Jaguar XJ13

the dream ..... reborn by Proteus

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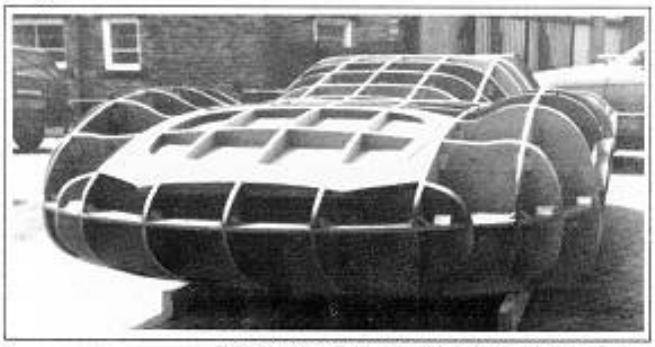
wishbones are used at the front in conjunction with standard Jaguar uprights and 11" diameter vented disc brakes. The rear suspension is state of the art 1960's racing car practice with fully adjustable rose jointed tubular links forming broad based wishbones and deviates slightly from the original by using variable length drive shafts as opposed to fixed length ones used on the original. A ZF 5DS25/2 transaxle as used in the original has also been utilised. The biggest deviation from originality is the engine which started life as an XJS unit with twin overhead cams as opposed to four in the original. However, this has been fitted with a dry sump installation as was the original, the oil being carried in a large tank on the left hand cill.An electronic fuel injection system has been specially developed for the car drawing air through twelve specially made trumpets which closely emulate the originals. Cooling is via a modified XJ12 radiator forward mounted and piped through the cockpit as original. A forward mounted oil cooler is provided for the engine oil, a rear mounted one for the gearbox. Cooling air for this and for the rear brakes is taken in through the air intakes on top of the rear wings.

As there were no "off the shelf" wheels which are exactly like the XJ13 ones special wheels had to be made. These are cast in aluminium alloy and are 15" diameter and 8.5" wide at the front and 11" wide at the rear with three eared spinners and peg drive as original.



