

REAR SUSPENSION

PART 1. SEDAN—SPECIFICATIONS

Type	Independent, semi-trailing arm and coil spring with double acting shock absorber.	Code "B"	58.72 – 58.98 mm (2.311 – 2.322 in)
		Code "C"	58.82 – 58.88 mm (2.316 – 2.318 in)
Coil spring length:			
*L510S, LH and RH drive model	311 mm (12.244 in)		
*P510 RH drive model	306 mm (12.0 in)		
*P510 LH drive model	299 mm (11.8 in)		
*L510 and *PL510 LH and RH drive models	299 mm (11.8 in)		
Wire diameter	14.2 mm (0.56 in)		
Coil diameter	90 mm (3.543 in)		
Wheel alignment – vehicle laden:			
Toe-in angle	–1° ± 30'		
Camber angle	0° ± 30'		
*L510 – 1300 Series, P510–1600 Series.			
Axle housing length:			
Code "A"	59.05 – 59.15 mm (2.325 – 2.329 in)		
Code "B"	58.95 – 59.05 mm (2.321 – 2.325 in)		
Code "C"	58.85 – 58.95 mm (2.317 – 2.321 in)		
Bearing spacer length:			
Code "A"	59.02 – 59.08 mm (2.320 – 2.324 in)		

TORQUE WRENCH SETTINGS

Rear wheel bearing lock nut	33 kg/m (239 ft/lb)
Backing plate bolts	4.0 kg/m (27 ft/lb)
Shock absorber lock nuts	2.3 kg/m (17 ft/lb)
Bumper rubber nut	2.5 kg/m (18 ft/lb)
Wheel nuts	9 kg/m (65 ft/lb)
Suspension member mounting nuts	10 kg/m (72 ft/lb)
Drive shaft axle companion flange nuts .	8 kg/m (58 ft/lb)
Drive shaft to differential mounting nuts	8 kg/m (58 ft/lb)
Differential mounting member locknuts	8.5 kg/m (62 ft/lb)
Suspension arm to suspension member nuts	10 kg/m (72 ft/lb)
Differential to differential mounting member nuts	6 kg/m (43 ft/lb)
Propeller shaft flange nuts	8.5 kg/m (61 ft/lb)
Differential suspension member nut ...	6 kg/m (43 ft/lb)

1. DESCRIPTION

The rear suspension assembly is fully independent being the trailing arm design, incorporating a suspension member, suspension arms, telescopic double acting type shock absorbers and coil springs.

The differential assembly is connected to the suspension member by four bolts and to the body member through two rubber insulators.

Both trailing arms pivot on the two mountings attached to the suspension member through the rubber insulators.

Each shock absorber lower bracket and wheel bearing housing is welded to the trailing end of the suspension arm. The coil springs are mounted between the suspension arms and the vehicle body with the bound rubber situated on the suspension member in the centre of the coil spring.

Suspension of the axle shaft is by two ball bearings which normally only require servicing and lubricating when replacement is being carried out. They are the non-adjustable type.

2. SUSPENSION ASSEMBLY

TO REMOVE

(1) Jack up the rear of the vehicle and support on stands under the frame.

(2) Release the handbrake and disconnect the rear cable at the equaliser.

(3) Mark the propeller shaft rear universal joint and drive pinion flanges and remove the four retaining nuts and bolts.

(4) Separate the two flanges and either fasten the shaft out of the way or withdraw the shaft from the rear of the gearbox.

(5) Disconnect the exhaust pipe at the joint adjacent to the drive pinion flange and at the rear muffler and withdraw the muffler and pipe.

(6) Disconnect both rear brake flexible pipes at the union on the suspension arms. Plug the pipes to prevent entry of dirt.

(7) Remove both rear road wheels.

(8) Place a jack under one side suspension arm and raise the arm sufficiently to take the weight of the coil spring off the shock absorbers.

(9) Remove the nut and washer and disconnect the shock absorber at the lower mounting. Do not lose the rubber bushes.

