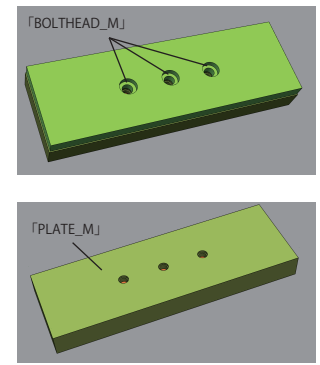
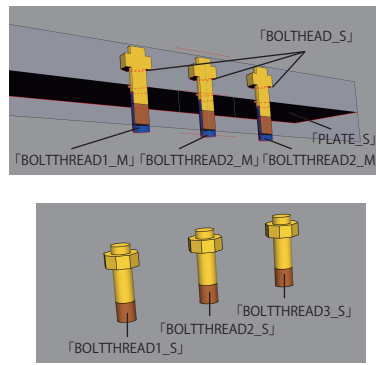


「3bolts」 (ver17_one - through)

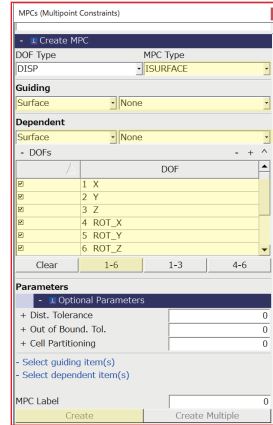
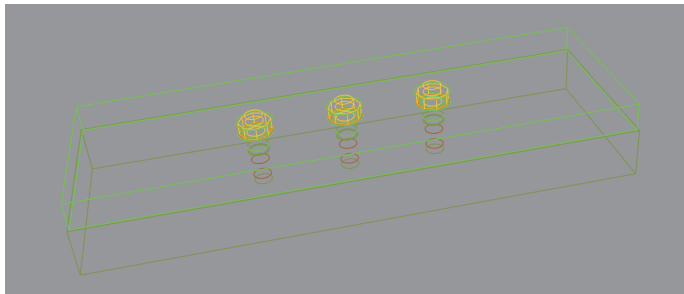
step1: 静解析—接触解析 (Contact Analysis)

- 1) ボルトヘッド固着 (bonding)
- 2) プレート接触 (surfaces)
- 3) ボルトスレッド締結 (pretension1~3)
- 4) ボトム拘束 (SPCs)
- 5) バネ張り (COMP_SPRING)
- 6) ファイル生成
- 7) VisPER で結果を読み込み



1-1) ボルトヘッドを固着する:

「BOLTHEAD_M」/「BOLTHEAD_S」



```

↓ $STRUCTURE ↓
$SFSET NAME = BOLTHEAD_M
9
$SFSET NAME = BOLTHEAD_S
10

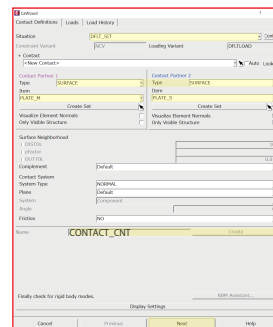
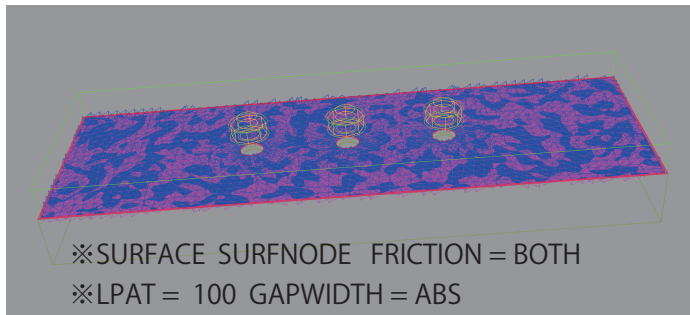
$SURFACE ELEMENTS SURFID = 9 SYSTEM = LOCAL
262174 3
262266 3

$SURFACE ELEMENTS SURFID = 10 SYSTEM = LOCAL
251603 1
251604 1

$MPC ISURFACE DPODFS = 1,2,3,4,5,6 DPITYP = SURFNODE DOFTYPE = DISP
BONDING BOLTHEAD_M: BOLTHEAD_S
    
```

1-2) プレートを接触させる:

「PLATE_M」/「PLATE_S」



```

↓ $STRUCTURE ↓
$SFSET NAME = PLATE_M
7
$SFSET NAME = PLATE_S
8

$SURFACE ELEMENTS SURFID = 7 SYSTEM = LOCAL
153843 3
153846 4

$SURFACE ELEMENTS SURFID = 8 SYSTEM = LOCAL
261865 3
261901 3

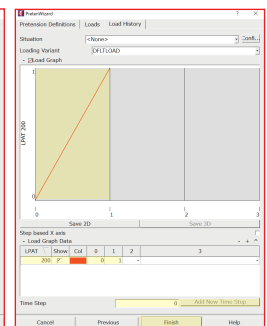
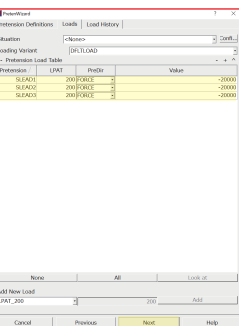
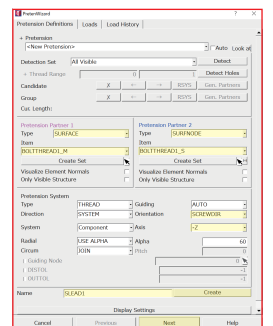
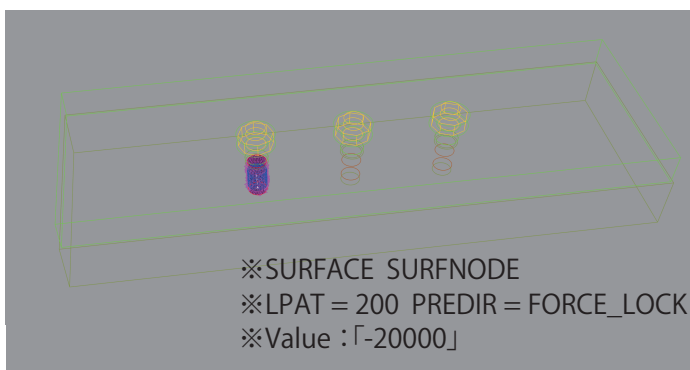
↓ $CONSTRAINTS
$CONTACT SURFACE SURFNODE FRICTION = BOTH
CONTACT_CNT PLATE_M : PLATE_S

↓ $LOADING
$CONTACT LOAD LPAT = 100 GAPWIDTH = ABS FRICTION = COULOMB
CONTACT_CNT 0.000000E+00: 0. 1

$NLOAD TABLE TIME = LIST DOFTYPE = DISP
0.000000E+00 1.000000E+00
LPAT = 100 1.000000E+00 1.000000E+00
    
```

1-3) ボルトスレッドを締結させる:

「BOLTTHREAD1_M」/「~ 1_S」
 「BOLTTHREAD2_M」/「~ 2_S」
 「BOLTTHREAD3_M」/「~ 3_S」



```

↓ $STRUCTURE ↓
$PRETENSION THREAD SURFACE TO SURFNODE SCREWDIR = 0, -3 ALPHA = 6.000000E+01
THREAD1 BOLTTHREAD1_M : BOLTTHREAD1_S
$PRETENSION THREAD SURFACE TO SURFNODE SCREWDIR = 0, -3 ALPHA = 6.000000E+01
THREAD2 BOLTTHREAD2_M : BOLTTHREAD2_S
$PRETENSION THREAD SURFACE TO SURFNODE SCREWDIR = 0, -3 ALPHA = 6.000000E+01
THREAD3 BOLTTHREAD3_M : BOLTTHREAD3_S

↓ $LOADING
$PRETENSION LOAD LPAT = 200 PREDIR = FORCE_LOCK
THREAD1 -2.000000E+04
THREAD2 -2.000000E+04
THREAD3 -2.000000E+04

$NLOAD TABLE TIME = LIST DOFTYPE = DISP
0.000000E+00 1.000000E+00
LPAT = 100 1.000000E+00 1.000000E+00
LPAT = 200 0.000000E+00 1.000000E+00

↓ $STRUCTURE ↓
$SFSET NAME = BOLTTHREAD1_M $SFSET NAME = BOLTTHREAD1_S
1 1
$SFSET NAME = BOLTTHREAD2_M $SFSET NAME = BOLTTHREAD2_S
2 2
$SFSET NAME = BOLTTHREAD3_M $SFSET NAME = BOLTTHREAD3_S
3 3

$SURFACE ELEMENTS SURFID = 1 SYSTEM = LOCAL
153885 3
153891 4

$SURFACE ELEMENTS SURFID = 6 SYSTEM = LOCAL
260743 2
260744 5
    
```