



CDH/AUTOSPOT V1.2.6

Release Notes

July 2020

1. Enhancements and Corrections

CDH/AUTOSPOT version 1.2.6 has introduced following enhancements:

- Mastic joint type connection has been implemented in Autospot
- Glueline connection can be divided into element layers along the width and thickness directions.
- Nastran 'include' lines are now accepted in the structure file to allow multiple Nastran files to be read.
- Compatibility support of original CDH/Spot input parameters.
- Improved alignment of VDA-Line based connections.

CDH/AUTOSPOT version 1.2.6 contains following bug fixes:

- Distorted solid elements were found in nugget type nmodel=2, 4. This error has been fixed.
- Varying heights were found in nugget type nmodel=2, 4. This has been fixed.
- Minor bug fixes for VDA and NASTRAN input data format.

2. New Features - Usage

(a) Mastic joint

To generate Mastic joints, following VDA input should be used.

0d-MJ

\$\$vip:0d-MJ, ID, IDPROP, Point_Name, G1, G2

or

\$\$vip:0d-MJ, ID, IDPROP, Point_Name, v1, v2, v3

ID Unique integer from all other \$\$vip:0d and \$\$vip:1d ID data (integer, no default available)

IDPROP \$\$vip:property ID (integer: no default available)

Point_Name Unique Point name (ASCII string – up to 9 characters)

G1, G2 IDs of two grid points in the flange model. The vector from G1 to G2 is almost parallel to the local x axis. (integer: see Remark 1)

v1, v2, v3 (3 reals or blank) Components of a vector that is almost parallel to the local x axis. (integer: see Remark 2)

Example:

```
$$vip:0d-MJ,201,121,MJ38, 21911,21956  
$$vip:0d-MJ,201,121,MJ38, 4.82, 24.98, 98.33  
$$vip:0d-MJ,201,121,MJ38
```

Remarks:

- The mastic joint is modelled by a stack of 3 layers of 8 nodes HEXA elements. These elements are placed between two parallel plates. In general, the form of this joint is rectangular, and the line connecting G1 and G2 is used as a guide to set the direction of the local x-axis. The local z-axis is placed in the direction of the normal vector of the base plate element. The local y-axis is obtained by the vector product of x and z unit vectors. Strict orthogonality is maintained by recreating x-axis vector as cross product of y-vector to z-vector.
- Alternate form of this data uses a vector (v1, v2, v3) expressed in the basic coordinate system as the guide to form the initial orientation of the local orthogonal axes.
- If neither (G1, G2) nor (v1, v2, v3) are provided, then the local x-axis is estimated from the local element coordinate system of the base element.

(b) Glueline dividing feature

Two parameters, **gdfw** and **gdft**, have been added to support the glueline dividing feature:

gdfw glueline dividing factor in the width direction
Default is 1

gdft glueline dividing factor in the thickness direction
Default is 1

Example:

```
autospot structure.bdf glueline.vda -gdfw=2 -gdft=2
```

Contact Information

For technical problems associated with CDH/AutoSPOT, please contact your local CDH office or send an email to support@cdh-ag.com.

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