PURPOSE BUILT WOODEN BODY JIG

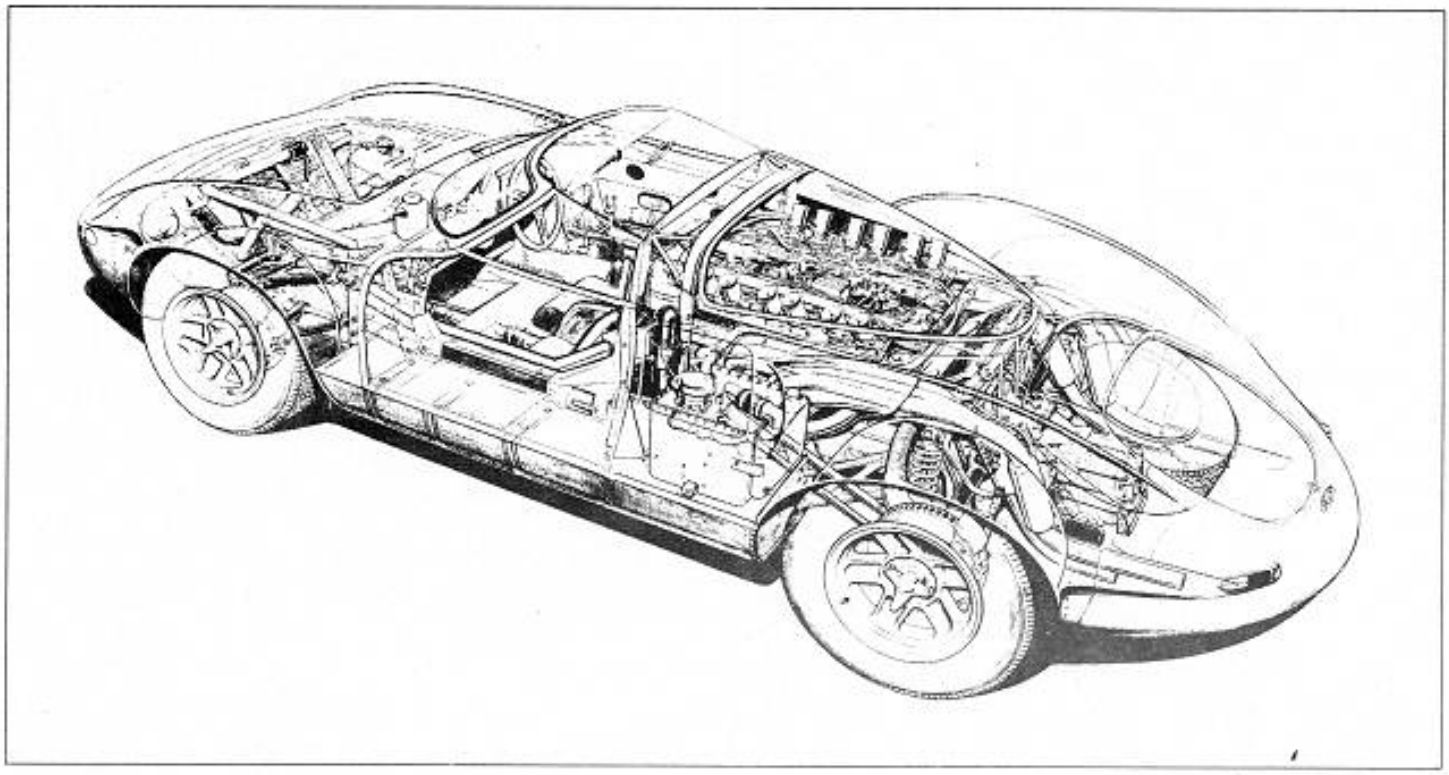
Other detail items such as the steering wheel, instrument panel, door handles etc. have also been specially made for the car.

Based on experience gained during the construction of the prototype we are now pleased to announce the Proteus P90. This offers the same looks, excitement & attention to detail as the prototype, but designed to a simpler format for the home constructor.

It seems almost incredible that until recently only a handful of people had enjoyed the privilege of driving the XJ13. All this is about to change and you could be one of the few more to share the excitement.

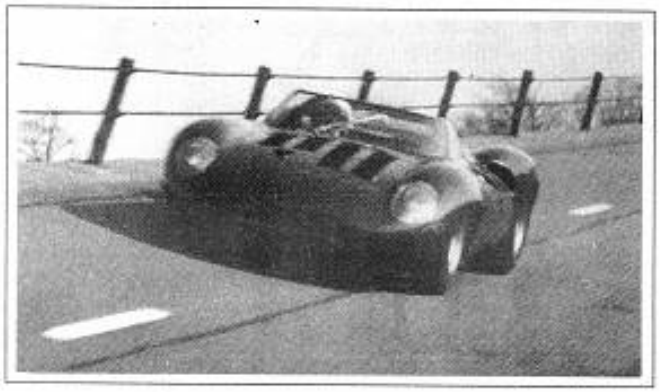
Jim Marland

"E" type was again taken to MIRA.
Unfortunately no one had thought to fit the car with new tyres and a blow-out at high speed caused a catastrophic accident with the car cartwheeling end-over-end and finishing up on the infield severely damaged.
Fortunately the damage was restricted to the non - structural outer panels and a short time later the decision was made to restore the car and this was completed in 1973.
A number of minor changes were made, most notably the addition of small flares over the wheel arches to give a family resemblance to the V12 "E" type
This has often led people to believe mistakenly that there were two cars but in fact there was only one - *the most desirable racing car never to have raced.*



