

MODEL AFFECTED - SUNBEAM IMP

ACTION - MODIFICATION OF STEERING
COLUMN

After considerable mileages, it has been found that in isolated cases, wear has occurred between the steering column/rack and pinion serrations. This has given rise to free play in the steering and knock.

In view of the Sunbeam Imp being a comparatively new import, the manufacturing company has decided, rather than have a high spot criticism on the steering of this car, to campaign all suspect cars.

Attached hereto, are the two campaign actions which will be necessary on the cars held in your stock or sold to retail customers.

The campaign is in two separate sections and affects first, all cars within the serial numbers Standard - 421000780 up to 421001581 and Deluxe - 411042699 up to 411053430. On these cars, it will be necessary to change the inner column coupling pinch bolt. This bolt is a 'V' quality bolt and the attached note, Inspection and Fitting Instructions For Fitment Of 'V' Quality Bolts, should be carried out to the letter.

A warranty claim allowance of 1/2 hour for operation A and 1 hour if operation B is found necessary. A list of serial numbers shown attached are our record of cars shipped to you. We have also attached bolts necessary for modifying these cars. A warranty claim can be made up in bulk for this operation showing the serial numbers affected.

The second campaign will affect serial numbers prior to 411042699 Deluxe and 421000780 Standard. All cars prior to these serial numbers will have the steering column changed automatically and the attached instructions for the Removal and Re-fitting Of A New Inner Column And Examination Of The Pinion Splines And If Necessary, Replacement Of The Steering Unit, should, in the earlier serial numbers, again be followed to the letter. Figures 1 through 5 of the attached diagrams show the correct procedure for this operation.

Again is attached a list of serial numbers which are affected by this modification and these cars should be processed on an urgent basis. The steering columns are supplied free of charge and warranty claims can be raised in bulk fashion for this operation quoting the serial numbers.

CAMPAIGN
ACTION

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MODEL AFFECTED - SUNBEAM IMP

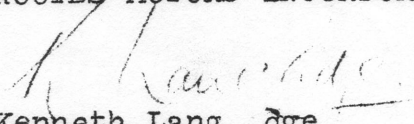
ACTION - MODIFICATION OF STEERING
COLUMN

The time of 1 hour will be allowed for inner column change and 1-1/2 hours where it is necessary to change the rack and pinion unit in addition to the inner column.

It is obvious that this campaign should be carried out quickly and efficiently with the minimum of delay to the retail customer.

I would also point out that to ensure this operation is not misconstrued in the field, this Campaign Letter should be regarded as confidential.

ROOTES MOTORS INCORPORATED


Kenneth Langridge
General Service Manager

KL/jd
Enc.

INSTRUCTIONS FOR THE REMOVAL AND REFITTING OF A NEW INNER COLUMN
EXAMINATION OF THE PINION SPLINES AND IF NECESSARY
REPLACEMENT OF THE STEERING UNIT

1. Remove the steering unit inner column, having first removed the steering wheel, trafficator pawl unit and outer column.
2. Using a suitable wire brush, thoroughly clean the pinion splines on the rack and pinion unit and then examine splines for any signs of flank wear, corrosion, etc., as illustrated in Fig. 1. If you have any doubt at all as to the condition of the pinion splines, the measurement across the peaks of the splines should be taken in three different positions, using a suitable micrometer as shown in Fig. 2.

The minimum permissible measurement across splines is .550" (13.97 mm).

3. If the pinion is found to be in a satisfactory condition, it will not be necessary to replace the rack and pinion unit. However, before fitting the replacement inner column, the 'U' bolt nuts must be slacked off for the reason described in (iv) below. Ensure that the rack and pinion unit is free to rotate.
4. If the condition of the splines is unsatisfactory, or the spline measurement is less than .550" (13.97 mm) the rack and pinion unit must be replaced as follows:-

(i) It is recommended that the rack and pinion unit is removed complete with track rods still attached. This will enable the new unit to be filled with oil prior to fitting to the car.

(ii) Fill new steering unit with oil (1/2 pint, .03 litre, Shell Spirax 80) and refit existing track rods, ensuring that the adjustable track rod is positioned on the right-hand side of the car with the unit in position.

