The "Best Ward Bible."

Best Ward is very well known to members of the Rolls-Royce Owners Club from his excellent historical and mechanical articles over the years in PRAECLARVM.

He named his book of Rolls-Royce Depot Sheets the Bible. It is a bound Minute book of 279 numbered pages into which are pasted Depot Sheets from 1 to 278 each on its appropriate page. The book is now in a sorry state, broken backed and water stained. But it is clean, completely unmarked by mechanics black greasy fingers. It cost three shillings and ninepence when it was commenced in 1926.

The fly page is inscribed

A. E. WARD
31 Selens Pde
Revesby

Confidential
Do not pass any (spelt iny)
information from
This Bible without
AE Ward's permission

Note: These titles only seem to refer to Hm series Depot sheets. The number series ie, not the Hm series go up to 400+ and are not covered by this index ie, 384 not connected to Hm 59 - ie different series.

384 = 20 HP Chassis starter motor Hm 59 20HP Starter motor failures

The sheets are in a continuous numerical sequence. The source of authorisation changes at Hm 168 and continues with an Hd prefix to Hd 278 which is the last in the "Bible". So two different officers of Rolls-Royce were in charge at the Works over the ten-year period. The Australian representative to whom they were addressed was B. Arthur Peat, known as Pt. A later day successor of Pt was our well-remembered Jack Pidler who was Vlr.

The distribution of the Depot sheets was shown on a couple of the originals which somehow found their way into the "Bible" Hk - Paris; Nice; Mr Kirby - India; Pt - Australia; Rv - Madrid; H. - Sales; Bk; CWB; Sg; Whr; Br. - N; Mr Evans - Lillie Hall; Mr Reid - Glasgow; Mr Bowering - School; D/BP; EWT (RR. A1); Mr Shaw; Mr Trayner; BY; MX; EP. This gives some clues as to the organisation of the Rolls-Royce company

Some officers went by their full names. It is interesting to conjecture where the distinction lay. It could not have been seniority. Royce was R and Rolls was CSR.

Peat received the sheets and made typed copies which he sent to the various State distributors - including Dalgety's in Sydney where Bert Ward worked, with Appleberry who later became his partner

X A few history dates from the Depot Work Sheets:

The first mention of the Phantom II was 1-10-29;

The first mention of the New Phantom as the Phantom I was 20-1-30;

The first mention of the 20/25 HP was 28-4-30;

The first mention of the Bentley was 20-3-34.

The Depot Wheets of the "Bent Ward Bible"

The official , are shown in BLOCK LETTERS followed by the date. Ifollows our summary of the subject matter The period ered is September 1926 to April 1935.

Hm
c1. Platinum points, failure of in Phantom and 20 HP.
-9- 26. Four pages, two being drawings

2 m2 has been torn out. Date 4-10- 26 still remains

JKB 3 Hm 3 is torn out; portion of drawing remains

c4 R-R oil relay governor ignition 40/50-HP. N.P. undated
Explanation of inception and advantages. 6 pages

c5. - Oil circulation. 40/50-HP. N.P. undated
Reason for oil leaking away and modification

c6 Platinum points, failure of. Further to Hm 1 above. 26-10-26
Action to be taken upon owner complaints.

c7. Crankshaft pinion 40/50-HP chassis N.P. 21-10-26
See 8 below

c8 Crankshaft pinion 40/50-HP. N.P. Further to 7 above 28-10-26
Pinion moves due to key shearing. Detection and cure

c9 " Front axle pivots 20-HP chassis ~~28-10-26~~ 4-11-26
Friction device to damp steering shock

c10. 20-HP brake lubrication 9-11-26
Avoid high pressure in lubricating brake countershafts

Hm

Omit 1e each time and start with capital letter

c11 Re Carburettors - 20-HP chassis 8-10-26
Checking and adjusting carburettors

c12 Re Cut-out - ~~20~~ 40/50. HP. 28-10-26
How to set linkage to ensure the cut out fully shuts

c13. Re 20-HP starter motor drive. 7-12-26
To prevent failure of starter drive from cork washes soaked in oil.

