

*Trim*模型气道网格处理注意事项

2010.10

叶良春

西迪阿特公司 技术部

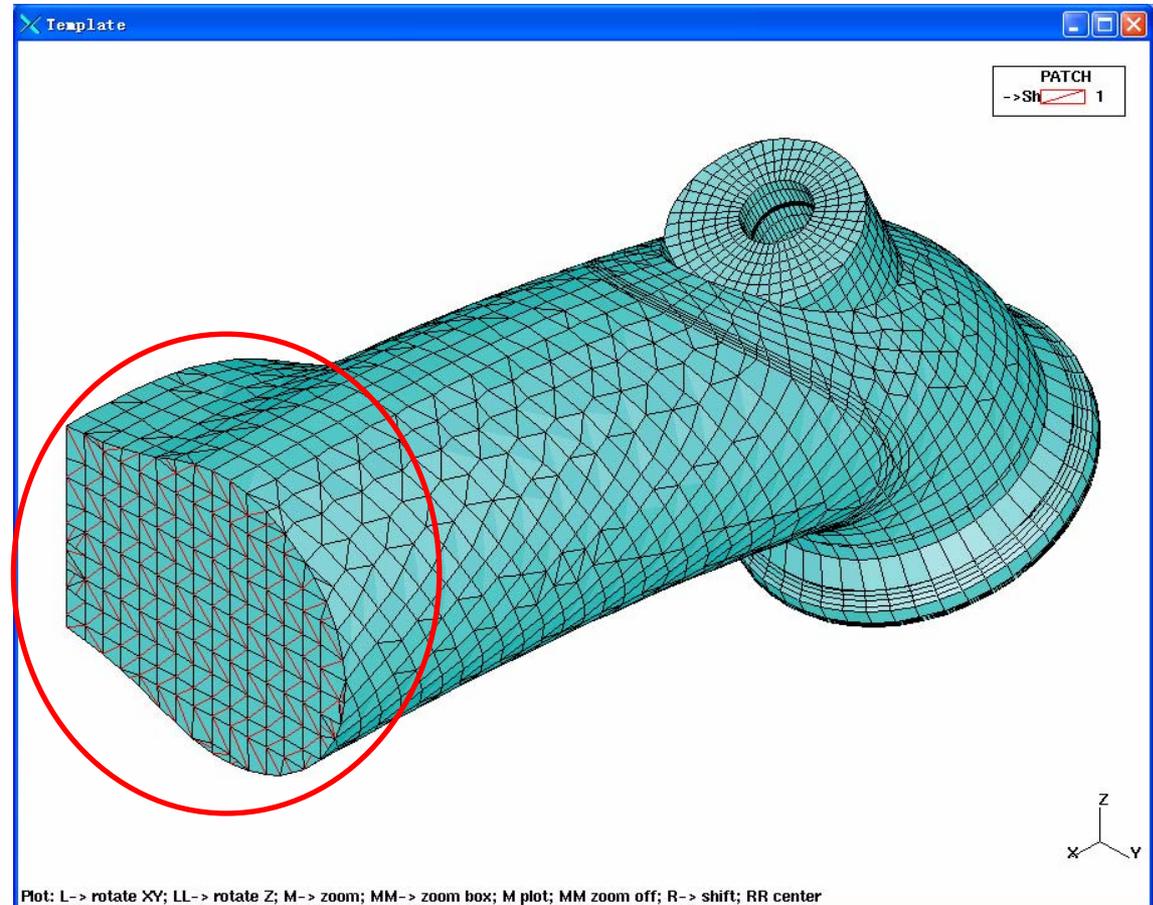
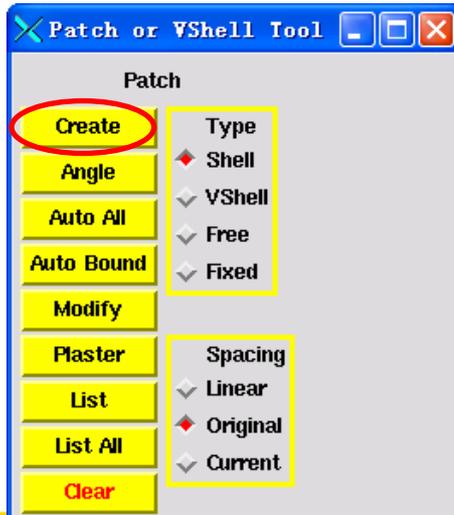
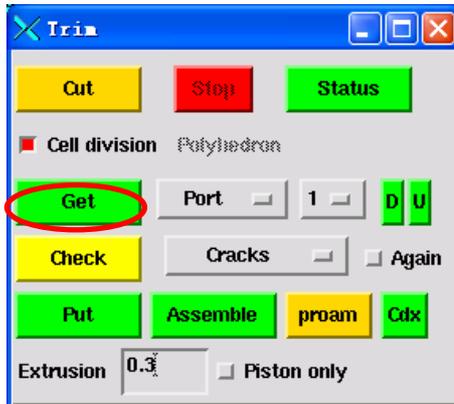


