

new!

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new!

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## PTC Product Focus

### Pro/ENGINEER's Reverse Engineering Extension

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## PTC Product Focus

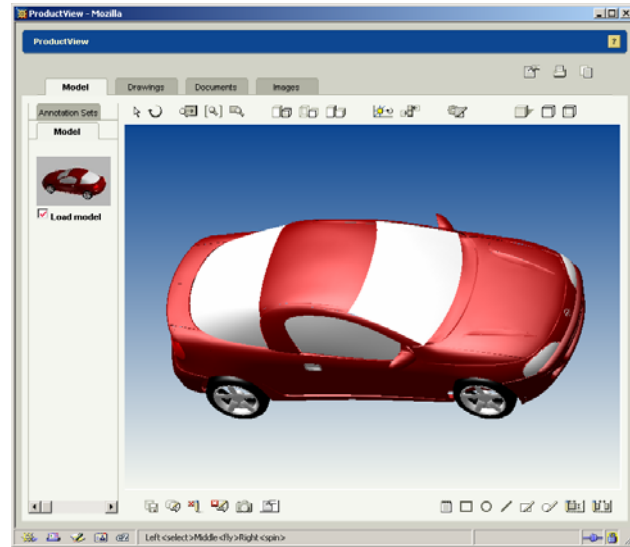
### PTC's Visualization Advantage

PTC's Visualization strategies are consistent with the goals and objectives of their customers. These goals include the elimination of drawings from the critical path, collaboration between internal teams, suppliers and customers, enforcement of security for classified and ITAR-controlled items, and superior integration with the PLM and CAD systems. There are many types of visualization tools in the industry, all of which having their unique capabilities, but PTC has the visualization advantage over many of its competitors. Customers have to make logical choices, so consider the following:

- ProductView Lite meets customers requirements for easily accessible, web-based visualization
- Integration with Windchill PDMLink supports Collaborative Product Development efforts
- Completeness in publishing data from Pro/ENGINEER will make engineering data available to a wide range of people across the enterprise

## ProductView Lite

Customers can take advantage of their investment in Windchill PDMLink because this package includes ProductView Lite, a web based viewing tool. With ProductView Lite, users can view 3D and 2D information and other types of images, make measurements, and mark up data, all in a simple, web-based tool. This tool is installed and updated automatically by Windchill PDMLink without requiring administrators to install or maintain the tool on client computers.



ProductView Lite users also can display and control watermarks using attributes from the PLM system. It also allows PDF documents to be displayed alongside 3D and 2D data.

## Integration with Windchill PDMLink

Integration of visualization capabilities with the PLM system is as important as the tools itself. ProductView is an integral part of Windchill PDMLink.

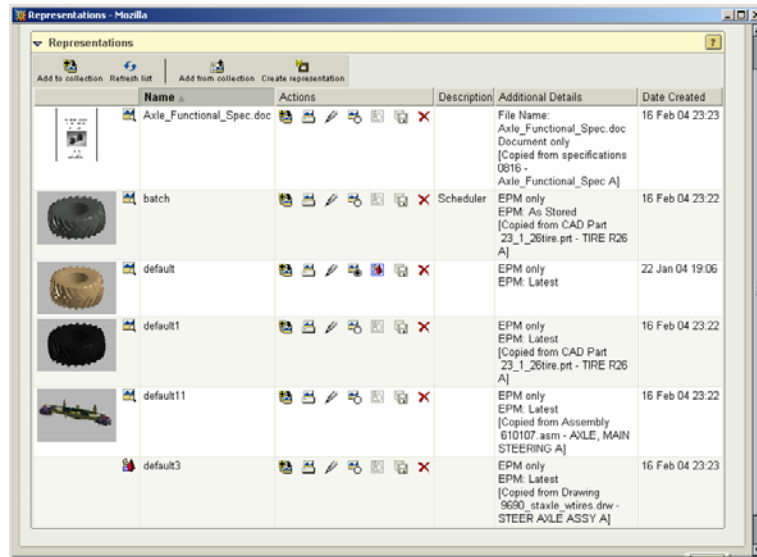
Windchill Visualization Services (WVS) in Windchill PDMLink provides the following capabilities to support and improve visualization capabilities in the ProductView Clients:

- Data Preparation
- Automated Publishing of CAD models on Server
- Support for Configuration Specification
- Data Presentation
- Visualization Collection
- Support for Metadata in the viewer
- Data Administration
- Conference Scheduling and Invitation
- Watermarking
- Synchronization of Viewable with PDM Metadata

## Data Preparation

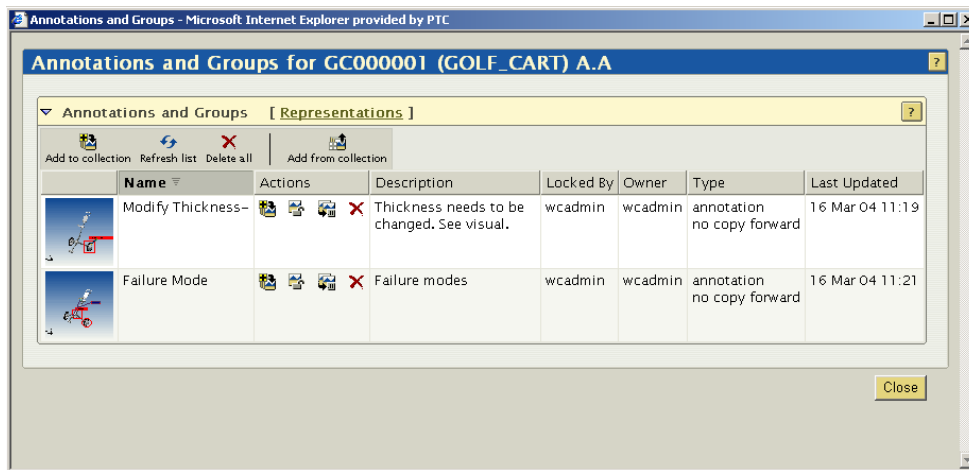
WVS helps users to publish information transparently as a background process using the ProductView Object Adapters in a robust publishing framework. It can be configured to publish data based on various events, such as on check-in, as part of a scheduled job (e.g., overnight), on demand by the user, or when a change in lifecycle state occurs. It also provides file synchronization capability, such as the ability to synchronize metadata from Windchill PDMLink

used in a Pro/ENGINEER drawing so that users of the visualization tool are viewing the correct revision control frames in the drawings.



Simplified representations are correctly published by WVS and stored as groups in Windchill PDMLink for retrieval by ProductView users.

ProductView can be used to publish data based on one of several standard configuration criteria such as “latest”, “baseline”, and “as stored” are provided. The viewables are clearly marked regarding which baseline was used and the date and time the viewable was generated. Multiple representations for the same object are also supported. Annotations from the ProductView client are stored seamlessly from ProductView into PDMLink.



WVS also provides the capabilities to republish assemblies if underlying parts are changed. For example, if a part were to change, Windchill PDMLink can be set up so that the parent assemblies can be republished. This ensures that the correct viewables are generated even if assembly features are used in the parent assembly.