c14 Re steering column erection 40/50-HP chassis N.P. 27-11-26
Instructions for fitting steering column safely in New Phantom cars

c15 Re hydraulic shock absorbers. Further to Hm 3 above. 10-12-
Instructions for packing glands with asbestos cord

c16 Re Cut-out 40/50. HP. Further to Hm 12 above 10.12.26
Greater clearance needed than shown in Hm 12

c17 Re valve timings 20-HP and 40/50-HP. 17-12-26
Timings to be in degrees and with .020 tappet clearance

c18 Re lubricating oil 20-HP and 40/50-HP. 10-1-27
Specifies oils to be used in engine, gearbox and axle.

c19 Re valve operating rockers 29-12-26.
Check engines for crack in valve rocker

c20 Re throttle control - 40/50. HP. 27-1-27
Instructions for fitting roller bearing throttle spindle and governor shaft

c21 Re clutch setting - 40/50 HP. N.P. 5-2-27
Method of adjusting new lightened clutch

c22 Front shock absorbers - 40/50-HP 15-2-27
Different types of shock absorbers described

c23 Re oil level in gear box - New Phantom 22-2-27
Details of check dip sticks and correcting markings

c24 New Phantom tappets 12-4-~~26~~ 27
To test and correct angular position of locating slots

Hm

c 25 ~~24~~. Lubrication of clutch - Phantom 28-2-27
To lubricate single plate clutch

c 26. Throttle control 40/50 - H.P. 21-2-27
To quieten suction noise in new roller bearing throttle valve

c 27. Shock absorbers 40/50 H.P and 20 HP. 16-2-27.
Enlarging air release hole to stop hydraulic knocks

c 28 Tyre pressures 40/50 HP and 20 HP 18-2-27.
Pressures for well-base types.

c 29 20 HP dynamo. Inspection for faulty output and commutation. 14-3-27
Details of commutation, brushes etc

c 30. Cross steering tubes - 40/50 HP and 20 HP. 30.3.27
Adjusting spring loaded tubes.

c 31. 20 HP rear axle bevel pinion thrust bearing. 28-4-27.
Fitting new bearing and distance pieces.

c 32 Slipper flywheel - New Phantom. 2-5-27.
Adjustments to get the best of slipper flywheels

c 33. KLG plugs - New Phantom. 3-5-27
Use knurled nuts not the spring clips

c 34. Friction in the cross steering tube for Phantom cars fitted with heavy type front axles. 27-4-27.
Used to prevent steering wobble. The spring loading needed.

c 35. Lubrication of wheel bearings - 40/50 HP. NP & 20 HP. 7-3-27. Kind and quantity of grease and method of use

c 36. Cross steering tubes 40/50 HP and 20 HP. Further to Hm 30. ~~27~~ 2-5-27 / Use of tommy bar to aid fitting cotter bolt

c 37. 40/50 HP chassis. 13-5-27.
Spare wheel carriers. Coach side members. Plates needed

Hm

c 38. Hydraulic shock absorbers - 40/50HP and 20 HP. 14-5-27.
Eliminating knocks in shock absorbers by closing a hole.

c 39. Side steering tube - 20 HP. 13-5-27
New tube has two possible positions. Getting correct position

c 40. Front hubs - New Phantom 16-5-27
Thread needs removing to allow Dunlop hubs to be tightened

c 41. Chassis instruments 20HP and 40/50 HP 28-5-27
Avoid chipping glasses when screwing bezel

c 42 Side steering tubes - New Phantom (together with a memo from Pt (Mr Peat, ~~Melbourne~~ Australia) to Mr Appleby).
Changes to worm/nut pitch and spring pressures (for steering wobble,

c 43. The adaptability of low pressure types to existing chassis.
26-5-27 Details of changes on fitting balloon types

44 Is ~~steering~~ not included

c 45 KLG plugs - 20 HP and 40/50 HP 21-6-27
New type of plug introduced

c 46. ~~Carburet~~ Carburetters - New Phantom 28-6-27
Cove of aluminium float chamber

c 47. Adaptability of low pressure types to existing chassis.
Further to Hm 43. More information. Hydraulic dampers not needed

c 48 40/50 HP and 20 HP steering 30-6-27.
Heavy steering is a factor of tread width.

