



R30 Independant Rear Suspension (IRS) installation

What you'll need:

- DR30 Skyline IRS Disc to disc (or drum)
- 600mm M16 High tensile (10.9) all thread
- 2 x 150mm M20 High tensile (10.9) bolts
- 2 x M20 High tensile Nyloc nuts
- 14 x M16 High tensile nuts
- 16 x M16 washers
- 2 x M20 washers
- 315mm (50mm x 25mm) tubular mild steel

Preparation:

A few things need to be modified/fabricated to install a DR30 skyline rear end into a Bluebird.

Moustache Bar

This is located on the end of the R180 diff and is used to support the diff assembly. Due to the installation of the DR30 IRS into a vehicle which never came with such a set-up, the moustache bar is slightly narrow to be used..However this is easily fixed, as long as you don't mind using a welder, or better still, know a mate that can do it for you



Photo 1

Remove the Moustache bar from the R180 diff. Easy stuff, 3 nuts, no sweat. Measure 115mm from the centre of the mounting hole on the moustache bar, along the moustache bar towards the centre. Cut the bar at this point. Repeat this at both ends of the moustache bar using the 315mm of 50mm x 25mm tubular mild steel you obtained, drill 2, 25mm holes in diameter, 80mm apart into it using a holesaw (Figure 1). The holes should be drilled into the 50mm side of the tubular steel and only go through 1 layer of the tube (The holes should be drilled 117.5mm in from the side of the tubular steel, to obtain the centre)

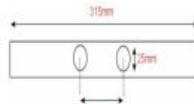


Figure 1

Through these holes, drill the appropriate sized holes through the back side of the tubular steel that will allow it to snugly fit onto the diff moustache bar mounting bolts (See picture for clarification) Now, its time to weld the 2 ends of the original moustache bar onto this newly fabricated moustache bar (tubular steel). The 2 ends should be welded onto the tubular steel as per the figure shown (Figure 2), with the distance between the centre of the 2 mounting points being 370mm (Again, refer to pictures for clarification)

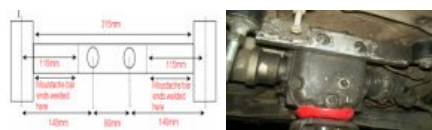


Figure 2

Photo 2

Now hopefully you've got the gist of what has been done here. The mounting points now match up with the distance of the 2 holes that exist on the crossmember spanning across the chassis, to which the fuel tank strap is attached.

Once you've made your new moustache bar, attach it to your diff in the manner shown above.

Mounting Bolts

The 2 mounting bolts that hold the moustache bar (rear diff assembly) to the chassis are required to be fabricated as bolts this length with the appropriate amount of thread aren't made. Thus the requirement for the 600mm high tensile M16 all thread mentioned previously!

Making the mounting bolts is simple really. What you need are 2, 300mm mounting bolts. So grab yourself a grinder (A hacksaw to cut through high tensile? Piss off!). Grind the all thread in half to make 2, 300 mm lengths Now, these freshly cut pieces are going to have 2 ends (duh). Using the uncut end, thread 1 nut on each of your 300mm lengths.

Thread an M16 nut along the length, right up to the end you just cut. Have the top of your nut flush with the freshly cut thread as this will form the top of your bolt. Do this to each of your 300mm lengths. Weld the nuts to each of the 300mm bolts.

Mounting Plates

Front mounting plates

These 2 mounting plates support the 2 bolts securing the front end of the IRS. They are made from 10mm thick mild steel. The dimensions are 100mm x 100mm square, with a central hole of 20mm diameter (Figure 3 and photo 3)

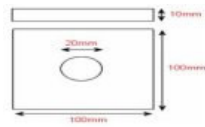


Figure 3

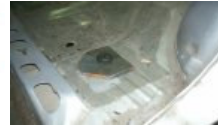


Photo 3

Rear mounting plates

These 2 mounting plates support the 2 bolts securing the rear end of the IRS. They are made from 10mm thick mild steel. The dimensions are 90mm x 90mm square, with a central hole of 16mm diameter (Figure 4 and photo 4)

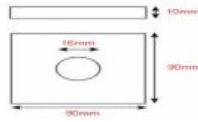


Figure 4



Photo 4

Now that all your parts are prepared and ready to go, its time to get your ass into gear! Get out your workshop manual and remove the Bluey rear. Take out everything, shocks and all as these will get in the way. Removing the fuel tank as this is also a pain in the ass to work around.

