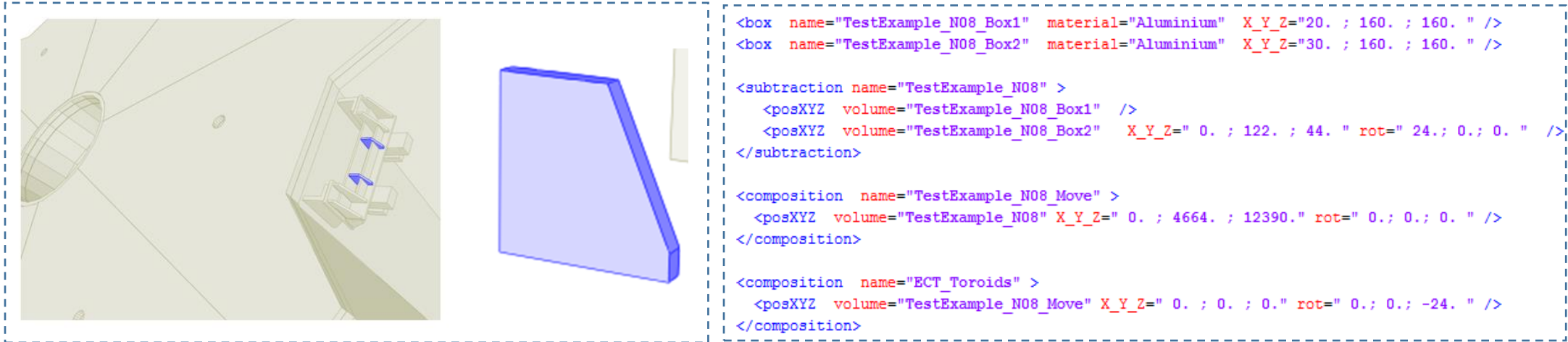


დანართი 2

სატესტო მაგალითების საკვლევ ჯგუფებში შემავალი
ქვე-შემთხვევების აღწერის ნიმუშები

სატესტო მაგალითი №08



The image shows a 3D CAD model of a mechanical part on the left, which is a blue rectangular plate with a slanted top edge. On the right, the corresponding STL code is displayed within a dashed box. The code defines two boxes, a subtraction operation, and two composition operations.

```

<box name="TestExample_N08_Box1" material="Aluminium" X_Y_Z="20. ; 160. ; 160. " />
<box name="TestExample_N08_Box2" material="Aluminium" X_Y_Z="30. ; 160. ; 160. " />

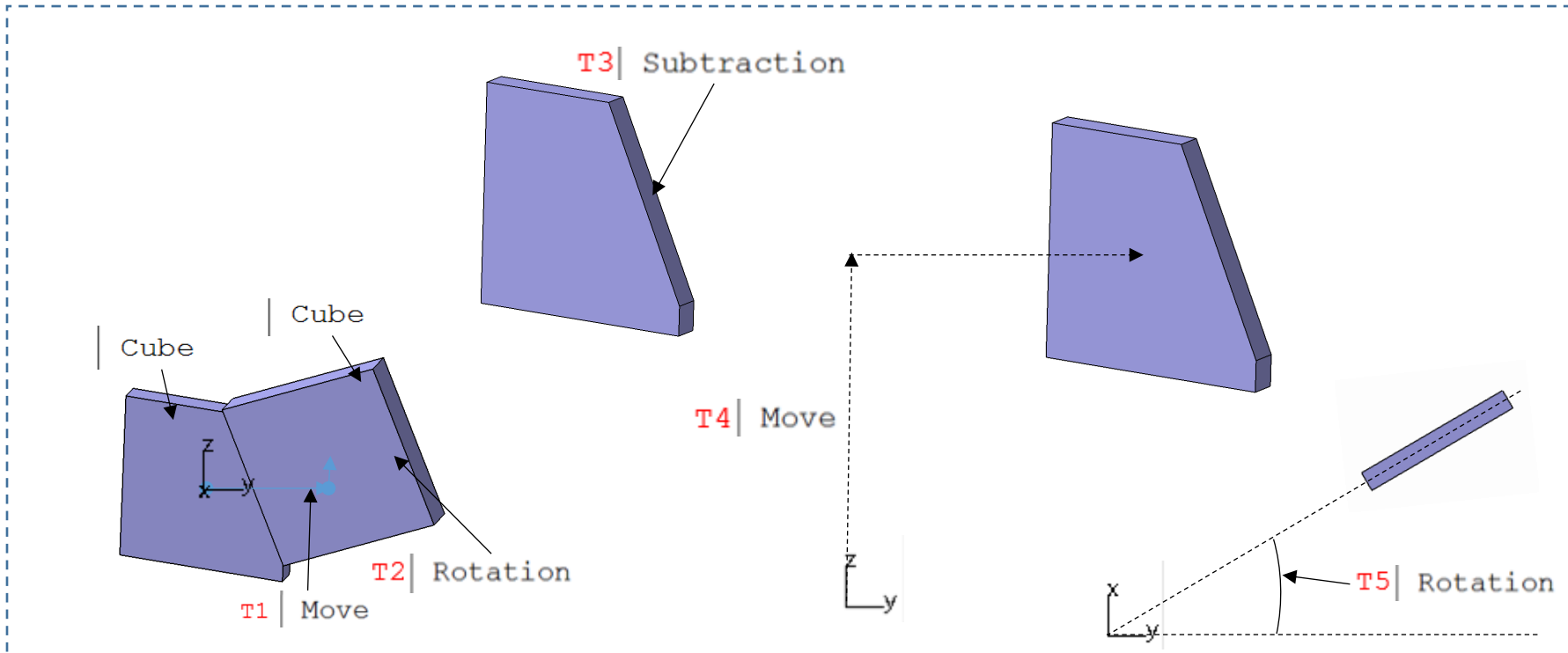
<subtraction name="TestExample_N08" >
  <posXYZ volume="TestExample_N08_Box1" />
  <posXYZ volume="TestExample_N08_Box2" X_Y_Z=" 0. ; 122. ; 44. " rot=" 24.; 0.; 0. " />
</subtraction>

<composition name="TestExample_N08_Move" >
  <posXYZ volume="TestExample_N08" X_Y_Z=" 0. ; 4664. ; 12390." rot=" 0.; 0.; 0. " />
</composition>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExample_N08_Move" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; -24. " />
</composition>

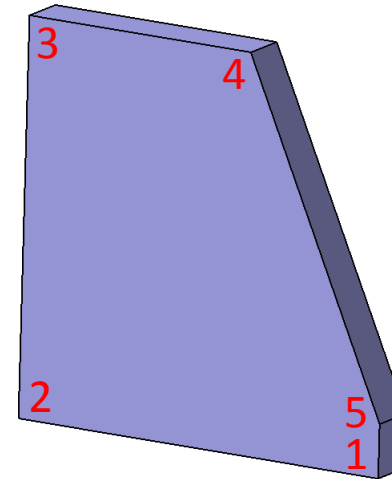
```

- Cube
- Cube
- T1 Move
- T2 Rotation
- T3 Subtraction
- T4 Move
- T5 Rotation



სატესტო მაგალითი №08-ის ტესტირების შედეგი

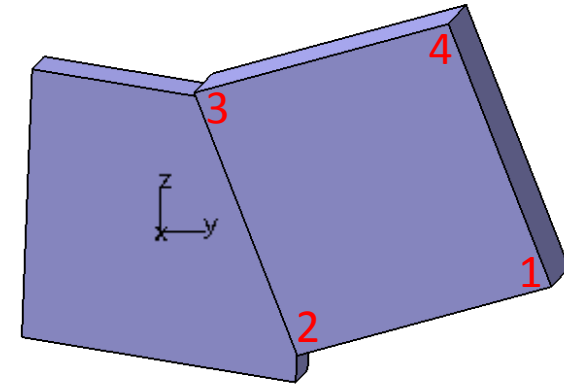
		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	-0.01	-0.01
	z	0	0
5	x	0	0
	y	0	0
	z	-0.01	-0.01
მოცულობა		0	0



ქვე-შემთხვევა #01: T1/T2 ტრანზაქციის ოპერაცია

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
მოცულობა		0	0

	Cube
	Cube
T1	Move
T2	Rotation
T3	Subtraction
T4	Move
T5	Rotation



```

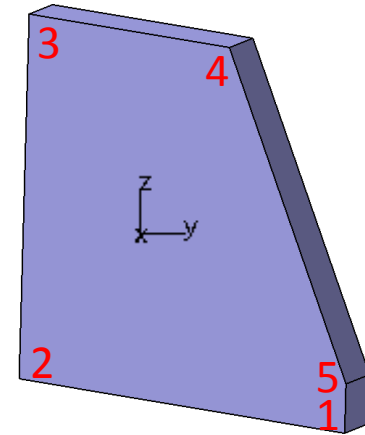
<box name="TestExample_N08_Box1" material="Aluminium" X_Y_Z="20. ; 160. ; 160. " />
<box name="TestExample_N08_Box2" material="Aluminium" X_Y_Z="30. ; 160. ; 160. " />
<composition name="TestExample_N08" >
  <posXYZ volume="TestExample_N08_Box1" />
  <posXYZ volume="TestExample_N08_Box2" X_Y_Z=" 0. ; 122. ; 44. " rot=" 24.; 0.; 0. " />
</composition>
<composition name="TestExample_N08_Move" >
  <posXYZ volume="TestExample_N08" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExample_N08_Move" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>

