

## 4 to 5 Speed - is it worth it?

by Claude Richards

My Midget has a standard gearbox. This box has always been changeable like the weather. On a good day, delightful and as fast as you can change (ignoring first gear for the time being). On a bad day she crunches, bulks and is generally a pain in the nether region. Is it something to do with the temperature, the humidity or the state of the moon?

Unfortunately, after nearly 30 000 miles on a gold seal gearbox, the bad days now easily out-number the good. So my thoughts turn to 5-speeders. I do a bit of research. I am indebted to many people who have provided me with information but a special thanks must go to Chris Nevard who set up a web thing (no doubt it has a proper name but I am too old to know it) which yielded the vast majority of the replies.

Most sub-2 litre car for the last 15 or 20 years have been front wheel drive and so there are not many possibilities. Given enough money and engineering expertise, anything is possible. But when I am paying, there are three possibilities: in alphabetical order these are: Datsun, Ford and Toyota. All of these are much later than the Spridget gearbox and all far better. (I was following a Lada today which announced on its rear end that it had 5-speeds. I could see its rear axle. Has anyone tried that conversion?) I have not considered converting to an overdrive Triumph box because this has been reasonably well covered elsewhere and it is probably open only to 1500 Midgets. My Midget is 1275.

There is no question about the strength of the three chosen foreign boxes. They were designed to cope with much more power. They all have ratios giving an 'overdrive' top plus four other ratios very close to standard Spridget ratios. For the record:

	<b>Standard circa 1971</b>	<b>Datsun</b>	<b>Ford</b>	<b>Toyota</b>
<b>1st</b>	3.2	3.513	3.65	3.587
<b>2nd</b>	1.916	2.170	1.97	2.022
<b>3rd</b>	1.357	1.378	1.37	1.384
<b>4th</b>	1.0	1.0	1.0	1.0
<b>5th</b>	-	0.846	0.82	0.861
<b>RPM at 70MPH on a 3.9 axle.</b>	4240	3587	3477	3652

Basically you drop 700 RPM at 70 MPH in top gear for all the conversions, add synchromesh to bottom gear and have marginally lower 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> gears. It is possible to get special ratios but lets keep in basic. Equally you could go up to a 3.7 axle or down to a 4.22.

Also for the record the split of replies is as follows:

Datsun	Ford	Toyota	USA	UK	France	Holland	Austria
6	7	3	7	6	1	1	1

These are people who had experiences with their own Spridgets. This seems a bit disappointing but some people replied several times by email to me, to Chris's web site and by mail escargot. Others were very patient in replying to the many emails I sent them. Most had done less than 10 000 miles. I would have liked a few 50 000 miles examples. In addition another 8 sent me relevant addresses or photocopies of articles. It has to be said most of you are probably very happy with the standard box and would never dream of

adding a foreign box. But I have a file about 1 cm thick so I think there is enough material to write down something.

## All kits

There are some things that are common to all conversions. It has to connect up at the front end. This means a new back plate, or a new bell housing or both. It means a customised spigot bush.

It has to connect up at the back end so it also means a new 'yoke' at the front and perhaps the prop. shaft shortened or lengthened.

The gear level has to emerge into the cockpit. Is it through the original hole or through a new hole with the original hole sealed up?

We have to actuate the clutch. New pipe to slave cylinder, new slave cylinder, new actuating fork, new (or sometimes old) release bearing. New clutch plate or old.

We have to have a speedo which is reasonably accurate. So do we recalibrate it? Do we have to have a new speedo cable.

This foreign gearbox has to have some oil in it. Is it sealed for life or do we have to fill it/top it up. Again I have not too much info. on this.

My Midget has reversing lights which work some of the time. I will let you into a secret. I have no information on this for the conversions at all.

How do the three candidates compare? Take them in alphabetical order.

## DATSUN

There are kits available in the US (Rivergate Restoration Products) and in Australia (also I think based on Rivergate). What I really like about this conversion is that it is reversible. Everything that I have done to Midget so far is reversible and I would like to keep it that way. Even Fog/Bug-Eye folks have gone this route but Rivergate say the kit is not suitable for 1500's. So what is involved?

1. a new back plate
2. a new clutch plate but the old pressure plate
3. a new support/mount under the box that uses the existing holes
4. a yoke that connects up with the old propshaft --- no cutting necessary.
5. a new slave cylinder.
6. a modified Datsun release bearing and operating fork.
7. clutch slave cylinder.
8. a modified drive for the speedo.

9. a cover for the hole you have to cut in the Datsun bell housing to accommodate the Midget starter motor.

The car involved is the 79-82 210. These are unknown in France but I think I could get a gearbox from one in UK where it was known as the Sunny. They are common in the US. The serial number on top of the bell housing should begin with F (FL, FA, FX etc). The number 60 is cast into the right side of the case. The input and output shafts should be 20mm (about 25/32' if you must) diameter and 18 splines.

