

SECTION S

SERVICE TOOLS

All Service tools mentioned in this Manual are only obtainable from the tool manufacturer:

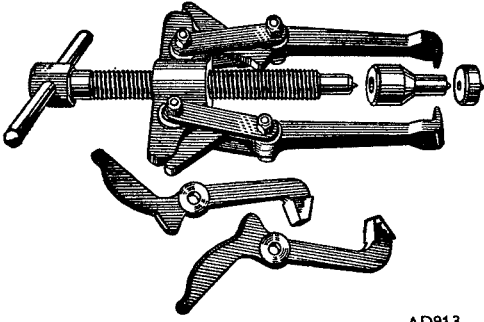
Messrs. V. L. Churchill & Co. Ltd.,
P.O. Box No. 3,
London Road, Daventry,
Northants, England.

	<i>Operation</i>	<i>Tool No.</i>	<i>Page No.</i>
ENGINE			
	Camshaft liner reaming	18G 123 A 18G 123 AQ 18G 123 AT 18G 123 BA 18G 123 BB 18G 123 BC 18G 123 AN 18G 123 AP 18G 123 B 18G 123 AL	S.6 S.6 S.6 S.6 S.6 S.6 S.6 S.6 S.6 S.6
	Camshaft liner, removing and replacing	18G 124 A 18G 124 K 18G 124 B 18G 124 M	S.6 S.6 S.6 S.6
	Crankshaft gear and pulley, removing	18G 2	S.4
	Starting nut spanner	18G 98 A	S.5
	Gudgeon pin, removing and replacing (1275 cc)	18G 587 18G 1002	S.12 S.13
	Oil pump relief valve seat, grinding	18G 69	S.5
	Piston refitting	18G 55 A	S.5
	Timing cover and oil seal, replacing:	18G 134 18G 134 BD 18G 138 18G 1044	S.6 S.7 S.7 S.13
	Torque spanners	18G 372 18G 537 18G 587	S.11 S.12 S.12
	Valve rocker bush, removing and replacing	18G 226 18G 226 A	S.9 S.9
	Valve seat cutting	18G 27 18G 167 18G 167 A 18G 167 B 18G 167 C 18G 167 D	S.4 S.8 S.8 S.8 S.8 S.8

<i>Operation</i>	<i>Tool No.</i>	<i>Page No.</i>
Valve seat grinding	18G 29 18G 29 B	S.4
		S.4
Valves, removing and refitting	18G 45	S.5
CLUTCH		
Dismantling and reassembling (coil spring type)	18G 99 A	S.5
Refitting	18G 139	S.7
GEARBOX		
Layshaft, replacing	18G 194 18G 471	S.9
		S.11
Oil seal, removing and replacing	18G 134 18G 134 L 18G 389 18G 389 A 18G 488	S.6
		S.7
		S.11
		S.11
Synchromesh unit, reassembly	18G 144	S.7
PROPELLER SHAFT		
Flange, removing and replacing	18G 2 18G 138	S.4
		S.7
REAR AXLE AND REAR SUSPENSION		
Bevel pinion bearing inner race, removing and replacing	18G 285	S.10
Bevel pinion bearing outer race, removing and replacing	18G 264 18G 264 D 18G 264 E	S.10
		S.10
		S.10
Bevel pinion bearing preload gauge	18G 207	S.9
Bevel pinion and differential bearing setting gauge	18G 191 18G 191 A	S.9
		S.9
Bevel pinion flange wrench.. .. .	18G 34 A	S.4
Differential bearing removing and replacing	18G 47 C 18G 47 M 18G 134 18G 134 Q	S.5
		S.5
		S.6
		S.7
Hub removing—disc wheels	18G 304 18G 304 Z 18G 304 F 18G 304 H	S.10
		S.10
		S.10
		S.10
Hub removing—wire wheels (12 T.P.I.)	18G 363 18G 1032	S.11
(8 T.P.I.)		S.13

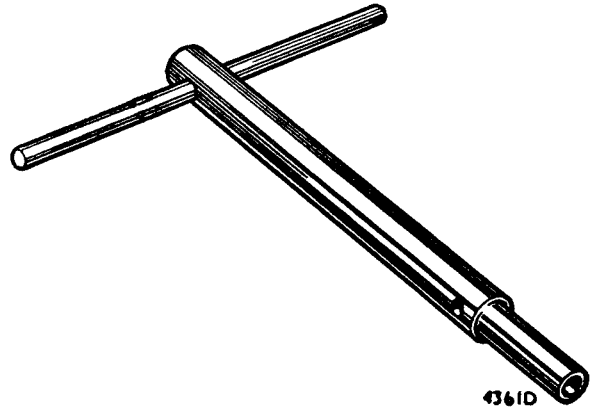
<i>Operation</i>	<i>Tool No.</i>	<i>Page No.</i>
Hub dismantling—wire and disc wheels	{ 18G 4 18G 14 18G 134 18G 134 Q 18G 152	S.4 S.4 S.6 S.7 S.7
STEERING GEAR		
Steering tie-rod ball housing, dismantling	{ 18G 312 18G 313	S.11 S.11
Steering arm and swivel hub ball pin, removing.. .. .	18G 1063	S.14
Steering-wheel, removing	18G 562	S.12
Steering-wheel, hub removing	18G 1181	S.14
FRONT SUSPENSION		
Coil spring compressor	18G 153	S.8
Hub bearing inner race, removing	{ 18G 2 18G 705 18G 705 G	S.4 S.13 S.13
Hub bearing outer race, removing	{ 18G 260 18G 260 A 18G 260 B	S.9 S.9 S.9
Hub inner and outer bearing, removing and replacing	{ 18G 134 18G 134 B 18G 134 C	S.6 S.6 S.7
Hub, removing—disc wheels	{ 18G 304 18G 304 F	S.10 S.10
Hub removing—wire wheels (12 T.P.I.)	18G 363	S.11
(8 T.P.I.)	18G 1032	S.13
Swivel axle bush, broaching	{ 18G 155 18G 155 A	S.8 S.8
Swivel axle bush reaming	18G 1006 A	S.13
Swivel axle bush, removing and replacing: early cars	18G 154 A	S.8
later cars	18G 1006	S.13
MISCELLANEOUS		
Switch bezel nut, removing and replacing	18G 671	S.13
Petrol gauge tank attachment lock ring spanner	18G 1001	S.14
Rocker type switch and bezel removing	18G 1145	S.15
Rocker type switch (slim type) removing	18G 1201	S.15

