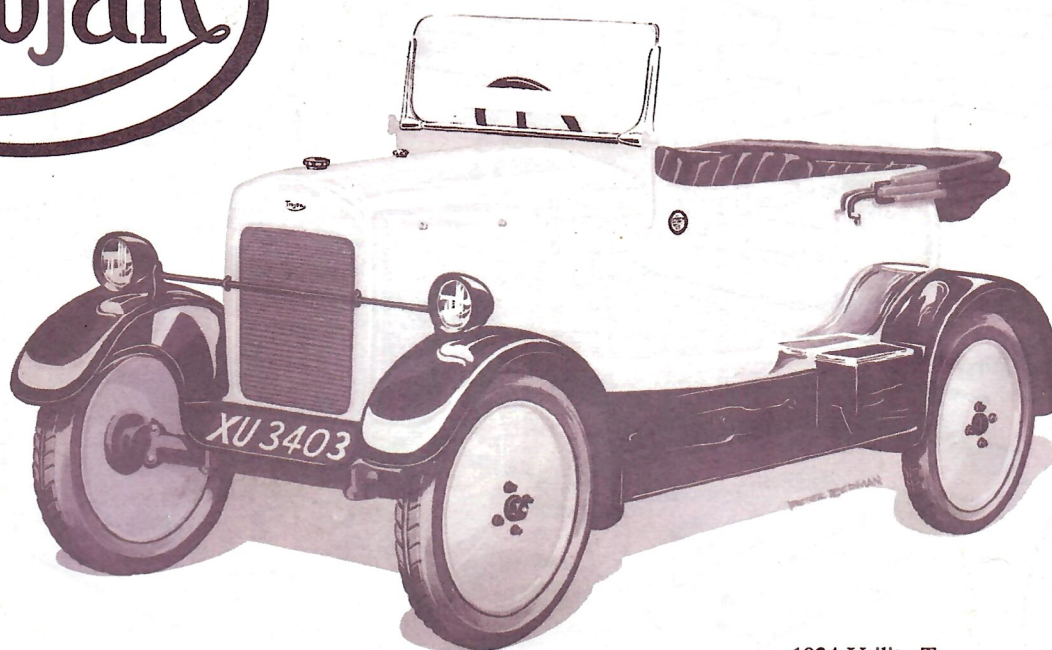


*The*

# Trojan

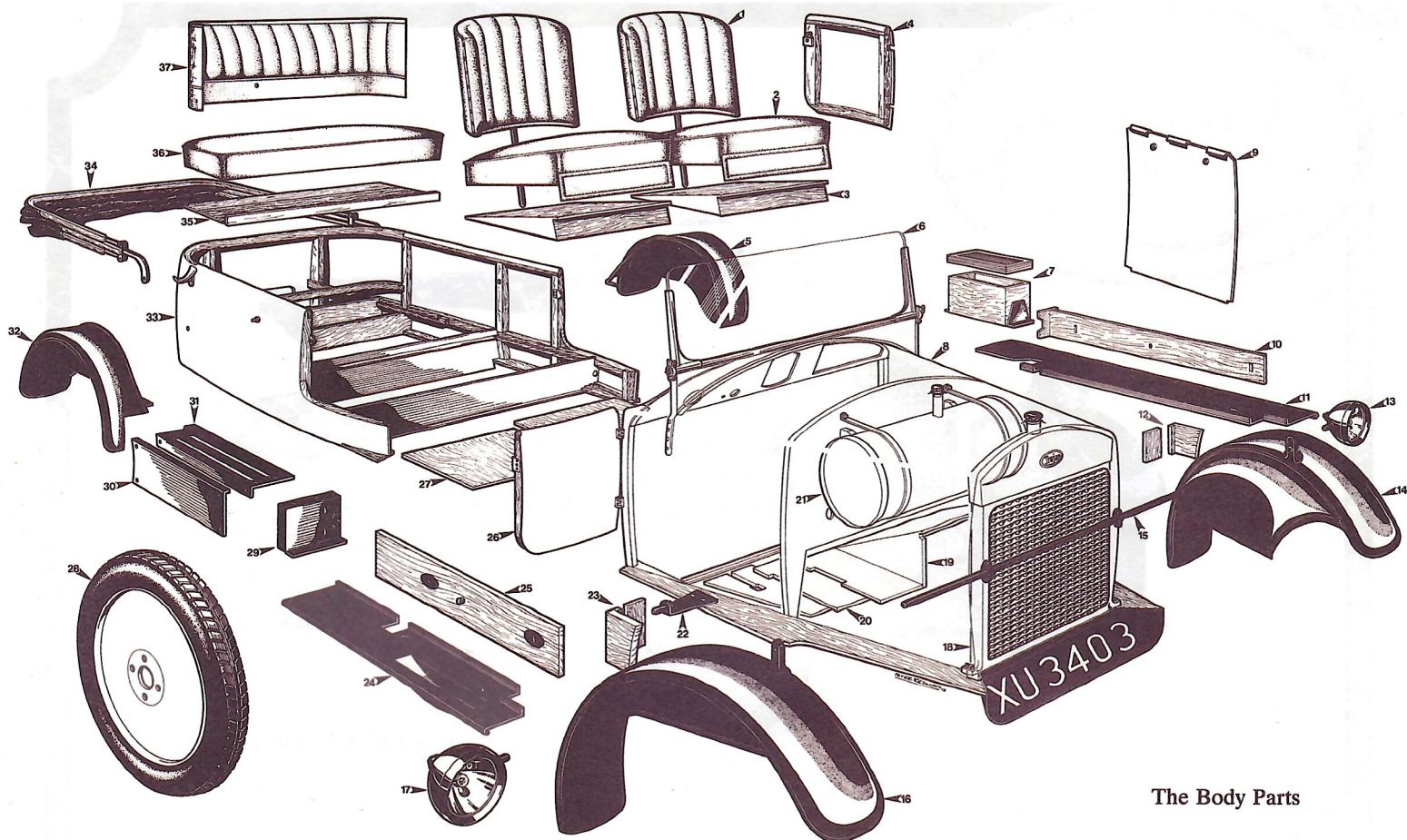


