COMMON WHEEL ALIGNMENT INFO XJ6 SERIES - FRONT & REAR SUSPENSION

FRONT WHEEL ALIGNMENT

Check and adjust **57.65.01**

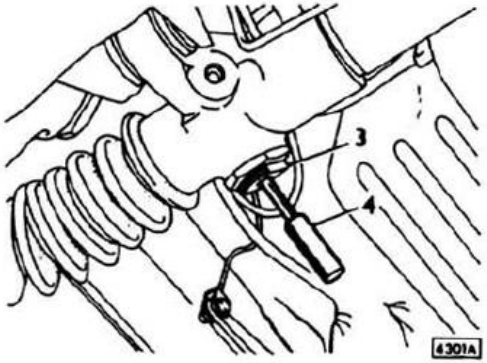
Service Tool: Rack Centralising Tool Jaguar Part No. 12297.

Check

1 Inflate tyres to correct pressures.
2 Set front wheels in straight ahead position.
3 Remove grease nipple from rack adjuster pad.
4 Insert centralising tool (Jaguar part number 12297) and adjust position of rack until reduced tip of tool enters locating hole in rack.
5 Check alignment by using light beam equipment or an approved track setting gauge.
NOTE: As a front wheel alignment check is called for in each 6,000 mile (10,000 km.) service, very little variation from specified figures for wheel alignment is to be expected; if, however, a discrepancy of as much as 1/8 in.(3 mm.) from specified limits of 1/16 in. to 1/8 in. (1,6 mm. to 3,2 mm.) toe-in is recorded, accidental damage to a steering lever may have occurred and following further check must be carried out, on both levers.
6 Remove steering levers – 57.55.29.
7 Accurately check dimensions of each lever against those quoted in illustration.
8 Reject for scrap and replace any lever with dimensions outside limits quoted.

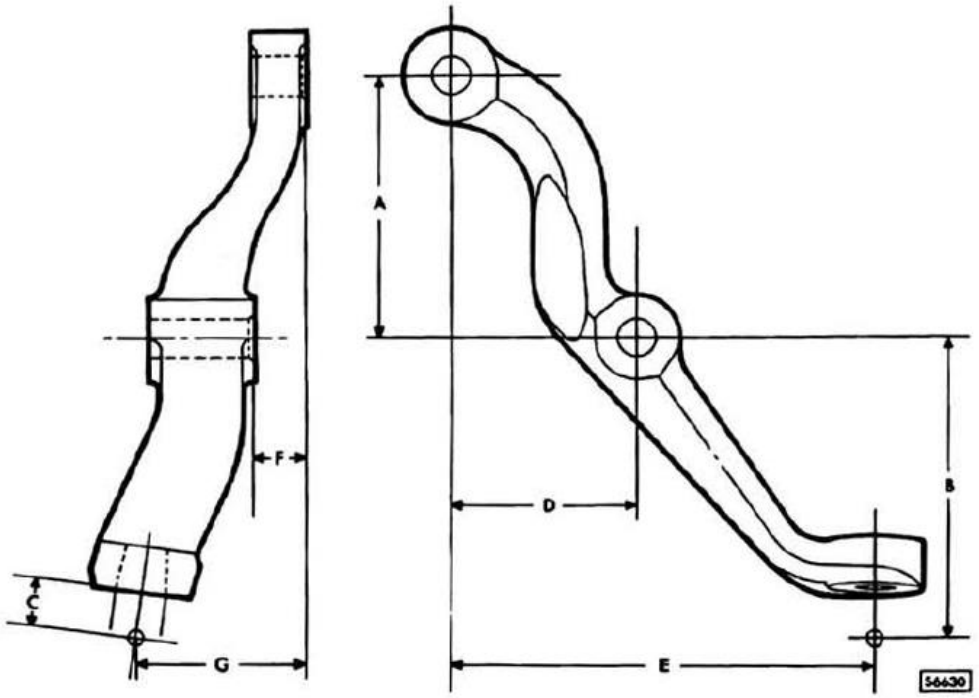
WARNING: IT IS ABSOLUTELY FORBIDDEN TO ATTEMPT TO RECTIFY A REJECTED LEVER BY BENDING.