(10) Lower the suspension arm to release the coil spring, and repeat operations (8) and (9) on the other side suspension unit.

(11) Support the suspension and final drive assembly on a suitable trolley jack, remove the four self locking nuts and washers, one at each suspension member mounting and

one at each final drive housing member mounting, attaching the complete assembly to the body.

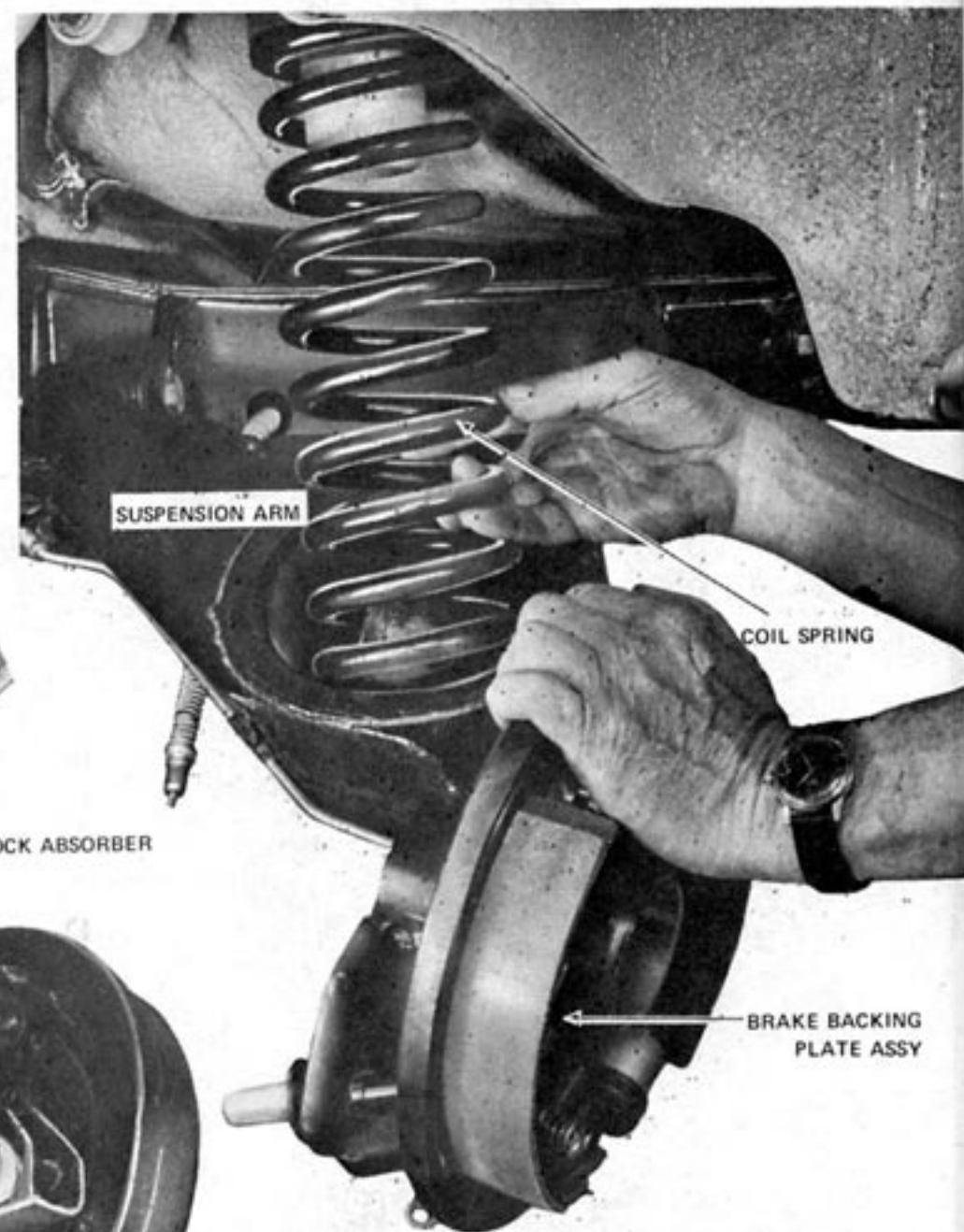
(12) Lower the jack so that the flexible mounting will clear the mounting bolts and withdraw it from beneath the vehicle. Use care to prevent damage by dislodging the assembly from the jack.