1924 Utility Tourer



7 cwt. Light Van

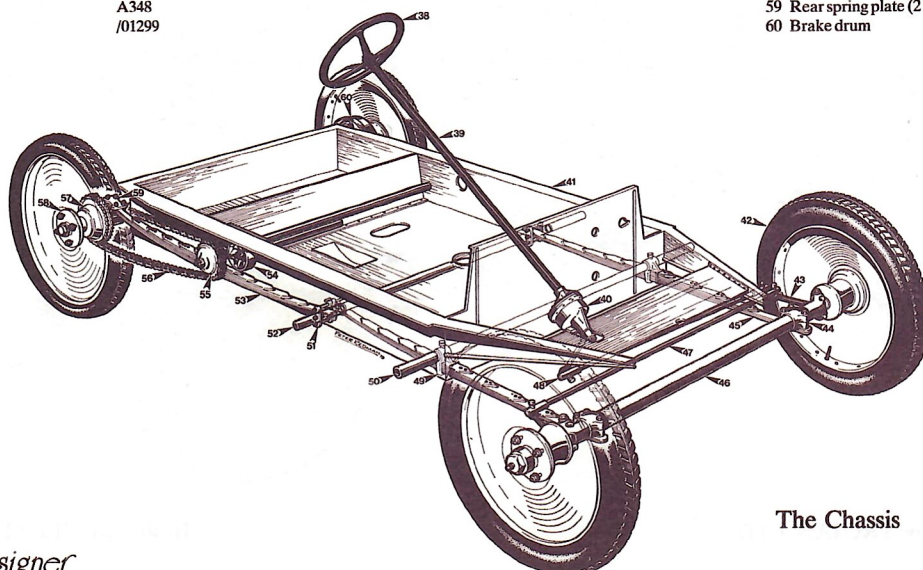




