Basic (general) data

Marque (make)	Riley	**Issued from**	1936
Model	Sprite	**Issued until**	
Serie	Sprite	**Number made**	
Model family		**Body construction**	
Model code		**Body designation**	
Manufacturer	Riley	**Country**	UK

Bodywork

Base platform		**Number of doors**	
Bodywork type		**Number of seats**	
Bodywork designer		**Cargo capacity (volume)**	
Passenger space (volume)		**Max. cargo capacity (volume)**	

Dimensions & Weight

Length	3760 mm	**Total (curb) weight**	990 kg
Width	1460 mm	**Dry weight**	
Height		**Load capacity**	
Wheelbase	2477 mm	**Gross (max.) weight**	
Track front		**Towing weight**	
Track rear		**Weight distribution (front)**	
Ground clearance		**Fuel capacity**	
Length/wheelbase ratio	1.52		

Aerodynamics

Drag coefficient (Cd, Cx, Cw)		**Frontal area (A)**	
Aerodynamic coefficient (Cd×A)		**Aerodynamic resistance (Aero horse power) at 100 km/h (62 mph)**	

Chassis

Front Axle

	Camber Degrees	Toe In Inches	Caster Degrees	King Pin Inclination Degrees	Source
All Models 1932-38	2-1/2	1/8	3-1/4	8	a
9hp, 15/6 1937	2	1/8	3-1/14	8	b
1937/8 9HP, 1938 1/12litre, 1939 12HP	1-3/4	1/8	3-1/4	8	c
1939 12HP,16HP		parallel			b

Springs

	Front Length, Inches	Rear Length, Inches	Width Inches	Front Leaves	Rear Leaves	Front Camber Inches	Rear Camber Inches	Source
Nine	28-1/2	40-1/4		7	10			b (1937)
15/6	32	40-1/4		7	10			b (1937)
12HP	28-1/2	40-3/4	1-3/4(Front) 2(Rear)	8	11	3/4 Loaded 2-7/8 Free	-1 Loaded 5-1/4 Free	b (1939/40)
16HP	32	40-3/4	1-3/4(Front) 2(Rear)	10	11	3/4 Loaded 2-7/8 Free	-1 Loaded 5-1/4 Free	b (1939/40)

Shock Absorbers - Luvax Vane or Rotor Type

	Front	Rear	Source
9HP, 1937	CMPVC12 -20sec	CMPR10-10sec	a
12/4, 15/6 1937	CMPVC12-20sec	CMPR9-10sec	a
12/4 SWB 1938	CMPVC12-20sec	CMPR10-10sec	a
12/4 LWB 1938	CMPVC12-20sec	CMPR9-10sec	a
12/4 Victor 1938	CMPVC12-20sec	CMPR9-8sec	a
16HP 1938	ALC5-12sec	ALC5-8sec	a
V8 1938	ALC5-12sec	ALC5-8sec	a

Spark Plugs

	Champion	KLG	Lodge	Source
9HP	16, 17	KS5, M80	CB3, H2	d
9HP	16,17	KS5,M60,M80	CB3,H2	f
9 HP Standard Series			CB3	e
9 HP Special Series			HLN18, HLN18P	e
9 HP, 6 cylinder	13			j (undated)
9 HP (twin carbs)	RIV			j (undated)
all other Standard Series 1937-40			CN	e
all other Special Series 1937-40			HN, HNP	e
12,14,15,16 HP to1936, Standard Series			CB3	e
12,14,15,16 HP to 1936, Special Series			HLN18, HLN18P	e
12HP 1939-40, 15/6	L10			b
12HP Sprite Series 1939-40, 16HP 1939-40	L10S			b
1906 V twin 9HP	D9			letter from Champion

Plug Gaps ----- Coil Ignition 0.025", Magneto Ignition 0.018" (ref d)

Champion have replaced L10 with L90, and the L10S with L85/L82C. (1985 Champion Catalogue)

They also list D16 to replace 13.

I believe Champion 7Com or D16 to be a fair replacement for 16 or 17. (AJT)

Ignition

	Static Ignition Setting, with position of manual control	Advance Range	Contact Breaker Gap	Source
9 hp and 6 cylinder, 1932-38	TDC Full retard			a
9 Hp 1937	TDC Full retard		0.012	b
9 hp 1937/8	TDC Full retard		Scintilla Mag 0.12-0.016 Distributor 0.010-0.012	c
15/6	5deg ATDC Full retard	27 degrees(auto+manual) at distributor	0.012	b
12/4 standard, special series and sprite, 15/6, 1935-39	5 deg ATDC Full retard	54 degrees(auto+manual) at crankshaft		a
12/4 1938	5 deg ATDC, Full retard		Scintilla Mag 0.12-0.016 Distributor 0.010-0.012	c
12hp 1939	1 inch on flywheel rim BTDC, Full retard	24 degrees centrifugal 20 degrees manual (at crankshaft)	0.016	b
12hp 1939/40	5 deg ATDC Full retard		0.010-0.012	c
16hp 1938	12 deg BTDC Full advance			a

