SECTION Q

SPECIAL TOOLS
(1½ and 2½ LITRE)

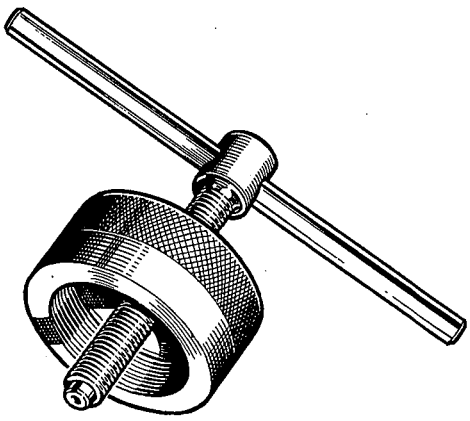
The dismantling of the components of Riley 1½ and 2½ litre cars is greatly facilitated by the use of the special tools listed in this section. The use of these tools is recommended to avoid damage to the parts and reduce the time taken to carry out repairs to the minimum.

Special Note.—Commencing at Chassis No. RME. 20505 on the 1½ litre model and at Chassis No. RMF. 9911 on the 2½ litre model, a Hypoid rear axle is fitted in place of the original spiral bevel type. The special tools required to deal with the new type of axle are listed separately below and are fully described on page Q.10.

Description	*Part Number*
Engine	
Hot-spot elbow extractor	ST.56
Water tube extractor	ST.62 and ST.63
Crankshaft bearing extractor	ST.59
Tensioner spanner	ST.60
Oil thrower extractor	ST.53
Special screwdriver for revolution counter adaptor	ST.119
Timing wheel extractor	ST.58
Crankshaft chain wheel extractor	ST.67
Valve spring compressor	ST.118
Gearbox	
Oil seal fitting tool	ST.90 and ST.91
Rear Axle (Spiral bevel type)	
Drift for front bearing	ST.117
Pinion lock-ring spanner	ST.116
Pinion setting gauge (1½ litre)	ST.79/1/2/3/5
Pinion spacer gauge (1½ litre)	ST.104
Pinion setting gauge (2½ litre)	ST.121/1/2/3/4/5
Pinion spacer gauge (2½ litre)	ST.112
Pinion sleeve housing spanner	ST.68
Differential gear handle	ST.75
Pinion location checking gauge (2½ litre)	ST.94
Pinion adjusting ring spanner	ST.95
Bearing housing extractor—R/H	ST.113
Bearing housing extractor—L/H	ST.114
Propeller shaft extractor	ST.55
Pinion bearing extractor	ST.80
Axle base end-piece spanner	ST.96
Muff coupling spanner	ST.108
Tail-shaft lock-ring spanner	ST.77/1/2

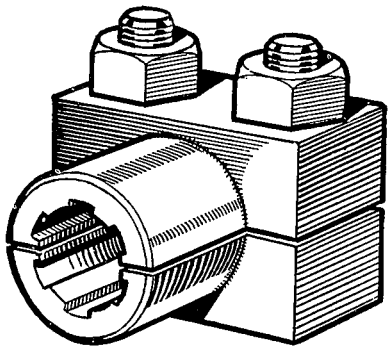
Description	*Part Number*
Rear Axle (Hypoid type)	
Pinion positioning fixture	68892
Pre-load check tool	68839
Pinion inner race fitting and withdrawal tool	301224
Front Suspension	
Bearing retaining ring spanner	ST.89 and ST.102
I.F.S. setting gauge	ST.97
Hub extractor	ST.84
Hub ball race extractor	ST.98
Torsion bar sleeve nut spanner	ST.100
Hub extractor	ST.64
Hub cap extractor	ST.76 and ST.93

ST.53



ST.53

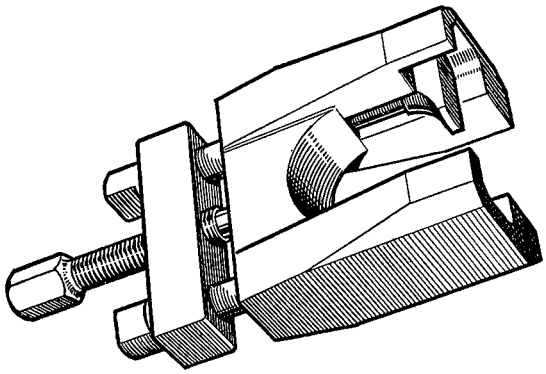
This is the special extractor for the 1½ litre crankshaft oil thrower.