The Body Parts

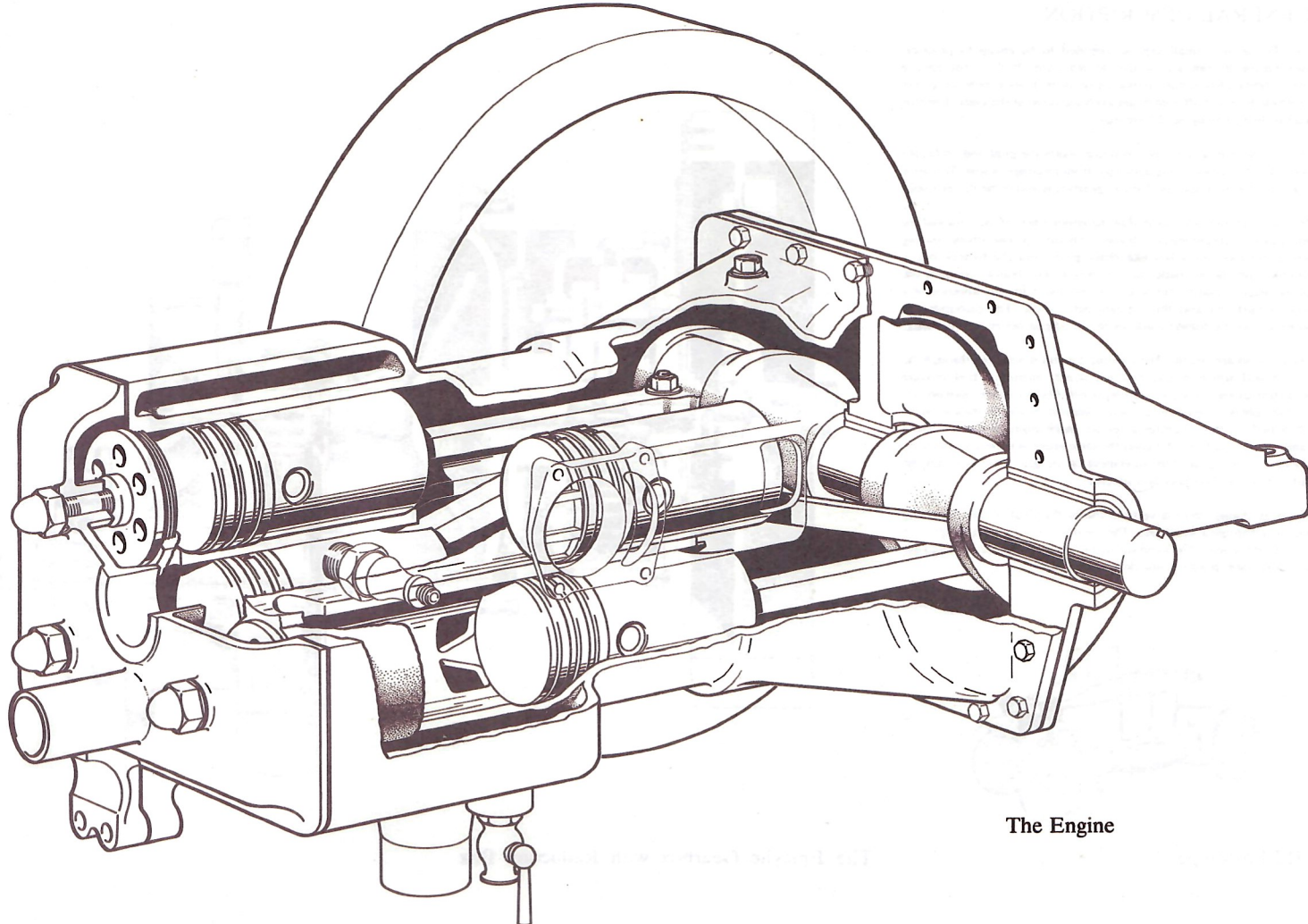
# KEY TO BODY AND CHASSIS PARTS.