c 49. Aluminium washers to replace fibre. 5-7-27.
Part number details

c 50 Lubrication of tappets - Phantom 6-10-27.
Increasing oiling by oil grooves

Hm

51 Is ~~omitted~~ not included - there is a note - it is ~~included~~ incorporated in Hm 5c

c52 Electrical cut outs - Phantom and 20HP 23-9-27
New type can be easily fitted

c53. Steering boxes - 20HP and 40/50 HP. 27-9-27
New oil recommendation

c54 Sparking plug gaps - New Phantom and 20 HP. 14-10-2
New recommendation - all plugs .025

c55 Rear silencer heat shields - New Phantom. 18-11-27.
Shields to reduce heat in rear of body

c56 20HP side steering tube - knocking 24-10-27.
Alterations to eliminate. Due to breaking down of oil film.

c57 Tyres 26-10-27.
Details of only balloon type recommended for 40/50 HP.

c58 Side steering tubes - New Phantom 15-12-27.
Note of caution on use of new tubes with more flexible springs

c59. 20 HP starter motor failures 24-6-27
Discusses causes and cures of pinion not engaging.

c60. Petrol tap - 20 HP & 40/50 HP chassis 14-11-27.
Air can be drawn in at cork washer: autovac failure.

c61. Starter carburettor - New Phantom 21-11-27.
Avoid flooding cylinder walls by overstrengthening jet

c62 Electrical equipment - New Phantom & 20HP 22-12-27
Extra equipment to be connected at fuse no. 6.

c63 20HP oil pressure failure 16-12-27.
Air entrapment as cause. Bleed air out

c64 Springing particulars 3-1-28
Gives buffer clearances for 40/50 HP cars in various uses.

Hm

c 65. Change gear lever - 20HP 19-12-27
To stop rattling of trigger control rod

c 66 Rear Brakes - 20 HP 10.2-28
Brake shoes rubbing and sticking on

c 67 Overheating 10-2-28
Measuring water flow in radiators

c 68 "Ethyl" petrol 14-2-28.
Principles of use in preventing detonation

c 69. Induction petrol drain pipes.
Blockage clearance for drain pipes

c 70. Spring loaded cross steering tubes 28-2-28
Further to Hm 30 in preventing "steering joggles."

c 71. 20 HP steering 15-3-28
Spring loaded cross steering tubes - listing of chassis numbers.

c 72 ~~27~~ Car batteries 23-3-28
Access for testing acid specific gravity.

c 73. SS tyres and Bell base rims 28-4-28
Avoiding damage to tubes with Michelin SS tyres

c 74. Steering - 20HP & 40/50 HP 7-5-28
Avoid dismantling worm and nut

c 75. Hydraulic Shock dampers - New Phantom & 20 HP 16-5-28.
Keep filled with oil to prevent knocking

c 76 Balloon tyres 31-5-28
To avoid spoiling 40/50 HP steering inflate to 40 lbs/sq in.

c 77 Use of radiator cleaning solution 1-6-28
With aluminium heads, clean core when detatched

c 78 Steering column control rattles - New Phantom 16-6-28
An anti-rattle device

Hm

c79. Lubrication of road springs 26-6-~~28~~28.
To prevent hard ride grease necessary between leaves.

c80 Carburettors - New Phantom 26-6-28
Removal of debris blocking jets

c81. Oil in axles and gear boxes - 2HP and New Phantom 3-7-28
Preventing overflow oil getting on to brake drums.

c82. 20HP rear axle bevel pinion thrust bearings 29-8-28
Further to Hm 31. Clearance necessary to avoid bearing failure

c83 Oil from gearbox flooding speedometer 24-9-28
Drilling of drain hole to prevent.

c84. Hydraulic shock absorbers 1-10-28
Further to Hm 75. New method of filling with oil.

c85. Rear axle bevel thrust 40/50HP 10-10-28
New fixing for lock washer - Ghosts and Phantoms

c86 KS telegauge - 20 HP and 40/50 HP. 4-10-28
Instructions for the pipe from petrol tank to gauge on dash

c87 Elusive squeak on Phantom & 20 HP ~~cars~~ chassis 2-11-28.
Due to air getting in to oil pump.

