

# Windchill 11 MPMLink – MBOM Buy Part Visualization Issue

# EBOM – Crankshaft Assembly

PTC® Windchill®  
jy620

Part, Document, CAD D... Search ... Quick Links

Products > Virtual Mfg\_POC, Corporate > Design Recently Accessed

Actions Part - 0000000144, ptc-edc\_01-2\_crankshaft.asm, Corporate, A.6 (Engineering) In Work

Details Structure Related Objects Changes History Where Used Traceability Relationship Explorer New Tab 1

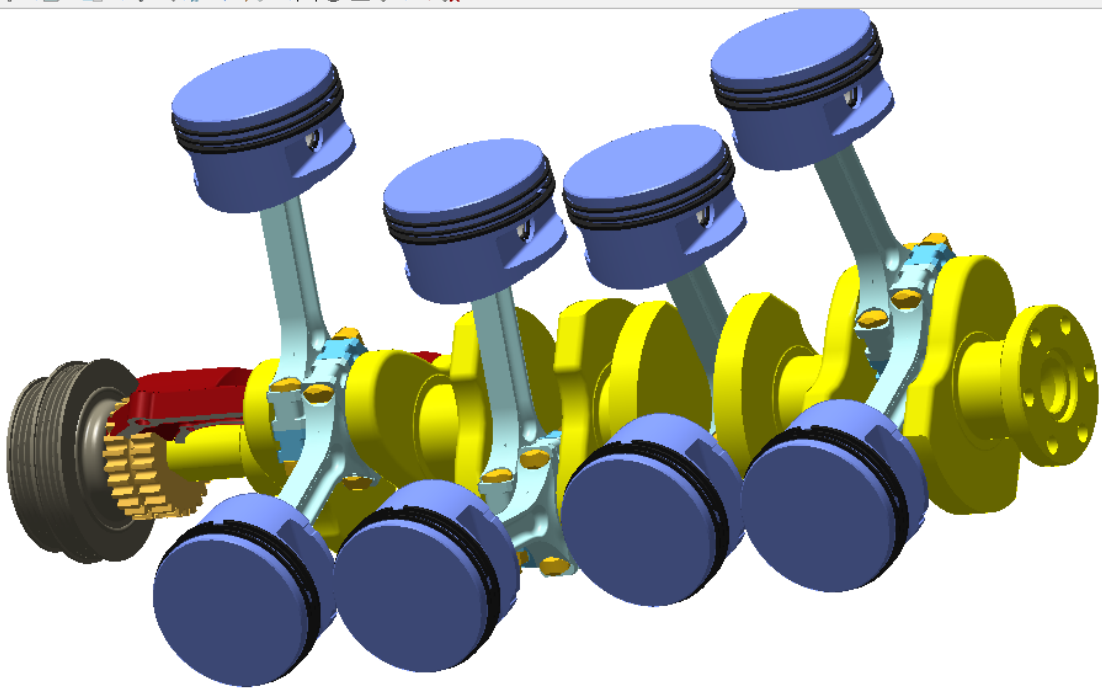
Editing: Insert Existing, Remove, Insert New, Edit  
Check Out/In: Check Out, Revise, Check In, My Checkouts  
Clipboard: Paste, Copy  
Viewing: Show, Views, Hide, Display  
New/Add To: New, Add to  
Filter: Current Filter, Edit Filter, Saved Filters  
Tools: Compare, Open in  
Reports: Reports, Export