What better reason therefore to build another.
Since first seeing the car in 1983 at the April Jaguar Drivers Club meeting I have been toying with the idea and collecting as much information about the car as possible. Photographs of the car have been taken at every opportunity.
Additional material was obtained from Andrew White's book - "Jaguar Sports Racing and Works Competition Cars from 1954"
Previous attempts had been made to build replicas of the car by a company called Invicta and by Brian Wingfield. Both of these failed miserably to capture a true likeness of the shape and to follow the original method of construction.
I have always held the view that the original designer's work should be followed closely and as in our replica "C" & "D" types changes have only been made where absolutely necessary.
When replicas are built which deviate from the original, this is usually due to lack of effort on the part of the builder to establish what is correct.
I was determined not to make this mistake and literally thousands of hours were spent drawing and redrawing both the outer lines of the car and construction details until I was absolutely sure that I had it right.
I then set about making a full size wooden buck of the car which could be used to form the outer alumunium panels.
Construction of the original XJ13 followed the then revolutionary monocoque method being fabricated from rivetted and welded aluminium with steel fabrication in highly stressed areas such as suspension and engine mounting points.
The engine and gearbox also formed part of the structure being rigidly mounted at the rear of the car to form a very stiff unit.
The Proteus replica follows exactly the construction of the original and the accuracy of the body shape can be judged by the fact that a laminated windscreen obtained from TRIPLEX off the original moulds came within 1/4 inch of fitting the frame exactly.
As in the original, "E" type, top & bottom

In 1956 Jaguar dropped out of motor racing with the the intentions of coming back in 1958. After a string of Le Mans successes with the "C" & "D" types they realised that the six cylinder XK engine was now approaching the limit of its competitiveness. Furthermore, sports racing cars were to be limited to 5 litre capacity. Accordingly Claude Bailey working under the direction of William Heynes, Jaguar's Chief Engineer, designed their first V12 unit of 87mm bore x 70mm stroke with four overhead cams.
For a company the size of Jaguar to develop such an engine purely for race purposes would be an extravagance, but it was their intention to produce a de-tuned version for their luxury road cars.
The serious fire at the factory in 1957 severely curtailed the race programme with everyones efforts concentrating on getting back into production.
However, William Heynes was eager to build a car which was up to date in which to install the prototype V12 unit.
Malcolm Sayer designer of the beautiful C & D racing cars again came up with an equally stunning design - ***the XJ13.***



THE PROTOTYPE AT MIRA

Chassis building began in August 1965 and was finished in March the following year. A full year was to elapse before the car was finally taken to the MIRA track for testing. In the hands of David Hobbs the car was soon lapping at 161mph and doing 175mph on the straights.
However, in the 10 years that Jaguar had been out of motor racing the pace of development had become fierce. Tyres had doubled in width, and the Ford GT40 and Lola T70 had appeared on the scene.
The beautiful Jaguar was already obsolete. In addition the production V12 was still a few years away from being ready and it was deemed undesirable to give the Jaguar buying public a tantalising glimpse of what was to come which could have harmed sales of the 6 cylinder cars.
The car was therefore put under wraps until 1971 when for a promotional film announcing the V12

Jaguar XJ13 Specification

Engine: 4,993cc Max power 502bhp at 7,600rpm. Max torque 386lbs ft at 6,300rpm.
Transmission: ZF 5DS25/2. Ratios: 1st - 2,42, 2nd - 1.61, 3rd - 1.23, 4th - 1.0, 5th - 0.846, final drive 4.2mph at 1000rpm in top 22.8 road speed at max power revs 173.02.
Clutch: Borg & Beck 8.5" dia.
Suspension: Front - Independent, coil springs, forged double wishbones. Adjustable hydraulic dampers. 7/8" dia. anti-roll bar. Rear - Independent, coil springs, wide based wishbones formed by upper and lower trailing tubular links, fixed length drive shaft and bottom "A" member. Adjustable hydraulic dampers. 5/8" dia. anti-roll bar.
Steering: Rack & Pinion.
Brakes: Girling vented discs front and rear 12" dia. 1.25" thick.
Wheels: Dunlop 15" cast magnesium. Front 8.5" wide, rear 11" wide.
Tyres: Dunlop racing 184 compound. Front - 5.25/10.50 x 15", Rear - 6.00/13.50 x 15".
Fuel Tank: 41 gallon capacity flexible tanks in cills.
Cooling System: Forward mounted water and oil radiators for engine. Gearbox oil cooler rear mounted, ducted air to brakes.
Chassis & Body: Aluminium alloy platform type, drive unit forms structure at rear.