```

ქვე-შემთხვევა #02: T1/T2 ტრანზაქციის ოპერაცია T3 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	-0.01	-0.01
	z	0	0
5	x	0	0
	y	0	0
	z	-0.01	-0.01
მოცულობა		0	0

	Cube
	Cube
T1	Move
T2	Rotation
T3	Subtraction
T4	Move
T5	Rotation



```

<box name="TestExample_N08_Box1" material="Aluminium" X_Y_Z="20. ; 160. ; 160. " />
<box name="TestExample_N08_Box2" material="Aluminium" X_Y_Z="30. ; 160. ; 160. " />

<subtraction name="TestExample_N08" >
  <posXYZ volume="TestExample_N08_Box1" />
  <posXYZ volume="TestExample_N08_Box2" X_Y_Z=" 0. ; 122. ; 44. " rot=" 24.; 0.; 0. " />
</subtraction>

<composition name="TestExample_N08_Move" >
  <posXYZ volume="TestExample_N08" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExample_N08_Move" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>

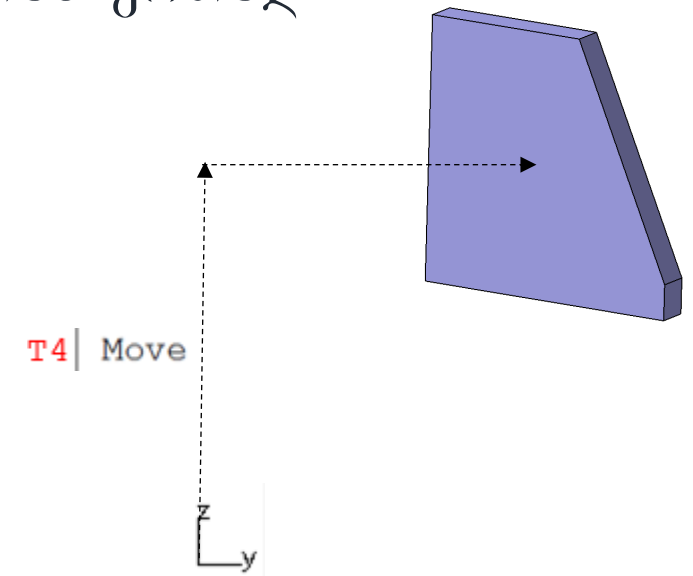
```

ქვე-შემთხვევა #03: T4 გადაადგილების ტრანზაქცია T1/T2 ტრანზაქციის ოპერაციასა და T3 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	-0.01	-0.01
	z	0	0
5	x	0	0
	y	0	0
	z	-0.01	-0.01
მოცულობა		0	0

```

Cube
Cube
T1 Move
T2 Rotation
T3 Subtraction
T4 Move
T5 Rotation
    
```



```

<box name="TestExample_N08_Box1" material="Aluminium" X_Y_Z="20. ; 160. ; 160. " />
<box name="TestExample_N08_Box2" material="Aluminium" X_Y_Z="30. ; 160. ; 160. " />

<subtraction name="TestExample_N08" >
  <posXYZ volume="TestExample_N08_Box1" />
  <posXYZ volume="TestExample_N08_Box2" X_Y_Z=" 0. ; 122. ; 44. " rot=" 24.; 0.; 0. " />
</subtraction>

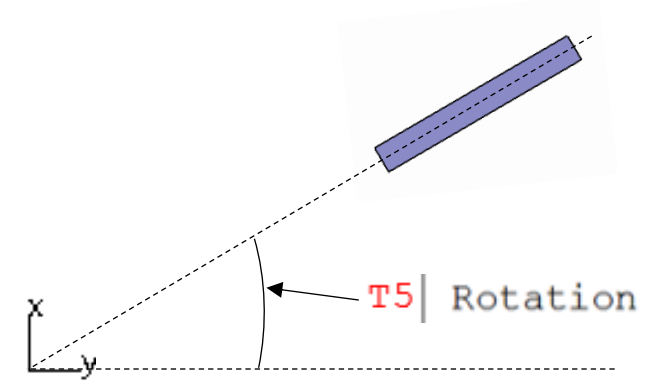
<composition name="TestExample_N08_Move" >
  <posXYZ volume="TestExample_N08" X_Y_Z=" 0. ; 4664. ; 12390." rot=" 0.; 0.; 0. " />
</composition>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExample_N08_Move" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>
    
```

ქვე-შემთხვევა #04: T5 შემოტრიალების ტრანზაქცია T1/T2 ტრანზაქციის ოპერაციასა და T3 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	-0.01	-0.01
	z	0	0
5	x	0	0
	y	0	0
	z	-0.01	-0.01
მოცულობა		0	0

- Cube
- Cube
- T1 Move
- T2 Rotation
- T3 Subtraction
- T4 Move
- T5 Rotation



```

<box name="TestExample_N08_Box1" material="Aluminium" X_Y_Z="20. ; 160. ; 160. " />
<box name="TestExample_N08_Box2" material="Aluminium" X_Y_Z="30. ; 160. ; 160. " />

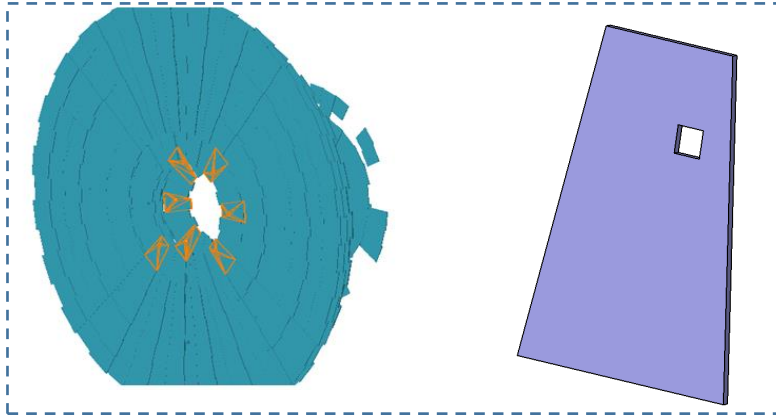
<subtraction name="TestExample_N08" >
  <posXYZ volume="TestExample_N08_Box1" />
  <posXYZ volume="TestExample_N08_Box2" X_Y_Z=" 0. ; 122. ; 44. " rot=" 24.; 0.; 0. " />
</subtraction>

<composition name="TestExample_N08_Move" >
  <posXYZ volume="TestExample_N08" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExample_N08_Move" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; -24. " />
</composition>

