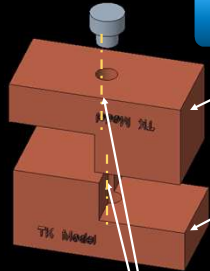


Some Complex variables in Pro Toolkit

	Feat ID	Feat Name
TK_TOP_ASSY.ASM		
ACSYS	7	ACSYS
TK_SUB_ASSY.ASM	40	
ACSYS	2	ACSYS
TKMODEL.PRT	4	
TKMODEL.PRT	6	
TKZYL.PRT	41	



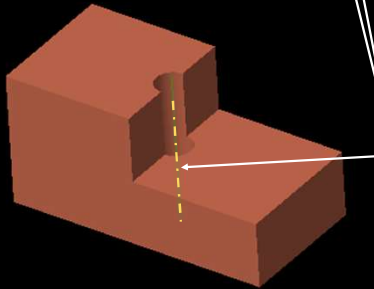
COMP FEAT ID 6 PATH [40,6]

The "Same" Component assembled more than once

COMP FEAT ID 4 PATH [40,4]

Each Component may have a different transformation matrix

	Feat ID	Feat Name
TKMODEL.PRT		
Design Items		
DEF	4	DEF
Extrude 1	390	
Extrude 2	432	
A_2	473	A_2



ProType type	PRO_FEATURE
int id	473
ProMdl owner	TKMODEL.PRT

ProType type	PRO_AXIS
int id	479
ProMdl owner	TKMODEL.PRT

ProType type	PRO_CURVE
int id	475
ProMdl owner	TKMODEL.PRT

```

//ProObjects.h
typedef void* ProMdl;
typedef struct sid_part* ProSolid;

typedef enum pro_obj_types
{
  PRO_TYPE_DIR           = -5,
  PRO_TYPE_INVALID      = -2,
  PRO_TYPE_UNUSED       = PRO_VALUE_UNUSED,
  PRO_ASSEMBLY          = 1,
  PRO_PART              = 2,
  PRO_FEATURE           = 3,
  PRO_DRAWING           = 4,
  PRO_AXIS              = 21,
  PRO_CURVE             = 62,
  PRO_ECAD_CUT          = 74290
} ProType;

//ProFeatType.h
#define PRO_FEAT_FIRST_FEAT 0 /* A protrusion */
#define PRO_FEAT_HOLE 911
#define PRO_FEAT_DATUM_AXIS 926
#define PRO_FEAT_CSYS 979
#define PRO_FEAT_COMPONENT 1000

typedef struct pro_model_item
{
  ProType type;
  int id;
  ProMdl owner;
} ProModelitem, ProGeomitem, ...
  
```

```

#define PRO_MAX_ASSEM_LEVEL 25
typedef int ProIdTable[PRO_MAX_ASSEM_LEVEL];
// Unique identifier for an assembled component [Matrix Handle]
typedef struct pro_comp_path
{
  ProSolid owner;
  ProIdTable comp_id_table;
  int table_num;
} ProAsmcomppath;
  
```

```

ProAsmcomppath comppath;
ProIdTable comp_id_table;
ProMdl asmModel;
// Set the component path struct
comp_id_table[0] = 40;
comp_id_table[1] = 6;
comp_id_table[2] = -1;
// The Toplevel Assy
ProMdlnameInit (L"TK_TOP_ASSY", PRO_ASSEMBLY, &asmModel);
ProAsmcomppathInit ((ProSolid) asmModel, comp_id_table, 2, &comppath);
  
```

```

ProModelitem modelitem;
ProMdl prtModel;
// Set the model item struct
ProMdlnameInit (L"TKMODEL", PRO_PART, &prtModel);
ProModelitemInit (prtModel, 479, PRO_AXIS, &modelitem);
  
```

```

// The final axis selection in tkmodel.prt for COMPID [40,6]
ProSelection selection;
// In Part Model the comppath may most of the time NULL
ProSelectionAlloc (&comppath, &modelitem, &selection)
ProSelectionVerify (selection)
  
```

```

# Same Axis selection in Tcl Code
ps_sel selection -comppath cpObj -modelitem miObj
set exist [cpObj config -path {40 6} -model tk_top_assy.asm]
set exist [miObj config -type axis -id 479 -model tkmodel.prt]
set exist [selection exist]
  
```