# **RESTORATION REPORT**



JAGUAR E-TYPE 1964 SERIES 1 4.2 FHC CHASSIS - 1E30281







PREPARED FOR MARTIN DAWSON, A FRIEND AND A GENTLEMAN



#### ABOUT INVESTOR CLASSICS

Investor Classics is owned and operated by Graham Turnbull, a motorsport engineer and consultant who specialises in finding, restoring, servicing and selling classic cars. Graham's passion is old performance vehicles from the 1960s to the 1990s, as these cars tend to embody an absolute attention to detail that evokes an emotional response, be it the curved design, switchgear, sound, or driving experience.

As a result of his love for attention to detail, his own attention to detail is amongst the best. He has an obsessive compulsion to ensure that every detail is period correct and of the highest quality.

Investor Classics is based in Edinburgh, Scotland.

#### **ABOUT THIS CAR**

The E-Type was introduced as a rear-wheel drive grand tourer in two-seater coupé form (FHC or Fixed Head Coupé) and as a two-seater convertible "roadster" (OTS or Open Two Seater). A "2+2" four-seater version of the coupé, with a lengthened wheelbase, was released in 1966. Later model updates of the E-Type were officially designated "Series 2" and "Series 3", and over time the earlier cars have come to be referred to as "Series 1" and "Series 1.5". As with other partly hand made cars of the time, changes were incremental and ongoing, which has led to confusion over exactly what a Series 1 car is. This is of more than academic interest, as Series 1 E-Types—and particularly Series 1 roadsters—often have values in excess of Series 2 and 3 models.

The Series 1 cars essentially fall into two categories: Those made between 1961 and 1964, which had 3.8-litre engines and, on all but very last cars, partial synchromesh transmissions, and those made between 1964–1967, which increased engine size and torque by around 10% to 4.2 litres, and also provided new reclining seats, an alternator in place of the dynamo, an electrical system switched to negative earth, a more reliable brake servo, and other modern amenities. Styling was unchanged.

As a result, the 4.2-litre Type 1 generally became the most valuable form of the car. However, as of the end of 2014, the most expensive regular production Jaguar E-Types sold at auction included a 4.2-litre Series 1 roadster, with matching numbers, original paint and interior, under 80,000 original miles, and a history of being in the original buyer's family for 45 years, for \$467,000 in 2013,[15] and a 3.8-litre 1961 "flat floor" Series 1, for \$528,000 in 2014. Special run racing lightweights go for far more still. For example, a 1963 E-type Lightweight Competition advertised as very original and with much patina (wearing the "factory installed interior and bodywork showing the patina of decades of use," although it was re-painted and has a non-matching numbers - albeit factory provided - engine), one of just twelve that were built, sold for \$7,370,000 at the 2017 Scottsdale, Arizona auctions. This particular car is a 1964 4.2 litre Series 1 FHC. The car is matching numbers and has been authenticated by the Jaguar Heritage Trust, with a Heritage Certificate.

The car was purchased from London for California export, where it resided until 2017, when it was imported by Investor Classics and converted to UK specification during a full restoration.

#### TRACKING IT DOWN



Martin at Goodwood with an E-Type in his dream specification



Martin Dawson & Graham Turnbull

Martin has always been in love with the Jaguar E-Type. As often is the case, after much car talk over a few beers, he and Graham hatched a plan. What if Martin was to build the car of his dreams with his friend?

That settled, it was decided that the dynamic duo would look for a rust-free example and rebuild it in Martin's perfect colours – opalescent silver grey with red leather.

But where to find such a rust-free example? They decided to enlist the help of a friend of Graham's, Craig Calder, who had emigrated to California to start a classic car company in LA.

The plan was that Graham would fly out to LA to stay with Craig, and whilst there he would spend 2 weeks hunting down the perfect donor car. It would, of course, need converting to UK specification.



