

Feature No.	Feat-0249991	Feature Name:	Rib_5 – Partial results Options
Environment:	Part Design	Application:	Solid
FRD Version:	7	Author:	Uri
Last Save:	16.8.2025	Target Product:	v17
API:		Documentation:	Yes
Updated by:	Dan Branch		

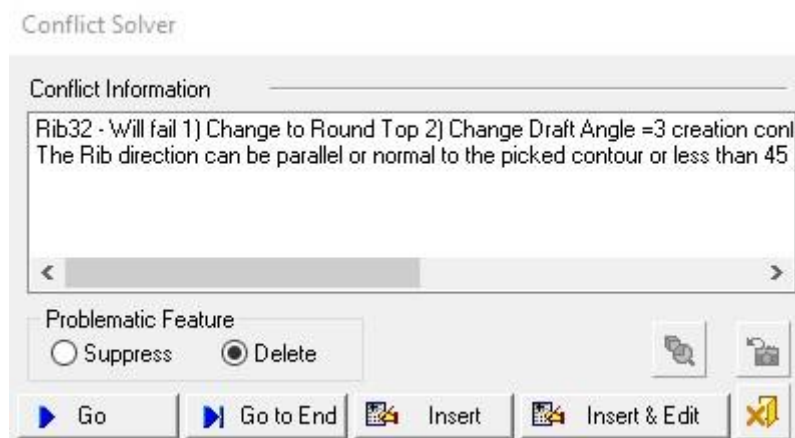
[Feat-0249991 - Rib_5 - Partial Result Options v7.docx](#)

1. Background

- 1.1. There are cases where the Rib creation fails. Ribs are made of extrudes, tapers, rounds, and other features that can all experience a geometric limitation.
- 1.2. We wish to support a partial result so that the Rib function will give some useable geometry whenever possible.

2. Details

- 2.1. Like other Solid operations, Rib could be thought of as a new solid, or an added solid. For now we do not choose to expose a remove solid (Slot).
- 2.2. Present better information in the Conflict Solver. Understand the point where the Rib Creation failed, and return with a more specific warning. Example - editing the Move feature in the “Rib-Issues-20220721” use case part will present this message:



- 2.3. Also, allow for partial result in respect to merging the solids.

3. Description

- 3.1. **New SP** – ‘New’ -or- ‘Add’.
 - 3.1.1. New = purple, Add = blue.
 - 3.1.2. This will be the top SP in the function.

3.1.3. For now there will be **no 'Remove'** choice.

3.1.4. Default - Add. This is how the system works today.

3.1.5. Anytime this SP is 'New':

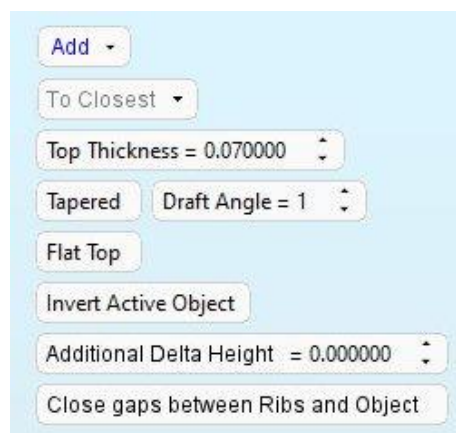
3.1.5.1. Disable the option that may be on the screen when open objects are present, to "Invert Active Object".

3.1.5.2. Disable the optional step in the feature guide for 'Pick reference object'.

3.2. **New SP** – 'By Delta' -or- 'By Reference' -or- 'To Closest'.

3.2.1. This SP will be the second from the top.

3.2.2. When the top SP is set as 'Add', this SP will only show as 'To Closest'. Disable any other choices.



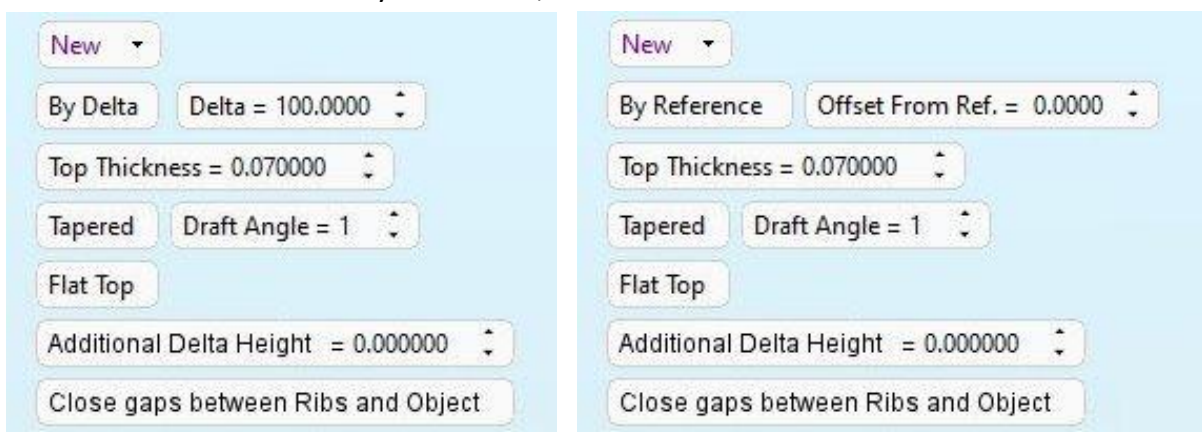
3.2.3. If the Top SP is 'New', Then the second SP options become available.

