```
wp2_rel_correctness  THM

⊢  ∀A:ioa{i:l}(), r:rel(), rho:Decl, de:sig(), e:{[[de]] rho}
   , a:(Σ[[A.da]] rho), tr:trace_env([[A.da]] rho).
   tc_ioa(A;de)
   ⇒
   ¬ioa_mentions_trace(A)
   ⇒
   trace_consistent_rel(rho;A.da;tr.proj;r)
   ⇒
   single_valued_decls(A.ds)
   ⇒
   (∀s,x':[[A]] rho de e.state.
    tc(r;A.ds;<>;de)
    ⇒
    closed_rel(r)
    ⇒
    covers_rel(A;r)
    ⇒
    [[A]] rho de e.trans(s,a,x')
    ⇒
    (rel_mng_2(r; rho; A.ds; <>; de; e; s; x'; ·; tr)
     ⟺
     [[wp2_rel(A;kind(a);r)]] rho A.ds ... de e s value(a) tr))
  by ...
THEN InstLemma `wp2_rel_correct` [A;r;rho;de;e;a;tr;s
     ] THENA Auto
THEN SimpleInstHyp x' (-1) THENA Auto

     THEN RepeatFor 2 (D (-1) THENA Easy)

     THEN NthHypSq (-1) THEN RepeatFor 2 (EqCD THEN Try Trivial)

     THEN Easy

END
```