If both steering levers are within limits, a discrepancy in alignment figures may be due to distortion of upper or lower wishbones, or end of stub axle carriers (vertical links). Dimensioned drawings of these parts for checking purposes, are given in Group 60.



Adjust

9 Slacken locknuts at outer ends of each tie-rod.
10 Release hose clips securing outer ends of gaiters to tie-rods.
11 Turn tie-rods by an equal amount until alignment of wheels is correct.
12 Tighten locknuts to 60–70 lbf.ft. (8,30–9,68 kgf.m.) while holding track rod end by spanner flats.
13 Re-check alignment.
14 Ensure that gaiters are not twisted and retighten clips.
15 Remove centralising tool and refit grease nipple.



DIMENSIONS – STEERING LEVER

'A' 3,248 in. to 3.252 in. (82,5 mm. to 82,6 mm.)

'B' 4.01 in. to 4.03 in. (101,85 mm. to 102,36 mm.)

'C' 0.875 in. (22,23 mm.)

'D' 2.32 in. to 2.34 in. (58,93 mm. to 59,44 mm.)

'E' 5.33 in. to 5.35 in. (135,38 mm. to 135,89 mm.)

'F' 0.70 in. to 0.71 in. (17,78 mm. to 18,03 mm.)

'G' 2.14 in. to 2.16 in. (54,36 mm. to 54,86 mm.)

CASTOR ANGLE

Check and adjust **57.65.04**

Service tool: Suspension links JD.25.

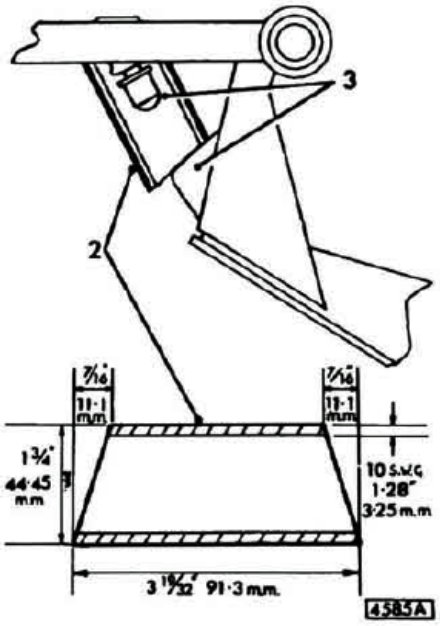
Check

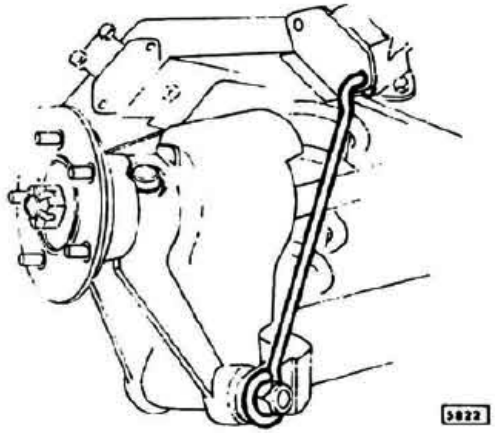
CAUTION: Before checking castor angle, examine all rubber/steel bushes for deterioration or distortion. Check upper and lower wishbone ball joints for excessive play: check shock absorbers and mountings.