```

სატესტო მაგალითი №15



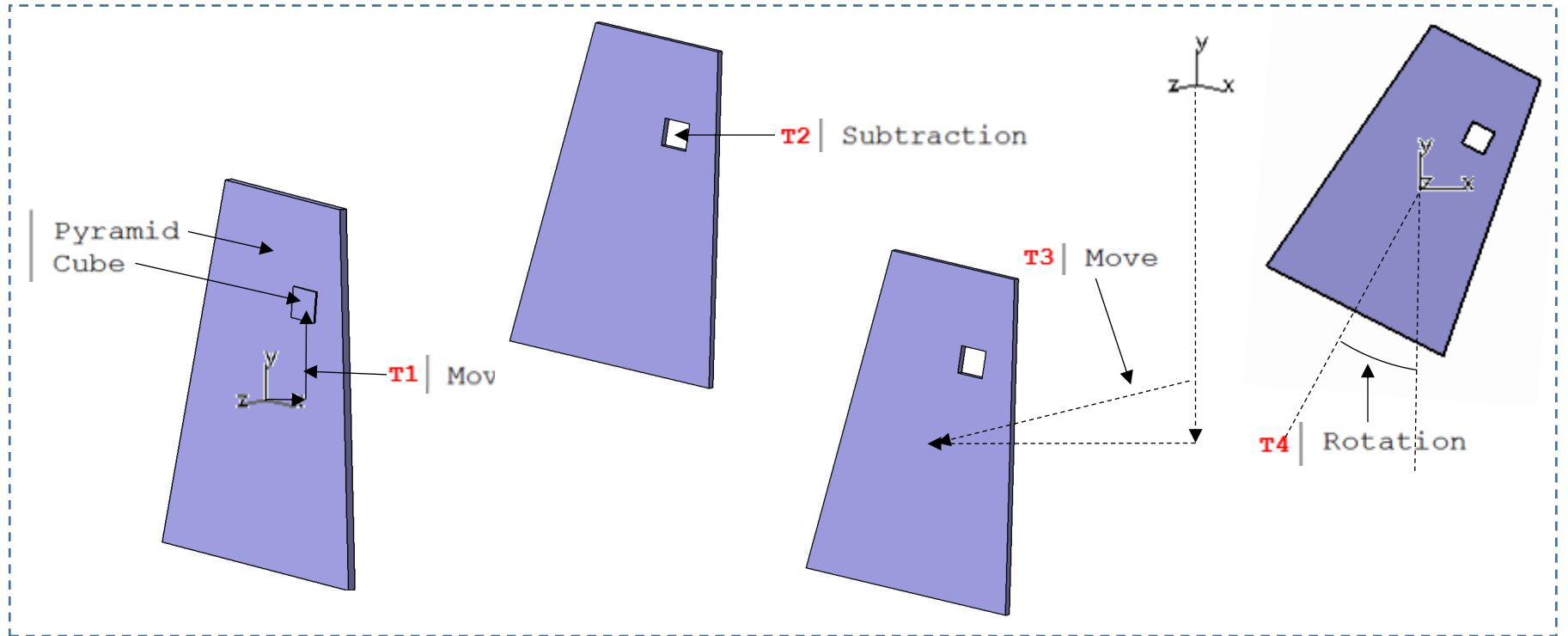
```

<trd name="pyramidn15" material="Aluminium" Xmp_Ymp_Z="44.; 44.; 1229.; 755.; 1795.0" />
<box name="boxn15" material="Aluminium" X_Y_Z="44.; 150.; 150."/>

<subtraction name="Example_N15" >
  <posXYZ volume="pyramidn15" X_Y_Z=" 0.; 0. ; 0." rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="boxn15" X_Y_Z=" 0. ; -195.5 ; 404.5 " rot=" 0. ; 0. ; 0. "/>
</subtraction>

<composition name="ECT_Toroids" >
  <posXYZ volume="Example_N15" X_Y_Z=" -1340. ; -3240. ; 15040." rot=" -67.5; 90.; 0. " />
</composition>
    
```

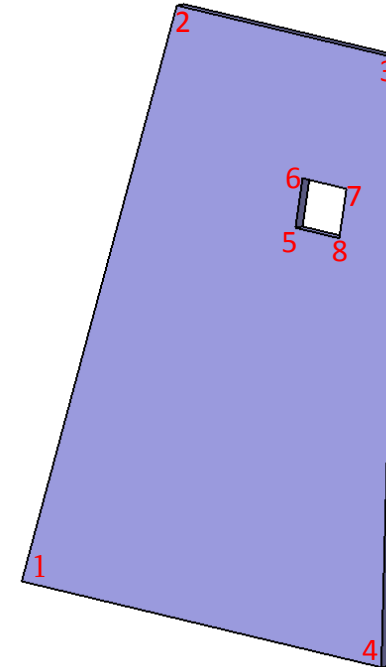
- Pyramid
- Cube
- T1** Move
- T2** Subtraction
- T3** Move
- T4** Rotation



სატესტო მაგალითი №15-ის ტესტირების შედეგი

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	-0.01	-0.01
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0.01	0.01
	y	-0.01	-0.01
	z	0	0
8	x	0	0
	y	-0.01	-0.01
	z	0	0

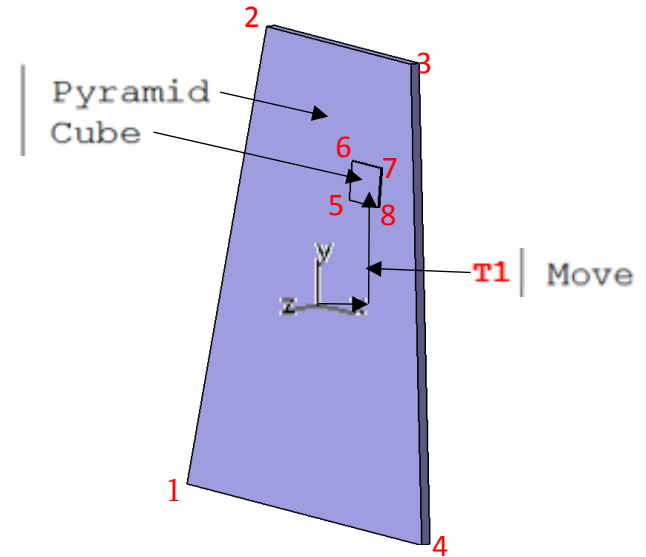
	GeoM Δ_1	G-4 Δ_2
მოცულობა	0	0



ქვე-შემთხვევა #01: T1 გადაადგილების ტრანზაქცია

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

	Pyramid
	Cube
T1	Move
T2	Subtraction
T3	Move
T4	Rotation



```
<trd name="pyramidn15" material="Aluminium" Xmp_Ymp_Z="44.; 44.; 1229.; 755.; 1795.0" />
<box name="boxn15" material="Aluminium" X_Y_Z="44.; 150.; 150." />
```

```
<composition name="Example_N15" >
  <posXYZ volume="pyramidn15" X_Y_Z=" 0.; 0. ; 0." rot=" 0. ; 0. ; 0." />
  <posXYZ volume="boxn15" X_Y_Z=" 0. ; -195.5 ; 404.5 " rot=" 0. ; 0. ; 0." />
</composition>
```

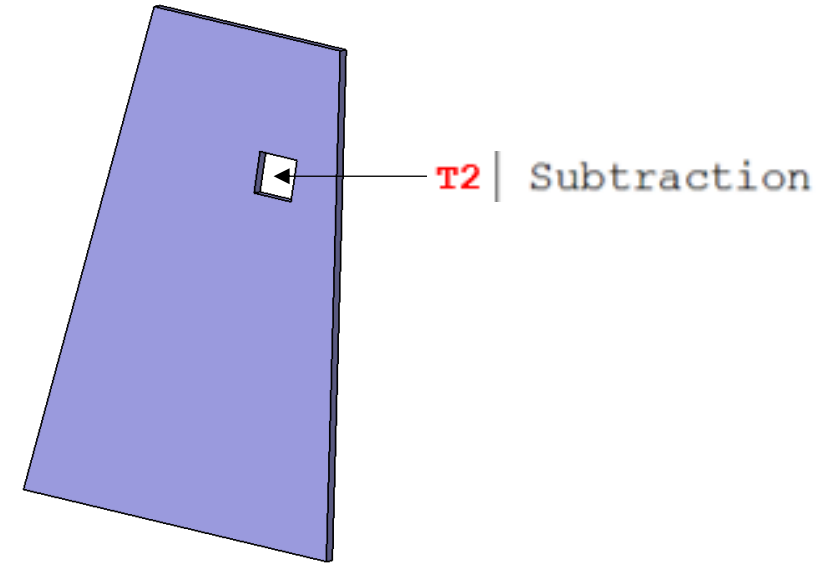
```
<composition name="ECT_Toroids" >
  <posXYZ volume="Example_N15" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0." />
</composition>
```

ქვე-შემთხვევა #02: T1 გადაადგილების ტრანზაქცია T2 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

	GeoM Δ_1	G-4 Δ_2
მოცულობა	0	0

- T1 Move
- T2 Subtraction
- T3 Move
- T4 Rotation



```

<trd name="pyramidn15" material="Aluminium" Xmp_Ymp_Z="44.; 44.; 1229.; 755.; 1795.0" />
<box name="boxn15" material="Aluminium" X_Y_Z="44.; 150.; 150."/>

<subtraction name="Example_N15" >
  <posXYZ volume="pyramidn15" X_Y_Z=" 0.; 0. ; 0." rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="boxn15" X_Y_Z=" 0. ; -195.5 ; 404.5 " rot=" 0. ; 0. ; 0. " />
</subtraction>

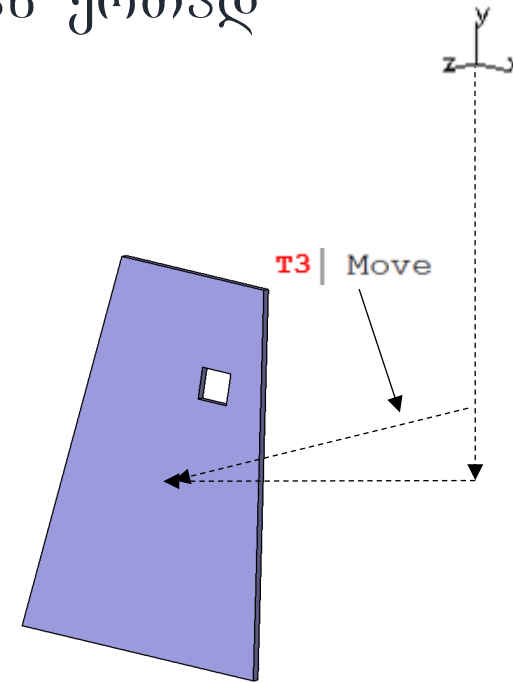
<composition name="ECT_Toroids" >
  <posXYZ volume="Example_N15" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>
  