DESCRIPTION	MAKERS PART NO.				
01 Front seat-back and pivot shaft (2 off)	A282	21 Petrol tank	A234	40 Steering box (complete)	A150
02 Front seat cushion (2 off)	A322	22 Spare wheel bracket	01206	41 Punt	A496
03 Front seat box (2 off)	A279	23 Offside locker endpiece	A345	42 Road wheel and tyre, size 710 x 90 (4 off)	01220
04 Nearside door	A284	24 Offside running board	0939	43 Stub axel, nearside (long arm)	0553
05 Nearside rear wing	A363	25 Offside locker door	A276	Stub axel, offside (short arm)	0554
06 Windscreen	A356	26 Offside door	A284	44 Spring table and cap (2 off)	0569
07 Battery box and lid	A295/6	27 Main floorboards	01296/7	45 Front spring (2 off)	& 0562
08 Bonnet	0916	28 Spare wheel and tyre	01220	46 Front axel	A123
09 Bonnet door	0914	29 Step bulkhead	0667A	47 Steering coupling rod with fittings	A131
10 Nearside locker door	A274	30 Valance for top step	0949	48 Push and pull rod with fittings	A133
11 Nearside running board	0938	31 Top step	0948	49 Front spring clip (2 off)	0632
12 Nearside locker endpiece	A345	32 Offside rear wing	A364	50 Torque tube for front springs	0635
13 Nearside headlamp (complete)	A330	33 Body (rear portion)	A265	51 Spring roller bracket (complete) (2 off)	0621/9
14 Nearside front wing	A359	34 Hood (complete)	A365	52 Engine bearer tube	0625
15 Front wing stay tube	A206	35 Rear seat board	A347	53 Rear spring (2 off)	A124
16 Offside front wing	A362	36 Rear seat cushion	A323	54 Transmission brake drum	0742
17 Offside headlamp (complete)	A330	37 Rear seat back (supplied with body section)		55 Layshaft sprocket, 25 teeth	0405
18 Radiator	A301	38 Steering wheel	0592	56 Driving chain	0407
19 Sloping floorboard	A349	39 Steering column	0590	57 Rear axel sprocket, 37 teeth	0406
20 Accelerator and brake pedal floorboards	A348 /01299			58 Rear wheel hub (2 off)	0506
				59 Rear spring plate (2 off)	0531
				60 Brake drum	0518



The Chassis



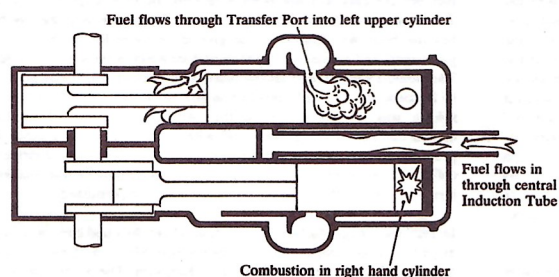


The Engine

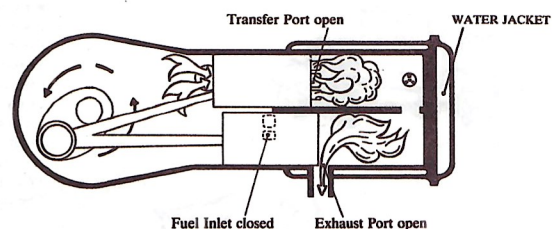
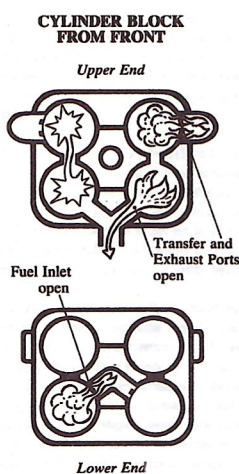
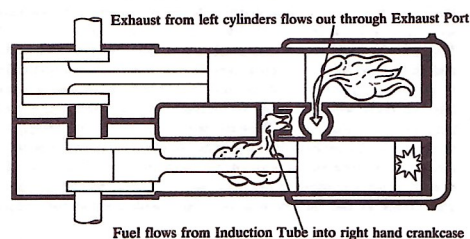
### Flow of Fuel and Exhaust through the