<i>Operation</i>								<i>Tool No.</i>	<i>Page No.</i>
BRAKING SYSTEM									
Disc brake piston, resetting	..	..	..	..	..	..	..	18G 590	S.12
Drum brake, adjusting	..	..	..	..	..	..	..	18G 619 A	S.13
Master cylinder (tandem) circlip removing	..	..	..	..	..	..	..	18G 1112	S.14



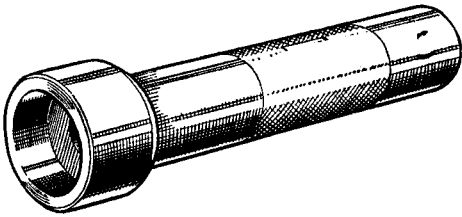
AD913

18G 2. Crankshaft Gear, Pulley, and Propeller Shaft Flange Remover



4361D

18G 27. Valve Seat Cutter and Pilot Handle



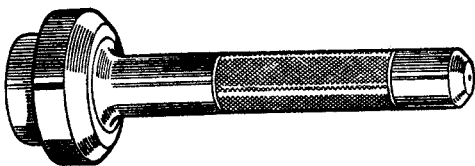
8711A

18G 4. Rear Hub Bearing Replacer



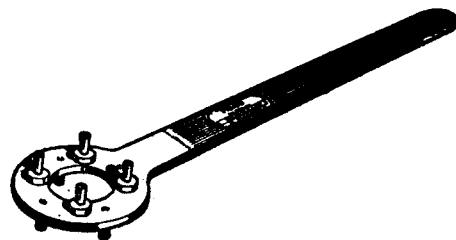
4394

18G 29. Valve Grinding-in Tool



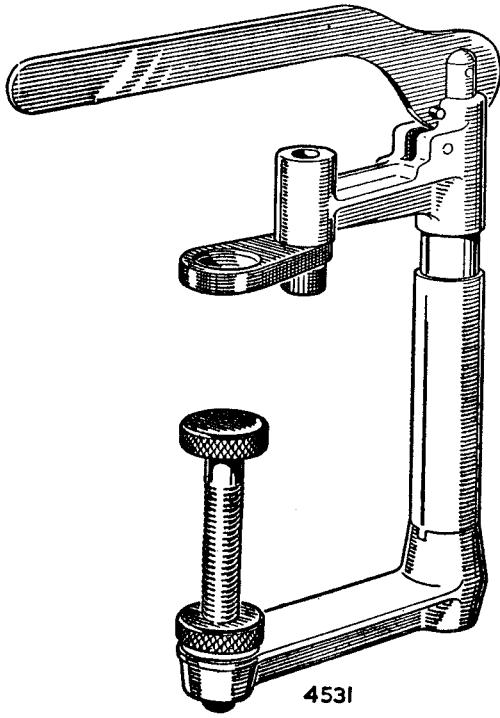
4349

18G 14. Rear Hub Oil Seal Replacer

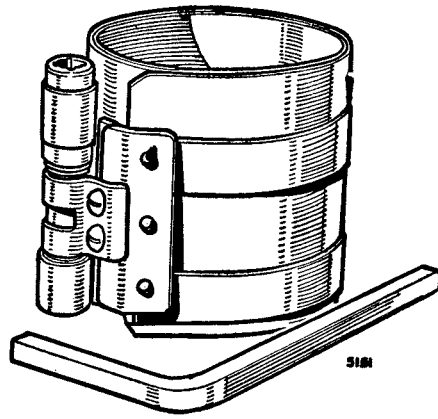


8710

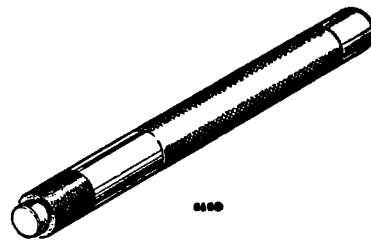
18G 34 A. Bevel Pinion Flange Wrench



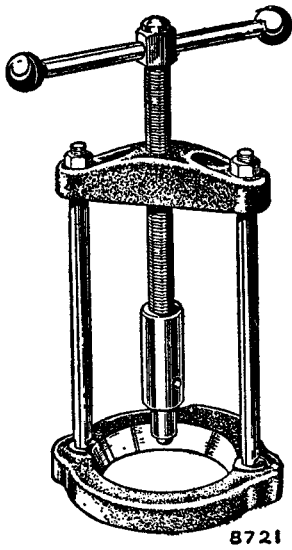
18G 45. Valve Spring Compressor



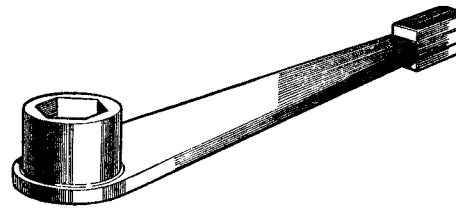
18G 55 A. Piston Ring Clamp



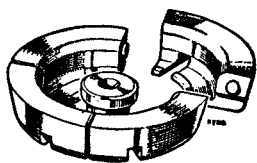
18G 69. Oil Pump Relief Valve Grinding-in Tool



