

# SmartBOM – Data Embedded in Assy

## SmartBOM – Use “Component” Parameters Embedded In Design Assembly

# Problem – Pro/Process For Assemblies

## Pro/Process For Assemblies Leverages Simplified Reps for “Stepping” Through the Assembly Procedure – Ballooning Simplified Reps Require Unique BOM Tables

Table For Rep – Placed on Layer & Layer Is Hidden

Table For Rep – Placed on Layer & Layer Is Hidden

QTY	PART NO.	DESCRIPTION	UNIT
1	101000-001	SHAFT	ASSEMBLY SUB MIT 1
1	101000-002	FLANGE	
1	101000-003	FLANGE	
1	101000-004	FLANGE	
1	101000-005	FLANGE	
1	101000-006	FLANGE	
1	101000-007	FLANGE	
1	101000-008	FLANGE	
1	101000-009	FLANGE	
1	101000-010	FLANGE	
1	101000-011	FLANGE	
1	101000-012	FLANGE	
1	101000-013	FLANGE	
1	101000-014	FLANGE	
1	101000-015	FLANGE	
1	101000-016	FLANGE	
1	101000-017	FLANGE	
1	101000-018	FLANGE	
1	101000-019	FLANGE	
1	101000-020	FLANGE	
1	101000-021	FLANGE	
1	101000-022	FLANGE	
1	101000-023	FLANGE	
1	101000-024	FLANGE	
1	101000-025	FLANGE	
1	101000-026	FLANGE	
1	101000-027	FLANGE	
1	101000-028	FLANGE	
1	101000-029	FLANGE	
1	101000-030	FLANGE	
1	101000-031	FLANGE	
1	101000-032	FLANGE	
1	101000-033	FLANGE	
1	101000-034	FLANGE	
1	101000-035	FLANGE	
1	101000-036	FLANGE	
1	101000-037	FLANGE	
1	101000-038	FLANGE	
1	101000-039	FLANGE	
1	101000-040	FLANGE	
1	101000-041	FLANGE	
1	101000-042	FLANGE	
1	101000-043	FLANGE	
1	101000-044	FLANGE	
1	101000-045	FLANGE	
1	101000-046	FLANGE	
1	101000-047	FLANGE	
1	101000-048	FLANGE	
1	101000-049	FLANGE	
1	101000-050	FLANGE	
1	101000-051	FLANGE	
1	101000-052	FLANGE	
1	101000-053	FLANGE	
1	101000-054	FLANGE	
1	101000-055	FLANGE	
1	101000-056	FLANGE	
1	101000-057	FLANGE	
1	101000-058	FLANGE	
1	101000-059	FLANGE	
1	101000-060	FLANGE	
1	101000-061	FLANGE	
1	101000-062	FLANGE	
1	101000-063	FLANGE	
1	101000-064	FLANGE	
1	101000-065	FLANGE	
1	101000-066	FLANGE	
1	101000-067	FLANGE	
1	101000-068	FLANGE	
1	101000-069	FLANGE	
1	101000-070	FLANGE	
1	101000-071	FLANGE	
1	101000-072	FLANGE	
1	101000-073	FLANGE	
1	101000-074	FLANGE	
1	101000-075	FLANGE	
1	101000-076	FLANGE	
1	101000-077	FLANGE	
1	101000-078	FLANGE	
1	101000-079	FLANGE	
1	101000-080	FLANGE	
1	101000-081	FLANGE	
1	101000-082	FLANGE	
1	101000-083	FLANGE	
1	101000-084	FLANGE	
1	101000-085	FLANGE	
1	101000-086	FLANGE	
1	101000-087	FLANGE	
1	101000-088	FLANGE	
1	101000-089	FLANGE	
1	101000-090	FLANGE	
1	101000-091	FLANGE	
1	101000-092	FLANGE	
1	101000-093	FLANGE	
1	101000-094	FLANGE	
1	101000-095	FLANGE	
1	101000-096	FLANGE	
1	101000-097	FLANGE	
1	101000-098	FLANGE	
1	101000-099	FLANGE	
1	101000-100	FLANGE	

