



FORD IGNITION SWITCH  
REPAIR KIT

**SKU-FRK-1**

**BA-BF FALCON & SX-SY TERRITORY**

# INSTRUCTION MANUAL



# Contents of kit



UF-1 universal fastener, FSR-template , FSR-1, 1x 8gb USB thumb drive with instruction manual, 1x slice of KNEAD-IT, 1x m4 carbon tap, 1x 2mm drill bit, 1x 2.5mm drill bit, 1x 3mm drill bit, 1x 4mm drill bit, 1x 2.5mm Allen key, M4x4 screws, M4x8 screws, 5/32 ball bearings.

## Tools you will need

Safety goggles, hammer, battery drill, flat blade screw driver, punch set, warding files, Long nose pliers, multi-meter.

## Purpose of this kit and components

The purpose of this kit is to provide motor vehicle repairers an alternative to replacing the steering column on all ford falcon and territory vehicles made between late 2002- late 2007. In this time approximately 356,350 ford falcons and 85,573 ford territories were sold in Australia. Until now the only solution available was to buy a superseded column from the dealer with a hefty price tag attached or fit a second hand column with the same problem waiting to happen. Fitting a superseded column can also mean different keys from door to ignition on BA Falcon and SX Territory, these keys will also need programming on these particular models. With our method you can use most of the existing components and no key programming is necessary. We have been carrying out this exact repair for over 3 years and haven't had a column come back.

The two common problems that occur with these vehicles are as following,

1. The electrical switch dislodges from its housing with steering lock pressure. The symptom associated with this is nothing happens when the key is turned in the ignition and no dash lights.
2. The key does not return from the START position. The customer has to turn the key back manually in order to disengage the starter motor.

**This kit solves both problems.**

**UF1-** Serviceable switch modification: Hardened roll pins are removed then the existing holes are tapped and replaced with a M4x8 screw to make it easily serviceable again in future. UF-1 Prevents the lightly crimped insides of the switch from disengaging from the column under steering lock spring pressure, also assists with fastening properly to the column. We recommend you always do this repair regardless of the symptom.

**FSR-1:** Lousy spring return re-build: stainless steel plate replacing worn die -cast spring return . Also prevents wear on starter motor from excessive dwell time whilst cranking

## **LEGAL DISCLAIMER:**

**The technical data is supplied as a general guide only to diagnosis and service, Automotive trade solutions has used reasonable endeavours to ensure that this information is accurate at the date of publication.**

**Automotive trade solutions, holds no liability for any damage, loss or claim arising from errors within the information or by incorrect application of this information. Always double check any information with an additional source before committing to vehicle repairs or service.**

**You will need a prior understanding of how to remove and re-fit the steering column to the vehicle and understand and carry out the correct safety procedures involved in airbag removal and installation. You may also need the correct licensing to undergo motor vehicle repair.**

**By attempting this repair, you agree to the Terms and Conditions of use.**

# Fitting the UF-1

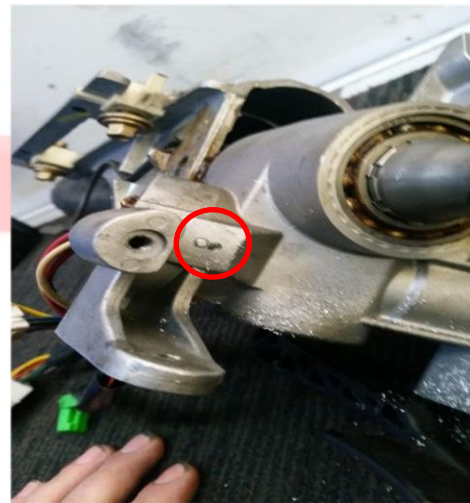
(necessary with every repair)

**Step 1:** Remove the steering column from the vehicle. Ensure you are working with the bare column only. Leave the clock spring steering wheel and airbag separated from the rack and away from the work area. The only wiring you should see is that of the ignition switch as shown right.