(13) If necessary, remove the spring seats from the upper end of the springs and lift each spring from its lower seat in the suspension arm.

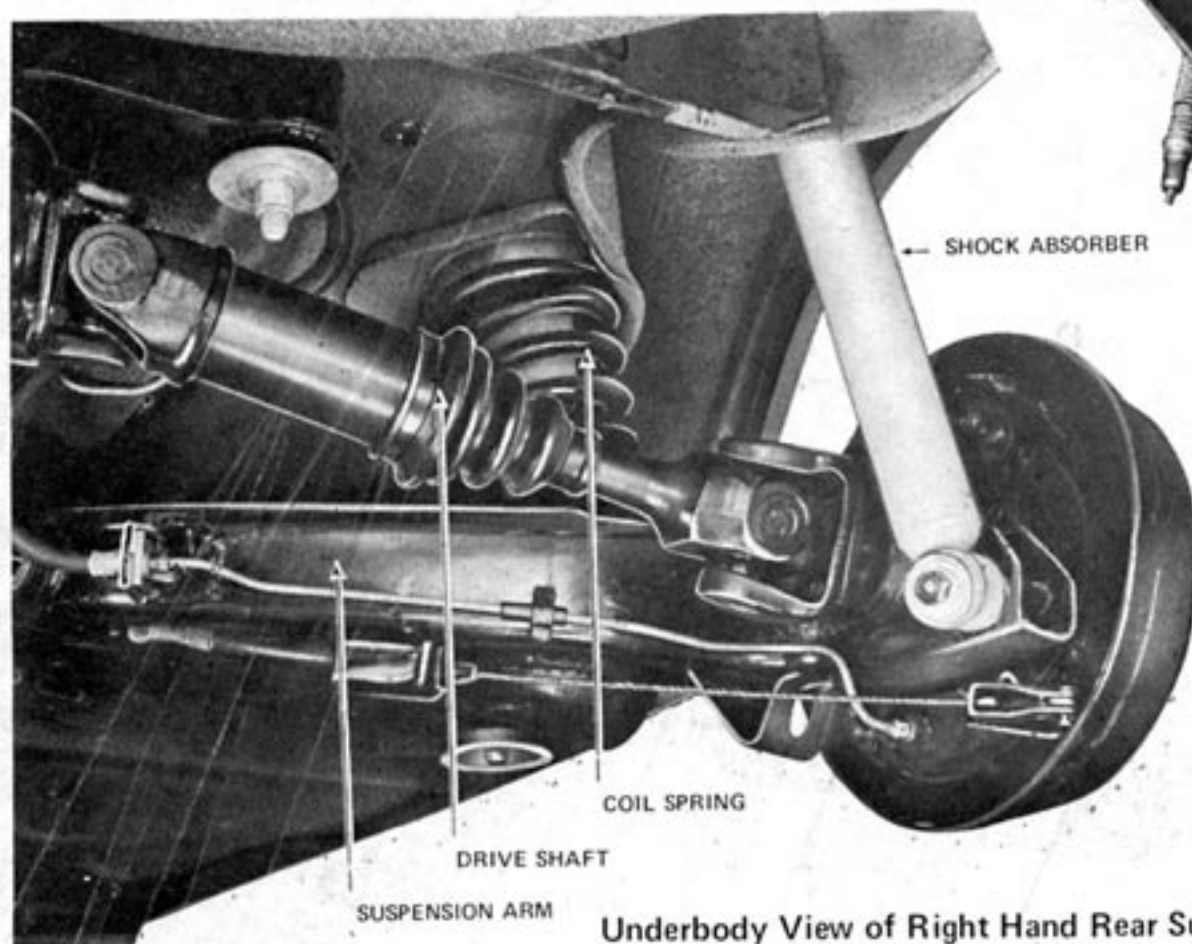
TO INSTAL

(1) Installation is the reversal to that of the removal procedure, paying attention to the following points.