引言

- 在Trimming模型中，气道网格的处理需要注意以下2点：
 - 1. 气道进排气边界上的网格应避免出现Face7或Face8. 因为这些面在加载边界条件时可能出现加载不上的情形。
 - 对策：在进排气边界上，创建patch，并基于patch法向拉伸出1~2层网格。拉伸层网格端面不会出现Face7或Face8
 - 2. 气道壁面上应添加边界层网格，而进排气边界上不应添加边界层网格；
 - 对策：在Assemble中对模型整体添加Extrusion layer之前，先在气道进排气边界上创建patch进行标记，标记过的面就不会添加边界层网格了。

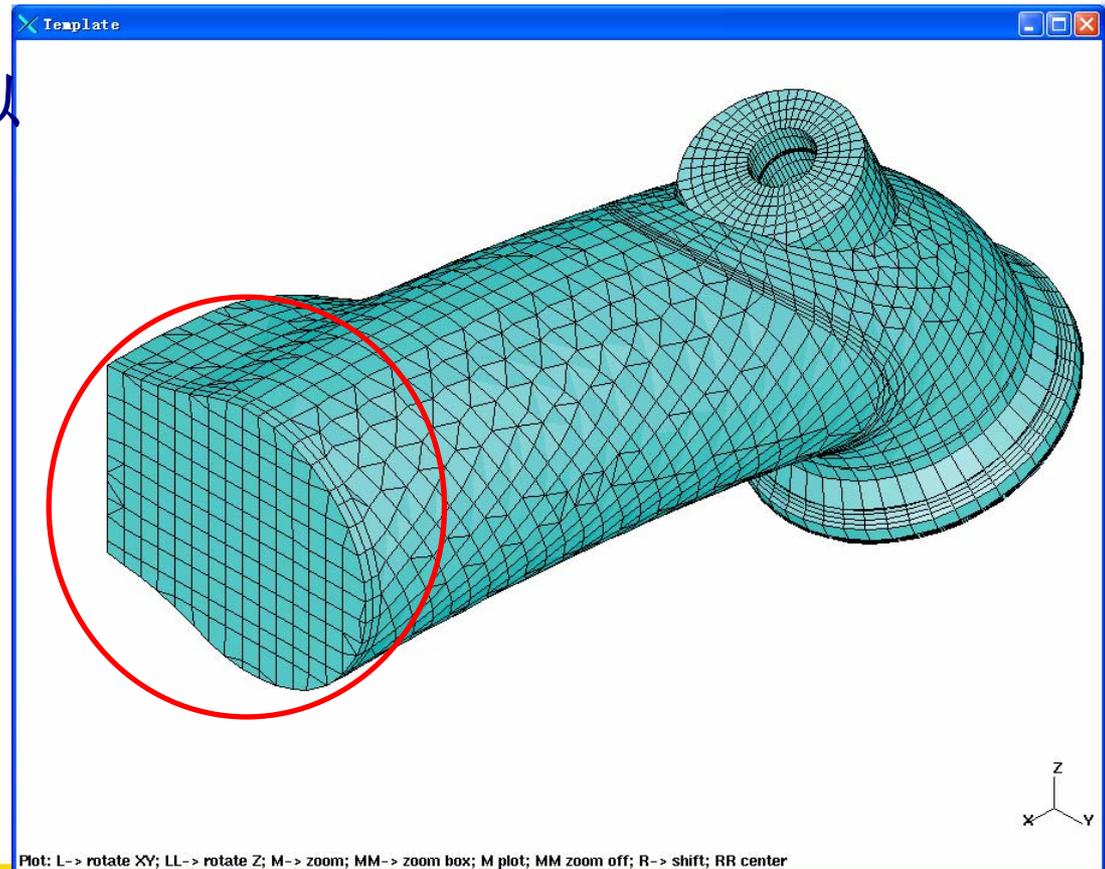
Step 1 在气道进出口边界上创建patch

- 用“Get”按钮调出气道网格，并在进排气端面创建patch。



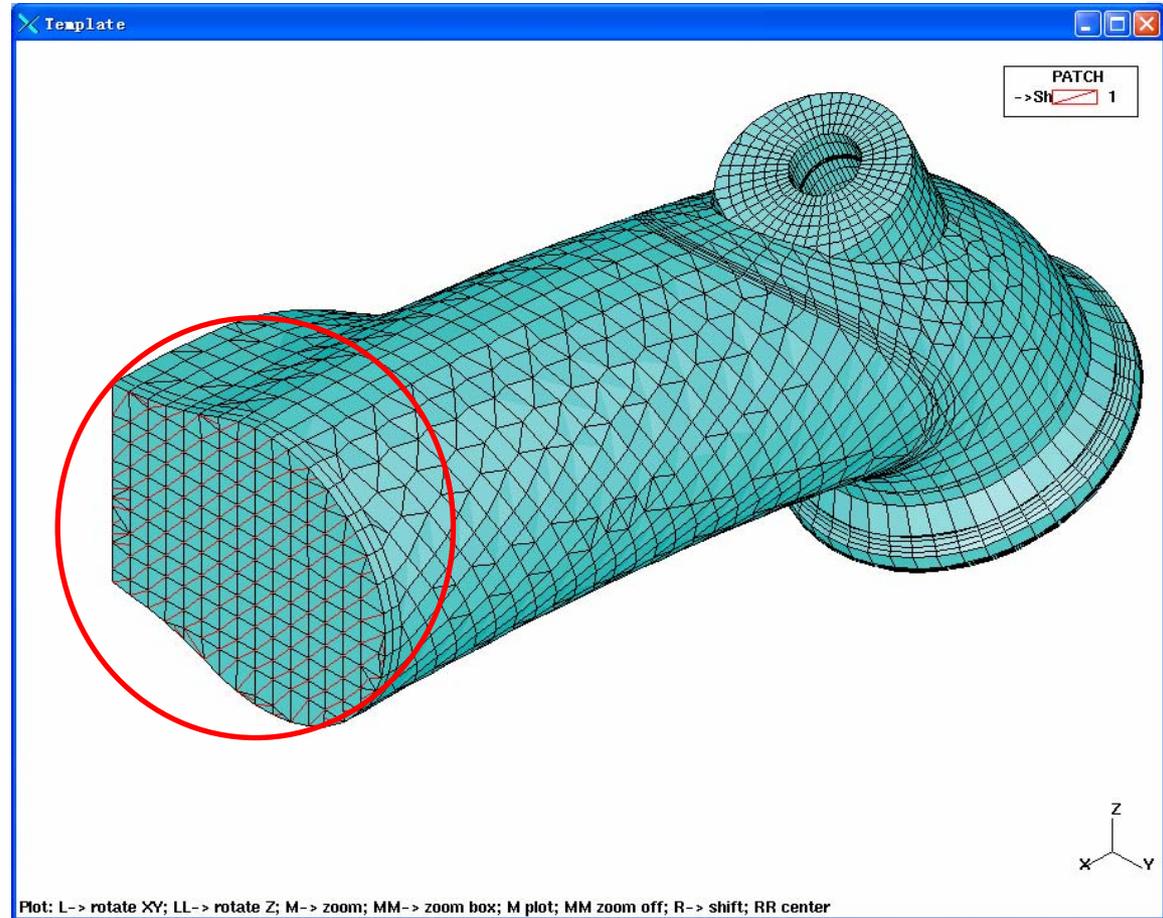
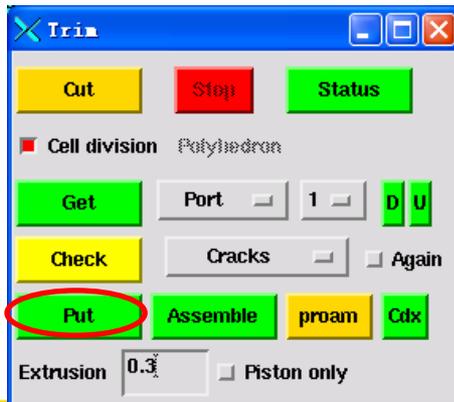
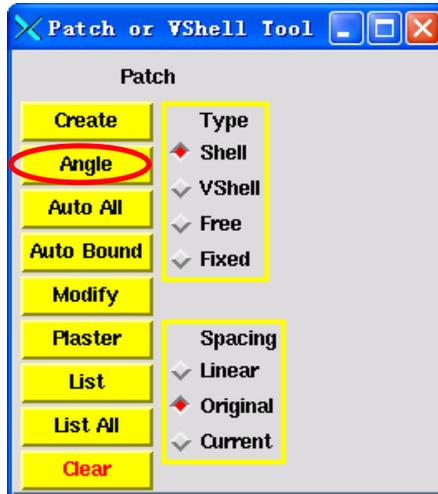
Step2 基于patch拉伸网格