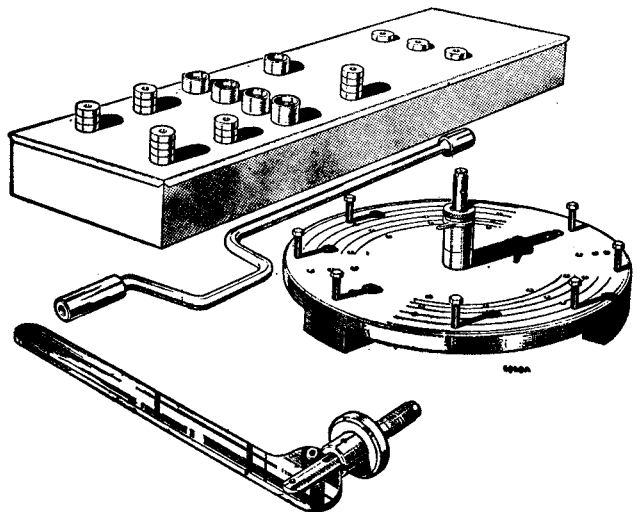
18G 47 C. Differential Bearing Remover (basic tool)



18G 98 A. Starting Nut Spanner

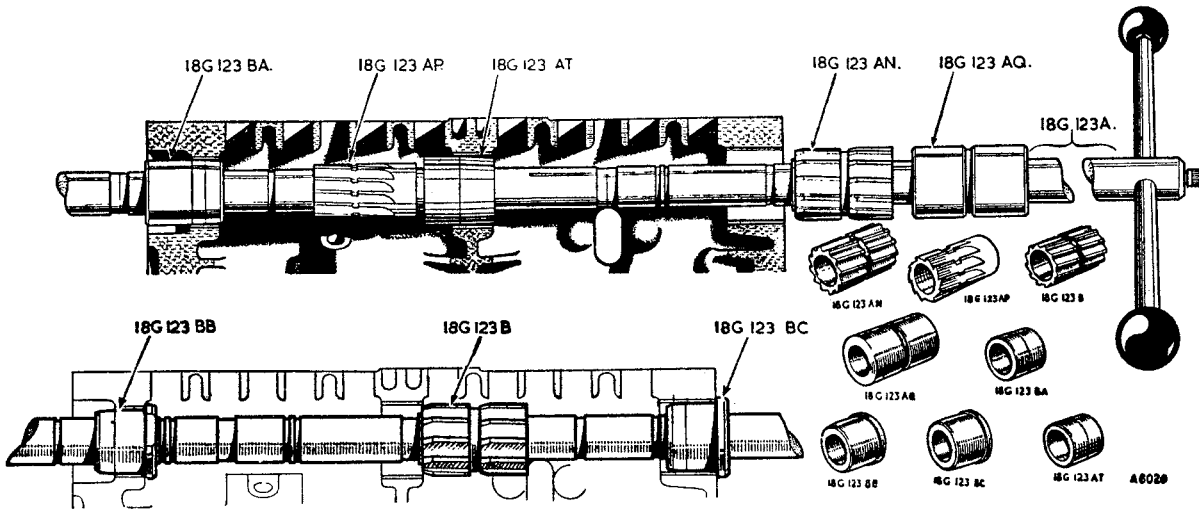


18G 47 M. Differential Bearing Remover Adaptor
S.6



18G 99 A. Clutch Assembly Gauging Fixture

Sprite and Midget. Issue 3. 82790



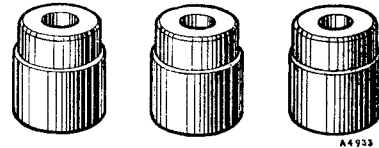
18G 123 A. Camshaft Liner Reamer

CUTTERS

18G 123 AN, 18G 123 AP,
18G 123 B

PILOTS

18G 123 AQ, 18G 123 AT,
18G 123 BA, 18G 123 BB,
18G 123 BC

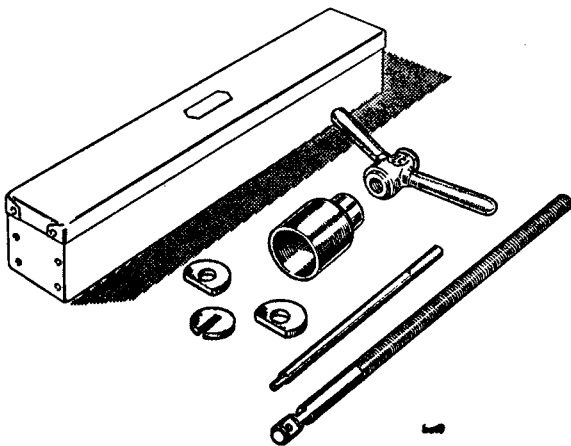


18G 124 K, 18G 124 B, and 18G 124 M. Camshaft Liner Remover Adaptors

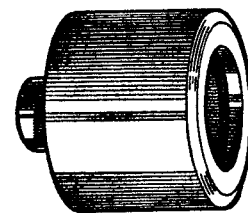


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18G 134. Bearing and Oil Seal Replacer (basic tool)

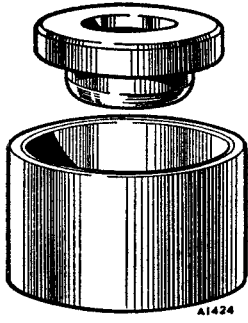


18G 124 A. Camshaft Liner Remover and Replacer (basic tool)

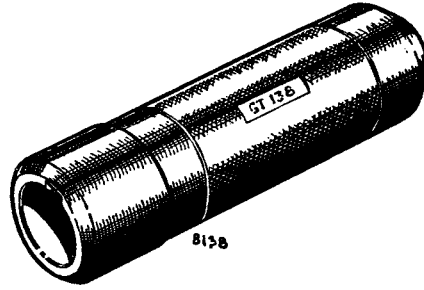


4345F

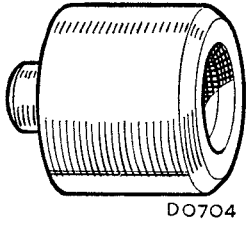
18G 134 B. Front Hub Outer Bearing Replacer Adaptor



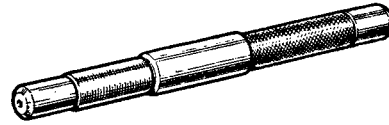
18G 134 BD. Timing Case Oil Seal Replacer Adaptor