## TROJAN

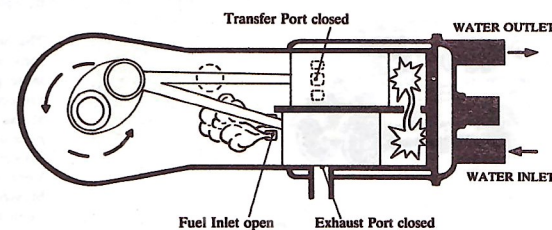
10h.p. 2-stroke Engine



Upper Cylinders  
ENGINE VIEWED FROM ABOVE  
Lower Cylinders



Left hand pair of Cylinders  
ENGINE VIEWED FROM RIGHT HAND SIDE  
Right hand pair of Cylinders



## SPECIFICATION AND MECHANICAL DETAILS

The engine is a 4 cylinder (square four) 2 stroke duplex of 1527cc developing 11b.h.p. at 1200r.p.m. R.A.C. rating 10.5h.p. The petrol system is used with a proportion of 1 pint of oil to 4 gallons of petrol in a single tank of 7 gallons capacity.

The gearbox is epicyclic and has two forward speeds and reverse. It is coupled to the flywheel of helical springs between the rim of the flywheel and a ring on the gearbox. Drive passes from the gearbox through the side of the punt via a 2:1 reduction gearbox to the forward, 25 tooth, sprocket. A duplex chain provides the final drive to a 37 tooth sprocket on the offside end of the rear axel.

Cooling is by verticle tube radiator and thermo-syphon system.

Carburation is by Trojan variable single jet carburettor controlled by a lever on the dash board.

Ignition is by 6 volt battery and high tension coil.

Electrical equipment is 'Miller' and served by a 3 brush dynamo.

Starting is by hand lever inside the car (Electric Starter optional extra).

Steering is by pinion and wheel reduction gear and transverse drag-link arm to nearside stub axel.

Chassis is a pressed steel 'punt'.

Suspension is by cantilever springs front and back.

The foot brake is operated by the centre pedal and comprises of twin shoes inside a drum on the nearside end of the rear axel.

The hand brake is operated by a 'pull-up' handle to the right of the driver and in front of the seat which tightens a contracting band round a wheel mounted on the end of the first motion shaft in the reduction gearbox.

Dimensions wheelbase 8 feet x Track 4 feet on solids.  
4 feet 1 inch on pneumatics.

Wheels Steel Disc

Solid tyres 28 inches x 2 1/2 inches.  
Pneumatic tyres 710 x 90 Beaded edge  
4.50 x 19 Well base



## GENERAL DESCRIPTION

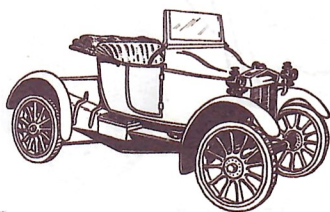
The Trojan is a small vehicle intended to be cheap to produce, inexpensive to run and simple to maintain. It does not have a conventional chassis but a pressed steel punt. Long cantilever springs protrude fore and aft with beam axles mounted at the ends. The rear axle is 'live', having no differential.

The engine is in a horizontal position inside the punt and under the floor, the crankcase being under the front passenger's seat. The drive is across the punt and the 2 speed gearbox is under the driver's seat.