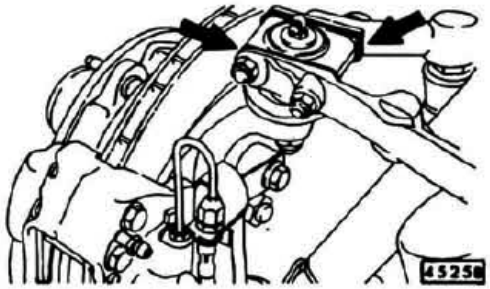
1 Ensure that car is standing on level ground and inflate tyres to correct pressure; check that standing heights are equal on both sides of car.
2 Make up two suspension setting tubes to dimensions shown.
3 Compress front suspension and insert setting tubes under upper wishbones adjacent to rebound stop rubbers, and over brackets welded to bottom of 'turrets' as shown. This locks front suspension in mid-laden condition.
4 Lock rear suspension in mid-laden condition by compressing suspension, hooking links JD.25 through lower holes in rear mountings, and passing looped ends of links over rear pivot nuts, as shown.
5 Check castor angle by normal methods, using an approved gauge; correct angle is 2¼ deg. ± ¼ deg.

Adjust

6 Slacken two bolts on each side securing upper wishbone members to upper ball joints.
7 Transpose shims, which can now be lifted out, from front to rear or vice versa, to reduce or increase castor, respectively. Transposing one shim 1/16 in. (1,6 mm.) thick will alter castor angle by approximately ¼ deg.
8 After adjusting castor to correct figure, retighten four bolts slackened in operation 6, to 26–32 lbf.ft. (3,60–4,42 kgf.m.).
9 Recheck front wheel alignment and adjust if necessary – 57.65.01.







CAMBER ANGLE

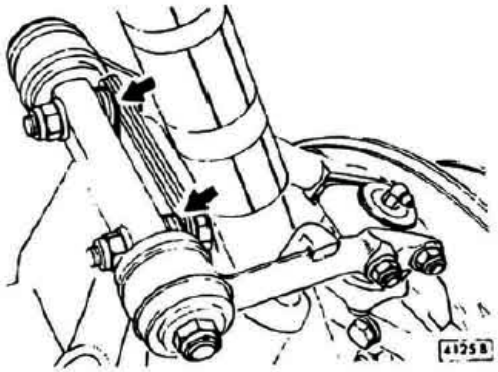
Check and adjust **57.65.05**

Check

1 Set up car in mid-laden condition – 57.65.04 operations 1 to 4.
2 Line up wheel to be checked in straight ahead position and check camber angle with an approved gauge. Correct camber is ½ deg. positive ± ¼ deg. and the two front wheels must be within ¼ deg. of each other.
3 Rotate wheels through 180 deg. and re-check camber angle.

Adjust

4 Release nuts from bolts securing upper wishbone inner pivots to cross member turrets.
5 Add or remove shims between pivot shafts and cross member turrets to reduce or increase camber angle. Shims are available in 1/32 in. (,8 mm.), 1/16 in. (1,6 mm.) and 1/8 in. (3,2 mm.) thickness, and a change of 1/16 in. (1,6 mm.) in shims will alter camber angle by approximately ¼ deg. **NOTE**: It is necessary to partly withdraw bolts to change shims, so only one bolt of a pair should be shimmed at a time. It is important that an equal thickness of shims should be changed on front and rear bolts, as otherwise castor angle will be affected.
6 Re-tighten nuts to 45–55 lbf.ft. (6,23–7,60 kgf.m.).
7 Check new camber angle on both wheels.
8 Check front wheel alignment and adjust if necessary – 57.65.01.



REAR SUSPENSION CAMBER ANGLE

Check and adjust **64.25.18**

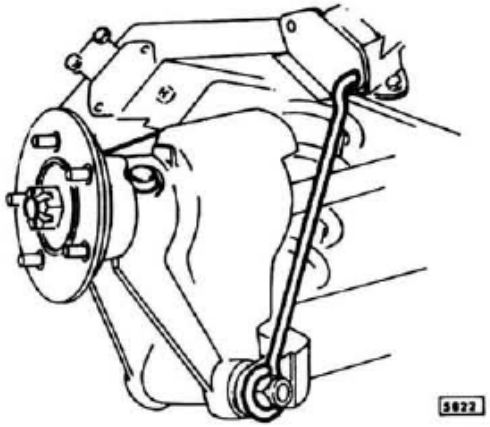
Service tool: Setting links JD.25.