Find in Structure

Identity

- 0000000144, ptc-edc\_01-2\_crankshaft.asm, Corporate, A.6 (Engineering)
  - 0000000141, ptc-edc\_01-2\_crankshaft.prt, Corporate, A.2 (Engineering)
  - 0000000143, ptc-edc\_connecting\_rod.asm, Corporate, A.3 (Engineering)
    - 0000000008, ptc-edc\_connecting\_rod\_cap.prt, Corporate, A.2 (Engineering)
    - 0000000015, ptc-edc\_connecting\_rod.prt, Corporate, A.2 (Engineering)
    - 0000000034, ptc-edc\_conn\_rd\_bng.prt, Corporate, A.2 (Engineering)
    - 0000000036, ptc-edc\_connecting\_rod\_bolt.prt, Corporate, A.2 (Engineering)
    - 0000000040, ptc-edc\_coting\_rod\_bt\_nt.prt, Corporate, A.2 (Engineering)
  - 0000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)
    - 0000000146, ptc-edc\_01-2\_piston.prt, Corporate, A.2 (Engineering)
    - 0000000148, ptc-edc\_01-2\_piston\_top\_comp.prt, Corporate, A.1 (Engineering)
    - 0000000152, ptc-edc\_01-2\_piston\_pin.prt, Corporate, A.1 (Engineering)
    - 0000000155, ptc-edc\_piston\_bot\_comp.prt, Corporate, A.1 (Engineering)
    - 0000000160, ptc-edc\_piston\_oil\_comp.prt, Corporate, A.1 (Engineering)
    - 0000000161, ptc-edc\_01-2\_piston\_retainer.prt, Corporate, A.1 (Engineering)
  - 0000000147, ptc-edc\_01-2\_valve\_tg\_spcket.prt, Corporate, A.2 (Engineering)
  - 0000000159, ptc-edc\_01-2\_damper\_pulley.prt, Corporate, A.3 (Engineering)
  - 0000000883, ptc-edc\_oilpump\_housing.prt, Engine, A.1 (Engineering)

Attributes Classification Visualization Uses Occurrences Supersedes



(18 objects)

Navigator

# MBOM Creation

- Consider Piston Assembly is a Buy Part, so in the MBOM Piston Assembly should be added as an End Item (without adding its sub-components)

**Step 1:** MBOM creation without selecting the  
Piston Assembly (BUY)

# MBOM Creation Step 1.1 – Select the Components for BOM transformation

The screenshot displays the Manufacturing Product Structure Explorer [1] : Edit window. The upstream BOM tree on the left shows a hierarchy of components. The downstream table on the right is currently empty. A callout box on the right side of the screen contains the text: "Piston assembly is not selected for transformation".

Number	Name	Organization ...	Version	State	Quantity	Unit
0000000144	ptc-edc_01-2_crankshaft.asm	Corporate	A.6 (Engineering)	In Work		
0000000883	ptc-edc_oilpump_housing.prt	Engine	A.1 (Engineering)	In Work	1	each
0000000141	ptc-edc_01-2_crankshaft.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000145	ptc-edc_01-2_piston.asm	Corporate	A.2 (Engineering)	In Work	8	each
0000000161	ptc-edc_01-2_piston_retainer.prt	Corporate	A.1 (Engineering)	In Work	2	each
0000000152	ptc-edc_01-2_piston_pin.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000160	ptc-edc_piston_oil_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000155	ptc-edc_piston_bot_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000148	ptc-edc_01-2_piston_top_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000146	ptc-edc_01-2_piston.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000147	ptc-edc_01-2_valve_tg_spcket.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000159	ptc-edc_01-2_damper_pulley.prt	Corporate	A.3 (Engineering)	In Work	1	each
0000000143	ptc-edc_connecting_rod.asm	Corporate	A.3 (Engineering)	In Work	8	each
0000000034	ptc-edc_conn_rd_bng.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000040	ptc-edc_coting_rod_bt_nt.prt	Corporate	A.2 (Engineering)	In Work	2	each
0000000008	ptc-edc_connecting_rod_cap.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000015	ptc-edc_connecting_rod.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000036	ptc-edc_connecting_rod_bolt.prt	Corporate	A.2 (Engineering)	In Work	2	each

# MBOM Creation Step 1.2 – Create New Downstream View

The screenshot displays the Manufacturing Product Structure Explorer (MPSE) interface. The main window is titled "Manufacturing Product Structure Explorer [1] : Edit". The interface is split into two panes: "Upstream" and "Downstream".

