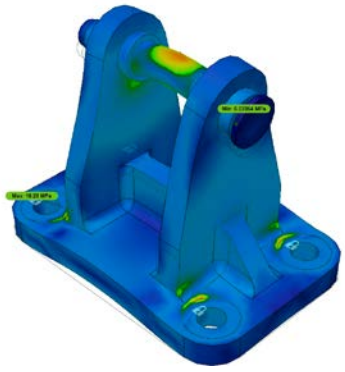
Lesson: Contact types for simulation

It's important to include how components will move and connect to others in an assembly to properly analyze the assembly. In this lesson, you review contact types and how they replicate the mechanical behavior of an assembly for analysis.



The completed exercise

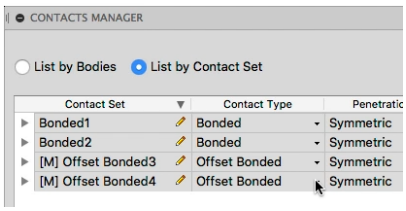
Learning Objectives:

- Use Automatic Contacts.
- Manually apply a contact.
- Identify types of contacts.

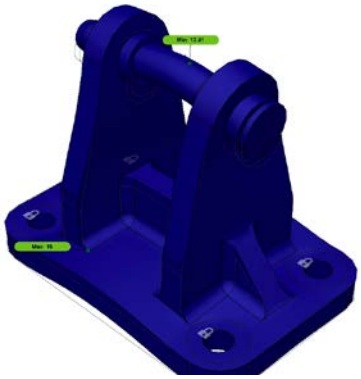
1. Open the Lift Point-Contacts.f3d file and save it to your current project. In the Browser, navigate to Load Case1 and choose Contacts>Manage Conflicts. Choose No to not generate automatic contacts. Activate List by Body. Note that none of the bodies have a Contact Set. Click Cancel.

2. Click Simulation>Contacts>Automatic Contacts. Generate a tolerance of 0.1 mm. The automatic contacts are generated as bonded contacts. Click Simulation>Contacts>Manual Contacts. Select the pin as the Master Body and one of the collars as the Slave Body. Then choose the faces to control in a contact scenario. Note the different options in the Contact Type dropdown menu. Select Offset Bonded. Also note the options under Advanced Options. Click OK.

3. Use the Marking Menu to start another Manual Contact between the pin and the other collar. Again, choose Offset Bonded then click OK. Repeat step 1 to open the Contact Manager and note the Contact Types have changed. Click OK.



4. Click Simulation>Pre-check to see that the Pre-check is satisfied, then click Simulation>Solve. Activate Solve Locally then click Solve. It will take a moment to solve.



5. Change the graphical output from Safety Factor to Stress. Note how the stress travels from the pin, through the collars and to the base.