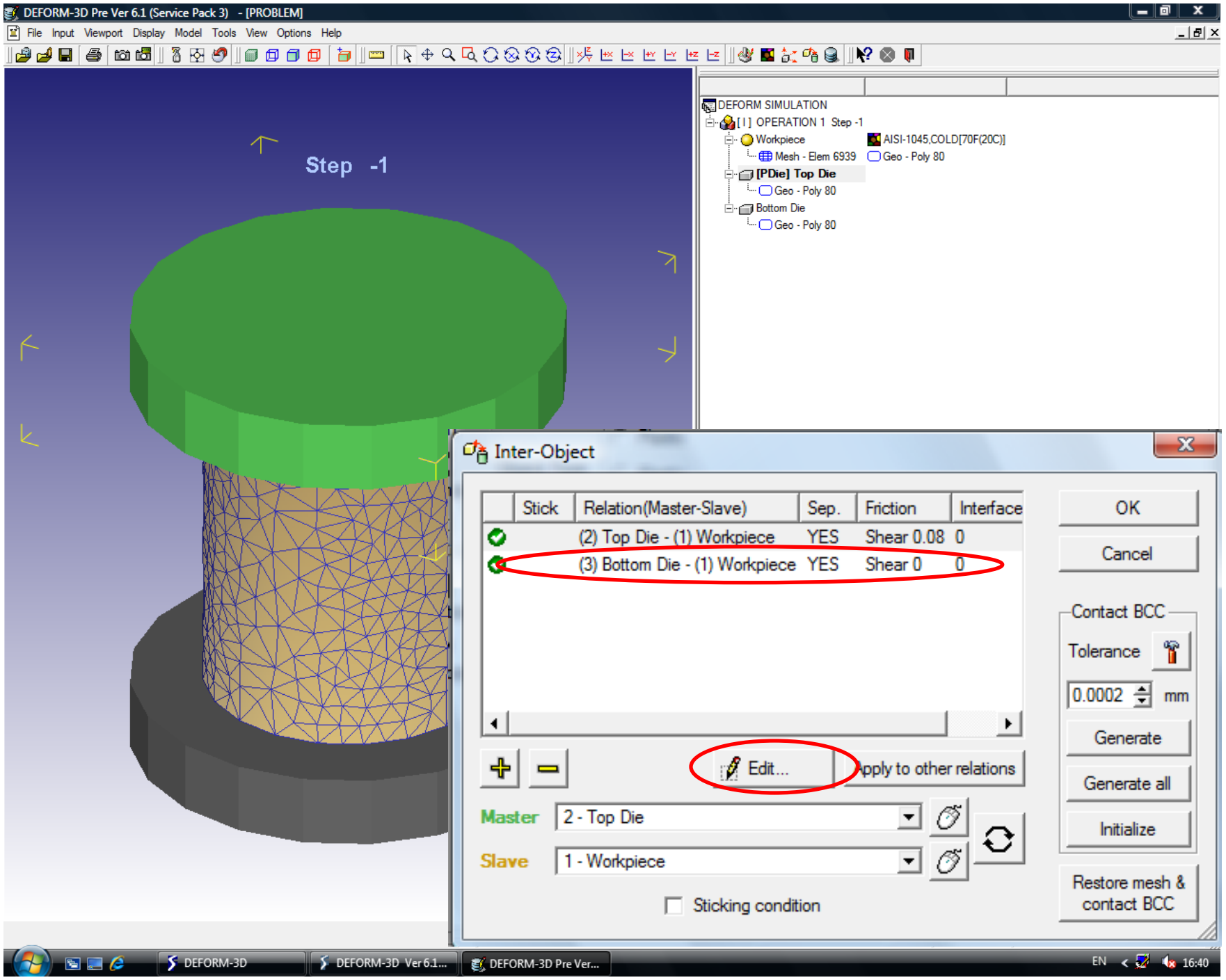

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
- X
+ X
Z
X
Y
DEFORM
[1]
AISI-1045,COLD[70F(20C)]
Geo - Poly 80
Bottom Die
Geo - Poly 80
Total object(s): 3
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Translation
Rotation
Type
Speed
Hammer
Mechanical press
Sliding die
Force
Screw press
Hydraulic press
Direction
X Y Z Other 0 0 -1
-X -Y -Z Current stroke 0 0 0 mm
Specifications
Defined
User Routine
Defined
Constant
Function of time
Function of stroke
Proportional to speed of other object
Constant value 1 mm/sec
Name
D 50 (0, 0, -1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:33

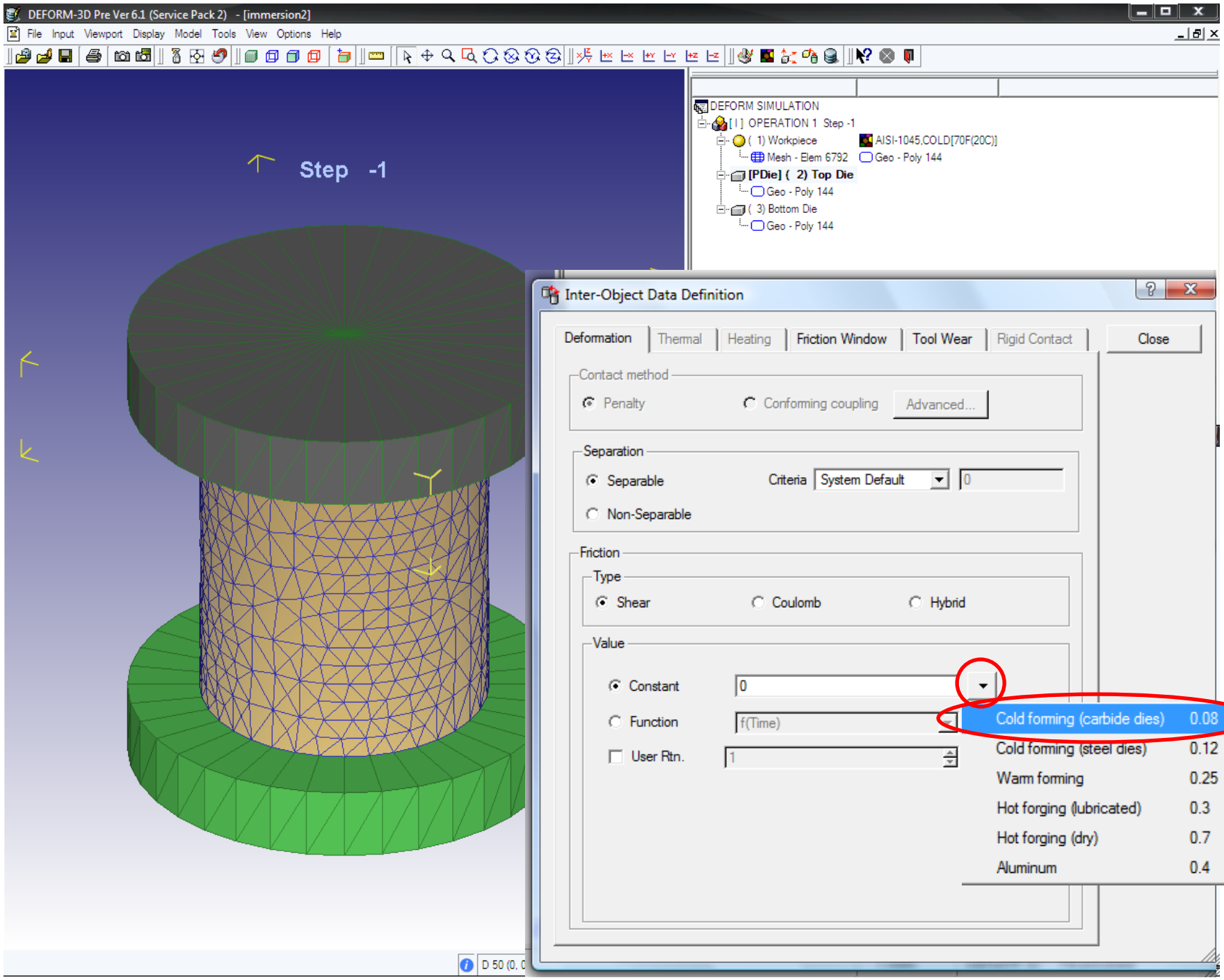

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
ADD DEFAULT INTER-OBJECT RELATIONSHIPS
Currently, no inter-object relationships exist.
Do you want the system to add the default relationships for you?
Yes
No
Import Object...
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Object Name
Top Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
X
Y
D 50 (0, 0, -1)
2 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:35

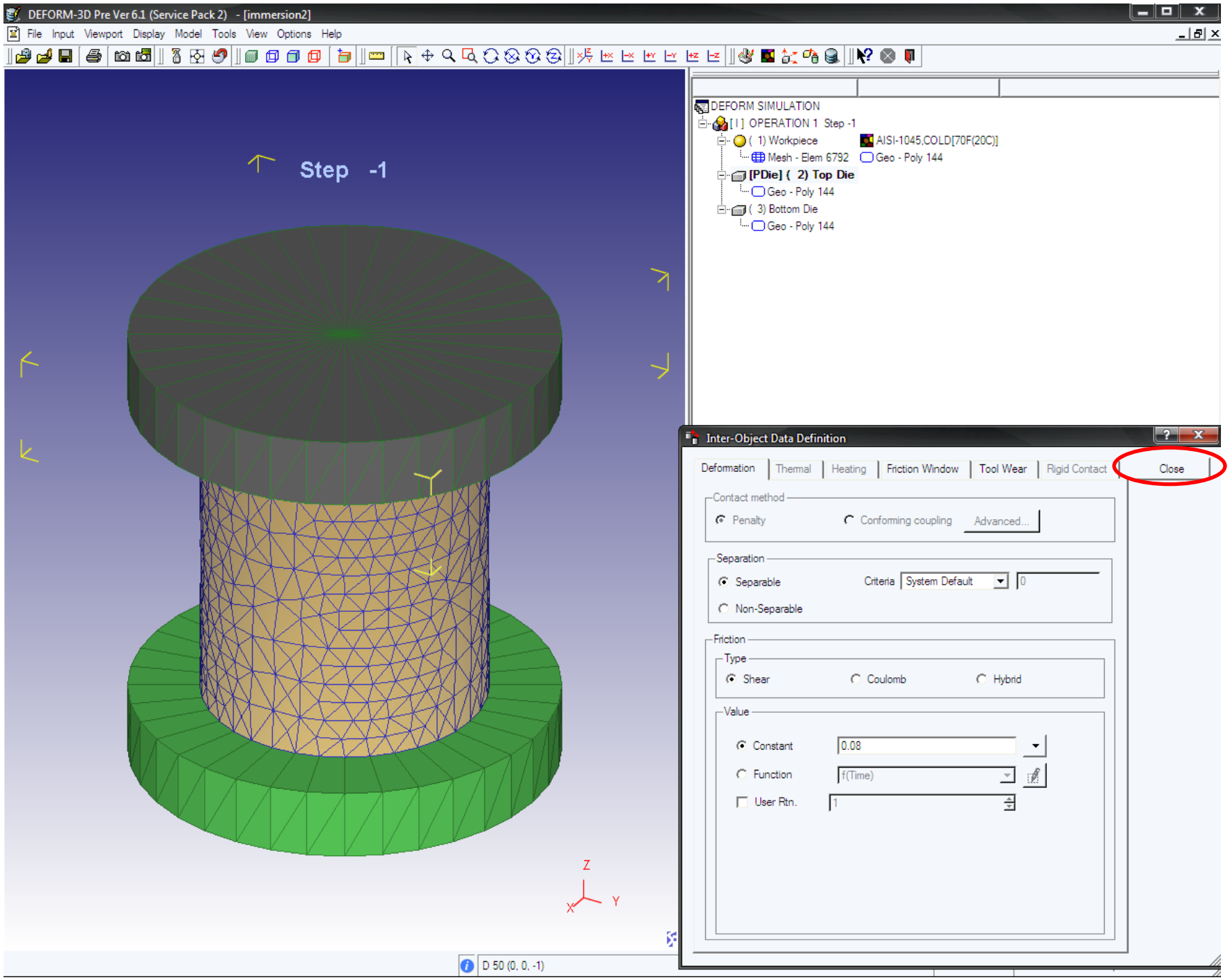

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Inter-Object
Stick
Relation(Master-Slave)
Sep.
Friction
Interface H
(2) Top Die - (1) Workpiece YES Shear 0 0
(3) Bottom Die - (1) Workpiece YES Shear 0 0
OK
Cancel
Contact BCC
Tolerance
0.0002 mm
Generate
Generate all
Initialize
Restore mesh & contact BCC
Edit...
Apply to other relations
Master
2 - Top Die
Slave
1 - Workpiece
Sticking condition
D 50 (0, 0, -1)
1 msec
DEFORM-3D - Pre-processor
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:37