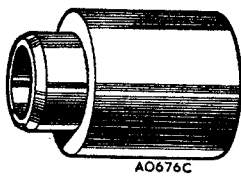
18G 138. Crankshaft Gear, Pulley, and Propeller Shaft Flange Replacer



18G 134 C. Front Hub Inner Bearing Replacer Adaptor



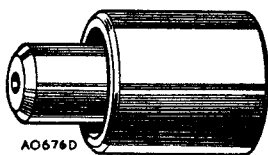
18G 139. Clutch Centralizer



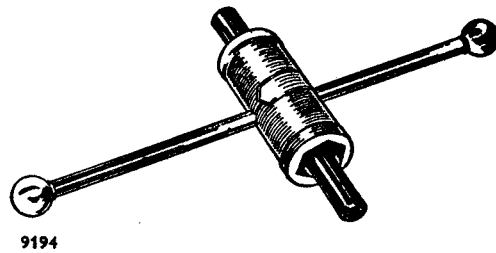
18G 134 L. Gearbox Rear Oil Seal Replacer Adaptor



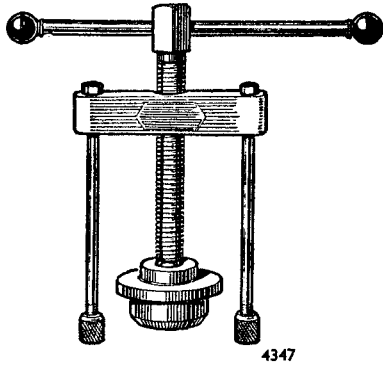
18G 144. Synchronmesh Assembly Ring



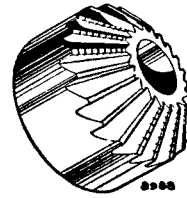
18G 134 Q. Rear Hub Replacer and Adaptor



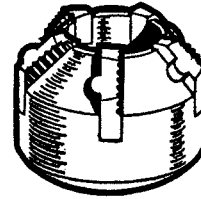
18G 152. Rear Hub Nut Spanner



18G 153. Front Suspension Spring Compressor

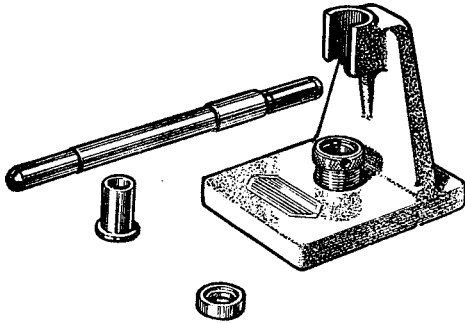


18G 167. Valve Seat Finishing Cutter



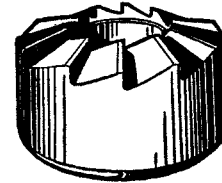
18G 167 A. Valve Seat Glaze Breaker

9165



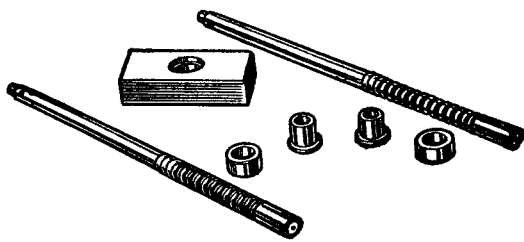
18G 154 A. Swivel Axle Bush Remover and Replacer

4344A



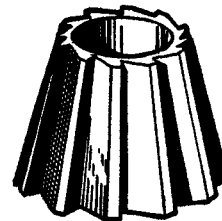
18G 167 B. Valve Seat Narrowing Cutter—Top

9021B



18G 155. Swivel Axle Bush Broaching Equipment

4348D



18G 167 C. Valve Seat Narrowing Cutter—Bottom

9021A



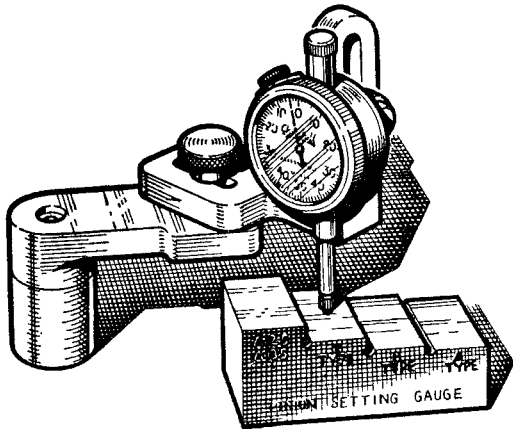
18G 155 A. Swivel Axle Bush Broach Guide

471E



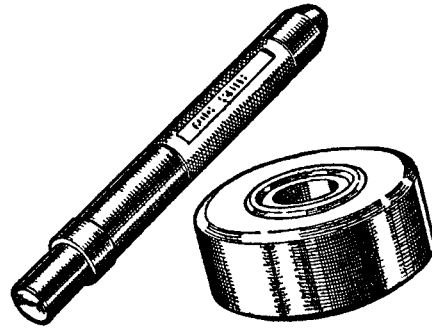
18G 167 D. Valve Seat Cutter Pilot

4001



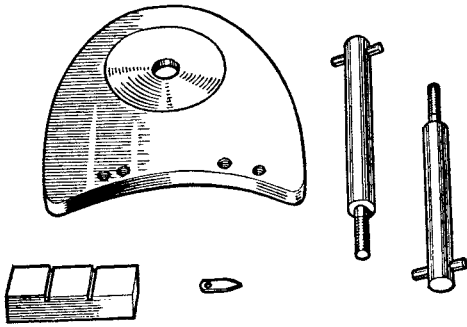
5311

18G 191. Bevel Pinion Setting Gauge



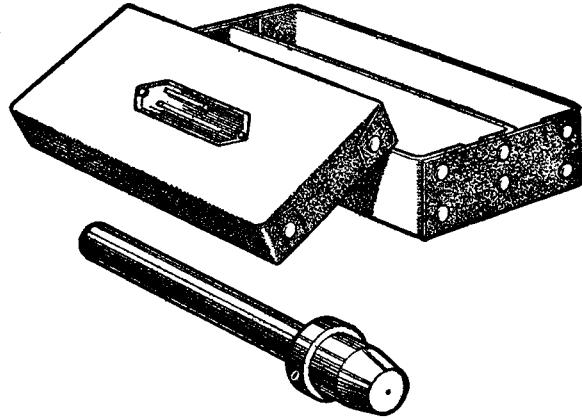
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18G 226 and 18G 226A. Valve Rocker Bush Remover and Replacer