c88 Phantom tappet adjustment - F2B series and onward 10-11-28
Must adjust tappets to .006" when engine cold.

c89. Tyre pressures 10-11-28
For comfort pressures must be low as possible at rear.

c90. Low pressure tyres adapted to existing cars - 40/50 and 20 HP.
27-11-28. Spring loaded cross steering tube to cure low speed wobbles

c91 ~~c89~~. 20 HP tyre pressures 20-11-28.
Specifies pressures front and rear

c92 Fabric coupling - Phantom 13-12-28
Excessive torque reaction due to when coupling faulty

Hm

c93 20 HP wheels 11-1-29.
~~Tyre~~ Wheel size changed from ~~20~~ 21 inch to 20 inch 8-1-29

c94 Battery ignition make and break - 20 HP and 40/50 HP.
Semi rigid contacts to reduce burnt points.

c95 Road springs - 20 HP & 40/50 HP 20-2-29
Equal poundage for both sides of chassis.

c96 Exhaust valves sticking - Phantom 21-2-29
Cure by taper reaming inner end of guide

c97 Road springs - Phantom and 20 HP. 20-2-29
Felt soaked in oil to be placed inside gaiters.

c98 Handbrake Phantom 27-2-29
Settings by notches for the handbrake lever.

c99 Slipper flywheels Phantom and 20 HP 26-2-29.
Bedding in cotton duck for efficient operation

c100 Piston rings - Phantom 7-3-29.
A new rectangular section ring.

c101. Low pressure types adapted to existing chassis 8-4-29. 7 pages
Further to Hm 43. Details: dampers, speedos, pressures, changes

c102 Road Springs - Phantom & 20 HP 3-4-29
Further to Hm 97. Procedure where no gaiters fitted.

c103. Overheating of engine - 20 HP. 24-4-29
Removing scale from head and cylinder jackets

c104. Phantom cylinder lubrication 4-7-29
Curing over-oiling. Top and bottom over-oiling

c105. Hydraulic shock dampers - 20 HP & 40/50 HP 11-7-29
Further to Hm 75. Other cures for knocking. Some mechanics

c106 Engine alignment - Phantom. 9-7-29
blocks after any slight accident to car.

Hm 59? 12.

Hm

c107 Starter motor drive - 20 HP 12-8-29
Further to Hm (69) New Bjur drive to cure failures

c108 Starter motor adjustment 40/50 HP J2 series Phantom II
1-10-29. Pinion to gear ring clearance specified

c109 Phantom radiators 26-8-29.
Effect of hard water on aluminium engines blocks cores.

P3 missing

c110 Restricted water circulation 9-9-29.
Testing and curing radiator blockage

c111 20 HP type pressures. 2-9-29
Owners may run rear tyres at 27 psi on 6 inch tyres

c112 Phantom II suspension 1-10-29
Fitted ~~with~~ to ~~centre point~~ centralised oiling. Details of damper settings

c113. Centralised lubrication system - 20 HP. 9-10-29. 4 pages.
Description and use of

c114 Cross steering tube load - Phantom II. 7-10-29.
Stronger spring to stop low speed joggles

c115. Rear axle lubricant Phantom II 29-10-29.
Change to hypoid gear needs hypoid oil.

c116 Starter carburettor Phantom II 18-10-29.
Modifications to taper and spring to obtain better mixture

c117 Hobson petrol gauge - Phantom and 20 HP 30-10-29
Description of operation. Cures for problems.

c118 Choked radiators - Phantom 20-11-29. Further to Hm 109 & 110
Washing out aluminium engines

c119 Front axle brakes - J2 Series 8-11-29
Groans and squeaks from front brakes - cure

c120 Ignition settings & detonations Phantom II
Reduction of detonation by retarding magneto 5°

Hm

c 121 brass steering tube ball ends - Phantom I & 20 HP. 28-11-29.
Improving lubrication to prevent seizing up.

c 122 Phantom II. Hydraulic shock absorbers 20-1-30
Re-setting for low or high habitual speeds

c 123. Telegauge 20 HP and Phantom II 13-11-29.
Procedure when removing indicating head from instrument board.