(iii) Care should be taken to ensure that the four track rod joints are in line whilst the centre track rod bolts are being tightened. i.e. both track rods in a straight line.

(iv) The rack and pinion unit should be fitted in position, but at this stage the 'U' bolt nuts must not be tightened but left slack enough to enable the unit to rotate. By leaving the nuts loose at this stage, it will allow correct alignment of the inner column to pinion, as shown in Fig. 4. Incorrect alignment is shown diagrammatically in Figs. 3A and 3B.

INSTRUCTIONS FOR THE REMOVAL AND REFITTING OF A NEW INNER COLUMN
EXAMINATION OF THE PINION SPLINES AND IF NECESSARY
REPLACEMENT OF THE STEERING UNIT

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5. Before fitting the new inner column supplied, liberally coat the coupling splines and also the pinion splines with Shell Retinax 'A' grease. When fitting the inner column it is extremely important that the coupling slides freely over the pinion during assembly, this will ensure correct alignment of the rack and pinion unit relative to the steering column. The 5/16" 'V' quality clamp bolt must be fitted in position with the head of the bolt to the recessed side of the coupling, thus preventing the bolt from turning. Fit the correct shake-proof washer supplied together with the 5/16" Wedgelock nut. The nut should be tightened to a torque loading of 14 lbs.ft. (1.94 kgm).
6. The rack and pinion 'U' bolt nuts should now be tightened evenly to a torque loading of 14 lbs.ft. (1.94 kgm).
7. After fitting the new inner column and larger clamping bolt and nut, check that there is adequate clearance between the nut and flange of the front suspension member. If a foul condition exists, the suspension member should be re-shaped using a suitable round section file, leaving a smooth round section as shown in Fig. 5. This work can be carried out with the rack and pinion unit in position but great care must be taken to ensure that the hydraulic brake pipes which run along the front suspension member are not damaged.
8. Refit the pawl unit and steering wheel, making sure that the wheel is correctly positioned.
9. If the rack and pinion unit has been replaced then the front track must be checked and re-adjusted if necessary. There is no need to use gap gauges when adjusting track.
10. On completion of the work, a white dab of paint must be placed on the lower forward corner of the makers' chassis number plate which will be found inside the engine compartment attached to the nearside (L/H) inner wing surface.

INSPECTION AND FITTING INSTRUCTIONS
FOR FITMENT 'V' QUALITY BOLT

To ensure correct alignment of the rack and pinion with the inner column, the following checks should be carried out:-

- A. Vehicles which have covered UNDER 1,000 miles.
- B. Vehicles which have covered OVER 1,000 miles.
- A. (1) Remove and destroy inner column coupling pinch bolt.
- (2) Noting relative position of steering and road wheels, lift inner column away from pinion.
- (3) Refit inner column to pinion in SAME SPLINE POSITION, note whether inner column slides freely back into position.
- (4) If difficulty is experienced in replacing inner column, slacken off the rack and pinion clamp nuts.
- (5) With unit now free to move, refit inner column to pinion.
- (6) If STILL difficult, carry out checks as described in Section B, paragraphs 1 and 2.
- (7) When you are satisfied that alignment and spline condition are satisfactory, apply a liberal application of SHELL RETINAX A grease to both pinion and inner column splines.
- (8) Refit inner column onto pinion.
- (9) Fit a 'V' quality pinch bolt, Part No. 7102717 with spring washer, making sure that the bolt can be inserted and screwed in at least three turns by hand. Tighten to 10 lbs. ft. torque loading.
- (10) The rack and pinion clamp unit clamp nuts can now be tightened evenly to their correct torque of 14 lbs. ft.
- B. (1) Any cars that have covered over 1,000 miles should have the inner column and pinion splines cleaned off and inspected. This can be effectively carried out without removing the unit by cleaning off after lifting the inner column off the pinion.

