```
equal_appends_case2  THM

⊢  ∀T:Type, x1,z,x2,x3:T List.
   ||z||≤||x1||
   ⇒
   (x1 @ x2) = (z @ x3)
   ⇒
   (∃z':T List. x1 = (z @ z') & x3 = (z' @ x2))
  by Auto
     THEN
     (Inst
      Thm* ∀x1,z,x2,x3:T List.
           ||x1||≤||z||
           ⇒
           (x1 @ x2) = (z @ x3)
           ⇒
           (∃z':T List. z = (x1 @ z') & x2 = (z' @ x3))
      {equal_appends_case1}
      [T;z;x1;x3;x2])
END
```