

Best Practices For Using Associative Copy In I-DEAS

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Table of Contents

1.0	Scope.....	3
2.0	Applicable Documents.....	3
3.0	Best Practices.....	3
3.1	Acronym Definitions.....	3
3.2	Naming Conventions.....	3
3.3	Creation Methodology.....	4
3.3.1	Default Method.....	4
3.3.2	Recommended Method.....	4
3.4	Hierarchy Management.....	4
3.5	Drawings.....	5
4.0	Tutorial: Creating a Target Part using the Recommended Method.....	5

1.0

SAMPLE

Scope

This document is intended to provide I-DEAS users with best practice guidelines that will improve their use of the Associative Copy command.

2.0 Applicable Documents

I-DEAS Help Library – Using the BORN Technique

3.0 Best Practices

3.1 Acronym Definitions

AC – Associative Copy
ACS – Associative Copy Source
ACT – Associative Copy Target
ACF – Associative Copy Feature
ACR – Associative Copy Relation

3.2 Naming Conventions

When using Associative Copy, a naming convention should be applied to allow users to quickly distinguish parts and assemblies used in ACRs from those that aren't.

Table 1: Naming Conventions

Item	Part Name
Source Part	Normal Naming Convention_ACS
Target Part	Normal Naming Convention_ACT
Context Assembly	ACR- (Normal Naming Convention)

3.3 Creation Methodology

3.3.1 Default Method

By default, most Associative Copies are created using the method shown in Figure 1. This places the ACF as the Base Feature of the part history tree. This method prevents you from replacing the ACF when desired or necessary. One very good reason for wanting to replace an ACF is when it's associative relationship is broken. This occasionally happens and can cause headaches and lost time remodeling and recreating drawings if any were already made.

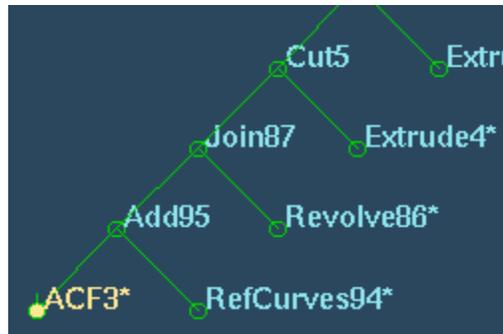


Figure 1: Part with ACF as Base Feature

3.3.2 Recommended Method

The method shown in Figure 2 allows the ACF to be replaced or moved in the history tree. The ACF is added to the BORN target part as a feature. Then, all of the additional features are constructed on the BORN coordinate system or other reference geometry. If the ACF is replaced, the features still remain intact. This is more robust than the current method and allows additional flexibility for modeling.

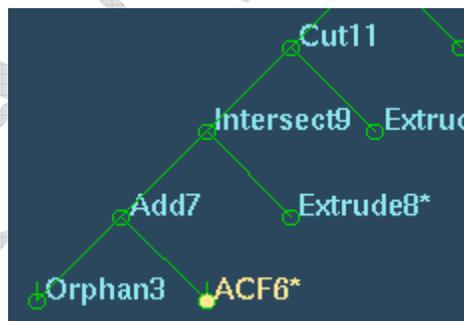


Figure 2: Part with BORN as Base Feature

3.4 Hierarchy Management

The context assembly should not be used in a higher-level assembly due to software issues. These issues include target parts appearing out-of-date when they are not and a suspicion of performance problems. A more robust approach is to place the parts into the higher-level assembly individually.

3.5 Drawings

Source & Target drawings should be created using their respective parts. One exception to this guideline is when you are modeling a machined casting. In this case, it may be advantageous to create a drawing of the target based upon an ACT only configuration of the ACR. This will help to better notify the user if the source, and therefore the target, is out of date. The reason that this shouldn't be implemented for ACR scenarios with multiple targets and/or sources is that it becomes troublesome to keep all of the drawings up-to-date.

4.0 **Tutorial: Creating a Target Part using the Recommended Method**

The exact manner in which the user selects the source, target, and related entities is not covered since this will vary depending upon user preferences and needs. Only the basic steps are listed below:

- 1) Create a new BORN part and add it to your assembly hierarchy. See "Using the BORN Technique" in the I-DEAS Help Library if necessary. The easiest way to do this is to use the *Create Empty Part* button on the *Manage Hierarchy* form.
- 2) Pick the Associative Copy icon and choose the source part entities and copy options.
- 3) Then, choose the newly created BORN target part. The target part will now have a history tree as shown in Figure 3.



Figure 3: Resultant History Tree

- 4) Build your history tree using the BORN coordinate system (CS2) to place other reference geometry or to create sketches for your extrudes, cuts, and revolve features. See Figure 4.

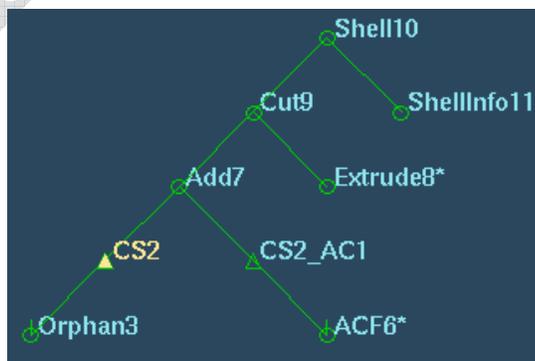


Figure 4: Additional Features created on BORN Node CS2