ST.55

ST.55

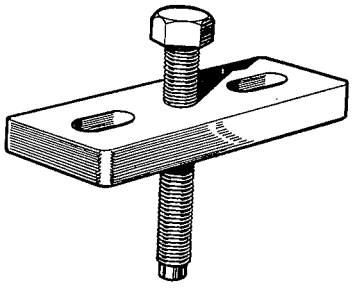
This is the propeller shaft extractor for use with the 1½ and 2½ litre axles. It is used in conjunction with the screwed trunnion itself.



ST.56

ST.56

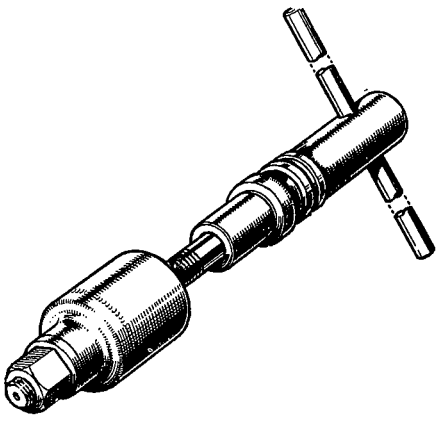
This tool is invaluable when removing the hot-spot elbow on the 1½ litre engine. This elbow tends to become extremely tight in service.



ST.58

ST.58

Extraction of the timing wheels on the 2½ litre engine is greatly helped if this special tool is employed.



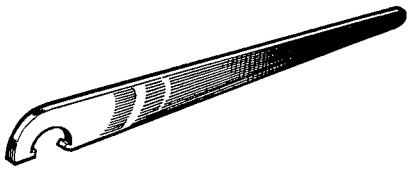
ST.59

ST.59

This is an extractor for removing the front crankshaft bearing on the 1½ litre engine.

ST.60

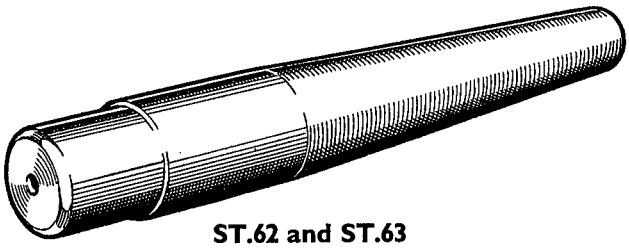
The timing chain tension is not automatically maintained on the 1½ litre engine and this special spanner should be used for setting the position of the idler sprocket.



ST.60

ST.62 and ST.63

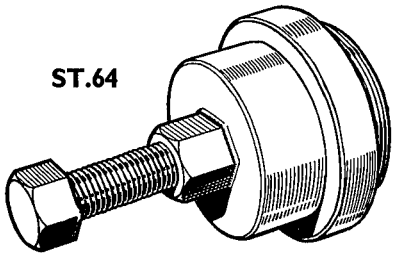
ST.62 is the water-tube extractor drift for the 2½ litre engine and ST.63 is a similar tool for use with the 1½ litre engine.



ST.62 and ST.63

ST.64

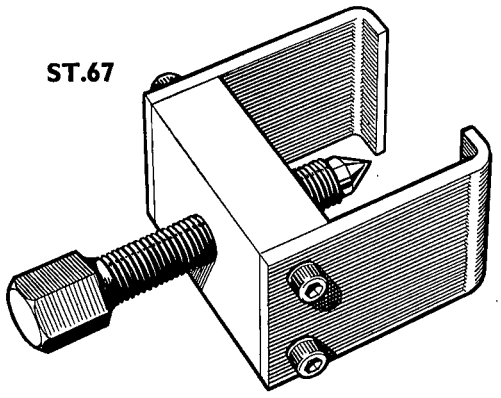
The front hub on the 2½ litre car may be removed with this special extractor.



