

AUSTIN-HEALEY TARGA FLORIO SPRITE
1966

- ENGINE Four cylinders O.H.V. 'A' Series B.M.C. Bore 2.80"
Stroke 3.20" Capacity 1293cc. 78.9 c.ins 1300cc
Class B.H.P. 108 at 7,000 r.p.m. Maximum torque 88 lb.ft
at 3,000 r.p.m. Compression Ratio 11.9 to 1.
- LUBRICATION Concentric gear-type pump driven by cranshaft forces
filtered oil to all working parts. Separate scavenge
pump, oil tank 2½ gallons and cooler.
- COOLING Pressurised radiator with centrifugal pump. Approximate
water capacity 10 pints.
- FUEL SYSTEM Single Weber 45 DCOE carburettor fed by SU Electric
pumps. 16 gallon fuel tank.
- IGNITION SYSTEM Champion Spark Plugs, Lucas coil and distributor
with Automatic advance.
- EXHAUST SYSTEM Free flow Healey system of tuned length. Removable
silencer.
- CHASSIS - Clutch Borg and Beck 7 1/4 Single Dry Plate, hydraulically
operated racing pattern
- Gearbox 4 Speed with baulk ring synchromesh on second, third and
top. First: 2.9 to 1 Second: 1.754 to 1. Third 1.357 to 1
Top: 1 to 1 Reverse 3.768 to 1.
- Propellor Shaft Open with needle-roller bearing. Universal
Joints (Hardy Spicer)
- Rear Axle Threequarter floating B.M.C. "A" Series Hypoid Bevel
crown wheel and pinion. Ratio 4.22 to 1.
Alternative: 3.9 to 1 or 3.727 to 1.
- Steering B.M.C. Rack and pinion steering. Spring 3 spoke 15"
diameter wheel.
- Suspension Front independent with coil springs and wishbones.
Armstrong Hydraulic dampers front and rear.
- Brakes Lockheed four wheel hydraulic, operated by pendant pedal.
Handbrake operates on rear wheels only. Front 8 1/4 Disc
Rear 8" Disc or Drum. Mintex linings.
- Wheels and tyres Healey light alloy 5K x 13 bolt on wheels.
Dunlop 165 x 13 SP tyres.
- Electrical All Lucas. 12 volt 38 Ampere hour capacity battery.
Quartz Iodine Vapour lamps. High speed wiper with
1 blade. Headlamp flasher and directional signalling.
- Instruments All Smith's Speedometer, Tachometer, Petrol Gauge,
combined oil pressure and water temperature gauge.
- Bodywork Healey designed and built 2 door, 2 seater all metal
body.
- DIMENSIONS Track 47" front 46" rear
Wheelbase: 80" Turning Circle 32ft.

This car differs in many ways from the standard Sprite. The following points should help in the operation of it:-

FUEL Use only Esso, Shell B.P., National Benzole, Mobilgas Super Premium Grade (100 Octabe).

OIL AND LUBRICATION

Use engine oil such as Castrol XL at the first oil change. The car was filled with the correct amount of Castrolite before leaving these Works.

OIL LEVEL

The oil level is determined by opening the oil tank quick release cap. Part way down the $\frac{1}{2}$ " pipe inside is a large diameter washer. This is the maximum level. The minimum level is not marked but the oil should not be more than 3" below this level. After the car has stood for some time oil will drain from the tank in the engine oil pan. This will give the appearance of low oil level. Before checking the oil level run the engine for 5 to 10 minutes, this will enable the scavenge pump to return the oil in the engine sump pan to the tank. Then if necessary add oil to bring the oil to the correct level.

Care should be taken to keep engine R.P.M. low until the oil warms and the pressure settles to normal (60 - 90 P.S.I.) On no account run a cold engine at R.P.M. such as to cause the oil pressure gauge to go to the maximum (100 P.S.I.).

SPARK PLUGS

For racing conditions use Champion N60Y

For normal road use Champion N6Y

For town use where fouling of the N6Y plugs could occur use N9Y plugs.

DO NOT USE N9Y PLUGS for anything but mild driving at low speeds or damage may be done.

TYRE PRESSURE

Normal use up to 85 m.p.h. use 21 P.S.I. Front 24 P.S.I. Rear.

High Speed use up to 125 m.p.h. Use 27 P.S.I. Front 30 P.S.I. Rear.

ADJUSTMENTS

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|------------------|---------------|
| Tappet clearance | .015" Hot |
| Contact Breaker | .014" - .016" |
| Spark Plug Gap | .020" |
| Toe in | .125" |

continued

BRAKES

The brakes are fitted with competition type linings. Pedal effort can be reduced by the fitting of production Sprite front linings. These would be liable to fade if used at high speeds.

GENERAL

The main engine gaskets, head and rocker are as 1275 Cooper "B". The gaskets for timing cover, sump etc. are Austin Healey Sprite.

The main running gear:-

Front Discs

Hubs

Beafings

Oil Seals

Crown Wheel and Pinion

Dampers

Suspension Parts

Engine Mountings

Radiator and Hoses are as Austin Healey Sprite Mark IV

The special running gear:-

Half Shafts

Special Material

Front Caliper

Sprite

Rear Brakes

Lockheed 8" from Healey

Master Cylinders

Lockheed from Healey

Clutch S Dave Cylinder

Lockheed from Healey

Clutch Special Competition

B. & B. from Healey

Gearbox

Special Close ratio gears.

Petrol Pumps

Current S.U.

Power Unit

See notes.

Electrics

Lucas should be able to service all these.

POWER UNIT

This is a specially built unit based on a combination of Sprite and 1275 Cooper 'S'.

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POWER UNIT (Continued)

| | |
|------------|--|
| Head | Cooper 'Sp modified. |
| Block | Special |
| Crank | Special |
| Pistons | Special |
| Rods | Special |
| Camshaft | As AEA 648 but has scavenge drive gear incorporated. |
| Oil pumps | Special |
| Bearings | 1275 Cooper 'S' suitable substitute. |
| Oil Filter | Sprite |
| Oil Cooler | M.G.B. |

TARGA FLORIO SPRITE

Built for 1966 Targa Florio Road race driven by Aaltonen and Baker. Featured in Castrol film 'Mountain Legend'. Rebuilt with new brakes engine transmission and axle and body changed to closed form for 1966 Targa Florio road race.

Rebuilt and rectified after 1966 race and tested at Silverstone.

The use of good oil and petrol cannot be over emphasized. The only makes of oil we recommend are:- Esso, Shell, Castrol, B.P. and Mobil. Oil changes should be at 5000 miles or every three months. In use for racing we change the oil every 500 racing miles. Oil filter elements should be changed at the same time.

The N6Y plugs are a good plug for general purposes. For racing N60Y is recommended. N9Y plugs can be used for city driving or where oiling up occurs due to low speed operations. Do not use N9Y for full throttle or high speeds or damage will result.

Idling speed should be about 1200 R.P.M. A fan is only necessary in town or slow speed in hot weather. The engine operates best between 160 - 180°F temperature.

Do not operate SP tyres below 18 pounds per square inch pressure.

We do not recommend the use of tyres with metallic braced tread construction. Racing tyres should be used for racing size 500L - 13.