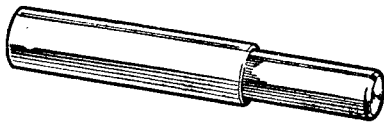
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18G 191 A. Differential Bearing Gauge



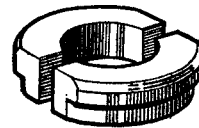
4350C

18G 260. Front Hub Outer Race Remover (basic tool)



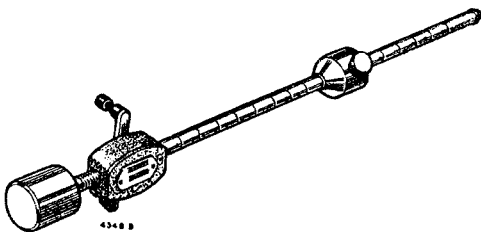
9172

18G 194. Needle-roller Bearing Replacer



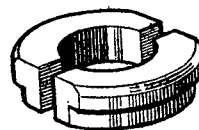
4349E

18G 260 A. Front Hub Bearing Outer Race Remover Adaptor



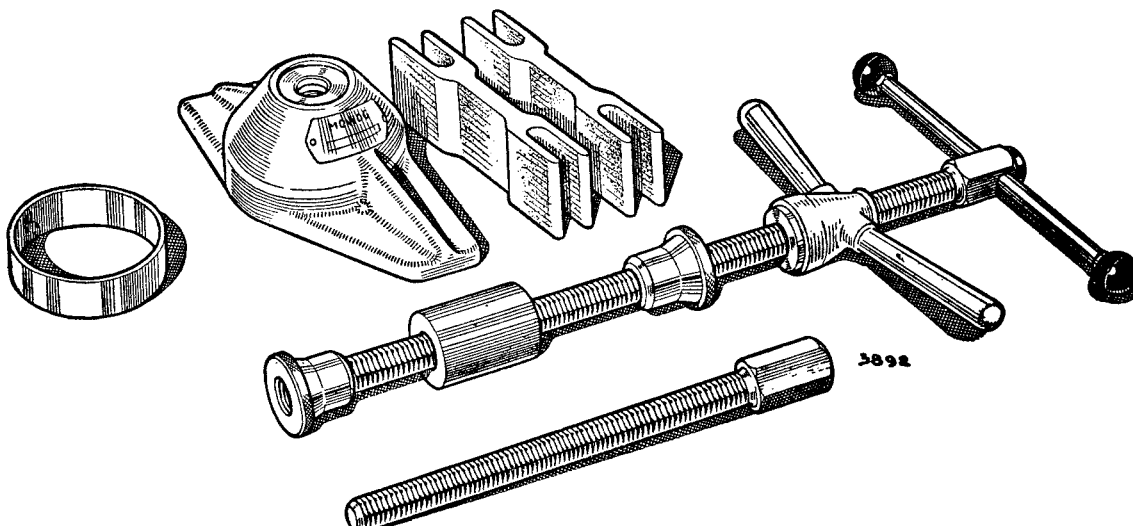
4349B

18G 207. Bevel Pinion Bearing Preload Gauge

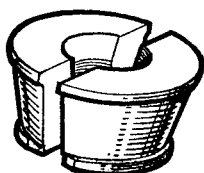


4349E

18G 260 B. Front Hub Bearing Outer Race Remover Adaptor

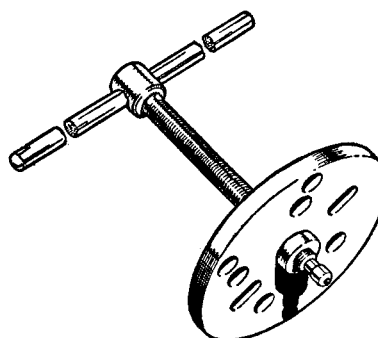


18G 264. Bevel Pinion Bearing Outer Race Remover (basic tool)



A1045

18G 264 D. Bevel Pinion Bearing Outer Race Remover Adaptor



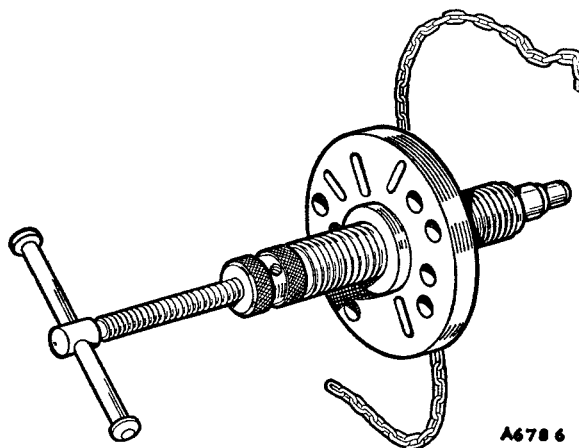
8251F

18G 304. Front and Rear Hub Remover (basic tool)



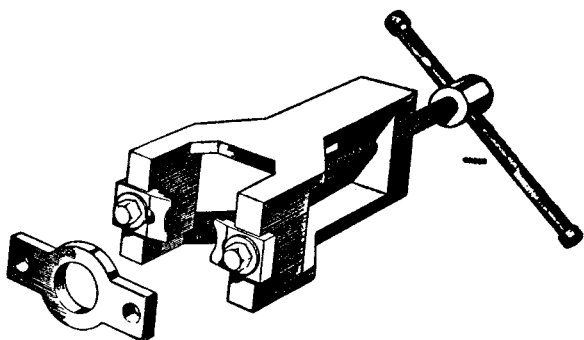
9154A

18G 264 E. Bevel Pinion Bearing Outer Race Remover Adaptor



A6786

18G 304 Z. Hub Remover—Hydraulic (basic tool)



