

Inference at *
of proof for Lemma p-fun-exp-injection:

$\vdash \forall A:\text{Type}, f:(A \rightarrow (A + \text{Top})). \text{p-inject}(A;A;f) \Rightarrow (\forall n:\mathbb{N}. \text{p-inject}(A;A;f^n))$
by ((InductionOnNat)
CollapseTHEN (Auto.)).

1:basecase..... NILNIL

1. $A : \text{Type}$
2. $f : A \rightarrow (A + \text{Top})$
3. $\text{p-inject}(A;A;f)$
- $\vdash \text{p-inject}(A;A;f^0)$

2:upcase..... NILNIL

1. $A : \text{Type}$
2. $f : A \rightarrow (A + \text{Top})$
3. $\text{p-inject}(A;A;f)$
4. $n : \mathbb{Z}$
5. $0 < n$
6. $\text{p-inject}(A;A;f^{n-1})$
- $\vdash \text{p-inject}(A;A;f^n)$