124 ~~missing~~ not included. There is a letter from Pt (B Arthur Peat) saying Hm 124 was never issued

c 125 Brake squeaks - Phantom II 23-12-29. Further to Hm 119
The use of a damping spring to cure squeaks.

c 126 Autovacs - 20 HP & Phantom II 20-12-29.
Floats become petrol logged and consequences

c 127 Anti-freezing solutions 9-1-30.
Glycerine and glycol characteristics

c 128 Bijur system - lubrication of axles 8-1-30.
Procedure to ensure sufficient oil reaches bearings

129 ~~missing~~ not included. Was issued to America only

c 130 Brakes - Phantom II 20-1-30.
A new softer moulded lining to reduce brake squeak

c 131. Phantom II. Low inertia crankshaft damper
A new ~~damper~~ slipper flywheel driven by springs

c 132 Exhaust joints - Phantom I 20-1-30.
Gaskets rupture due to fidgetting movements, and cure.

c 133. Temperature warning light
Red light comes on at a lower temperature

c 134 Valves - Phantom II
Hardened caps on ends of valve stems

Hm.

c 135 Ignition coils - Phantom I. 13-2-30.
Standardisation to avoid failure in windings

136. ~~missing~~ not included

c 137. Cylinder head water tubes Phantom I ~~&~~ II 3-3-30.
These aluminium tubes corrode. Anodised to cure this

c 138 Controls - Phantom II 28-2-30.
Steel support brackets need to be modified to increase clearance

c 139. Brakes - Phantom II 28-2-30 Further to Hm 130
New servo actuating levers and cams.

c 140 Clutch - Phantom II 28-2-30.
Modifications to prevent clutch linings fouling flywheel

c 141 ~~Coil~~ Coil failures 7-3-30 Further to Hm 135.
Changes to improve support and insulation of windings

c 142 Clutch jaggers - Phantom I 7-3-30.
Clutch plate distorted for slow release to cure jaggers

c 143. Flooding carburetters - 40/50 & 20 HP. 7-3-30.
Sulphur in fuel builds up on valve seating. Cleaning of.

c 144. Rear springs - Phantom II 7-3-30.
Nuts on spring clips foul chassis on bump. Cure

c 145 Cracked exhaust manifolds - Phantom I
Lack of expansion clearance causes this.

c 146 Steering column controls - Phantom II 10-3-30
Further to Hm 138. A tool provided to increase clearance

c 147 Overoiling - Phantom II & Phantom I F2B onwards 17-3-30
Usually "tops" overoiling from valve rockers. Cure

c 148 Petrol starving - Phantom and 20 HP 20-3-30
Petrol filter leaks lets in air which stops petrol pumping

Hm

c149 Corrosion on Pelo and Radford battery terminals – Phantom II
25-3-30. Change in washer metallurgy cures.

c150 Autovac petrol supply failure – Phantom II 4.4.30.
Air leaks in autovac system the cause

c151 Servo squeaks – Phantom II 4-4-30.
Due to fabric lining. Cure: oil/kerosene mixture

c152 Corrosion of cylinder head tubes Phantom II and Phantoms I
Cures
F2 Bonwards 4-4-30 Cured by replacing aluminium with copp

c153. Autovacs – Phantom II Further to Hm126
Floats of autovacs to be replaced with leakproof modification

c154 Autovacs – Phantom II Further to Hm153. 14-4-30
Warning of possibility of wrong assembly of float suspension

c155 Induction manifolds – Phantom I & II 28-4-30.
These break due to insufficient expansion clearance. Increase it.

c156 Oil leaks from gearbox – Phantom II 6.5.30.
Due to positive pressure inside box. Prevent block of air vent.

c157 Fitting road springs Phantom II and 20/25. 28-4-30
Some springs are long. Watch and if needed file shackle stop.

c158 Rear axle – Phantom II 17.4.30
Lack of oil in hypoid. Overfill by one pint

c159 Waterpump – Phantom II 20-6-30.
Water leak cured by packing gland with tallow soaked asbestos

c160 Steering – Phantom II 1-7-30 Details of causes of steering
complaints and cures. Accent on excessive toe in

c161 Servo mechanism – Phantom II 26-5-30
Split pin may foul when ~~bell~~ levers and cams changed

c162 Autovacs – Phantom II 26-5-30. Further to Hm153.
Float modification changed

Hmw

c163 Fabric couplings - Phantom II 4-6-30.
To be examined for signs of failure. New version available.

