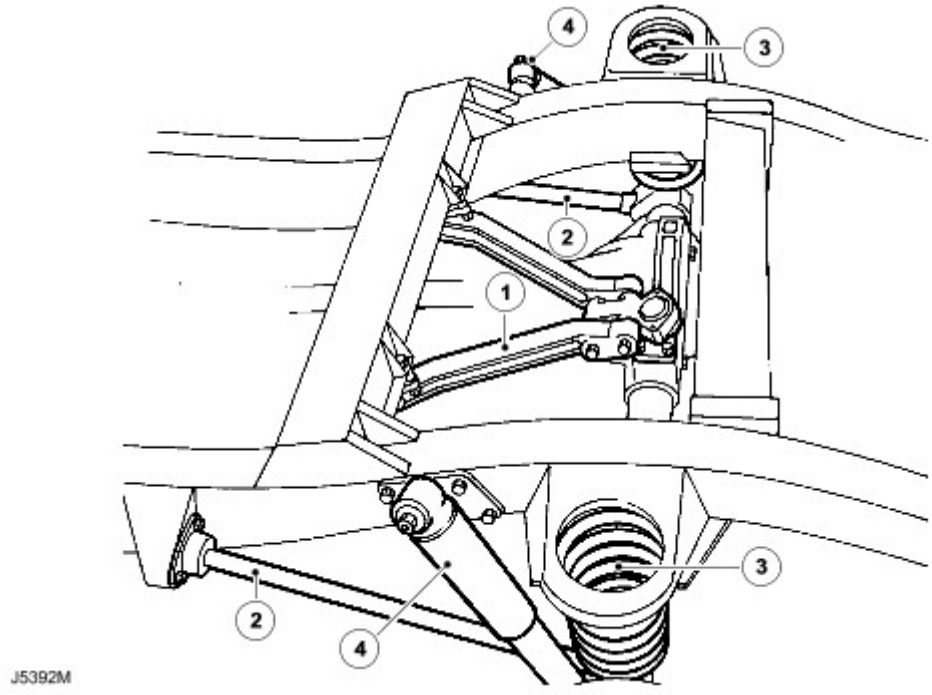
Published: Apr 14, 2006

Rear Suspension

Rear axle suspension



Item	Part Number	Description
1		'A ' frame, upper link assembly
2		Lower link
3		Coil springs
4		Shock absorbers

DESCRIPTION

The rear suspension design locates the rear axle with two round section steel lower link arms and a forged 'A' frame, upper link assembly. This system allows maximum axle articulation and wheel travel while maintaining roll stiffness and directional stability.

The link arm is secured by a single retaining nut to the chassis mounting, comprising a rubber bushed bracket, which is retained by three fixings. A ferrule rubber bush with a single retaining bolt is used to secure the link arm to its axle mounting.

The upper link assembly is located on the rear differential housing by a pivot ball-pin assembly. Two brackets bolted to the chassis crossmember support both sides of the 'A' frame of the link assembly, secured by single retaining bolts.

A Boge Hydromat self levelling unit can be fitted, as an option, on 110/130 models to give additional support when the vehicle is used to carry heavier loads.

Two rubber bearing bushes, with retaining straps, secure the rear of the stabilizer bar, if fitted, to the chassis mountings, while bushed links support the front of the anti-roll bar to the axle.

Conventional long travel coil springs and hydraulic shock absorbers are used to control body movement. The shock absorbers are secured to chassis mounting brackets and fabricated lower mountings welded to the rear axle. Retaining plates are used to secure the coil springs to the axle mounting while fabricated brackets, welded to the chassis, are used for the upper spring location.

Published: Apr 7, 2006

Wheel Bearing and Wheel Hub (64.15.14)

Removal

1 . **WARNING: Support on safety stands.**

Raise rear of vehicle.

2 . Remove rear road wheel.

3 . Remove 2 bolts securing brake caliper to hub.

4 . Release caliper from disc and tie aside.

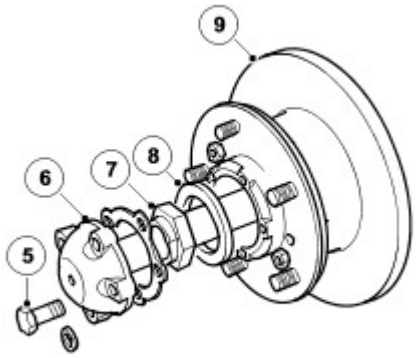
5 . Remove 5 bolts securing axle shaft.