## Data Presentation

WVS provides many capabilities that make it easier to select data to be viewed. This Windchill PDMLink service supports a “Visualization Collection”; these allow visualization data to be pasted in a clipboard and launched in ProductView. Once launched as a collection, parts can be compared; seemingly unrelated parts and documents can be viewed together, etc.

PLM attributes (metadata) are also provided to the viewer along with the viewable data so that these can be used by the visualization tool. For example, if a cost attribute is available as an attribute for a part, the ProductView can exploit this value and provide a color-coded display of the entire assembly based on cost criteria.

## Data Administration

WVS provides several important data administration capabilities. These include passing a watermark definition to the client. This can be exploited for Security markings based on attribute values as the viewable is prepared for display.

WVS also provides the capability to schedule an *ad hoc* or formal review session using the ProductView client. It collates the data, sends out invitations by email, and facilitates the conference by launching the client with the right data for all the participants.

Other administration capabilities include allowing users to control markup deletions, and to carry markups from one part iteration to another so that a complete markup history is available regardless of the part iteration.

Performance-enhancing capabilities include options to use replicated data from Windchill PDMLink replicated file vaults. This Windchill PDMLink feature places replicated data from the master vault on servers close to clusters of users; WVS can draw original data from either source when helping to create ProductView displays.

## Completeness in Publishing Data from Pro/ENGINEER

ProductView object adapters provide robust extraction of Pro/ENGINEER data for use in ProductView. The following table shows the type of data that are available for publishing.

Entities Supported	Supported by the Pro/ENGINEER Object Adapter
Cables	x
Curve	x
Datum Curve	x
Datum Face	x
Density	x
Dimensions	x
Exploded State	x
Layers	x
Notes	x
Parameters	x
Quit	x
Simplified Reprs	x
Skeletons	x
Surface Finish Notes	x
Tolerances	x
Views	x

In addition, the current ProE to ProductView Object Adapter (8.0M030) provides extraction of Y14.41 annotation features and layers created in Pro/ENGINEER Wildfire 2.0 & 3.0.

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## Tips of the Month

### Component Interfaces Speed Component Assembly



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## Tips of the Month

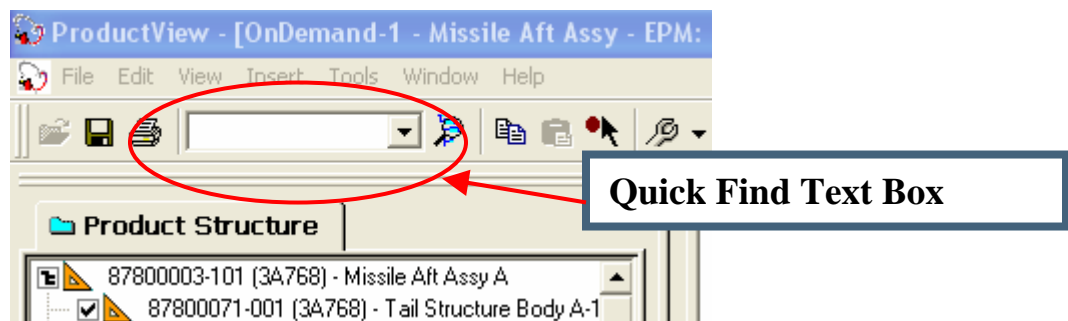
### ProductView – Product Structure Search and Color Coding

ProductView Standard has 2 methods for searching for components within the product structure, Quick Find and Search Product Structure. Quick Find is on the main toolbar and allows you to quickly search for components by typing in a sub-string of the component name. The Search Product Structure tool lets you search for components based on their name, attributes, and spatial envelopes. Search queries can be saved and reused at a later time on different assemblies or product structures. Additionally, these saved queries can be used in the color coded search tool. This tool lets you perform multiple searches and display results in different colors.

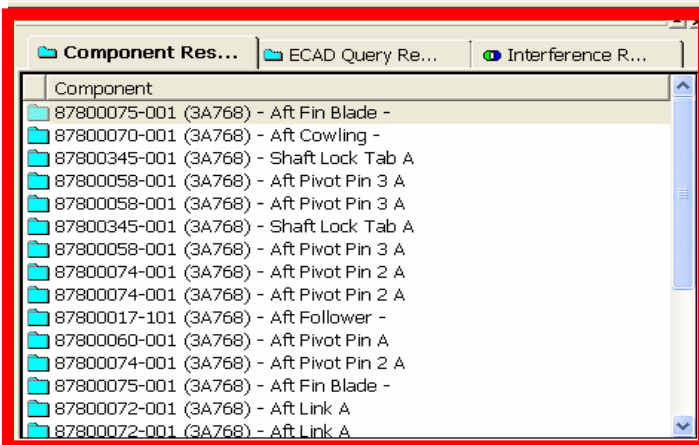
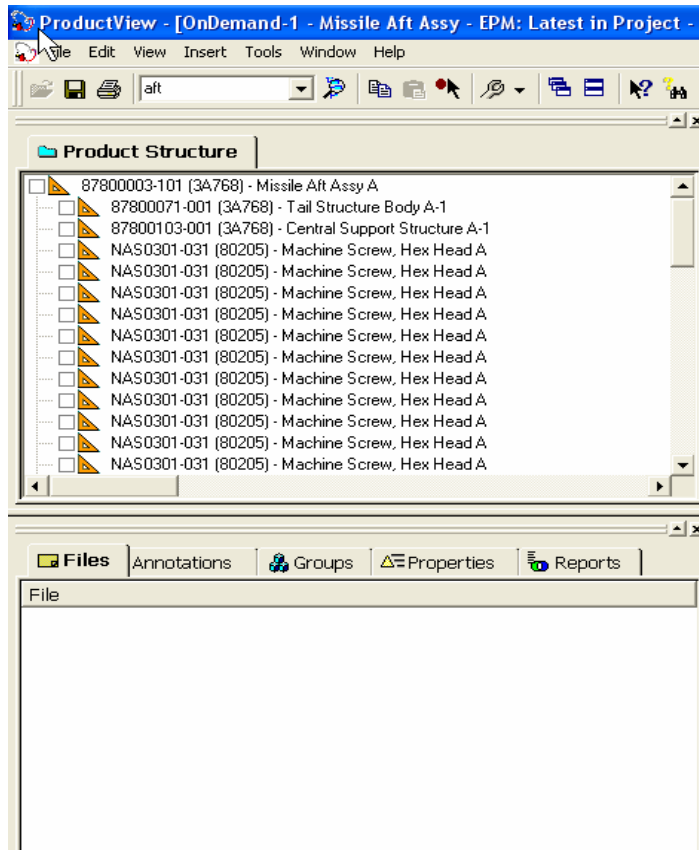
In the examples that follow, we'll be using ProductView Standard Edition client in the context of PDMLink where the viewable data and attributes are stored.

