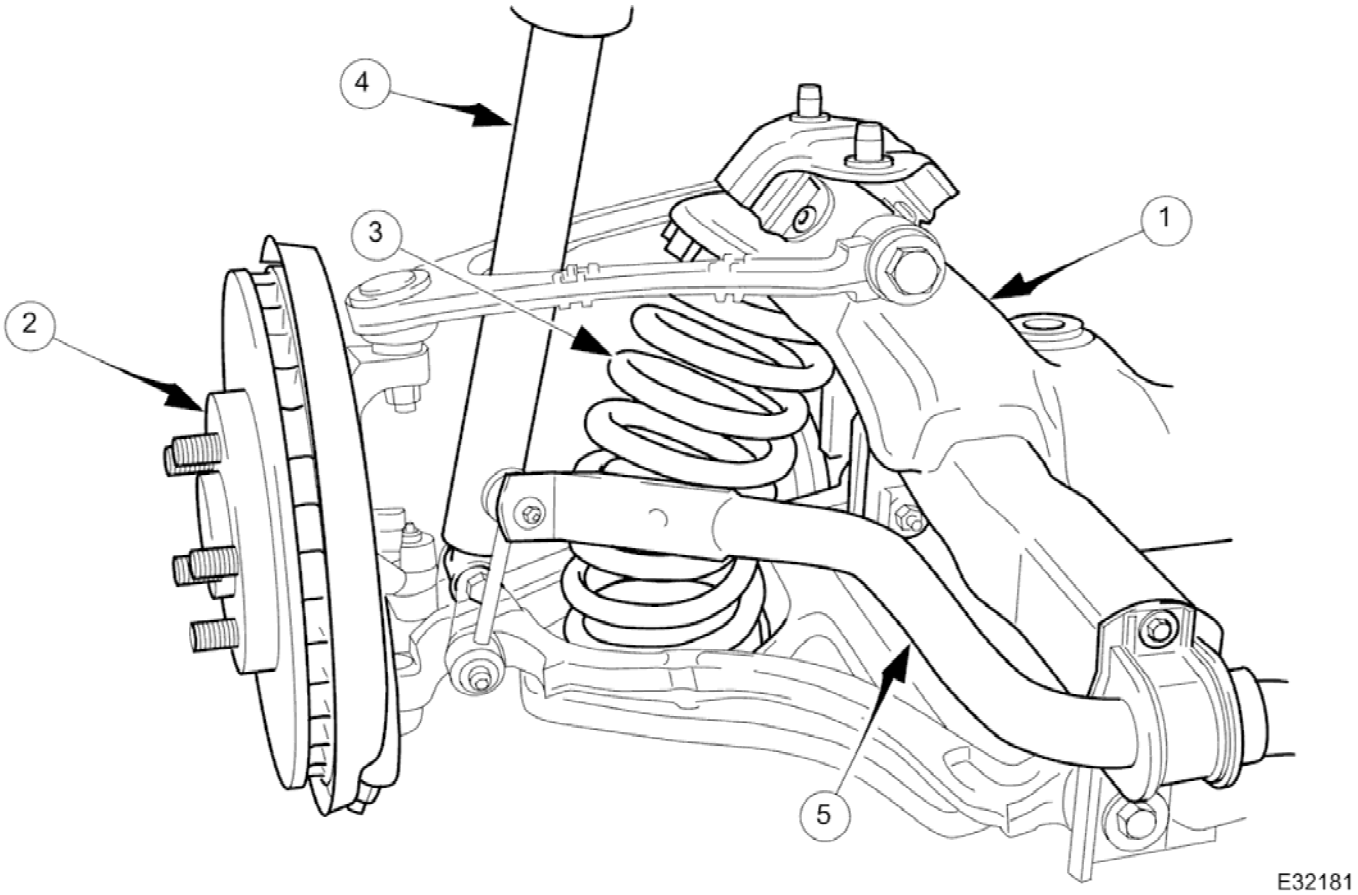
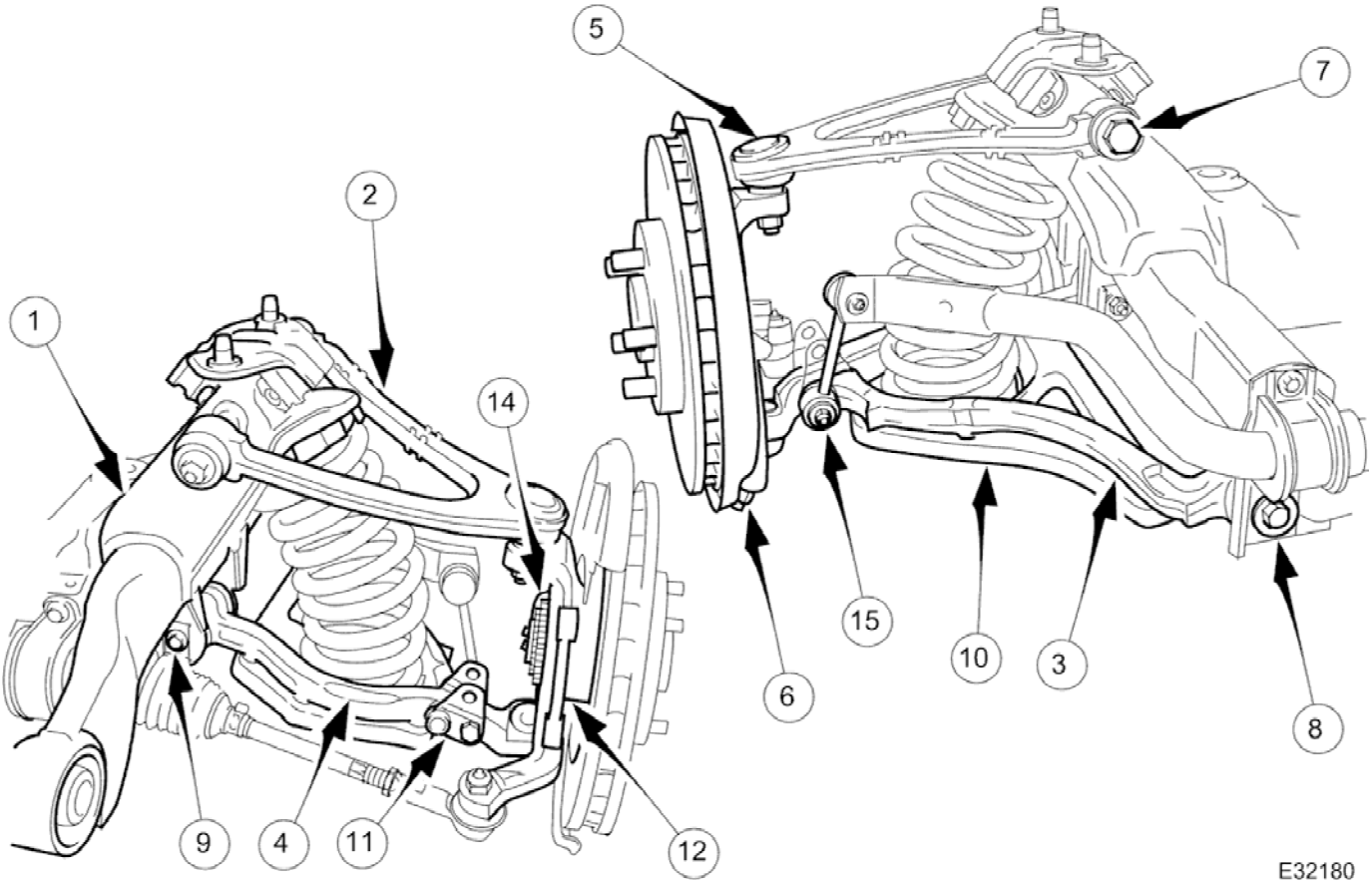
2002 XJ RANGE - Front Suspension - 204-01