6 . Remove axle shaft and discard gasket.

7 . Knock back staking, and using a suitable socket, remove and discard stake nut.

8 . Remove hub nut washer.

9 . Remove hub and brake disc assembly complete with bearings.



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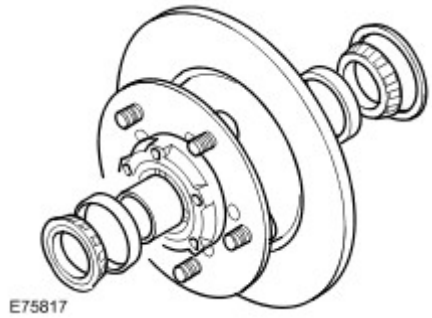
10 . Remove outer bearing and spacer from hub.

11 . Remove grease seal and inner bearing from hub.

12 . Remove inner and outer bearing tracks from hub.



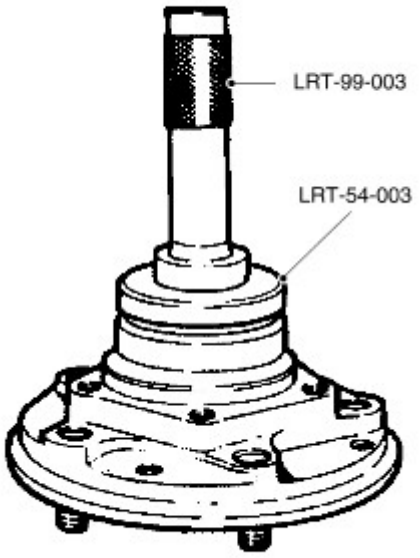
Installation

1 . Clean hub and bearing locations.

2 . Fit inner and outer bearing tracks to hub.

3 . Pack inner bearing with grease and fit to hub.

4 . Fit new grease seal flush with rear face of hub using LRT-54-003 and LRT-99-003.



5 . Clean stub axle.

6 . Pack outer bearing with grease, fit spacer and bearing to hub.

7 . Fit hub assembly to stub axle, remove LRT-54-019.

8 . Fit washer and new hub nut and tighten to 30 Nm (22 lbf.ft).

9 . Rotate and push/pull hub to settle bearings. Tighten hub nut to 210 Nm (150 lbf.ft).

10 . To check hub end float, mount a dial gauge using bracket LRT-99-503 to driving member bolt hole.

11 . Ensure dial gauge is contacting hub nut face.

12 . Move hub in and out noting dial gauge reading.

13 . If end float is present refer to table for correct spacer and change spacer as necessary.

End float (mm)	Spacer size (mm)	Colour code
0.00	15.5	Purple
0.025	15.4	Yellow
0.050	15.4	Yellow
0.075	15.4	Yellow
0.10	15.3	Red
0.125	15.3	Red
0.150	15.3	Red
0.175	15.2	Blue
0.200	15.2	Blue
0.225	15.2	Blue
0.250	15.2	Blue
0.275	15.1	Green
0.300	15.1	Green
0.325	15.1	Green
0.350	15.1	Green
0.375	15.0	Black
0.400	15.0	Black
0.425	15.0	Black
0.450	15.0	Black
0.475	14.9	White
0.500	14.9	White
0.525	14.9	White
0.550	14.9	White

14 . When no end float is evident, remove the dial gauge and mounting bracket.

15 . Stake the hub nut.

16 . Clean hub and axle shaft faces.

17 . Fit new driving member gasket.

18 . Position driving member to hub and tighten new bolts to 65 Nm (48 lbf.ft).

19 . Fit original shim(s) to drive shaft and secure with circlip.

20 . Position caliper to hub, fit bolts and tighten to 82 Nm (61 lbf.ft).

21 . Fit road wheel, remove axle stands and tighten road wheel nuts to 130 Nm (96 lbf.ft).

22 . Operate brake pedal to locate brake pads before driving vehicle.

23 . Check and top up brake fluid.

Published: May 23, 2008

Spring (64.20.04)

Removal

1 . Loosen rear road wheel retaining nuts.

2 . Support chassis on stands and remove wheels.

3 . Support rear axle weight with jack.