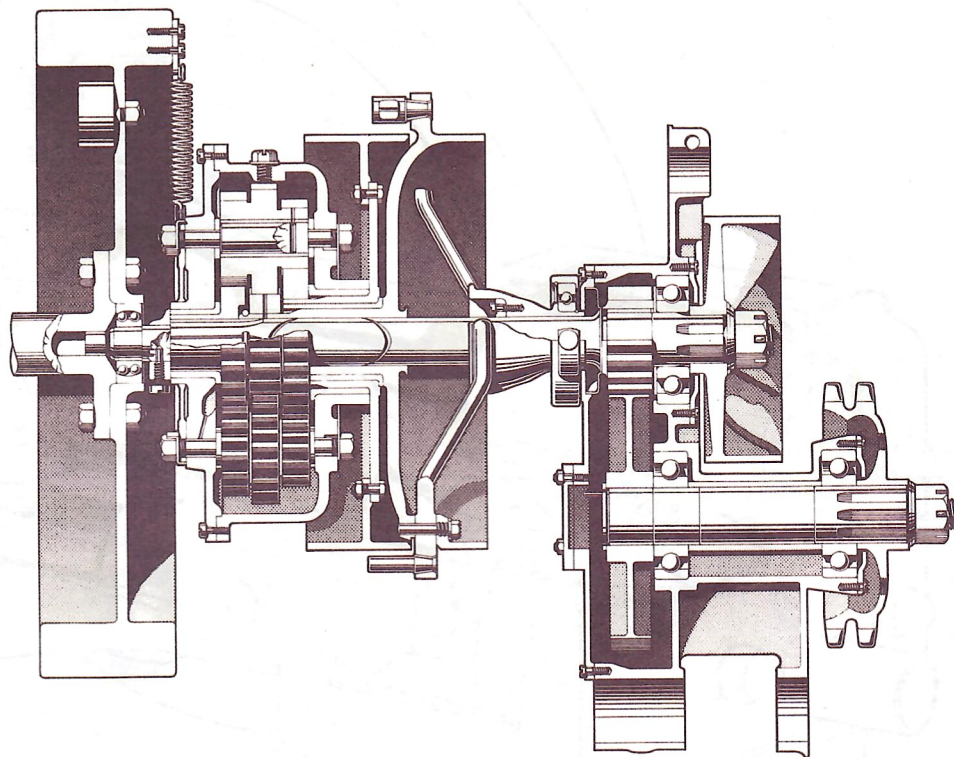
The two section body is bolted to the upper edges of the punt and the mudguards and running boards are also bolted on. The offside running board incorporates a box-like chain guard and the battery box is mounted on the nearside running board. The bonnet contains the ample sized radiator, (its size to compensate for the absence of a cooling fan) and also the 7 gallon petrol tank. The carburettor is mounted on the forward side of the bulkhead below the fuel tank.

The controls are simple. The steering column is mounted through the dash board which contains switch panel, ammeter, fuel mixture control lever and a good size glove pocket. There are three foot pedals. On the right is the accelerator, in the centre is the foot brake and on the left a pedal which operates a release mechanism on the top speed bands of the gear box. This gives the same effect as if there was a clutch but only in top gear. The movement of the gear lever operates the clutch effect in first gear and reverse.

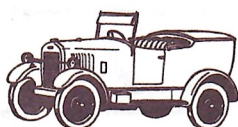
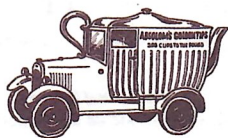
The gear change lever is vertical and to the right of the driver and operates through a small gate. The hand brake is also on the right just in front of the seat. The hand starting lever is also on the right and lies in a horizontal position and close to the floor.



1912 Prototype



The Epicyclic Gearbox with Reduction Box



## HISTORICAL BACKGROUND

Leslie Hounsfield built his first prototype vehicle in 1910 after about 6 years of design work in an attempt to produce a really simple and inexpensive car. This was a two seater built on a punt-like chassis, with the 4 cylinder 2-stroke engine mounted vertically between the seats. It had long cantilever springs and chain drive. There was no bonnet to speak of and a sort of platform at the rear. A second car of this design was produced but development further was slow due to the Trojan Company being involved in general engineering work.

The design was later modified within the original concept with the engine now mounted horizontally beneath the floor. The cantilever springs and chain drive were retained but the outward shape of the body changed to a more conventional style. A normal shape bonnet at the front and the popular 'chummy' 4 seater, two door body made the Trojan look similar to many of its contemporaries, but mechanically it remained unique. Five or six pre-production cars were built and extensively tested. Countless hours were consumed over all sorts of surfaces and in all conditions. They were driven through mud, down rough tracks, across scrubland and even over railway sleepers. All this proved the strength and capabilities of the Trojan and as a result, in 1922, Leyland Motors signed a contract to build them under licence. The model was called the 'Utility' and sold for £175.0.0.

