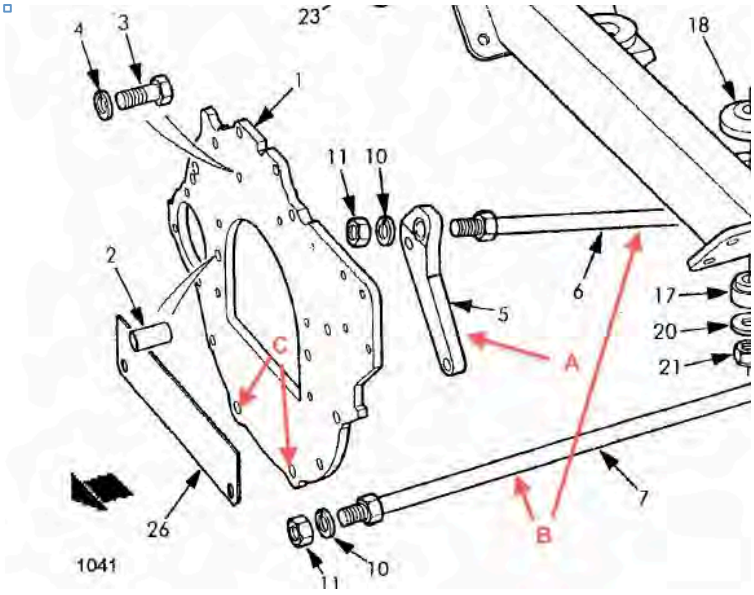
Conversion to a Nissan Patrol Transfer Case for an OKA LT

This conversion was done when 266 was owned by Rex Ellis by Alltrac 4WD in Adelaide.

Parts Needed

- Nissan Patrol Transfer Case from a Patrol GQ or GU with:
  - Front and rear tailshafts
  - Handbrake and cable
  - Aluminium adapter housing that connects the T/C to the Nissan 5 speed Gearbox
  - Speedo sender unit. This unit will talk to the Oka VDO speedo.
  - All dowels and bolts from Nissan gear
- Adapter plate to be made
- Oka Part # 002857 PLATE, tie rod LH x 1 and #002856 PLATE tie rod RH. Can be made. Labeled 'A' below
- Either an engine plate from an XT or a bracket bolted to the lower part of the engine plate to accept two M16 threaded rods. Labeled 'C' below
- 4 x M16 threaded rod with washers and 8 nyloc nuts. Labeled 'B' below.



- 1 x adapter shaft
- 1 x seal (75 x 60 x 8)

- Modified engine mounts. There are removed from the bell housing and chassis and fitted to the bolt in cross member. Rubber mounts are fitted to a bracket welded to the adapter plate.

A Warning

This is not the sort of job that can be done with a mill drill on a Sunday afternoon. It will require some careful and accurate machining to make sure the two transmissions are absolutely concentric along their shafts. You will need the Spicer seal housing and the Nissan adapter housing which both have machined bores on the shaft centreline from which to get an accurate centre.

The failure on 266 was due to the dowels on the Nissan T/C not being refitted by the last genius who had it apart, therefore rendering the care that went into the machining useless.

The Adapter Plate

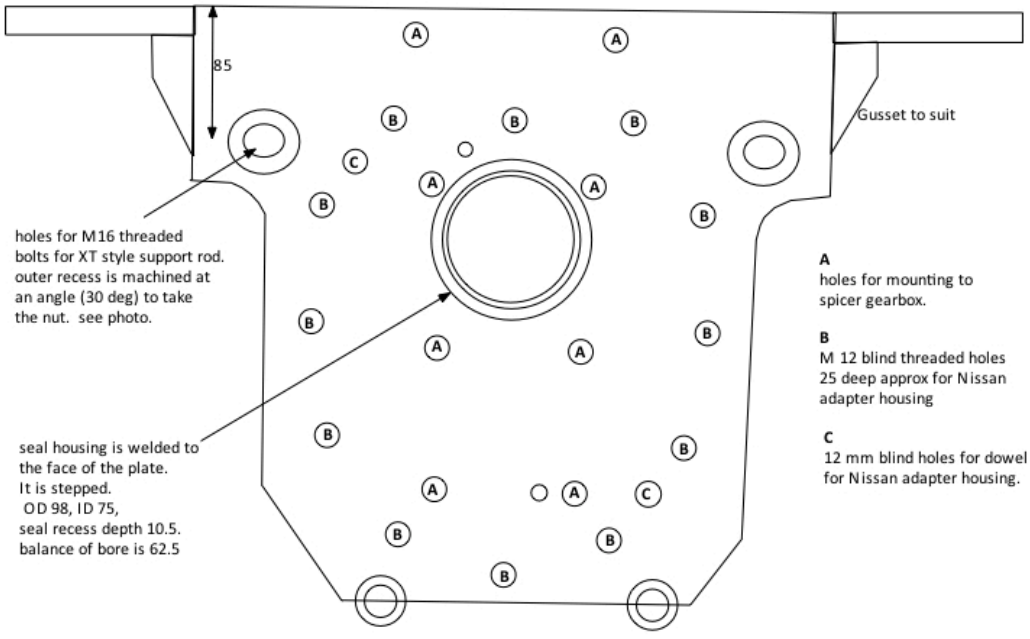
The plate could be made from aluminium although the one in 266 is made in steel. It is a PITA to fit as it is very heavy and there are clearance issues with the longitudinal bolt in cross member when lifting it into position. If made in aluminium the mounting brackets might need to be beefed up.