Modifying the Bluebird Rear end

Theres some really good news, and some bad news. The bad news is you'll have to get your grinder out and get dirty as hell, and burn the piss out of yourself cutting off some existing live rear end mounts. The good news is, Mr Nissan decided to help a little in mounting the IRS

Cutting Existing mounts

Theres 2 sets of mounts that are required to be cut off the rear of your bluey. The first set to go are the mounts that hold the lower trailing arms to the body, and the second mounts are upper trailing arms.

Theres no real step by step thing to explain, the pics explain it the best. My method was to use a 115mm grinder and lots of cutting and grinding discs. An Oxy torch would make short work of it too id imagine! Make sure to cut the mount flush with the chassis, looks neater and better fitment of the IRS.

When you cut the lower trailing arm mounts off, youll notice a hole that's in the chassis underneath. That's Mr. Nissans hint that the bluey needs IRS.



Photo 5



Photo 6



Photo 7



Photo 8

Drilling mounting holes

Now that you've cut the trailing arm mounting brackets off, you will have noticed a hole underneath each of them (one each side of the car). These holes form the front mounting points for DR30 IRS. However, these holes are only in the chassis, not in the floor pan (making it impossible to mount anything to).

Front IRS mounting holes

Grab yourself a power drill and a 20 mm holesaw. The holesaw should be long enough so you can drill directly up through the hole you exposed before into the floor pan

This is the crucial part. From underneath the car, drill a 20mm hole through the floor pan, using the hole you exposed previously as a guide (Photo 6). The hole you drill should be directly above this hole as this is where the mounting bolts will sit. You DON'T WANT TO STUFF THIS UP or you could well be crab walking your Bluey afterwards!



Photo 9

Rear IRS mounting holes

When you were taking the fuel tank off previously, you will have noticed that the crossmember that joins the chassis underneath the boot (that the fuel strap attaches to), has 2 holes in it. These form the rear mounting point for the DR30 IRS

Using a 16mm holesaw this time, repeat the same process through these 2 holes. Again, making sure you drill the hole in the floor pan directly above the existing holes.



Photo 10

IRS Installation

Ok Davinci, now weve got a fresh canvas, and new paint to go to town with. Heres how it goes.

Rear mounting bolt configuration

It is easiest to begin by installing the rear IRS mounting bolts first, as these are the longest bolts and will act as a guide when you jack the IRS into position for the front mounting bolts. The 2 300mm bolts prepared earlier will form the rear mounting bolts, and will be configured the same for each side.



Obviously the last 3 washers and 2 M16 nuts are left off until the IRS is jacked into place, and can be attached. Refer to photo 4 to show how the top of the mounting point should look.

Front mounting bolt configuration

The front mounting bolts are installed after the DR30 IRS is jacked into place. When doing so, gradually raise the IRS until bolt rear mounting bolts are inside the mounting points on the moustache bar. This will guide the IRS into position for the front mounting bolts to be installed.



As previously described, the DR30 IRS should be raised gradually, moving the moustache bar mounting points over the rear mounting bolts until they reach the 2 nuts on the mounting bolts. At this point, the IRS should be manoeuvred so that the front mounting bolts can be installed. After these bolts are tightened, install the 3 washers and 2 nuts on each of the rear mounting bolts

Points to remember:

- Be extremely careful when working under the confines of your vehicle. This project requires a bit of cutting and grinding that has the potential to cause serious injury
- Be careful when drilling the mounting holes through the floor pan. Poorly drilled holes may result in crab walking whilst driving. Not a classy look!
- Camber/ handling etc haven't been tested as yet with this setup. With this in mind, variations made to the height at which the rear mounting points are set may be needed.

Here are some pics of the finished product in another Bluebird



Here are some pics of factory fitted IRS in an import model Bluebird



Thanks to [ratdat](#) for these pictures