**\*IMPORTANT\*** There is no need to remove the ignition barrel from the column at any time during the rebuild. Doing so can cause the steering lock to release from its regular position and deem the column un-useable.

**Step 2:** Locate the two hardened pins that hold in the electrical switch. Both of these pins will need to be extracted to remove the switch itself.

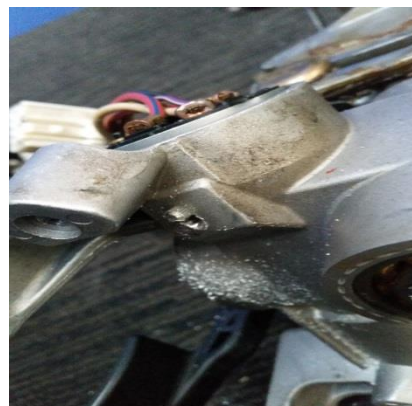
\*To extract the 1<sup>st</sup> pin closest to the steering wheel side (shown in picture to the right) Drill a **3mm** hole next to the pin on a slight angle toward the bottom of the pin. It is acceptable to use a **3mm drill** bit to assist with prying this pin out. **Anything larger will effect tapping the hole later on.**



**Step 3:** Pry pin 1 from the steering column.

\* Punch the 1/8 screw extractor into the hole until it feels solid then hit the extractor with a hammer towards the ignition barrel side.

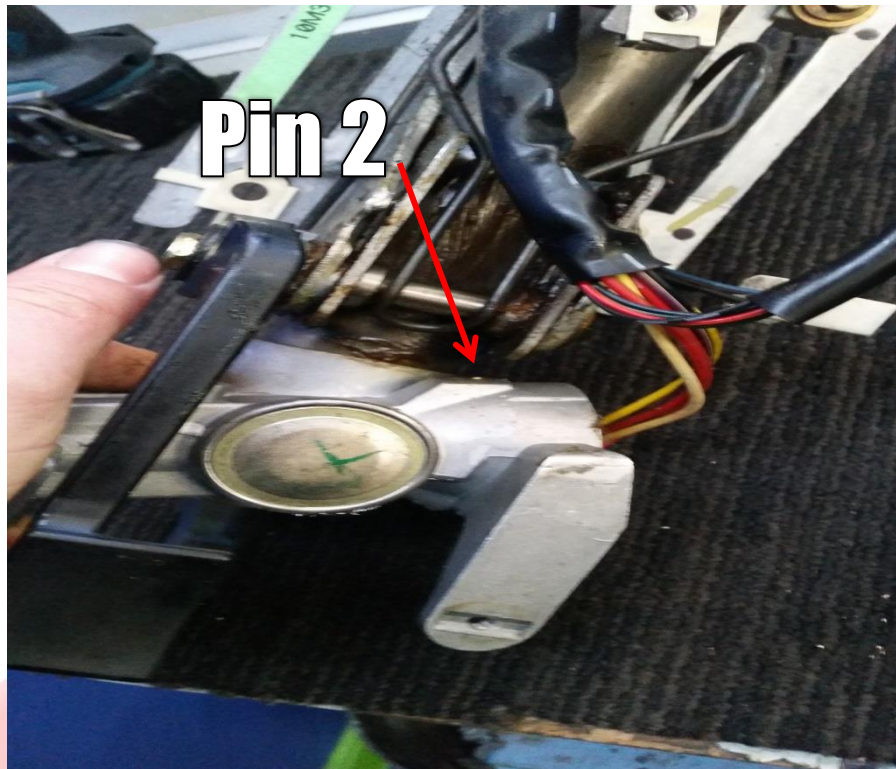
\* Once the pin extracts the switch will let go on that side only as shown in the bottom right picture