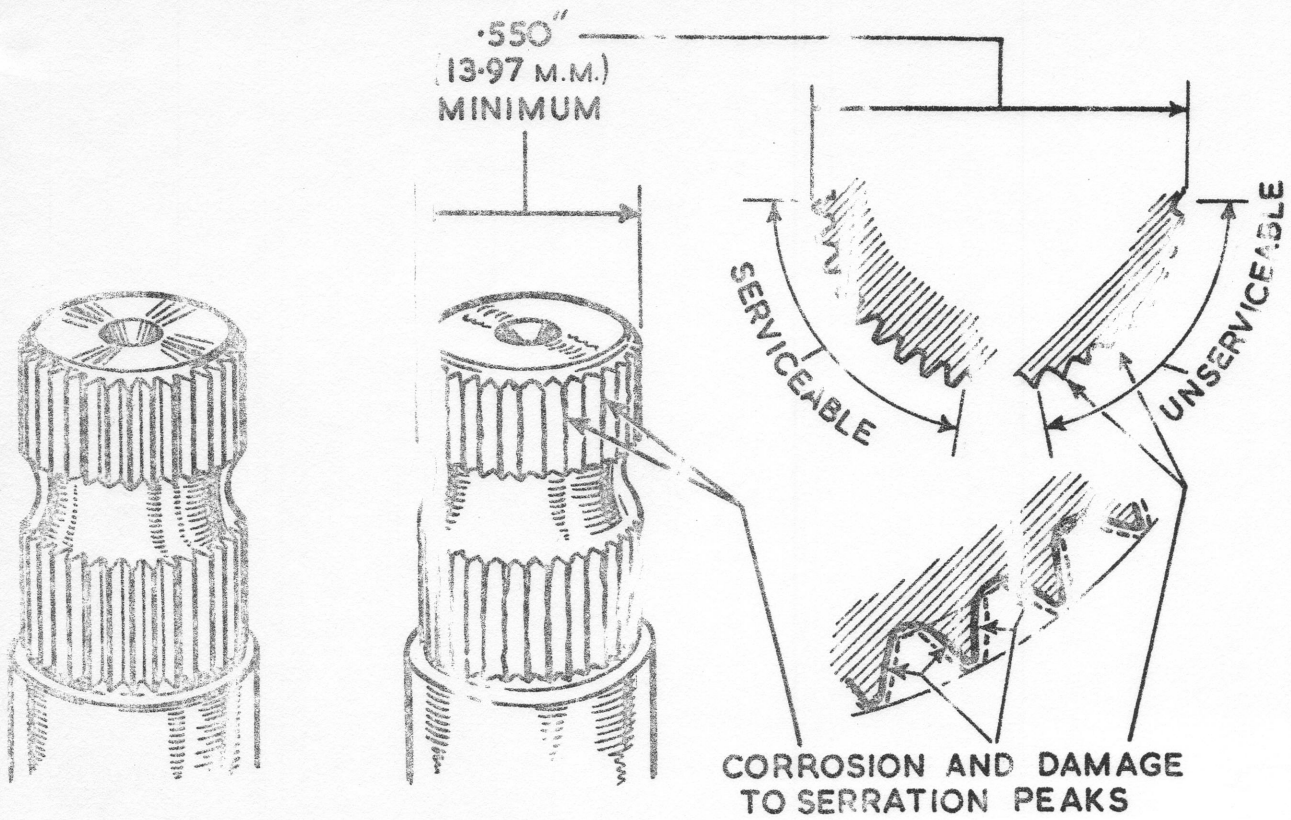
INSPECTION AND FITTING INSTRUCTIONS
FOR FITMENT 'V' QUALITY BOLT

- 2 -

- (2) If either the inner column of pinion splines show signs of corrosion or wear, then the relative parts should be changed.
- (3) For correct refitting and alignment, carry out instructions shown in Section A, paragraphs 7, 8, 9 and 10.

GENERAL

1. The rack and pinion clamp nuts must not be tightened until the inner column has been fitted and the coupling pinch bolt correctly tightened.
2. The pinch bolt torque loading quoted in this instruction of 10 lbs. ft. only applies to the 1/4" 'V' quality bolt. Torque loading of the existing bolts which is checked at each voucher service remains at 8 lbs. ft.
3. If Shell Retinax A grease is not available, a suitable equivalent salt-resistant grease may be used.