```

ქვე-შემთხვევა #03: T3 გადაადგილების ტრანზაქცია T1 გადაადგილების ტრანზაქციასა და T2 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

	GeoM Δ_1	G-4 Δ_2
მთველობა	0	0

- Pyramid
- Cube
- T1** Move
- T2** Subtraction
- T3** Move
- T4** Rotation



```

<trd name="pyramidn15" material="Aluminium" Xmp_Ymp_Z="44.; 44.; 1229.; 755.; 1795.0" />
<box name="boxn15" material="Aluminium" X_Y_Z="44.; 150.; 150."/>

<subtraction name="Example_N15" >
  <posXYZ volume="pyramidn15" X_Y_Z=" 0.; 0. ; 0." rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="boxn15" X_Y_Z=" 0. ; -195.5 ; 404.5 " rot=" 0. ; 0. ; 0. " />
</subtraction>

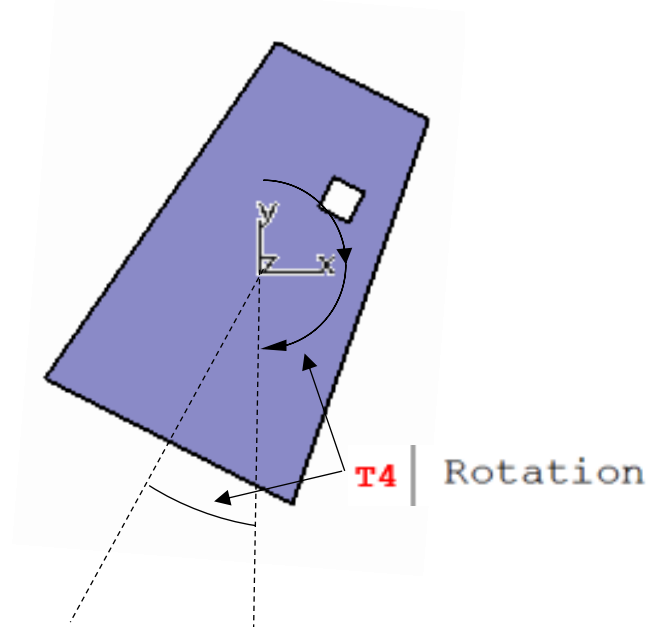
<composition name="ECT_Toroids" >
  <posXYZ volume="Example_N15" X_Y_Z=" -1340. ; -3240. ; 15040." rot=" 0,; 0.; 0. " />
</composition>
    
```

ქვე-შემთხვევა #04: T4 შემოტრიალების ტრანზაქცია T1 გადაადგილების ტრანზაქციასა და T2 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	-0.01	-0.01
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0.01	0.01
	y	-0.01	-0.01
	z	0	0
8	x	0	0
	y	-0.01	-0.01
	z	0	0

	GeoM Δ_1	G-4 Δ_2
მოცულობა		
	0	0

	Pyramid
	Cube
T1	Move
T2	Subtraction
T3	Move
T4	Rotation



```

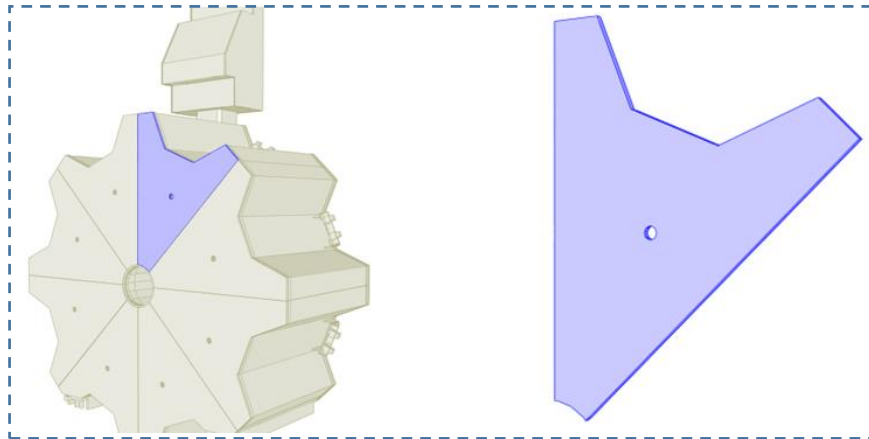
<trd name="pyramidn15" material="Aluminium" Xmp_Ymp_Z="44.; 44.; 1229.; 755.; 1795.0" />
<box name="boxn15" material="Aluminium" X_Y_Z="44.; 150.; 150."/>

<subtraction name="Example_N15" >
  <posXYZ volume="pyramidn15" X_Y_Z=" 0.; 0. ; 0." rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="boxn15" X_Y_Z=" 0. ; -195.5 ; 404.5 " rot=" 0. ; 0. ; 0. " />
</subtraction>

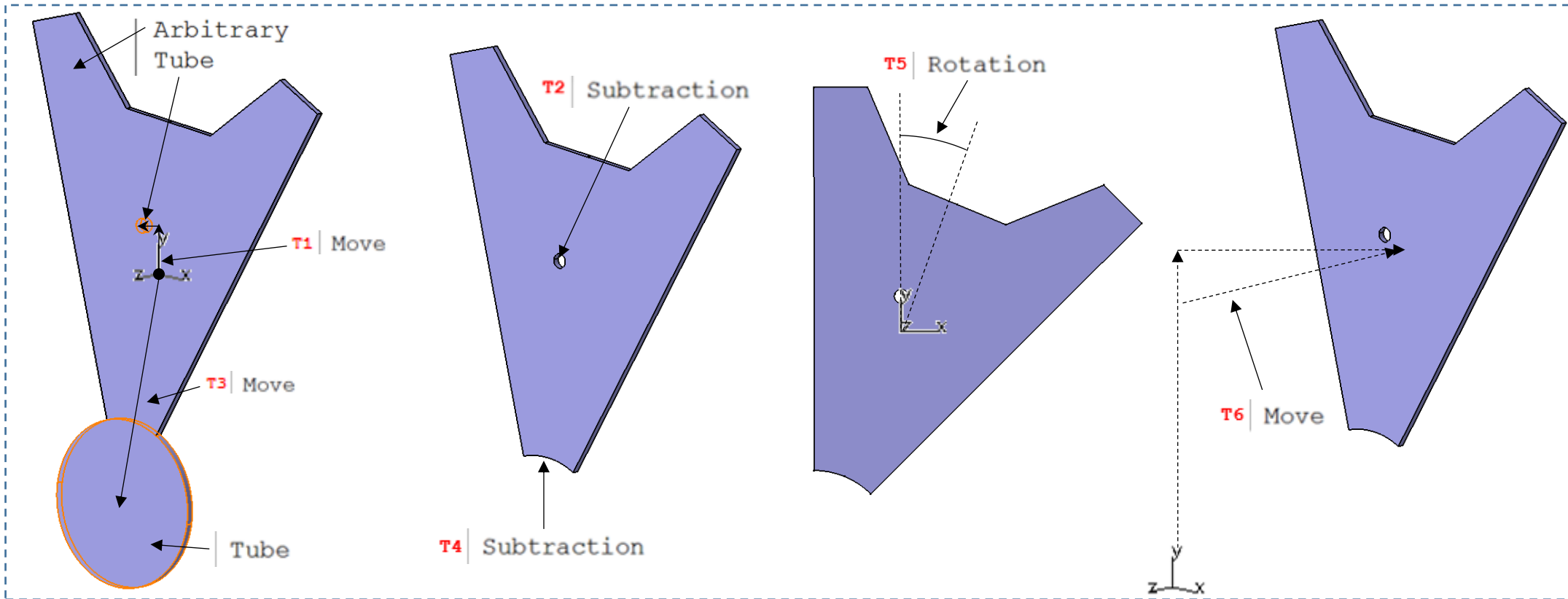
<composition name="ECT_Toroids" >
  <posXYZ volume="Example_N15" X_Y_Z=" 0. ; 0. ; 0." rot=" -67.5; 90.; 0. " />
</composition>

