Inference at $*$ 1 2 1 2 1 1 1 1
of proof for Lemma fast-fib:

1. n : $\mathbb{Z}$
2. $0 < n$
3. $\forall a, b$:$\mathbb{N}$.
   $\{m$:$\mathbb{N}$ |
   $\forall k$:$\mathbb{N}$.
   $(a = \mathrm{fib}(k))$
   $\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
   $\Rightarrow ((0 < k) \Rightarrow (b = \mathrm{fib}(k - 1)))$
   $\Rightarrow (m = \mathrm{fib}((n - 1)+k))\}$
4. a : $\mathbb{N}$
5. b : $\mathbb{N}$
6. $\forall b_1$:$\mathbb{N}$.
   $\{m$:$\mathbb{N}$ |
   $\forall k$:$\mathbb{N}$.
   $(a+b = \mathrm{fib}(k))$
   $\Rightarrow ((k \leq 0) \Rightarrow (b_1 = 0))$
   $\Rightarrow ((0 < k) \Rightarrow (b_1 = \mathrm{fib}(k - 1)))$
   $\Rightarrow (m = \mathrm{fib}((n - 1)+k))\}$
7. m : $\mathbb{N}$
8. $\forall k$:$\mathbb{N}$.
   $(a+b = \mathrm{fib}(k))$
   $\Rightarrow ((k \leq 0) \Rightarrow (a = 0))$
   $\Rightarrow ((0 < k) \Rightarrow (a = \mathrm{fib}(k - 1)))$
   $\Rightarrow (m = \mathrm{fib}((n - 1)+k))$
9. k : $\mathbb{N}$
10. $a = \mathrm{fib}(k)$
11. $(0 < k) \Rightarrow (b = \mathrm{fib}(k - 1))$
12. $k = 0$
13. $b = 0$

$\vdash a+0 = \mathrm{fib}(0+1)$
by (((if (first_bool T:b) then HypSubst' else RevHypSubst') (10)(0))·)

CollapseTHEN (((if (first_bool T:b) then HypSubst' else RevHypSubst') (-2)(0))·)·

1:

$\vdash \mathrm{fib}(0)+0 = \mathrm{fib}(0+1)$

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http://www.nuprl.org/FDLcontent/p0_963683_/p25_480536_{fast-fib}1_2_1_2_1_1_1_1.html