#### Quick Find

Start by opening a product structure (.ed) file in ProductView



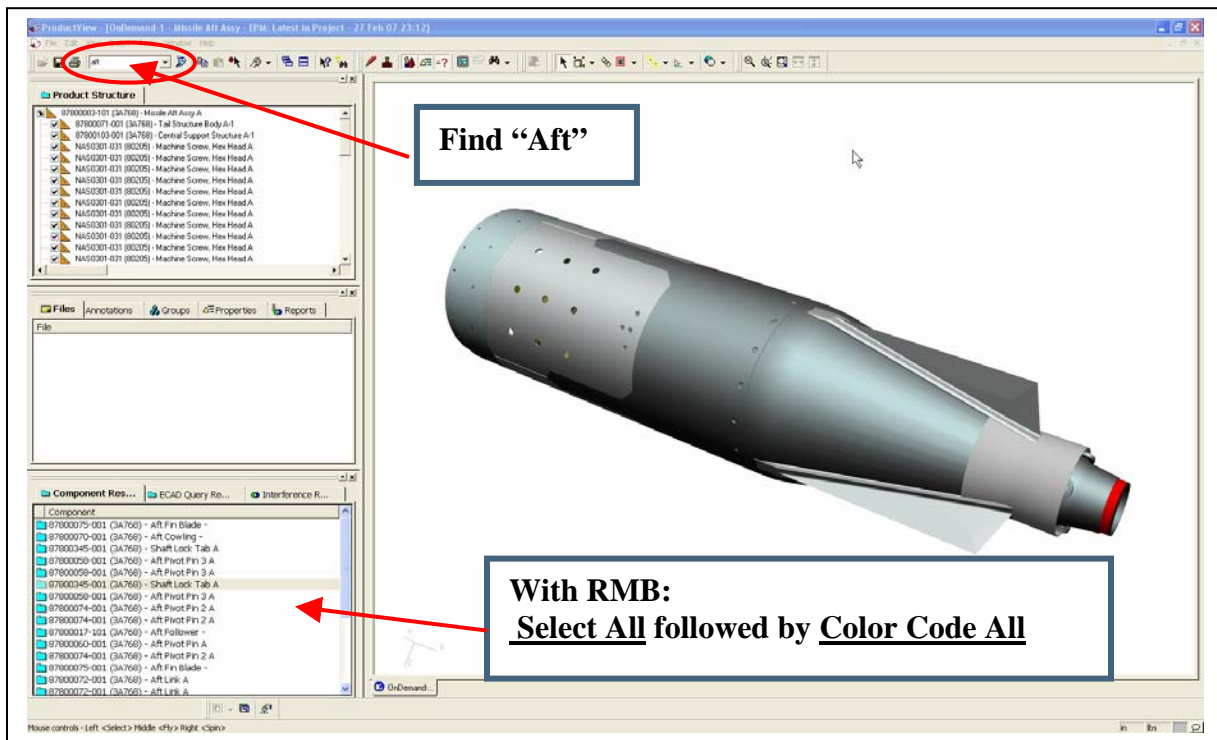
To find a component or a number of components, simply type a sub-string of the component name. For example, typing the characters **aft**, would result in matches that contained that string, such as, **87800075-001 – Aft Fin Blade** and **87800074 – Aft Pivot Pin**. The results of Quick Find will appear in the Component Results pane. Using the right mouse button within that pane allows you to perform a number of operations, such as, load the results into a new 3D window or if you already have the components loaded in a 3D window, you can color code the geometry by using “Color Code All”. In this case, the components will turn to a cyan color and turn all other ‘non-aft’ components turn to a transparent white. Example of this color coding is shown on the next page.



