

The
Austin

MOTOR COMPANY LTD.
LONGBRIDGE - BIRMINGHAM - BOX 41 G.P.O.
Telegrams: Speedily - Telex: Northfield
Telephone: Priority 2101

Your Ref:

Our Ref:

SERVICE/TECHNICAL CAR.

Subject:

20th January, 1949.

Mr. G. H. Saunders,
239 Luton Road,
DUNSTABLE, Beds.

Re 1934 - Austin 'Seven'

Dear Sir,

We thank you for your letter of the 14th instant in which you ask for information on ignition timing of the above vehicle, also instructions for fitting a new crown wheel and pinion.

If your vehicle was built prior to August 1934, the correct ignition setting ranges between $1\frac{1}{4}$ " and 2" before top dead centre. If the vehicle was built after August 1934, the setting should be $\frac{7}{8}$ " before top dead centre.

We have pleasure in enclosing herewith a copy of the instructions necessary for fitting a new crown wheel and pinion. We trust with this, and the information supplied, you will be able to overcome your difficulties.

Assuring you of our co-operation at all times.

Yours faithfully,
For THE AUSTIN MOTOR CO. LTD.

SERVICE DEPARTMENT.

FITTING NEW CROWN WHEEL AND PINION AND PINION
BEARINGS TO 1936 and 1937 AUSTIN 'SEVEN' CARS

SECTION 1.

REMOVING BACK AXLE FROM CHASSIS

Drain oil in axle

Jack up car, remove rear road wheel by taking off nuts BS.28.

Disconnect propeller shaft BP.161 from torque tube nearside BR.176 by removing 4 nuts BP.171 and bolts BP.172.

Uncouple torque tube nearside BP.176 from torque tube ball flange BR.141 by knocking back the tank of the locking plate BP.70 and removing seating nut BP.69 and locking nut BP.71.

Next, the torque tube ball flange BR.141 is disconnected from the rear cross member BR.140 by removing 4 nuts and bolts BR.142-3.

Undo the rear shock absorber connecting links BU.66 from rear spring pin BR.58 by removing nuts BU.25 and key washer BU.14 fibre washer BU.12 - the arm is then free for removal, together with bush BU.50 and another fibre washer BU.12 follows.

Rear spring pin BA.58 on each side of the axle is extracted after the cotter and nut BR.26-7 are removed. If a pin is tight it will be necessary to dismantle the axle hub BO.45 (after taking off hub nut BO.52 and lockwasher BO.53) and then remove the hub bearing BO.89, felt washer BO.88 and plate BO.47, also brake shoes BO.165 - this leaves the end of spring pin clear for the use of a drift in driving it out.

Rear brake ropes BR.109 are next disconnected by uncoupling brake cam levers BO.166-7 through removing nuts BO.71 and extracting cotters 2K.5631 (with semi-Girling type cams 1A.7263-4 have to be removed, this involves undoing nuts 2K.3975 and extracting cotter 2K.5631). The axle can now be removed from chassis.

SECTION 2.

DISMANTLING AXLE AND TORQUE TUBE ASSEMBLY.

Dismantle hubs in manner described above.

Separate offside axle BO.163 case from nearside BO.164, knock back the 6 lockwashers BO.7 and remove setscrews BO.8, then with a hide hammer, separate casings by driving out the differential assembly with nearside casing from the offside hub end.

Next, separate torque tube BP.121 from casing BO.163, by undoing the 6 lockwashers 2K.5771, and setscrews 2K.8482 - pinion and torque tube assembly can then be withdrawn, and care should be taken with the adjusting washers BP.107 and 2K.7225 - the thicknesses used should be noted for re-assembly purposes - the nut BP.32 and lockwasher BP.33 for pinion flange is then removed, and to separate the pinion shaft BP.178 from the torque tube, necessitates unscrewing the packing gland BP.95 which drives the pinion flange

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BP.160 off the shaft - the key for flange BP.34 can then be removed, and now the pinion assembly is free from the torque tube.

Continuing, the pinion assembly is next dismantled by opening the tang of lockwasher BP.116, removing retaining nut BP.115 for pinion bearing (left-hand thread) housing 1A.7258 and extract the two double-purpose races 2K.7543.

Next remove inner and outer distance pieces 1A.7242-3 and finally roller journal bearing BP.183.

With crown wheel and differential assembly the 6 lockwashers BO.119 are opened, and the 6 nuts and bolts BO.96-7 are removed - these hold the crown wheel and two halves of the differential casing together, and the assembly now falls apart.

SECTION 3.

TO FIT NEW CROWN WHEEL AND PINION AND PINION BEARINGS.

Clean bearing faces of differential casing before fitting new crown wheel - assembly is a reversal of the dismantling process, although all bolts and nuts should be evenly tightened.

In fitting new pinion bearings it is necessary to remove the outer ring of the roller journal bearing B.P.183, which is held in the axle housing against the locating peg - this can be driven out by means of a drift.

The new outer ring has to be fitted in like manner, that is, dead against the locating peg.

The double-purpose bearings should be replaced on the pinion shaft with the sides marked 'THRUST' on each facing towards the other.

The fitting of distance pieces etc. is merely a reversal of the dismantling operation. When the pinion shaft complete is refitted into the axle casing the shim removed from the former setting should be replaced in position. The number of shims required will be found by noting the numbers

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on the old shaft and the new one - this number is to be found on the head of the forward end of the pinion shaft, if the new number is greater than the old one (e.g. by 16 to 12, the difference should be made up by inserting additional shims .001" to each numeral to balance the differential).

SECTION 4.

The axle can be re-assembled by reversing the dismantling instructions.

Refill axle with oil - approximately one pint.

SECTION 5.

To adjust the mesh of the crown wheel and pinion remove adjusting covers 1A 7052 and 1A 7126.

Tighten the adjusting collar B0 131 in nearside casing until backlash on pinion shaft flange is removed, then bring up the offside adjusting collar B0 130 dead against differential bearing, now slacken off nearside collar until backlash discernible on the bevel pinion flange is approximately .004" and tighten offside collar again. This adjustment can be checked again after test.