4 . Disconnect shock absorbers at one end.

5 . Position coil spring compressor correctly on road spring.

6 . Compress spring evenly to facilitate removal.

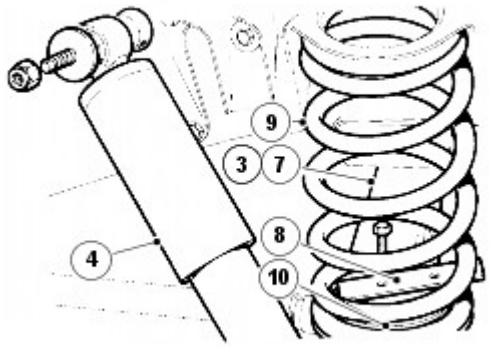
7 . Lower axle to free road spring from upper seat.

CAUTION: Avoid lowering axle further than rear brake flexible hose will allow.

8 . Remove spring retainer plate.

9 . Withdraw road spring.

10 . Collect spring seat.



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Installation

1 . Position spring seat on axle location.

2 . Install road spring into chassis location and, using a turning motion, fit to spring seat.

3 . Install spring retainer plate. Tighten bolts to 45 Nm (33 lbf.ft).

4 . Secure shock absorber. Tighten upper fixing to 85 Nm (63 lbf.ft). Tighten lower fixing to 28 Nm (21 lbf.ft).

Note: For vehicles built prior to VIN 737011, discard the old fixings and tighten new fixing to the torque specified.

5 . Install road wheels, remove chassis stands and jack. Tighten wheel nuts to correct torque:

1) Alloy wheels - 130 Nm (96 lbf.ft)
2) Steel wheels - 100 Nm (80 lbf.ft)
3) Heavy duty wheels - 170 Nm (125 lbf.ft)

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Wheel Studs

Removal

1 . Remove wheel.
For additional information, refer to Wheel and Tire (60.25.06)

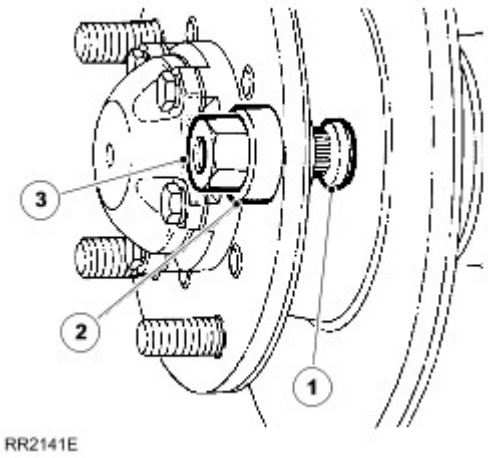
2 . Drive stud out of driveshaft flange.

Installation

1 . Position stud in flange.

2 . Install a suitable spacer over stud.

3 . Using a M16 x 1.5 nut, a slave wheel nut is suitable, pull stud into flange until shoulder of stud abuts flange.



4 . Refit wheel.
For additional information, refer to Wheel and Tire (60.25.06)

Published: Jul 12, 2006

Rear Stabilizer Bar (64.35.08)

Removal

1 . Note for reassembly, position of rubber bushes on stabilizer bar.

2 . Remove 4 nuts, bolts and washers securing both stabilizer bar bush straps to chassis mounting brackets.

3 . Remove nuts, bolts, washers and rubber bushes securing stabilizer bar to links.

4 . Remove stabilizer bar.

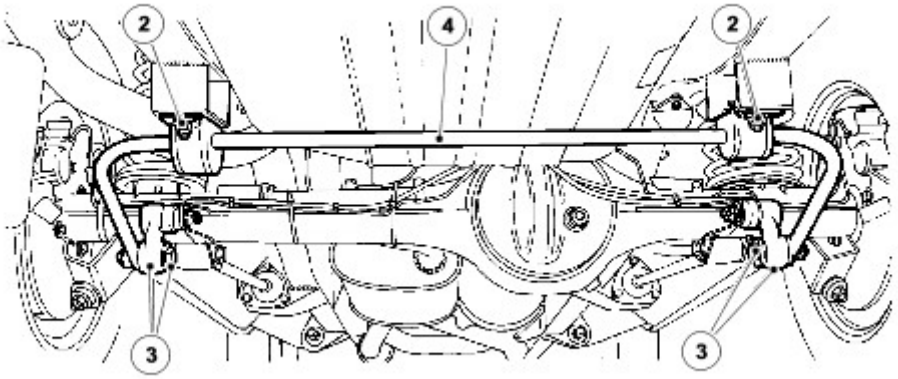
Installation

1 . Position rubber bushes on stabilizer bar. Instal joint towards axle.