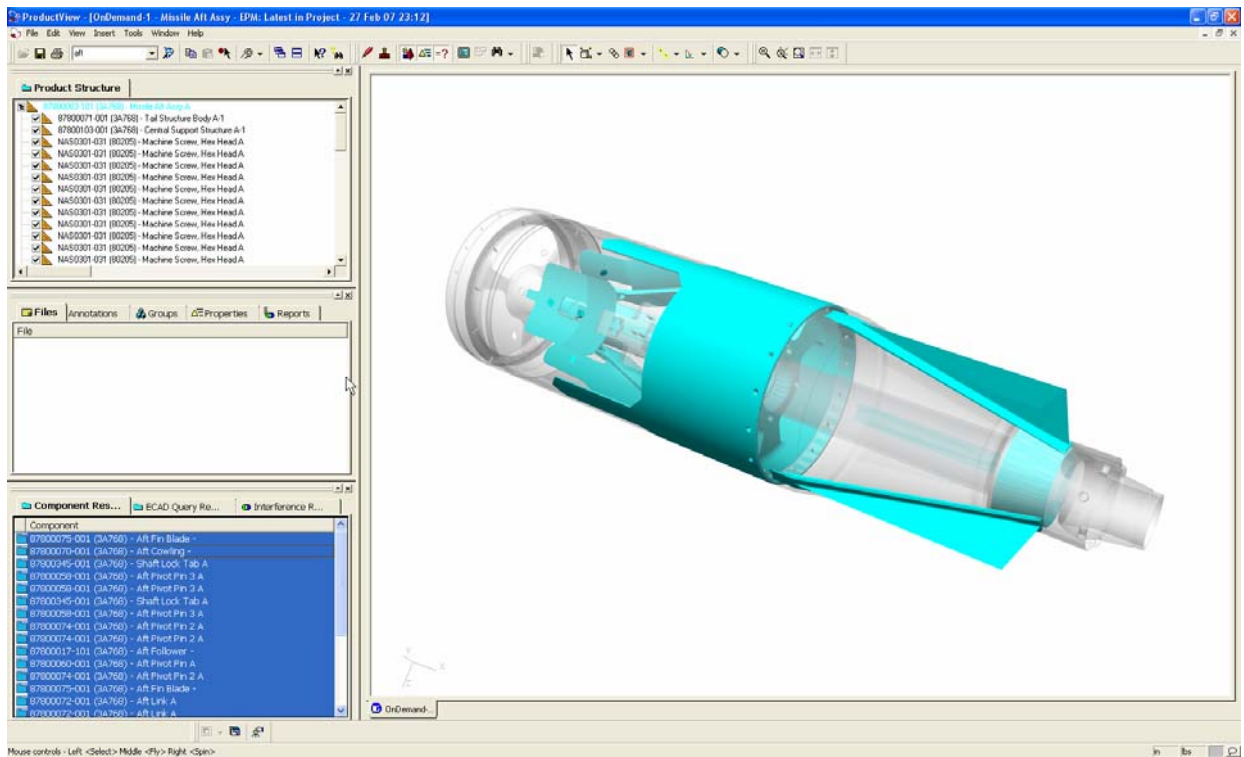
### Right Mouse Button Menu



## Before Color Code All




## After Color Code All

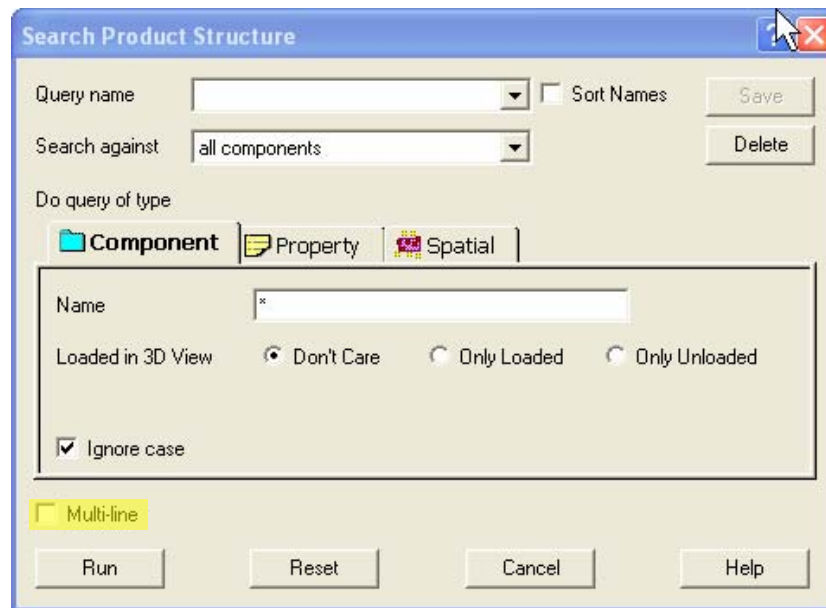




## Product Structure Search

Use the Search Product Structure button  or Edit menu command to construct a query. This will display the search dialog shown below. As with Quick Find, the results of each query type appear in the Component Results pane. Descriptions of each field are in ProductView's Help Topics. Once in the Help UI, from the Index tab and type 'Search' in the text box.

As you see, the Search Product Structure interface has 3 tabs, Component, Property, and Spatial



- Component – Similar to Quick Find, you can search for components by typing a wildcard sub-string of a component name. The main difference is, with this UI, you can nest queries using the Multi-line option, highlighted in yellow.
- Property – Allows you to search for components based on their Property name and/or value of a property.
- Spatial - The Spatial tab allows you to search for components within a physical distance, or range, from the component bounding box, or a center point in a sphere.

The process for creating, executing, and saving queries is simply done by, first, writing the query, execute by selecting the 'Run' button, and if the query is to be re-used, type the name of query in the 'Query name' text box and selecting the 'Save' button.

The following will show examples of:

1. Using the 'Property' tab to search for components with a material property and value of 'Stainless\_Steel'.
2. Display the results graphically
3. Saving a query
4. Re-use of saved queries in the Color Coded Search tool

First, the name field drop-down list in the property tab is a runtime list of all properties that exist in the product structure. You can type the name of the property, but it's much better to use the drop-down list to avoid typing errors.

Assuming you have a product structure opened in ProductView, write a query to find all Stainless Steel parts in the assembly.

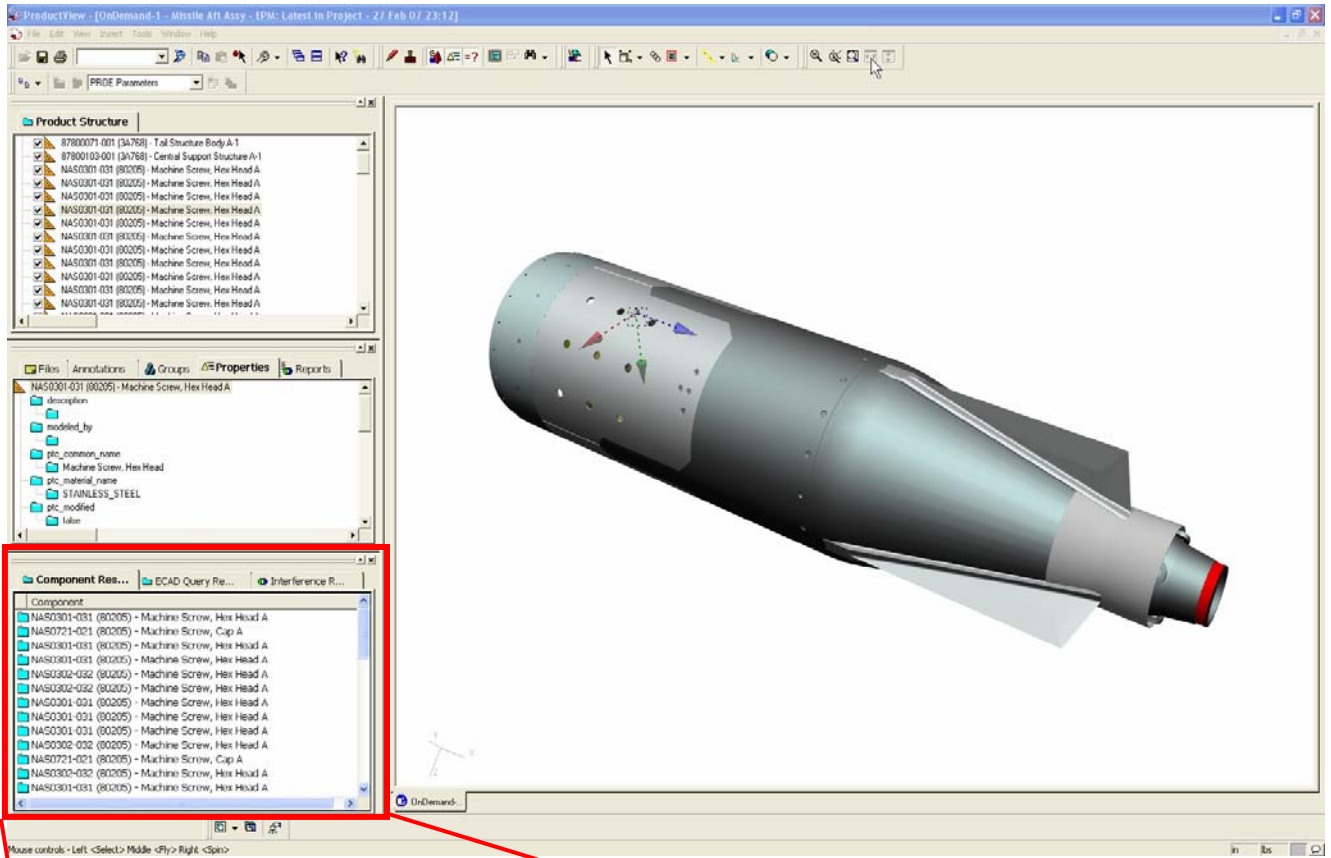
**1. Select a property from the Name drop-down list, such as 'ptc\_material\_name'**

The screenshot shows the 'Search Product Structure' dialog box. The 'Property' tab is selected. The 'Name' dropdown is set to 'ptc\_material\_name'. The 'Which is' dropdown is set to 'like'. The 'Value' field contains 'Stainless\_Steel'. The 'Ignore case' checkbox is checked. The 'Run' button is highlighted with a red arrow.