The 1924 Trojan designed by Hounsfield and built in Leylands factory at Kingston, was available as a car or light van and only slightly modified from the pre-production cars. The car was a 2 door - four seater complete with hood and sidescreens and priced now at £157.10.0 on solid tyres. For an extra £5 you could have pneumatic tyres, and for £32.10.0 you could buy a detachable hard top which transformed your tourer into a cosy saloon for winter travelling.

The normal 5 cwt van body on the same 'punt' chassis lay-out was conventional in style and shape, and the complete vehicle sold at the same price as the car. Sidescreens were provided for all weather protection at the front and twin doors with small windows gave easy access to the roomy goods compartment from the rear. The purchase price and the fact that fuel consumption was a good 40m.p.g. made the Trojan van very popular with firms requiring small delivery vehicles. Very soon several companies were running fleets of Trojans and Messrs. Brooke Bond, the tea company, built up the largest. Many small businesses also took a liking to the Trojan van because of its economical running costs.

Special body designs were produced to cater for the needs of individual trades and to provide individuality for the fleet operator. Brooke Bond had the roof line and shape of the rear of their vans built to a different design from the standard body. The body shop proved that they could cope with even the most unusual requirements and as time went on many firms ordered publicity vehicles which had bodies shaped to illustrate their goods. These included one shaped like a tin for the Cow and Gate baby food firm; one like an oil can for the Duckhams Oil Company; and even one built to look like a silver tea pot for the Absalom Tea Company.

Eventually there was a whole range of body styles including the Market Gardener's vehicle, the milk float, the drop side truck, the baker's van with insulated body and many more. The range had also expanded to include 7, 10 and 12 cwt. versions and one model with a 3 speed gearbox. The Post Office and the R.A.F. were good customers and helped the Trojan to become well and truly established in the commercial vehicle world.

But private cars had not been forgotten. In 1926 a larger, 3 door Tourer was introduced. This had the same design chassis as the Utility but the body was lengthened to give more room for the back seat passengers and access was by the third door which was on the nearside. This vehicle which could also be fitted with a detachable hard top, was to become the principle product in the car range. In 1928 a fabric saloon was introduced called the 'Achilles' and was of similar measurements to the 3 door and with a well furnished interior it provided luxury motoring at the modest price of £189. A twin model, called the 'Appollo' was fitted with folding centre panel to the roof for those who liked the fresh air when the weather permitted.

In 1929 the Trojan factory in Croydon, where they had been working as precision engineers, was enlarged and production of all vehicles transferred to the new buildings from Kingston. The 3 door tourers, the Achilles and Appollo saloons and all the various bodied commercials continued almost unchanged and popularity of the commercials steadily increased.

A model called the 'Wayfarer' was introduced, being very similar to the 3 door tourer but with shaft drive, however, it seems that only a few were actually built. In the early 30s a completely new car was designed. This had the same engine and gearbox principles but mounted at the rear of the car, behind the back axle. The car itself was very up to date in outward appearance, of the sports saloon style. It had a fabric covered body with a shallow windscreen, and two large doors gave access to the 4 seater body. With the engine etc. taking up all the space at the rear, the conventional looking bonnet became the luggage boot. An open tourer version was also made and although production ran for several years according to the price lists, it is believed that not many were built as the factory was kept busy with commercial orders.

Car production ceased in 1937 and it is interesting to note that even then Trojan Ltd. could, and did, supply a 3 door tourer to order from all the spare parts which were kept in stock. This was some eleven years after the 3 door tourer was first introduced, and 15 years since production started on the earlier 2 door model built to the same mechanical design principles.

This same design was used in all the commercial vehicles up to the early post war years but by 1948 a completely new design for a medium size van was drawn up with a conventional chassis and shaft drive through a normal gearbox. At first these vans used a modified version of the original engine design which had been given two extra cylinders on the side of the block to act as injector pumps for the fuel. Though this method worked quite well, fuel consumption was rather heavy and a 3 cylinder Perkins diesel engine was substituted. This model was produced in various forms including Personnel Carriers, Trucks and even an articulated version as well as the normal and forward control 1 ton vans. Production ceased in 1961 when the company changed hands following the death of Leslie Hounsfield a few years earlier.