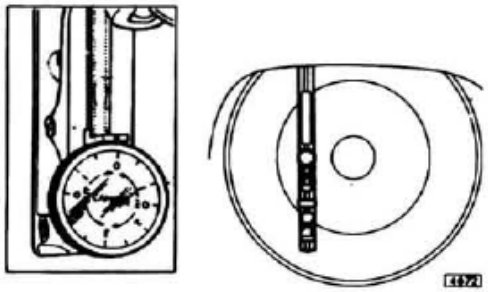
Checking

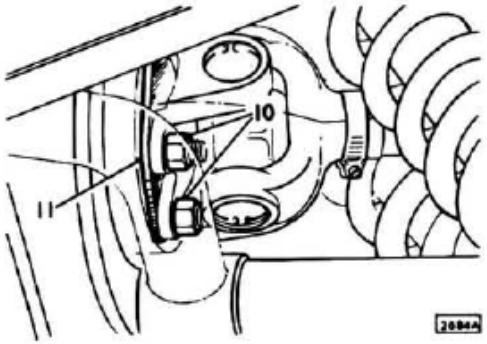
1 Set car on level surface.
2 Ensure tyre pressures correct.
3 Hook one end of setting link, tool JD.25, in lower hole of rear mounting, depress body until other end of setting link can be slid over outer wishbone fulcrum nut. Repeat on other side of car.
4 Set camber gauge against each rear tyre and read off camber angle. The correct reading should be ¾° + ¼° negative. If these limits are not met, note deviation and adjust camber angle, see operations 6 to 15 inclusive. If result satisfactory continue with operation 5.
5 Remove setting links.

Adjust

6 Remove setting links.
7 Jack up rear of car and place stands to support body.
8 Remove road wheel.
9 Remove lower wishbone outer fulcrum grease nipple.
10 Release clip securing inner universal joint cover. Slide cover clear of joint.
11 Remove four steel locknuts securing half shaft flange to brake disc.
12 Separate half shaft from disc to enable shims to be fitted.
NOTE: Addition of one shim .020 in. (,5 mm.) will alter camber position ¼°.
13 Add or remove shims as required.
14 Reverse operations 6 to 12 inclusive.
15 Repeat operation 4.







REAR HYDRAULIC DAMPERS

Remove and refit **64.30.01**

Service tools: Handpress SL.14, Adaptor JD.11B.

Removing

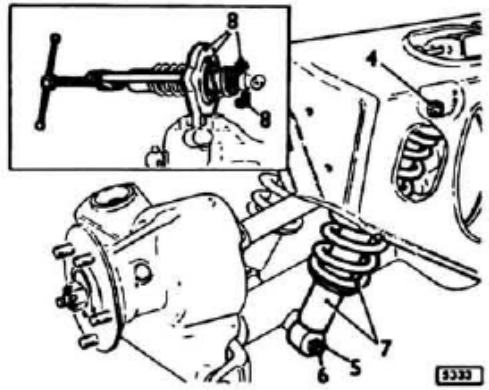
NOTE: Rear hydraulic dampers can be removed with rear suspension unit fitted to car.

1 Remove rear road wheel.
2 Support rear of car on stand.
3 Place jack to support wishbone.
4 Remove self-locking nut and bolt securing top of hydraulic damper to suspension unit cross beam.
5 Remove washers and nuts securing hydraulic dampers to wishbone.
6 Drift out damper mounting pin. Recover spacer at forward end of mounting pin tube.
7 Withdraw hydraulic damper and road spring assembly.
8 Using tools SL.14 and JD.11B compress road spring until collets and spring seat can be removed.
9 Release spring pressure and withdraw hydraulic damper from road spring.