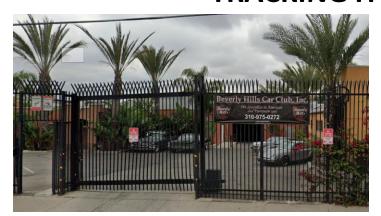
London to LA, on route to the search



**Craig Calder & Graham Turnbull** 



#### TRACKING IT DOWN









**Beverley Hills Car Club, Los Angeles** 

Graham looked everywhere. He visited multiple classics car showrooms, and even looked through classified adverts on 'Bring a Trailer', the US website.

The most promising bet was Beverley Hills Car Club, a vast warehouse dedicated to trading classic cars in various need of restoration. Here there were rows on rows of E-Types, however they were all of extremely poor quality and failed the inspections that Graham undertook.

The 2 weeks flew by. Not a single worthy car presented itself.

Absolutely gutted, on the last night, Graham drowned his sorrows with Craig in his local bar, the Auld Dubliner in Long Beach. Over two pints of Guinness, Graham relayed his dismay to Craig that not a single car was good enough. Craig, nonplussed, retorted "Did you not think the one I have for sale in the showroom was any good!?".

"What do you mean? You have no E-Types!" Graham replied.

"Ah..... Wait a sec.... I actually moved it to my warehouse a couple of weeks ago. Do you want to see it tomorrow?" asked Craig.

And, with that, simultaneously funny and frustrating, a car was found.





Craig Calder's Fast Cars, Redondo Beach



### **TRACKING IT DOWN**

The next day Graham went into work with Craig and waited for him to collect the Jaguar from his warehouse. After an hour waiting, a sleek Old English White shark cruised into the lot.

The car was perfect! Sure, it had a few dings, missing switches, the interior was tired and the paint was ageing. But, it was rust-free! Time to inspect the car to make sure it was as good as it looked...



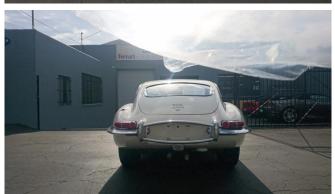














#### **INSPECTION**

Craig brought the car into the Fast Cars service workshop and put it on a ramp. Graham checked all of the usually required aspects of the car and made sure it was 100% correct, mechanically sound, and rust-free.



Vehicle Identification Number (VIN) - 1E30281



**Engine Number 7E1806** 



Stamp on engine block - 7E1806 - original



Cylinder head 7F4233 indicating replacement head



Rope seal on crank is notorious for leaks – this one is sound

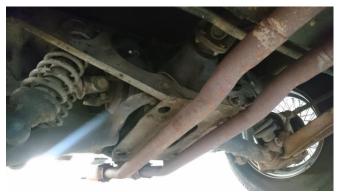


Underside of chassis rust free





## **INSPECTION**





Exhaust solid but surface rust looks unpleasant





LHD cars have brake master cylinder, servo and fluids near exhaust on an asbestos board – this will need to be changed







