

Hart's Passion

Not a man to do things by halves, when Anthony Hart heard that works Mini lookalike ORX 76F was up for sale he fully committed himself to its rebuild
Words: Peter Barker
Photos: Zoë Harrison

Simon Drew (left) and Anthony Hart, have created a truly great rally Cooper S

OWNER Anthony Hart

Age: 52.
Job: Director of a property development company
Married: Yes!
Likes: Mountaineering.
Dislikes: Hassle.
Dream: Retirement.



I'd had a Mini Cooper S for a few years," confesses Anthony, "and really enjoyed using it on historic rallies. But I knew I wanted to create a really special car, and when I heard about ORX being for sale I thought that this might be the one."

ORX 76F, as the Mk2 Cooper S was then registered, started life as a road car in standard spec, fitted with a 'G' suffix registration plate. It was rebuilt in the late 1980s and sold 10 years later to ex-BMC Special Tuning manager Basil Wales. Basil and his wife Valerie used the red and black Cooper S on several touring events and enjoyed it. But Basil had ambitions to create a replica of the Special Tuning modified Coopers of the late 60s and started to collect parts with this in mind. He was fortunate to obtain a Berkshire registration mark in the same series as used on the 1968 BMC works rally team Minis, and transferred this mark, ORX 76F, onto the Cooper S. By diligently visiting autojumbles and shows, Basil was able to collect other parts for the forthcoming modifications, and over a number of years this collection of parts grew but it became clear that Basil was not going to be able to complete a comprehensive rebuild of the



Quick-lift jack brackets visible under front bumper

car, so he decided to put the project up for sale. And that's when Anthony stepped in.

Anthony and Mini specialist Simon Drew flew down from Scotland to see the Cooper S with a view to taking it on. "Simon and I examined the car and saw that it was basically sound but



Look like any old rally Mini? Mybe but works Minis were extremely sophisticated, modified machines built with aircraft standard attention to detail. Not at all easy or cheap to replicate



Perfect replica 1968 works Mini dashboard: Heuer clocks, Halda Twinmaster, Smiths gauges, Mota Lita steering wheel...

“This is the Mini I always wanted to create”

As there was plenty of work to be done to make it really good in the spirit of the Special Tuning and works rally cars of 1968. We went back to our hotel and listed all the jobs that needed doing and came to the conclusion that the project wasn't feasible within the budget I had set. So we slept on it and in the morning we both said, 'We'll do it anyway'.

"I managed to find a little more money while Simon worked out how to do the job in a practical and economic way. We flew down again from Scotland after Christmas 2006 and picked up the car from Basil. Simon drove it all the way back to Edinburgh from Oxford and it was fine, nothing went wrong."

Back in Edinburgh, Simon stripped the Mini out and began the work of converting a road car into a replica works rally car. He removed all of the non-standard parts, stripped the shell back to the bare metal and assessed what they had bought. The body seemed solid and he did not have to replace any major panels. He re-welded some of the panel joints and recreated the major seams between scuttle and wings, wings and front panel in metal. A coat of Tartan Red for the body panels and Old English White for the roof brought the shell up to the right standard. The subframes were strengthened

and powder-coated, a period Aleybars three-point rollage was fitted around the back seat area, dash panels were made up and the fuel tanks protected from studded tyres with wood panels on the inside faces, as had been done in the 1960s.

Then came the wiring loom. He intended to make up a custom loom, planning where he wanted all the components, both standard and special. Anthony and Simon paid Autospark in Nottingham a visit and found them very helpful. They came back

with bags of wire and Simon set to creating the loom as accurately as he could. Some stages had to be done twice before he was happy, and wires were unwrapped and replaced until the desired result was achieved. Many more hours were spent on the loom than had been planned, as he was working to perfectionist standards. The suspension was converted from wet to dry (Hydrolastic to rubber cone), and then it was a case of carefully rebuilding the car with quality in mind. The BMC Competitions Department



Special Tuning

Ex-Works and Special Tuning Coopers and Cooper Ss built between 1961 and 1970 represented the state of the art in the Mini rallying technology of the 1960s. ORX 76F is a faithful reminder of that technology put together by a duo who really care about detail. The interior, preparation of the exterior and period detailing show the effort that Anthony and Simon have put into the car. It's a great piece of work.