# Tables For Reps REQUIRE too much attention

Table For Rep –  
Index is  
INDEPENDENT to  
each table

ITEM QTY	PART NO	DESCRIPTION
52	999409-000	SHALL. ASSY. DELIVERY SYSTEM, 999999
51	A/R 438134-001	WHEEL, ENHSTD-LUBC
50	999409-001	CRUSH RING TOOL
49	999409-001	ADJUSTABLE LOCKTITE WRENCH
48	101944-001	SCREW, FLAT HEAD
47	101943-001	SHOULDER, TAPER, ASSY
46	101942-001	TOOTH-BODY, TAPERED
45	101941-001	TOOTH-BODY, TAPERED
44	101940-001	TOOTH-BODY, TAPERED
43	101939-001	TOOTH-BODY, TAPERED
42	101938-001	TOOTH-BODY, TAPERED
41	101937-001	WELD, FTBALL, TAPERED
40	101936-001	C-CLIP, HARNESS SHANT
39	101935-001	SPACER, C-CLIP, HARNESS
38	101934-001	SHOULDER, HARNESS
37	101933-001	LOCK RING, TAPER SREATH
36	101932-001	SLIDE RING, INNER SREATH
35	101931-001	RETENTION RING, SLTRC WRT
34	101930-001	WHEEL, DISTAL HANDLE
33	EX 101929-001	OP RING, SLITCOIN
32	EX 101928-001	OP RING, SLITCOIN
31	EX 101927-001	OP RING, SLITCOIN
30	EX 101926-001	OP RING, SLITCOIN
29	EX 101925-001	WHEEL, DISTAL HANDLE
28	EX 101924-001	WHEEL, DISTAL HANDLE
27	EX 101923-001	WHEEL, DISTAL HANDLE
26	EX 101922-001	WHEEL, DISTAL HANDLE
25	EX 101921-001	WHEEL, DISTAL HANDLE
24	EX 101920-001	WHEEL, DISTAL HANDLE
23	EX 101919-001	WHEEL, DISTAL HANDLE
22	EX 101918-001	WHEEL, DISTAL HANDLE
21	EX 101917-001	WHEEL, DISTAL HANDLE
20	EX 101916-001	WHEEL, DISTAL HANDLE
19	EX 101915-001	WHEEL, DISTAL HANDLE
18	EX 101914-001	WHEEL, DISTAL HANDLE
17	EX 101913-001	WHEEL, DISTAL HANDLE
16	EX 101912-001	WHEEL, DISTAL HANDLE
15	EX 101911-001	WHEEL, DISTAL HANDLE
14	EX 101910-001	WHEEL, DISTAL HANDLE
13	EX 101909-001	WHEEL, DISTAL HANDLE
12	EX 101908-001	WHEEL, DISTAL HANDLE
11	EX 101907-001	WHEEL, DISTAL HANDLE
10	EX 101906-001	WHEEL, DISTAL HANDLE
9	EX 101905-001	WHEEL, DISTAL HANDLE
8	EX 101904-001	WHEEL, DISTAL HANDLE
7	EX 101903-001	WHEEL, DISTAL HANDLE
6	EX 101902-001	WHEEL, DISTAL HANDLE
5	EX 101901-001	WHEEL, DISTAL HANDLE
4	EX 101900-001	WHEEL, DISTAL HANDLE
3	EX 101899-001	WHEEL, DISTAL HANDLE
2	EX 101898-001	WHEEL, DISTAL HANDLE
1	EX 101897-001	WHEEL, DISTAL HANDLE
0	EX 101896-001	WHEEL, DISTAL HANDLE

# Resolution Option 1:

Place A Parameter In Each “Part” of the Assembly

## PRO s

1. Parameters are free
2. Very Reliable / Consistent
3. Easy to Edit
4. “Tree” Viewable

## CON s

1. You NEED to Control All Parts of Your Assembly.
2. Need to be “UnPromoted” or “Work In Progress”.
3. You modify Parts Adding Parameters.
4. If a part is used in multiple assemblies it would likely REQUIRE multiple Parameters.

