1965-72 BALL JOINT CHECKING

FACTORY RECOMMENDED METHOD

American Motors (All Models)

Upper Ball Joint – Lift front of car until front wheels are off ground and place safety under body side sills. Remove upper ball joint grease fitting and install gauge. Place pry bar under tire and raise tire several times. Subtract minimum reading from maximum reading. If difference is more than .080", replace ball joint.

Lower Ball Joint – Move lower portion of wheel and tire inward and outward. If lower ball joint has any noticeable lateral shake, joint should be replaced.

Buick 1965-72

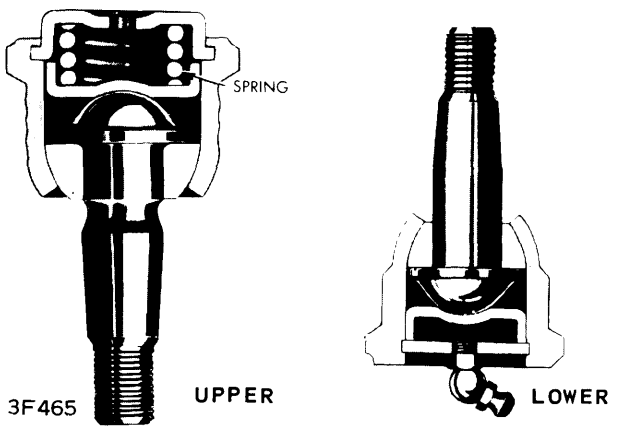
Lower Ball Joint – Raise wheel off floor with a jack placed under lower control arm as far outboard as possible (make sure upper control arm does not contact rebound bumper). Remove lower ball joint grease fitting and install Gauge J-21240, then put a pry bar between floor and tire and raise tire to put a load on ball joint. Repeat procedure several times, raising and lowering tire. Subtract minimum reading from maximum reading. If difference is more than .070" (Buick Special & Skylark), or .100" (All Others), replace ball joint. *NOTE – These specifications supersede all previous information.*

Upper Ball Joint – If ball joint stud has any perceptible shake, or if it can be twisted in its socket with the fingers, replace the ball joint.

Cadillac (Except Eldorado)

Lower Ball Joint – Check the amount of freeplay as the joint is worked vertically in its socket. If freeplay exceeds 1/16", replace the joint.

Upper Ball Joint – Use a regular joint stud nut and a second nut as a lockwasher, then turn joint in its socket with a torque wrench. Torque should be 2-4 ft. lbs. If greater, replace joint.



TYPICAL BALL JOINT ASSEMBLIES (SPRING SUPPORTED ON LOWER ARM)

Cadillac Eldorado

Vertical Check – Raise car and place jack stands under lower control arms as close as possible to ball joint. Clamp vise grips on end of drive axle and position dial indicator so indicator contact rests on vise grip. Place a pry bar between lower control arm and outer race and pry down on bar, being careful not to damage axle. Reading on dial indicator should not exceed .125".

Horizontal Check – With car raised and supported as for vertical check (above), position dial indicator against wheel rim, then push in on top of tire and pull outward at bottom. Check indicator, then reverse push-pull procedure. Horizontal deflection should not exceed .125". *NOTE – This procedure checks both upper and lower ball joints.*

Chevrolet, Chevelle, Camaro, Corvair & Corvette

Upper Ball Joint – Raise car and support on frame to allow front suspension to hang free, then remove wheel assembly. Support lower control arm on a jack stand and disconnect upper ball stud from steering knuckle. Reinstall stud nut on ball stud and check rotating torque which should be 2-6 ft. lbs. (1964 Chevrolet & 1960-67 Corvair); 12-100 INCH-LBS. (1964-65 Chevelle); 2-15 ft. lbs. (All Others 1964-69); 3-10 ft. lbs. (1960-72). If torque not within limits, replace ball stud. *NOTE – If excessive wear is indicated in upper ball joint, both upper and lower ball joint should be replaced.*

Lower Ball Joint (Except Corvair) – With weight of car on wheels, use a micrometer or caliper and measure distance from top of lubrication fitting to bottom of ball stud and record the dimension. Raise car and support at outer end of each support arm so that wheels are hanging free. Again measure distance from top of grease fitting to bottom of ball stud and record the dimension. If difference in dimensions on either side is greater than 3/32" (Except Chevelle and Corvette 1959-65); 1/16" (All Others), replace both lower ball joints.