Photos below show the installation prior to removal and complete with oil leak which was the start of all this. The plate is not bent, just an optical illusion.

The plate is 40 mm thick with both sides machined to be flat and parallel. The plate needs to be 40mm thick in order to clear the shifter shafts in the Spicer transmission. These are shown in the neutral position below and protrude about 20mm. The bolt holes above these are used to mount the adapter plate.

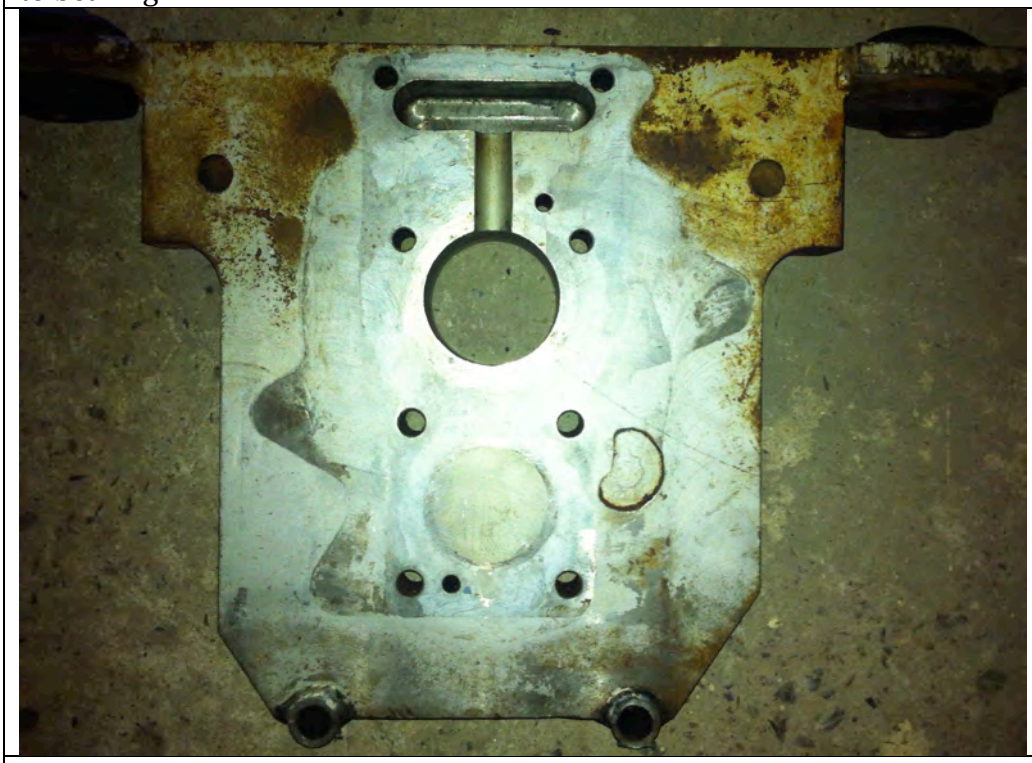
Below is the transfer case side of the adapter plate

