```
nsub_delete  THM

⊢  ∀k:ℕ, j:ℕk, m:ℕ. m = k-1 ⇒ ({i:ℕk| ¬i = j } ~ ℕm)  by Auto
|
1. k : ℕ
2. j : ℕk
3. m : ℕ
4. m = k-1
⊢  {i:ℕk| ¬i = j } ~ ℕm
| by Witness:
|      λi.if i<₂j→ i else i-1 fi
|      with type {i:ℕk| ¬i = j ∈ ℤ }→ℕm
|    THEN
|    Witness:
|      λi.if i<₂j→ i else i+1 fi
|      with type ℕm→{i:ℕk| ¬i = j ∈ ℤ }
|
|\
| .....assertion .....
| ⊢  (λi.if i<₂j→ i else i-1 fi) ∈ {i:ℕk| ¬i = j }→ℕm  by Analyze
| |
| 5. i : {i:ℕk| ¬i = j }
| ⊢  if i<₂j→ i else i-1 fi ∈ ℕm  by Analyze-1 THEN SplitITE Concl
|
|\
| .....assertion .....
| 5. (λi.if i<₂j→ i else i-1 fi) ∈ {i:ℕk| ¬i = j }→ℕm
| ⊢  (λi.if i<₂j→ i else i+1 fi) ∈ ℕm→{i:ℕk| ¬i = j }  by Analyze
| |
| 6. i : ℕm
| ⊢  if i<₂j→ i else i+1 fi ∈ {i:ℕk| ¬i = j }
|   by Analyze-1 THEN SplitITE Concl THEN Analyze
|
.\
. 5. (λi.if i<₂j→ i else i-1 fi) ∈ {i:ℕk| ¬i = j }→ℕm
. 6. (λi.if i<₂j→ i else i+1 fi) ∈ ℕm→{i:ℕk| ¬i = j }
. ⊢  InvFuns({i:ℕk| ¬i = j };ℕm
.            ;λi.if i<₂j→ i else i-1 fi;λi.if i<₂j→ i else i+1 fi)
.   by Analyze THEN Reduce Concl
.      THEN
.      Analyze-1 THEN SplitOnNthConclITE Hyp:2 THEN SplitITE Concl
END
```