Lower Ball Joint (Corvair) – With car weight supported on wheels, use a micrometer or caliper to measure the distance from tip of lubrication fitting to upper surface of ball stud, and record dimension for each side. Now support car under outer end of each lower control arm and measure the distance again. If difference in dimensions on either side is more than 3/32" (1960-63); 1/16" (1964-69), replace both lower ball joints.

Chevy II

NOTE – The upper ball joint is a loose fit when not connected to steering knuckle.

Upper Ball Joint – With weight of car on front wheels, install special support tool (see "Chevy II Front Suspension" in this section for tool details), then raise car and allow wheels to hang free. Measure distance from tip of lubrication fitting to bottom surface of ball stud and record measurement. Install a jack under tire and raise enough to take up ball joint looseness. Measure the distance again. If difference in measurements is more than 1/16" (1964); 3/32" (1962-63, 1965-67), replace the ball joint. On 1968-72 models, procedure and measurements are the same as for Chevrolet, Chevelle, and Camaro.

1965-72 BALL JOINT CHECKING (Cont.)

Lower Ball Joint – Install special support tool (see above), then disconnect lower ball stud from steering knuckle. Assemble nut to ball stud and check rotating torque with a torque wrench. If reading is not within limits of 4-6 lbs. (1964); 4-8 lbs. (1962-63, 1965-67), replace the ball joint. On 1968-72 models, procedure and measurements are the same as for Chevrolet, Chevelle, Camaro.

Chrysler, Dodge, Dart, Plymouth & Valiant

Lower Ball Joint – Raise front of car at lower control arms so wheels are hanging free. *NOTE – Lower control arms must be supported sufficiently outboard so that rebound bumper is not compressed.* Remove ball joint plug and screw the thread fitting of Tool C-3911 into ball joint plug hole until it is firmly seated. Raise and lower wheel with a pry bar and note freeplay indicated on scale of gauge. If freeplay exceeds .050" (1964-67; .070" (1968-72), replace ball joint. *NOTE – Each .010" is indicated by minor increments on gauge scale.*

Imperial

Lower Ball Joints – Ball joints are preloaded and there should be no axial (up and down) play. Control arm and ball joint must be replaced as an assembly.

Ford Motor Company All Models

Refer to "Alternate Method" of checking ball joints as indicated below.

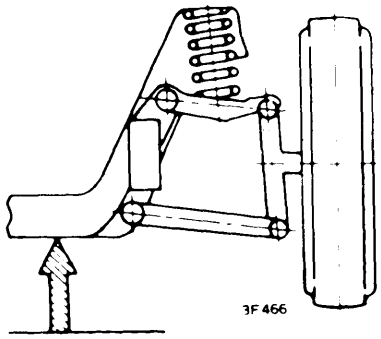
Oldsmobile (Except Toronado) 1965-69

NOTE – Both upper and lower ball joints are checked at the same time by the following procedure.

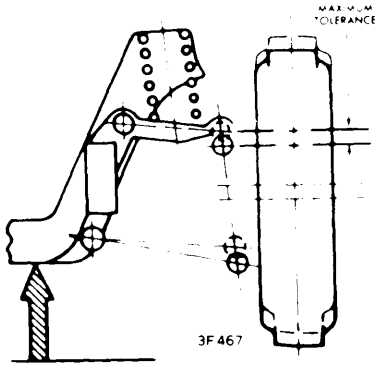
Vertical Check – With car supported under lower control arms as near as possible to each lower ball joint, place a dial indicator at lower horizontal edge of wheel. With a pry bar between lower control arm and steering arm, move the bar up and down and note vertical movement on indicator. If reading exceeds 1/8", ball joints should be replaced.