18G 285. Bevel Pinion Bearing Inner Race Remover and Replacer



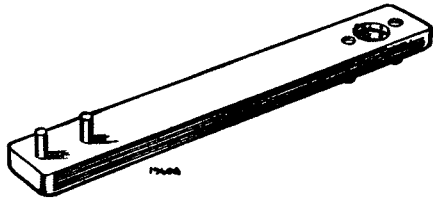
8251E

18G 304 F. Bolt Adaptor— $\frac{3}{8}$ in. UNF

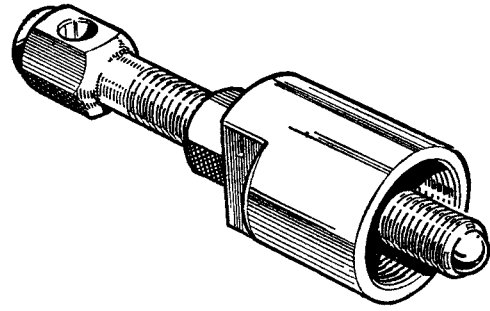


8251G

18G 304 H. Hub Remover Thrust Pad

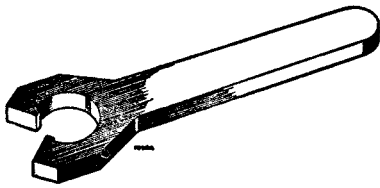


18G 312. Steering Tie-rod Pin Spanner

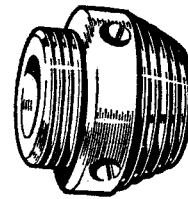


9161B

18G 389. Gearbox Rear Oil Seal Remover (basic tool)

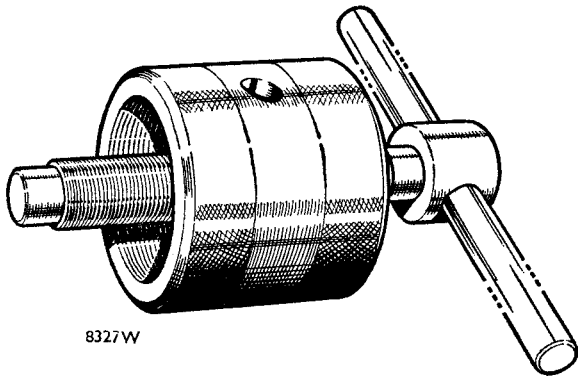


18G 313. Steering Tie-rod 'C' Spanner



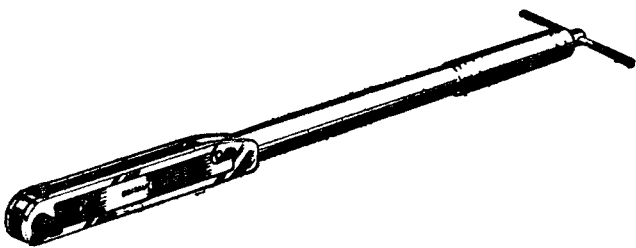
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18G 389 A. Gearbox Rear Oil Seal Remover Adaptor



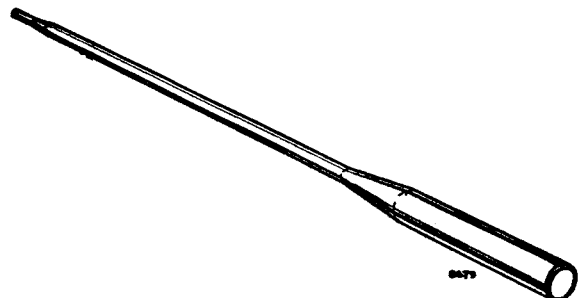
8327W

18G 363 Hub Remover—Wire Wheels (12 T.P.I.)



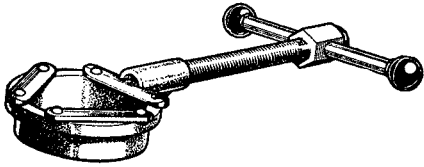
3869

18G 372. Torque Wrench—30 to 140 lb. ft. (4.15 to 19.4 kg. m.)



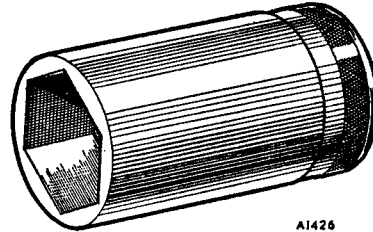
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18G 471. Dummy Layshaft



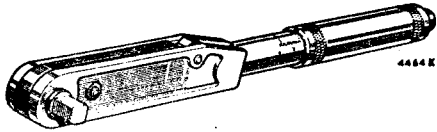
4464G

18G 488. Gearbox Oil Seal Clinching Tool



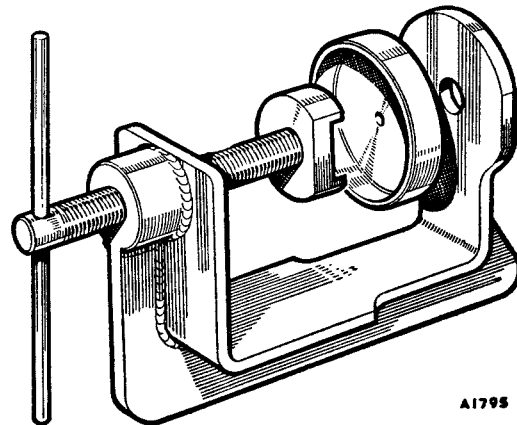
A1426

18G 587. Spanner



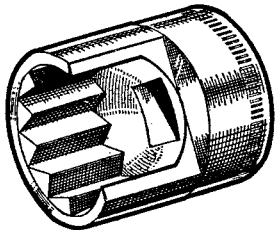
4464 K

18G 537 Torque wrench—10 to 50 lb. ft. (2 to 7 kg. m.)