2 . Instal stabilizer bar with two straps. Ensure link arms point down as shown. Loosely instal, bolts, washers and new nyloc nuts.

3 . Instal bolt, washers and rubber bushes. Instal anti-roll bar to links and tighten to 68Nm (50 lbf.ft).

4 . Tighten nuts securing straps to 30Nm (22 lbf.ft).



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Published: Apr 7, 2008

Rear Shock Absorber (64.30.02)

Removal

1 . Loosen road wheel retaining nuts.

2 . Support chassis on stands. Remove road wheel and support rear axle weight with jack.

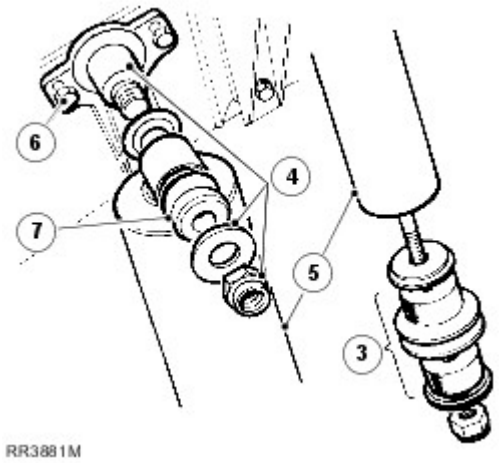
3 . Remove fixings and withdraw shock absorber from axle bracket.

4 . Remove upper fixings.

5 . Withdraw shock absorber.

6 . If required, remove mounting bracket

7 . If required, remove mounting rubbers.



Installation

1 . Position shock absorber and install upper fixings.

2 . Secure shock absorber with lower fixings to axle bracket.

3 . Tighten upper fixing to 85 Nm (63 lbf.ft). Tighten lower fixing to 28 Nm (21 lbf.ft).

Note: For vehicles built prior to VIN 737011, discard the old fixings and tighten new fixing to the torque specified.

4 . Install road wheels, remove chassis stands and jack. Tighten wheel nuts to correct torque:

1) Alloy wheels - 130 Nm (96 lbf.ft)
2) Steel wheels - 100 Nm (80 lbf.ft)
3) Heavy duty wheels - 170 Nm (125 lbf.ft)

Published: Apr 20, 2006

Rear Stabilizer Bar Link (64.35.24)

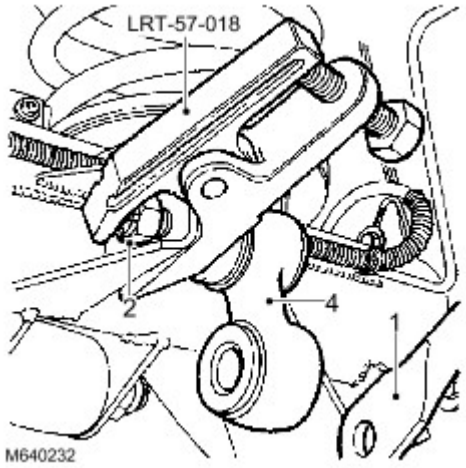
Removal

1 . Remove 2 nuts, bolts, washers and rubber bushes from links and lower stabilizer bar to clear links.

2 . Remove cotter pin and loosen castellated nut a few turns.

3 . Release link using tool LRT-57-018 as shown.

4 . Remove castellated nut and remove link.



Installation

1 . Install stabilizer bar link arm and castellated nut. Point link arm down as shown. Tighten fixing to 40 Nm (30 lbf.ft) and fit new cotter pin.

2 . Align stabilizer bar to links.

3 . Install bolts, washers and rubber bushes using new self locking nuts and secure stabilizer bar to links. Tighten to 6 8Nm (50 lbf.ft).