Horizontal Check – With car supported under lower control arms as near as possible to each lower ball joint, place a dial indicator at lower vertical edge of wheel against rim. With one hand at top and the other at bottom of wheel and

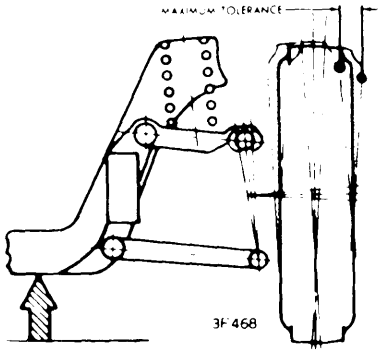
SPRING SUPPORTED ON UPPER ARM



JACKING LOCATION

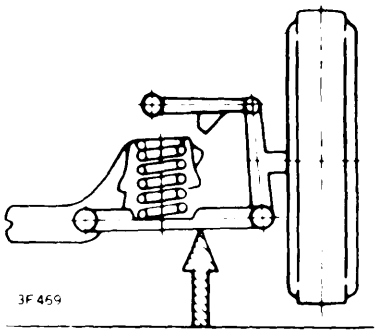


CHECKING AXIAL PLAY

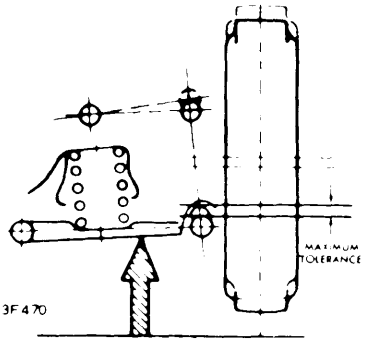


CHECKING RADIAL PLAY

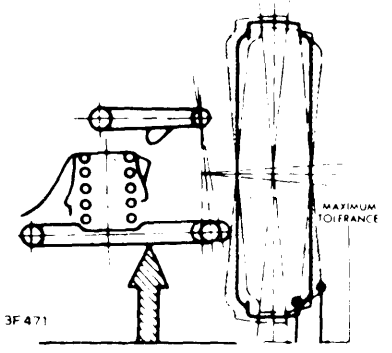
SPRING SUPPORTED ON LOWER ARM



JACKING LOCATION



CHECKING AXIAL PLAY



CHECKING RADIAL PLAY

1965-72 BALL JOINT CHECKING (Cont.)

tire assembly, moderately rock wheel at top and bottom. If horizontal movement is more than 1/8", ball joints should be replaced.

Oldsmobile Toronado

Vertical Check – Raise car and place jack-stands under lower control arms as close as possible to ball joint. Clamp vise grips on end of drive axle and position dial indicator so indicator contact rests on vise grip. Place a pry bar between lower control arm and outer race and pry down on bar, being careful not to damage axle. Reading on dial indicator should not exceed .125".

Horizontal Check – With car raised and supported as for vertical check (above), position dial indicator against wheel rim, then push in on top of tire and pull outward at bottom. Check indicator, then reverse push-pull procedure. Horizontal deflection should not exceed .125". *NOTE – This procedure checks both upper and lower ball joints.*

Pontiac & Pontiac Tempest

Upper Ball Joint – Disconnect upper ball stud from steering knuckle, then install nut so it is snug against ball joint and rotate stud with a torque wrench. If torque is not within limits of ½-6 ft. lbs., replace the ball joint.

Lower Ball Joint – Raise car and support with jack-stands placed under lower control arm. Measure endplay of lower ball joint. Maximum endplay should be as listed in table below. Replace ball joints if endplay exceeds specifications.

Pontiac Ball Joint Endplay Specifications

Model & Year		Used	New
Pontiac	1964	.060"	.010"
	1965-72	.050"	.010"
Tempest	1964-67	.060"	.010"
	1968-72	.050"	.010"

ALTERNATE METHOD

NOTE – There are two general types of suspensions, one type with spring or torsion bar attached to lower control arm, and the other with spring attached to upper control arm. Check axial play by moving wheel up and down. Check radial play by rocking wheel at top and bottom.

Spring On Lower Control Arm

Upper Ball Joint – Replace ball joint if there is any perceptible looseness at joint.

Lower Ball Joint (Radial Play) – If radial play exceeds .250" measured at bottom of tire on side wall, replace the ball joint.

Spring On Upper Control Arm

Lower Ball Joint – Replace ball joint if there is any perceptible looseness at joint.

Upper Ball Joint (Radial Play) – If radial play exceeds .250" measured at top of tire on side wall, replace the ball joint.