**Step 4:** \* Locate pin 2 on the steering column as shown in the picture below.

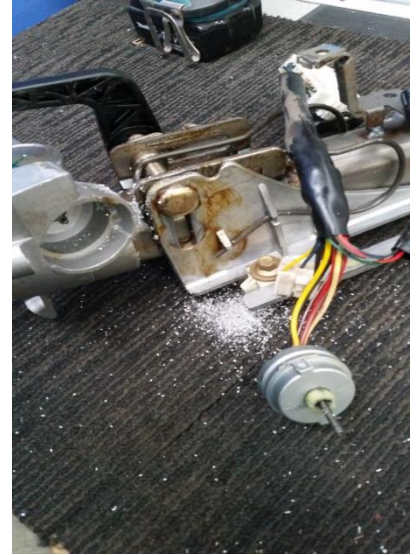
\*Drill a straight hole with a **2.5mm** drill bit and then open it up to a **4mm** in line with the pin. It is acceptable to drill past the point of the pin. The aim is to drill and make contact with the bottom/end of the pin and separate it from the switch.



**\*Drill here straight down\***



**Step 5:** Gently pry the electrical switch out as shown in picture if it hasn't already sprung out whilst drilling the hole.



**Step 6:** Remove any debris and punch the remains of the roll pin out of the housing to ensure easier fitment of the switch later on in the procedure.





**Step 7:** Create a chamfer on the ridge of the switch housing using a warding file as shown below. This assists with fitting the UF1 universal fastener and ensures a flush mount.

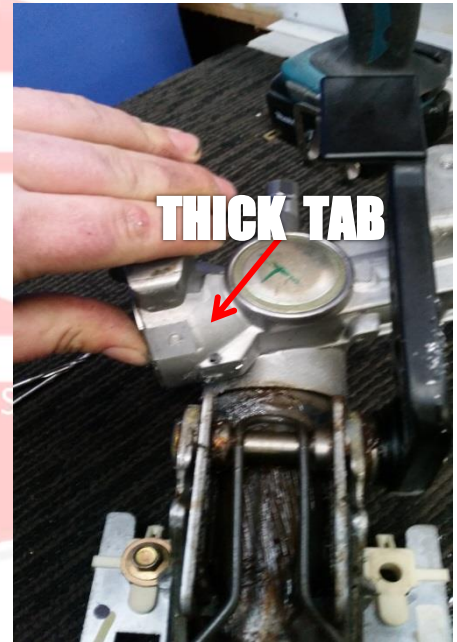


**Step 8:** Push the UF1 onto the steering housing.

\* The UF1 has a **thin tab** and **thick tab**.

\*The thin tab is closer to the steering wheel side and the large closer to the steering rack adjustment

**\*\*You must fit this the right way around! \*\***



**Step 9:** Locate the 4mm hole in each tab and using a **4mm drill bit** mark your holes only. **DO NOT DRILL ALL THE WAY THROUGH.** Ensure you apply pressure to the UF1 to ensure it is flush with the housing.

Once your holes are marked proceed to drill all the way through with a **2.5mm drill bit**.





