Front Wheel Bearing Removal & Installation - - by Suzuki_Don

Removal

I had seen a few post on the Forum site concerning the difficulty in removing the front wheel bearings. So I had a wheel to do the bearings on so I thought I would do a tutoirial.

The problem arises in removing the first of these bearings because of the internal hollow spacer that is lodged between the two bearing inner races. This spacer will not move laterally very much and does not allow enough space to get a good purchase on the bearing with a drift or shaft to drive it out.

I remove the first of the two bearings (the second bearing is easily driven out after the first bearing and spacer have been removed from the hub) by using a fastener that we call a DYNABOLT here in Australia. It is an expanding bolt that is usually used as a concrete anchor in the building industry and available from all hardware stores in different sizes.

12mm Dynabolt as used for this application

YOU NEED TO CHOOSE THE RIGHT DYNABOLT FOR YOUR APPLICATION.

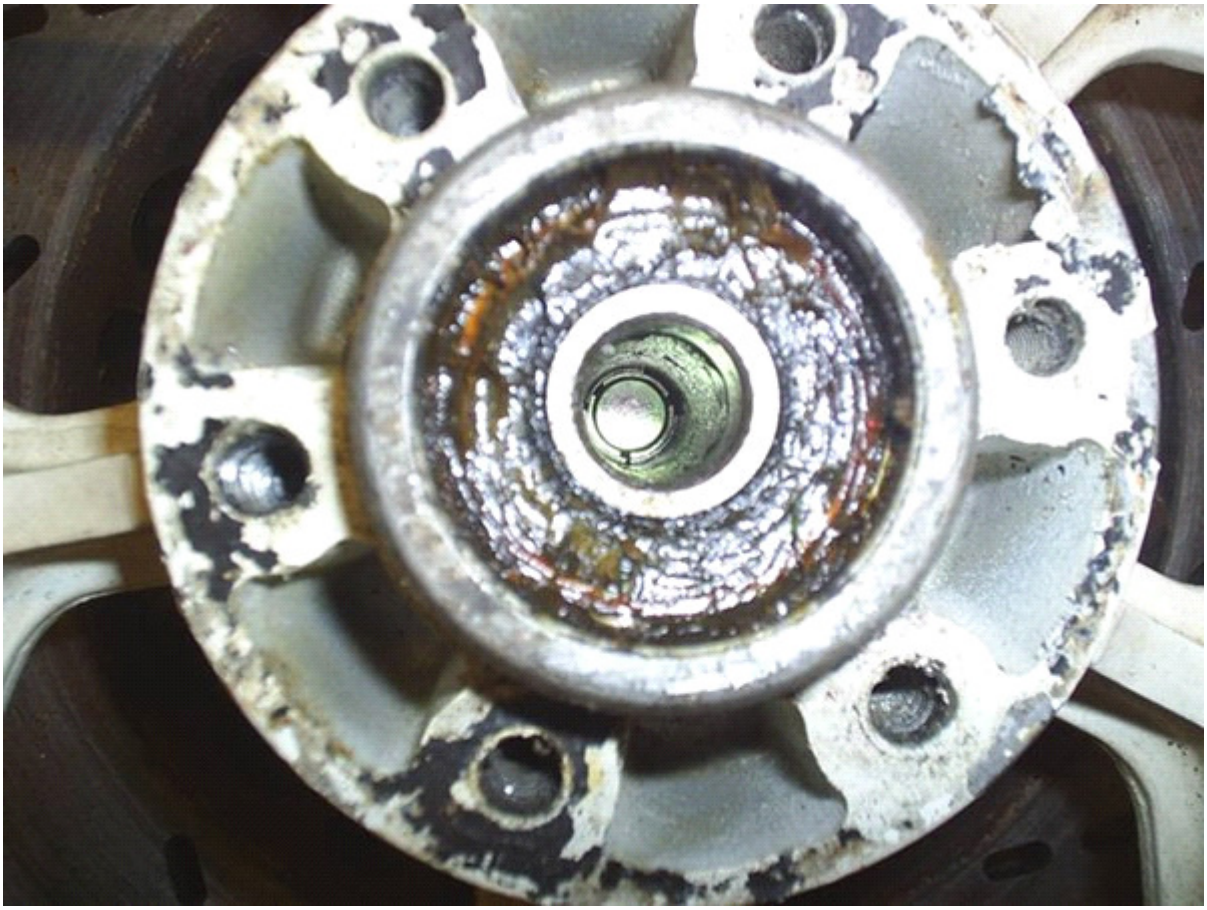
In my case the Dynabolt would not expand quite enough to obtain a firm enough grip inside the inner race of the bearing, so I took the outer expanding sleeve off another Dynabolt of the same type and spread it slightly to fit over the one I was using and then it expanded into the inner race with no problems at all. I used Dynabolts I had on hand in the workshop. Ideally I should have used a larger Dynabolt and ground the wedge shape down to fit inside the 15mm hole in the bearing and I would then not have had to make up a second sleeve to go on the Dynabolt that I used.

