```
no_duplicate_send_async  THM

⊢  ∀E:EventStruct. asyncR(E) preserves No-dup-send(E)
  by Auto
THEN  Unfolds ``preserved_by R_delayable R_async`` 0

     THEN Unfold `swap_adjacent` 0
THEN Reduce 0 THEN Auto

     THEN ExRepD
THEN SubstFor y 0 THENA Auto

     THEN InstLemma `swap_length` [|E|;x;i;i+1] THEN Auto'

     THEN All (\h. Unfold `no_duplicate_send` h THEN Reduce h)

     THEN RWO "swap_select" 0 THENA Auto'
THEN GenConcl (i, i+1) = f
      THEN Auto'
THEN InstHyp [f(i@0);f(j)] 4 THEN Auto

     THEN AssertBY Bij(ℕ||x||; ℕ||x||; f)
     (SubstFor f
      0 THENA Auto THEN BackThruLemma `flip_bijection` THEN Auto)

     ...
END
```