```

სატესტო მაგალითი №19



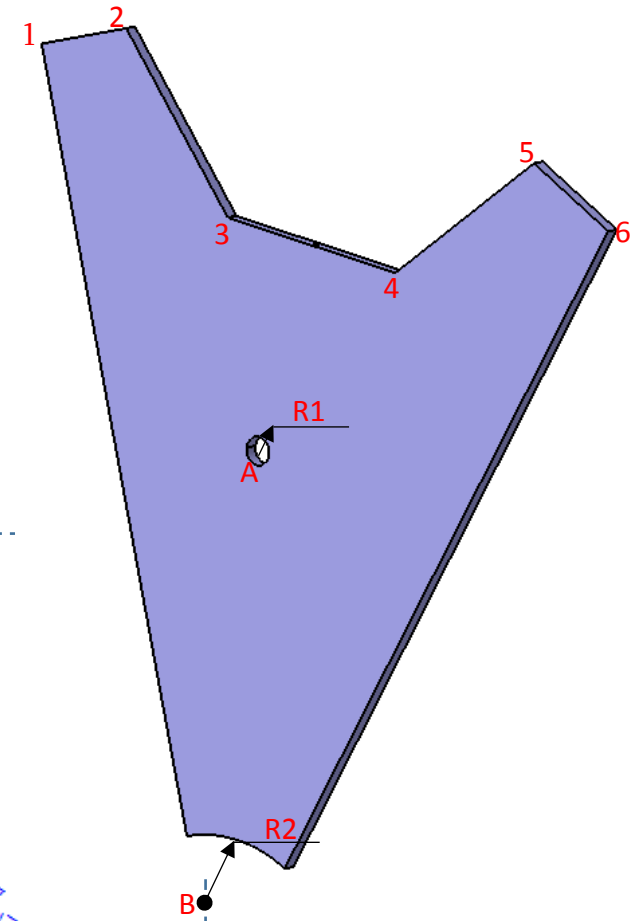
Arbitrary	Tube
T1	Move
T2	Subtraction
Tube	
T3	Move
T4	Subtraction
T5	Rotation
T6	Move



სატესტო მაგალითი №19-ის ტესტირების შედეგი

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
A	x	0	0
	y	0	0
	z	0	0
B	x	0.06	0.07
	y	0.01	0.03
	z	0	0

		GeoM Δ_1	G-4 Δ_2
	R1	0	0
	R2	-0.01	-0.01
მოცულობა			
		0.0003	0.0003



```

<gvxy name="Hexagonal_Prizm" material="Aluminium" dZ="75.">
  <gvxy_point X_Y="606.; 1699."/>
  <gvxy_point X_Y="1475.; 2553."/>
  <gvxy_point X_Y="2049.; 2315."/>
  <gvxy_point X_Y="300.; -1899."/>
  <gvxy_point X_Y="-300.; -1899."/>
  <gvxy_point X_Y="-2049.; 2315."/>
  <gvxy_point X_Y="-1475.; 2553."/>
  <gvxy_point X_Y="-606.; 1699."/>
</gvxy>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 80; 80." nbPhi="32" />
<tubs name="Tube2" material="Aluminium" Rio_Z="0.; 930; 80." nbPhi="32" />

<subtraction name="TestExampleN19" >
  <posXYZ volume="Hexagonal_Prizm" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="Tube1" X_Y_Z=" -194.; 473. ; 0. " rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="Tube2" X_Y_Z=" 0.; -2629.; 0. " rot=" 0. ; 0. ; 0. " />
</subtraction>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN19" X_Y_Z=" 1001. ; 2418. ; 12840." rot=" 0.; 0.; -22.5 " />
</composition>

```

ქვე-შემთხვევა #01: T1/T3 გადაადგილების ტრანზაქცია

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
A	x	0	0
	y	0	0
	z	0	0
B	x	0	0
	y	0	0
	z	0	0

		GeoM Δ_1	G-4 Δ_2
	R1	0	0
	R2	0	0

Arbitrary	Tube
T1	Move
T2	Subtraction
Tube	Tube
T3	Move
T4	Subtraction
T5	Rotation
T6	Move

```

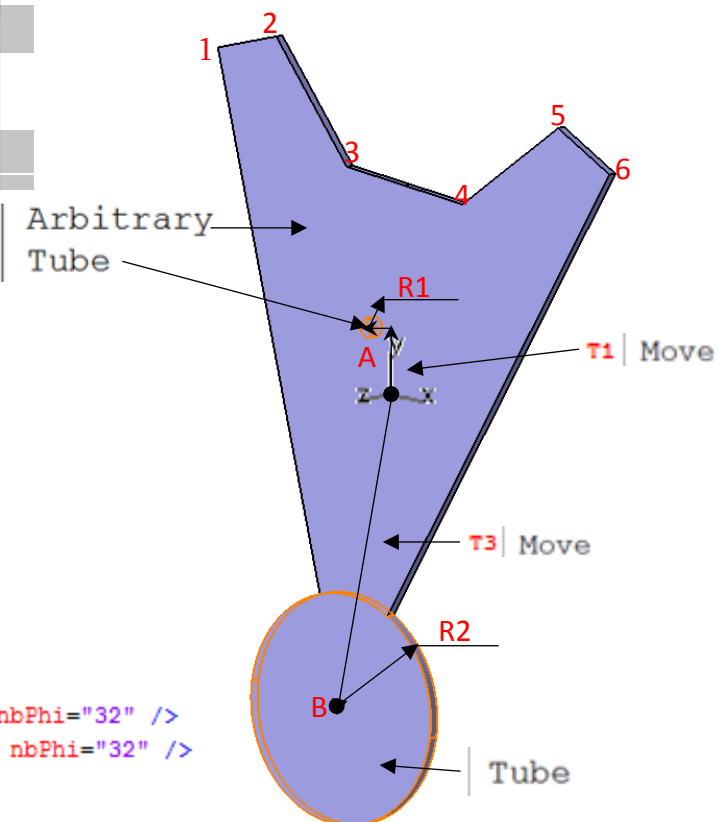
<gvxy name="Hexagonal_Prizm" material="Aluminium" dz="75.">
  <gvxy_point X_Y="606.; 1699."/>
  <gvxy_point X_Y="1475.; 2553."/>
  <gvxy_point X_Y="2049.; 2315."/>
  <gvxy_point X_Y="300.; -1899."/>
  <gvxy_point X_Y="-300.; -1899."/>
  <gvxy_point X_Y="-2049.; 2315."/>
  <gvxy_point X_Y="-1475.; 2553."/>
  <gvxy_point X_Y="-606.; 1699."/>
</gvxy>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 80; 80." nbPhi="32" />
<tubs name="Tube2" material="Aluminium" Rio_Z="0.; 930; 80." nbPhi="32" />

<composition name="TestExampleN19" >
  <posXYZ volume="Hexagonal_Prizm" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" -194.; 473. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube2" X_Y_Z=" 0.; -2629.; 0. " rot=" 0. ; 0. ; 0. "/>
</composition>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN19" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>

```

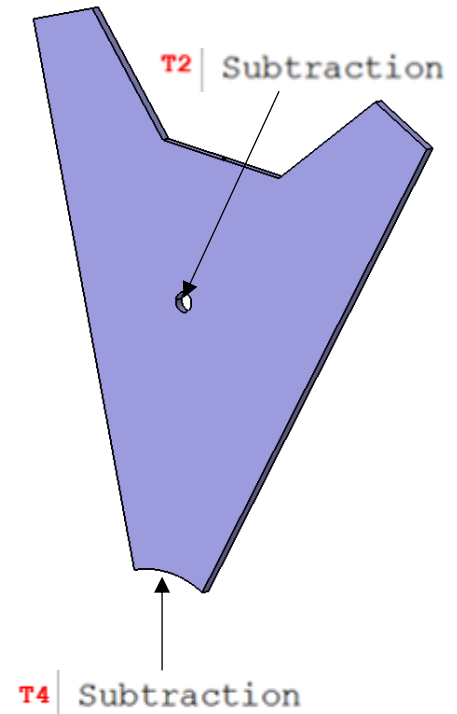


ქვე-შემთხვევა #02: T1/T3 გადაადგილების ტრანზაქცია T2/T4 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
A	x	0	0
	y	0	0
	z	0	0
B	x	0.06	0.06
	y	0.04	0.01
	z	0	0

