



# South African restoration

**Don Steenkamp** details the restoration of his Series II OTS and its conversion from US spec to UK/European spec to suit South African requirements

South Africa has regrettably seen many of its classic cars sold abroad, mainly as a result of our currency weakening. As my search on home soil for an E-type needing restoration resulted in very few suitable leads, I decided to look for a suitable car overseas. The US seemed to be the best option for available Roadsters matching my requirements.

The car I shortlisted was advertised with the usual sales banter stating: 'Rebuilt engine and gearbox; long family ownership; excellent body; good runner; including spare wheel, tools jack and handbook.'

A price was agreed and I appointed an agent, specialising in exporting classics to South Africa, to inspect the car on my behalf. He then arranged to have the E-type transported to Jacksonville, Florida, for container loading. When it arrived for shipping, I was informed that the spare wheel, toolkit, jack, handbook, plus the fuel cap, were missing. The seller was approached to supply these items, but as the company appointed to collect the car was not instructed to check the boot, the seller shifted blame.

The Primrose Yellow car, with black interior, was duly shipped, arriving in Cape Town on 18 December 2018. Importing a left-hand-drive



- Top: Don's E-type was originally Primrose Yellow, seen here in unrestored form outside his Knysna home in South Africa after shipping from Florida
- Above: on stripping the engine, an errant piece of metal – possibly a split washer – was found embedded in the oil pump rotor

- Right: many hours were spent stripping the car, carefully documenting the location of every component
- Below right: new spaceframes were fitted to the original bodyshell which required new floor pans
- Bottom right: the restored body panels masked and primed before receiving the new Midnight Blue finish

vehicle into South Africa is extremely difficult, and an import permit was eventually granted due to the age of the car and on the understanding that it would not be registered in South Africa until it had been converted to right-hand drive. Initially, one of the officials in the Department of Transport indicated that the E-type would have to undergo a crash test once converted!

I collected the car in Cape Town and transported it some 500km back to my home in Knysna. My first test drive confirmed the brakes to be non-existent, with the vacuum tank filled with brake fluid.

The stripdown commenced in January/February 2019.

The engine, although running when the car arrived, proved to have been put together by ‘bush mechanics’ (tighten bolt until it strips, then a quarter turn back!). The play on the crankshaft damper was excessive, and I rightly suspected the thrust bearings to be missing, confirmed when the sump was removed and the offending items were found in the sludge inside the sump. More alarming was the state of the oil pump, which had picked up what appeared to be a piece of metal – perhaps a split washer – which embedded itself inside the rotor assembly of the oil pump.

### Stripping the car

Many hours were spent removing every item, taking hundreds of photographs along the way and meticulously placing individual parts, brackets, nuts, bolts and washers into clear plastic ziplock bags, which were then marked accordingly.

I have always tried to re-use bolts, due to the specific markings on the bolt heads, whereas nuts, washers, split-washers and anti-shake washers are replaced with new items.

Further into the restoration, many days were allocated to unpacking these plastic bags containing the fasteners, cleaning the contents and then carefully noting the bolt size, eg, ‘5/16 x 2in, picture frame to side frame’, etc.

These components were then sent to an electroplating company, with instructions for bright finish or yellow passivated finish. When received back, the parts were carefully sorted according to my notes, and packed once again in plastic bags, ensuring that the correct bolt could be re-used in its original location. On reassembly, I consulted the Jaguar Parts Catalogue for the correct types of nuts (nyloc or plain) and washers (plain, split or shakeproof).

I have calculated that my total restoration time worked out between 3,000 and 3,500 hours, excluding the work farmed out, such as bodywork, preparation and painting, and engine rebuild.