Chassis and front subframes are all rust free



## **INSPECTION**



Engine bay all good, albeit tatty and painted incorrect colours







Carpeting to rear, carried over from the 3.8, indicates very early 4.2









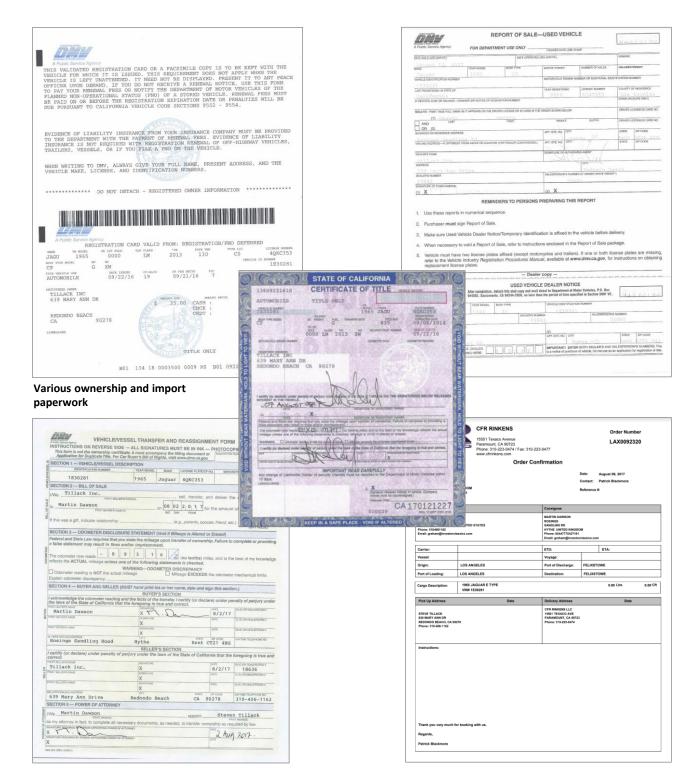


#### IMPORTING TO THE UK

Once Graham and Martin were satisfied with the condition of the car, they agreed to purchase the vehicle from Tillack Inc (The Fast Cars parent company).

All paperwork was inspected by Graham and Power of Attorney given to CFR Rinkens in order to manage the logistics and customs duties in shipping the vehicle from Long Beach to the UK.

Transfer of Ownership was undertaken by the California DMV.





### IMPORTING TO THE UK

The car arrived in the UK 6 weeks later and collected from the port at Felixstowe. Customs clearance was processed and the car shipped to Edinburgh. The car still drove very well, but was in need of restoration to be the best example it possibly could. US spec items such as LHD, bull bars and lights became even more apparent on UK roads.













Mrs. Turnbull sitting in the driving seat, looking happy





### **STRIPPING IT DOWN**

Now we were committed, there was only one thing for it... dismantle the car into thousands of little pieces! This was the start of a two-year journey for the total restoration and conversion of the car to UK specification.



















## **STRIPPING IT DOWN**



Asbestos shielding, between exhaust and brake fluid, flaking off



Engine removal – simpler at this stage to lift the car over the engine rather than engine over the car



## **STRIPPING IT DOWN**





Final strip-down and treatment of surface rust prior to delivery of body to a specialist paint company













Use of one of Investor Classics' chassis dollies to manoeuvre the chassis without front wheels



Although rust-free, 55 years of wear and tear had taken their toll. Various dings and scuffs needed to be rectified prior to painting, along with the flatting of factory imperfections to ensure a mirror-like finish.

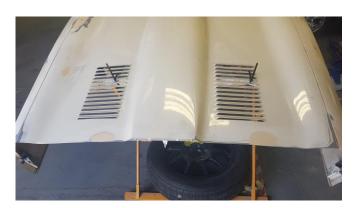


















Once the imperfections were remedied, a high-build primer was used to ensure the smoothest possible finish during the paint process.

































Martin McFadden, Managing Director of Willowbrae, inspects the primer



When stripping the interior, we discovered a common issue that affects many Jaguar E-Types. As little as 10-15 years ago these cars were not worth the stratospheric prices that they now are. A common practice for changing the clutch was to cut holes in the transmission tunnel to enable a mechanic to access bell housing bolts and the gear linkage so that the clutch can be changed without removing the engine. This shortcut would save labour costs.

Graham reformed the transmission tunnel and welded the metal back into shape. This was a relatively simple process, but an important one. Many would simply cover this type of thing back up without addressing it thoroughly.

















#### **PAINT**

For this car, we wanted the highest-possible standard of paint finish. As a result, Willowbrae Coachworks were chosen to undertake the job.

Willowbrae are the official body repair shop for Aston Martin and Rolls Royce. They have an exceptional reputation and quality is second to none in Edinburgh.

Martin's favourite Jaguar colour was chosen for the car – Opalescent Silver Grey.























### **PAINT**

Willowbrae were able to achieve a perfect mirror-finish on the Jaguar. Final inspection to Rolls Royce and Aston Martin quality standards was undertaken prior to sign-off.

Willowbrae use traditional solvent based paint for a flawless finish that modern water based paints cannot match.







#### **PAINT**

Following an extraordinarily long but high quality paint process, the chassis, bonnet and doors were ready for collection. The vehicle was collected by Graham's trusted local transporter, Stevie Wood Transport, and delivered back to the Investor Classics workshop.