→ 164. Ignition timing - 20/25 11-6-30.
New system of marking, to be same as Phantom I

c165 Starter motor - Phantom II 16-6-30.
Tests and changes to ensure the pinion engages

c166. Sparking plugs - 20/25 HP. 20-6-30.

Hd A slightly different design of KLG plug

c167 Engine coupling - Phantom II 17-7-30
A new improved fabric coupling for fitting on first 93 PIIs.

c168 Steering - Phantom II 11-7-30.
Correction of a knock in steering - in side steering tube.

Hmw

c169 Phantom II type pressures. 6-8-30.

Hd Lower type pressures except for high speed touring

→ 170 Exhaust joint washes - 20 HP 6-8-30.
A composite brass/asbestos/steel washer to eliminate rupture.

c171. Overheating of cooling water - Phantom I & II 3-9-30 3 pages
Principles and tests, and improving cooling

c172. Staybright radiators 20-8-30
Stainless steel needs care in polishing

c173 Clutches - Phantom II 18-9-30
An oil catcher to keep bearing oil off clutch surfaces.

c174 Overoiling 20 HP and 40/50 HP 27-9-30
Further to Hm 147. Valve guide changed and asbestos washers

c175 Carburetter air valve - Phantom I & II 15-9-30.
Locking wire to retain air valve pin

c176 Overoiling - Phantom II 29-9-30
Cylinder stouts to prevent overoiling from below

Ad

c177 barburetter air valve - 20 HP and 20/25 HP cars 22 ~~Oct~~ 10 1930

Further to Hd175. Extends change to include 20 & 20/25 HP cars.

c178. Engine coupling - Phantom II 22-10-30.

Further to Hd 167. States which cars need modification.

c179 Radiator filler cap - Phantom I 22-10-30

Rubber washer to be fitted to retain water

c180 Engine coupling - Phantom I & II 22-10-30.

Further to Hd 167. All Phantoms to have new fabric coupling.

c181 Engine overheating - 20/25 HP. 22-10-30.

Found engines noticeably cooler with louvred bonnett.

→ 182 Servo motor - Phantom I & II, & 20HP.

Fabric liners to be used in place of Halo liners.

JCL188 183 to 189 inclusive are ~~all missing~~ not included

c190. Low inertia slipper drive - Phantom II

Modification to flex the corrugated plate

c191. Hobson KS Telegauges - Phantom II and 20/25 HP. 1-1-31.

Maker's explanation of why tetrabromide liquid goes black

c192 Push button switch - Phantom II 22-12-30

Reason for switch burning out relay coil (coachbuilder's fault)

c193. 20/25 coil ignition 22-12-30.

Miss-fires due to plugs not coil

c194 Engine coupling - Phantom I & II 24-12-30.

Further to Hd 178 & 180. Fit new coupling when gearbox removed.

c195. KS Telegauge - Phantom II & 20/25 HP.

Change to mechanism and instructions for fitting

c196 Clutches 40/50 HP and 20 HP 6-1-31.

Doping clutches not a good practice

Hd
197. Starter motor drive 6-1-31.
Stronger clutch spring to prevent starter slipping

c198 brass steering tube - 40/50 HP & 20/25 HP. 8-1-31
An oil reservoir to improve lubrication - but see Hm 121.

c 199. Exhaust cut-out blows - Phantom II 21-1-31.
Alterations to prevent exhaust gas blow outs.

c 200 Battery terminals - 40/50 HP & 20 HP. 21-1-31.
Vaseline as a cure for corrosion

c 201. Exhaust down pipe - 20 HP. 26-1-31.
Down pipe strengthened by additional flanged piece.