Refitting

NOTE: Hydraulic dampers fitted to this car are of the gas pressurized type and therefore need not be exercised before installation.

Reverse operations 1 to 9 inclusive.



BUMP STOP

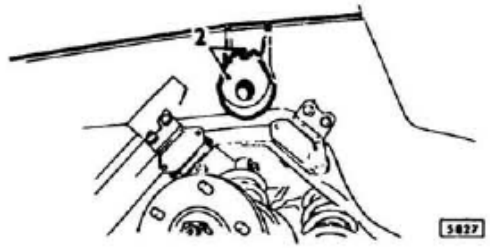
Remove and refit **64.30.15**

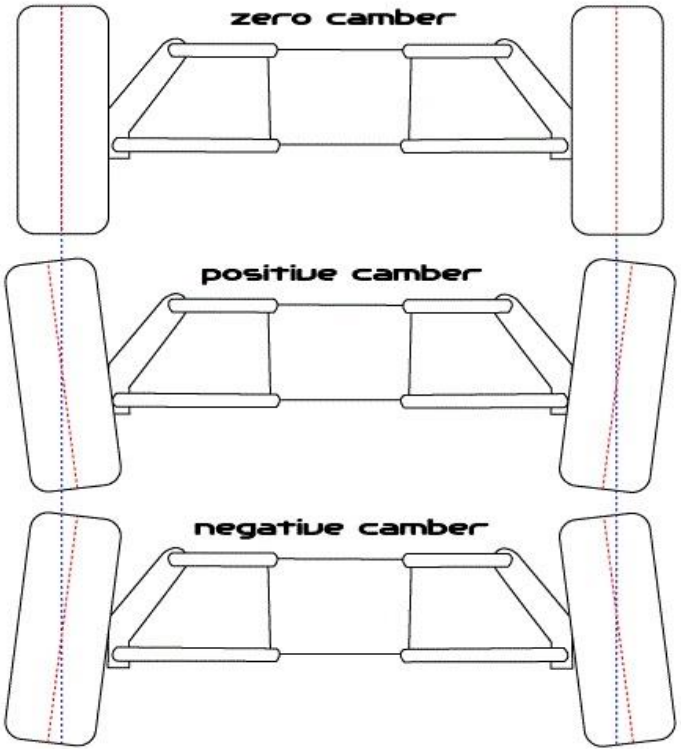
Removing

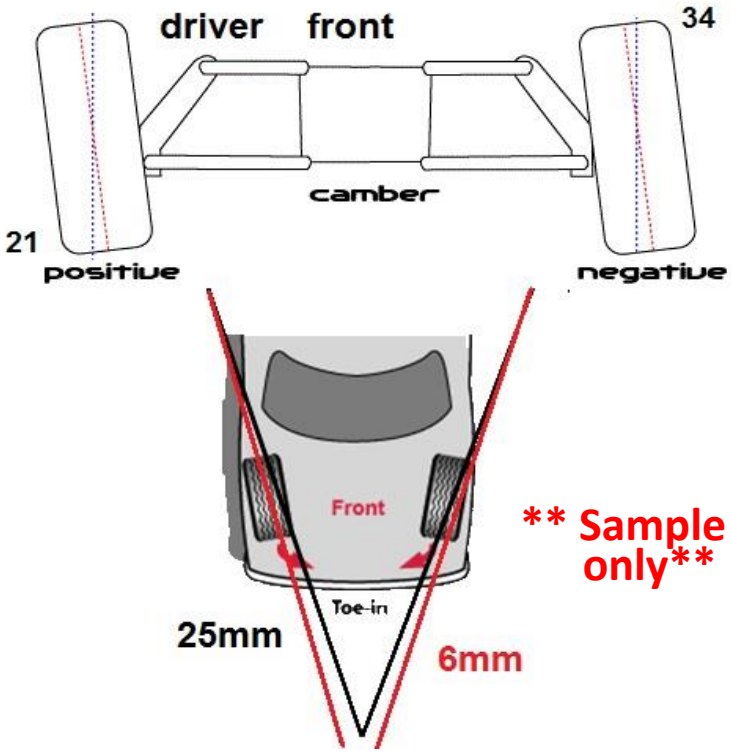
1 Remove rear road wheel – 74.20.01.
2 Remove two self-locking nuts and washers and detach bump stop.

