Inference at $*$
of proof for Lemma fseg_extend:

$\vdash \forall T$:Type, l_1:(T List), v:T, l_2:(T List).
fseg(T;l_1;l_2)
$\Rightarrow$ (($\|l_1\|$ < $\|l_2\|$) c$\wedge$ (l_2[($\|l_2\|$ - ($\|l_1\|$+1))] = v))
$\Rightarrow$ fseg(T;[v / l_1];l_2)
by ((((((((Unfold ‘fseg‘ 0)
CollapseTHEN (Auto’))·)
CollapseTHEN (D (-1)·))·)

CollapseTHEN (ExRepD·))·)
CollapseTHEN (((WeakSubstFor l_2 0)
CollapseTHEN (((
(Assert ¬(↑null(L)))
THENL [((((((((DVar ‘L’)
CollapseTHEN (Reduce 0))·)

CollapseTHEN (Auto·))·)
CollapseTHEN (((((((if (first_bool T:b
) then HypSubst’ else RevHypSubst’) (-3)(-2))·)
THENM (Reduce (-2)))·)

CollapseTHEN (Auto·))·))·); Id]·)
CollapseTHEN (((InstLemma ‘last_lemma‘ [T;L])

CollapseTHENA (Auto·))·))·))·))·

1:

1. T : Type
2. l_1 : T List
3. v : T
4. l_2 : T List
5. L : T List
6. l_2 = (L @ l_1)
7. $\|l_1\|$ < $\|l_2\|$
8. l_2[($\|l_2\|$ - ($\|l_1\|$+1))] = v
9. ¬(↑null(L))
10. $\exists L'$:T List. (L = (L' @ [last(L)]))

$\vdash \exists L@_0$:T List. ((L @ l_1) = ($L@_0$ @ [v / l_1]))

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http://www.nuprl.org/FDLcontent/p0_963683_/p12_1765038_{fseg_extend}.html