# Resolution Option 2:

Use A Text, Table Or File embedded in the Assembly

## PRO / CON s

1. **Difficult to Control, Create / Edit.**
2. **Obscure, Not Intuitive.**
3. **Where do you place it, Consistently.**
4. **Potentially UnClear in it's goal.**
5. **It can be Embedded in Assembly.**

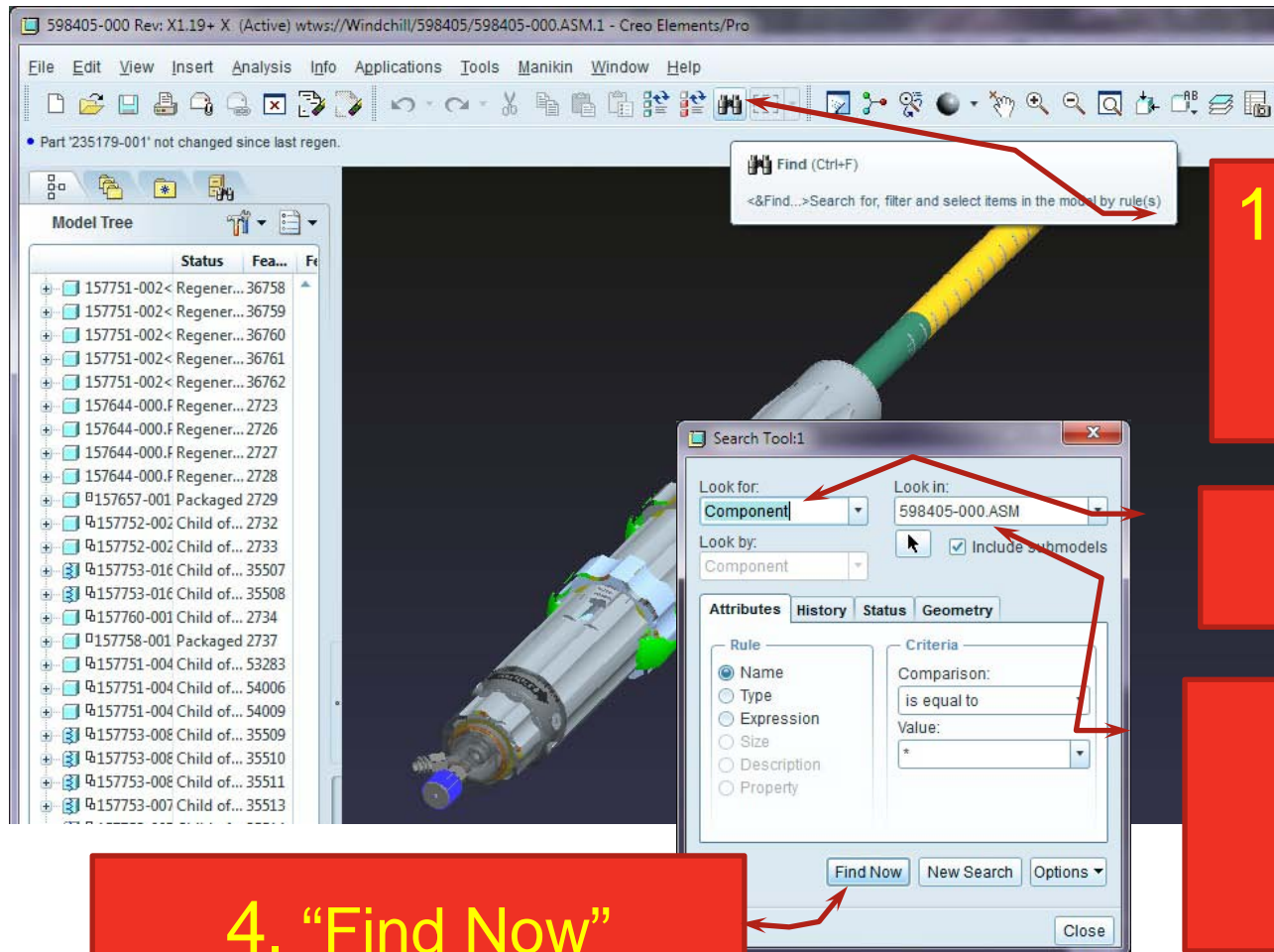
# Resolution Option 3:

Use A “Component” Parameter embedded in the Assembly

## PRO / CON s

1. Easy to Control, Create / Edit.
2. Parameter, it's Free / No Cost.
3. Very Reliable / Consistent.
4. Located in One Place / The Assembly.
5. Very Clear in it's goal.
6. It Is Embedded in Assembly.
7. Can Be Leveraged Across Any Simp Rep / Family.
8. Can Be Tabled For Balloons.
9. Can Be Exportable To MRP.
10. Only Few Ways To Get To It.