(Left) The Dynabolt sleeve being inserted inside the other sleeve that I had expanded to make the Dynabolt exert enough pressure on the bearing inner race

(Right) Inner sleeve pressed home inside the outer sleeve

(Left) Slipping Dynabolt inside sleeves

Dynabolt fitted inside the bearing inner race and the nut tightened up with spanner. Hold sleeve with pliers so it doe not turn



Picture showing the Dynabolt from the other side of the hub looking through bearing on other side of wheel

(Above & Right) I placed a long bolt in the other side of the hub and as it is driven (hammered) inwards onto the wedge shape of the Dynabolt it expands in the inner race and exerts more pressure and drives the bearing out at the same time

(LEFT) Wheel bearing and spacer covered in grease after removal from wheel

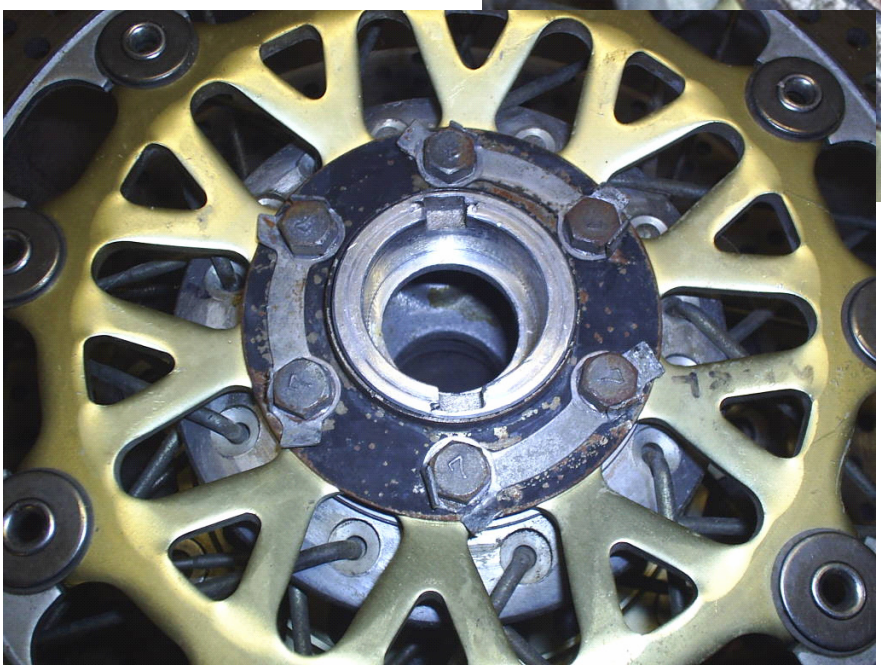
(Right) Wheel bearing after removal showing the Dynabolt protruding from the other side of bearing. Wedge portion drives bearing out with drift when struck by hammer

Clean Up in Preparation for Bearing Installation

With the older wheels the hubs were packed with grease in the cavity between the two bearings in the front wheel. It is advisable to remove all of this excess grease and wash out the inside of the hub and also the recesses where the new bearings will be installed. You don't want any particles of anything that prevents the bearings from being pressed all the way home. The inside of the hub is washed out with petrol after first scraping out as much of the old grease as possible, then spray brake cleaner in and around everything and then dry it off with compressed air. It comes up squeaky clean as seen in the photos. The bearing types that are most common in the front wheels are the 6302 2RS, which is the bearing with a rubber seal on both sides. But check the numbers on your bearings that you remove to make sure you order the correct ones. For the VERY observant it will be noticed that I am installing the bearings in a different wheel than the one that I removed the bearings from. Both are GS wheels though and use the same size bearings.

(Left) Grease removed from inside hub cavity

(Right) Wheel hub before grease removal



(Left) Wheel hub after grease removal and ready for the bearing installation process.