The "Upstream" pane shows a hierarchical tree of parts. The selected part is "ptc-edc\_01-2\_crankshaft.asm" (Number: 0000000144). Below it, a table lists its sub-components:

Number	Name	Organization ...	Version	State	Quantity	Unit
0000000144	ptc-edc_01-2_crankshaft.asm	Corporate	A.6 (Engineering)	In Work		
0000000883	ptc-edc_oilpump_housing.prt	Engine	A.1 (Engineering)	In Work	1	each
0000000141	ptc-edc_01-2_crankshaft.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000145	ptc-edc_01-2_piston.asm	Corporate	A.2 (Engineering)	In Work	8	each
0000000161	ptc-edc_01-2_piston_retainer.prt	Corporate	A.1 (Engineering)	In Work	2	each
0000000152	ptc-edc_01-2_piston_pin.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000160	ptc-edc_piston_oil_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000155	ptc-edc_piston_bot_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000148	ptc-edc_01-2_piston_top_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000146	ptc-edc_01-2_piston.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000147	ptc-edc_01-2_valve_tg_spcket.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000159	ptc-edc_01-2_damper_pulley.prt	Corporate	A.3 (Engineering)	In Work	1	each
0000000143	ptc-edc_connecting_rod.asm	Corporate	A.3 (Engineering)	In Work	8	each
0000000034	ptc-edc_conn_rd_bng.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000040	ptc-edc_coting_rod_bt_nt.prt	Corporate	A.2 (Engineering)	In Work	2	each
0000000008	ptc-edc_connecting_rod_cap.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000015	ptc-edc_connecting_rod.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000036	ptc-edc_connecting_rod_bolt.prt	Corporate	A.2 (Engineering)	In Work	2	each

The "Downstream" pane is currently empty. A context menu is open over the downstream view, with the following options:

- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Paste
- Paste as New Branch
- Paste as New Part
- Check Out (Ctrl+T)
- Check In... (Ctrl+I)
- Insert Existing...
- Insert New...
- Open in Creo View
- View in Gantt Explorer for Windchill MPMLink
- Open in Explorer...
- Select in Creo View
- Select in Explorer...
- New Downstream View** (highlighted)
- New Downstream Part Number
- Assemble Under New Part

# MBOM Creation Step 1.3 – Plant Specific BOM Created Successfully

The screenshot displays the Manufacturing Product Structure Explorer (MPSE) interface, showing the BOM structure for a plant-specific assembly. The interface is split into two panes: Upstream and Downstream.

**Upstream View:** Shows the parent assembly and its immediate sub-components. The table below lists the components:

Number	Name	Organization	Version	State	Quantity	Unit
0000000144	ptc-edc_01-2_crankshaft.asm	Corporate	A.6 (Engineering)	In Work		
0000000883	ptc-edc_oilpump_housing.prt	Engine	A.1 (Engineering)	In Work	1	each
0000000141	ptc-edc_01-2_crankshaft.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000145	ptc-edc_01-2_piston.asm	Corporate	A.2 (Engineering)	In Work	8	each
0000000161	ptc-edc_01-2_piston_retainer.prt	Corporate	A.1 (Engineering)	In Work	2	each
0000000152	ptc-edc_01-2_piston_pin.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000160	ptc-edc_piston_oil_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000155	ptc-edc_piston_bot_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000148	ptc-edc_01-2_piston_top_comp.prt	Corporate	A.1 (Engineering)	In Work	1	each
0000000146	ptc-edc_01-2_piston.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000147	ptc-edc_01-2_valve_tg_spcket.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000159	ptc-edc_01-2_damper_pulley.prt	Corporate	A.3 (Engineering)	In Work	1	each
0000000143	ptc-edc_connecting_rod.asm	Corporate	A.3 (Engineering)	In Work	8	each
0000000034	ptc-edc_conn_rd_bng.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000040	ptc-edc_coting_rod_bt_nt.prt	Corporate	A.2 (Engineering)	In Work	2	each
0000000008	ptc-edc_connecting_rod_cap.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000015	ptc-edc_connecting_rod.prt	Corporate	A.2 (Engineering)	In Work	1	each
0000000036	ptc-edc_connecting_rod_bolt.prt	Corporate	A.2 (Engineering)	In Work	2	each

**Downstream View:** Shows the detailed BOM structure for the selected piston assembly (0000000145). A red box highlights the piston assembly components:

Number	Name	Organization Name	Version	State	Quantity
0000000144	ptc-edc_01-2_crankshaft.asm	Corporate	A.1 (CIL)	In Work	
0000000141	ptc-edc_01-2_crankshaft.prt	Corporate	A.1 (CIL)	In Work	1
0000000159	ptc-edc_01-2_damper_pulley.prt	Corporate	A.1 (CIL)	In Work	1
0000000145	ptc-edc_01-2_piston.asm	Corporate	A.2 (Engineering)	In Work	8
0000000152	ptc-edc_01-2_piston_pin.prt	Corporate	A.1 (Engineering)	In Work	1
0000000161	ptc-edc_01-2_piston_retainer.prt	Corporate	A.1 (Engineering)	In Work	2
0000000148	ptc-edc_01-2_piston_top_comp.prt	Corporate	A.1 (Engineering)	In Work	1
0000000146	ptc-edc_01-2_piston.prt	Corporate	A.2 (Engineering)	In Work	1
0000000155	ptc-edc_piston_bot_comp.prt	Corporate	A.1 (Engineering)	In Work	1
0000000160	ptc-edc_piston_oil_comp.prt	Corporate	A.1 (Engineering)	In Work	1
0000000147	ptc-edc_01-2_valve_tg_spcket.prt	Corporate	A.1 (CIL)	In Work	1
0000000143	ptc-edc_connecting_rod.asm	Corporate	A.1 (CIL)	In Work	8
0000000034	ptc-edc_conn_rd_bng.prt	Corporate	A.1 (CIL)	In Work	1
0000000036	ptc-edc_connecting_rod_bolt.prt	Corporate	A.1 (CIL)	In Work	2
0000000008	ptc-edc_connecting_rod_cap.prt	Corporate	A.1 (CIL)	In Work	1
0000000015	ptc-edc_connecting_rod.prt	Corporate	A.1 (CIL)	In Work	1
0000000040	ptc-edc_coting_rod_bt_nt.prt	Corporate	A.1 (CIL)	In Work	2
0000000883	ptc-edc_oilpump_housing.prt	Engine	A.1 (CIL)	In Work	1

**Text Box:** Engineering View of the Piston assembly got automatically added to the MBOM

**Step 2:** Add the Piston Assembly (BUY) as an End Item (without adding the Sub-Components)

So removed the Engineering View of the Piston Assembly from the MBOM (created in the Step 1.3)



# MBOM Creation Step 2.1 – Remove the Engineering view of the Piston Asm and its Sub-Components

The screenshot displays two side-by-side windows of the Manufacturing Associative Part Structure Browser. The left window shows the 'Engineering' view, and the right window shows the 'CIL' view. Both windows have a 'Find in Structure' search bar and a 'Current Filter' section. The left window's filter is '[Latest] Engineering, Working', and the right window's filter is '[Latest] CIL, Working'. The left window's table lists components with their identities and counts, with the piston assembly highlighted in red. The right window's table lists components with their identities and counts. Below the tables are tabs for 'Attributes', 'Uses', 'Equivalent', 'Visualization', 'Documentation', 'Process Plan', and 'Alternate BOM'. The bottom of the screenshot shows two 3D visualizations: a piston assembly on the left and a crankshaft assembly on the right. A callout box with a red border and text is positioned over the piston assembly.

Identity	Count
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.6 (Engineering)	✓
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.2 (Engineering)	✓ 1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.3 (Engineering)	✓ 8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.2 (Engineering)	▲ 8
0000000147, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.2 (Engineering)	✓ 1
0000000159, ptc-edc_01-2_damper_pulley.prt, Corporate, A.3 (Engineering)	✓ 1
0000000883, ptc-edc_oilpump_housing.prt, Engine, A.1 (Engineering)	✓ 1

Identity	Count
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.2 (CIL)	✓
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.1 (CIL)	✓ 1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.1 (CIL)	✓ 8
0000000147, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (CIL)	✓ 1
0000000159, ptc-edc_01-2_damper_pulley.prt, Corporate, A.1 (CIL)	✓ 1
0000000883, ptc-edc_oilpump_housing.prt, Engine, A.1 (CIL)	✓ 1

Upstream View –  
Visualization shows the Piston  
Asm as not consumed in  
MBOM

# MBOM Creation Step 2.2 – Copy the Piston Assembly from Upstream View

The screenshot displays two side-by-side windows of the Manufacturing Associative Part Structure Browser. The left window is titled "Manufacturing Associative Part Structure Browser - Mozilla Firefox" and shows the "Engineering, Working" view. The right window shows the "CIL, Working" view.