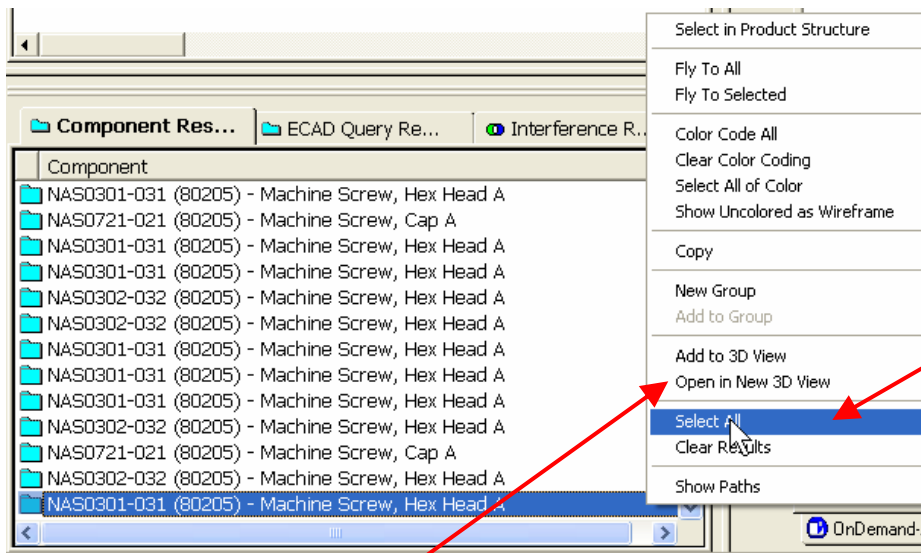
**3. Select the 'Run'**

**2. Type a value of the property. You can use wildcards (\*). In this case we're looking for Stainless Steel parts.**

Results shown on next page.



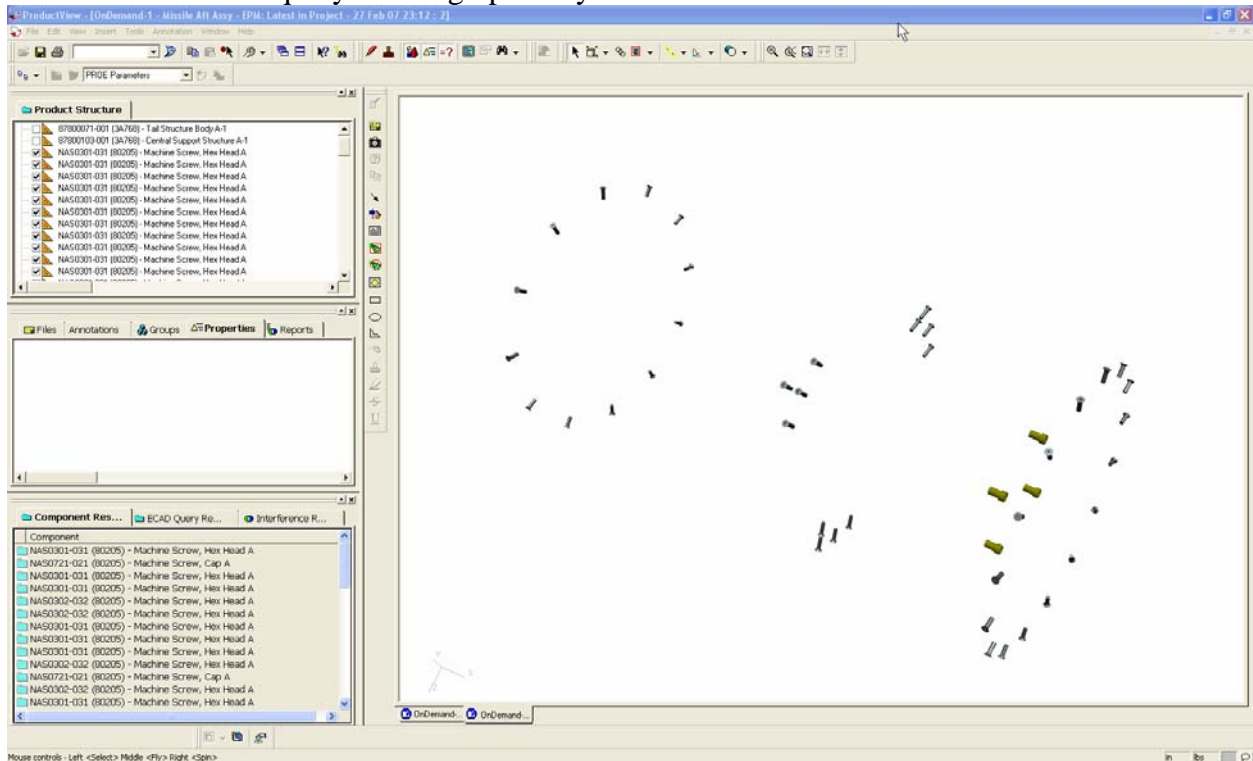
**Component Results Pane**




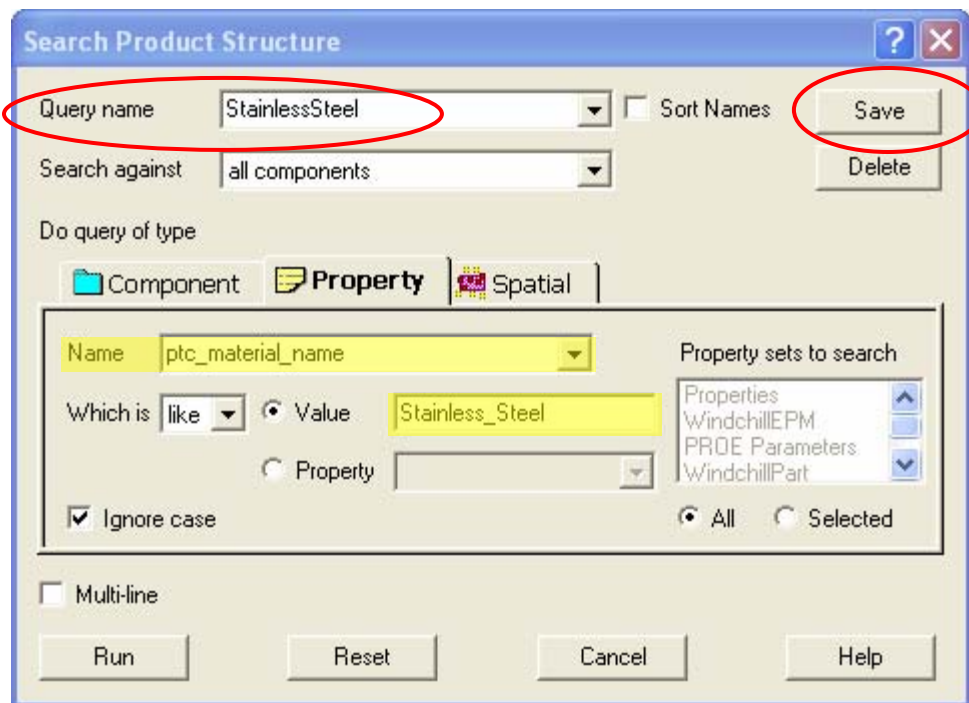
**4. RMB, 'Select All'**  
**This will select all components in the Results window**