**Step 10:** Using the m4 tap, tap the holes previously drilled with the 2.5mm drill bit.

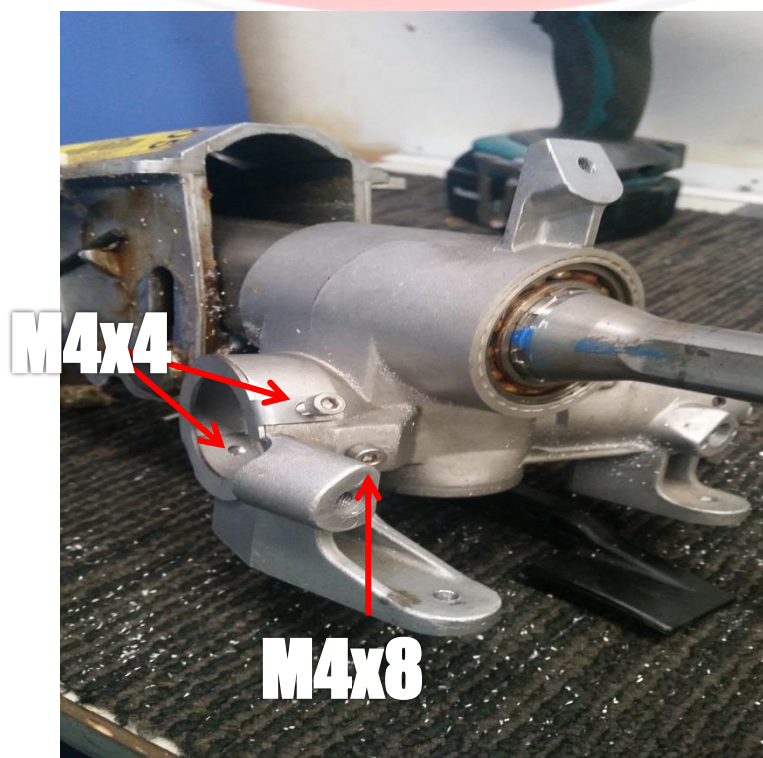
\*Then proceed to tap the hole where roll pin 1 was located.

Then trial fit UF1 with m4x4 screws provided in kit going through the tabs.

\*\*Note M4X8 screw is for where roll pin 1 is located. This screw holds the switch in place once it is fitted. UF1 should sit flush with the housing.



**Step 11:** (Optional) Locate the Knead-it provided in your kit. Break off a bit of knead it and knead it together in your hands mixing the two part mix together. Use it to fill the holes drilled to remove the roll pins. This is for cosmetic purposes only.





**Step 11:** If the electrical switch is in good working order it can now be fitted back into the column (it only goes in one way).

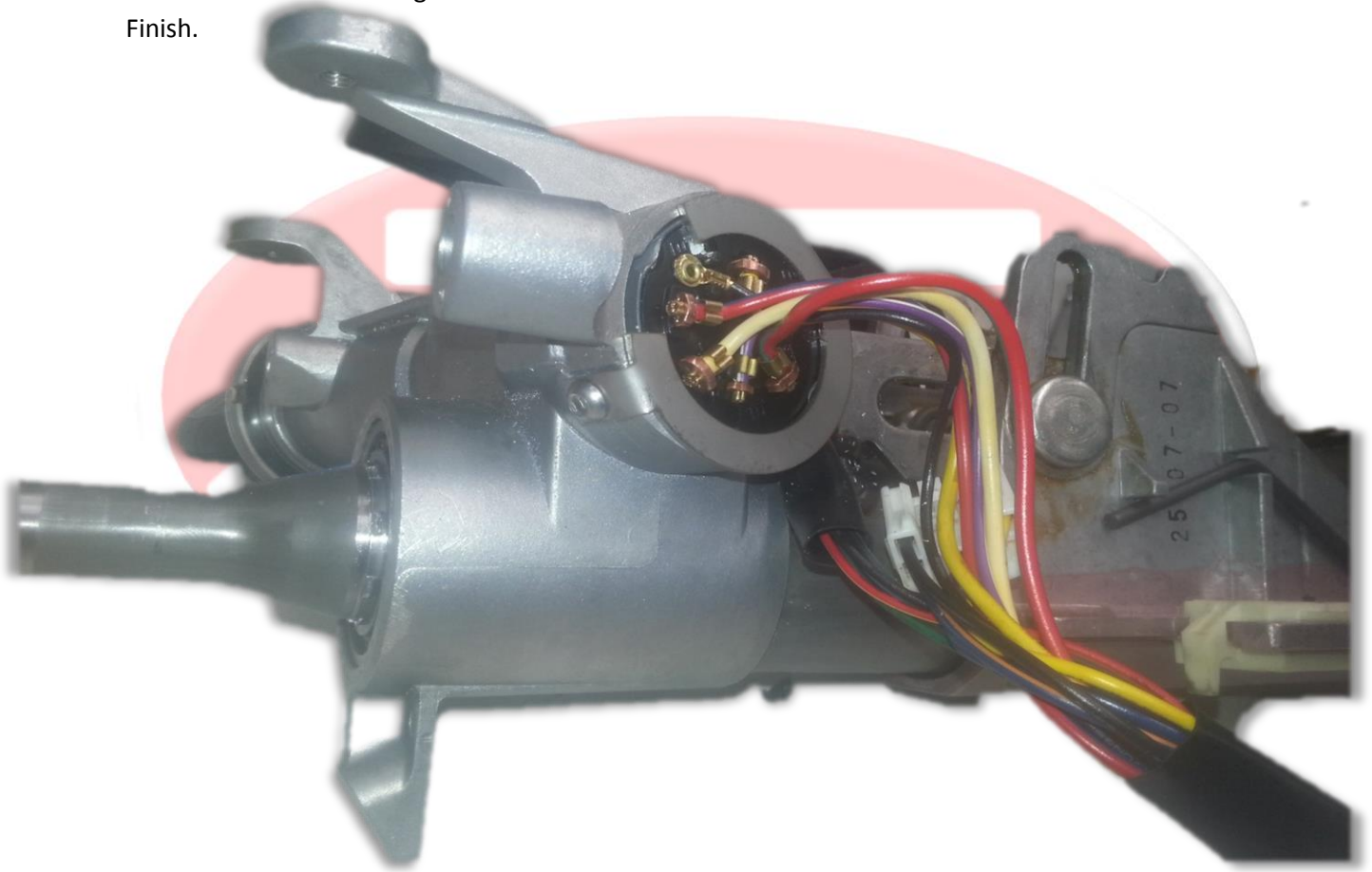
**Make sure the steering lock spring is in. (check picture to the right)**