ST.64

ST.67

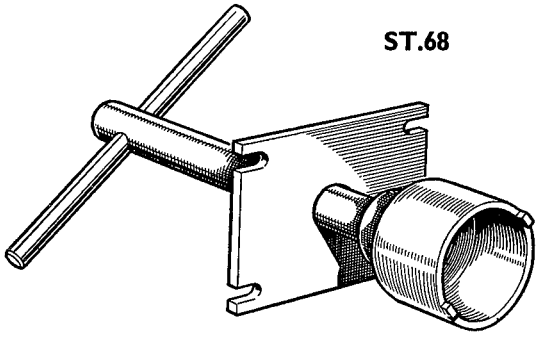
This extractor is used for drawing off the crankshaft chain wheel on the Riley 1½ litre engine.



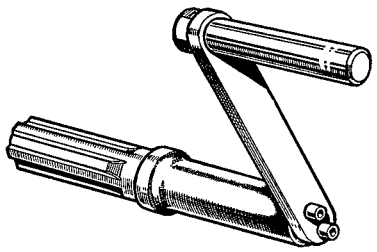
ST.67

ST.68

The rear axle pinion sleeve housing on the 2½ litre car is much more easily removed with the help of this special spanner.



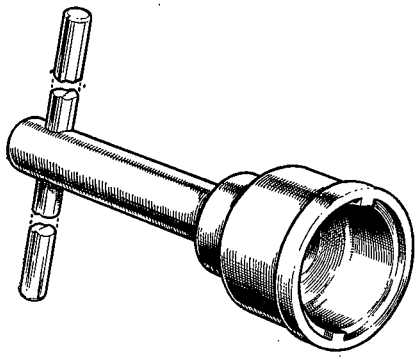
ST.68



ST.75

ST.75

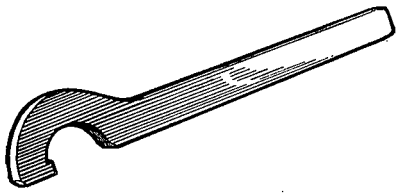
This special tool is useful for rotating the 2½ litre differential gears by hand for the purpose of checking the mesh of the pinion and crown wheel.



ST.76

ST.76

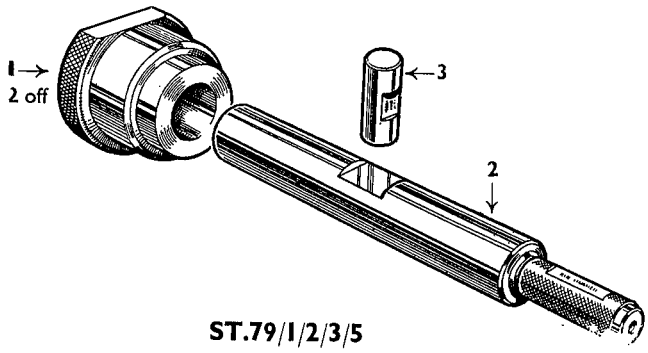
This is the front hub cap extractor for the 2½ litre car and ST.93 is a similar spanner for the 1½ litre car.



ST.77/1/2

ST.77/1/2

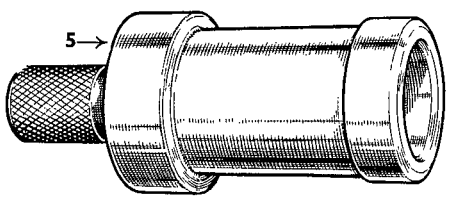
These two spanners fit the tail-shaft lock ring on the 2½ litre car.