**5. RMB, 'Open in New 3D View'**

## Results of the above query shown graphically



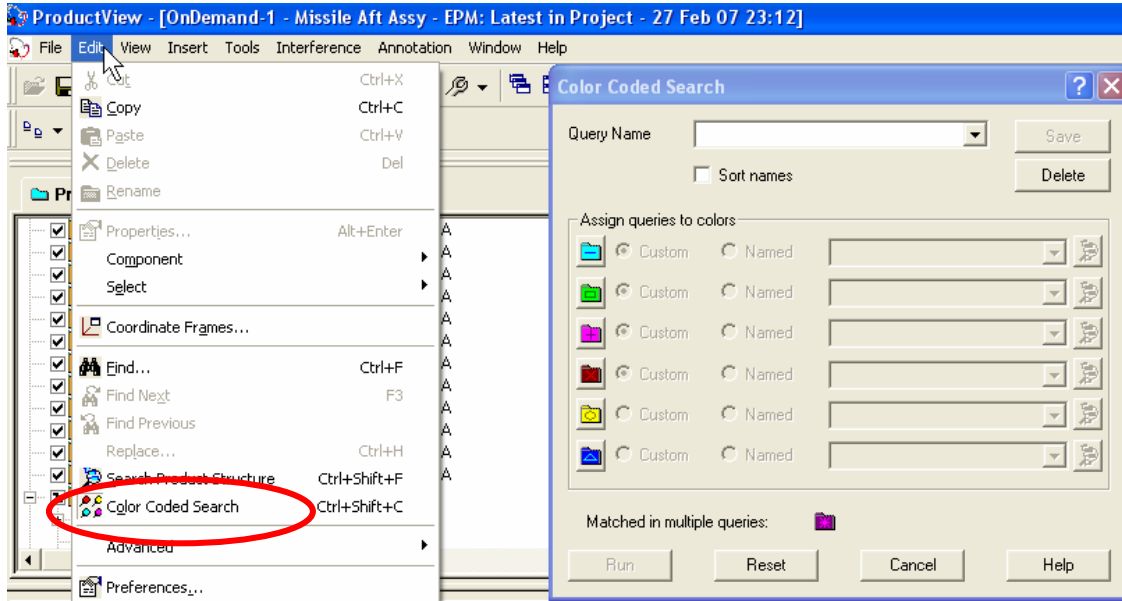
Now, let's save the query. Select the Search Product Structure button  again. By default, if you have run a query and by reopening the Search window, will display the last query, shown in yellow.



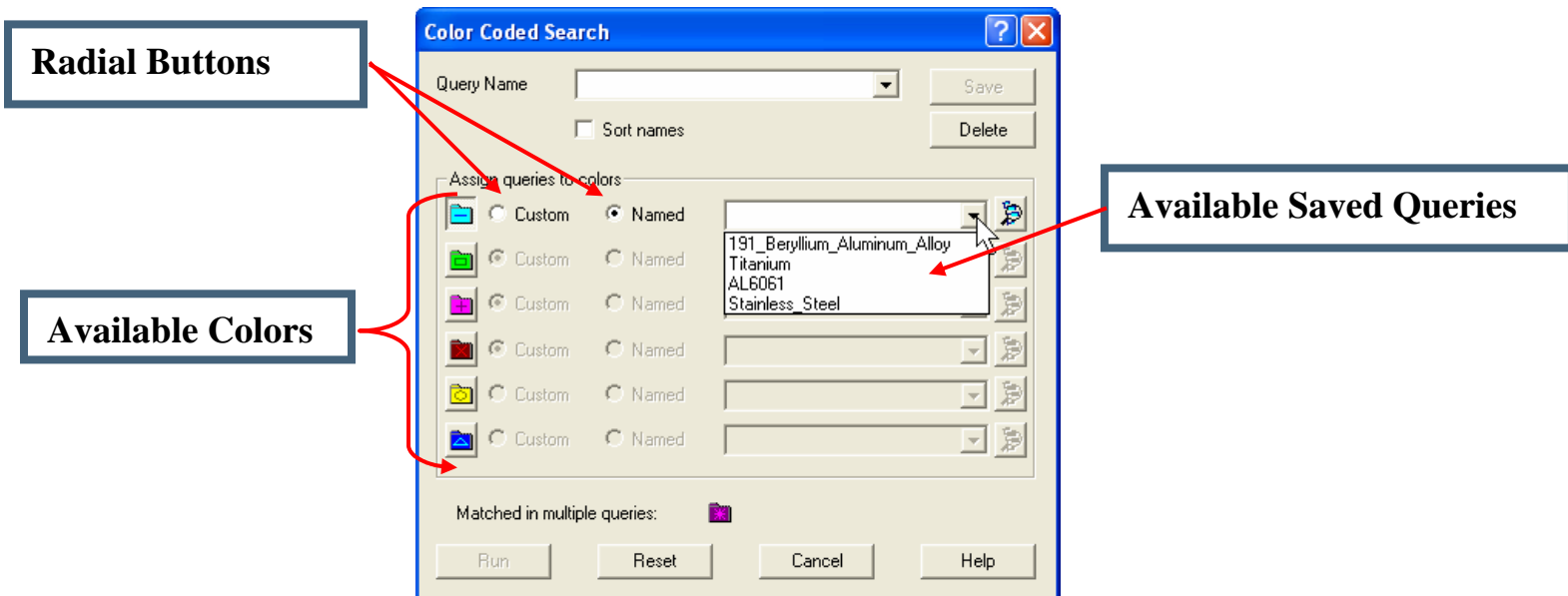
Type the name of the query in the Query name text box, followed by Save

## Saved Query Re-use and Color Coded Search

As mentioned earlier, saved queries can be reused in the Color Coded Search tool. As with Search Product Structure, color coded searches can be saved as well. The Color Coded Search tool is activated from the Edit drop-down menu, Color Coded Search.



Notice that you have up to 6 colors to use. Also notice the radial buttons, Custom and Named. By picking the Custom radial, this opens the Search Product Structure tool, where you can create a new query. The Named radial button activates the adjacent drop-down list where you choose a previously saved query created via Search Product Structure.



The following is an example of using 4 saved queries (for different materials) and reflecting those colors onto the displayed geometry.