All replies on the Datsun box were enthusiastic. No one mentioned drawbacks or problems at all. If I were in the US/Australia, this would have to be my choice. In Europe I don't know anyone supplying this conversion, but a guy from Austria is planning to take this route. He has got the box in Europe and is ordering the kit from the US. Rivergate say they are happy to send the kit to Europe.

In the long term the special bits are clutch and release bearings. Can we get these in 5 or 10 years time? But we can always revert back to the standard Midget box.

I have no clear information about supplying oil to the gearbox. 'I don't think they lined up but I filled the gearbox.' Not very clear.

## **FORD**

This is the most recently built of the three boxes. It is the Sierra Type 9 and is capable of taking the most power. It can laugh at the Midget output, is mega-strong, readily available and in terms of parts availability is the best by a mile. The down side is that it is the biggest box and so involves a great deal of cutting to fit.

What is needed ?

1. a special bell housing
2. spigot bush
3. an exchange prop shaft which has to be cut
4. clutch plate
5. clutch plate cover
6. speedo cable + recalibration of speedo
7. an new mount system involving a lot of cutting
8. even some cutting to allow the lever to enter the interior and blocking of the old entry hole.

I have mostly enthusiastic replies and one awful story of mega-problems. In magazines I have read good accounts plus one bad account which did not mention the supplier but involved clutch problems. It seems that, on some of these boxes, oil is sealed in for life but others talk about the relative merits of conventional/synthetic oils so I assume they are changing the oil. Not too clear.

The one disaster I know of was fitted by the supplier. It involved two major blows up of the release bearing. However, others who bought from the same source are very happy.

People who fitted the box themselves complain about needing 12' long triple-jointed fingers. (Personally I find the same applies to all major Spridget maintenance.) Most talk about a whistling release bearing. This and the release lever are customised for the kit. You can't blame these on Ford or BL. They are the responsibility of the kit supplier.

Without driving an example of each, it is impossible to compare the quality of the change. Most replies mention that the Ford box has a very satisfying change. I suspect it has the best change of the three.

It is possible to get mods. which result in the gear lever emerging in the original position. Costs about £125 from GBH Geartech, address in Daniel Stapleton's How to Power Tune Midget & Sprite for Road and Track.

## **TOYOTA**

I have heard very good reports of this box. Only two replies but also I have reports in various mags. However, it seems that parts are very very difficult to get and hence suppliers are beginning to drop this conversion. In addition to the box you need:

1. a special bell housing
2. new back plate
3. spigot bush
4. an exchange prop shaft which has to be cut
5. an new mount system involving a fair bit of cutting
6. a special clutch plate
7. clutch plate cover
8. clutch release bearing
9. clutch fork
10. recalibrated speedo

So cutting is necessary but not a much as with the Ford. One reply was from a guy who had done 20k miles. He loved the conversion but had had clutch problems. The other reply was from a Dutchman who had bought his car with the box fitted already and has travelled a fair distance on the box.

## **Any Conclusions?**

To answer the original question: out of 16 replies 15 say yes it is worth it and they would never return to the standard gear box. The other person says no and has spent a lot of money (like £600) converting back to standard.

Now a personal view: I am usually very cautious (I used to think I was indecisive but now I not so sure). I will probably think for at least three month before making a move but I know I am a sucker and will do it in the end.

For the Datsun box, if I can find a good one locally (that means UK), I may well take this route, ordering the kit from Riverside. Of course I will carefully store and label all the original parts just in case. Please, please does anyone know of a source of suitable Datsun boxes?

For the other two boxes, I think I would exclude the Toyota on the grounds of availability of the box and parts to recondition it. So that leaves the Ford the strongest, easiest to find and probably the one with the best change. If I can't get a suitable Datsun box, I will go this route but I will probably worry a bit about the release bearing. After all I have not done very well with the standard release bearings' That's another story.

## Addresses

I include only those sources which are referenced in replies. I have tried to be as accurate and complete as possible, but it has not been easy.

### For Datsun

<http://www.rivergate5speed.com/rivergate.html>

[rivergate@compuserve.com](mailto:rivergate@compuserve.com)

Rivergate Restoration Products,

(Attn. Bill Perry),

P.O. Box 862,

Soddy-Daisy, TN 37384,

USA

Tel. +1 423 332 2030

Fax. +1 423 332 6914

### For Ford

#### Frontline,

Unit 1,

Venture House,

Melcombe Road,

Oldfield Park,

Bath BA2 3LR

Tel. 01225 446 544

Fax. 01225 444 452

<http://www.mgcars.org.uk/frontline/>

[Frontline@mgcars.org.uk](mailto:Frontline@mgcars.org.uk)

#### Morris Minor Centre,

993, Wolverhampton Rd.

Oldbury B69 4RJ,

West Midlands,

Tel. 0121 544 5522

Fax. 0121 544 6868

**For Toyota**

See Frontline above

Many thanks are due to those of you who replied.

Claude Richards, St. Cyr de Faviares, France.