ST.79/1/2/3/5

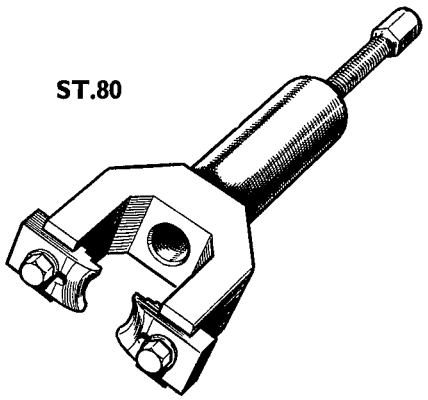
ST.79/1/2/3/5

The rear axle pinion setting gauge must be used in conjunction with Special Tool ST.104 for fitting the 1½ litre pinion assembly.



ST.80

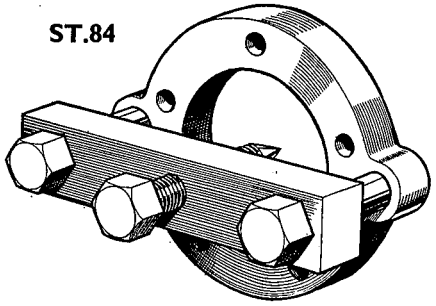
The 2½ litre rear axle pinion bearing is removed with the aid of this special extractor.



ST.80

ST.84

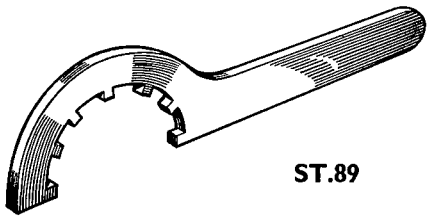
The front hub of the 1½ litre car can be removed with this special extractor.



ST.84

ST.89

This special spanner is required for the front hub bearing retaining ring on the 1½ litre car.



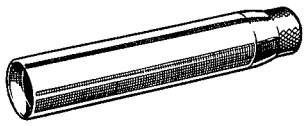
ST.89

ST.90

First motion shaft oil seal fitting tool, 1½ litre.

ST.91

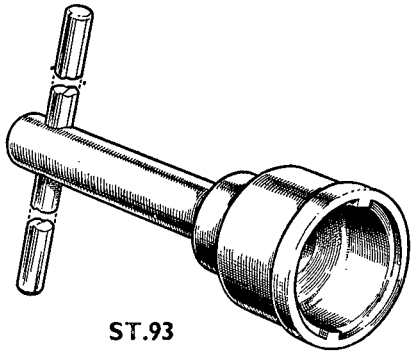
First motion shaft oil seal fitting tool, 2½ litre.



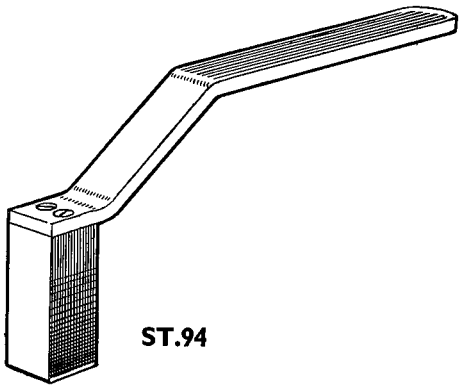
ST.90 and ST.91

ST.93

This is the front hub cap extractor for the 1½ litre car and ST.76 is a similar spanner for the 2½ litre car.



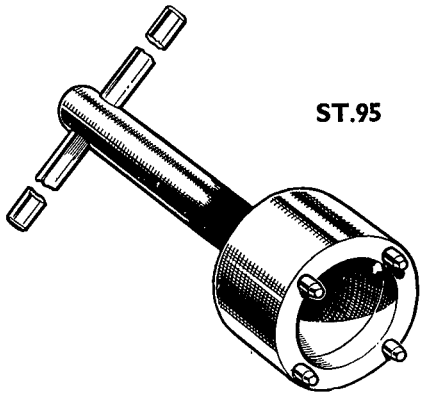
ST.93



ST.94

ST.94

This is a special slip gauge which can be inserted between the head of the pinion and the ground periphery of the differential casing when the crown wheel and pinion assemblies are in position in the axle in order to check that the pinion assembly is in the correct position in the axle casing.