SERVICEABLE

UNSERVICEABLE

FIG. 1

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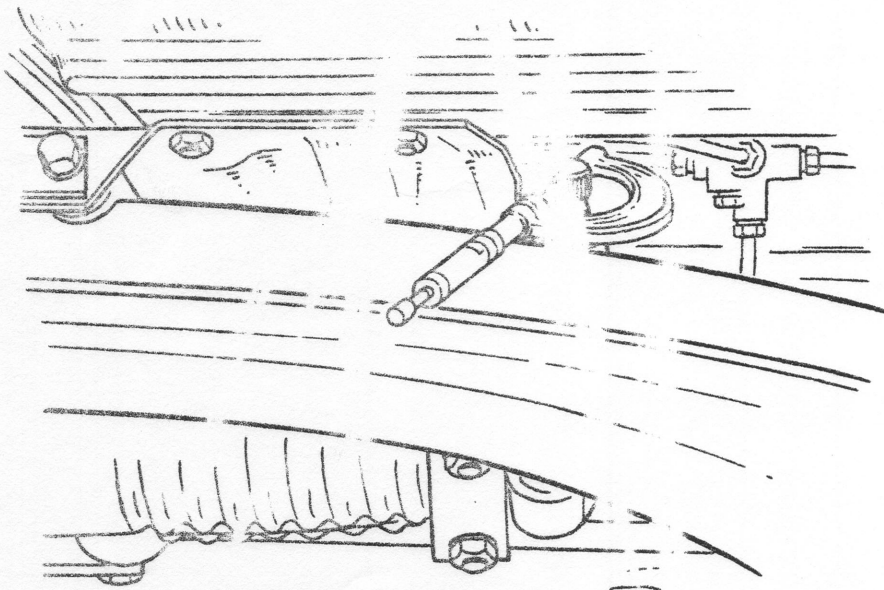


FIG. 2

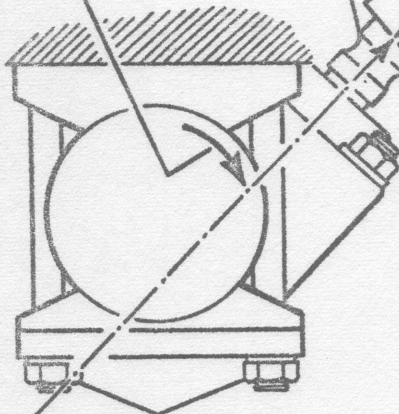
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ALIGNMENT OF RACK PINION AND INNER STEERING COLUMN

