Haynes shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

7 Steering and suspension check

Front suspension and steering

1 Raise the front of the vehicle and support it securely on jackstands.

2 Visually inspect the balljoint dust covers and the steering rack-and- pinion boots for splits, chafing or deterioration. Any wear of these components will cause loss of lubricant, then dirt and water entry, resulting in rapid deterioration of the balljoints or steering gear.

3 Check the power steering fluid hoses for chafing or deterioration and the line and hose fittings for fluid leaks. Also check for signs of fluid leakage under pressure from the steering gear rubber boots, which would indicate failed fluid seals within the steering gear.

4 Grasp the wheel at the 12 o'clock and 6 o'clock positions, and try to rock it **(see illustration)** . Very slight free play may be felt, but if the movement is appreciable, further investigation is necessary to determine the source. Continue rocking the wheel while an assistant depresses the brake. If the movement is now eliminated or significantly reduced, it is likely that the hub bearings are at fault. If the free play is still evident with the brake depressed, then there is wear in the suspension joints or mountings.

7.4 Check for wear in the hub bearings by grasping the wheel and trying to rock it

5 Now grasp the wheel at the 9 o'clock and 3 o'clock positions, and try to rock it as before. Any movement felt now may again be caused by wear in the hub bearings or the steering gear tie rod balljoints. If the inner or outer

balljoint is worn, the visual movement will be obvious .

6 Using a large screwdriver or flat bar, check for wear in the suspension mounting bushings by levering between the relevant suspension component and its attachment point. Some movement is to be expected as the mountings are made of rubber, but excessive wear should be obvious. Also check the condition of any visible rubber bushings, looking for splits, cracks or contamination of the rubber.

7 With the car standing on its wheels, have an assistant turn the steering wheel back-and-forth about an eighth of a turn each way. There should be very little, if any, lost movement between the steering wheel and wheels. If this is not the case, closely observe the joints and mountings previously described, but in addition, check the steering column universal joints for wear, and the rack-and- pinion steering gear itself.

Strut/shock absorber

8 Check for any signs of fluid leakage around the suspension strut/ shock absorber body, or from the rubber boot around the piston rod. Should any fluid be noticed, the suspension strut/shock absorber is defective internally, and should be replaced. **Note:** *Suspension struts/shock absorbers should always be replaced in pairs on the same axle.*

9 The efficiency of the suspension strut/ shock absorber may be checked by bouncing the car at each corner. Generally speaking, the body will return to its normal position and stop after being depressed. If it rises and returns on a rebound, the suspension strut/shock absorber is probably suspect. Examine also the suspension strut/shock absorber upper and lower mountings for any signs of wear.