



Frequently Asked Questions

Cylinder Sleeves

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How does the sleeve stay in the cylinder?

Cylinder sleeves are typically installed into the cylinder using an "interference fit" (sometimes referred to as "press fit"). This means the size of the block or cylinder bore is smaller than the outside diameter of the sleeve. The sleeve is "pressed" into the cylinder and the size variance holds the sleeve in place. Generally, the interference fit for the sleeve to a cast iron bore is .0025". And for aluminum bore the interference fit is .004".

Do you make a sleeve for my engine?

Yes. Most likely, L.A.SLEEVE produces the sleeve you need. We have over 4,000 sleeve part numbers, ranging for 50 years of models and industries. If you do not see the model in one of our six catalogs our sales and technical staff will be happy to assist you to locate a sleeve that fulfills your requirements.

What wall thickness do you recommend?

We make three standard wall thickness sleeves. 1/16" (.0625"), 3/32" (.093"), 1/8" (.125").

Determine your wall thickness by the application required or the cylinder block. Generally, the most popular wall thickness sleeve is 3/32". This size allows oversize bores, while maintaining the strength of most cylinder blocks.

The method for determining wall thickness is:

Outside diameter minus(-) inside diameter divided by 2 = thickness.

For example: 2.375" O.D. - 2.125" I.D. = .250" divided by 2 = .125" (1/8") wall thickness.

What material are your sleeves made from?

L.A.SLEEVE manufactures our cylinder sleeves from a centrifugally spun cast iron alloy of carbon-chrome and molybdenum. The MOLY 2000 iron alloy material features many of the same alloys that are used in todays plated aluminum cylinders. Unlike plated aluminum bores, sleeves are boreable.

These centrifugally spun cast sleeves feature a high tensile stength of 48,000 psi to 53,000 psi which insures ease of installation, trouble free boring or machining.

L.A.SLEEVE also manufactures ductile iron sleeves and spun cast aluminum sleeves.

Sleeve Installation

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Do you install sleeves into cylinders there at L.A.SLEEVE?

L.A.SLEEVE does install cylinder sleeves into small engine type applications such as: motorcycle, watercraft, ATV, snowmobile, kart, compressor and industrial engines. Call our re-sleeve department for a quotation. Generally, this service takes about 10-14 days turn around time.

L.A.SLEEVE will bore your cylinder to accept the new sleeve, match all the ports to the cylinder, slightly deck the top of the cylinder if required, bore and hone the cylinder to accept the new piston and supply all the required top end piston kits, gaskets and bearings to complete the cylinder rebuild.

Do the ports in your two-stroke sleeve match closely the ports in the cylinder?

Very close! Each two-stroke sleeve part number is precision designed and machined to match the designated model and cylinder. Wherever possible the sleeve is machined with the matching angles, bevels, and chamfers so that only minimal port blending is required. L.A.SLEEVE pioneered the technique of two-stroke sleeve manufacturing and is the leader in design, application and availability. We stock and supply more two-stroke sleeves than any other manufacturer.

Caution: If you should receive a sleeve that does not appear to match your cylinder porting it is likely to be the wrong model. Do not install the sleeve until consulting with our technical staff..

When I install the sleeve do I need to freeze the sleeve before installation?

No. But, some rebuilders like to cool the sleeve. The belief is that the sleeve will shrink slightly to make installation easier. Caution! If the difference between the temperature of the block and sleeve is too great a crack may result in the block.

Once the sleeve is installed, do I need to bore the sleeve to fit the piston into the cylinder?

Yes. All sleeves are supplied with a semi-finish bore. The piston will not fit until you have bored the sleeve to the correct piston clearance. Hone the bore to the clearance recommended by the piston manufacturer.

What is the recommended interference fit of the sleeve to the block?

Sleeve to a cast iron bore - .0025"

Sleeve to aluminum bore - .004"

Should I bore my cylinder or block before I receive the sleeve?

It is recommended that you measure the outside diameter of the sleeve before you begin any machine work. A little patience will pay off in the long run.

What type of equipment do I need in order to install a sleeve?

1. Boring bar. There are various brands from which to choose.
2. Oven. Heating the cylinder is recommended when installing a sleeve.
3. Measuring tools. Accurate micrometers are essential.
4. Hone. The bore should be honed to size the piston clearance.
5. Porting tools. Two stroke cylinders require port chamfering.