Bearing Installation

The tools required for this job are as follows:

2 x 6302 2RS Ball Bearings
A length of 3/8” threaded rod with nuts
Round 1/4” washer filed or ground down to less than the OD of the bearing (about 30-31mm)
A couple of thick (1/4”) larger washers to fit over the other side of the hub
A large crescent (shifting) spanner
Porta gas bottle, hose and burner

(Left) The wheel on which the installation is performed

The new bearings for the front wheel (right) as packaged from the supplier.
(Below) ready to fit to the front wheel

(Left) Porta gas equipment for heating bearing cavity in preparation for bearing installation

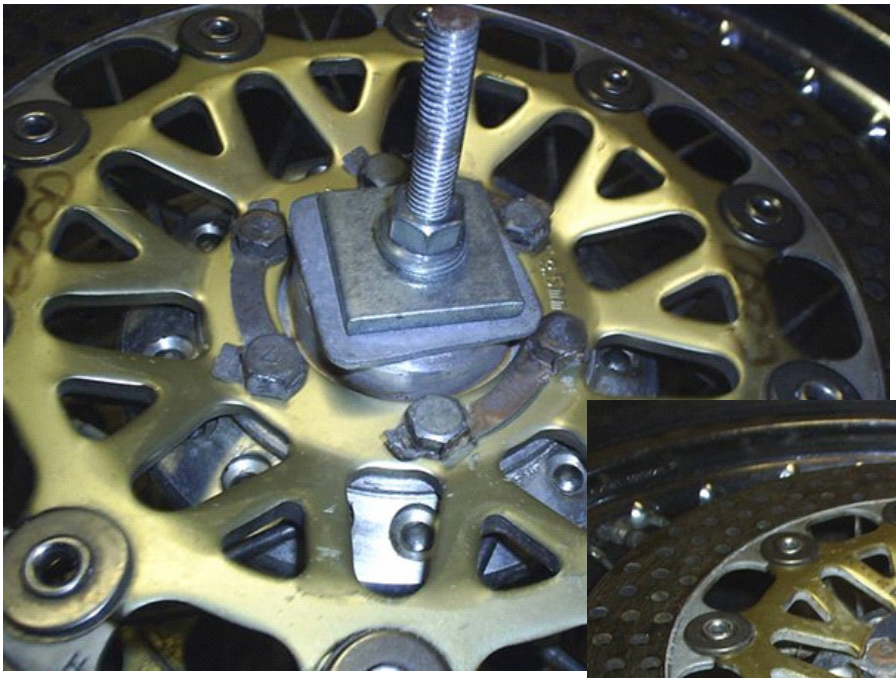
(Right) From left is the 1/4" round washer that is about 1-2mm smaller than the bearing OD. Swing Arm spacer (I knew it would come in useful one day). And two washers to go on the other side of hub

(Left) Hub being heated with porta gas ready for bearing to be dropped in

(Left) Threaded rod placed through hub with thick large washers & nut on the other side. Bearing in place after hub has been heated.
Large round washer ready to go on.

(Right) Large 1/4” washer being placed in position on top of bearing ready to pull the bearing into place with the threaded rod.
Remember the washer MUST be smaller than the bearing OD

(Left) Bearing, washer and nut in place ready to be pulled into position in hub.
The hex nut on the other side of the hub is clamped in a vice so you only need to worry about tightening up the one nut



(Left) Washers on other side of hub. These need to be quite thick to support the effort to pull the bearing on the other side into place

Bearing being pulled into place using shifter spanner (Above and left)

(Right) Bearing has been pulled into place with the thick 1/4” washer level with the speedo drive notches.
Do not allow the hard steel washer to scrape or gouge aluminium from inside the hub bore (very easy to do)

(Left) Speedo side bearing finally in place. Make sure it is completely seated

(Right) Place spacer in next before inserting the bearing on the right hand side of the wheel. Do not forget to do this as this spacer locks both bearing centers together and prevents them from turning when the axle is tightened into place and the wheel is turning. This item has been forgotten in the past in the eagerness to install the second bearing in place

(Left) Right hand side bearing after being pulled into place with the threaded rod and 1/4” steel washer still in place. The procedure to fit this bearing is exactly the same as when the first bearing was installed

Right hand side bearing in place. The last thing to check is that the bearing spacer is tight inside the hub and is not loose between the two inner wheel bearing races. If it is loose then one of the bearings has not been pulled fully home and a little bit more work needs to be done

Here it is — job complete. Just one more point in finishing off, if you knock a bearing out using the inner race (which is the norm usually) DO NOT EVER USE THAT BEARING AGAIN. The stress put on the balls within the race during this action between inner & outer race makes the bearing totally useless