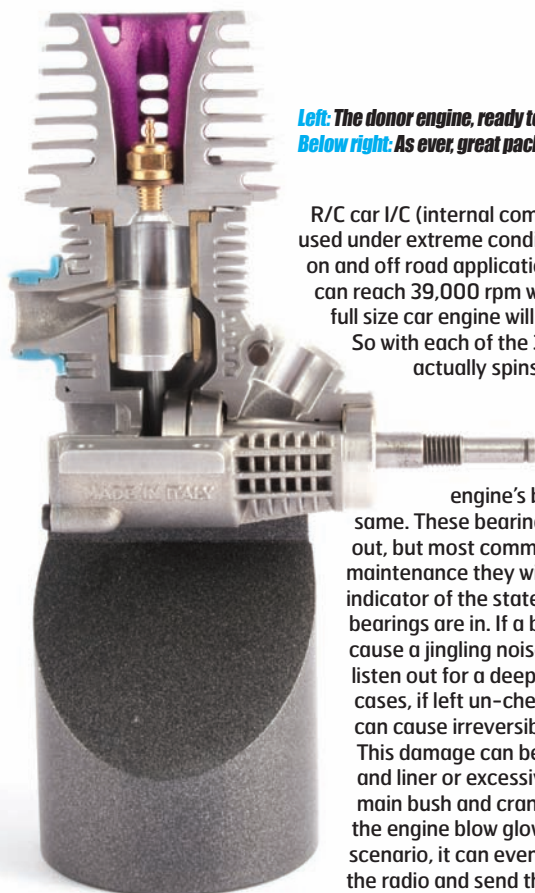


RRCi GOES ON THE PULL

RRCi BENCH TESTS THE NEW HUDY ENGINE BEARING REMOVAL TOOL



Left: The donor engine, ready to be pulled
Below right: As ever, great packaging from Hudy

R/C car I/C (internal combustion) engines are used under extreme conditions in their particular on and off road applications. At full speed they can reach 39,000 rpm where as your average full size car engine will do 6,000-7,000 rpm.

So with each of the 39,000 rpm, the engine actually spins at an amazing 650

revolutions per second! Now for every revolution of the crank, the

engine's ball races must do the same. These bearings will eventually wear out, but most commonly if left without maintenance they will fail. Sound is a big indicator of the state that your engine's bearings are in. If a ball in the race fails it will cause a jingling noise, if the race itself fails, listen out for a deep heavy rumble. In both cases, if left un-checked, terminal failure can cause irreversible damage to the engine. This damage can be scoring of the piston and liner or excessive wear in the con rod main bush and crank pin. It can also make the engine blow glow plugs. Worse case scenario, it can even cause interference with the radio and send the car out of control. You may also get a leaking front bearing or play on the end of the crank or clutch.

Below: Both tools, side by side



QUICK SPEC

MANUFACTURER HUDY
TYPE BEARING REMOVAL TOOL
PRICE £66.99
www.rcdisco.com



WHAT CAN YOU DO?

Well listen to your engine at idle making note of any metallic knocking or jingling. Preventative maintenance is even better, why wait for the bearings to fail at a meeting and leave you with a sick motor? Various tools have been available to change your bearings, with some using a blowtorch or hot air gun to aid the process. The downside of this method is that using heat to expand the crankcase can leave the crankcase distorted or even stretched so the new bearing does not seat correctly. The best way to replace bearings is to pull them out and push the new ones in with all the parts at an ambient temperature.

To enable you to do this effortlessly and correctly every time Hudy have released their line of 'Ultimate Engine Tool Kits'. Two kits are available, part no 107050 for the .12 engines with 11.5 mm inner bearing and part no 107051 for the .21 engines with a 14 mm ID rear bearing. An optional adapter is available for engines with a 13 mm ID race. The tools allow the rear main bearing or the front bearing to be replaced separately.