# Retrieve / Create Dynamic Table Of Assembly Components



1. Use Find / Search Tool ( Ctrl+F )

2. "Component"

3. Search Tool ( Ctrl+F )  
Look In: ASSY

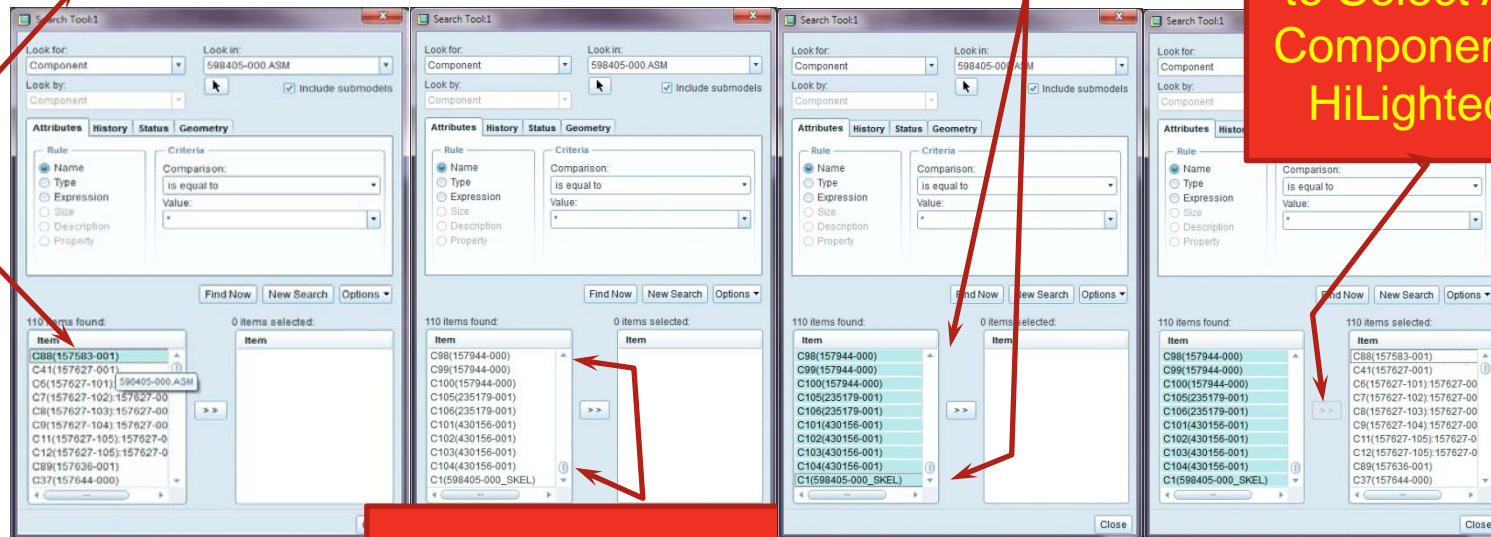
4. "Find Now"

