

WHEEL BEARINGS

by Lynn Garrison

Wheel bearings come in standard sizes and if you know the numbers on yours, substantial savings can be realized by obtaining them from a local source rather than from your Lotus dealer. A complete bearing set for both front wheels cost about \$9-\$14 compared with \$25-\$35 at the dealer. I have bought several sets from Monarch Bearing, 4029 w. Burbank Blvd., Burbank, and they stock the bearings mentioned below. However, most any bearing dealer will give you a similar break. In order to identify a bearing you need to know two numbers. One number is on the "cone" (an assembly consisting of roller bearings, cage and inner race) and is usually found stamped on the rim of the inner race. The second number is stamped on the outside or rim of the "cup" (i.e. outer race). Since different cups sometimes fit the same cone, you need both numbers to properly identify yours. Unfortunately, you must remove the cups in order to see these numbers. The cups are a press fit into the hub and require some coaxing to remove them.

The following table of front wheel bearing numbers may be of some help but check your particular bearing numbers, just in case it differs.

<u>Car</u>	<u>Bearing</u>	<u>Number</u>	
		<u>Cone</u>	<u>Cup</u>
Lotus Elite & Early Elans (bolt on wheels)	Outer	03062	*03062
	Inner	07100S	07210X
Later Elans (knock-offs)	Outer	LM11949	LM11910
	Inner	L44649	L44610

*There is only one cone for this bearing and in this case, only the bearing number is needed to identify it.

The life of the early Elan bearings is estimated at approximately 40,000-80,000 miles (depending on driving habits). The combination of the 13" wheel, heavier weight and high cornering loads results in a shorter life than would normally be expected. These same bearings on an Elite (15" wheel, lighter weight and lower cornering loads) will last more than twice as long if properly lubricated and tightened. The later Elans with knockoffs have a larger bearing with a life expectancy similar to the Elites. Although roller bearings appear to be flat, I am told that there is a very small curvature across their length, which gives them a self-aligning characteristic. This reduces oscillation and twisting in their cage. Just occasionally this curve is worn off, but the bearing appears to be in perfect condition (no pitting, galling or surface damage). This condition can contribute to front end shimmy, especially, if the bearings are too loose. In this case the bearings should be replaced.

After tightening the bearings, recheck the tightness with the weight of the car on the wheel. No play should be felt when pushing hard at the top of the wheel. End-play increases when the weight of the car compresses the bearings. The proper tightness occurs when resistance is first encountered when tightening the retaining nut (this is sometimes 1/8 of a turn tighter than when following the recommendation of the shop manual). When tightening this nut, the wheel should be kept turning in order to "seat" the bearings properly. A slight preload is beneficial since it enables a larger number of rollers to carry the load and assures that misalignment from excessive play does not exist.