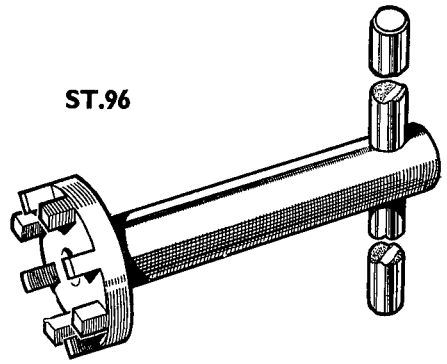


ST.95

ST.95

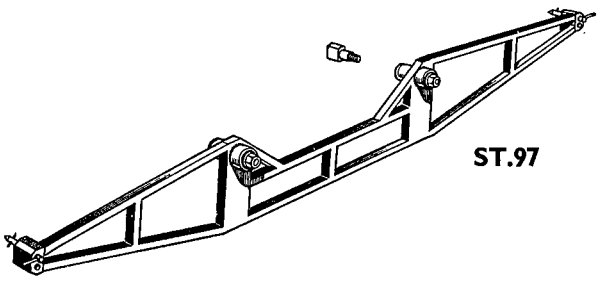
The pinion bearing adjusting ring on the 1½ litre car requires this special spanner. Prior to Chassis No. 15000.

ST.96



ST.96

The axle case end-piece on the 1½ litre car requires this special spanner for the locknut. Prior to Chassis No. 15000.



ST.97

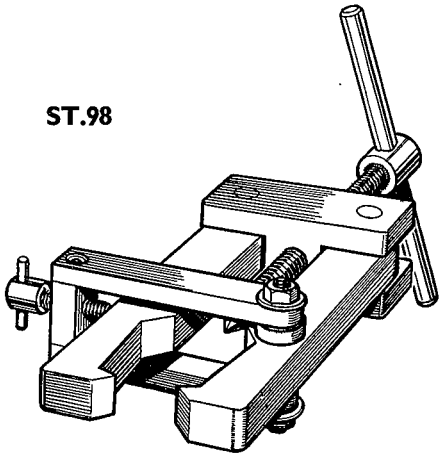
ST.97

This setting gauge is vitally necessary when setting the torsion bars on both 1½ and 2½ litre cars.

ST.98

This special tool is for removing the stub axle ball race on the 1½ and 2½ litre cars.

It is not needed on 2½ litre cars from Chassis No. 2861 onwards.



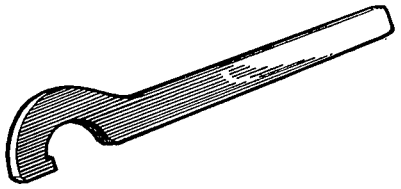
ST.98

ST.100

The torsion bar sleeve nuts on the 1½ and 2½ litre cars need this spanner.

ST.108

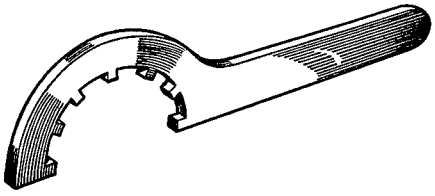
The special spanner for the steering column inner mast muff coupling nut.



ST.100
ST.108

ST.102

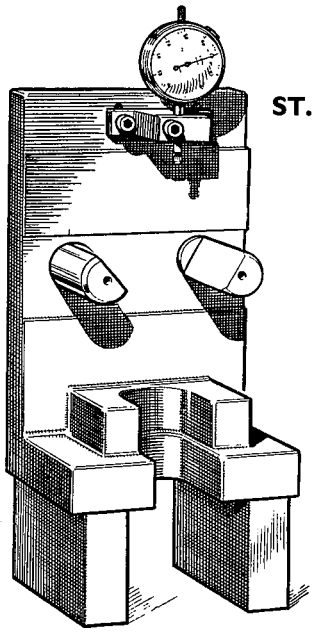
The special spanner required for the front hub bearing retaining ring on the 2½ litre car.



