```
hanoi_seq_core  THM

⊢  ∀n':ℕ, n:{n'...}, a,z:ℤ, s:({a...z}→{1...n}→Peg).
|  s is a Hanoi(n disk) seq on a..z
|  ⇒
|  (∀a',z':{a...z}.
|   (∀x:{a'...z'}, i:{n'+1...n}. s(a',i) = s(x,i))
|   ⇒
|   s is a Hanoi(n' disk) seq on a'..z')  by Auto
|
1. n' : ℕ
2. n : {n'...}
3. a : ℤ
4. z : ℤ
5. s : {a...z}→{1...n}→Peg
6. s is a Hanoi(n disk) seq on a..z
7. a' : {a...z}
8. z' : {a...z}
9. ∀x:{a'...z'}, i:{n'+1...n}. s(a',i) = s(x,i)
⊢  s is a Hanoi(n' disk) seq on a'..z'  by SimilarTo: Hyp:6
|
.....wf .....
10. x : {a'...z'}
11. x' : {a'...z'}
12. x+1 = x'
13. k : {1...n}
14. Moving disk k of n takes s(x) to s(x')
⊢  k ∈ {1...n'}
| by FwdThru:
|    Thm*  ∀n:ℕ, f,g:({1...n}→Peg), k:{1...n}.
|          Moving disk k of n takes f to g ⇒ f(k) ≠ g(k)
|    {hanoi_step_at_diff}
|    on [ Hyp:-1 ]
|
15. s(x,k) ≠ s(x',k)
⊢  k ∈ {1...n'}  by ¬n'<k  Asserted
|
.....assertion .....
⊢  ¬n'<k  by SimilarTo: Hyp:-1
|
15. n'<k
⊢  s(x,k) = s(x',k)  by Rewrite by Hyp:9
END
```