INCORRECT

ROTATE FOR
CORRECT
ALIGNMENT

HIGH

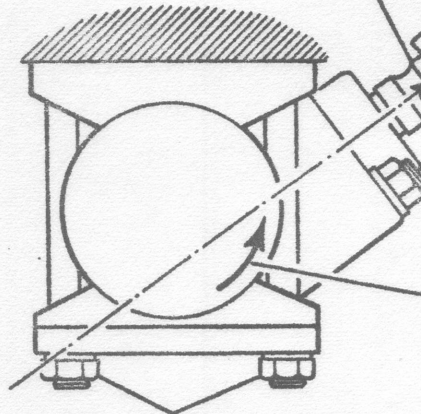


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FIG. 3 A

INCORRECT

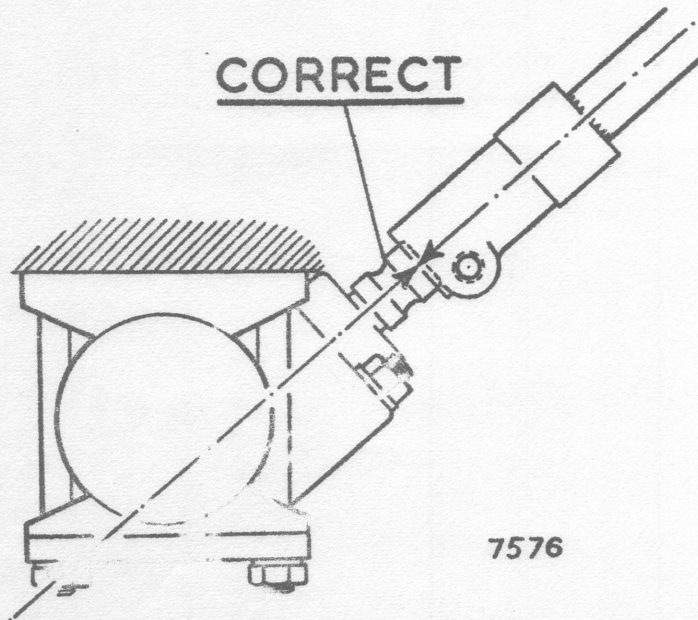
LOW



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FIG. 3 B

CORRECT



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FIG. 4

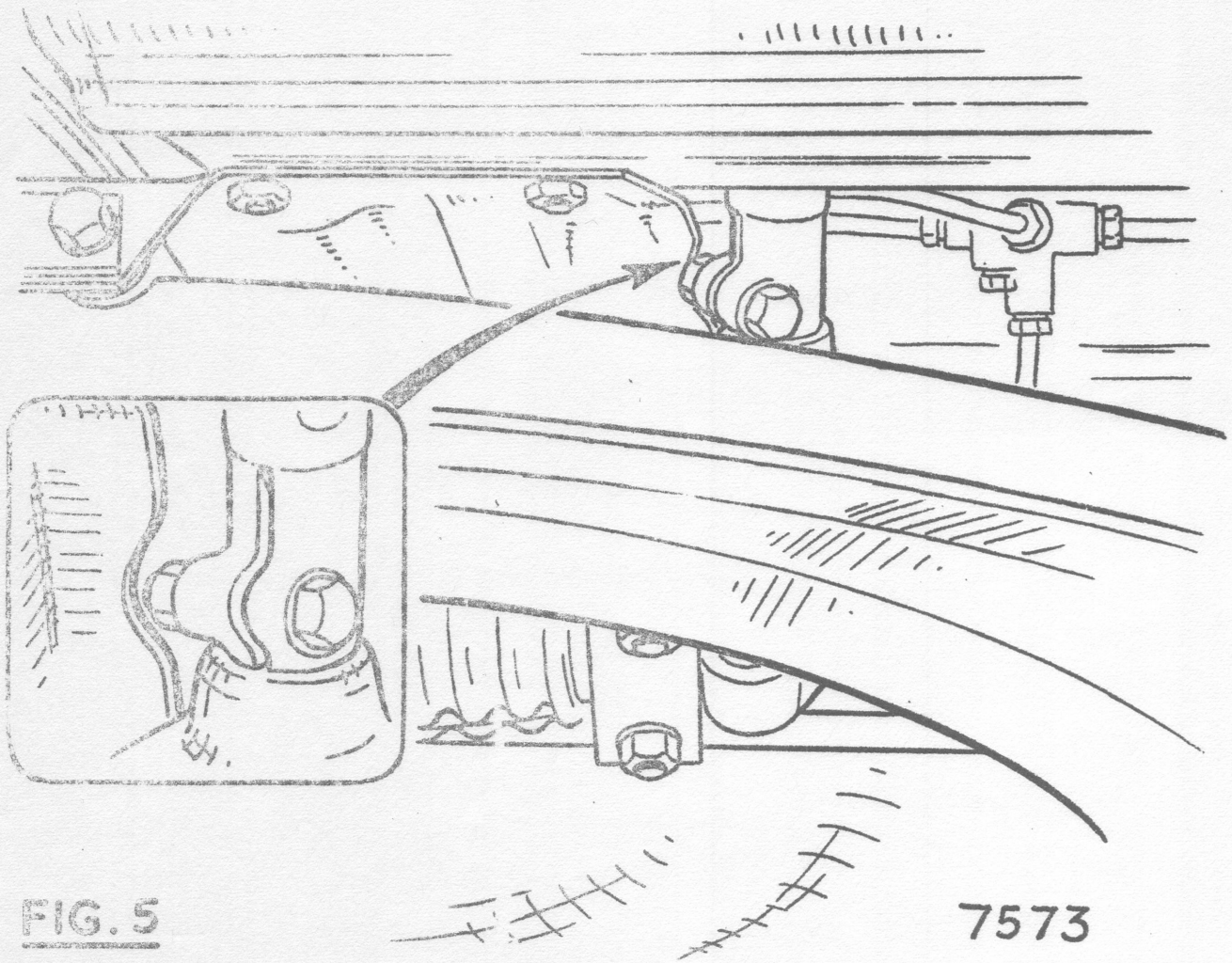


FIG. 5

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