WRITER'S OPINION PETER BARKER

ORX 67F is a re-interpretation of the classic Works Mini theme, subtly modified to create a contemporary performance Mini but with a strong period feel. I particularly like the Contour seats and Dunlop CR65 racing tyres – great stuff!



Contour seats, a popular choice of the 1960s

Quick-lift jack brackets also visible under rear bumper. Upswept exhaust offered better ground clearance when front end jacked up or using trailer or dolly



Red Dymo tape and flick switches, works spec



Navigator's panel in door pocket



Door padding to save the co-driver's left knee



Aleybars clamp on the rollcage, the original 'cage manufacturer for Minis

at Abingdon prepared their cars to aircraft engineering standards back in the Sixties and their Minis endured the long-distance rallies of the era as a result. Simon tried to prepare Anthony's car to the same high standards. Wire locking, lock nuts and additional heavy-duty fasteners all came into play to make the assembly as tight as could be.

Finally the engine was rebuilt. When bored out +0.040-inch (1mm) the original Cooper S block was serviceable again. Omega pistons were fitted and the original EN40B nitrided crankshaft was given a first regrind to return the journal-to-bearing tolerances to standard. A Piper camshaft was chosen, the 12G940 cylinder head received unleaded valve seat inserts and was reshaped by MED Engineering of Leicester. With a bonded clutch, lightened flywheel and backplate, standard Cooper S distributor and a six-blade fan, the power unit met the four synchro straight-cut gearbox and, suitably painted, was refitted to the car. The carbs are something special; Simon wanted 'split' Weber 45DCOE's on a standard inlet manifold, just like those used on the works cars in 1968. Mini parts dealer Dave Greaves came up with a set of just these carbs on the right manifold, with MG stamped adaptor pieces welded to the bodies – all period stuff. These carbs have been fitted to the car and run reasonably well but have not yet been fully tuned to the engine.

Anthony's friends in the Mini Cooper Register in Scotland also came to his aid, with a brand new pair of Contour bucket seats in black vinyl, straight from the mid Sixties and a really beautiful pair of perches – the best I've ever seen.

Was Anthony pleased with the result of all this work? "Personally I think that Simon has done a fantastic job – the bodywork is immaculate, the wiring is a work of art and the attention to detail is mind boggling. For me it's a real pleasure to know that this complexity of work can be completed, pretty much on time and pretty much on budget."

After more than a year of work, Anthony called up Basil and Valerie Wales and invited them up to see the car unveiled in May 2008. With due ceremony out of the garage emerged the gleaming ORX 76F, a Mini Cooper S in the spirit of the Special Tuning and works rally cars of 1968. Basil was overjoyed with the work and pored over the reworked car.

By the time of my visit, two months later, ORX 76F had only done 1600 miles and was still bedding in. However, a 150-mile round trip through the hills of mid Scotland gave me a chance to try the car



MGB wheelbrace on the parcel shelf for instant access



Visual harmony: A great replica works engine bay, 1968 style with twin split Webers

and assess its potential. The Cooper S starts well – three pumps of the accelerator and it comes to life, Webers popping away. It's a tight little box, with few rattles and squeaks to disturb the driver as the Mini pulls away. The scream of the straight-cut gearset, the popping of combustion through the Webers and the rumble of the surprisingly good Dunlop CR65 race tyres are the most noticeable sounds at speed. On a wet day, with air temperature of approximately 18°C we achieved an easy 6000rpm in third gear and tractable acceleration from 3000rpm. Fuel consumption was a disappointing 20mpg, indicating the need for further Weber tuning on a rolling road. The car's overall gearing is currently 3.44:1 – a little high for a rally car – and this will be adjusted before the Cooper S's first serious rally outing.