Carburettors

SU

	Carb Spec	Type No	Needle Rich	Needle Std.	Needle Weak	Spring	Source
9, 1930	AUC54	Pair OM		D4			g
Brooklands 9, 1930	AUC70	Single HV4		K			g
9, 1931	AUC78	Pair OM		D2			g
9, 1931 (heated induction)	AUC78	Pair OM	D7	D1	PJ		g
9, 1930 -6cylinder (sic!!!)	AUC89	Pair OM		O7			g
12/6 1933	AUC113	Single HV3		R6	R0		a,g
14/6 1933	AUC113	Single HV3	RLS	RLB	MME		a,g
9 Ulster Racing 1932/3	AUC124	Pair HV2		VS			g
9, 1930	AUC126	Single HV2	M5	M6	M7		g
14/6 Special Sports 1932	AUC154	Three HV2	81	R3	2		a,g
9, 1932	AUC155	Single HV2	1	M5	M6		g
9, 1933	155	Single HV2	1	M5	M6		a
9 Sports 1933	AUC183	Pair OM	D7	D1	PJ		a,g
9 Brooklands 1933	124	Pair HV2	LS1	VS	62		a
12/6, 1933	AUC200	Three OM	WX	CW	CX		a,g
9, 1934	235	Single HV2	1	M5	M6		a
9 Sports 1934	AUC221	Pair OM	1	MA	S		a,g
9 Ulster Racing 1934	124	Pair HV2	LS1	VS	62		a
12/6, 1934	AUC236	Single HV3	R6	R0	AM		a,g
14/6, 1934	AUC236	Single HV3	RLS	RLB	MME		a,g
12/6 Special Sports 1934	AUC237	Three OM	WX	CW	CX		a,g
14/6 Special Sports 1934	AUC238	Three HV2	81	R3	2		a,g
MPH 1935	AUC276	Pair HV2		MME			g
12/4 Sports 1935/6	AUC285	Pair HV3		A3			g
12/4 Special 1935	AUC298	Pair HV4		WO3			g
12/4 Special 1936/7	AUC391	Pair HV3		CC			g
16 1939	AUC415	Single D5		6		white	g
12 1939	AUC416	Single H2	BY	3	V2		g
12 Sprite1939				CC			c

Engine

Engine Code		**Total number of cylinders**	4
Engine Type	straight (inline)	**Total number of valves**	8
Engine Manufacturer		**Valves per cylinder**	2
Engine construction		**Bore**	69.0 mm
Fuel	petrol (gasoline)	**Stroke**	100.0 mm
Fuel details		**Bore/Stroke ratio**	0.69
Fuel supply	2 SU carbs	**Engine displacement**	1496 cm^3
Engine Main bearings		**Unitary capacity**	374.00 cm^3/cylinder
Cam Design	OHV (overhead valve, I-head)	**Compression ratio**	
Sump		**Max. output power**	45.5 kW at 5500 rpm
Aspiration	natural	**Max. torque**	at
Compressor type	N/A	**Maximum rpm**	
Intercooler	no	**Max. net output (power at the wheels)**	7.9 kW (est.)
Coolant	water	**Specific output**	30.4 kW/l
Catalytic converter	no	**Specific torque**	

Transmission

Transmission type	manual	**Number of gears**	4
Wheel drive	rear wheel drive	**Top gear (drive) ratio**	1
		Final gear (drive) ratio	5.22

Performance

Acceleration 0-50 mph (80 km/h)	13.00 s	**Top (maximal) speed**	142 km/h
Acceleration 0-60 mph (97 km/h)		**Power-to-weight ratio**	61.6 kW/ton
Acceleration 0-100 km/h		**Fuel consumption, City (urban)**	
Acceleration 0-100 mph (160 km/h)		**Fuel consumption, Road (extra-urban)**	
Acceleration 80-120 km/h (50-70 mph) in top		**Fuel consumption, Mixed (combined)**	
Standing ¼mile time		**Fuel consumption, Euro**	
Standing kilometer time		**CO_2 emissions**	
		Range	

Chassis

Engine location	front	**Engine alignment**	longitudinal
Steering		**Steering details**	
Turns lock-to-lock		**Turning circle**	
Suspension front	Live axle, Semi-elliptic leaf springs	**Suspension rear**	Live axle, Semi-elliptic leaf springs
Wheels front		**Wheels rear**	
Tyres front		**Tyres rear**	
Brakes front		**Brakes rear**	
Brake diameter front		**Brake diameter rear**	
Brakes details		**Braked area**	

Brake Linings

	Make	Dia Inches	Lining Length	Lining Width	Lining Thickness	Ferodo Lining Ref.	Source
Big4, 16HP, V8 1938	Girling	16	12-9/16	1-3/4	1/4	GG/4/1	a
9, late 1935/8	Girling	11	10-9/16	1-1/2	3/16	RV/14/2	a
12/4,15/6,1935/8 8/90 1936/7 12/6 1935	Girling	13	11-3/8	1-1/4	3/16	SI/9/2	a
14/6 MPH,Edinburgh,Stelvio 1934/5	Riley	15-1/2	15-5/32	1-1/4	3/16	RI/9/1	a
9 1934, Early1935 12/6,14/6 1934	Riley	13	12-23/32	1-1/4	3/16	RI/8/2	a
All 1931/3	Riley	13	12-23/32	1-1/4	3/16	RI/8/1	a

Ref (a) specifies Girling straight adjusters for early 1935, and inclined adjusters thereafter.

