

Linear shaft supports, also called shaft support blocks, are components that position the shafts on which linear bushings or bearings slide.

Typically two shafts are arranged parallel to each other and supported by four shaft supports. A carriage with installed bearings or bushings is mounted on the shafts allowing the carriage smooth linear motion. The shafts must be accurately aligned parallel to each other or the carriage will not operate smoothly.



**Shafts & Carriage mounted on a pair of shaft supports**

Linear shaft supports are unlike ball bearing pillow blocks in that the bearing blocks allow shafts to rotate freely. Linear shaft supports are used to prevent rotational and axial movement of the mounted shaft. Linear shaft supports are readily available in both inch and metric shaft diameters from 1/4" up to 2" and 8mm to 50mm.

The most common shaft supports have a single saw slot through to the shaft bore hole. Tightening the single cap screw draws the support together, clamping the shaft and thus preventing any movement.



**Common Cast Iron Shaft Support**

This single screw, single slot, shaft support has disadvantages that become apparent when the carriage, bearings or shafts require servicing or replacement and need to be removed from the assembly.

- The shaft can be drawn axially out of the shaft support. This may scratch the shaft which would be detrimental to the free movement of the bushing or linear bearing.
- Space may not be available to axially remove the shaft from the supports. This would require the shaft support to be removed from the base table and the support removed from the end of the shaft. When the supports are removed from the base, the critical shaft alignment is compromised. Realignment is time consuming.
- Most of the common, single piece supports are made of cast iron. The casting process requires that these supports have surfaces that are tapered from the base to the top. There are no perpendicular surfaces with which to position it.

**Ondrives.US Corp.** manufactures an **alternative two piece** linear shaft support with a removable top component. It is supplied with 2 cap screws to clamp the shaft down onto the base.



**Easy-Access™ shaft supports are available from Ondrives.US in two profiles**

Common shaft supports with a single saw cut and single clamp screw are made by most suppliers to an industry standard shaft height and foot print.

**Easy-Access™** Standard Profile linear shaft supports are available in the same height and footprint as common industry supports.

They can be used to replace common shaft supports without any changes to the shaft location or relocating the base mounting holes.

**Easy-Access™** Low Profile linear shaft supports are the only standard Low Profile linear shaft supports available in industry.

The low profile supports are designed to lower the base-to-shaft height while allowing clearance for most linear bearing pillow blocks.



**Standard Profile**



**Low Profile**

Both **Easy-Access™** profiles are available in inch and metric sizes. Shaft sizes range from 1/4 inch to 2 inch and 8mm to 50mm

Two piece **Easy-Access™** shaft supports have advantages over the common one piece supports.

- When servicing is required, the bottom half of the two piece support remains firmly fastened in place and retains the exact shaft position. This advantage saves significant time in realigning the critical parallel position of the shafts.
- The shafts are installed and removed without any damage caused by pulling the shaft axially through a cast iron one piece support.
- Maintenance of a linear slide system is considerably faster and easier with **Easy-Access™** linear shaft supports
- **Easy-Access™** two piece supports are precision machined from aircraft grade precipitation-hardened aluminum alloy and have smooth machined surfaces all over.
- All surfaces are square and parallel. This allows for easy positioning as well as modifications and machining of the shaft supports to fit custom applications.
- Aluminum 2 piece supports are typically 45% to 70% lighter than their cast iron counterparts.
- The Double Cap Screw design applies greater clamping pressure directly on the shaft.

	<b>Easy-Access™</b> Shaft Supports	Common Shaft Supports
Available shaft diameters from 1/4" to 2" and 8mm to 50mm	✓	✓
Maintains alignment while servicing shafts and bearings	✓	✗
Customs available (bore size, bore shape, material)	✓	✗
Light weight	✓	✗
Parallel and perpendicular surfaces for easy alignment	✓	✗
Superior shaft holding strength	✓	✗
Available in Low Profile and Standard footprint sizes	✓	✗
Lowest base to shaft height available	✓	✗



## Quality, Reliability, and Service

- Standard, Modified & Custom Gearboxes
- Precision Gears
- Ground Gears
- Design Engineering

**ondrives.us**  
Precision Manufacturing

