

ANSYS Class3 Error Report

ERROR NO:
2014-04 R1

Keywords:

CONTA171 CONTA172 CONTA173 CONTA174 CONTA175
CONTA176 CONTA177 MPC CONTACT NROTAT, NLGEOM

Description of Error:

The displacements of contact nodes may be updated incorrectly when the following conditions are all applied:

1. MPC bonded contact is set (KEYOPT(2)=2, KEYOPT(12)=4,5,6 for contact element CONTA171 through CONTA177), and
2. Any contact node is rotated to a local coordinate system (e.g. through an NROTAT command) and there is no translational displacement constraint (UX or/and UY or/and UZ) applied on that rotated node, and
3. Large deflection option is turned on (NLGEOM,ON)
This will result in an incorrect solution.

Typical GUI Path(s):

Main Menu>Preprocessor>Modeling>Move /
Modify>RotateNode>To Active CS

Other Comments:

1. Surface-based constraints (Rigid surface constraint, Force-distributed constraint, Coupling constraint) are not affected.
2. MPC No-separation contact pairs are not affected.
3. There are a number of commands that can produce rotated nodes (such as NROTAT, NANG, NMODIF, DSYM, DA,SYMM, DA,ASYM, DL,SYMM, DL,ASYM,

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etc.).

First Incorrect Version:

Release 10.0

Corrected In:

Release 16.0

Suggested User Action For Running on Uncorrected Version:

Rotate all contact nodes back to the global Cartesian coordinate system.

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