		GeoM Δ_1	G-4 Δ_2
	R1	0	0
	R2	0	0.03
მცულობა		0.0003	0.0003

- Arbitrary Tube
- T1** Move
- T2** Subtraction
- Tube
- T3** Move
- T4** Subtraction
- T5** Rotation
- T6** Move



```

<gvxy name="Hexagonal_Prizm" material="Aluminium" dZ="75.">
  <gvxy_point X_Y="606.; 1699."/>
  <gvxy_point X_Y="1475.; 2553."/>
  <gvxy_point X_Y="2049.; 2315."/>
  <gvxy_point X_Y="300.; -1899."/>
  <gvxy_point X_Y="-300.; -1899."/>
  <gvxy_point X_Y="-2049.; 2315."/>
  <gvxy_point X_Y="-1475.; 2553."/>
  <gvxy_point X_Y="-606.; 1699."/>
</gvxy>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 80; 80." nbPhi="32" />
<tubs name="Tube2" material="Aluminium" Rio_Z="0.; 930; 80." nbPhi="32" />

<subtraction name="TestExampleN19" >
  <posXYZ volume="Hexagonal_Prizm" X_Y_Z=" 0; 0; 0. " rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="Tube1" X_Y_Z=" -194.; 473. ; 0. " rot=" 0. ; 0. ; 0. " />
  <posXYZ volume="Tube2" X_Y_Z=" 0.; -2629.; 0. " rot=" 0. ; 0. ; 0. " />
</subtraction>

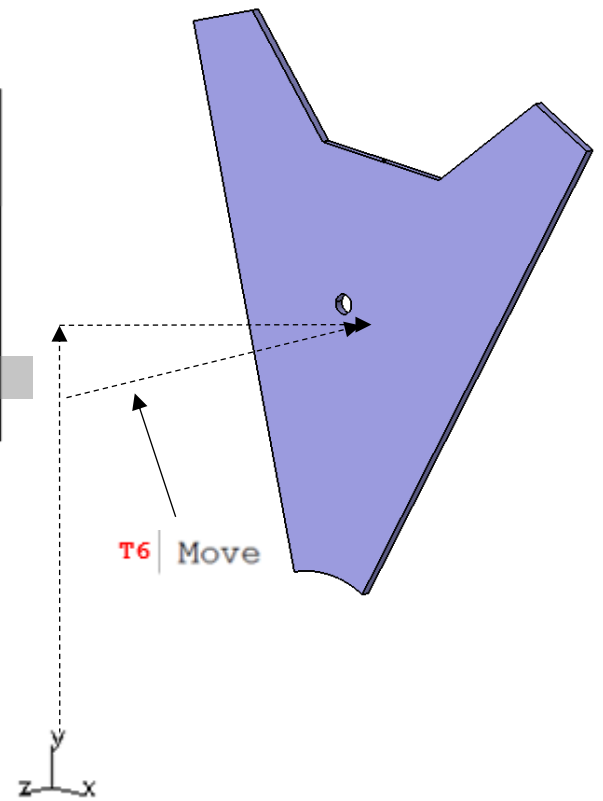
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN19" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; 0. " />
</composition>
    
```

ქვე-შემთხვევა #03: T6 გადაადგილების ტრანზაქცია T1/T3 გადაადგილების ტრანზაქციასა და T2/T4 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
A	x	0	0
	y	0	0
	z	0	0
B	x	0.06	0.03
	y	0.04	-0.03
	z	0	0

	GeoM Δ_1	G-4 Δ_2
მოცულობა	R1	0
	R2	0.08
	0.0003	0.0003

- Arbitrary Tube
- T1** Move
- T2** Subtraction Tube
- T3** Move
- T4** Subtraction
- T5** Rotation
- T6** Move



```

<gvxy name="Hexagonal_Prizm" material="Aluminium" dZ="75.">
  <gvxy_point X_Y="606.; 1699."/>
  <gvxy_point X_Y="1475.; 2553."/>
  <gvxy_point X_Y="2049.; 2315."/>
  <gvxy_point X_Y="300.; -1899."/>
  <gvxy_point X_Y="-300.; -1899."/>
  <gvxy_point X_Y="-2049.; 2315."/>
  <gvxy_point X_Y="-1475.; 2553."/>
  <gvxy_point X_Y="-606.; 1699."/>
</gvxy>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 80; 80." nbPhi="32" />
<tubs name="Tube2" material="Aluminium" Rio_Z="0.; 930; 80." nbPhi="32" />

<subtraction name="TestExampleN19" >
  <posXYZ volume="Hexagonal_Prizm" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" -194.; 473. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube2" X_Y_Z=" 0.; -2629.; 0. " rot=" 0. ; 0. ; 0. "/>
</subtraction>

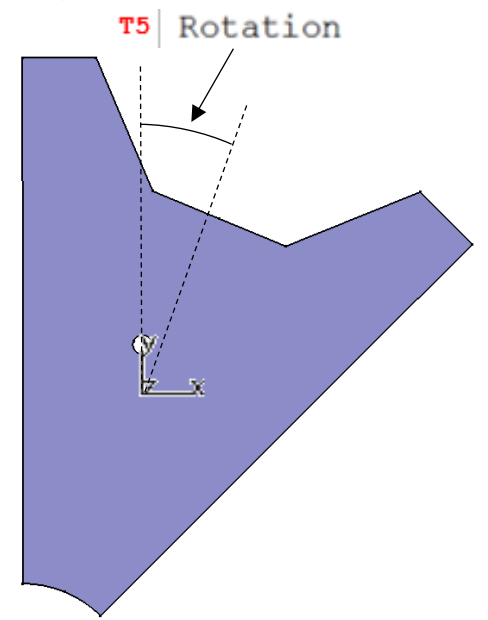
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN19" X_Y_Z=" 1001. ; 2418. ; 12840." rot=" 0.; 0.; 0. " />
</composition>
    
```

ქვე-შემთხვევა #04: T5 შემოტრიალების ტრანზაქცია T1/T3 გადაადგილების ტრანზაქციასა და T2/T4 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
A	x	0	0
	y	0	0
	z	0	0
B	x	0.06	0.1
	y	0.01	0.07
	z	0	0

	GeoM Δ_1	G-4 Δ
R1	0	0
	R2	-0.06
მოცულობა		
	0.0003	0.0003

- Arbitrary Tube
- T1** Move
- T2** Subtraction Tube
- T3** Move
- T4** Subtraction Tube
- T5** Rotation
- T6** Move



```

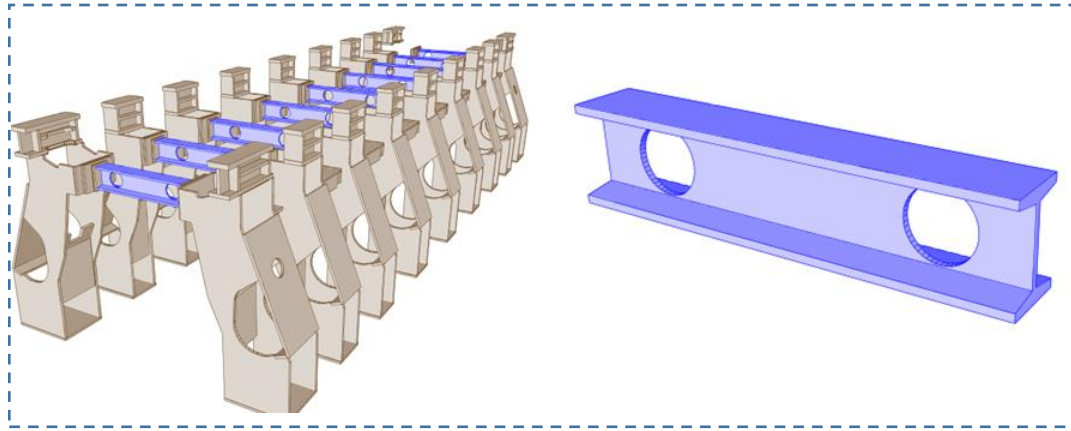
<gvxy name="Hexagonal_Prizm" material="Aluminium" dZ="75.">
  <gvxy_point X_Y="606.; 1699."/>
  <gvxy_point X_Y="1475.; 2553."/>
  <gvxy_point X_Y="2049.; 2315."/>
  <gvxy_point X_Y="300.; -1899."/>
  <gvxy_point X_Y="-300.; -1899."/>
  <gvxy_point X_Y="-2049.; 2315."/>
  <gvxy_point X_Y="-1475.; 2553."/>
  <gvxy_point X_Y="-606.; 1699."/>
</gvxy>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 80; 80." nbPhi="32" />
<tubs name="Tube2" material="Aluminium" Rio_Z="0.; 930; 80." nbPhi="32" />

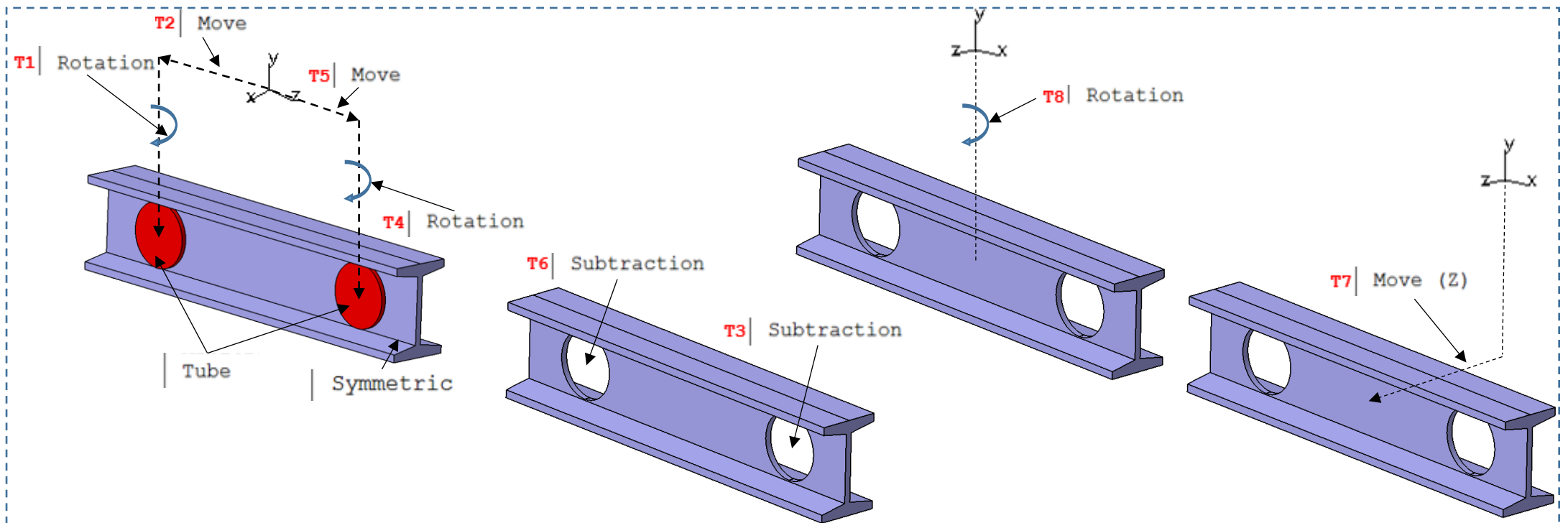
<subtraction name="TestExampleN19" >
  <posXYZ volume="Hexagonal_Prizm" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" -194.; 473. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube2" X_Y_Z=" 0.; -2629.; 0. " rot=" 0. ; 0. ; 0. "/>
</subtraction>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN19" X_Y_Z=" 0. ; 0. ; 0." rot=" 0.; 0.; -22.5 " />
</composition>
    
```