**Left Window (Engineering, Working):**

- Current Filter: [Latest] Engineering, Working
- Identity table:

Identity	Q...
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.6 (Engineering)	✓
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.2 (Engineering)	✓ 1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.3 (Engineering)	✓ 8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.2 (Engineering)	▲ 8
0000000146, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000147, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000148, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000149, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000150, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000151, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000152, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000153, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000154, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000155, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000156, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000157, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000158, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000159, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000160, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000161, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000162, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000163, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000164, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000165, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000166, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000167, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000168, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000169, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000170, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000171, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000172, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000173, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000174, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000175, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000176, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000177, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000178, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000179, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000180, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000181, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000182, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000183, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000184, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000185, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000186, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000187, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000188, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000189, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000190, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000191, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000192, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000193, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000194, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000195, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000196, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000197, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000198, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000199, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
0000000200, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (Engineering)	▲ 1
- Context menu for the selected piston assembly:
  - View Information
  - Open in Creo View
  - Select Equivalent Parts on Other Side
  - Cut
  - Copy
  - Paste
  - Remove
  - New Downstream Branch
  - New Downstream Part
  - Duplicate
  - Check Out/In
  - Insert
  - Edit
  - Expand by
- 3D visualization of four cyan pistons.

**Right Window (CIL, Working):**

- Current Filter: [Latest] CIL, Working
- Identity table:

Identity	Q...
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.2 (CIL)	✓
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.1 (CIL)	✓ 1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.1 (CIL)	✓ 8
0000000147, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (CIL)	✓ 1
0000000159, ptc-edc_01-2_damper_pulley.prt, Corporate, A.1 (CIL)	✓ 1
0000000883, ptc-edc_oilpump_housing.prt, Engine, A.1 (CIL)	✓ 1
- 3D visualization of a complete engine assembly with yellow pistons.

# MBOM Creation Step 2.3 – Paste the Piston Assembly as New Branch

The image displays two side-by-side screenshots of the Manufacturing Associative Part Structure Browser (MAPS) interface, showing the process of creating a new branch for a piston assembly.

**Left Screenshot:** The browser window shows a tree view of parts. The current filter is "[Latest] Engineering, Working". The selected part is "000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)". The tree view shows a hierarchy of parts, including "000000144, ptc-edc\_01-2\_crankshaft.asm, Corporate, A.6 (Engineering)" and "000000141, ptc-edc\_01-2\_crankshaft.prt, Corporate, A.2 (Engineering)". The bottom view shows a 3D model of the piston assembly.

**Right Screenshot:** The browser window shows the same tree view, but the current filter is "[Latest] CIL, Working". The selected part is "000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)". A context menu is open over the selected part, showing the following options:

- View Information
- Open in Creo View
- Select Equivalent Parts on Other Side
- Revise with Current Link
- Update to Current Upstream Equivalent Object
- Cut
- Copy
- Paste
- Paste as New Branch**
- Paste as New Part
- Remove
- New Downstream Branch
- New Downstream Part
- Duplicate
- Replace
- Check Out/In
- Insert
- Edit
- Expand by

The bottom view shows a 3D model of the piston assembly, which is highlighted in yellow.

**Option 1: “Do not duplicate”** option for the Child Structure while adding the Piston Assembly in the MBOM

# MBOM Creation Step 2.4 – Select “Do not duplicate” option for the Child Structure

The screenshot displays the Manufacturing Associative Part Structure Browser interface. A central dialog box titled "Paste as New Branch" is open, showing configuration options for a new object branch. The "Child Structure Options" dropdown menu is highlighted with a red box and set to "Do not duplicate".

**Dialog Box Configuration:**

- New Object Branch:**
  - Downstream View: CIL
  - Downstream BOM Type: (empty)
  - Downstream Alternate BOM: (empty)
- New Object Definition:**
  - Child Structure Options: Do not duplicate
  - Downstream Context: Virtual Mfg\_POC
  - Downstream Location: /Virtual Mfg\_POC
- New Object Identification:**
  - Selected Upstream Object: 0000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)
  - Existing Downstream Object: (empty)

**Background Interface:**

- Tree View:** Shows a hierarchy of parts including crankshafts, connecting rods, and pistons.
- Table:** Lists downstream objects with columns for object name, status, and quantity.
- 3D View:** Displays a 3D model of a piston assembly.

