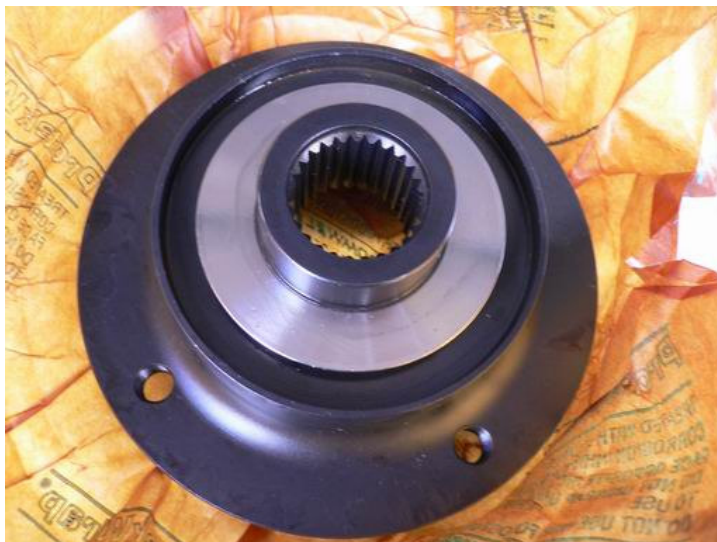


## 1973 240Z RB26 Conversion

### Part 18b Fitting The LSD part 2

To be able to fit up the CV's I turned to Modern Motor Sports.



Billet companion flanges & fittings supplied by Ross at Modern Motor Sports in Canada. These are to allow the CV joints to be fitted to the 240Z. They are well made, and we are lucky there are people like Ross and John Coffey (camber plates Part 16)) around that make all these things possible.



The R200 open diff removed and the R200 LSD ready to go in.



The LSD up in place



The Modern Motors  
billet companion  
flange in place with  
the CV bolted up



The removed standard  
companion flanges

With the LSD and CV's successfully in place, it was simply a matter of reconnecting up the tail shaft. Wrong!

I couldn't believe it, even though they were both R200 diffs, and looked identical, the pinion bolt holes and the flange centre are different.



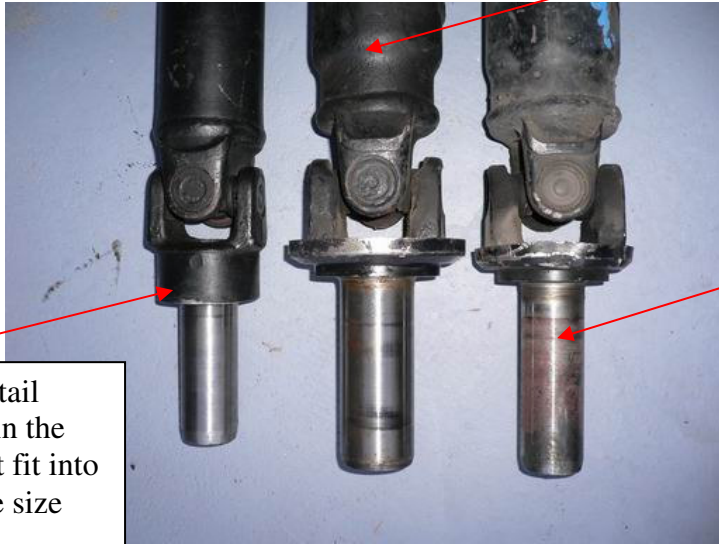
The R200 & 260Z gearbox tail shaft that was in the car – 58mm flange

The RB26 tail shaft I received with the GTR halfcut – 50mm flange but different yoke

A Z31 tail shaft I purchased (\$50) to solve the problem. It has the right size flange (50mm) for the LSD and the right yoke for the 260Z gearbox



The R200 diff that was in the car – 58mm coupling, rather than the 50mm coupling of the Z31 R200 LSD



The GTR tail shaft & yoke I will use when I later fit the RB26 motor and RB25DET R34 gearbox. No use for the current temporary problem.

The Z31 tail shaft that has the flange & yoke fittings required. Next it had to be shortened to 670mm

The R200 diff tail shaft that was in the car & wouldn't fit into the LSD flange size



The tail shaft that was in the car & now cannot be used

The Z31 tail shaft before being shortened

The GTR tail shaft



The temporary tail shaft in place after Veem shortened the Z31 one to suit



The current 260Z gearbox and mount which will be removed when the RB25DET gearbox is fitted behind the RB26

## Will the gearing in the LSD be too low?

The GTR Skyline had a 4.1 rear diff ratio.