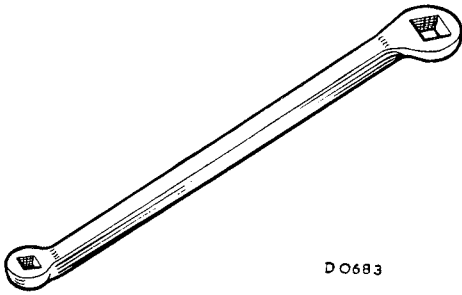
A1795

18G 590. Disc Brake Piston Resetting Tool



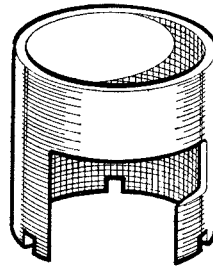
A3800

18G 562. Steering-wheel Nut Spanner



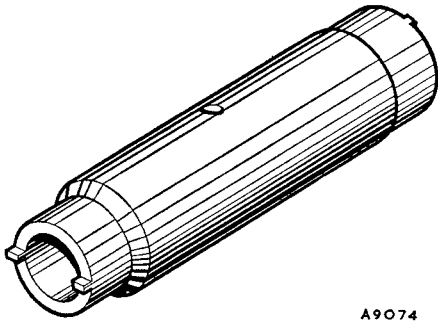
D0683

18G 619 A. Brake Adjusting Spanner



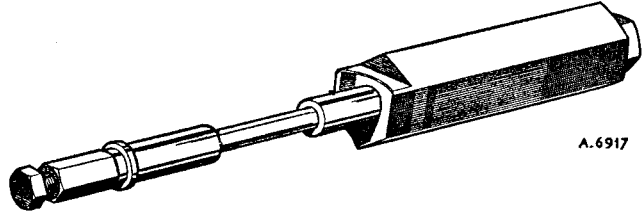
D0740

18G 1001. Gauge Locking Ring



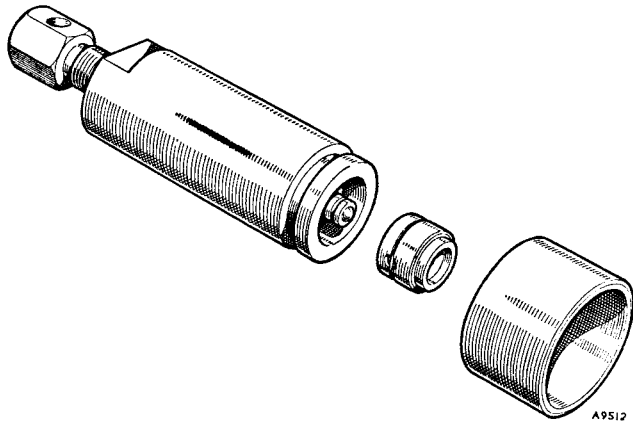
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18G 671. Switch Bezel Nut Spanner



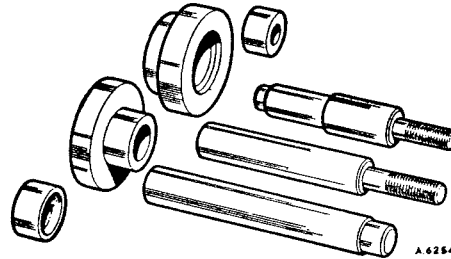
A.6917

18G 1002. Gudgeon Pin Removing and Replacing Tool
(Use later type 18G 1150 if available)



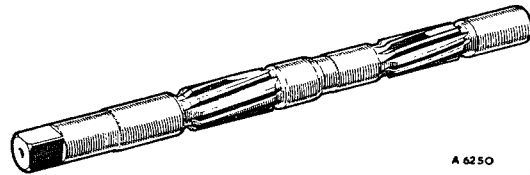
A9512

18G 705. Bearing Centre Race Remover



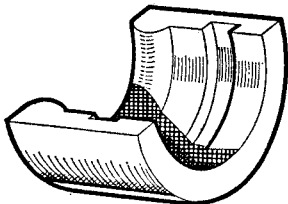
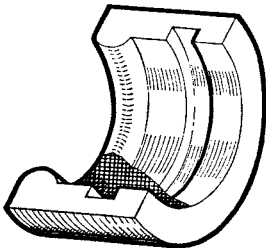
A.6284

18G 1006. Swivel Axle Remover and Replacer



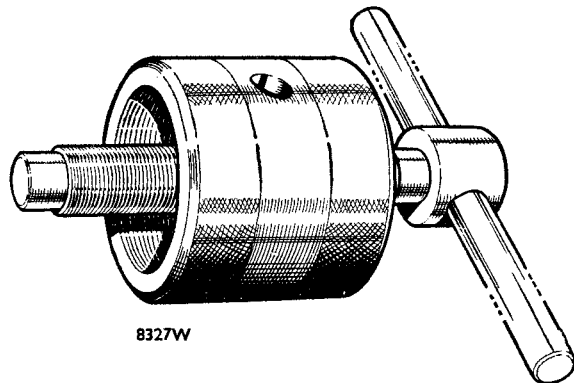
A.6250

18G 1006 A. Swivel Axle Bush Reamer



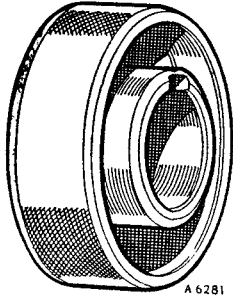
A5787

18G 705 G. Bearing Centre Race Remover Adaptor



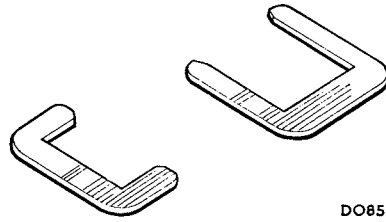
8327W

18G 1032 Hub Remover—Wire Wheels (8 T.P.I.)