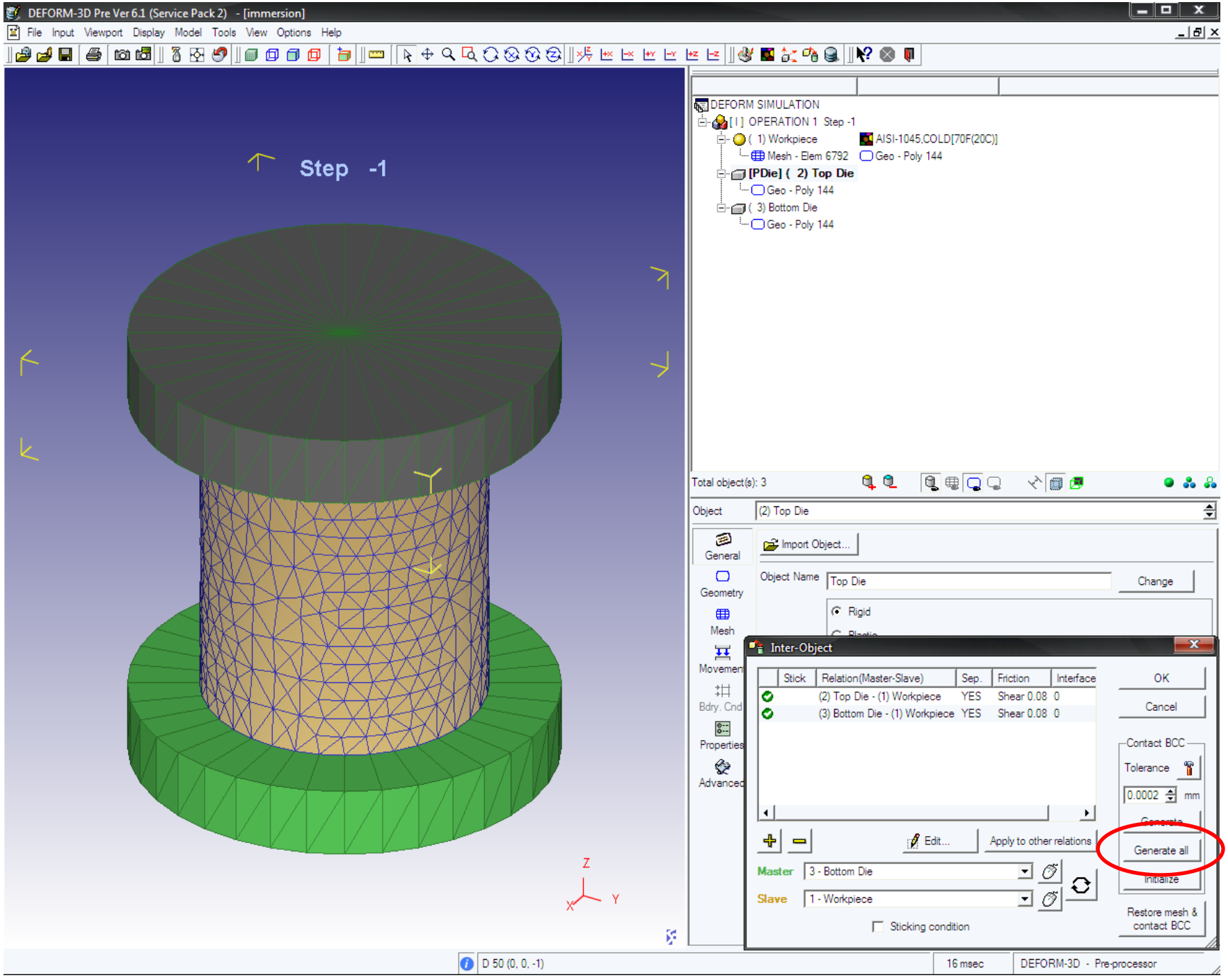

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Inter-Object Data Definition
Deformation
Thermal
Heating
Friction Window
Tool Wear
Rigid Contact
Close
Contact method
Penalty
Conforming coupling
Advanced...
Separation
Separable
Criteria
System Default
0
Non-Separable
Friction
Type
Shear
Coulomb
Hybrid
Value
Constant
0
Function
f(Time)
User Rtn.
1
Cold forming (carbide dies) 0.08
Cold forming (steel dies) 0.12
Warm forming 0.25
Hot forging (lubricated) 0.3
Hot forging (dry) 0.7
Aluminum 0.4
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:38

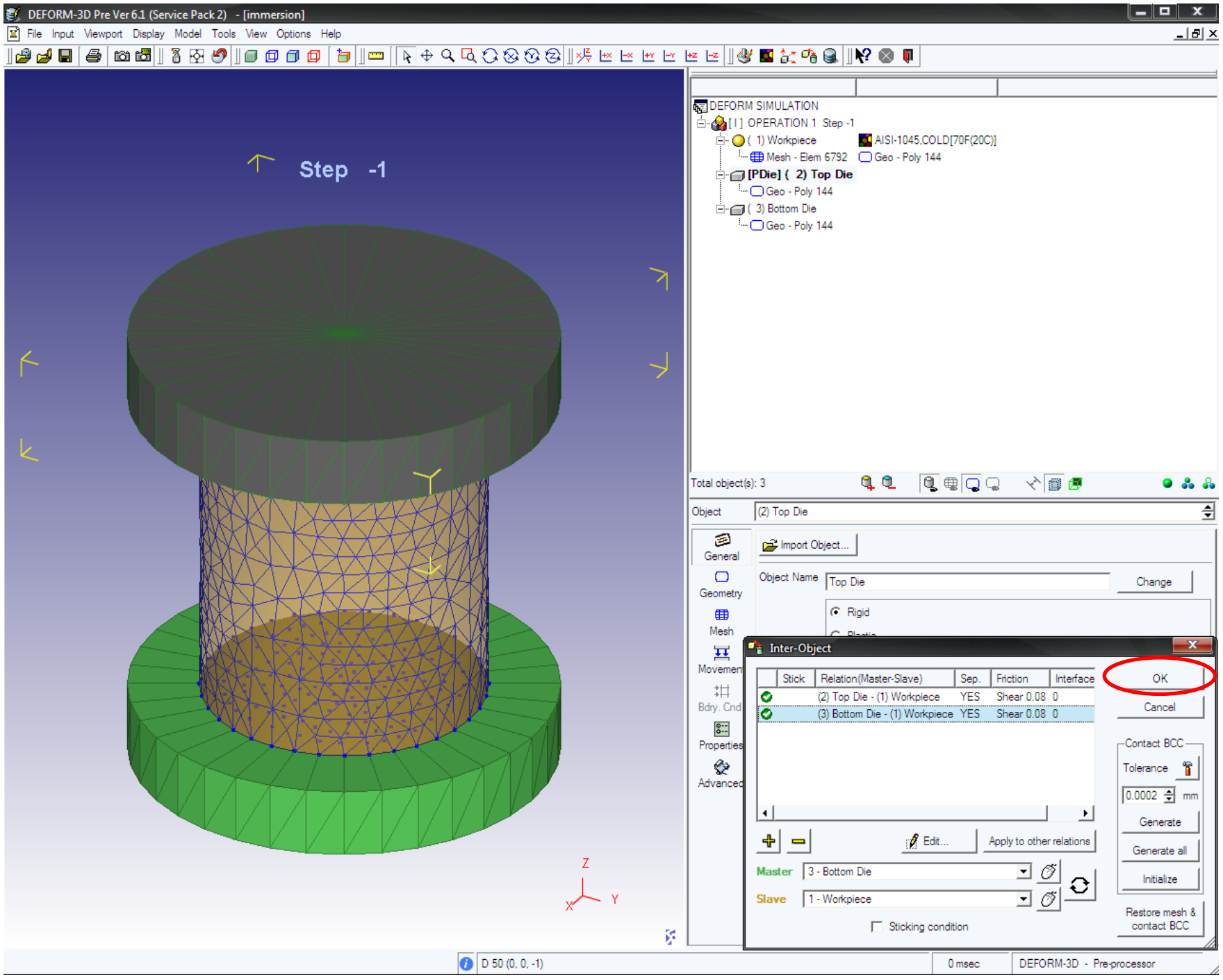

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion2]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Inter-Object Data Definition
Deformation
Thermal
Heating
Friction Window
Tool Wear
Rigid Contact
Close
Contact method
Penalty
Conforming coupling
Advanced...
Separation
Separable
Criteria
System Default
0
Non-Separable
Friction
Type
Shear
Coulomb
Hybrid
Value
Constant
0.08
Function
f(Time)
User Rtn.
1
Z
X
Y
D 50 (0, 0, -1)

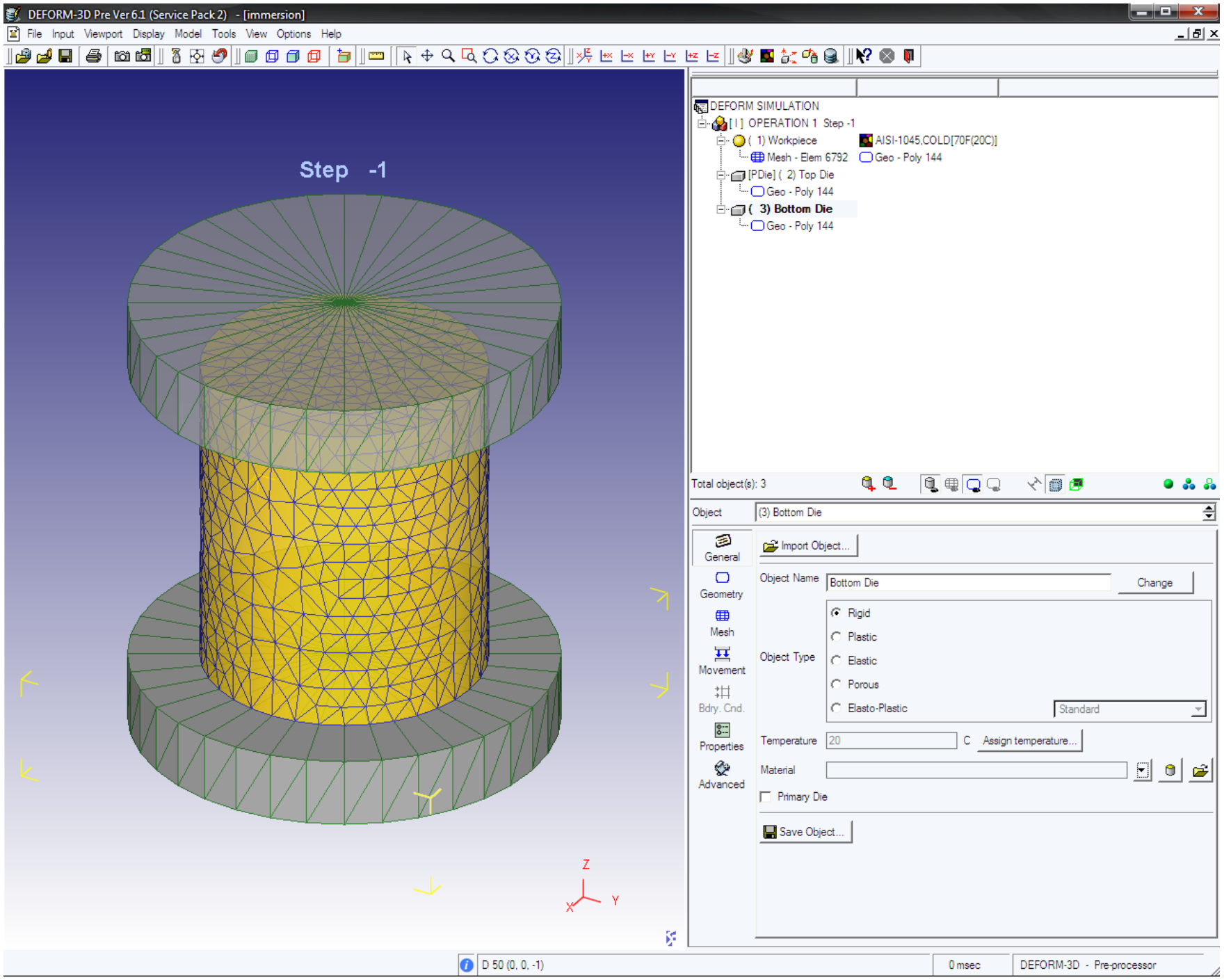

DEFORM-3D Pre Ver 6.1 (Service Pack 3) - [PROBLEM]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[1] OPERATION 1 Step -1
Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6939
Geo - Poly 80
[PDie] Top Die
Geo - Poly 80
Bottom Die
Geo - Poly 80
Inter-Object
Stick
Relation(Master-Slave)
Sep.
Friction
Interface
(2) Top Die - (1) Workpiece YES Shear 0.08 0
(3) Bottom Die - (1) Workpiece YES Shear 0 0
OK
Cancel
Contact BCC
Tolerance
0.0002 mm
Generate
Generate all
Initialize
Edit...
Apply to other relations
Master
2 - Top Die
Slave
1 - Workpiece
Sticking condition
Restore mesh & contact BCC
DEFORM-3D
DEFORM-3D Ver 6.1...
DEFORM-3D Pre Ver...
EN
16:40