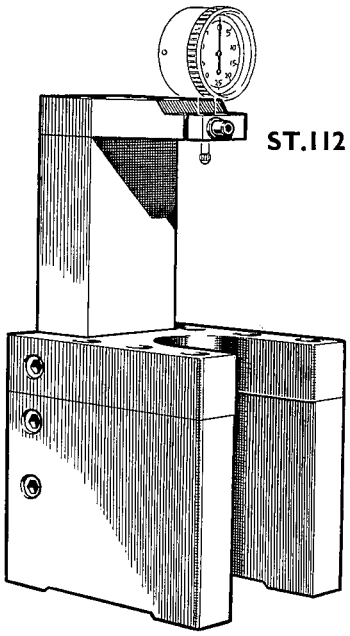
ST.102

ST.104

This gauge, with a standard dial gauge, is used to determine the correct spacer thrust ring to employ in the pinion assembly of 1½ litre cars, subsequent to Chassis No. 15000, in conjunction with special tool equipment ST.79.



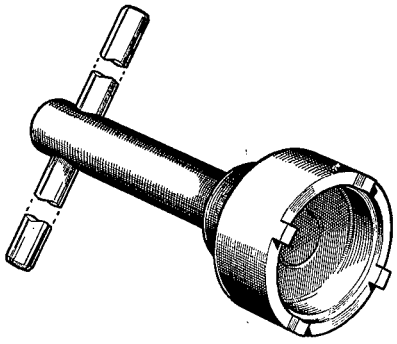
ST.104



ST.112

ST.112

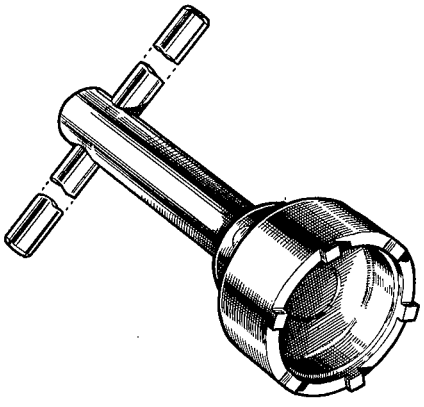
This gauge, in conjunction with a standard clock gauge, is used to determine the correct spacer thrust ring to employ in the pinion assembly on 2½ litre cars in conjunction with special tool equipment ST.121.



ST.113

ST.113

This special spanner is used for adjusting the position of the right-hand differential bearing housing on the 2½ litre car.



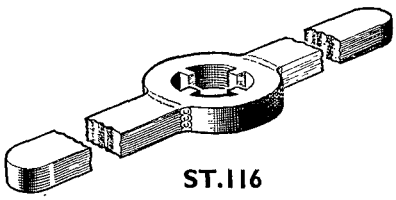
ST.114

ST.114

This is a similar spanner to ST.113, but is used for the left-hand differential bearing housing on the 2½ litre car.

ST.116

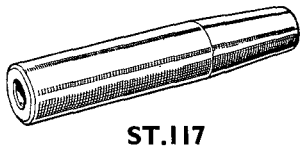
In order to tighten the pinion lock-ring on the 1½ litre car without damage this special spanner is required.



ST.116

ST.117

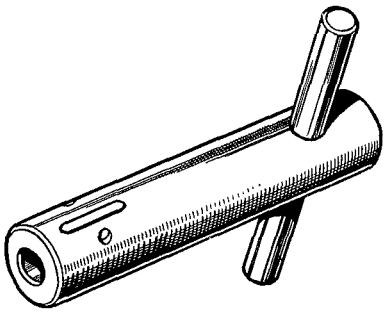
This drift is used for fitting the propeller shaft front bearing on the 1½ and 2½ litre cars.



ST.117

ST.119

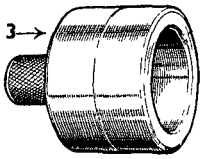
This is a special type of screwdriver for fitting an adaptor, Part No. 500075, to the end of the camshaft when it is desired to incorporate a revolution counter on the screwed type of camshaft (1½ litre and 2½ litre).