Object Name	Status	Quantity
A.1 (CIL)	✓	1
A.1 (CIL)	✓	8
rate, A.1 (CIL)	✓	1
ate, A.1 (CIL)	✓	1
.1 (CIL)	✓	1

# MBOM Creation Step 2.5 – Piston Assembly added to MBOM without adding its child-components

The screenshot displays two side-by-side windows of the Manufacturing Associative Part Structure Browser. The left window is titled 'Manufacturing Associative Part Structure Browser - Mozilla Firefox' and shows the 'Engineering' view. The right window shows the 'CIL' view.

**Engineering View (Left):**

- Current Filter: [Latest] Engineering, Working
- Identity table:

Identity	Q...
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.6 (Engineering)	✓
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.2 (Engineering)	✓ 1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.3 (Engineering)	✓ 8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.2 (Engineering)	✓ 8
0000000146, ptc-edc_01-2_piston.prt, Corporate, A.2 (Engineering)	1
0000000148, ptc-edc_01-2_piston_top_comp.prt, Corporate, A.1 (Engineering)	1
0000000152, ptc-edc_01-2_piston_pin.prt, Corporate, A.1 (Engineering)	1
0000000155, ptc-edc_piston_bot_comp.prt, Corporate, A.1 (Engineering)	1
0000000160, ptc-edc_piston_oil_comp.prt, Corporate, A.1 (Engineering)	1
0000000161, ptc-edc_01-2_piston_retainer.prt, Corporate, A.1 (Engineering)	2
- Visualization shows 13 objects, including several blue piston components.

**CIL View (Right):**

- Current Filter: [Latest] CIL, Working
- Identity table:

Identity	Q...
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.2 (CIL)	✓ 1
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.1 (CIL)	✓ 1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.1 (CIL)	✓ 8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.1 (CIL)	✓ 8
0000000147, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (CIL)	✓ 1
0000000159, ptc-edc_01-2_damper_pulley.prt, Corporate, A.1 (CIL)	✓ 1
0000000883, ptc-edc_oilpump_housing.prt, Engine, A.1 (CIL)	✓ 1
- Visualization shows 7 objects, including a yellow piston assembly.

**Callout Box:**

Upstream View – Visualization shows the Piston Asm as not consumed in MBOM

**Option 2:** “Duplicate with Propagating” option for the Child Structure while adding the Piston Assembly in the MBOM

**Note:** Piston Asm is removed from the MBOM before proceeding with Step 2.6

# MBOM Creation Step 2.6 – Select “Duplicate with Propagating” option for the Child Structure

Manufacturing Associative Part Structure Browser - Mozilla Firefox

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Find in Structure

Current Filter: [Latest] Engineering, Working

Identity

- 0000000144, ptc-edc\_01-2\_crankshaft.asm, Corporate, A.6 (Engineering)
- 0000000141, ptc-edc\_01-2\_crankshaft.prt, Corporate, A.2 (Engineering)
- 0000000143, ptc-edc\_connecting\_rod.asm, Corporate, A.3 (Engineering)
- 0000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)**
- 0000000146, ptc-edc\_01-2\_piston.prt, Corporate, A.2 (Engineering)
- 0000000148, ptc-edc\_01-2\_piston\_top\_comp.prt, Corporate, A.2 (Engineering)
- 0000000152, ptc-edc\_01-2\_piston\_pin.prt, Corporate, A.2 (Engineering)
- 0000000155, ptc-edc\_piston\_bot\_comp.prt, Corporate, A.2 (Engineering)
- 0000000160, ptc-edc\_piston\_oil\_comp.prt, Corporate, A.2 (Engineering)
- 0000000161, ptc-edc\_01-2\_piston\_retainer.prt, Corporate, A.2 (Engineering)

(13 objects)

Attributes Uses Equivalent Visualization Documents

Y  
X  
Z

**Paste as New Branch**

**New Object Branch**

- Downstream View: CIL
- Downstream BOM Type:
- Downstream Alternate BOM:

**New Object Definition**

- Child Structure Options: Duplicate with propagating
- Downstream Context: Virtual Mfg\_POC
- Downstream Location: /Virtual Mfg\_POC

**New Object Identification**

- Selected Upstream Object: 0000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)
- Existing Downstream Object:

OK Cancel Recalculate

Checkout successful

Item	Quantity
1	1
1 (CIL)	8
1 (CIL)	1
1 (CIL)	1
1 (CIL)	1

ation Process Plan Alternate BOM

Y  
X  
Z

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# MBOM Creation Step 2.7 – Piston Assembly added to MBOM along with its child-components

The screenshot displays two side-by-side views of the Manufacturing Associative Part Structure Browser. The left view shows the MBOM for the 'Engineering, Working' filter, listing various components including the piston assembly (0000000145). The right view shows the MBOM for the 'CIL, Working' filter, where the piston assembly (0000000145) and its sub-components are highlighted with a red box, indicating they are being added to the MBOM as a buy part.

**Left Panel (Engineering, Working):**

Identity	Quantity
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.6 (Engineering)	1
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.2 (Engineering)	1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.3 (Engineering)	8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.2 (Engineering)	8
0000000146, ptc-edc_01-2_piston.prt, Corporate, A.2 (Engineering)	1
0000000148, ptc-edc_01-2_piston_top_comp.prt, Corporate, A.1 (Engineering)	1
0000000152, ptc-edc_01-2_piston_pin.prt, Corporate, A.1 (Engineering)	1
0000000155, ptc-edc_piston_bot_comp.prt, Corporate, A.1 (Engineering)	1
0000000160, ptc-edc_piston_oil_comp.prt, Corporate, A.1 (Engineering)	1
0000000161, ptc-edc_01-2_piston_retainer.prt, Corporate, A.1 (Engineering)	2

**Right Panel (CIL, Working):**

Identity	Quantity
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.3 (CIL)	1
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.1 (CIL)	1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.1 (CIL)	8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.1 (CIL)	8
0000000146, ptc-edc_01-2_piston.prt, Corporate, A.1 (CIL)	1
0000000148, ptc-edc_01-2_piston_top_comp.prt, Corporate, A.1 (CIL)	1
0000000152, ptc-edc_01-2_piston_pin.prt, Corporate, A.1 (CIL)	1
0000000155, ptc-edc_piston_bot_comp.prt, Corporate, A.1 (CIL)	1
0000000160, ptc-edc_piston_oil_comp.prt, Corporate, A.1 (CIL)	1
0000000161, ptc-edc_01-2_piston_retainer.prt, Corporate, A.1 (CIL)	2

**Text Box:**

Piston Assembly along with its sub-components added to the MBOM

Intention is to have the Piston Assembly as Buy Part (End Item) in MBOM!

**Visualization:** The bottom right panel shows a 3D model of the piston assembly, consisting of four pistons and connecting rods, rendered in blue and yellow.

**Option 3:** “Duplicate without Propagating” option for the Child Structure while adding the Piston Assembly in the MBOM

**Note:** Piston Asm is removed from the MBOM before proceeding with Step 2.8

# MBOM Creation Step 2.6 – Select “Duplicate without Propagating” option for the Child Structure

The screenshot shows the 'Manufacturing Associative Part Structure Browser - Mozilla Firefox' window. The main interface displays a tree view of parts on the left and a 3D model of a piston assembly on the right. A 'Paste as New Branch' dialog box is open in the center, with the following settings:

- New Object Branch**
  - Downstream View: CIL
  - Downstream BOM Type: (empty)
  - Downstream Alternate BOM: (empty)
- New Object Definition**
  - Child Structure Options: Duplicate without propagating
  - Downstream Context: Virtual Mfg\_POC
  - Downstream Location: /Virtual Mfg\_POC
- New Object Identification**
  - Selected Upstream Object: 0000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.2 (Engineering)
  - Existing Downstream Object: (empty)

Buttons at the bottom of the dialog are OK, Cancel, and Recalculate. A 'Checkout successful' message is visible in the top right corner of the browser window.

# MBOM Creation Step 2.7 – Piston Assembly added to MBOM along with its child-components

The screenshot displays two side-by-side windows of the Manufacturing Associative Part Structure Browser. The left window shows the 'Engineering' view, and the right window shows the 'CIL' (Customer Item List) view. Both windows show a hierarchical tree of parts. In the right window, the part '0000000145, ptc-edc\_01-2\_piston.asm, Corporate, A.1 (CIL)' is highlighted with a red box, indicating it is the selected assembly. Below the tree, a 3D model of the piston assembly is shown, consisting of various components like the piston, connecting rod, and crankshaft.