Ref(a) specifies MR - non metallic - linings for all models.

Ref (a) also specifies Bendix 2S (Non Servo) brakes for 9 hp 1938.

Transmission

Clutch

	Make	Dia Inches	Bore Inches	Thickness Inches	Facing Type	No. of Facings	Ferodo ref.	Source
All 1937/8 (pre-select)	Newton Bennett	9	5-1/2	5/32	VM	2	4/NB/1	a
9 HP late 1935/37 (pre-select)	Newton Bennett	9	5-1/2	5/32	VM	2	4/NB/1	a
12/4 1936/7 (pre-select)	Newton Bennett	9	5-1/2	5/32	VM	2	4/NB/1	a
15/6,8/90 1936/7 (pre-select) 12/4, 12/6 1935 (pre-select)	Newton Bennett	7-5/8	4-7/8	1/8	VM	4	7/RI/1	a
12/4, 12/6 1935 (manual) 6 cyl Falcon 1935/6 (manual) MPH, Stelvio 1935 (manual)	Riley	10	7-1/2	1/8 or 5/32	RAD II	1	4/RI/1 or 1/SU/2	a
12/4, 12/6 1935 (pre-select) 6 cyl Falcon 1935/6 (pre-sel) MPH, Stelvio 1935 (pre-sel)	Newton Bennett	7-5/8	4-7/8	1/8	VM	4	7/RI/1	a
14/6 12/6 9 1934 (manual)	Riley	10	7-1/2	1/8 or 5/32	VM	1	4/RI/1 or 1/SU/2	a
14/6 12/6 9 1934 (pre-select)	Newton Bennett	140mm	100mm	1/10 inch	VM	8	6/RI/1	a
9 early 1935 (pre-select)	Newton Bennett	7-5/8	4-7/8	1/8	VM	4	7/RI/1	a
All 1933	Riley	10	7-1/2	1/8	RAD II	2	4/RI/1	a
All 1931/2	Riley	10	7-1/2	1/8 or 5/16	RAD II or FB	2 or 1	4/RI/1 or 5/RI/1	a

Riley Cars Ltd

Riley Kestrel sprite 1935/38

Chassis Types [Approx. Production Figures]: SS26K [70] / 27K [300-350] / 28K [15]

ENGINE

4cyl ohv
RAC Rating 11.9hp
Bore 69 **Stroke** 100
Capacity 1496 cc
51bhp at 4800rpm
Carburation 2SU

TRANSMISSION

Armstrong Siddeley Preselector 4-speed gearbox.
Top gear ratio 5.22:1
3rd G/r 7.39:1
2nd G/r 10.91:1
1st G/r 18.79:1
Reverse 23.91:1

SUSPENSION

Semi-elliptic

BRAKES

Girling Mechanical rod with wedge operated shoes
13" drums

PERFORMANCE

0-50mph 23.1secs
Max speed 78mph
Fuel Consumption 27mpg

DIMENSIONS

Wheelbase 9'4.5" (aprx 2840mm)
Track 4'3" (aprx 1280mm)
Length 14'6.5" (aprx 4430mm)
Width 5'1.5" (aprx 1530mm)
Wheels Dunlop centre lock wire 3.0x18
Tyres 4.75x18
Fuel Tank 11.5 galls
Weight 25cwt

PRICE

1936-7 £398; 1938 £433

Engine

Torque Wrench Settings

	Cylinder Head Nuts	Connecting Rod Nuts	Main Bearings	Source
Post War 1 1/2 litre 1946-1952	45 lb ft	35 lb ft	21 lb ft(Centre) 65 lb ft (rear)	k
Post War 2 1/2 litre, 1946-1952	75 lb ft	39 lb ft.	75 lb ft.	k

Note: Riley did not specify torque wrench settings in the pre-war years. Perhaps the average mechanic did not have access to such high tec

However, the pre-war 9hp, 6cylinder and 12/4 engines all used similar stud and nut sizes to the post war 1 1/2 litre, so these torque settings

Similarly the pre-war 16hp is similar to the post war 2 1/2 litre car.

Valves

	Inlet opens before TDC	Inlet close after BDC	Exhaust opens before BDC	Exhaust close after TDC	Inlet Tappet (hot, inches)	Exhaust Tappet (hot, inches)	Source
9 hp, 6 cyl, Standard models1932/8	TDC	50	55	30	.002	.003-.004	a,b,c
12/4 Standard and Special Series 1935/8	TDC	50	50	21	.003	.004	a,c
15/6 1935/8	TDC	55	50	21	.004	.004	a,b,c
16 HP 1938	7	50	50	17	.003	.003	a,b,c
12/4 Sprite 1936/8	20	50	50	20	.004	.004	a,c