View from transfer case side

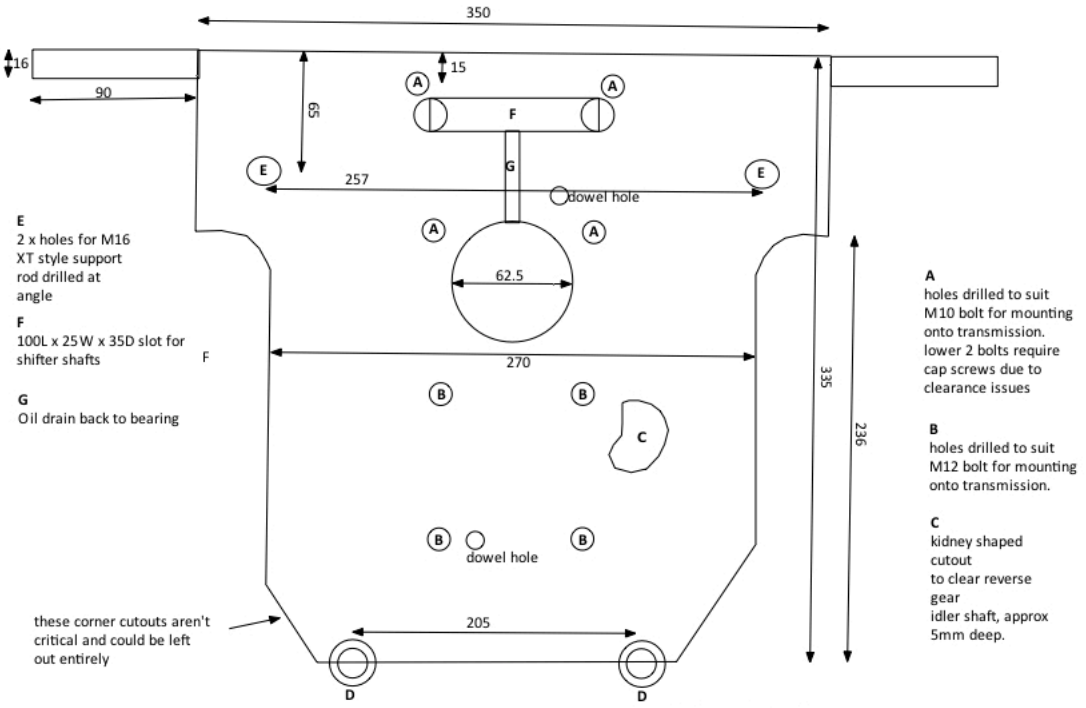


Sketch not to scale

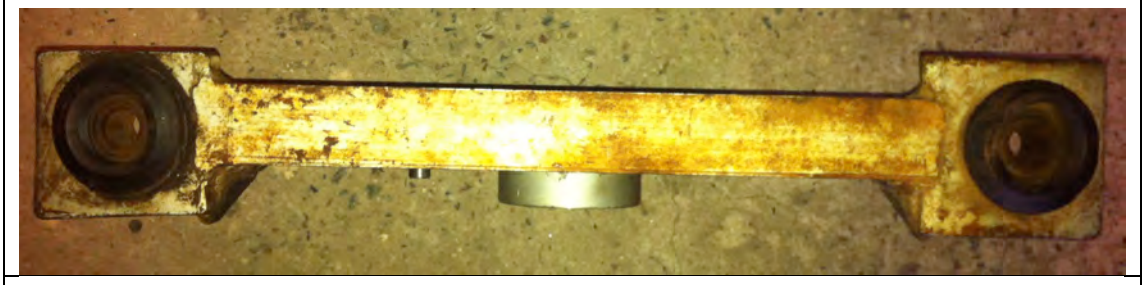
Spicer gearbox side. Channel for shifter shafts at top with oil way to drain back to bearing.



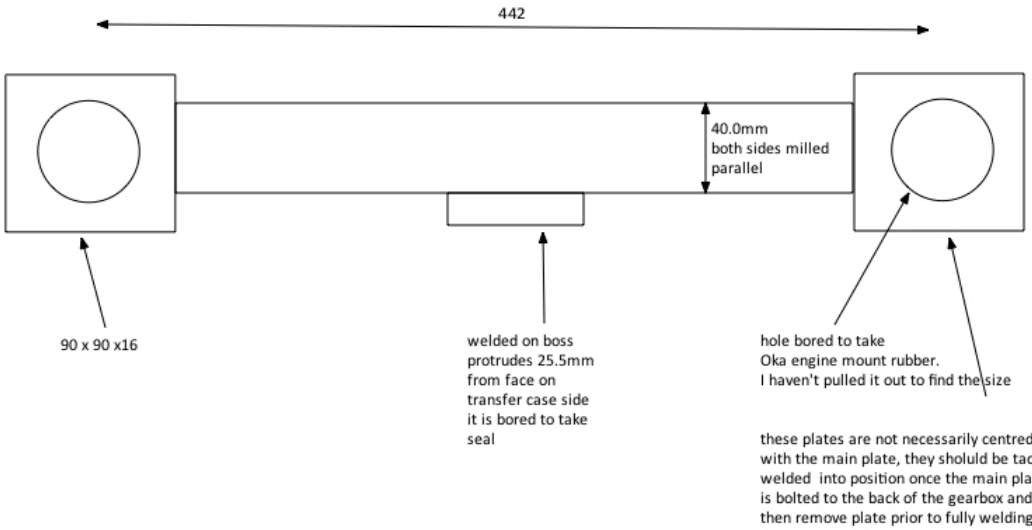
MAJOR DIMENSIONS AND LAYOUT FROM GEARBOX SIDE



Sketch is taken from a photo of the plate. Not to scale.



top view of adapter plate



these plates are not necessarily centred with the main plate, they sholuld be tack welded into position once the main plate is bolted to the back of the gearbox and then remove plate prior to fully welding.

all dimension lines are to centre of holes

Additional photos of installation

Transmission with adapter plate bolted up. Arrow ‘A’ shows where a small part of the bell housing has been ground away to allow transmission tie rods to fit into engine plate. Waiting for adapter shaft at this stage.

Plate bolted up. Dowel holes sealed. Transmission tie rods in position. Note that the two bolts nearest to the seal housing are cap bolts due to clearance issues.

Below is a detail of the upper holes drilled for the transmission support rod and the transmission mount bracket.

All of this paint on the Spicer will need to be stripped to get a flat surface to seal the adapter plate. There are shims that fit against the bearing for preload that need to be refitted and the speedo drive gear needs to be refitted as the adapter shaft bolts up against this.