Inference at $*$
of proof for Lemma fun_thru_spread:

$\vdash \forall A$:Type, B:($A \rightarrow$Type), p:(x:$A \times B(x)$), C, D:Type, f:($C \rightarrow D$), b:(x:$A \rightarrow B(x) \rightarrow C$).
f(let x,$y = p$ in $b(x,y)$) = let x,$y = p$ in $f(b(x,y))$
by ((UnivCD)
CollapseTHENA ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n
)) (first_tok :t) inil_term)))·

1:

1. A : Type
2. B : $A \rightarrow$Type
3. p : x:$A \times B(x)$
4. C : Type
5. D : Type
6. f : $C \rightarrow D$
7. b : x:$A \rightarrow B(x) \rightarrow C$

$\vdash$ f(let x,$y = p$ in $b(x,y)$) = let x,$y = p$ in $f(b(x,y))$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_97665_{fun_thru_spread}.html