# Retrieve / Create Dynamic Table Of Assembly Components

5. 1<sup>st</sup> Found Component PreSelected / HiLighted

7. All Found Components HiLighted

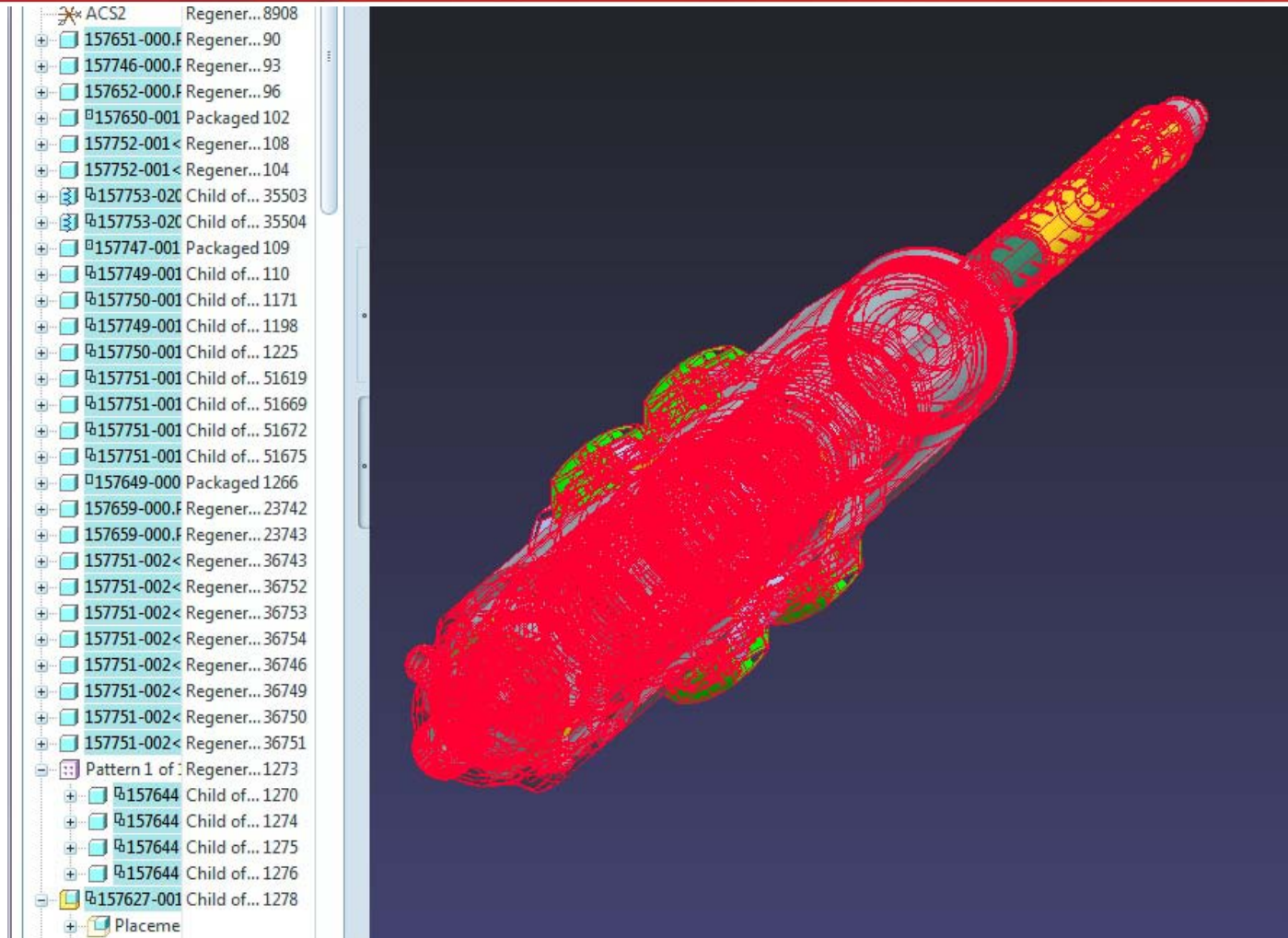
8. Hit Double Arrow Button to Select All Components HiLighted