\*Push switch into housing and insert and tighten **M4x8** screw to hold electrical switch in.

\* Then place UF1 plate over the switch and insert the **2x M4x4** screw into the tabs and tighten. Finish.



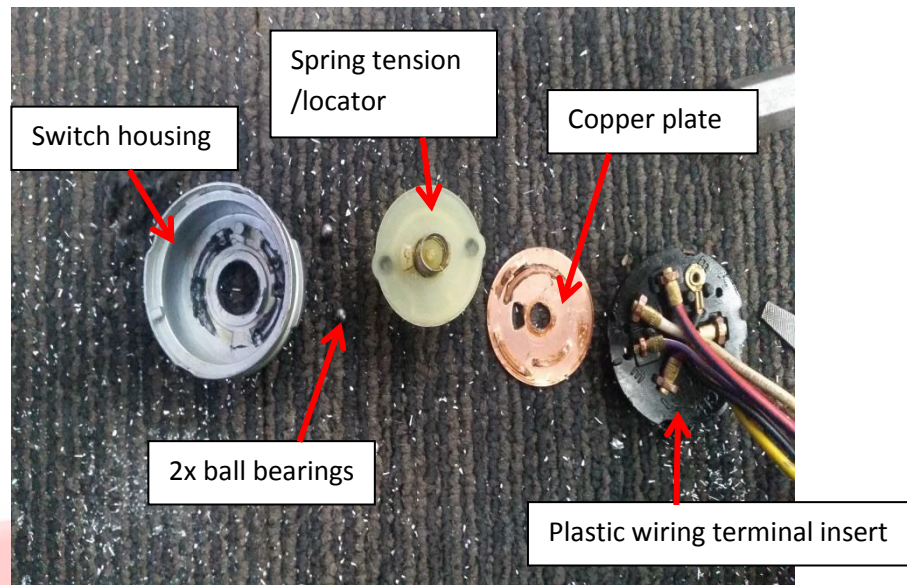
Steering lock spring.



# Re-assembling the electrical switch

(Only necessary to undertake if electrical switch falls apart)

**Step 1:** Make sure you have all the components on the right hand side. These parts are also laid out in the correct order to be re-assembled left to right.

