```
hanoi_peg_perm_wf  THM

⊢  ∀p,r,q,s:Peg. p ≠ q ⇒ r ≠ s ⇒ permute(p to r ; q to s) ∈ Peg→Peg
  by Def of permute(<peg> to <peg> ; <peg> to <peg>)
END
```