Dimensions:

Overall length	14' 8.5"
Overall width	6' 1"
Overall height	3' 2"
Ground clearance	4"
Wheel base	8' 0"
Track	4' 8"
Weight	2478lbs

Proteus Prototype Specification

Engine: 5,343cc Max power 285bhp at 5,500rpm. Max torque 294lbs ft at 3,500rpm.
Transmission: ZF 5DS25/2. Ratios: 1st - 2.42, 2nd - 1.61, 3rd - 1.14, 4th - 0.846, 5th - 0.704, final drive 3.56mph at 1,000rpm in top 31.64 road speed at max power revs 174.02.
Clutch: Borg & Beck 10.5" dia.
Suspension: Front - Independent, coil springs, forged double wishbones. Adjustable hydraulic dampers. 7/8" dia anti-roll bar. Rear - Independent, coil springs wide based wishbones formed by upper and lower trailing tubular links, variable length drive shaft and bottom "A" member. Adjustable hydraulic dampers. 5/8" dia. anti-roll bar.
Steering: Rack & Pinion
Brakes: Girling vented discs front and rear 11" dia., 7/8" thick
Wheels: Cast aluminium to same design as original
Tyres: Dunlop racing 184 compound. Front - 5.25/10.50 x 15", Rear - 6.00/13.50 x 15".
Fuel Tank: 41 gallon capacity flexible tanks in cills.
Cooling System: Forward mounted water and oil radiators for engine. Gearbox oil cooler rear mounted. Ducted air to brakes.
Chassis & Body: Aluminium alloy platform type, drive unit forms structure at rear.

Dimensions:

Overall length	14' 8.5"
Overall Width	6' 1"
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Ground Clearance	4"
Wheel Base	8' 0"
Track	4' 8"
Weight	2478lbs

Specification details XJ13 and Proteus P90

Proteus P90 Specification

Engine: 5,343cc or over, V12 Jaguar unit with choice of downdraught Weber carbs or fuel injection.
Transmission: Renault 30 5 speed transaxle mounted onto engine with special bell housing adaptor plate.
Clutch: Borg & Beck 10.5" dia.
Suspension: Front - "E"type Jaguar top & bottom wishbones as original, XJ12 uprights "LEDA" coil over dampers fully adjustable for length and firmness 7/8" dia. anti-roll bar. Fabricated wishbones available as an option. Rear - Broad based top & bottom wishbones mated to Jaguar XK40 cast aluminium uprights. "LEDA" coil over dampers fully adjustable for length and firmness. 5/8" dia. anti-roll bar.
Steering: Rack & Pinion.
Brakes: Front - Jaguar V12 vented discs 11" dia. 7/8" thick. Four pot calipers. Rear - Jaguar XJ40 solid discs incorporating hand brake mechanism within the disc bell. Ducted air cooling.
Wheels & Hubs: Cast aluminium to same design as original 15" dia. x 8.5" wide front, 11" rear. Peg driven with three cared spinners as original. Special front hubs and peg drive adaptors to rear.
Tyres: Dunlop racing 184 compound. Front - 5.25/10.50 x 15". Rear - 6.00/13.50 x 15". Road legal tyres available if required.
Fuel Tank: Fabricated aluminium tanks mounted in cills.
Cooling System: Forward mounted water and oil radiators for engine. Gearbox oil cooler rear mounted, ducted air to brakes.
Chassis & Body: Fabricated steel semi-monocoque with stressed skin aluminium floors, bulkheads and cills. Body panels in choice of aluminium or composites. Louvred bonnet and access panels in aluminium. Windscreen in Triplex laminated glass. Perspex side screens & engine cover.
Interior: Seats trimmed in black leather and mohair as original. All other surfaces in polished aluminium. Instrument panel in black crackle finish as original. Woodrimmed aluminium streering wheel as original.
Exhaust System: Fabricated system as original with 4 tail pipes exiting through "tunnels" in rear bodywork.