- Left: the newly sprayed bodyshell and spaceframes in the workshop at the start of the rebuild process
- Below left: the rebuilding and upgrading process underway, with front suspension and braking system components fitted
- Below: new rear ventilated disc brakes and Koni Classic suspension dampers were among the upgrades



- Clayton heater-box upgrade
- Space frames, including side, picture frame and bonnet support frame
- Triple HD8 SU carburettor conversion
- Oil-pressure gauge direct to oil-filter-head assembly
- LED dash lighting
- Tinted glass – front screen and door glass
- Stainless-steel big-bore exhaust system
- ATI Super Damper crankshaft damper
- Classic Sports Ignition electronic distributor
- Silicone plug leads
- Kangol Reflex inertia-reel seat belts
- Classic Michelin XWX 205/70 VR 15 Tyres (spare wheel Michelin XVS 185 HR 15)
- 6in Dayton chrome wire wheels (spare 5in Dayton chrome wheel)
- Stainless-steel heater transfer pipes in front bulkhead
- Koni Classic suspension dampers front and rear
- Up-rated engine mountings
- Polyurethane bushes for front suspension and steering-rack mounts

The engine was professionally rebuilt by a reputable company an hour's drive from home. This company had previously overhauled a Triumph TR5 engine which turned out to be superb!

The state of the bodyshell was better than expected, with only the two recessed floor pans needing to be replaced. The spaceframes were reasonable, apart from the bonnet support frame, which was badly distorted due to the car having been incorrectly jacked below the radiator crossmember. As the spaceframes were 50 years old, I chose to replace them with new frames supplied by E-type Fabs, who were an absolute pleasure to deal with. These frames were expensive, but the quality is superb!

After 40 years of restoring many E-types, my focus has shifted from an obsession with originality to now considering the sensible upgrades available which enhance driving appeal and safety. The roads we use today are far more congested than 50 to 60 years ago, and my list of improvements takes these factors into account.

### Upgrades

- Aluminium radiator with twin Spal electric fans
- Silicone hoses
- Ventilated disc brakes front and rear
- Remote bleed kit for rear brakes

### US to UK/European specification changes

Numerous E-type Club magazine articles by Mike Cassidy proved invaluable in converting my car to right-hand drive. The original US specification was changed to UK/European specification which suited the South African requirements. The following changes were required to carry out the conversion correctly:

- Dash panel, passenger's side
- Dash panel, driver's side
- Glovebox door wood
- Glovebox lid
- Correct dash vinyl (coarse grain)
- Steering-column housing
- Steering rack
- Clutch and brake pedal
- Accelerator pedal
- Accelerator-pedal housing
- Throttle-linkage set
- Front park/indicator lamps, or just lenses
- Rear lamps, complete
- Rear lamp holders (different part numbers for RHD)
- Removal of front and rear fender lamps
- Dash and engine wiring harnesses
- RHD headlamps



- Left: the rebuild continues, with steering components plus engine and ancillaries now in place
- Below left: engine upgrades included a stainless-steel big-bore exhaust system and silicone plug leads
- Below: a triple HD8 SU carburettor conversion and Classic Sports Ignition electronic distributor were among other sensible upgrades that Don elected to make



- Upper steering column, with ignition key correctly positioned
- Bulkhead closing plates
- Brake and clutch reservoir brackets
- Revised wiper-motor parking position for RHD
- RHD wiper arms
- Brake and clutch lines (Bundy tubing)
- Choke cable
- Speedometer cable
- Reverse-lamp brackets (different part number for RHD)
- Grab handle (different part number for RHD)
- Addition of upper brake-servo vacuum pipe inside bulkhead (not needed on LHD due to position of pedal box)

**Pedals**

Mike Cassidy recommended heating the brake pedal prior to bending it to the correct RHD profile. As the pedal is cast steel and not cast iron, one can use a hydraulic press to perform the bend in seconds using no heat at all. I chose to replace the clutch pedal rather than bend it, as the correct replacement item is available at reasonable cost – not so with the brake pedal, which is only available to special order at ridiculous cost.

**Interior**

Mick and Chris Turley, of MCT Jaguar Restorations, supplied the coarse-grain vinyl for re-covering the dash sections. They use vinyl soft-top material which is virtually identical to the original vinyl (now unavailable). The interior kit, including mohair hood and hood envelope, was supplied by MCT, who I found extremely helpful when contacted for advice. The interior colour of Dark Red goes well with the Midnight Blue exterior.

**Spare parts manual**

A ‘must have’ for restoring Series II E-types is a 450-page Spare Parts Manual, only available in the US. It is not an official factory publication, but a compilation of official Jaguar publications, technical service and parts bulletins, covering the Series II models. Although a Jaguar Parts Catalogue is available for Series II, it only gives part numbers, not illustrations. The US book gives all the correct illustrations pertaining to Series II; FHC, 2+2 and Roadster.