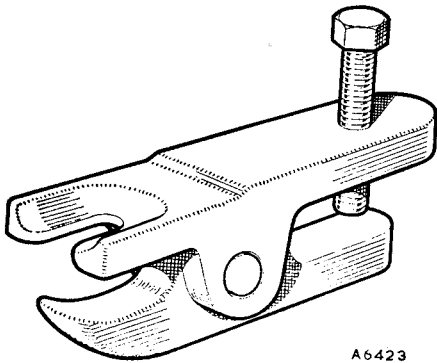
A 6281

18G 1044. Engine Front Cover Centralizer



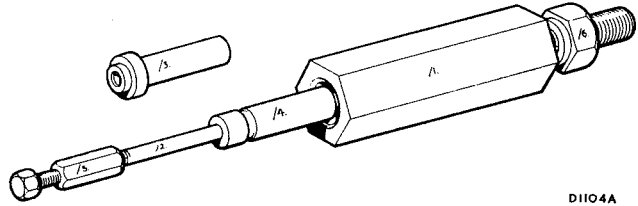
DO855

18G 1145. Rocker Type Switch and Bezel Remover



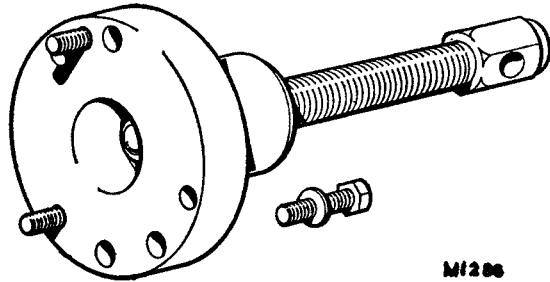
A 6423

18G 1063. Steering Arm and Swivel Hub Ball Pin Remover



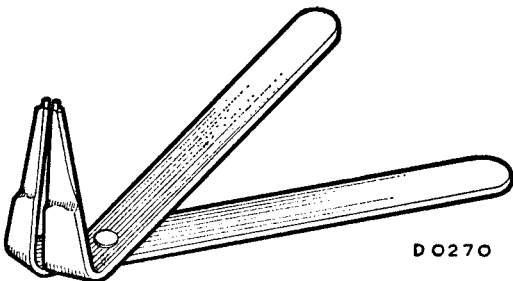
D1104A

18G 1150. Gudgeon Pin Removing and Replacing Tool



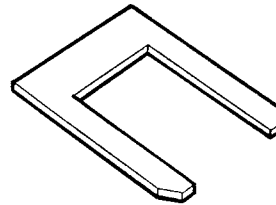
M1200

18G 1181. Steering-wheel Hub Remover



DO270

18G 1112. Circlip Pliers



INCO92

18G 1201. Rocker-type Switch (Slim Type) Remover

RECOMMENDED LUBRICANTS

RECOMMENDED LUBRICANTS

Component	Engine, Synchromesh Gearbox, Carburetter, Distributor and Oilcan			Rear Axle and Steering Gear		Grease Points	Upper Cylinder Lubrication
Climatic conditions	All temperatures above -10° C. (10° F.)	Temperatures -15° to -5° C. (0° to 20° F.)	All temperatures below -15° C. (0° F.)	All temperatures above -10° C. (10° F.)	All temperatures below -5° C. (20° F.)	All conditions	All conditions
Viscosity requirement	S.A.E. 10W/50 S.A.E. 10W/40 S.A.E. 20W/50 or S.A.E. 20W/40	S.A.E. 10W/50 S.A.E. 10W/40 or S.A.E. 10W/30	S.A.E. 5W/30 or S.A.E. 5W/20	S.A.E. 90 Hypoid	S.A.E. 80 Hypoid	—	—
Minimum performance level	MIL-L-2104B	MIL-L-2104B	MIL-L-2104B	MIL-L-2105B	MIL-L-2105B	Multipurpose Lithium Grease N.L.G.I. Consistency No. 2	Upper Cylinder Lubricant
ESSO	Uniflo or Esso Extra Motor Oil 20W/50	Uniflo or Esso Extra Motor Oil 10W/30	Esso Extra Motor Oil 5W/20	U.K.: Gear Oil G.X. 90/140 Overseas: Gear Oil G.X. 90	Esso Gear Oil G.X. 80	Esso Multipurpose Grease H	Esso Upper Cylinder Lubricant
MOBIL	Mobiloil Special 20W/50 or Super 10W/50	Mobiloil Super 10W/50	Mobiloil 5W/20	Mobilube H.D. 90	Mobilube H.D. 80	Mobilgrease M.P.	Mobil Upperlube
BP	BP Super Visco-Static	BP Super Visco-Static	BP Super Visco-Static	BP Hypogear 90 E.P.	BP Hypogear 80 E.P.	BP Energrease MP* Energrease L.2	BP Powerlube* BP Upper Cylinder Lubricant
SHELL	Shell Super Motor Oil	Shell Super Motor Oil	Shell Super Motor Oil	Shell Spirax Heavy Duty 90	Shell Spirax Heavy Duty 80	Shell Darina AX* Shell Retinax A	Shell Upper Cylinder Lubricant
FILTRATE	Filtrate Super 20W/50	Filtrate Super 10W/30	Filtrate Super 5W/20	Filtrate Epex 90	Filtrate Epex 80	Filtrate Super Lithium Grease	Filtrate Petroyle
STERNOL	Sternol Super W.W. Motor Oil	Sternol W.W. Multigrade 10W/40	Sternol W.W. Multigrade 5W/20	Sternol Ambroleum H.D. 90	Sternol Ambroleum H.D. 80	Sternol Ambroline Grease L.H.T. 2	Sternol Magikoyl
DUCKHAMS	Duckhams Q. 20-50	Duckhams Q. 5500	Duckhams Q. 5-30	Duckhams Hypoid 90S	Duckhams Hypoid 80S	Duckhams L.B. 10 Grease	Duckhams Adcoild Liquid
CASTROL	Castrol GTX or Castrol XL (20/50)	Castrolite or Castrol Super	Castrol CRI 5W/20	Castrol Hypoy B. 90	Castrol Hypoy B. 80	Castrol L.M. Grease	Castrollo

* AMERICA ONLY