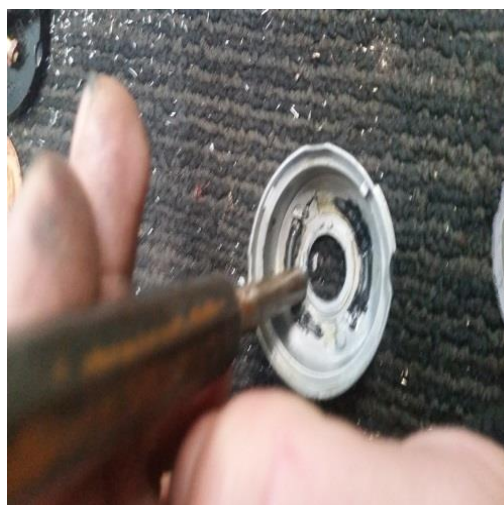


**Step 2:** Examine your switch housing if the spring return diecast tab is still present you need to Flatten with a punch in order to fit the FSR-1 insert.



This very small diecast tab is the part which breaks or wears down inside the switch housing. If the vehicle is not returning from the start position this is the problem.

**Step 4:** Remove any debris and broken diecast tab from switch housing. Flatten the area where the diecast tab was located with a punch as shown in the pictures right.

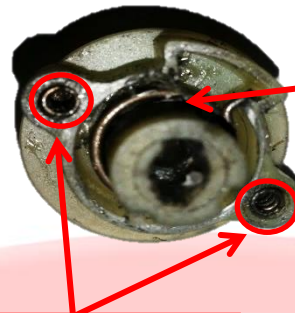




**Step 5:** Using a pair of flat nose plier's un-crimp three of the four crimps leaving one as a locator as shown. Try to get it as close to a circle as possible, this will help when fitting the wiring terminal insert.



**Step 6:** Examine spring tensioner/locator and make sure it has all the springs shown right. The rest of the procedure will have to be carried out in your hand. We do not recommend you use a vice because it can distort the diecast.

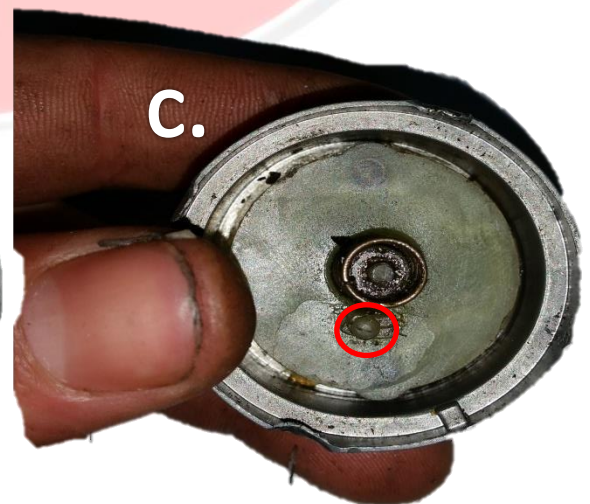
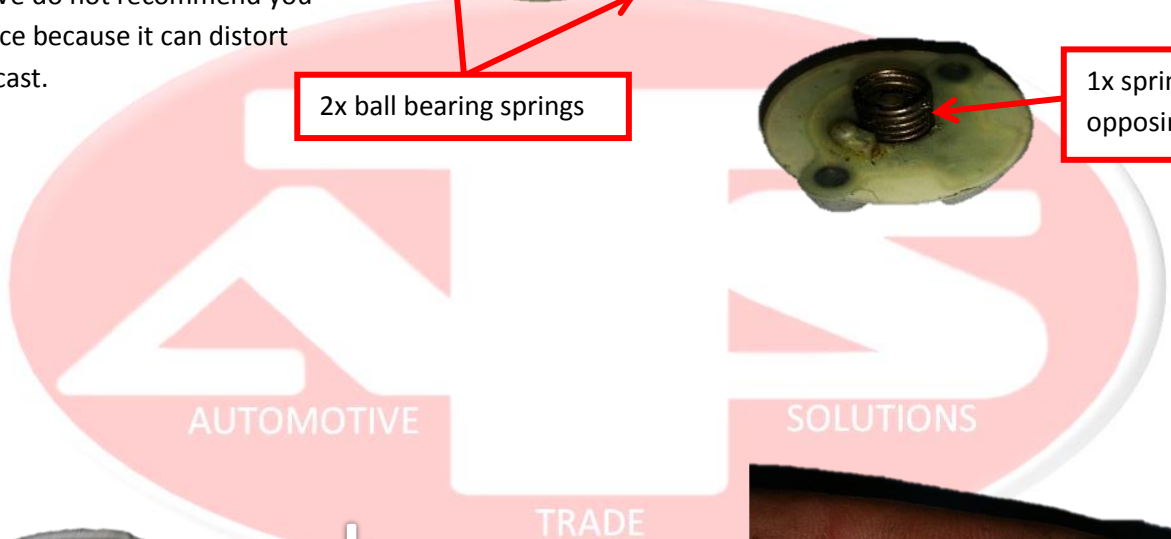