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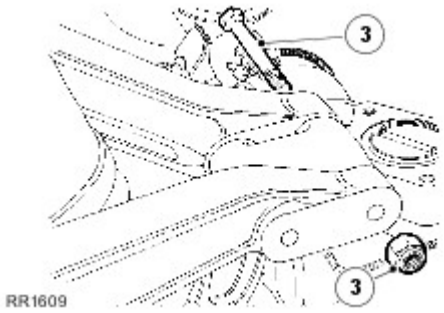
Upper Arm (64.35.60)

Removal

1 . Support rear of chassis on stands, allow axle to hang freely.

2 . Remove fixings securing upper arm bracket to frame.

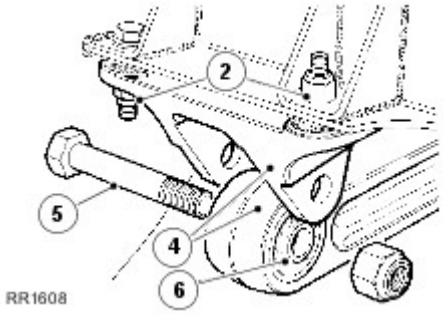
3 . Remove fixings securing upper arms to pivot bracket.



4 . Remove upper arm, complete with frame bracket.

5 . Remove bolt.

6 . Separate upper arm from bracket.



7 . Renew bush

8 . Press out rubber bushes.

9 . **CAUTION: Apply pressure to outer edge of bush, and not rubber inner.**

Fit bush centrally in housing.

Installation

1 . **NOTE:**
Do not fully tighten fixings until all components are in position.

Secure upper arm to frame bracket.

2 . Fit upper arm to pivot bracket and tighten fixings to 115 Nm (84 lbf/ft).

3 . Fit frame bracket to chassis mounting.

4 . If you are fitting a new nut to the upper arm bolt, fully tighten to 115 Nm (84 lbf/ft). If you are refitting an existing nut, then tighten to 176 Nm (130 lbf/ft).

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Lower Arm (64.35.54)

Removal

1 . Site vehicle on a ramp .

2 . Alternatively, support vehicle on stands under rear axle.

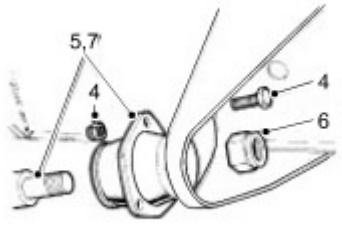
3 . Remove lower arm rear fixings.

4 . Remove mounting bracket fixings at side member bracket.

5 . Remove lower arm complete.

6 . Remove locknut.

7 . Remove mounting bracket from lower arm.



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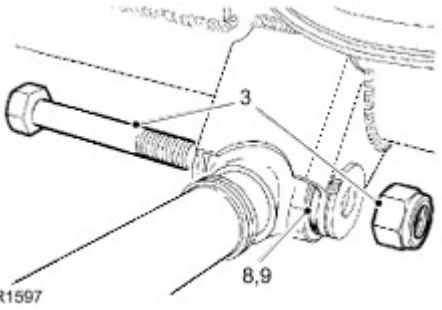
8 . Renew bush

9 . Press out rubber bushes.



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Installation

1 . **CAUTION: Apply pressure to outer edge of bush, and not rubber inner.**

Fit bush centrally in housing.

2 . Fit mounting rubber to lower arm.

3 . Secure mounting rubber to chassis bracket, but do not fully tighten locknut.

4 . Fit lower arm to axle mounting and secure fixing to 176 Nm (130 lbf/ft).

5 . Lower vehicle, allow axle to take up static laden position, and fully tighten lower arm to chassis fixing to 176 Nm (130 lbf/ft).

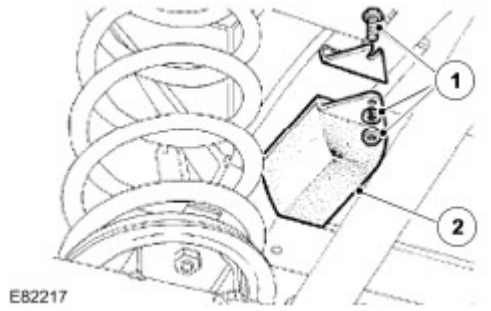
Published: Jun 14, 2006

Axle Bump Stop

Removal

1 . Remove fixings.

2 . Remove bump stop.



Installation

1 . Position bolts in slots in bracket.

2 . Install bump stop, secure with washers and nuts.