Proteus P90 Provisional Price List
Spring 1992

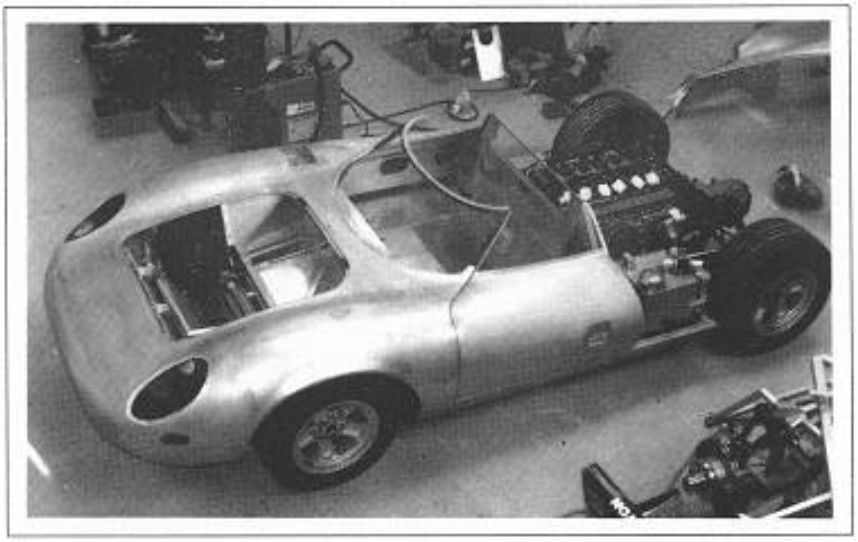
1	Space frame chassis unit with epoxy finish, complete with floors, cills & bulkheads in aluminium	£5,400
2	Complete body in G.R.P. with louvred bonnet & access panels in aluminium	£4,800
3	Windscreen in Triplex laminated glass	£250
4	Set of Perspex mouldings comprising engine canopy, sidescreens & headlamp fairings	£185
5	Set of door locks handles etc. comprising replica door handles, engine cover latches, special DSUZ fasteners for front & rear covers etc.	£85
6	Set of replica wheels in cast aluminium complete with drive plates & pegs, 3 with 8.5" rims and 2 with 11" rims	£2,500
7	Set of special front hubs & rear hub adaptors & three eared spinners	£1,350
8	Pair of fabricated aluminium tanks complete with 3.5" quick release filler caps	£735
9	Fabricated exhaust system	£1,200
10	Set of four springs & dampers	£575
11	Complete lighting set including modified "E" type tail lights, headlamps, side lamps, front flashers, headlamp bowls etc.	£395
12	Wiring loom	£240
13	Special steering rack	£450
14	Pair of seats trimmed in leather & mohair as original	£725
15	Replica steering wheel	£295
16	Instrument panel in crackle finish aluminium	£275
17	Exchange rear drive shafts & bottom links shortened & overhauled	£350
18	Pair of special seat belts	£85
19	Pedal assembly	£95
20	Gearbox adaptor with clutch & flywheel	£845

Parts required from Jaguar XJ12 donor car:
Engine complete with mountings, front uprights complete with brake discs & calipers. Handbrake assembly. Rear bottom suspension links complete with fulcrum shafts. Rear drive shafts.