3.2.4. We would like all 3 options – ('By Delta', 'By Reference', 'To Closest') available when making 'New' solid. Even though a function like Extrude does not offer 'to closest' when making new.

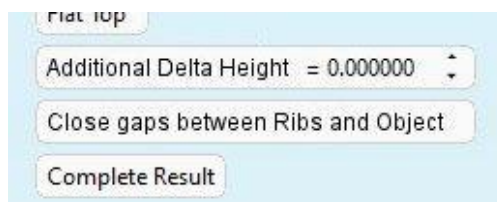
3.2.5. **Note:** - *judging by the result in the file "merge failed", the system is quite capable of doing a new solid, to closest, even today.*

3.2.6. **New secondary SP** – If the first SP is By Delta, then it will contain 'Delta = '.

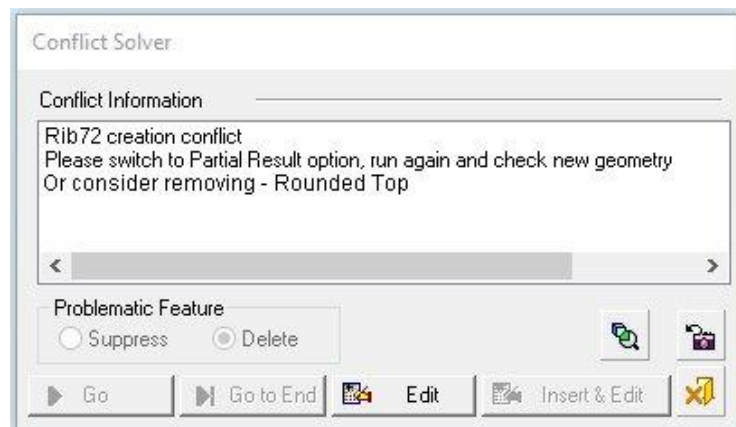
If the first SP is 'By Reference', then it will contain 'Offset From Ref. ='.



- 3.2.7. These functionalities for to closest, delta, by reference, or offset from ref., are all identical to what is found in the Solid / Extrude function. (For example, by reference allows for selecting a reference from screen.)
- 3.2.8. Also, see Solid / Extrude for the correct prompt language for these options.
- 3.2.9. Default for Delta: 100 mm, 1.00 inch. Keep last values per file.
- 3.2.10. Default for offset from ref: 0.00mm, 0.00 inch. Do not keep last setting.
- 3.3. The option to have a 'New' Rib can be leveraged to provide a partial result in cases where Rib would otherwise fail due to a problem with merging to the existing object.
- 3.4. **New SP** – 'Complete Result' -or- 'Partial Result'.
- 3.4.1. This will be the bottom position SP.
- 3.4.2. Default – 'Complete Result'.



- 3.4.3. Complete result means complete. If any aspect of the Rib features fails on the chosen Rib curve(s), bring up the conflict solver.
- 3.4.3.1. The Conflict Information should read in a similar way to how it does with the Solid/Shell function. On the first line, say creation conflict. On the second line, recommend a switch to partial result. On the third line, if the failure is known to be due to any of 3 known sub-options, (*Rounded Top, Taper, Additional delta height*), use the wording "or consider removing" and list them out.



- 3.4.3.2. The user can return to the function (Edit) or Quit.
- 3.4.4. The user might, if editing, remove an option and try another Complete Result.
- 3.4.5. When the user chooses 'Partial Result', it allows the system to do this:
- 3.4.5.1. Switch any rib curve that is failing from an 'add' to a 'new'. Internally use the option 'To Closest' for the new solid. (we want to avoid asking the user to select anything here).

3.4.5.2. If 'To Closest' fails, create it by Delta, to the lowest bounding box point in that direction.

3.4.5.3. The Rib curves that were not failing should still be created as an 'Add', not as a new.

3.4.5.3.1. This may mean that when editing the function later, the Add/New and other SPs do not accurately reflect the result of every one of the ribs. It is OK.

3.4.5.4. If now each selected curve can make a Rib, the function should complete.

3.4.6. If at partial result the feature can still not create Ribs on every curve, the feature must again file (conflict solver).

3.4.6.1. Partial result only affects Add to new. It does not (today) remove other options like round top, etc.

3.4.6.2. This time the user will need to heed the other advice in the conflict solver, and try removing some options or un-selecting curves.

3.4.7. When the function creates a 'New' solid rib, either by choice or partial result, the function is allowed to make separate objects.

3.4.7.1. For example 4 separately selected curves would create 4 separate New objects.

3.4.7.2. Likewise, if many curves were selected as one sketch, they should create one object only. We do not (today) bother to break this into smaller segment to pass/or fail. It is controlled by how the curves were selected.

3.4.8. These new changes to Rib should not cause an issue with older Rib features.

4. Preferences

4.1. Not affected.

5. Help Files

5.1. Explain the new options in the help files.

6. Environment & Licensing

6.1. Not affected.