c 202. Heat shield for HT wire tube - Phantom II 27-1-31.
An aluminium/asbestos sheild fitted to down pipe.

c 203. Hobson KS Telegauges - 20 HP & 40/50 HP 28-1-31.
When hand pump inoperative check for blocked pipe to tank

c 204. Clutch fabrics - 40/50 & 20 HP 28-1-31.
Further to Hd 196. Stamp R to identify new (RAD1) fabrics

c 205. Slipping clutch - 20 HP. 28-1-31.
Washer used to increase loading from clutch spring.

c 206. Oil pumps - 40/50 HP 10-3-31.
An oil reservoir at pump inlet to cure pump noises (Phantom II)

c 207. Autovac floats - Phantom II and 20/25 HP. 19-5-31.
List of chassis with a fault to be rectified. Bakers fault.

c 208 Instrument board glasses - Phantom II 27-5-31.
Spigot holes weaken instrument glasses - glasses to be plain

209 Exhaust washers - 20 HP & 20/25 HP. Further to Hd 27-5-31.
A all copper washer to prevent exhaust blows.

c 210 Fan pulleys - 20 & 40/50 HP. 27-5-31.
Bolts instead of rivets to fix pulley rims to hubs.

Hd

c 211 Rear sub-frame brackets - Phantom II 27-5-31.
A two piece pressed bracket to prevent bracket failure

c 212. Phantom II brake adjustment - N2 and LH drive 5-6-31.
Thicker linings to double brake life.

c 213 Ethyl petrol - all type chassis. 29-6-31.
All Rolls-Royce cars satisfactory with ethyl petrol

→ 214 Rear axle thrust bearing - 20 HP & 20/25 HP.
Instructions for new two row ball race

c 215. Carburetter flooding, 20 HP & 40/50 HP. 15-10-31
Stainless steel needle valve seatings to replace brass which corrodes.

c 216 Front brake actuating shafts - 20, 20/25 & 40/50 HP 26-10-31.
Additional oil to shafts to prevent seizing

c 217. Hydraulic shock absorbers. 20, 20/25 & 40/50 HP. 21-10-31.
Replenishing valve seats to be recut to stop noise.

c 218 Exhaust blows - Phantom II 27-10-31. Further to Hd 199.
Stay and saddle to keep silencer from moving to rear.

c 219 Radiator connections - Phantom II RH and LH 7-9-31.
Corrosion causes change from aluminium to bronze outlets

→ 220. Rear brakes - 20 HP and 20/25 HP 16-9-31.
Increasing bearing clearance to prevent binding actuating shaft.

c 221. Cylinder head - Phantom I and II 10-11-31
Change to bronze for tubes and core hole plugs to stop corrosion.

c 222 Petrol tank leaks - 20/25 & Phantom II
Plastic washer at air vent connection to prevent fuel leak.

c 223. Front brakes - 20/25. 2-11-31
Large drip plug to prevent upper toggle shaft bearing drying.

→ 224 Oil leaks on servo - 20/25. 2-12-31.
Action to prevent oil getting on servo fabric liners.

Hd

225 ~~missing~~ not included

c 226 Cross steering tube - 20/25 HP and 40/50 HP 19-12-31.
Further to Hd 198. To provide clearance between contact piece & tube.

227 and 228 ~~missing~~ not included

229 Exhaust manifolds - 20 HP & 20/25 HP. 3-2-32.
Ribbed manifolds prevent cracking due to overheating.

c 230. Front brakes - Phantom II 6-2-32.
Instructions for new brake shoes designed to prevent squeaking.

c 231. Carburetter hat - spot - Phantom II 6-2-32
Paper washer burns and causes exhaust to blow. So delete

→ 232. Oil leaks on servo - 20/25 8-4-32. Further to Hd 224.
Additional oil guard to prevent oil getting on servo fabric liners.

c 233. Front brake equaliser - 20HP & 20/25 HP. 8-4-32
Have necessary that clearance between pull rod jaw and casing.

c 234 Dynamo overheating 40/50 HP & 20/25 HP. 25-5-32.
Can be caused by bad connection anywhere on dynamo/battery circuit

235 ~~missing~~ not included

c 236. Dunlop types - MA2 tread 14-10-32
Correct fitting is - the type print on road shows arrow pointing forward

c 237. Engine clearances - 20/25 & Phantom II chassis 7-10-32
Flexible mounting of engines - ensure enough clearances for pipes etc

c 238 Loss of clearance with exhaust valves - Phantom II 8-11-32
Stiffened valves and exhaust springs prevent valve stretch.