Prior to the reassembly of the car, the steering needed to be converted from LHD to RHD. The chassis is completely identical to all markets, with cut outs in the body on both sides. The correct Jaguar parts and blanking plates for each side were sourced and fitted, together with RHD steering rack and associated components.

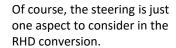






In addition to the RHD conversion, all suspension was stripped from the car and either sent for blasting and powder coating, or bought new.

The Independent Rear Suspension (IRS) is an extremely difficult item to restore as it includes the differential, 4 springs and dampers, multiple pressed in bushes and driveshafts.



Later Graham needed to think about the braking system, pedal box and interior trim items.

Electrics would also be an issue, with a new loom needed that would allow the clocks to be repositioned on the right hand side.

More about these in later chapters!









IRS dropped from car for nut and bolt rebuild









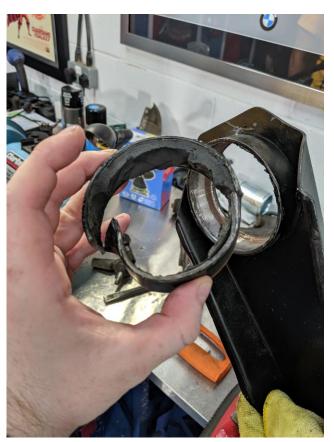


One of the wishbones being dismantled



Bushes on the chassis were also replaced – these old ones were in good shape but were changed regardless











IRS carriage and wishbones back from powder coating



Differential and driveshafts rebuilt



Completed IRS ready for installation, with brand new bushes, shocks and springs throughout. Notice the inboard disc brakes.















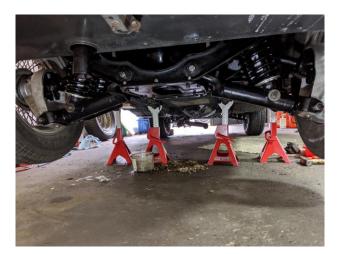














#### **ENGINE**

A big decision was taken with respect to the rebuilding of the engine. Graham undertook various inspections with a bore-scope and compression test, oil inspection and audible assessment. All cylinders looked good and compression pressure of 145psi was seen in every cylinder, well within tolerances for this specification engine, and reassuring that the pressure was identical across all 6. It was decided that the engine could be rebuilt at a later stage if desired.















### **ENGINE**

Not withstanding the decision that the engine was in great shape and not in need of a rebuild, it was decided that it was in need of a cosmetic renovation. Graham set about polishing and painting the engine by hand.

















Aluminium cam covers hand sanded and polished – Note, mirror polishing looks contrived in Graham's opinion, so a factory satin finish was aimed for



### **ENGINE**

The engine was also painted by hand in the correct colours for an early 4.2 unit. Special enamel cylinder head and engine block paints were used.



















## **ELECTRICS**





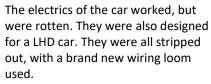




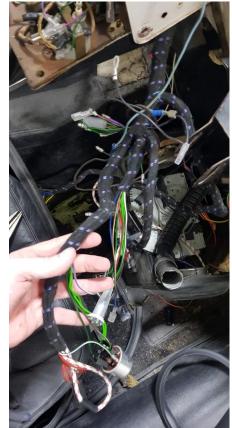
New wiring loom being fitted















The car was now ready to be rebuilt in full. Assembly included all doors, windows, exterior trim, and mechanical parts.



















































Period correct feature such as the 'Negative Earth' warning sign, VIN plate and brand new old stock 'Lucas' washer bottle, were fitted









New Jaguar badge for front grille bar



New bumper trim strips fitted to replace the old broken ones







US rear lights were removed



UK rear lights were sourced and installed



US rear bull bars were removed from the bumper chromes











Front lights were rewired and the base plates painted

Front grille bar installed









US indicators removed, with UK indicators being fitted

UK RHD headlights and bumper chromes fitted, without US bull bar





A gorgeous new stainless steel sports exhaust system from manifold back was fitted (note IRS had yet to be restored at this stage)



























The car slowly taking shape as the bonnet is finally lowered into place on the two securing pins on the front suspension. The car was starting to look like a proper Jaguar E-Type again!