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion2]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Inter-Object Data Definition
Deformation
Thermal
Heating
Friction Window
Tool Wear
Rigid Contact
Close
Contact method
Penalty
Conforming coupling
Advanced...
Separation
Separable
Criteria
System Default
0
Non-Separable
Friction
Type
Shear
Coulomb
Hybrid
Value
Constant
0
Function
f(Time)
User Rtn.
1
Cold forming (carbide dies) 0.08
Cold forming (steel dies) 0.12
Warm forming 0.25
Hot forging (lubricated) 0.3
Hot forging (dry) 0.7
Aluminum 0.4

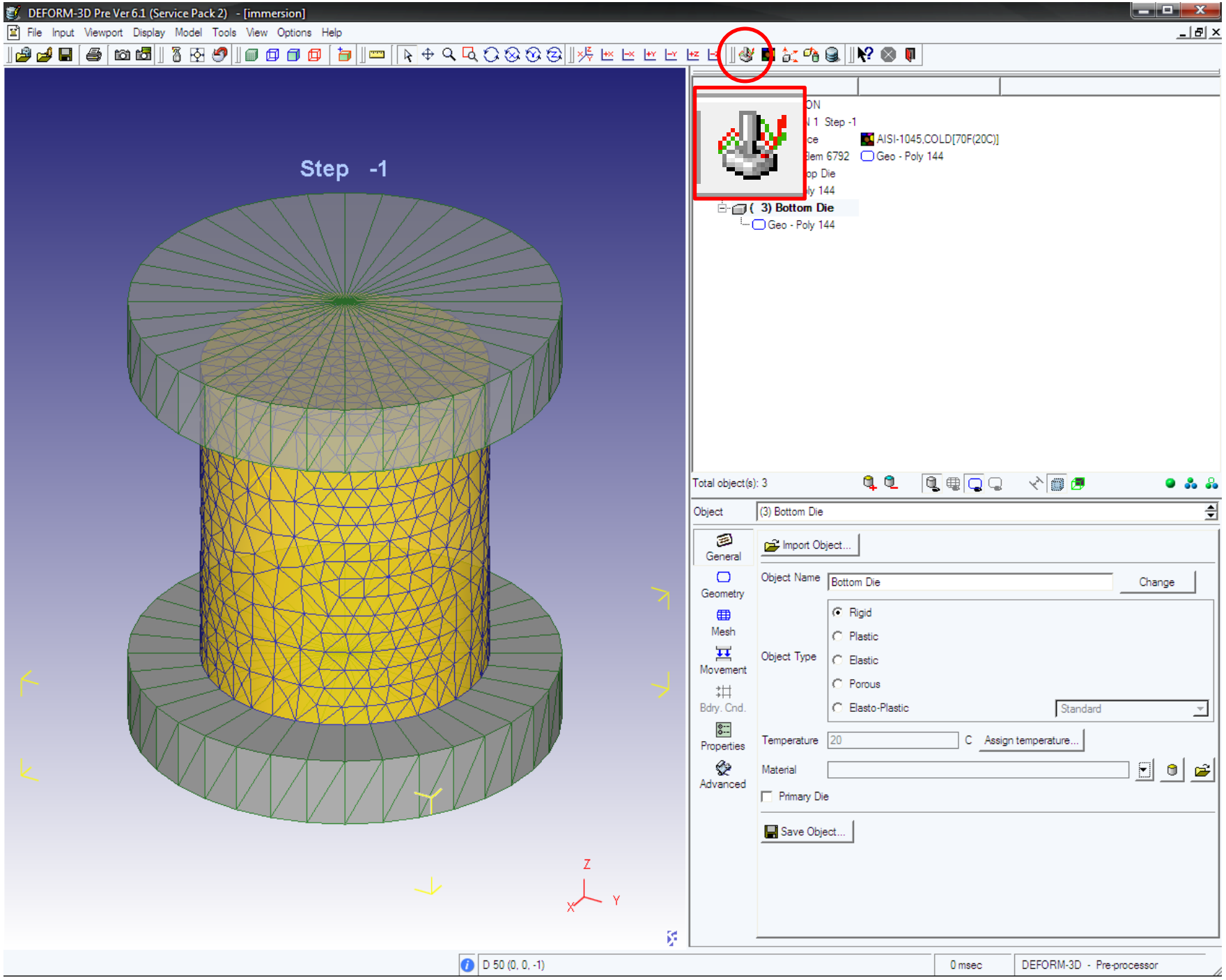

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion2]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Inter-Object Data Definition
Deformation
Thermal
Heating
Friction Window
Tool Wear
Rigid Contact
Close
Contact method
Penalty
Conforming coupling
Advanced...
Separation
Separable
Criteria
System Default
0
Non-Separable
Friction
Type
Shear
Coulomb
Hybrid
Value
Constant
0.08
Function
f(Time)
User Rtn.
1
Z
X
Y
D 50 (0, 0, -1)

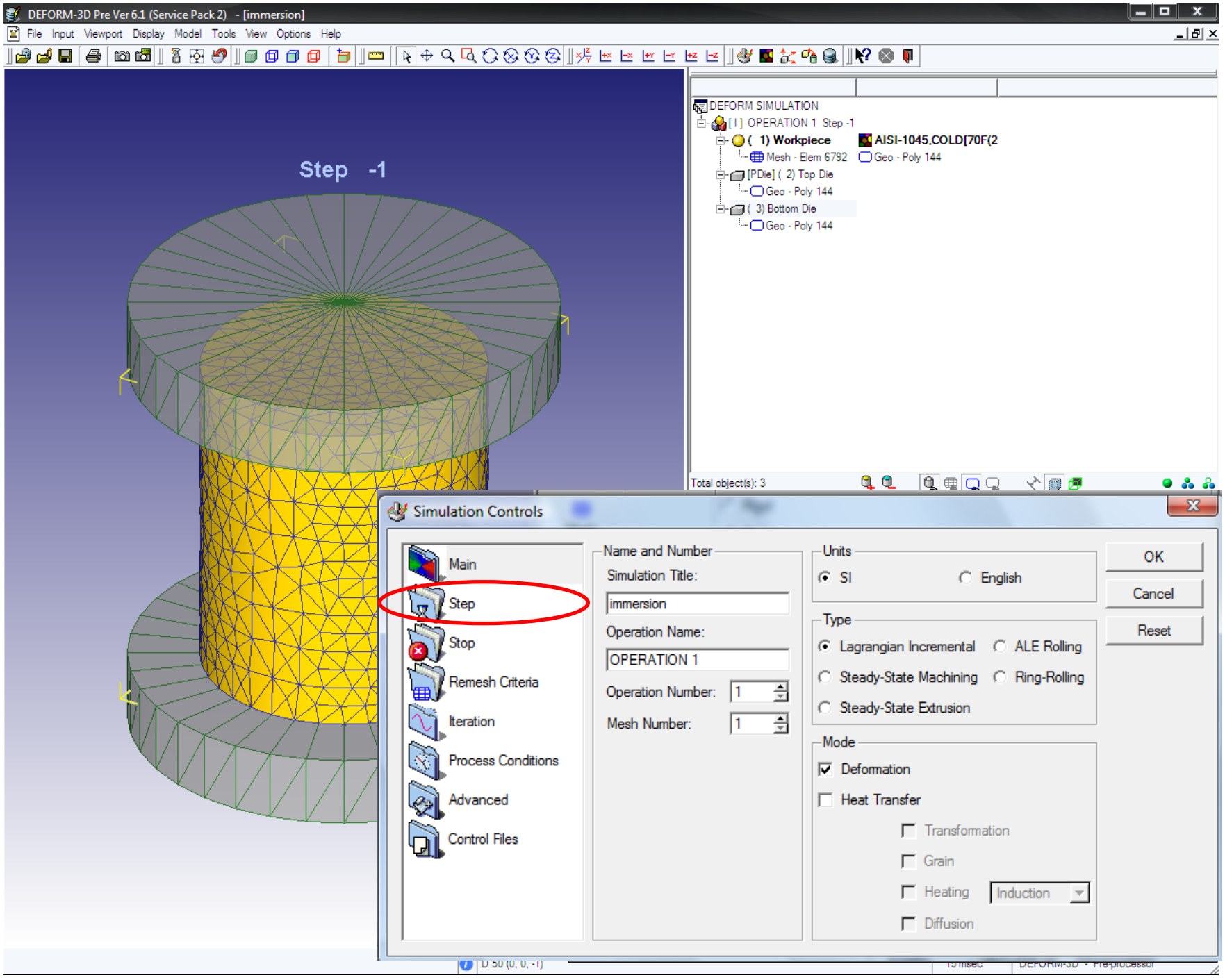

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd
Properties
Advanced
Import Object...
Object Name
Top Die
Change
Rigid
Inter-Object
Stick
Relation(Master-Slave)
Sep.
Friction
Interface
(2) Top Die - (1) Workpiece YES Shear 0.08 0
(3) Bottom Die - (1) Workpiece YES Shear 0.08 0
OK
Cancel
Contact BCC
Tolerance
0.0002
mm
Edit...
Apply to other relations
Generate all
Initialize
Master
3 - Bottom Die
Slave
1 - Workpiece
Restore mesh & contact BCC
Sticking condition
Z
X
Y
D 50 (0, 0, -1)
16 msec
DEFORM-3D - Pre-processor