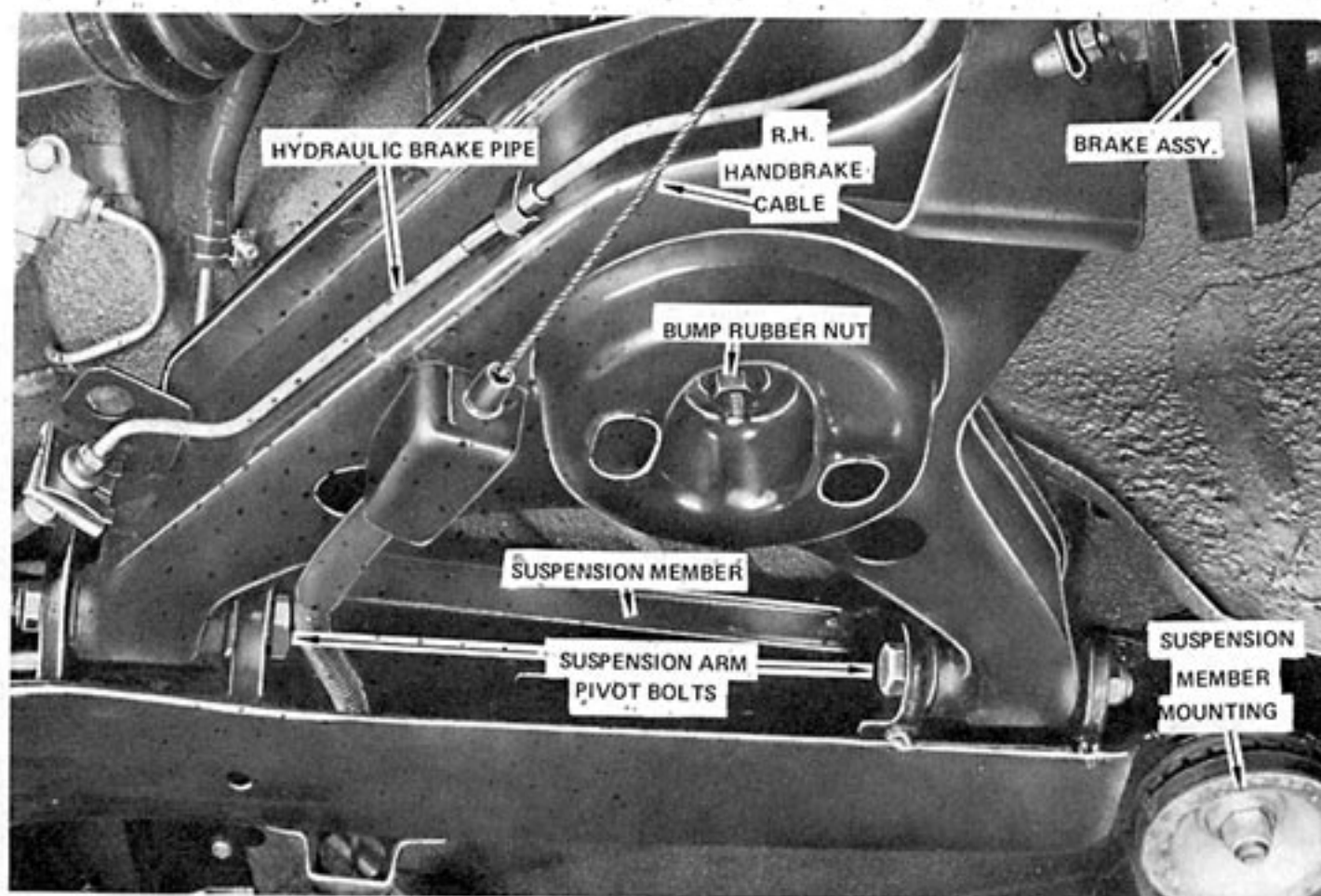
(2) If the clearance between the outer lip of the rubber insulator and the face of the washer exceeded 5 mm (0.197



Removing Coil Spring from Rear Suspension Arm. (Sedan).