- 基于patch拉伸网格可采用一下命令：
 - `pext curs 2 2` !通过鼠标选取patch, 法向拉伸2层, 总厚度2mm
- 拉伸完成之后采用以下命令删除patch:
 - `pclea all`
 - `y`



Step3 在进排气边界上用patch标记

- 在上步拉伸出的网格外端面上重新创建一patch，用于标记不添加边界层网格的面，然后用“put”按钮保存修改过的气道。



Step4 添加Extrusion并Assemble

The image displays the Trim software interface during a mesh assembly process. On the left, the **Trim** window is open, showing various controls:

- Buttons: Cut (yellow), Stop (red), Status (green).
- Cell division: Polyhedron (checked).
- Get (green), Port (dropdown), 1 (input), D (green), U (green).
- Check (yellow), Cracks (dropdown), Again (checkbox).
- Put (green), **Assemble** (green, circled in red), proam (yellow), Cdx (green).
- Extrusion (input field with 0.3, circled in red), Piston only (checkbox).

The main 3D view shows a blue wireframe mesh of a piston. A red circle highlights the rectangular extrusion at the end of the piston. A **Template** window on the right shows a red mesh patch, which is a zoomed-in view of the extrusion area. A blue dashed box and arrow indicate the relationship between the extrusion in the 3D view and the patch in the Template window.

At the bottom of both windows, a legend defines navigation shortcuts:

- Plot: L-> rotate XY; LL-> rotate Z; M-> zoom; MM-> zoom box; M plot; MM zoom off; R-> shift; RR center



电话: (86)10-65881497/8

地址: 北京朝阳门外大街18号丰联广场A座1207室

<http://www.cdaj-china.com>