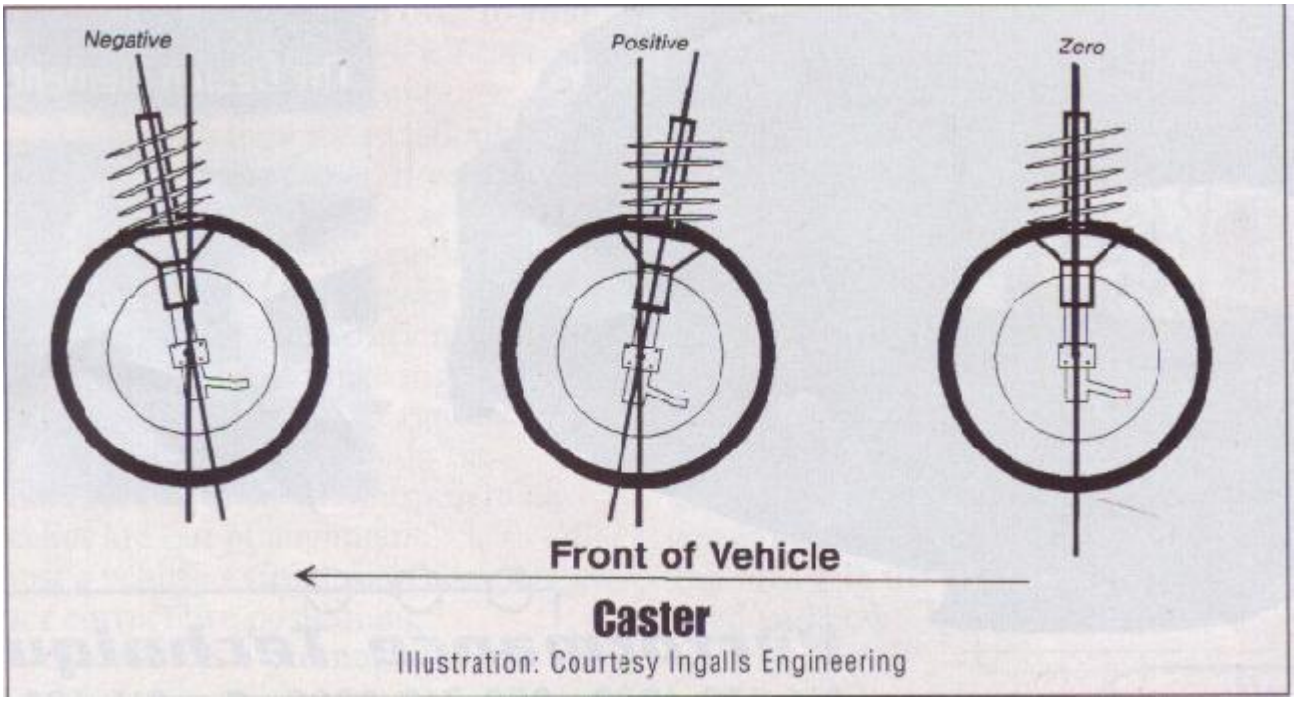
Refitting

Reverse operations 1 and 2, tightening nuts to 8 to 10 lbf.ft. (1,11 to 1,38 kgf.m.).




zero camber
positive camber
negative camber


driver front
34
camber
21
positive
negative
Front
Toe-in
25mm
6mm
** Sample only**


Negative
Positive
Zero
Front of Vehicle
Caster
Illustration: Courtesy Ingalls Engineering