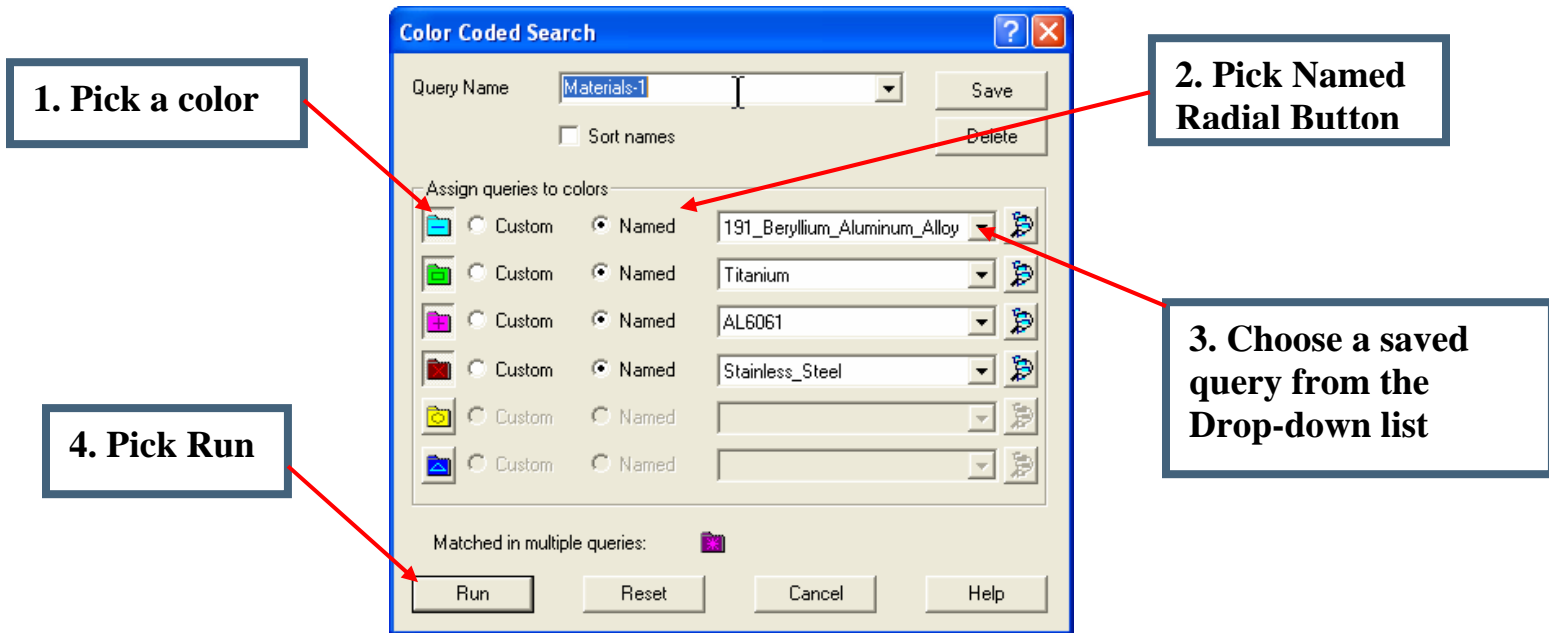
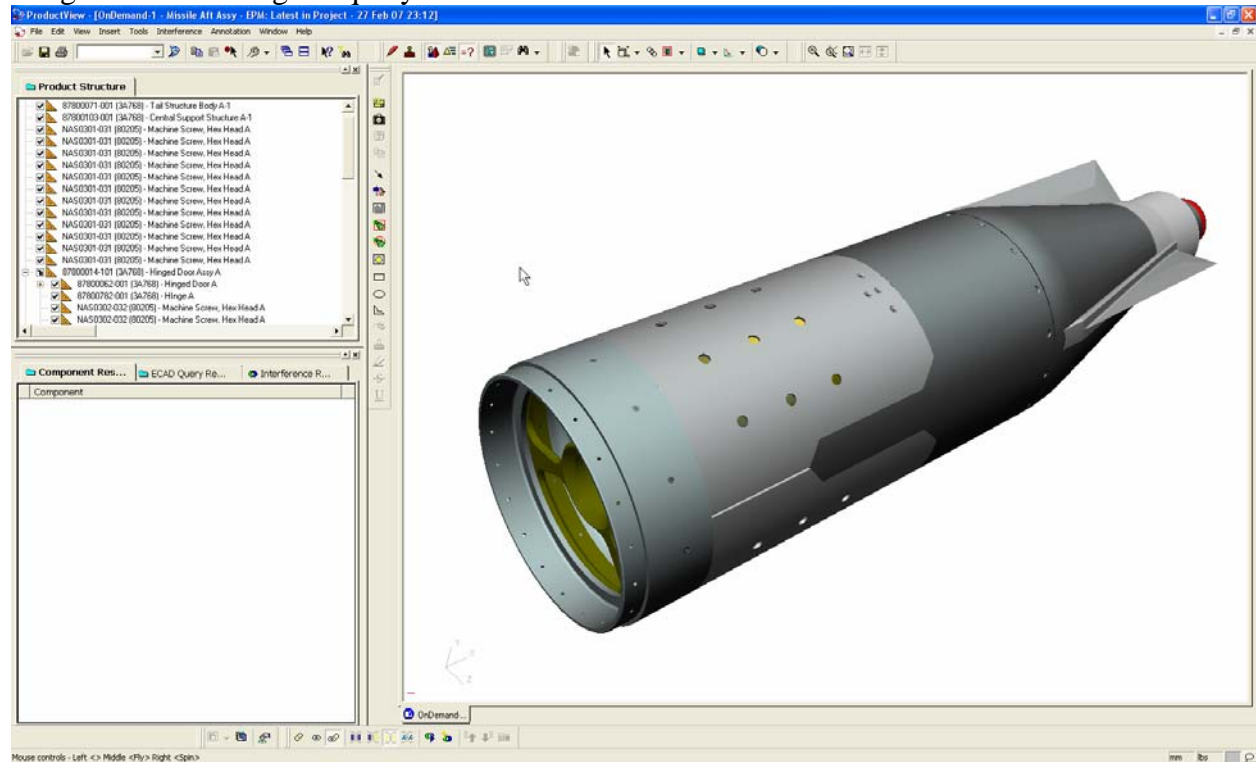