Underbody View of Right Hand Rear Suspension Layout. (Sedan).



Right Hand Rear Suspension Arm and Associated Components. (Sedan.)

in) use special tool No. ST49170000 and insert new insulator rubbers from the lower side of the suspension member and the differential support.

(3) Examine suspension member for cracks and distortion.

(4) Check the insulator rubbers for correct fit and alignment.

(5) Check retaining bolts for wear and damage.

(6) Replace worn or damaged components where necessary.

(7) Fit the suspension member to the vehicle and tighten the suspension member differential mounting and shock absorber retaining bolts to the specified torque as set out in the Specifications section.

3. COIL SPRING

TO REMOVE AND INSTAL

(1) Raise the rear of the vehicle, block the front wheels, support the vehicle on jack stands and remove the rear road wheels.

(2) Remove the drive shaft flange nuts adjacent to the backing plate.

(3) Remove the split pin, take out the clevis pin and release the hand brake cable.

(4) Remove the re-bound rubber retaining nuts.

(5) Raise the suspension arm with the jack, take off the shock absorber retaining nut and withdraw the shock

absorber from its lower support mounting.

(6) Lower the jack and withdraw the coil spring, re-bound rubber and spring seat.

(7) Installation is the reversal to that of the removal procedure with attention to the following points:

(8) Examine spring position for correct seating ensuring that the flat face on the spring is in the uppermost position.

(9) Tighten the drive flange nuts and shock absorber nut to the specified tightening torque as detailed in the Specification section.



Coil Spring and Rebound Rubber Removed from Rear Suspension Arm. (Sedan).

4—Rear Suspension

TO CLEAN AND INSPECT

(1) Clean the spring in a suitable solvent and examine for cracks and distortion.

(2) Measure the free length of the spring to determine if the spring length is within the specified measurement as

set out in the Specification section.

If the spring length is not in accordance with the specification it should be replaced.

(3) Check the spring seat and re-bond rubber for fatigue and damage.

4. SHOCK ABSORBER

TO REMOVE AND INSTAL

(1) Open the boot and remove the two nuts from the upper end of the shock absorber.

(2) Unscrew the retaining nut from the lower support mounting and withdraw the shock absorber from the vehicle.

(3) Installation is the reversal to that of the removal procedure paying attention to the following.

(4) Tighten the retaining nuts to the specified torque as stated in Specification section.

TO CLEAN AND INSPECT

(1) Clean the shock absorber in a suitable solvent and examine the shaft for distortion and the body for damage and oil leaks.

(2) Check the damping-expansion and compression-action of the shock absorber. If the damper action is ineffective, the shock absorber should be replaced.

(3) Check the rubber bushes and washers for damage and replace if necessary.

5. SUSPENSION ARM

TO REMOVE AND INSTAL

(1) Raise the rear of the vehicle, support on jack stands, chock the front wheels and remove the rear road wheel and brake drum.

(2) Remove the four bolts and disconnect the drive shaft from the axle flange.

(3) Remove the hand brake cable from the wheel cylinder lever and the equaliser lever.

(4) Withdraw the hydraulic brake hose/pipe spring lock and disconnect the flexible hose from the pipe. Plug

the flexible hose with a suitable plug to avoid spillage of hydraulic brake fluid.

(5) Remove the wheel bearing lock nuts and withdraw the axle shaft, wheel bearings and oil seals, as described in REAR AXLE SHAFT AND BEARING section.

(6) Unscrew the four backing plate retaining bolts and remove the backing plate and brake assembly.

(7) Place the jack under the suspension arms and raise the arm to take the weight off the shock absorber. Remove the shock absorber retaining nut from the lower support mounting and withdraw the shock absorber.

(8) Gradually lower the jack and remove the coil spring, spring seat and re-bond rubber.