2x ball bearing springs

1x ignition switch return spring



1x spring on opposing side



**Step 7:** The arrow pointing at picture a. is indicating the locator on the switch housing. Notice picture b and c have this locator in the same position. Insert the 2x ball bearings as shown in b. Now fit the spring tensioner/locator over the two ball bearings. You should be able to push and feel the springs pushing on the ball bearings. Make sure the lug that is circled in picture c. is closer to the locator with the arrow in picture a.

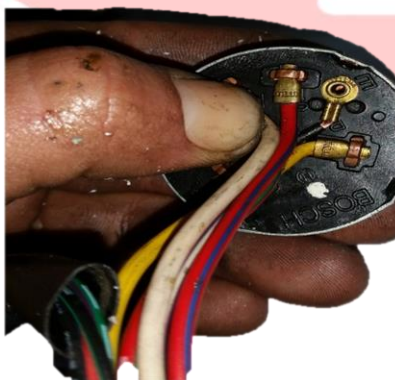
**Step 8:** Make sure the raised copper is on the top side. Then install over the top of the spring tensioner. Make sure the cut out in the copper disc fits over the lug on the spring tensioner.



**Step 9:** Examine the wiring terminal insert, on 1x side there is a cut out which need to line up with locator on the switch housing. Line them up and proceed to push the insert into place.



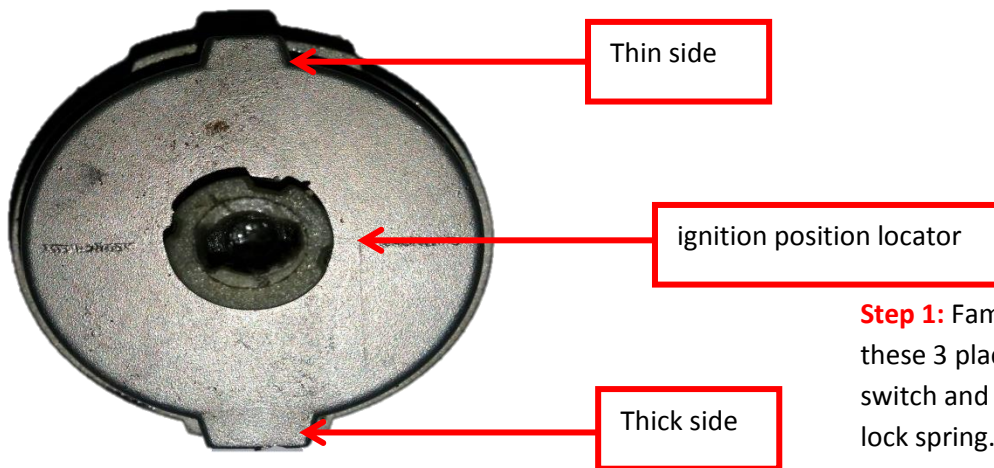
**Step 10:** Hold the insert in place and peen down the four crimped edges lightly until the assembly holds together by itself. Finish