სატესტო მაგალითი №35



- | | |
|-----------|-------------|
| | Symmetric |
| | Tube |
| T1 | Rotation |
| T2 | Move |
| T3 | Subtraction |
| T4 | Rotation |
| T5 | Move |
| T6 | Subtraction |
| T7 | Move (Z) |
| T8 | Rotation |



სატესტო მაგალითი №35-ის ტესტირების შედეგი

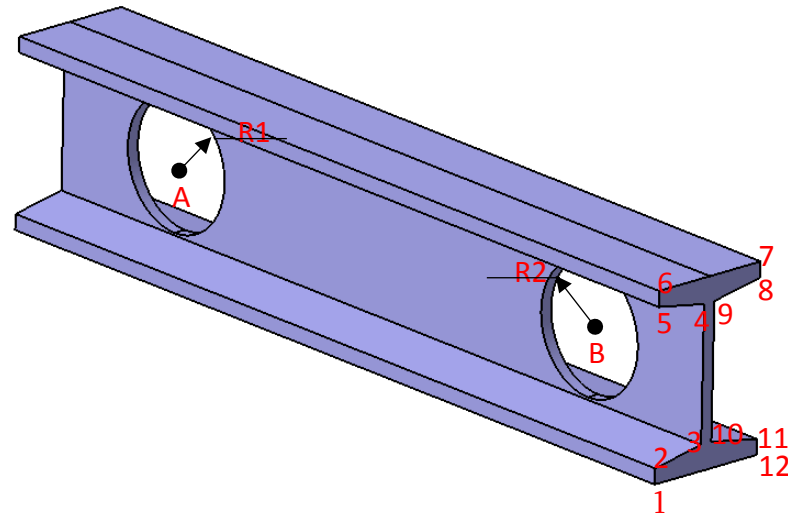
		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

		GeoM Δ_1	G-4 Δ_2
9	x	0	0
	y	0	0
	z	0	0
10	x	0	0
	y	0	0
	z	0	0
11	x	0	0
	y	0	0
	z	0	0
12	x	0	0
	y	0	0
	z	0	0
A	x	0.01	0.01
	y	0.01	0.01
	z	0	0
B	x	-0.01	-0.01
	y	-0.01	-0.01
	z	0	0
	R1	0	0
	R2	0	0
მოცულობა		0.0001	0.0001

```

<gvxy name="Dodecagonal_Prism" material="Aluminium" dZ="2780.">
  <gvxy_point X_Y="-200.; -5835."/>
  <gvxy_point X_Y="-200.; -5885."/>
  <gvxy_point X_Y="-20.; -5916.7"/>
  <gvxy_point X_Y="-20.; -6353.5"/>
  <gvxy_point X_Y="-200.; -6385."/>
  <gvxy_point X_Y="-200.; -6435."/>
  <gvxy_point X_Y="200.; -6435."/>
  <gvxy_point X_Y="200.; -6385."/>
  <gvxy_point X_Y="20.; -6353.5"/>
  <gvxy_point X_Y="20.; -5916.7"/>
  <gvxy_point X_Y="200.; -5885."/>
  <gvxy_point X_Y="200.; -5835."/>
</gvxy>
<tubs name="Tubel" material="Aluminium" Rio_Z="0.; 210.2; 60." nbPhi="32" />
<subtraction name="TestExampleN35" >
  <posXYZ volume="Dodecagonal_Prism" X_Y_Z=" 0; 0; 0." rot=" 0; 0; 0." />
  <posXYZ volume="Tubel" X_Y_Z=" 0.; -6135.; 898." rot=" 0.; 90.; 0." />
  <posXYZ volume="Tubel" X_Y_Z=" 0.; -6135.; -898." rot=" 0.; 90.; 0." />
</subtraction>
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN35" X_Y_Z=" 0.; 0.; 12080." rot=" 0.; 90.; 0." />
</composition>

```

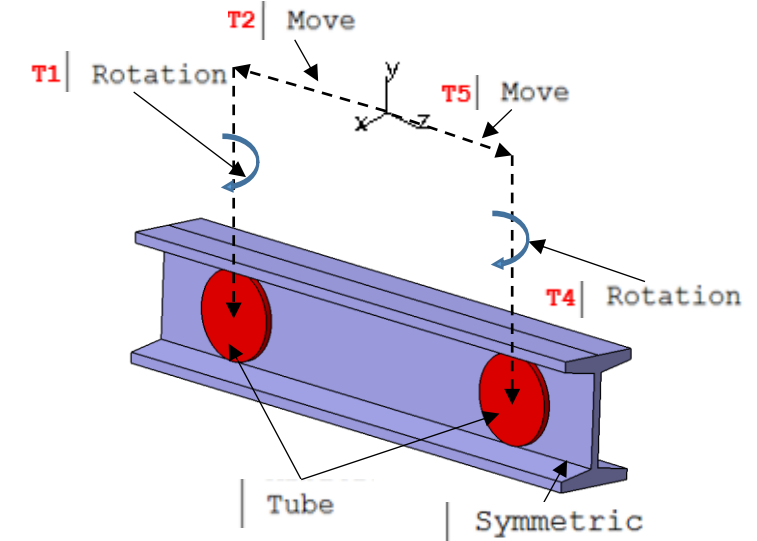


ქვე-მემთხვევა #01: T1/T2/T4/T5 ტრანზაქცია

		GeoM	G-4
		Δ_1	Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

		GeoM	G-4
		Δ_1	Δ_2
9	x	0	0
	y	0	0
	z	0	0
10	x	0	0
	y	0	0
	z	0	0
11	x	0	0
	y	0	0
	z	0	0
12	x	0	0
	y	0	0
	z	0	0
A	x	0	0
	y	0	0
	z	0	0
B	x	0	0
	y	0	0
	z	0	0
მოცულობა	R1	0	0
	R2	0	0
		0	0

- Symmetric
- Tube
- T1 | Rotation
- T2 | Move
- T3 | Subtraction
- T4 | Rotation
- T5 | Move
- T6 | Subtraction
- T7 | Move (Z)
- T8 | Rotation



```

<gvxysx name="Dodecagonal_Prism" material="Aluminium" dZ="2780.">
  <gvxy_point X_Y="-200.; -5835."/>
  <gvxy_point X_Y="-200.; -5885."/>
  <gvxy_point X_Y="-20.; -5916.7"/>
  <gvxy_point X_Y="-20.; -6353.3"/>
  <gvxy_point X_Y="-200.; -6385."/>
  <gvxy_point X_Y="-200.; -6435."/>
</gvxysx>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 210.2; 60." nbPhi="32" />

<composition name="TestExampleN35" >
  <posXYZ volume="Dodecagonal_Prism" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0.; -6135. ; 898. " rot=" 0. ; 90. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0. ; -6135. ; -898. " rot=" 0. ; 90. ; 0. "/>
</composition>

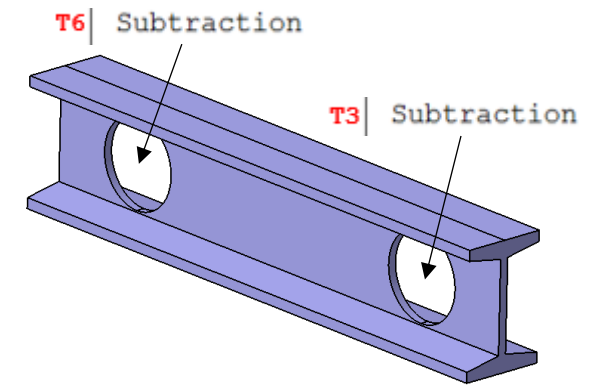
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN35" X_Y_Z=" 0. ; 0. ; 0." rot=" 0. ; 0. ; 0. " />
</composition>
  