(9) Remove the self locking nuts from the two bolts connecting the suspension arm to the suspension member and withdraw the suspension arm.

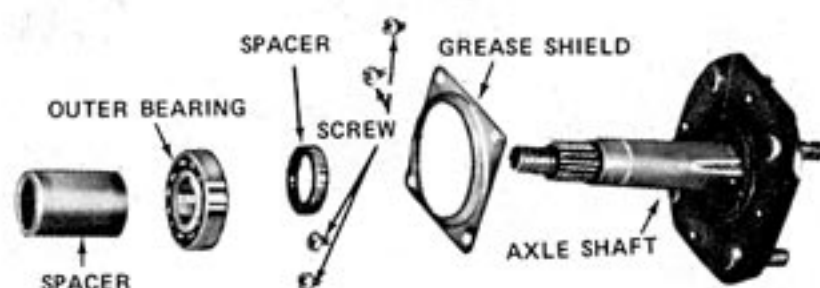
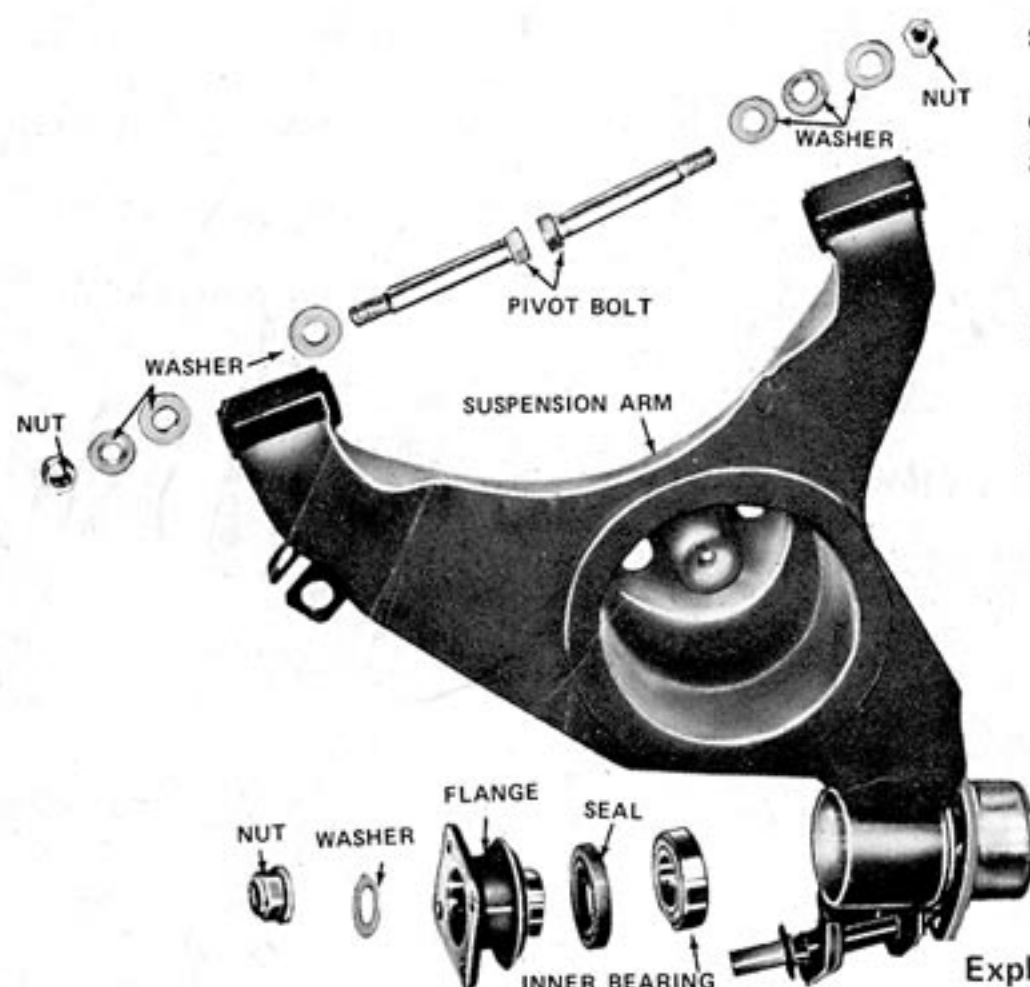
(10) Using the suspension arm bush remover tool ST49160000, remove the bushes from the suspension arm.