**Engineering View (Left Window):**

Identity	Quantity
0000000144, ptc-edc_01-2_crankshaft.asm, Corporate, A.6 (Engineering)	1
0000000141, ptc-edc_01-2_crankshaft.prt, Corporate, A.2 (Engineering)	1
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.3 (Engineering)	8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.2 (Engineering)	8
0000000146, ptc-edc_01-2_piston.prt, Corporate, A.2 (Engineering)	1
0000000148, ptc-edc_01-2_piston_top_comp.prt, Corporate, A.1 (Engineering)	1
0000000152, ptc-edc_01-2_piston_pin.prt, Corporate, A.1 (Engineering)	1
0000000155, ptc-edc_piston_bot_comp.prt, Corporate, A.1 (Engineering)	1
0000000160, ptc-edc_piston_oil_comp.prt, Corporate, A.1 (Engineering)	1
0000000161, ptc-edc_01-2_piston_retainer.prt, Corporate, A.1 (Engineering)	2

**CIL View (Right Window):**

Identity	Quantity
0000000143, ptc-edc_connecting_rod.asm, Corporate, A.1 (CIL)	8
0000000145, ptc-edc_01-2_piston.asm, Corporate, A.1 (CIL)	8
0000000146, ptc-edc_01-2_piston.prt, Corporate, A.2 (Engineering)	1
0000000148, ptc-edc_01-2_piston_top_comp.prt, Corporate, A.1 (Engineering)	1
0000000152, ptc-edc_01-2_piston_pin.prt, Corporate, A.1 (Engineering)	1
0000000155, ptc-edc_piston_bot_comp.prt, Corporate, A.1 (Engineering)	1
0000000160, ptc-edc_piston_oil_comp.prt, Corporate, A.1 (Engineering)	1
0000000161, ptc-edc_01-2_piston_retainer.prt, Corporate, A.1 (Engineering)	2
0000000147, ptc-edc_01-2_valve_tg_spcket.prt, Corporate, A.1 (CIL)	1
0000000159, ptc-edc_01-2_damper_pulley.prt, Corporate, A.1 (CIL)	1

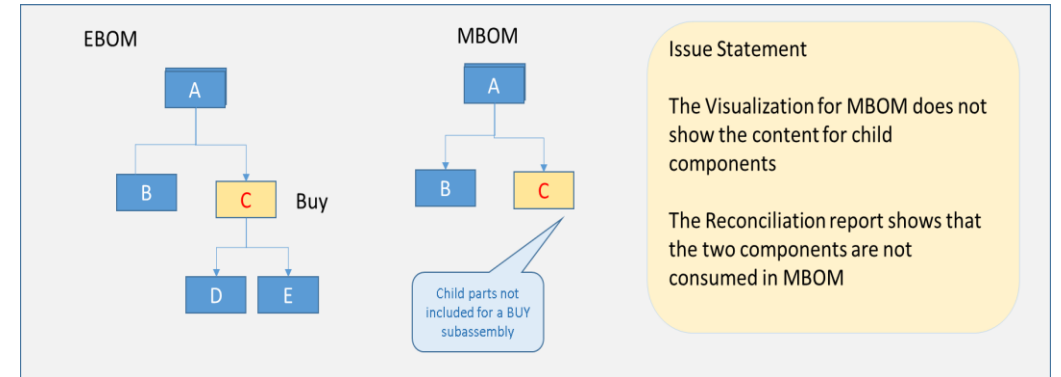
**Text Box:**

Piston Assembly along with its sub-components (in Engineering View) added to the MBOM

Intention is to have the Piston Assembly as Buy Part (End Item) in MBOM!

# Issue Description

- When the piston assembly is added to the MBOM with “Do not duplicate” child structure option, Downstream view **visualization does not show the Piston Assembly**
- When the piston assembly is added to the MBOM either with “Duplicate without Propagating” or “Duplicate with Propagating”, Downstream view visualization shows the Piston Assembly but Piston Asm is not added as an end item in the MBOM! (child components got added to the MBOM)



**Is there any way we can add Piston assembly as End Item in MBOM with the Downstream view displaying the visualization of the Piston Assembly ?**