```

ქვე-მემთხვევა #02: T1/T2/T4/T5 ტრანზაქცია T3/T6 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

		GeoM Δ_1	G-4 Δ_2
9	x	0	0
	y	0	0
	z	0	0
10	x	0	0
	y	0	0
	z	0	0
11	x	0	0
	y	0	0
	z	0	0
12	x	0	0
	y	0	0
	z	0	0
A	x	0.01	0.01
	y	0.01	0.01
	z	0	0
B	x	-0.01	-0.01
	y	-0.01	-0.01
	z	0	0
	R1	0	0
	R2	0	0
მოცულობა		0.0001	0.0001

- Symmetric Tube
- T1** Rotation
- T2** Move
- T3** Subtraction
- T4** Rotation
- T5** Move
- T6** Subtraction
- T7** Move (Z)
- T8** Rotation



```

<gvxysx name="Dodecagonal_Prism" material="Aluminium" dZ="2780.">
  <gvxy_point X_Y="-200.; -5835."/>
  <gvxy_point X_Y="-200.; -5885."/>
  <gvxy_point X_Y="-20.; -5916.7"/>
  <gvxy_point X_Y="-20.; -6353.3"/>
  <gvxy_point X_Y="-200.; -6385."/>
  <gvxy_point X_Y="-200.; -6435."/>
</gvxysx>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 210.2; 60." nbPhi="32" />

<subtraction name="TestExampleN35" >
  <posXYZ volume="Dodecagonal_Prism" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0.; -6135. ; 898. " rot=" 0. ; 90. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0. ; -6135. ; -898. " rot=" 0. ; 90. ; 0. "/>
</subtraction>

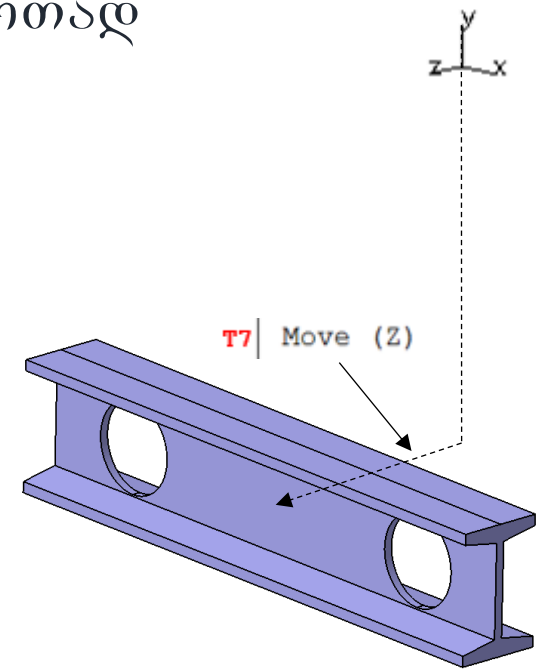
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN35" X_Y_Z=" 0. ; 0. ; 0. " rot=" 0. ; 0. ; 0. " />
</composition>
    
```

ქვე-შემთხვევა #03: T7 გადაადგილების ტრანზაქცია T1/T2/T4/T5
ტრანზაქციასა და T3/T6 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

		GeoM Δ_1	G-4 Δ_2
9	x	0	0
	y	0	0
	z	0	0
10	x	0	0
	y	0	0
	z	0	0
11	x	0	0
	y	0	0
	z	0	0
12	x	0	0
	y	0	0
	z	0	0
A	x	0.01	0.01
	y	0.01	0.01
	z	0	0
B	x	-0.01	-0.01
	y	-0.01	-0.01
	z	0	0
	R1	0	0
	R2	0	0
მოცულობა		0.0001	0.0001

- Symmetric
- Tube
- T1** Rotation
- T2** Move
- T3** Subtraction
- T4** Rotation
- T5** Move
- T6** Subtraction
- T7** Move (Z)
- T8** Rotation



```

<gvxysx name="Dodecagonal_Prism" material="Aluminium" dz="2780.">
  <gvxy_point X_Y="-200.; -5835."/>
  <gvxy_point X_Y="-200.; -5885."/>
  <gvxy_point X_Y="-20.; -5916.7"/>
  <gvxy_point X_Y="-20.; -6353.3"/>
  <gvxy_point X_Y="-200.; -6385."/>
  <gvxy_point X_Y="-200.; -6435."/>
</gvxysx>

<tubs name="Tube1" material="Aluminium" Rio_Z="0.; 210.2; 60." nbPhi="32" />

<subtraction name="TestExampleN35" >
  <posXYZ volume="Dodecagonal_Prism" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0.; -6135. ; 898. " rot=" 0. ; 90. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0. ; -6135. ; -898. " rot=" 0. ; 90. ; 0. "/>
</subtraction>

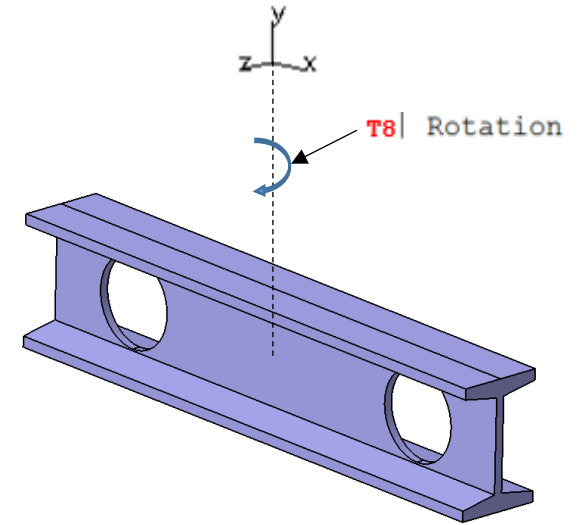
<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN35" X_Y_Z=" 0. ; 0. ; 12080." rot="0.; 0.; 0. "/>
</composition>
    
```


ქვე-შემთხვევა #04: T8 შემოტრიალების ტრანზაქცია T1/T2/T4/T5 ტრანზაქციასა და T3/T6 ლოგიკურ ოპერაციასთან ერთად

		GeoM Δ_1	G-4 Δ_2
1	x	0	0
	y	0	0
	z	0	0
2	x	0	0
	y	0	0
	z	0	0
3	x	0	0
	y	0	0
	z	0	0
4	x	0	0
	y	0	0
	z	0	0
5	x	0	0
	y	0	0
	z	0	0
6	x	0	0
	y	0	0
	z	0	0
7	x	0	0
	y	0	0
	z	0	0
8	x	0	0
	y	0	0
	z	0	0

		GeoM Δ_1	G-4 Δ_2
9	x	0	0
	y	0	0
	z	0	0
10	x	0	0
	y	0	0
	z	0	0
11	x	0	0
	y	0	0
	z	0	0
12	x	0	0
	y	0	0
	z	0	0
A	x	0.01	0.01
	y	0.01	0.01
	z	0	0
B	x	-0.01	-0.01
	y	-0.01	-0.01
	z	0	0
	R1	0	0
	R2	0	0
მოდული		0.0001	0.0001

- Arbitrary Tube
- T1** Rotation
- T2** Move
- T3** Subtraction
- T4** Rotation
- T5** Move
- T6** Subtraction
- T7** Move (Z)
- T8** Rotation



```

<gvxysx name="Dodecagonal_Prism" material="Aluminium" dz="2780.">
  <gvxy_point X_Y="-200.; -5835."/>
  <gvxy_point X_Y="-200.; -5885."/>
  <gvxy_point X_Y="-20.; -5916.7"/>
  <gvxy_point X_Y="-20.; -6353.3"/>
  <gvxy_point X_Y="-200.; -6385."/>
  <gvxy_point X_Y="-200.; -6435."/>
</gvxysx>

<tubs name="Tube1" material="Aluminium" Rio_z="0.; 210.2; 60." nbPhi="32" />

<subtraction name="TestExampleN35" >
  <posXYZ volume="Dodecagonal_Prism" X_Y_Z=" 0; 0. ; 0. " rot=" 0. ; 0. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0.; -6135. ; 898. " rot=" 0. ; 90. ; 0. "/>
  <posXYZ volume="Tube1" X_Y_Z=" 0. ; -6135. ; -898. " rot=" 0. ; 90. ; 0. "/>
</subtraction>

<composition name="ECT_Toroids" >
  <posXYZ volume="TestExampleN35" X_Y_Z=" 0. ; 0. ; 0. " rot=" 0. ; 90. ; 0. " />
</composition>
    
```