



ADVANCED ASSEMBLIES

DISPLAY DATA

R5_CORE_SMP
1374.64DRX

CONNECTION 103

0001CA20: 113 c1c
0001CA21: 113 da \$0
0001CA23: 113 adc \$0
0001CA25: 113 amp \$0
0001CA27: 98 02 bcc

ADVANCED ASSEMBLIES 101



• WHAT DOES THE ADVANCED ASSEMBLY EXTENSION (AAX) DO?

AAX provides capabilities to support top-down design, concurrent engineering, and process planning. It takes the complexity out of designing, managing, and sharing large assemblies. With its advanced tools for top-down assembly design, AAX streamlines the flow of information from design to manufacturing, helping you reach the optimal design in far less time.

• WHAT IS CONCURRENT ENGINEERING?

Concurrent engineering, also known as simultaneous engineering, is a method of designing and developing products, in which the different stages run simultaneously, rather than consecutively.

• WHAT IS TOP-DOWN DESIGN?

Top-down design is a design methodology used in CAD to simplify the development of products with complex interdependencies and relationships between components. Top-down design addresses the challenges of working with multiple team members.

• WHAT IS PROCESS PLANNING?

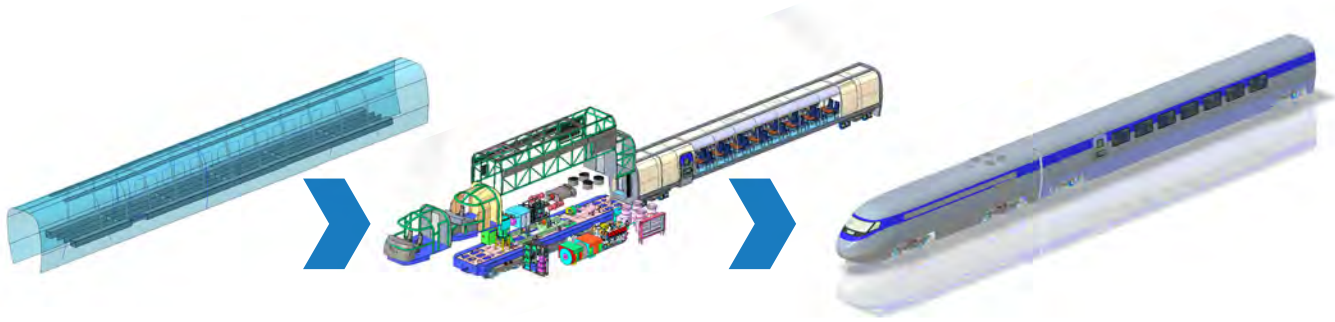
Process planning is how manufacturers decide the sequence of steps that they'll take to produce a part or make an assembly.

• WHAT IS THE SKELETON MODEL?

Skeleton models are a concept in CAD to help engineers capture design intent and propagate this through the TDD product structure. The skeleton model typically resides at the top of the assembly structure and often uses basic geometry to describe and manage the design intent. Once created, skeleton model geometry is published, and references are shared throughout the assembly structure.

• WHAT ARE SHARED REFERENCES?

Shared references typically refer to the ability to create, link, or reference elements or objects between different parts or components of a CAD project. Shared references help ensure that changes made to one part of the design are reflected in other parts that reference it.



TIRED OF...

Manual processes that support concurrent design

Limited tools to define the assembly structure and enforce top-down design methodologies

Reliance on 3rd party tools and spreadsheets to define and manage configurable products

Reliance on 3rd party applications and tools to support the creation of process planning documentation

WITH AAX YOU CAN...

Reduce time-to-market

- Manage concurrent design and streamline the creation of engineering deliverables

Reduce product development cost

- Speed assembly design and development by enabling teams to work concurrently
- Reduce and eliminate design errors and rework

Lower lifecycle cost

- Speed the creation of downstream deliverables and manufacturing documentation

Increase product quality and innovation

- Create and evaluate more designs within the allotted time frame

Develop and define new markets

- Support design and build to order initiatives

YOU NEED AAX IF YOU WANT TO...

Leverage top-down design tools

- Plan the framework of an assembly using skeleton models and data-sharing features to enable true top-down design
- Publish and control design interfaces between sub-assemblies and components
- Propagate changes throughout the assembly structure, allowing you to inherit the changes from a parent model into the downstream design

Simplify large assemblies

- Create simplified envelope parts to substitute the detailed design assemblies and to improve assembly performance