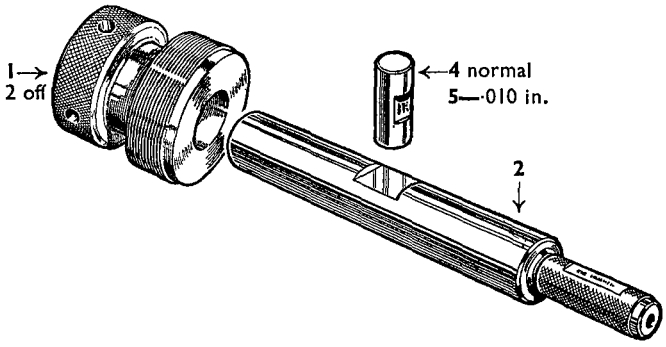


ST.119

ST.121/1/2/3/4/5

The rear axle pinion setting gauge must be used in conjunction with Special Tool ST.112 for fitting the 2½ litre pinion assembly on early models.

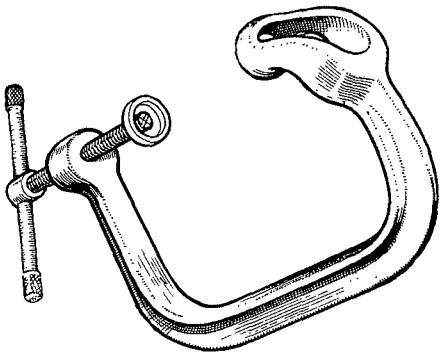




ST.121/1/2/3/4/5

ST.118

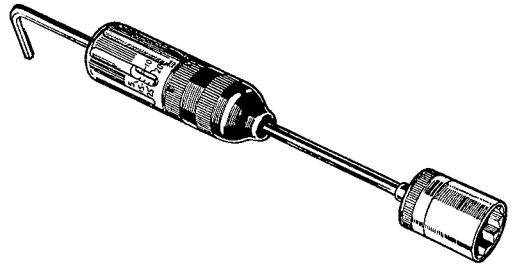
This sturdy valve spring compressor is specially designed for Riley engines, and may be used on both the 1½ and 2½ litre cars.



ST.118

68839

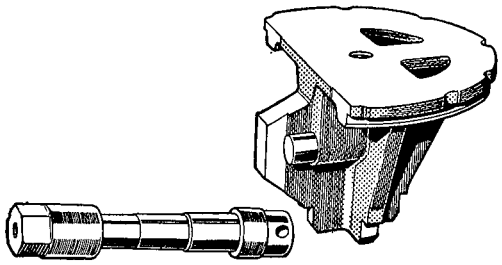
This axle pre-load check tool is ideal for measuring the rear axle pinion bearing pre-load on Riley cars fitted with Hypoid rear axles. It has a clearly marked indicator, which can be set to read accurately between 5 and 25 lbs. ins. (·58 to ·288 kg./m.) with the key provided, and will fit most models in the entire Nuffield range.



68839

68892

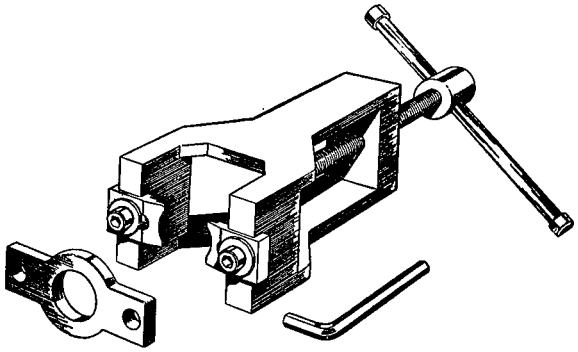
This rear axle pinion positioning fixture, which is designed for use on Riley cars with Hypoid rear axles and also on several other cars in the Nuffield range, enables the correct pinion spacing washer to be selected when fitting a rear axle pinion.



68892

301224

This tool, for use on Riley cars with Hypoid axles and other Nuffield cars, is for fitting and extracting the rear axle pinion inner race.



301224