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### Brake lines

I prefer to make up my brake lines from the correct 3/16in and 1/4in Bundy tubing, using a professional Sykes Pickavant flaring-tool kit. In this regard, it is important to remember to double-flare certain sections, eg, the original three-way union attached to the lower picture frame which requires a double flare on all three unions.

### Tools, handbook and jack

The replacement of these items, which were stolen from my car, proved somewhat expensive. A full Jaguar MkII toolkit was bought in South Africa. The Handbook, together with Lubrication Chart, Service Book, Warranty and Kangol seat belt leaflet were purchases on the US eBay site, and the correct jack and ratchet the UK eBay site. Prices were eye-watering!

### Seat belts

The last of the Series II Roadsters, as with the Series 3 cars, were fitted with Kangol Reflex inertia-reel seat belts. My car had these fitted, but they were in a poor condition; the belts very dirty and frayed, the mechanism not retracting, and the hardware badly rusted. An internet search found little available, but Blanchard & Co, in the UK, advertised new classic Kangol Reflex belts for Land Rover Defenders, which I ordered at a rather expensive price for a set of two. The Kangol units are identical to the those originally fitted to my E-type, but the new belts were far too long. I used my old belts to calculate the length required, and I then cut the new belts to the same length. I had new buckle hardware laser-cut in stainless steel, and used an industrial sewing machine to restitch the hardware to the belts using exact correct criss/cross stitching pattern. Once the 'Jaguar Lift' decal was placed in position, the belts matched the originals in every way.

- Below left and bottom left: the new Dark Red interior perfectly complements the Midnight Blue exterior
- Below: gauge connected to check oil pressure before firing up the rebuilt engine for the first time
- Below middle: this US-sourced unofficial Spare Parts Manual for the SII proved invaluable
- Bottom: new brake lines made from Bundy tubing



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- Below: new Kangol inertia-reel seatbelts were modified from Land Rover Defender items
- Bottom: laser-cut stainless-steel reversing-lamp bracket
- Right: setting up the front suspension prior to the first test drive
- Bottom right: The finished restored and upgraded S11 Roadster in all its glory, after over 3,000 hours of Don's time



### Replace or not

Over the years, I have found that often refitting the renovated original parts provides better quality than 'new' replacement items. This was confirmed when taking the 'E' out for its first test drive, when the water-temperature gauge reading was very much on the high side, with the needle just below the red section on the gauge. I spoke to a Smiths instrument expert, who suggested I take him the gauge, voltage stabiliser, and the new temperature transmitter which I had installed in the inlet manifold, together with the original transmitter (luckily I still had it). These were delivered for checking, together with a second new transmitter which I had in stock. The outcome of this was that the two new transmitters were not accurate, and the original transmitter was superior. The next test drive confirmed his diagnosis. The gauge needle was perfectly positioned in the centre section of normal.

The fitting of wider wheels and tyres is controversial. Many reasons for not doing it are put forward, such as heavy steering, front tyres touching the body when turning lock-to-lock, rear wheels difficult to fit and remove, etc. My personal opinion is that the one aspect of the E-type that shows its age are the rather narrow wheels and tyres, whereas 205-section tyres give the car a more purposeful stance. I have had no touching turning the steering lock-to-lock and the steering remains very light. The rear bump stops need to be removed to accommodate the extra width, and the wheels are no more difficult to fit and remove than the standard size. A wider selection of tyres is available for the wider wheel.

I had difficulty in sourcing the correct mounting brackets for the reversing lamps (part numbers differ for RHD), and I eventually made a drawing and had a set of brackets laser cut and bent using 316-grade stainless steel.

Chrome beadings, such as sill chromes and front-hood chrome were installed using Sikaflex adhesive, rather than the original small metal clips which tend to rust and remove paint.

Restoring a Jaguar E-type is far more complex than is the case for many other classics. Investing the time and care to plan the various stages, and marking and boxing removed items correctly to aid refitting will make the reassembly a pleasure. There are hurdles to overcome, and certain stages always prove more difficult than others, but a patient approach will eventually result in enormous satisfaction and enjoyment. 