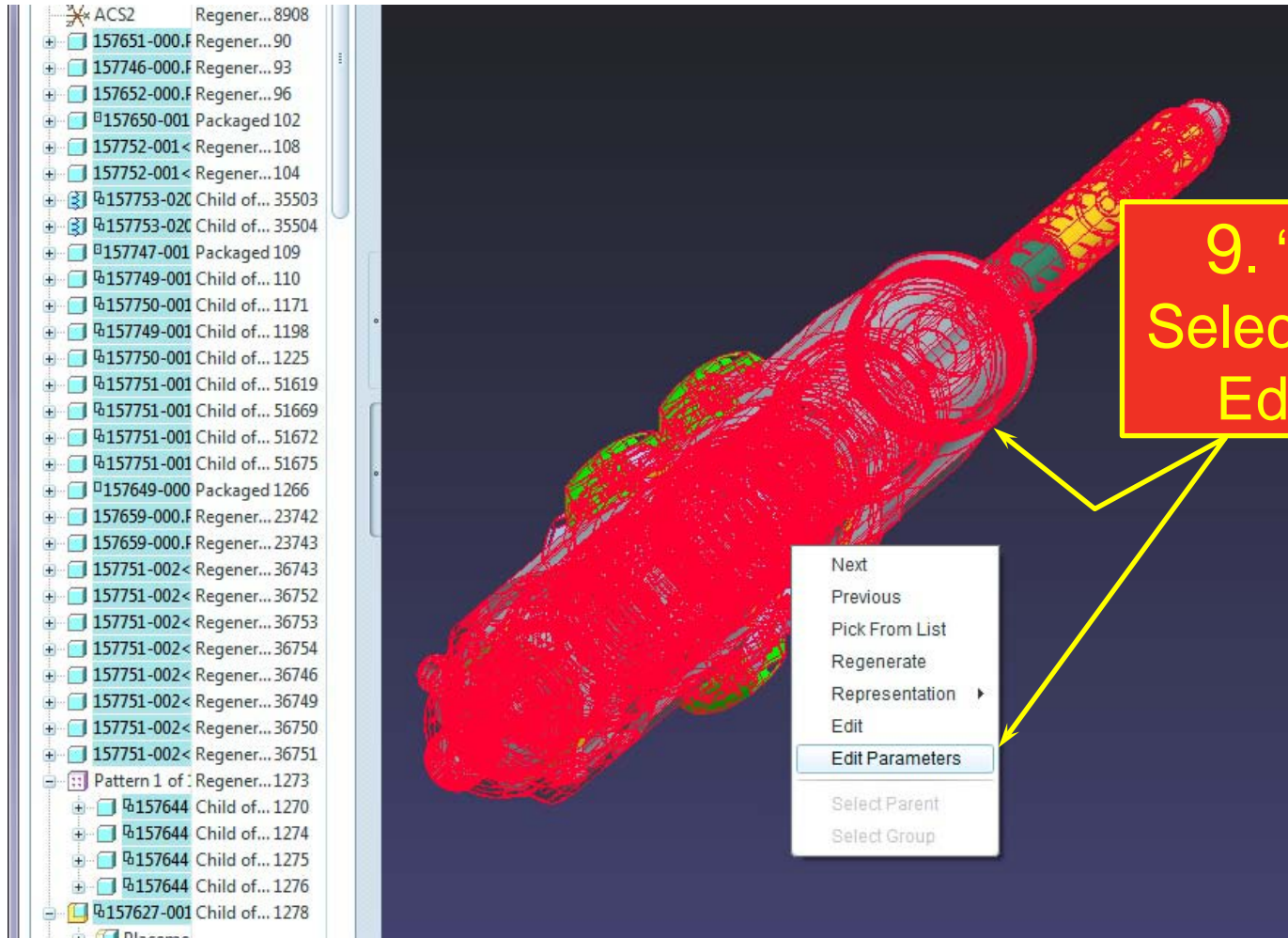
6. Scroll To Bottom Of Found Components



# Retrieve / Create Dynamic Table Of Assembly Components



# Retrieve / Create Dynamic Table Of Assembly Components

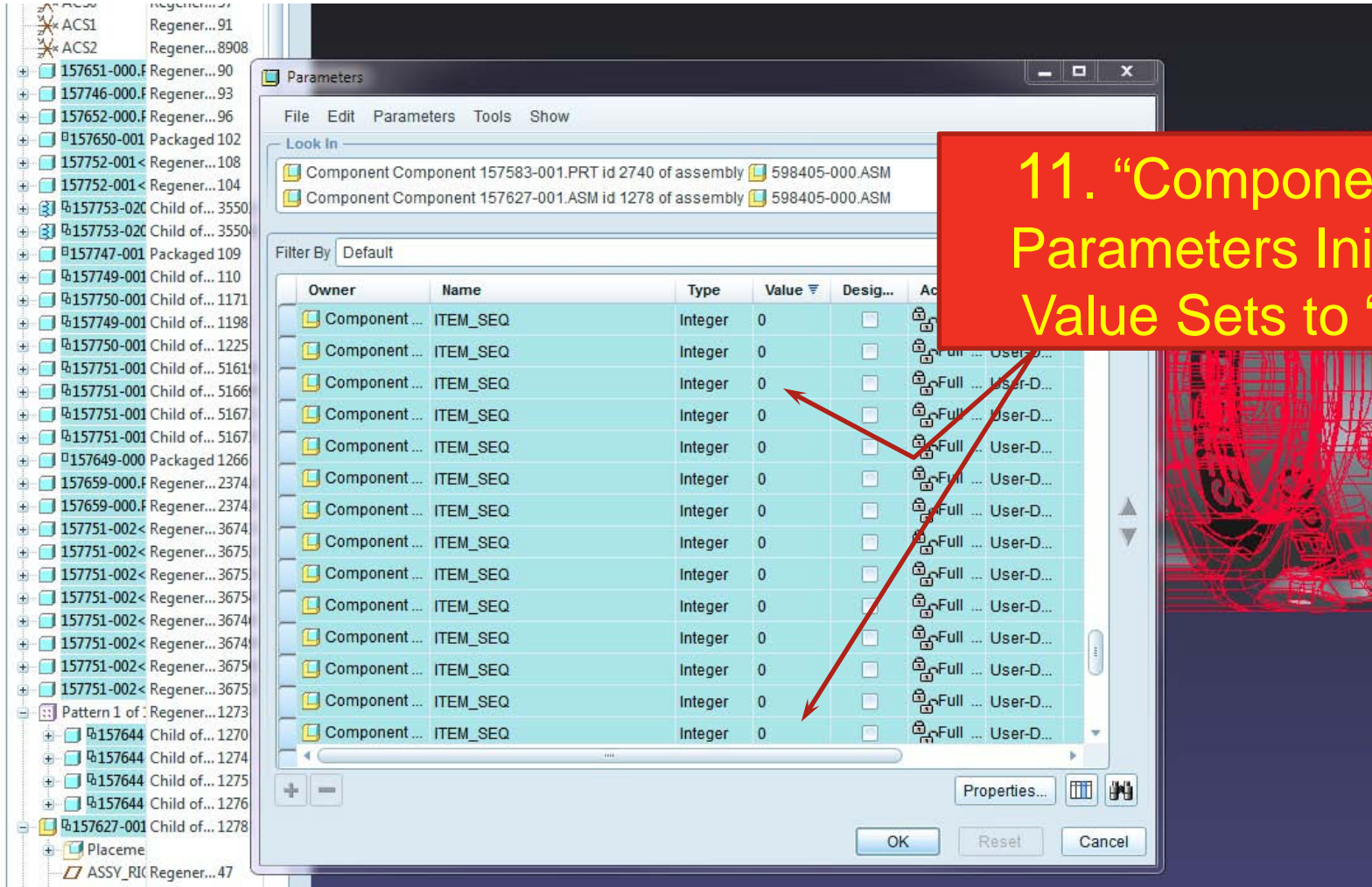


# Retrieve / Create Dynamic Table Of Assembly Components

10. "Component" Parameters Empty

Owner	Name	Type	Value
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# Retrieve / Create Dynamic Table Of Assembly Components (Initial Value-0)



**11. “Component” Parameters Initial Value Sets to “0”**

Owner	Name	Type	Value	Desig...	Ac
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		
Component ...	ITEM_SEQ	Integer	0		

# Retrieve / Create Dynamic Table Of Assembly Components (BOM Values)

Parameters

Look In

- Component Component 157583-001.PRT id 2740 of assembly 598405-000.ASM
- Component Component 157627-001.ASM id 1278 of assembly 598405-000.ASM