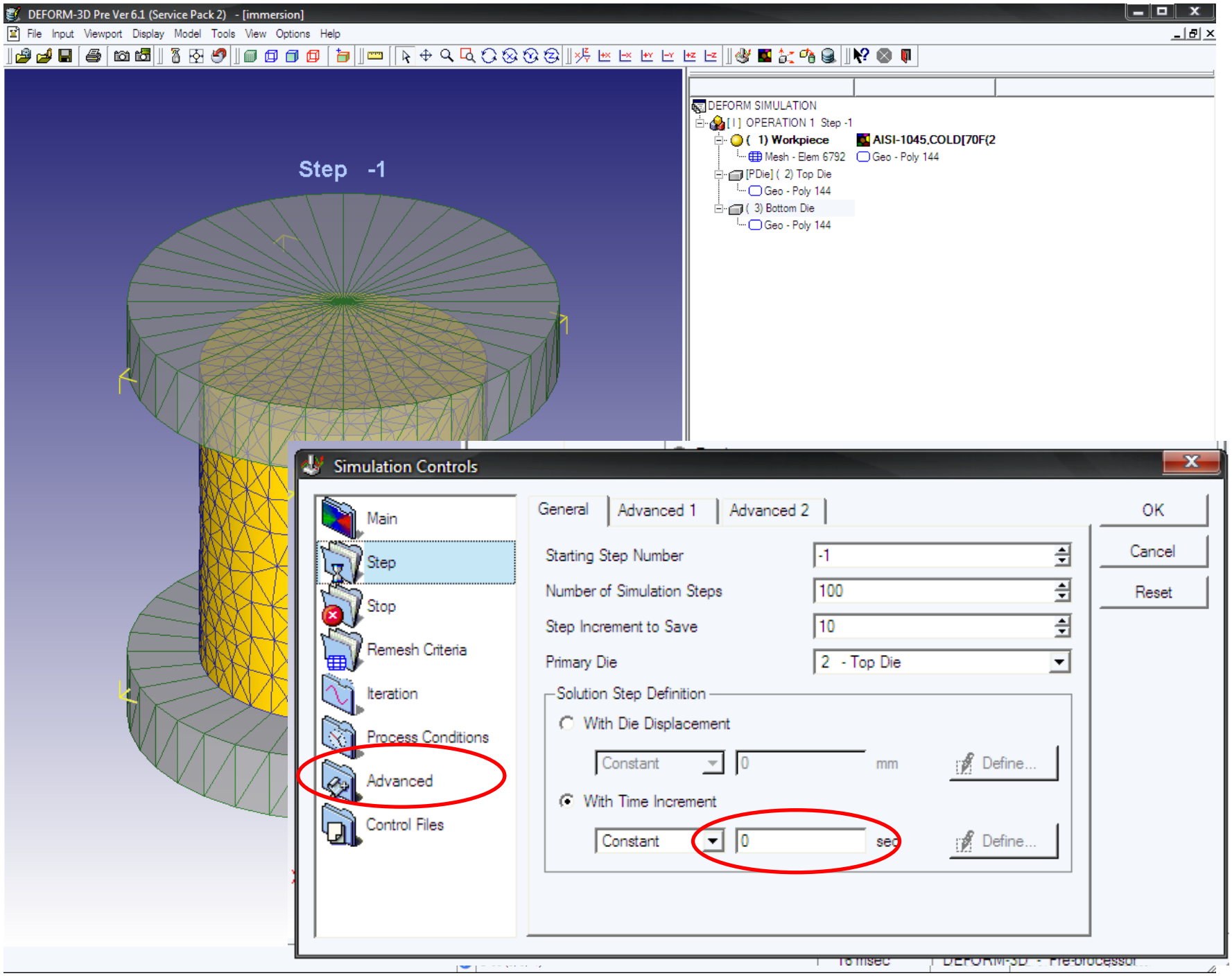

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(2) Top Die
General
Geometry
Mesh
Movement
Bdry. Cnd
Properties
Advanced
Import Object...
Object Name
Top Die
Change
Rigid
Inter-Object
Stick
Relation(Master-Slave)
Sep.
Friction
Interface
(2) Top Die - (1) Workpiece YES Shear 0.08 0
(3) Bottom Die - (1) Workpiece YES Shear 0.08 0
OK
Cancel
Contact BCC
Tolerance
0.0002
mm
Generate
Generate all
Initialize
Restore mesh & contact BCC
Edit...
Apply to other relations
Master
3 - Bottom Die
Slave
1 - Workpiece
Sticking condition
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

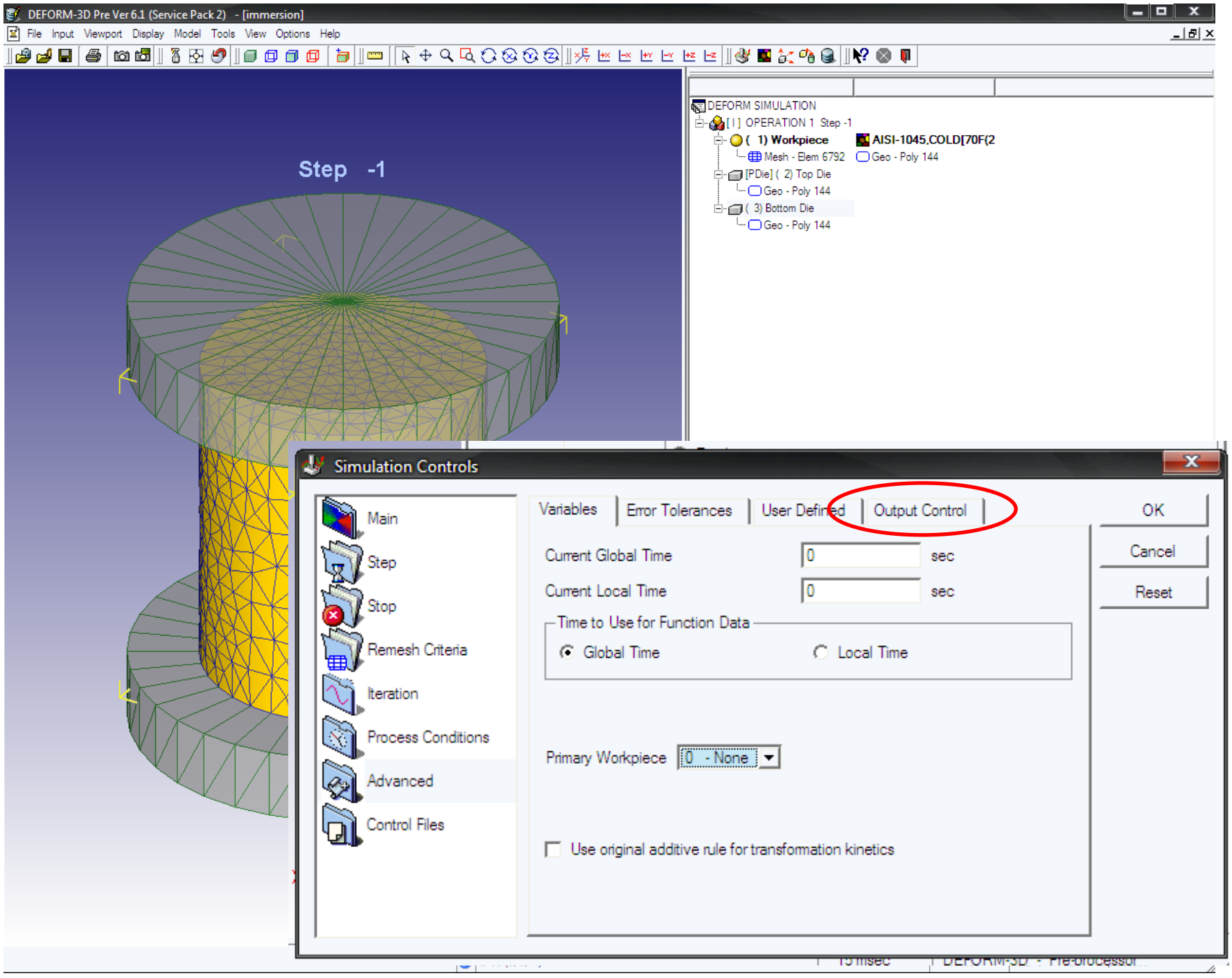

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(20C)]
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Bottom Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

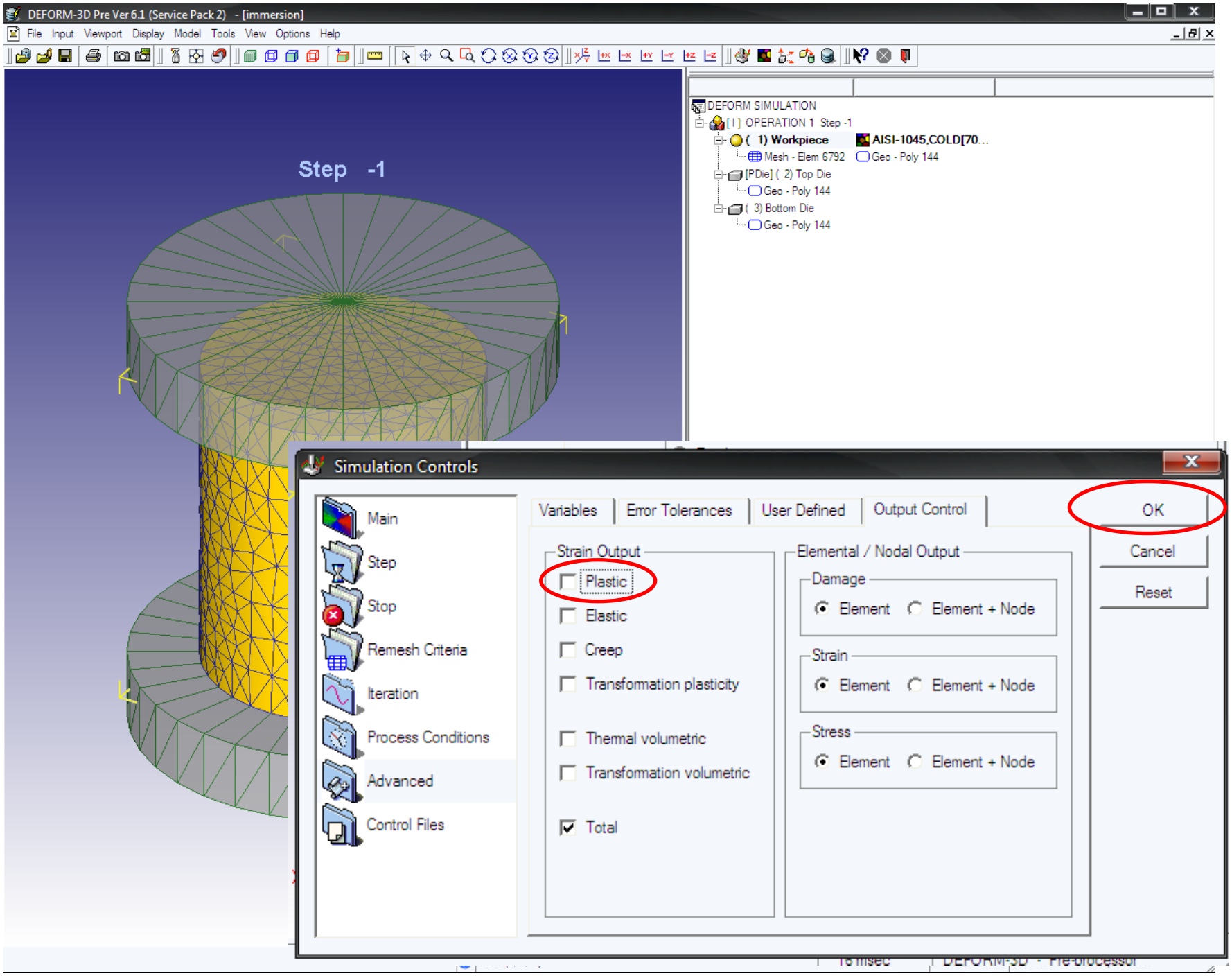
11. Задание параметров расчёта

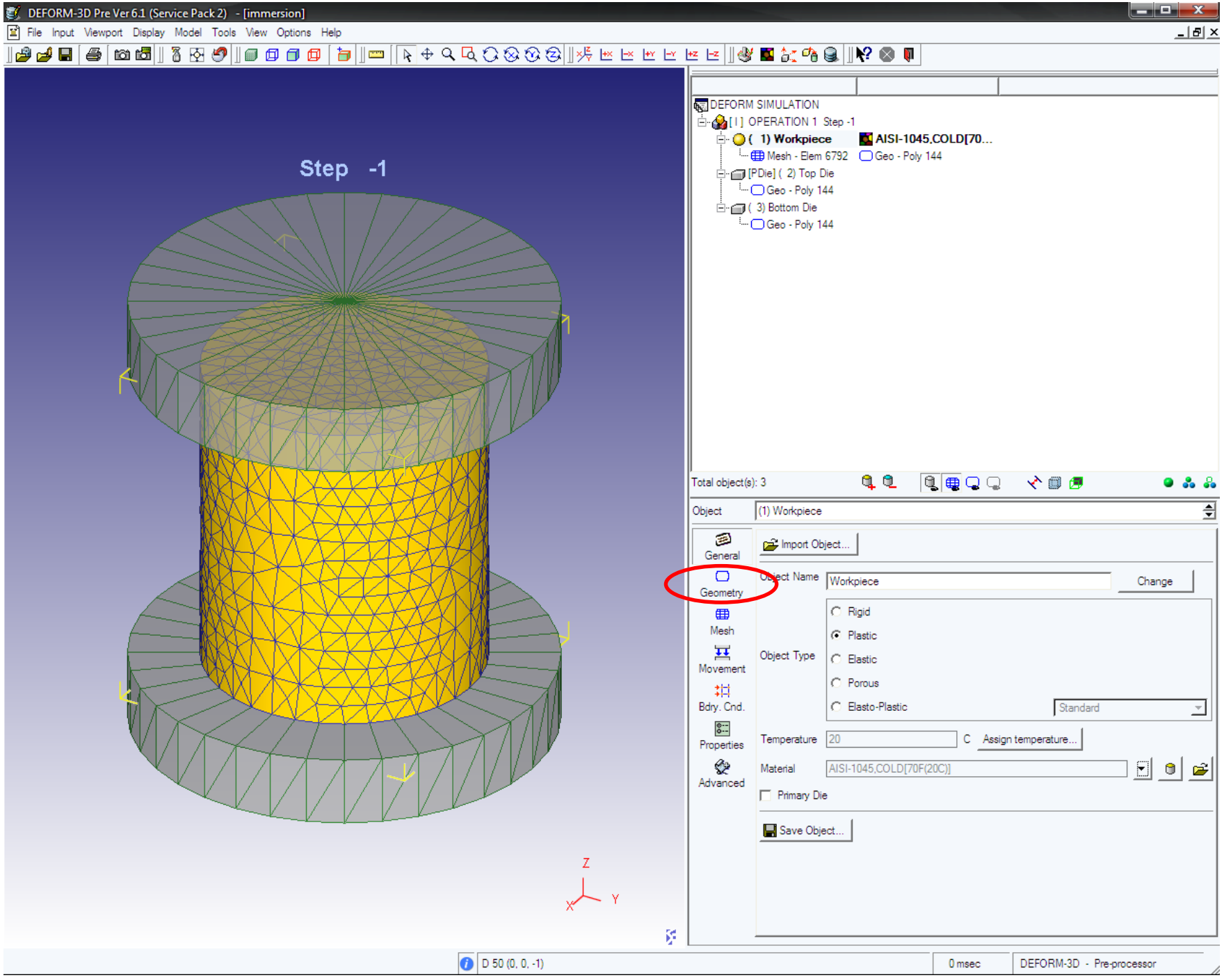

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
AISI-1045,COLD[70F(20C)]
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(3) Bottom Die
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Bottom Die
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
Primary Die
Save Object...
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