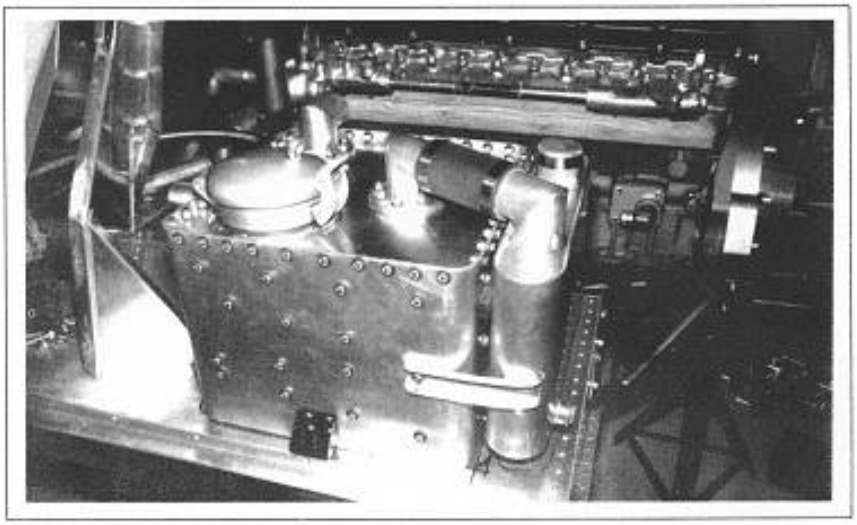
Additional small items required: Complete transaxle unit Renault 30. Rear uprights complete with hubs & brakes and fulcrum shaft - Jaguar XJ40. Front wishbones - Series 1 or 2 "E" type. In case of difficulty in locating these, we stock a few second hand items and can also supply a fabricated alternative.

All prices plus VAT unless exported from the U.K.
All prices subject to change without notice.

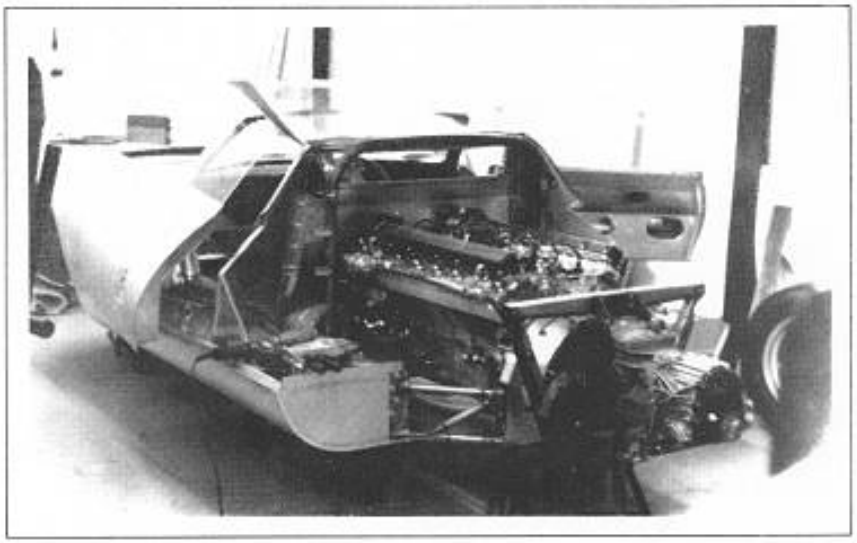
DEALERS STAMP



Proteus car under construction.
This photo was taken from as near the same position as possible to compare the results against the photo in Andrew Whyte's book "Jaguar Sports Racing & Works Competition Cars from 1954", page 264.



Engine bay - showing the purpose built dry sump oil tank.



Rear view of car showing installed V12 engine coupled to ZF gearbox.