Implement smart design intent

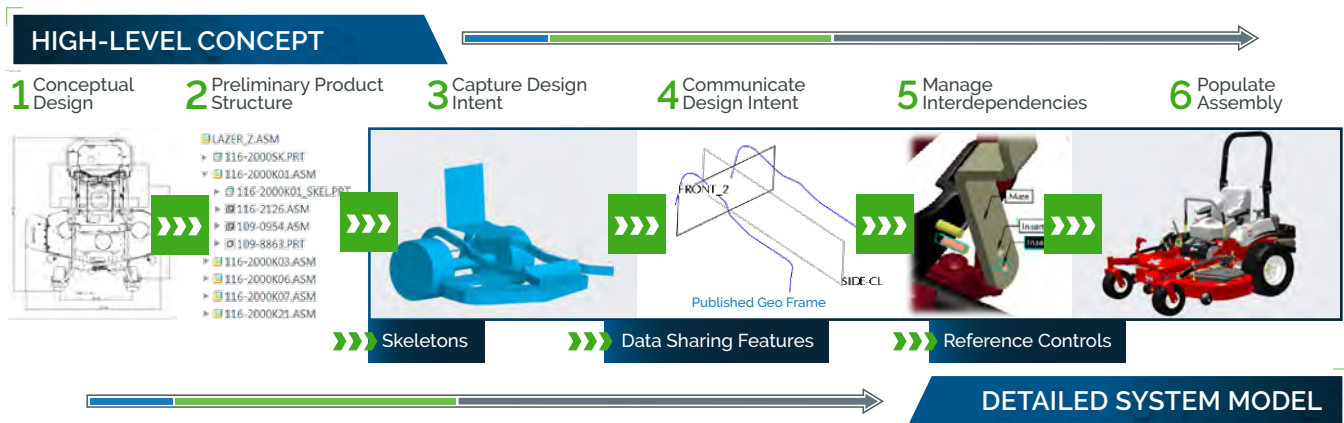
- Programmatically automate the customization of your product lines based on input parameters
- Deliver accurate and updated drawings as well as manufacturing deliverables in record time for a customized product

Utilize reference control

- Specify global scope settings that apply to all components in the current session except objects that have an object-specific scope setting and objects that have a less restrictive object-specific scope control
- Specify object-specific scope settings for external references

Plan the assembly process

- Streamline collaboration and communication between engineering and manufacturing stakeholders



WHAT RESULTS ARE CUSTOMERS SEEING?



Provides pharmaceutical equipment to the life sciences and bio-tech industry

Creo has enabled Pharmalab Life Sciences to create and optimize their designs. They were able to reduce design time by 25% with Creo AAX.



Manufacturer of rugged and unsurpassed underground technology equipment

American Augers reduced large assembly design time and iterations by 25% with Creo AAX.



Specialized manufacturer of integrated manufacturing systems and stand-alone machines for automotive, medical and furniture manufacturing

JR Automation leveraged Creo AAX for their large assemblies that routinely contain more than 5,000 unique parts.



Design and develop products for both government and industry applications

ILC Dover selected Creo AAX to manage top-down design. It eliminated costly mistakes by 30%.

DMG MORI

Global manufacturer of machine tools, turning centers, lathes, and ultrasonic and laser machines

DMG Mori uses Creo AAX to support top-down design and concurrent engineering. It shaved 16 months off of the release cycle.



ASTON MARTIN RACING

British auto racing team established in 2004 as a partnership between automobiles manufacturer

Aston Martin and engineering group Prodrive

Aston Martin uses Creo AAX to define and manage top-down design and reduce costly mistakes throughout the design process.

TEAM PENSKE®

One of the most successful teams in the history of professional sports (racing)

Team Penske's Creo AAX capabilities has enhanced productivity and top-down design. It reduced the design cycle time from 2 years to 8 months for NASCAR Gen 6.

GAC MOTOR

Auto engine and power train system development

GAC Automotive uses Creo AAX to support top-down auto engine design. It improves overall product quality and design efficiency.





Global plastics processing machinery manufacturer

Windsor Machines uses Creo AAX to help users share and manage references. It reduces design errors and increases productivity by 20-30%.



Develops advanced electronic paper display products

IRX uses Creo AAX to plan the assembly structure and manage the assembly design process. The concept to first rapid prototype time reduced by 20-30%.



Reliable supplier for many well-known brands and retailers of household sewing machines and vacuum cleaners

Zeng Hsing Industrial Co., Ltd leverages Creo AAX to reduce overall design time by improving the concurrent design process. It reduced sewing machine design time by 50%.





THE CREO ADVANTAGE

Creo is the 3D CAD solution that helps you accelerate product innovation to build better products faster. Easy-to-learn Creo uses a model-based approach to seamlessly take you from the earliest phases of product design to manufacturing and beyond. Combining powerful, proven functionality with new technologies including generative design, real-time simulation, advanced manufacturing, IIoT and augmented reality, Creo helps you iterate faster, reduce costs and improve product quality. Creo is also available as a SaaS product, providing innovative cloud-based tools for real-time collaboration and streamlined license management and deployment. The world of product development moves quickly, and only Creo delivers the transformative tools you need to build competitive advantage and gain market share.

DIGITAL TRANSFORMS PHYSICAL



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