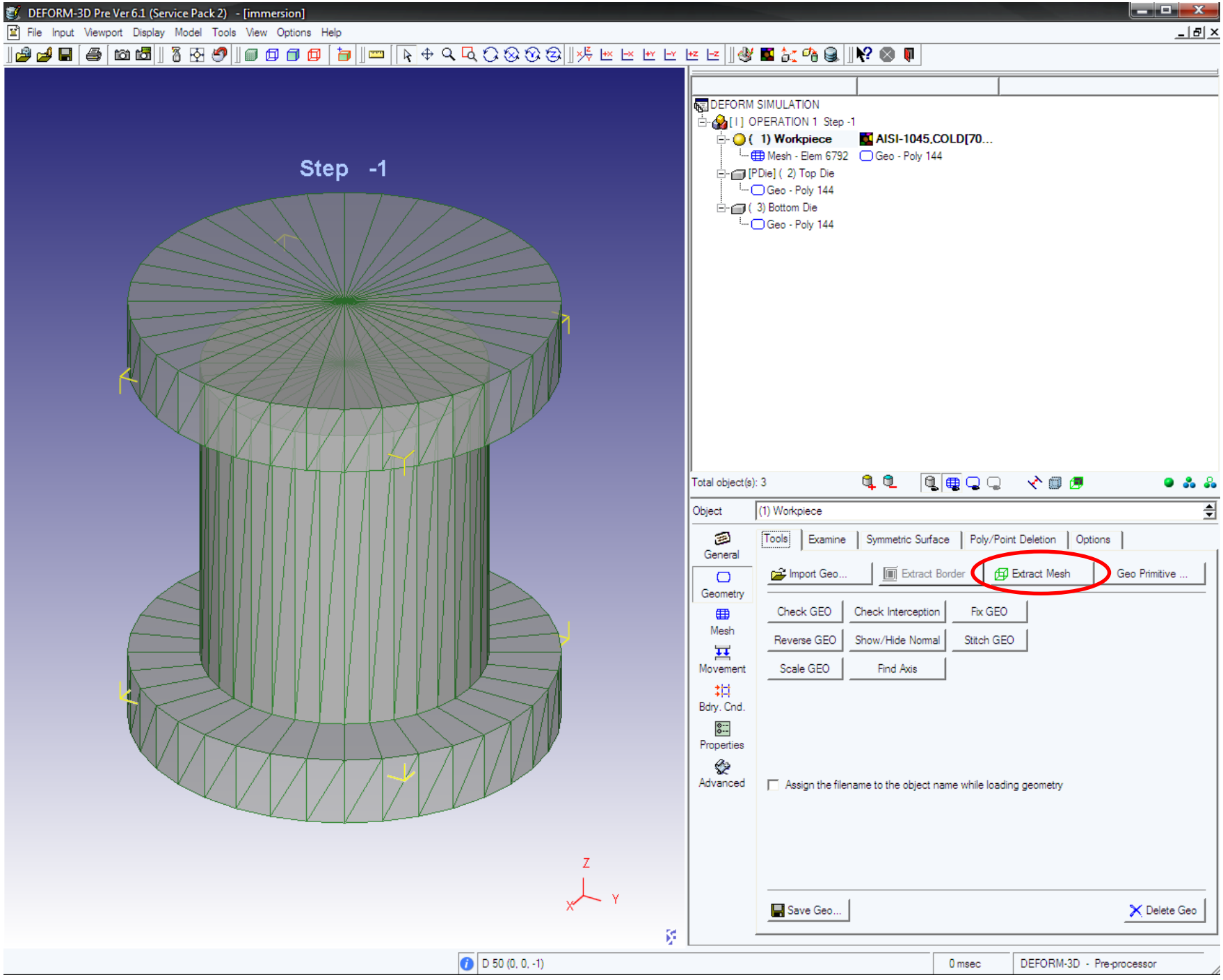

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(2
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
Name and Number
Simulation Title:
immersion
Operation Name:
OPERATION 1
Operation Number:
1
Mesh Number:
1
Units
SI
English
Type
Lagrangian Incremental
ALE Rolling
Steady-State Machining
Ring-Rolling
Steady-State Extrusion
Mode
Deformation
Heat Transfer
Transformation
Grain
Heating
Induction
Diffusion
OK
Cancel
Reset

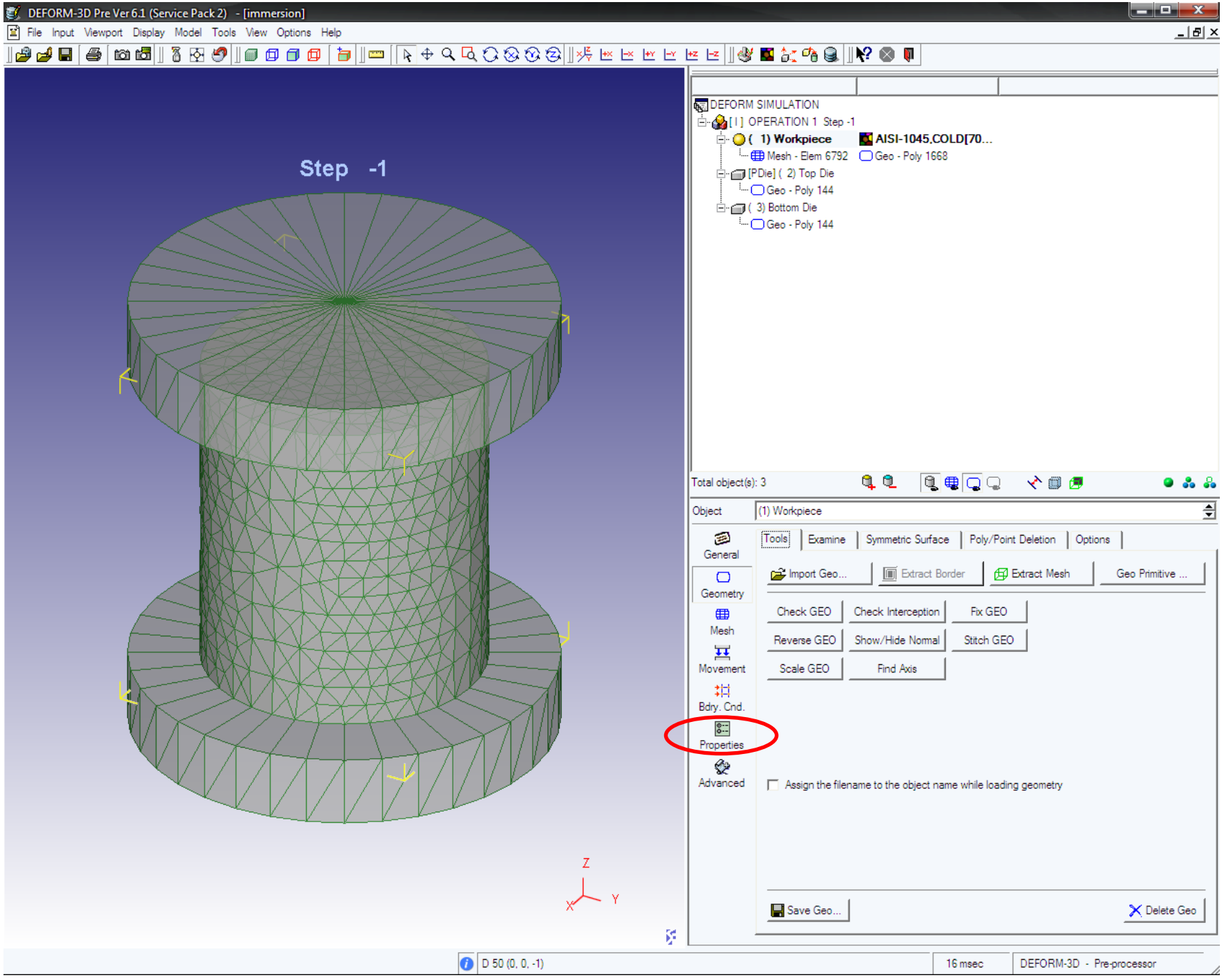

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(2
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
General
Advanced 1
Advanced 2
OK
Cancel
Reset
Starting Step Number
-1
Number of Simulation Steps
100
Step Increment to Save
10
Primary Die
2 - Top Die
Solution Step Definition
With Die Displacement
Constant
0
mm
Define...
With Time Increment
Constant
0
sec
Define...

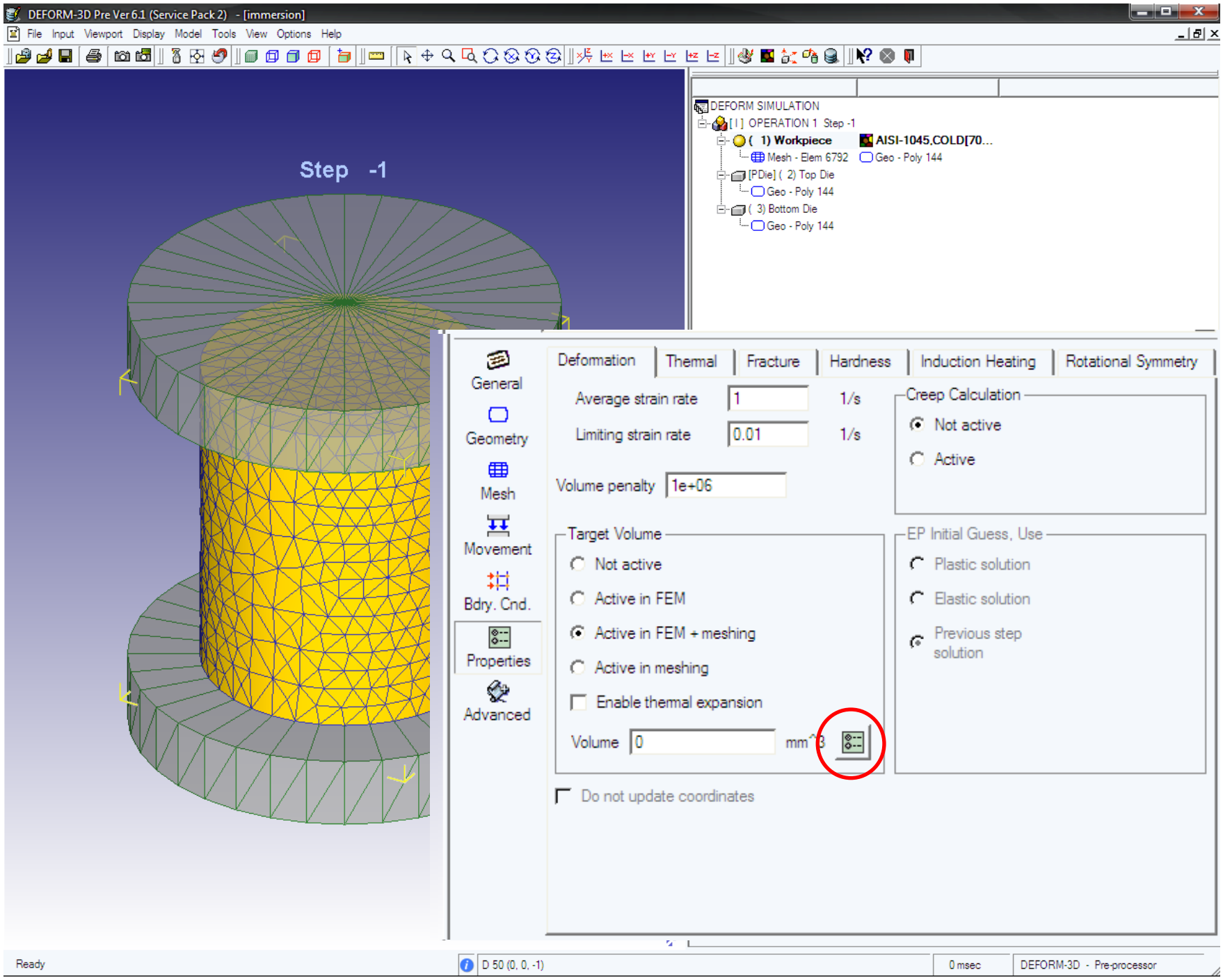

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70F(2
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
Variables
Error Tolerances
User Defined
Output Control
OK
Cancel
Reset
Current Global Time
0
sec
Current Local Time
0
sec
Time to Use for Function Data
Global Time
Local Time
Primary Workpiece
0 - None
Use original additive rule for transformation kinetics