Small details such as the polished steel number plate lights were fitted













Finishing touches to the engine bay



#### **BRAKES**

The brakes were fully overhauled. During this, it was found that the master cylinder was shot. It had pumped brake fluid into the servo through a broken seal. These two components were replaced for brand new items.







The original braking components were tested on the car, but brake power was low. We stripped them to find brake fluid being pumped into the servo. A sign of burst seals. We decided to replace all of these components for new items.





#### **BRAKES**

The pedal box was relocated to the RHD location, with all of the brake pipes and reservoirs being located in the correct position for a RHD car. Vacuum pipes were routed from the new master cylinder to the new brake servo .











#### **BRAKES**

As the pedal box was moved from the LHD to RHD position, the brake pedal had to be reshaped to suit the new pedal box location. This was undertaken through the application of heat to enable the metal to be bent easily.







The curve of the LHD pedals are not compatible with the RHD footwell. Heat was applied before reshaping the levers.



The most extensive part of the restoration was the interior. Not only was the car converted to right-hand drive, the entire interior was retrimmed in a sumptuous dark red leather. All finer details, such as gauges, were restored.







Restoration of the original gear knob



Left-hand drive clocks restored then changed to right-hand drive











New headlining being installed





Headlining trimmed carefully





Headlining edge finishing being installed





Sun visors retrimmed







Floor being treated prior to sound deadening installation









New underlay being applied to the black treated sound deadening



Rear trim and general carpet installation























#### Further rear trim and general carpet installation

















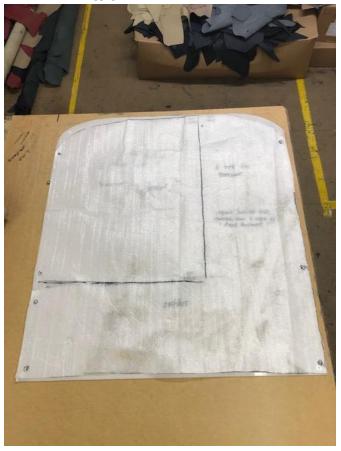






Bespoke manufacture of a new rear boot cover, complete with chrome and rubber luggage rails









#### Installation of bespoke boot cover















#### Door trim assembly



















#### Seat trim and installation

















The car starting to look fabulous with the new red leather seats – Note steering wheel now on the right (old wheel still fitted)













New steering wheel fitted, completing the stunning visual impact of the cabin





















## **RADIO**

A modern digital DAB radio was specified. Investor Classics fabricated a new housing and trimmed it to match the rest of the interior























## **RADIO**

The new modern digital DAB radio installed inside the cabin, completing the finished interior. The radio is classically styled to ensure that it goes unnoticed to the untrained eye.







## **FINISHED PRODUCT**

Following completion, it was important to have the vehicle registered in the UK. To do this, the car must pass an MOT and an inspection by VOSA, with all age related markings and paperwork inspected by VOSA during the inspection.

The car flew through its MOT, and the granting of a Jaguar Heritage Trust Certificate ensured that the VOSA inspection and UK registration went as smoothly as possible. **BTL 197B** was born.









## **FINISHED PRODUCT**







A busy day at the Investor Classics workshop, getting the Jaguar ready to ship to Martin in Kent





## **FINISHED PRODUCT**



The Jaguar being loaded up ready to transport to England



Mrs. Turnbull managing the logistics whilst Graham travelled down to Kent to meet the car at the other side







## **HANDOVER**









The Jaguar arrives in Kent! Graham and Martin excitedly inspect the car as it is unloaded from the truck, before applying the new number plates that have been waiting for the arrival of the car at Martin's home









# **HANDOVER**



Time for a well-deserved pint! The Jaguar parked outside Martin's local pub





# **HANDOVER**



Martin & Jo Dawson and BTL 197B. 17<sup>th</sup> August 2019



