



Hoyle IRS for a V8 Roadster project

Club member, Andrew Wooding, was seeking the views of fellow members who had installed a Hoyle upgrade. The feedback was useful.

Andrew Wooding said "I own a 1977 MGB Roadster and am planning to convert it to a V8 through 2013. I'm not wanting some fire-breathing dragon, just a nicely spec'd B with a bit of go when needed. My brief specification is as follows: 3.9/40 EFI engine (have access to a low mileage FSH TVR 230bhp-270lb/ft unit), an LT77 or R380 'box, RV8 fuel tank, Hoyle front and rear suspension and all the extras. Is there someone local to me within the V8 Register who has a car with fitted the Hoyle or experience of the IRS upgrade that I could talk to? I live in Bladon so anyone within Oxfordshire or Berkshire area would be good." This message was posted on the V8 Bulletin Board.

Victor Smith responded saying we have Geoff King's article on the V8 website which describes the Hoyle upgrade on his V8 Roadster and with the annual MG Show at Stoneleigh on Sunday 17th February 2013 there will be an opportunity to discuss the installation with John Hoyle who usually has a stand with his upgrades on display. He is a most helpful person and not someone to push a sale but someone who will spend time with you explaining the essential details of his upgrades and how to set them up. On that point it's worth reading the RV8NOTE by Angus Munro on setting up a Hoyle IRS on his RV8 – see the links at the foot of this note.

Angus Munro added that he agreed, "the man to talk to is John Hoyle himself. However, you may feel that John will try to 'sell' his product and that you will not get an objective point of view. Let me take this opportunity to assure you that John Hoyle is probably the least pushy salesman I have ever met. I know John well by now and he will understand that I am teasing him a little. He is however a very good engineer and his customers, of whom I am one, do the selling for him. I am abroad at the moment but upon my return to Britain I will give you a call regarding my experience with the Hoyle IRS, with which I am very pleased."

Angus added that looking at the spec that Andrew mentioned for his project car, he would go for the R380 gearbox if you have a choice between the R380 and the L77. The TVR engine that Andrew has access to produces a greater BHP than the unit in the RV8 and he should finish up with a very nice car indeed.

Mike Howlett responded saying "my 1969 GTV8 conversion has the complete Hoyle set up, front and rear along with his upgraded disc brakes as well." He then provided detailed feedback on his experience saying "first let me reinforce what Angus has told you. John Hoyle is a perfect English gentleman and will not try to sell you something you don't want. His product is good enough to sell itself. He has been extremely kind while I was sorting out how I wanted my car to be, sending me replacement springs at no cost to me."

My car is a 1969 MGB GT that I have built up from a £250 wreck. I decided at the outset to "go the whole hog" and build the

car to be as good as I could make it, so I specified the Hoyle suspension from the outset, way back in 2003. Like you, I also have a 3.9 engine, although mine is a lesser tune than a TVR as it came from a 1991 Range Rover, complete with the hot-wire injection. To all intents and purposes it is identical to an RV8 engine, with similar power outputs. As for the gearbox, I have tried both the LT77 and the R380. Neither is a wonderfully slick unit, and both suffer from a slow change from first to second. If you try to snap that change it will graunch. In fact my GT has so much torque that I only use first gear for hill starts or traffic crawling. The car will step away very smartly in second gear with no need to slip the clutch.

The rest of the gears select well enough but you could never describe it as a sporting gearbox. I went for the R380 which is a development of the LT77 and has a bit more sophistication, and probably stronger components. They do need to be properly reconditioned after around 100,000 miles, and I bought one from TM Transmissions in Birmingham. You need to specify that you want one for a 2-wheel drive application.

Now the Hoyle suspension. First, it is beautifully made and I have absolutely no issues with quality since putting the car on the road over 3 years ago, during which time it has covered over 13,000 miles. The only slight issue has been deterioration of the powder coating on the rear sub-frame which has needed some repainting. I fitted the whole car up myself and the Hoyle pieces were not difficult to install, although the rear frame with diff is quite heavy. As you probably know the front cross-member has to be modified, but if you can make a basic MIG weld, this is not difficult. The rear frame has to be spaced accurately with large spacer washers so that it sits dead central under the car, and two lugs on the frame have to be drilled to allow them to bolt to the attachment points that normally carry the axle rebound straps. Apparently the position of these points on an MGB shell is not constant.

What is it like to use?