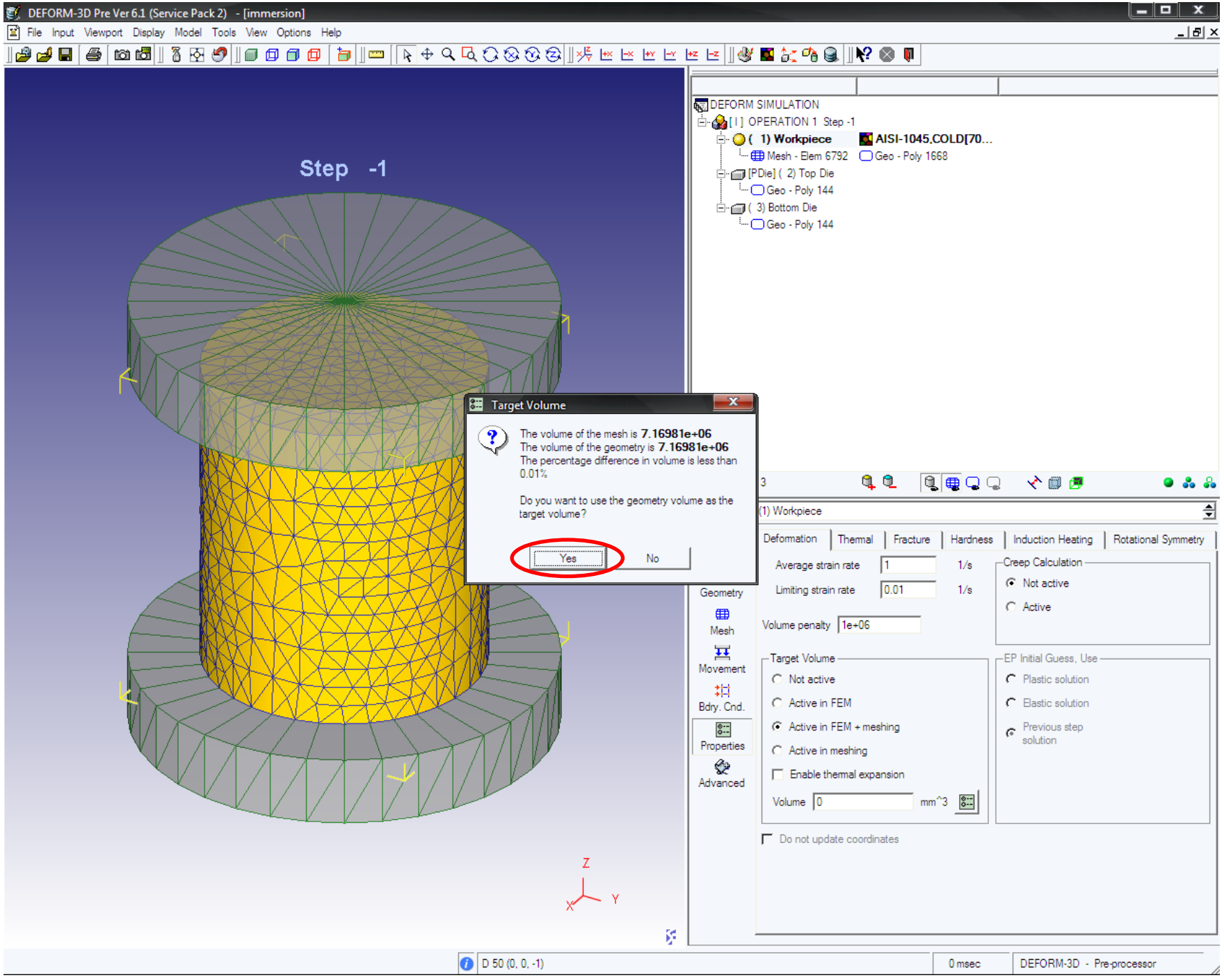

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Simulation Controls
Main
Step
Stop
Remesh Criteria
Iteration
Process Conditions
Advanced
Control Files
Variables
Error Tolerances
User Defined
Output Control
OK
Cancel
Reset
Strain Output
Plastic
Elastic
Creep
Transformation plasticity
Thermal volumetric
Transformation volumetric
Total
Elemental / Nodal Output
Damage
Element
Element + Node
Strain
Element
Element + Node
Stress
Element
Element + Node

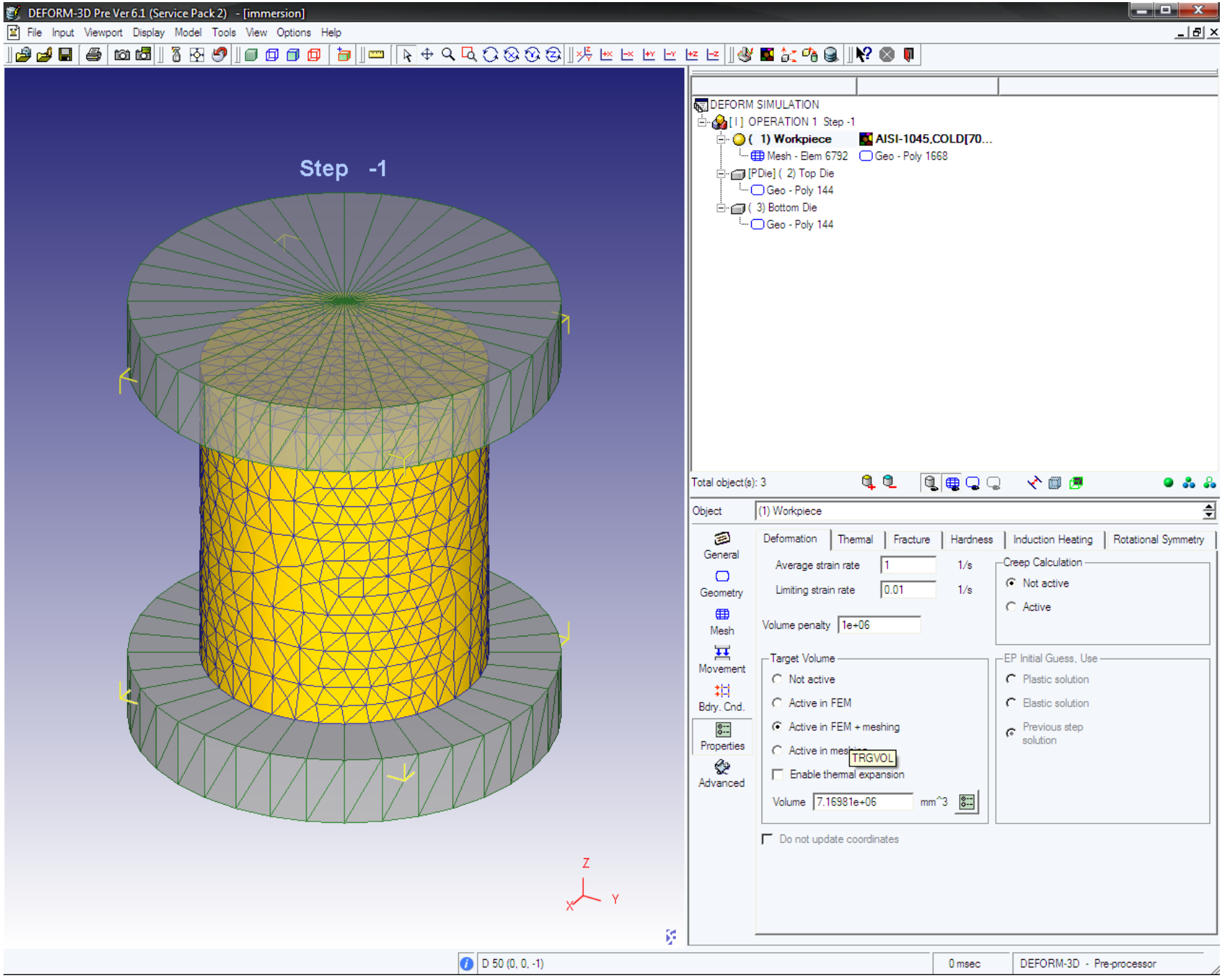

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

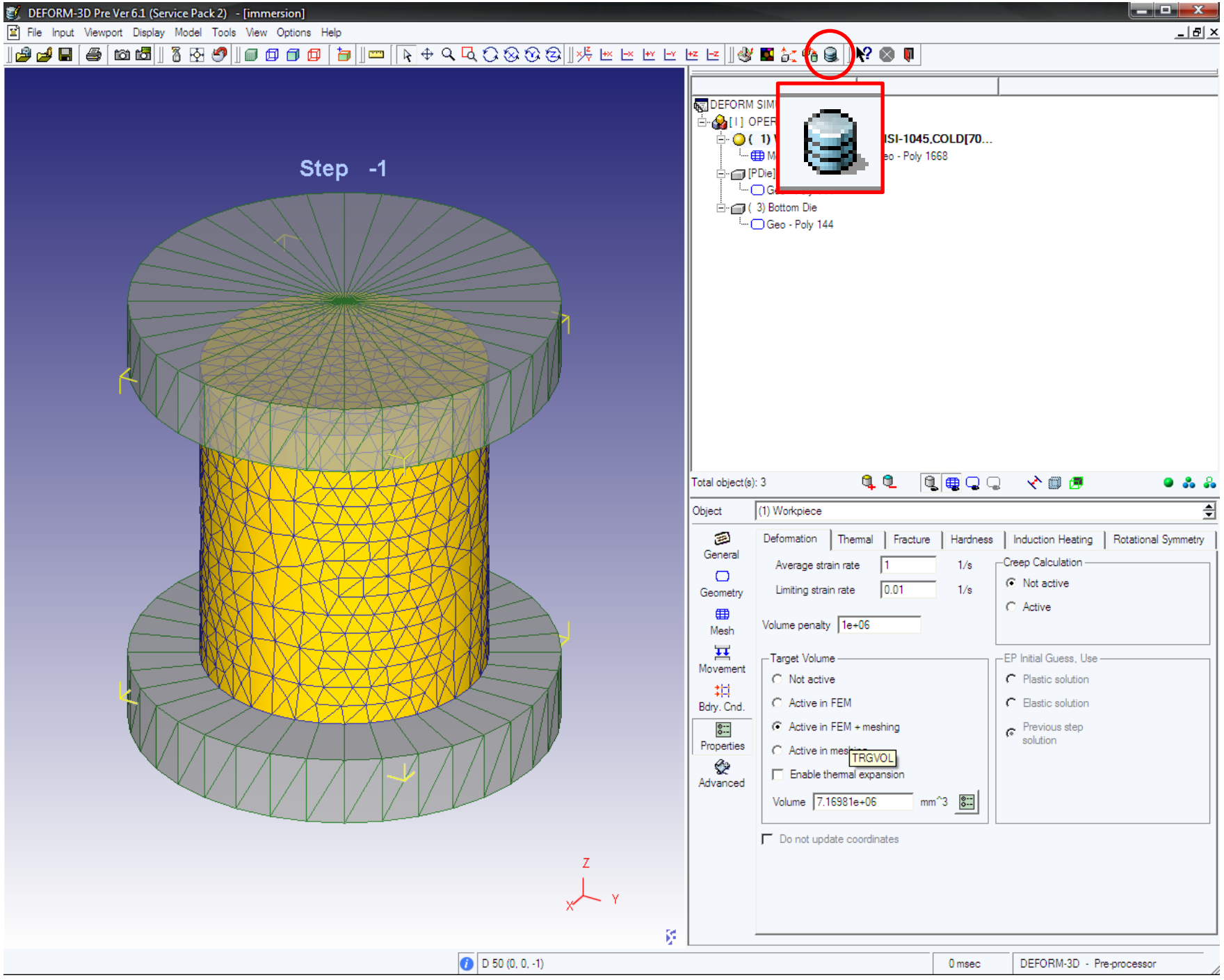

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 1668
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Tools
Examine
Symmetric Surface
Poly/Point Deletion
Options
Import Geo...
Extract Border
Extract Mesh
Geo Primitive ...
Check GEO
Check Interception
Fix GEO
Reverse GEO
Show/Hide Normal
Stitch GEO
Scale GEO
Find Axis
Assign the filename to the object name while loading geometry
Save Geo...
Delete Geo
Z
X
Y
D 50 (0, 0, -1)
16 msec
DEFORM-3D - Pre-processor