Image before running the query



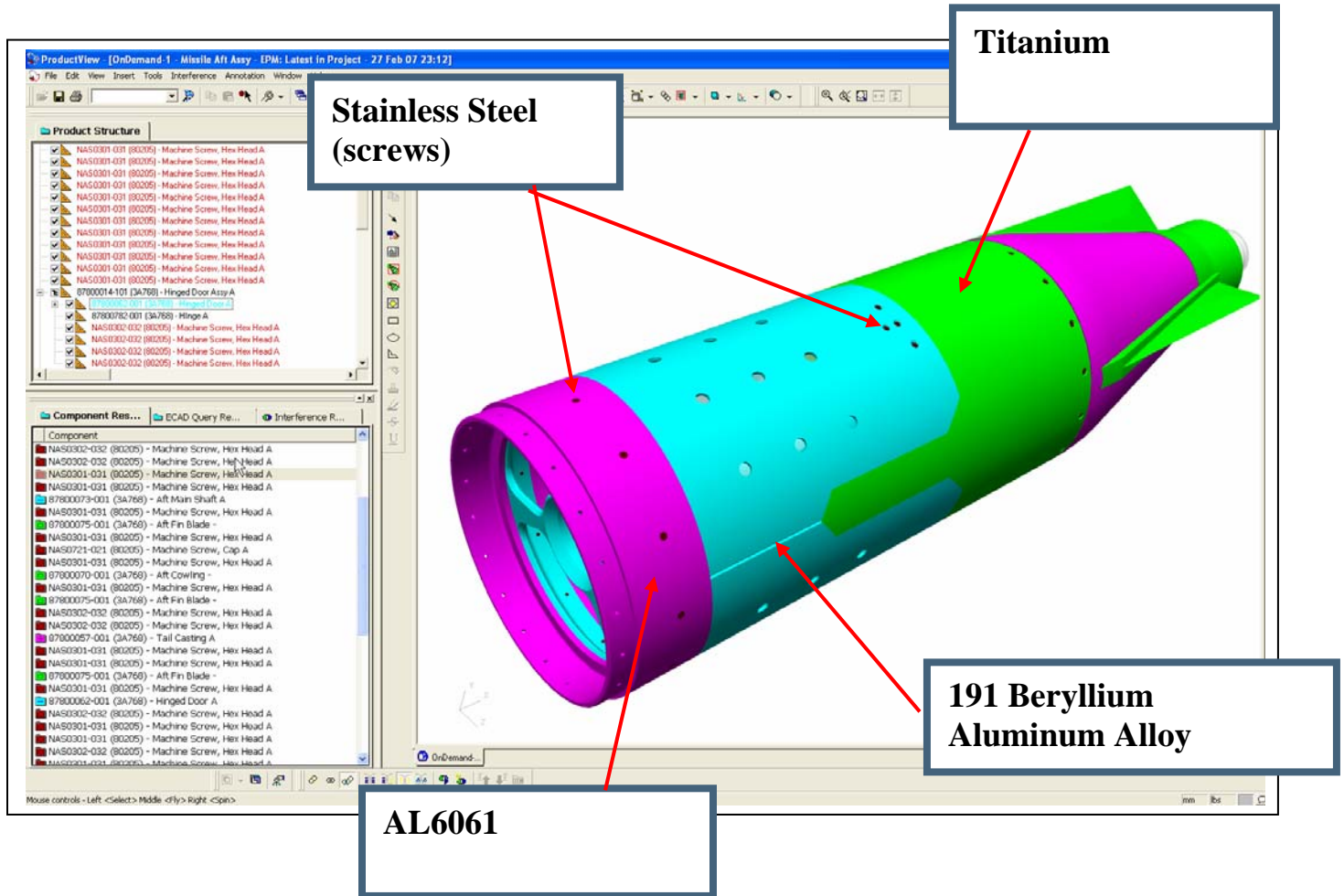


The results appear in the Component Results pane (lower left). Notice that each node symbol is color coded (per the query).

To reflect the colors on the geometry, do the following:

1. In the Component Results pane, RMB > Select All
2. RMB again > Color Code All

Color Code All not only changes the color of the geometry but also color codes the product structure tree.



To clear the color codes, RMB > Clear Results or Clear Color Coding

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## Announcements

### Educational Resource Library

Learn things you always wanted to do - but didn't know you could.

This one stop educational resource library will help you learn more about PTC Solutions and provide you with technical materials developed by the product experts to help you become more productive.

Get tutorials, how-to videos and expert advice for:

- Pro/ENGINEER
  - Conceptual and Industrial Design
  - Detailed Design
  - Simulation/Analysis
  - Production
  - Design Collaboration
- Windchill PDMLink
- Windchill ProjectLink
- Pro/INTRALINK
- PTC Online Tools

Check out the [Educational Resource Library](#) today.

### PTC Tips & Techniques Newsletter Archives

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It's better than finding the Covenant of the Ark!

### PTC Tips & Techniques Webcasts: Work Smarter. Not Harder.

Click below to see regularly scheduled Tips & Techniques technical Webcasts that are designed to provide you with the most popular time-saving tricks that Pro/ENGINEER users of all skill levels will find useful. Get more out of your maintenance dollars!

[Tips & Techniques: Work Smarter Not Harder!](#)

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### **E-PROFILES IS HERE!!**

We have been eagerly anticipating the debut of the new electronic version of Profiles Magazine and now it is here! This new web site will supplement the print edition of the magazine and will

provide new useful features not feasible with paper media. e-Profiles will provide you with 24x7, worldwide access to key information previously available exclusively in the print version. "Tips & Tricks," a popular feature pioneered by Pro/USER, has also moved to the web and will be expanded as the site matures.

Please take a few minutes to check out this new web site. We don't think you will be disappointed.

<http://profilesmagazine.com/>

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## Upcoming Events & Training Class Schedules

Upcoming, 2007                      Your local Pro/Engineer User Groups  
<http://www.ptcuser.org/rugs/>

June 3 - 6, 2007                      Tampa, Florida  
PTC/USER International Conference  
<http://www.ptcuser.org/>

### Events

Our seminars and conferences seek to provide you with relevant information regarding product development trends in your industry as well as innovative software learning experiences. Think of them as a constructive day off where you can share experiences and swap ideas with your peers.

If you can't manage to get away, we'll bring it to you. Check back often for regularly scheduled live webcast events.

[You're Invited to Attend...](#)

Please visit the [PTC Education Services](#) website for the latest training information including course descriptions, schedules, locations, and pricing.

- Attend a course at any PTC Center and receive a **free** copy of Pro/ENGINEER Wildfire Student Edition!

<http://www.ptc.com/services/edserv/index.htm>

### Live Instructor-Lead Virtual PTC Training Courses

Virtual Classrooms provide interactive learning with a trained PTC instructor in convenient and manageable sessions that last approximately 4 hours over a series of days. It's easy to join a class right from your desk using a phone or voice-over IP technology.

Sessions are performed just like a traditional ILT (including interactive exercises where you and the instructor can work on lab exercises together) and feature some of our most popular ILT courses. These sessions cover the exact same material as the traditional ILT in-center courses. Also look for some of our most frequently requested mini-topics delivered in the same format that are only an hour - two hours in duration.

If you have any questions about these sessions or would like to see getting other courses, not on this list, on the schedule please feel free to contact me for more details. They are a great way to bring training to you without you having to worry about location or being out from work for long stretches.

You can register for these sessions just as you would for any normal ILT class either by:

1. calling order admin at <http://www.ptc.com/services/edserv/training/registra.htm> or
2. you can go to PTC University directly at <http://www.ptc.com/learning> and submit a registration request directly. All you have to do is search the catalog by typing in “virtual” in the search field and you will see a listing.

## PTC

Note: This PTC E-Newsletter will continue to be used for the following:

- 1) Inform you on events related to PTC products (user groups, conferences, training schedules, etc.)
- 2) Educate you on solutions that are available at PTC
- 3) Tips & Techniques using PTC Products

Note: These messages are compiled in the local PTC office and will be distributed via e-mail.

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