The major event in store is the Mini Cooper Register's Minis to Monte run (September 2008). This non-competitive run follows the route of the 1968 Rallye Monte Carlo and Anthony and his wife will be following the journey of the Scandinavian starters. It's a long drive to Monte Carlo, but ORX 76F is definitely up to the job.

Last word must go to proud owner Anthony: "I wanted to sponsor a project to promote Simon Drew's work and the resulting car is great. Minis make me smile whenever I see one, and this is the Mini I always wanted to create." ■



Split Webers, great for noise and fuel flow, need setting up for proper power

Modified Morris Mini Cooper S

Engine: Cooper S thick-flange block bored +0.040in (1mm) to 1330cc. Omega squeeze cast pistons. crank reground -0.020in bearing, big-end journals. balanced rods. ARP bolts. 285 Piper camshaft. MED modified 12G940 cylinder head, unleaded valve seat inserts. bonded clutch. ultra-light flywheel, backplate assembly. standard Cooper S distributor Lucas 23D4. six-blade cooling fan. split Weber 45DCOE carburetors, ex-MG with fabricated linkage, pipework, heatshields, supports. standard Cooper S manifold with internal baffle. Works replica exhaust system, made by John Lloyd. one-off fabric cable wiring loom made by theminiworks.co.uk. adjustable park, 2-speed wiper motor converted negative earth. Maserati air-horns. Lucas 6RA and 22RA relays. Lucas HA12 coil. alternator control box. capillary temperature gauge. heavy-duty battery. Lucas 11AC alternator, large pulley CRA535

Gearbox: Cooper S four-synchro manual gearbox, straight cut ratios, transfer gears. four-pin differential, 3.44:1 ratio. Cooper S driveshafts. Hardy Spicer metal inner joints

Brakes: Lockheed 7.5in Cooper S disc brakes front. drilled Cooper S brake drums rear. Green Stuff pads. DOT4 brake fluid

Suspension: Rubber cone conversion from original Hydrolastic. Koni yellow dampers. negative camber lower suspension arms at front. Hi-Lo adjusters

Wheels/Tyres: 4.5in x 10 Cooper S offset Minilite alloys. Dunlop 10in CR65 racing tyres

Interior: Full-width dashboard. driver's, navigator's panels. Halda Twinmaster trip meter. Heuer Monte Carlo, Mastertime clocks. 10,000rpm Smiths tachometer. cut-out switch. TOK multi-position high-current switch for heated screen. 130mph speedometer, trip. clear Perspex needle. navigator's switch panel in door pocket. Lucas electric screenwash unit. door pocket padding. pillar padding. anti-rattle gearshift sleeve. special gearknob. Contour black vinyl bucket seats. spare wheel fixings on rear seat pan. twin-ended Lucas fuel pumps under rear seat. Aleybars three-point rollcage. Luke black harnesses. Newton Commercial black short-pile carpet. special throttle pedal, extended foot rest. route card holder, P-lights. capillary temperature gauge. 14-inch Mota-Lita wheel

Exterior: Restored 1968 Mk2 Mini Cooper S. metal-sealed seams. Tartan Red/Old English White paint. Group 2 wheel arches, matching red. quick-lift jack brackets front, rear. Scandinavian half-length sump guard. seam-welded, boxed, skidded subframes, powder-coated black. heated front, rear screens. T bars fitted to rear parcel shelf. Moke rubber strap fitted to boot lid. twin tank boot board cut, re-sewn by Mrs Hart. plywood panels fitted to inside faces of fuel tanks, faired in, painted. bath plug chain to filler caps. BMC mudflaps at rear. rubber flaps on front bumper. Lucas European headlamps. four lamp Special Tuning lamp bar. 2 x Lucas 700 foglamps. 2 x Lucas Continental driving lamps. side lamps in clear-lens indicators. Lucas 567

reversing lamp on boot lid. A450 halogen bulbs



Dual-ended SU fuel pump under back seat



Obligatory green fuel bag