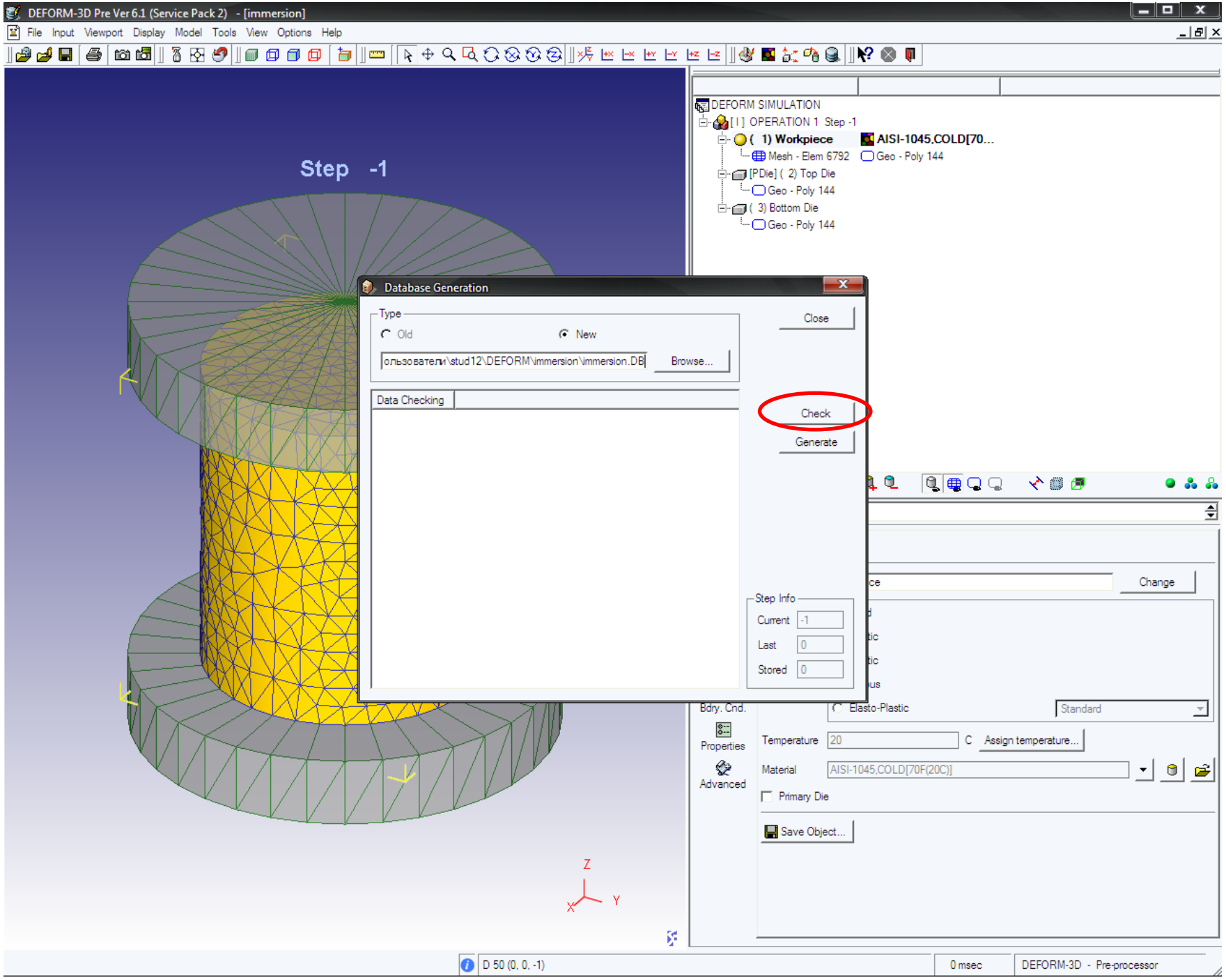

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Deformation
Thermal
Fracture
Hardness
Induction Heating
Rotational Symmetry
Average strain rate
1
1/s
Limiting strain rate
0.01
1/s
Volume penalty
1e+06
Creep Calculation
Not active
Active
Target Volume
Not active
Active in FEM
Active in FEM + meshing
Active in meshing
Enable thermal expansion
Volume
0
mm^3
EP Initial Guess, Use
Plastic solution
Elastic solution
Previous step solution
Do not update coordinates
Ready
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

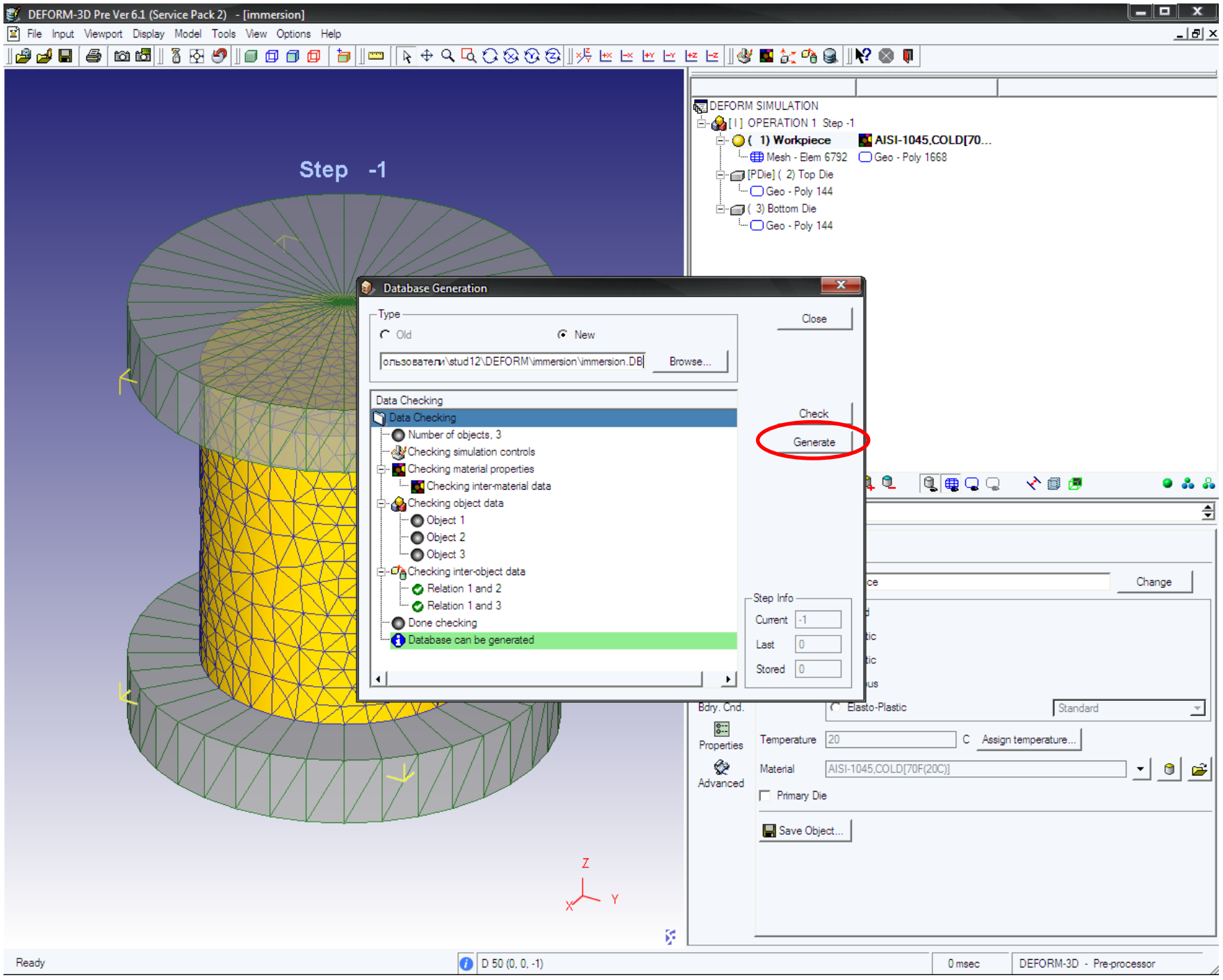

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 1668
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Target Volume
The volume of the mesh is 7.16981e+06
The volume of the geometry is 7.16981e+06
The percentage difference in volume is less than 0.01%
Do you want to use the geometry volume as the target volume?
Yes
No
(1) Workpiece
Deformation
Thermal
Fracture
Hardness
Induction Heating
Rotational Symmetry
Average strain rate
1
1/s
Limiting strain rate
0.01
1/s
Creep Calculation
Not active
Active
Volume penalty
1e+06
Target Volume
Not active
Active in FEM
Active in FEM + meshing
Active in meshing
Enable thermal expansion
Volume
0
mm^3
EP Initial Guess, Use
Plastic solution
Elastic solution
Previous step solution
Do not update coordinates
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