If you buy one tool you can also buy the other adapters separately, so you have one tool to do everything. Elite RC kindly lent me their cut away show engine to enable the inner workings of the engine parts to be seen thus allowing me to illustrate how the Hudy engine bearing tools work.

OUT WITH THE OLD...

The rear bearing is blind meaning that there is no way of knocking the bearing out from the front. To remove the rear main bearing there is a tool just for this purpose. The tool has an expandable collet on one end. This allows you to insert it into the bearing then by holding the silver cross pin and turning the serrated wheel a chamfered head pulls into the collet causing it to expand and lock onto the bearing. There is a small ridge on the collet which is .5 mm thick, and this allows the tool to lock onto the bearing and then by turning the silver cross pin till the puller base plate locates it onto the rear of the engine block.

Take care to make sure that the plate's flat is lined up with the exhaust port and sits flush with the back plate. Once touching the block turn the silver cross and the bearing will pull out. I had several old engines lying



Above: Front bearing remover and installer for both



Above: Rear bearing puller



Above: Ready to remove the rear bearing – just turn the knob



Above: Steps of bearing coming out



Above: How the collet expands to the bearing



Above: Ready to pull out the front bearing



Above: Front bearing out in stages



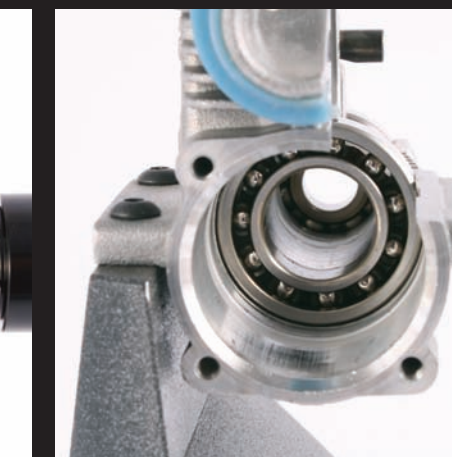
Above: Bare block



Above: Bearings ready to fit



Above: Both front and rear bearings going in together



Above: Your rear bearing should look like this

RRCi'S VERDICT

LIKES

Easy to use
Perfect bearing alignment
Wide range of bearing size catered for
The usual Hudy high quality

DISLIKES

None, it's a total asset to my pit box

CONTACT

For more info contact
www.rcdisco.com

about that had expired and although some bearings were tight and released with a loud crack the Hudy tool was never beat. To remove the front bearing the second part of the kit is used. This inserts from the rear of the engine, slide the correct sleeve and bush on and then slide through the bearing. Next fit the support bushing, noting which way round it is. The hollow part needs to face the block/bearing and go into the tool. Hold the rear cross pin and tighten the other end. You can see from the pictures how the bearing is pulled out.

With the bearings out it's worth giving the block a good clean and checking the oil lube hole behind the front bearing is not bunged up, a small drill bit could be used to clear it of debris.

...IN WITH THE NEW!

With a clean block we now need to install the new bearings. Using the tool we have just used, slide the rear bearing onto the tool, next insert the tool into the engine, slide the front bearing onto the tool, this time fit the support bushing so that the flat side is towards the bearing.

TIP TRICKS FIND YOUR BEARINGS

Both bearings can be fitted either way. The rear should have the balls facing you out of the engine and the ball cage faces into the block. The front bearing should have the seal towards the outside.

With the bearings mounted on the Hudy tool there is no chance of it cockling and damaging the crankcase. Holding the clamping nut and tightening the rear tool the bearings are pulled into the block, perfectly aligned and seated correctly. I have to admit to previously using the heat method but now I have used the Hudy tool, never again. I can now change bearings easily, trackside or at home with little chance of causing damage to the block and no chance of burning myself. Hudy has again taken an everyday problem in R/C and designed the perfect tool, for what could previously be thought of as a specialist job. RRCi highly recommended! **RRCi**