Hd

c 239. Servo liners - 40/50 HP & 20/25 HP 15 - 11 - 32
Ferodo used instead cotton fabric. Methods of use.

c 240 Low pressure types adapted to existing ~~models~~ chassis 12 - 12 - 32.
Cancels Hm 101. All changes necessary to cars (6 pages)

241. Dynamo output 20/25 HP. 8 - 2 - 33.
Field resistance lowered to increase charge by 2amps.

242 ~~missing~~ and 243 not included

244 Low inertia spring drive - 20/25 HP 17 - 3 - 33.
New for 20/25. Instructions for use.

c 245. Connecting rod bolts - 20/25 HP 17 - 3 - 33
Tighter fitting staybrite split pins to be fitted

246. Footbrake adjustment - 20/25 HP. 6 - 4 - 33.
More clearance to rear brake shoes for higher speed work.

247. Oil leaks on servo - 20/25 HP. Further to Hd 224 & Hd 232.
Further modifications necessary to keep oil off fabrics

248 ~~missing~~ not included

c 249 Oil leaks from axle pivots - 20/25 HP. 28 - 9 - 33
Action to keep surplus oil from these pivots away from front tyres.

250. 20/25 HP Servo adjustment 12 - 10 - 33
To correct excessive clearance between the two star springs

c 251 Phantom II Starter motors 25 - 10 - 33 3 sheets
Crashing of starter motor pinion - instructions for correcting

252 ~~missing~~ not included

253 Oil leaks on servo - 20/25 6 - 11 - 33 Amending Hd 253.
A simplification by dispensing with a clip.

Hd

254. Clutch slip - 20/25 HP. 12-10-33 See also Hd 242
Clutch slipping stopped by slipping in top gear on a slight incline.

255 not included

256 Rear brakes - 20/25 HP. 14-2-34. Further to Hd 220.
Phosphor bronze replaces white metal in actuating shaft bearing.

257 Front shock dampers - 20/25 HP 2-3-34.
Bolt holding the damper may be too long to tighten. Shorten it.

c 258 Bentley chassis - flexible petrol pipe . 22-3-34
Do not use a spanner on hexagon aluminium piece

c 259 Clutch adjustment - Bentley . 20-3-34
To assist owners adjust clutch, operating rod no longer pinned.

260 not included

c 261. Fan belt - 3½ litre Bentley 19-5-34.
Belt to be not so deep to be easier to put on pulleys

c 262 Controllable shock dampers - Phantom II 30-6-34.
Modifications reduce pitching and bouncing in back of car.

c 263 Propeller shaft Phantom II ~~17-10-34~~ 24-7-34
With low rated springs and controllable dampers, modification to joint fork

c 264. Front expansion box - Bentley chassis 3-8-34.
Staybrite expansion box and downpipe to prevent burning.

265 Carburetter air valves 20/25 HP
Causes and cure for sticking air valves

c 266 Fitting of radio sets to RR and Bentley cars. 21-9-34.
The suppressor resistances in plug leads spoils ultra-idling

267. Rattles in transmission - Bentley chassis 31-10-34
Rattle and fuss in getting away is avoided by using first gear

Hd

268 Starting up from cold - Bentley and 20/25 chassics. 20-11-34.
Thinner oil and new geared starter motor guarantee cold starts

269 to 277 not included

278 20/25 HP steering 5-4-35
To lighten steering - use thinner oil and reduce spring load in tubes.

Going back nearly 11 years to 23-7-24 (which was before this whole series of Depot Sheet began) we have just one sheet: 20 HP Chassis - Slipper and Spring Drives.

c This is numbered 426. So we must infer that a whole earlier series was issued — and which ~~was~~ did not come into Bent Ward's possession.