(11) Installation procedure is the reversal to that of removal with special attention to the following points:

(12) With the vehicle fully laden, re-check the tension of the bolts connecting the suspension arm to the suspension unit.

(13) New self locking nuts must be fitted each time the suspension arm is removed.

(14) Bleed the hydraulic braking system.



Exploded View of L16 sedan Rear Suspension Arm Components.

6. REAR AXLE SHAFT AND WHEEL BEARINGS

TO REMOVE

(1) Jack up the rear of the vehicle, chock the front wheels, remove the rear road wheel and brake drum.

(2) Remove the four securing bolts and disconnect the drive shaft from the axle shaft companion flange.

(3) Secure the companion flange with special tool ST49190000 and remove the axle shaft and wheel bearing lock nut.

(4) Remove the axle shaft with special tool ST46780000 and lift out the companion flange.

(5) Take out the four screws and remove the grease catcher from the axle flange.

(6) Using a suitable drift remove the inner bearing and oil seal.

(7) Select a suitable bearing puller and withdraw the outer bearing.

NOTE: The outer bearing will be damaged during removal and must be renewed prior to assembly.

TO CLEAN AND INSPECT

(1) Clean all components parts in a suitable cleaning solvent.

(2) Check the inner bearing for wear and chipping.

(3) Check the companion flange machined surface for damage.

(4) Check the axle shaft for cracking, wear and alignment.

(5) Check the bearing spacer for wear or distortion.

TO ASSEMBLE AND INSTALL

(1) Pack the bearings with a lubricant specified by the manufacturer and lubricate inside the bearing hub.

(2) Drift the inner bearing into the housing ensuring that the drift face is in contact with the centre race only.

The bearing is of the semi sealed type and the sealed face must be toward the differential.

Ensure that the bearing is correctly seated in the housing.

(3) Insert the bearing spacer in the housing, firstly ensuring that the coding on the spacer corresponds with the coding on the suspension arm hub.

(4) Drift the new outer bearing into the housing ensuring that the drift face is in contact with the centre race only.

(5) The bearing is of a semi sealed type and the sealed face must be facing outwards.

Ensure that the bearing is correctly seated in relation to the bearing spacer.

(6) Lightly lubricate the inner periphery of the oil seals and fit the inner and outer oil seals in the housing.

(7) Screw the grease catcher to the axle flange.

(8) Fit the axle in the housing, place the companion flange over the end of the axle, fit the washer and the new castellated nut. Tighten the bearing retaining nut to the specified torque as detailed in the Specifications and check the axle end play, which should be 0 – 0.15 mm (0 – 0.006 in).

NOTE: When it is necessary to fit a new suspension arm, ensure that a corresponding coded bearing spacer is fitted, e.g. should the suspension arm hub be marked "B" then the bearing spacer must also be marked "B".

In no circumstances should a dissimilar spacer and suspension arm be fitted as a critical clearance of 0.05 mm (0.002 in) exists between the bearing spacer and the bearing.

Hub length and bearing spacer length is detailed in the Specifications.

(8) Couple the drive shaft to the companion flange and tighten the four retaining bolts.

(9) Replace the brake drum and the road wheel, then tighten the wheel nuts.

(10) Remove the vehicle from the jack stands and road test the vehicle.

PART 2. STATION WAGON

SPECIFICATIONS

Type	Semi-elliptic leaf spring with double acting shock absorbers	Leaf thickness	6 mm (0.236 in)
		Free camber	153 mm (6.023 in)
		Front pin diameter	45 mm (1.772 in)
		Rear pin diameter	30 mm (1.181 in)
Springs:			
Number of leaves	Four		
Width of leaf	60 mm (2.362 in)		