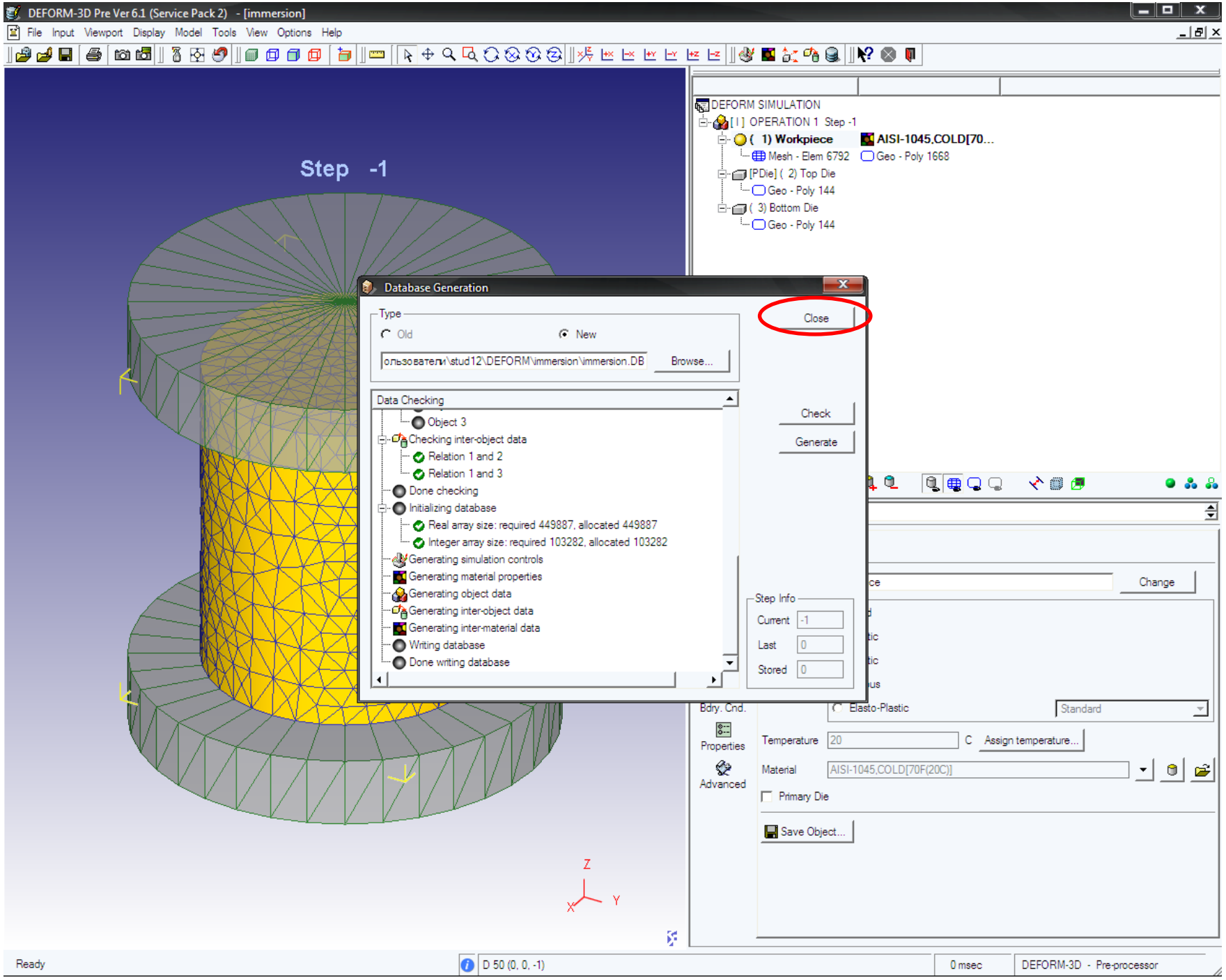

DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 1668
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Deformation
Thermal
Fracture
Hardness
Induction Heating
Rotational Symmetry
Average strain rate
1
1/s
Limiting strain rate
0.01
1/s
Volume penalty
1e+06
Creep Calculation
Not active
Active
Target Volume
Not active
Active in FEM
Active in FEM + meshing
Active in mesh
TRGVOL
Enable thermal expansion
Volume
7.16981e+06
mm^3
EP Initial Guess, Use
Plastic solution
Elastic solution
Previous step solution
Do not update coordinates
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor

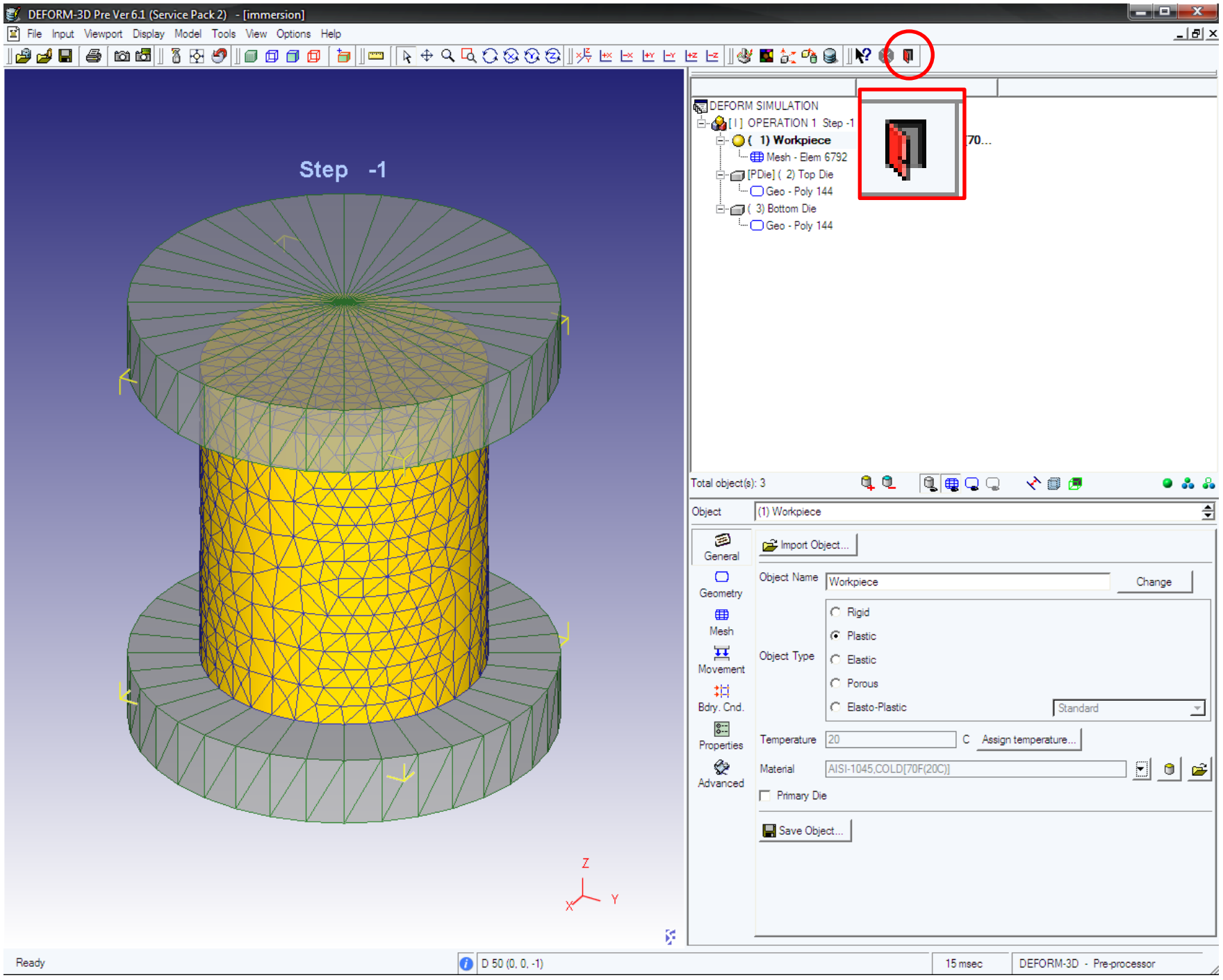
12. Формирование файла базы данных задачи


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIM
[I] OPER
(1) W
SI-1045,COLD[70...
M
eo - Poly 1668
[PDie]
Ge
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Deformation
Thermal
Fracture
Hardness
Induction Heating
Rotational Symmetry
Average strain rate
1
1/s
Limiting strain rate
0.01
1/s
Volume penalty
1e+06
Creep Calculation
Not active
Active
Target Volume
Not active
Active in FEM
Active in FEM + meshing
Active in mesh
TRGVOL
Enable thermal expansion
Volume
7.16981e+06
mm^3
EP Initial Guess, Use
Plastic solution
Elastic solution
Previous step solution
Do not update coordinates
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 144
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Database Generation
Type
Old
New
ользователи\stud12\DEFORM\immersion\immersion.DB
Browse...
Close
Data Checking
Check
Generate
Step Info
Current -1
Last 0
Stored 0
Change
Bdry. Cnd.
Properties
Advanced
Elasto-Plastic
Standard
Temperature 20 C
Assign temperature...
Material AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
X
Y
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 1668
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Database Generation
Type
Old
New
ользователи\stud12\DEFORM\immersion\immersion.DB
Browse...
Close
Data Checking
Data Checking
Number of objects, 3
Checking simulation controls
Checking material properties
Checking inter-material data
Checking object data
Object 1
Object 2
Object 3
Checking inter-object data
Relation 1 and 2
Relation 1 and 3
Done checking
Database can be generated
Check
Generate
Step Info
Current -1
Last 0
Stored 0
Change
Bdry. Cnd.
Properties
Advanced
Elasto-Plastic
Standard
Temperature 20 C
Assign temperature...
Material AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
X
Y
Ready
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
AISI-1045,COLD[70...
Mesh - Elem 6792
Geo - Poly 1668
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Database Generation
Type
Old
New
ользователи\stud12\DEFORM\immersion\immersion.DB
Browse...
Close
Data Checking
Object 3
Checking inter-object data
Relation 1 and 2
Relation 1 and 3
Done checking
Initializing database
Real array size: required 449887, allocated 449887
Integer array size: required 103282, allocated 103282
Generating simulation controls
Generating material properties
Generating object data
Generating inter-object data
Generating inter-material data
Writing database
Done writing database
Check
Generate
Step Info
Current -1
Last 0
Stored 0
Change
Bdry. Cnd.
Properties
Advanced
Elasto-Plastic
Standard
Temperature 20 C
Assign temperature...
Material AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
X
Y
Ready
D 50 (0, 0, -1)
0 msec
DEFORM-3D - Pre-processor


DEFORM-3D Pre Ver 6.1 (Service Pack 2) - [immersion]
File Input Viewport Display Model Tools View Options Help
Step -1
DEFORM SIMULATION
[I] OPERATION 1 Step -1
(1) Workpiece
Mesh - Elem 6792
[PDie] (2) Top Die
Geo - Poly 144
(3) Bottom Die
Geo - Poly 144
Total object(s): 3
Object
(1) Workpiece
General
Geometry
Mesh
Movement
Bdry. Cnd.
Properties
Advanced
Import Object...
Object Name
Workpiece
Change
Object Type
Rigid
Plastic
Elastic
Porous
Elasto-Plastic
Standard
Temperature
20
C
Assign temperature...
Material
AISI-1045,COLD[70F(20C)]
Primary Die
Save Object...
Z
X
Y
Ready
D 50 (0, 0, -1)
15 msec
DEFORM-3D - Pre-processor

DEFORM-3D Ver 6.1 (Service Pack 3)

File Simulation Tool View Option Help

C:\DEFORM3D\PROBLEM

Explore | Database | Recent

Directory

PROBLEM

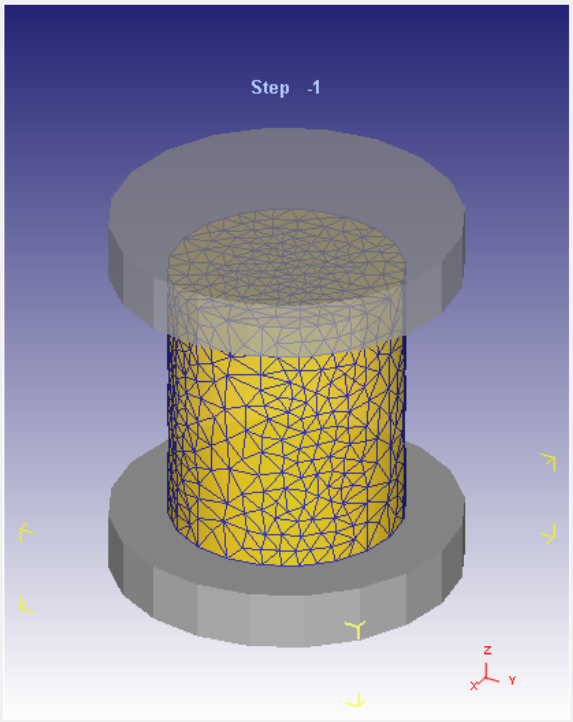
immersion12

immersion12.DB

dbg_surf.2
DEF_MAIL.INI
DEFORM3D.PROB
DENSTY.DST
frgen3d.diag.p0001
immersion12.PNG
meshqual.diag
surf.3
surf.4
surf.5
surf.6

Problem ID: immersion12

Summary | Preview | Message | Log | Memo



Pre Processor

DEFORM-3D Pre
Machining [Cutting]
Forming
Die Stress Analysis
Cogging
Shape Rolling
Ring Rolling
Heat Treatment

Tool

Inverse Heat
Preform Wizard

Simulator

Run
Run (options)
Stop
Continue
Process Monitor
Simulation Graphics

Batch Queue
Add to Queue

Run Remotely
Remote Process Monitor

Monitor Floating License

Post Processor

DEFORM-3D Post
Microstructure

C:\DEFORM3D\PROBLEM\immersion12\immersion12.DB Version: 6.01 Modified: 24.06.2009 13:59:28 Size: 237 KB

DEFORM-3D - Main

DEFORM-3D | DEFORM-3D Ver 6.1... | EN | 13:59


Корзина
Notepad++
virtual PC
СКИФ-Урал
Adobe Reader 8
OpenOffice... 3.0
winscp
eclipse
Opera
Microsoft Visual Stud...
Far Manager
Paint.NET
GIMP 2
PHP Expert Editor
Google Chro...
putty
IrfanView
Restart Denwer
Lazarus
StarDict
Mozilla Firefox
Start Denwer
NetBeans IDE 6.5.1
Stop Denwer
пример MPI
DEFORM-3D
DEFORM-3D Ver 6.1...
EN
14:02