Inference at $*$ 1 4 1 1 1
 of proof for Lemma fincr_wf:

1. $i : \mathbb{N}$
2. $f : \{f \mid i{:}\{z{:}\mathbb{N} \mid z < i\} \rightarrow \text{if } (i =_0 0) \text{ then } \mathbb{Z} \text{ else } \{f(i \text{ - } 1)\ldots\} \text{ fi } \}$
3. $j : \mathbb{N}$
4. $\forall j_1{:}\mathbb{N}.\ (j_1 < j) \Rightarrow (j_1 < i) \Rightarrow (f(j_1) \in \mathbb{Z})$

$\vdash (j < i) \Rightarrow (f(j) \in \mathbb{Z})$
 by ((D 0)
 THENW ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n
 )) (first_tok :t) inil_term)))·

 1:

 5. $j < i$

 $\vdash f(j) \in \mathbb{Z}$

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