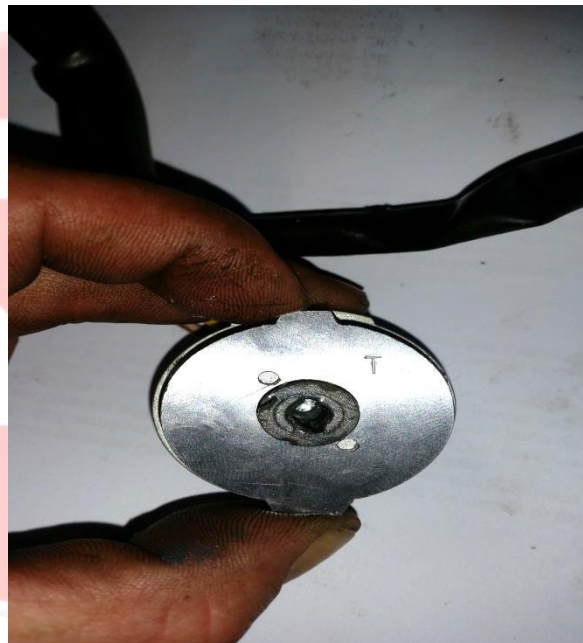
# Fitting the FSR-1

(Only necessary to undertake if key is not returning from start position)



**Step 1:** Familiarise yourself with these 3 places on the ignition switch and remove the steering lock spring. Using a flat blade screw driver turn ignition position locator anti-clockwise until it stops.

**Step 2:** Place the FSR-Template over the top of the switch and make sure sides line up. You should see a T marked on template.



**Step 3:** Holding the template in place, mark the two holes out with a 2mm drill bit. Further proceed to drill through the diecast housing only.







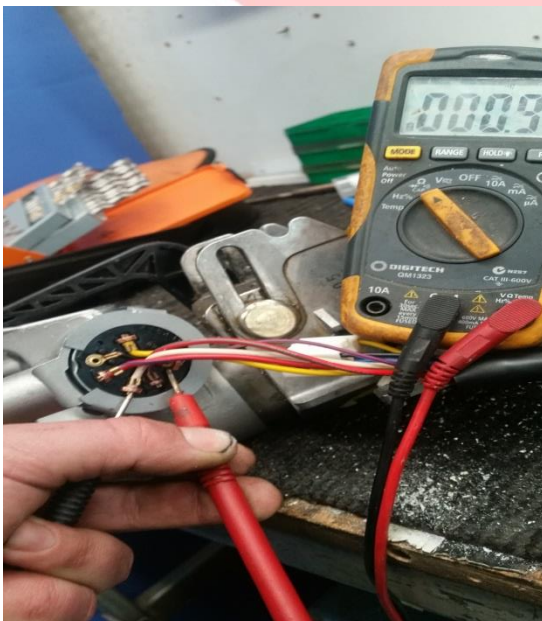
# TESTING THE IGNITION SWITCH

It is good practice to test the ignition switch before you re-install it to the vehicle. With a multi-meter you can easily tell if the ignition switch will work before you send it out the door. **\*\*Only carry out this test while column assembly is disconnected from the vehicle\*\*.**

**Step 1:** .Set your multi-meter as shown in picture on the right. This is called a continuity check. The symbol you want to display looks like the symbol circled. Once your meter displays this symbol touch the two probes together. You should here an audible beep.



**Step 2:** .Probe Red wire with a green trace and white wire as shown below. Then turn key to ON position. You should here an audible beep. Turn to START and it should disappear and then come back when it returns to ON position. This is testing that the ON position is working when the key returns from START.



**Step 3:** .Probe Red wire with a green trace and Red wire with a blue trace as shown below. Then turn key to ON position. You should here nothing. Turn to START and it should beep then disappear when it returns to ON position. This is testing that the switch is giving a crank signal to the starter motor.