Front Suspension



Item	Description
1	Suspension Crossbeam
2	Hub Assembly
3	Spring
4	Shock Absorber
5	Stabilizer Bar



Item	Description
1	Crossbeam
2	Upper Wishbone
3	Lower Wishbone Arm, Front
4	Lower Wishbone Arm, Rear
5	Upper Wishbone Ball Joint
6	Lower Wishbone Ball Joint
7	Fulcrum Bolt
8	Adjuster Bolt, Front
9	Adjuster Bolt, Rear
10	Spring Pan
11	Shock Absorber Lower Mounting Plate
12	Vertical Link
13	Hub Assembly
14	Sensor Rotor
15	Bolt, Wishbone to Link Arm

Front Crossbeam

A fully stressed, pressed steel and tube fabrication with integral lower wishbone tie bars, the crossbeam is secured to the body on four resilient mountings.

The crossbeam incorporates mounting points for:

- The upper and lower wishbone fulcrum bolts.
- The stabilizer bar

- The power steering rack.
- The engine hydramounts.
- Road springs.

Slots and cam reaction plates on the crossbeam provide for adjustment of suspension geometry.

Upper Wishbones

Each upper wishbone assembly is a one-piece steel forging incorporating:

- A press-fit ball joint.
- Press-fit bushes for location of the upper fulcrum bolt.

Lower Wishbones

Each lower wishbone comprising forged steel front and rear arms bolted together, incorporates:

- A press-fit ball joint in the outer extremity of the rear arm.
- Press-fit bushes for location of the lower fulcrum bolts
- Location for the shock absorber lower mounting plates.

Vertical Links

The vertical links are of forged steel with integral steering arms. Each is supported between the upper and lower wishbones by two ball joints and carries:

- Front hub
- Brake caliper and disc shield assembly
- ABS sensor.

Front Hubs

Each forged steel front hub accommodates sealed for life cartridge type wheel bearings, and carries:

- The brake rotor assembly.
- A hub nut with toothed, integral ABS rotor.
- Suspension spring pin locking device.

Front Road Springs

- The road springs are of coil type with their rating dependent upon vehicle specification
- Each spring is installed between the suspension crossbeam location and the lower wishbone spring pan.
- Rubber seats are installed between the spring and the crossbeam and the spring pan.

Front Shock Absorbers

The shock absorbers are telescopic hydraulically operated units. Optional adaptive damping units incorporate a solenoid-operated control valve at their upper extremity.

- Each shock absorber is installed between the lower wishbone rear arm and a recess in the body.
- The lower end of the shock absorber is secured to plates on the wishbone by a bolt that also serves as a pivot.
- The upper end of each shock absorber is secured to the body location by a single nut.

Front Stabilizer Bar

A front stabilizer bar installed on all vehicles is rated according to suspension specification.

Operation

As each road wheel rises, movement is transmitted through the vertical link assembly to the lower wishbone. The resulting rise of the wishbone compresses the road spring and partially telescopes the shock absorber. During this action, the spring absorbs associated shocks and the shock absorber minimizes spring oscillation.

During cornering, vehicle weight is transferred to the outer road wheel with a resulting tendency for the inner wheel to lift. The stabilizer bar assists in minimizing this tendency by transferring a proportion of potential lift of the inner wheel to the outer wheel. This results in enhanced body stability with improved cornering capabilities.