To be honest, in average everyday motoring it is entirely unremarkable. The components make no noise, and there are no untoward



crashes or bangs when hitting bumps. But when pressing on, particularly on minor roads, it is obvious that there is much better rear wheel control. One huge advantage is that if you hit a pot-hole or bump on a bend, the car doesn't hop any more, but stays planted on your chosen line. For me I love the fact that the set-up is so adjustable. When I first installed it I had too much negative camber and my tyres started to suffer, but it is simple to adjust both front and rear. You MUST check the rear wheel tracking as that can be out and will ruin your tyres in short order. The dampers are click adjustable and can be played with without jacking the car up.

I wanted my car to be fairly soft riding, as it is a tourer to me, not a race car. John was very generous with sending me different spring rates until I was happy. Changing the springs is not too tricky - simply remove the coil-over-shock unit, clamp the spring and remove. I now have 350 lb/in on the back and 200 lb/in on the front and I am happy. These are much softer than a standard MGB GT springs but there is no sense of the car being spongy or wallowing. Because the lower end of the springs is very close to the wheel hubs, lower rated springs can be used. The standard MGB front set up puts the spring well inboard and the levering effect of the wishbone multiplies the force applied to it, so a stiff spring is needed.

The other neat feature is that the ride height is so easily adjustable. You hear so many owners complaining that new rear leaf springs have made the car look jacked up. There are no such issues with the Hoyle system.

I also have Hoyle's front disc brakes with 4-pot calipers and ventilated discs. The rear disc brakes are standard Sierra items. Again, they work efficiently without drama. They are not too powerful for the car, but should have a large reserve of capacity should you need it.

Downsides?

You need 15 inch wheels to clear the rear hubs and the 4-pot calipers. The highest ratio Ford differential is 3.14 which is lower than the MGB V8 one of 3.07, and I feel the car could easily run a higher ratio, maybe as high as 2.9 without detriment. The handbrake, working in the standard Ford system by clamping the rear pads with twin cables, is not very efficient. I have shortened by half an inch the lever under the floor that the handbrake lever operates, to provide me with a little more mechanical advantage.

All in all it is an excellent bit of kit, although it is expensive. Whether you think it is worth it is something only you can decide.

Do you go for a LSD differential?

I did not get a LSD partly because of cost and partly because I don't think it is necessary for the sort of motoring I do. Wheel spin is not normally a problem I have, although it is easy to promote, especially in the wet. On wet roundabouts the car is great fun and can be steered with gentle pressure on the loud pedal, balancing the tendency to oversteer with inputs on the steering wheel. I have not found any tendency for the car to snap into a slide. It feels eminently safe and vice-free, and is in no way a difficult car to handle. Interestingly, my entirely unscientific analysis is that the car accelerates quicker pulling away in second gear, than if using first. This is because you eliminate that slow change from first to second, second gear taking you from rest to beyond 50 mph if you want.

The differential was supplied as a reconditioned unit by John Hoyle. I'm not sure if it came from a Sierra or from a Granada as both are essentially the same. Not too many Sierras had the high 3.14 ratio, so maybe it is a Granada one, where bigger engines were more common. I didn't mention that you need a new propeller shaft, and John Hoyle had that made for me. The drive shafts are shortened Sierra units. Mine are John's older design where he literally cut and shortened the Ford items, but now he has special short shafts specially made. My shortened shafts have been no problem.

Angus Munro reminded Mike that the biggest problem with the Hoyle IRS is modifying the exhaust. "It has to be lower to clear the forward end of the locating rod (bolted into the leaf spring hanger) and to



allow the bottom wishbone to go to full droop. I bought Clive Wheatley's system, but had to have a local specialist alter the shape of it as I had to hang it much lower than standard. No one system seems to have been prepared to allow a first-time fit with Hoyle's IRS."



Links to further useful articles on the V8 website:

RV8NOTE302

www.v8register.net/subpages/V8NOTE302.htm

RV8NOTE310

<http://www.v8register.net/FilesRV8WN/RV8NOTE310%20Hoyle%20IRS%20experience%20RC.pdf>

RV8NOTE311

<http://www.v8register.net/FilesRV8WN/RV8NOTE311%20Hoyle%20rear%20kit%20111109.pdf>

Hoyle suspension modifications

<http://www.v8register.net/subpages/hoylesuspension1.htm>

RV8 suspension information gateway

www.v8register.net/gateway/rv8suspension.htm