The current R200 diff in my 240Z, which is mated to a 2.8L motor, is also a 4.1 and it drives pretty well.

The gearing in the R200 LSD I am going to fit is 4.375 – too low or not??

To the rescue HybridZ.org, what a site!

On the site I found a table of gearbox ratios for the R32. My gearbox is an R34 RB25DET which I presume is fairly similar in ratios.

Engine specification		CA18i	RB20E	RB20DE	RB20DET (HCR32)	RB20DET (HNR32)	RB26DETT	RB25DE
Type		FS5W71C	–	–	–	FS5R30A	–	FS5W71C
Model No. (Note 1)		03U00	02U00	01U00	04U00	05U00	05U10	08U00
Gear Ratio	1st gear	3.591	3.321	3.591	3.321	3.58	3.214	3.321
	2nd gear	2.057	1.902	2.057	1.902	2.077	1.925	1.902
	3rd gear	1.361	1.308	1.361	1.308	1.36	1.302	1.308
	4th gear	1	1	1	1	1	1	1
	5th gear	0.821	0.838	0.821	0.759	0.76	0.752	0.759
	Reverse	3.657	3.382	3.657	3.382	3.636	3.369	3.382
Number of teeth								
Main shaft	Main drive gear	21	22	21	22	22	23	?
	1st gear	33	–	–	–	32	31	?
	2nd gear	27	–	–	–	30	–	?
	3rd gear	25	26	25	26	29	–	?
	5th gear	21	22	21	21	23	24	?
	Reverse	36	–	–	–	30	–	?
Counter shaft	Counter drive gear	32	31	32	31	32	31	?
	1st gear	14	–	–	–	13	–	?
	2nd gear	20	–	–	–	21	–	?
	3rd gear	28	–	–	–	30	31	?
	5th gear	39	37	39	–	44	43	?
	Reverse	15	–	–	–	12	–	?
Idler Reverse	21	–	–	–	22	–	?	
Double cone synchronizer (Warner)	2nd gear	Yes	–	–	–	–	–	–
	3rd gear	No	No	Yes	–	–	–	–
Reverse gear sound prevention device		No	No	Yes	–	No	No	Yes
Propeller shaft connection (Spline diameter (mm) x number of teeth)		25x24	–	–	–	32x30	–	?
Transmission switch	Natural	Yes	–	–	–	–	–	?
	Top	No	No	No	No	No	No	No
	OD	No	No	No	No	No	No	No
Speedometer pinion number of teeth		6/19	6/20	6/21	6/21	–	6/20	6/21
Oil level (L)		2	–	2.4	–	4.1	–	2.4
Total length (Note 2)		845.5	795.5	–	–	625	–	?

\* Note 1. model No. part number (32010 xxxxx) the last 5 numbers are shown.

\* Note 2. total length from rear of gearbox to front of the clutch case.

Then Jimmy (RZTMartini) came up with this speed calculator. Thanks mate!

<http://www.kabamus.com/garage/gears.html>

*Speeds in gears at 7500rpm*

<b>DIFF RATIO</b>	<b>CAR</b>	<b>GEARBOX RATIO</b>	<b>GEAR</b>	<b>SPEED MPH</b>	<b>SPEED KPH</b>
4.1	Skyline GTR	3.214	1st	41.80	67.27
		1.925	2nd	69.79	112.31
		1.302	3rd	103.18	166.05
		1.0	4th	134.34	216.19
		0.752	5th	178.64	287.49
4.1	Datsun 240Z	3.321	1st	40.45	65.10
		1.902	2nd	70.63	113.66
		1.308	3rd	102.70	165.28
		1.0	4th	134.34	216.19
		0.759	5th	176.91	284.70
4.375	Datsun 240Z	3.321	1st	37.91	61.01
		1.902	2nd	66.19	106.52
		1.308	3rd	96.25	154.90
		1.0	4th	125.89	202.59
		0.759	5th	165.87	266.93

*Cruising Revs Open Road Speed Limit (110km=67mph in WA)*

<b>DIFF RATIO</b>	<b>CAR</b>	<b>GEARBOX RATIO</b>	<b>GEAR</b>	<b>RPM</b>	<b>SPEED MPH</b>	<b>SPEED KPH</b>
4.1	Skyline GTR	0.752	5th	3000	71.46	115
4.1	Datsun 240Z	0.759	5th	3000	70.80	113.94
4.375	Datsun 240Z	0.759	5th	3000	66.35	106.78

**So will the gearing in the LSD be too low? You make up your mind! I am surprised, but it seems ok to me.**