Filter By Default

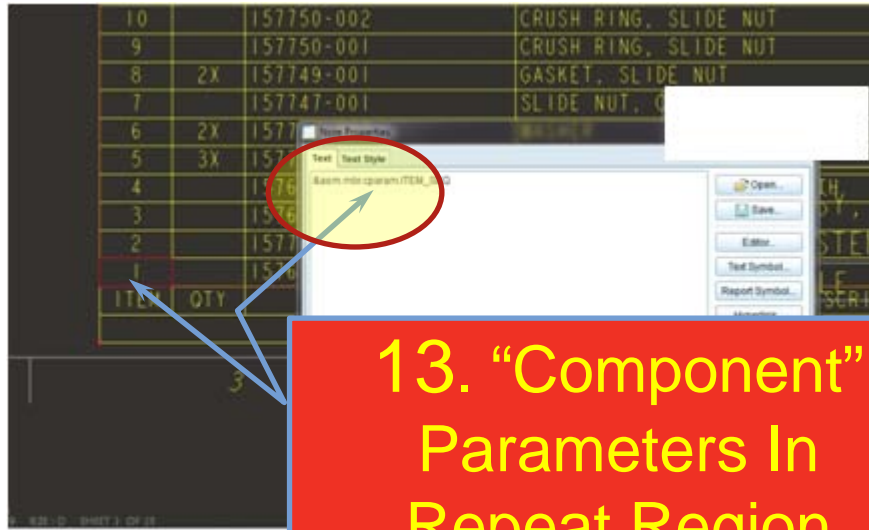
Owner	Name	Type	Value	Desig...
Component ...	ITEM_SEQ	Integer	0	
Component ...	ITEM_SEQ	Integer	1	
Component ...	ITEM_SEQ	Integer	2	
Component ...	ITEM_SEQ	Integer	3	
Component ...	ITEM_SEQ	Integer	4	
Component ...	ITEM_SEQ	Integer	5	
Component ...	ITEM_SEQ	Integer	5	
Component ...	ITEM_SEQ	Integer	5	
Component ...	ITEM_SEQ	Integer	5	
Component ...	ITEM_SEQ	Integer	6	
Component ...	ITEM_SEQ	Integer	6	
Component ...	ITEM_SEQ	Integer	7	
Component ...	ITEM_SEQ	Integer	8	
Component ...	ITEM_SEQ	Integer	8	

12. "Component" Parameters BOM Values Set Correctly

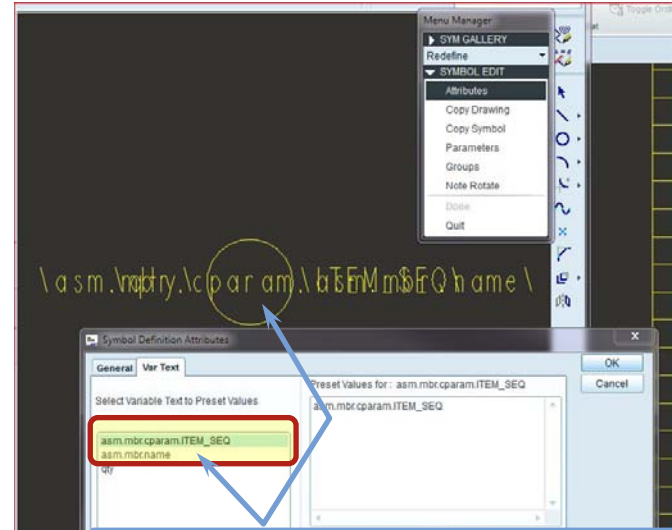
KNOWN CAVEAT  
Duplicate Part Numbers Need Values Set For Each Instance

IDEAL SPOT FOR AN ENHANCEMENT TO THE SOFTWARE TOOL!

# On The Drawing Multiple Reps Can Be Used KNOWING Items Are The Correct Item Number



13. "Component" Parameters In Repeat Region



14. "Component" Parameters In Custom Balloon Symbol

15. Table Sort Order Becomes Irrelevant In Hidden Tables



# On The Drawing Multiple Reps Can Be Used with CONFIDENCE Knowing Items Are The Correct BOM Item Number

