Remove and Install a Shaft Key

Shaft keys are constructed of steel. The specified tolerance provides an interference fit (slightly larger than the opening) for a secure and rigid connection.

ATTENTION: Do not strike the motor's shaft, couplings, or pulleys with tools during installation or removal of the shaft key.

Damage can occur to the motor bearings and the feedback device if a sharp impact is applied to the shaft during installation of couplings and pulleys, or to remove the shaft key, or if leverage is applied from the motor mounting face to remove devices that are mounted on the motor shaft.

Apply a constant pressure, with a wheel puller, to the user end of the shaft to remove a friction fit or stuck device.

To remove a shaft key, perform one of these actions:

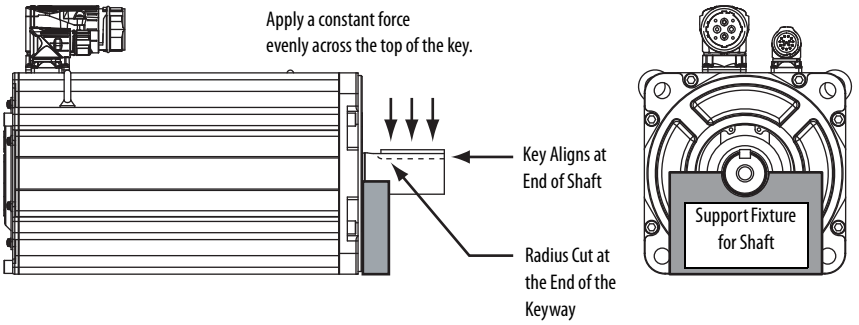
- Lift the key by grasping it with a pliers or similar tool.
- Lever the key with a screwdriver that is inserted between the key and the slot.

To install a shaft key, follow these steps.

1. Verify that the replacement key matches the keyway in the shaft and the mating mechanical connection (for example, a coupling or pulley) before proceeding.
2. Align the front of the key with the front of the motor shaft.

   This helps prevent the radiused end-of-cut at the motor end of the keyway from interfering with correct seating of the key.

Support the underside of the shaft diameter with a fixture, and use a controlled press device to apply a constant force across the top surface to press the key into the shaft.



Motor Cables and Accessory Kits

This section describes accessories that are available for MP-Series low-inertia motors.

Motor Cables

Factory manufactured feedback and power cables are available in standard cable lengths. They provide the sealing that is needed to achieve environmental ratings and shield termination.

If you choose to build your own cables, connector kits available for MP-Series small frame motors are described in the Kinetix Motion Accessories Specifications Technical Data, publication KNX-TD004.

Shaft Seal Kits

IMPORTANT Shaft seals must be lubricated. Lubricant is supplied with the shaft seal kits.

Third-party shaft seals are not approved for use with these motors. The use of third-party shaft seals voids any implied or expressed warranties.

A shaft seal is a barrier that can help prevent moisture and particles from entering the motor bearings.

Shaft seals are subject to wear and require periodic inspection and replacement. Replacement is recommended every 3 months, not to exceed 12 months, depending on use.

Catalog numbers for the motors and corresponding replacement Nitrile–shaft–seal kits are listed in the table.

Motor Cat. No.	Shaft Seal Kit Cat. No.
MPL-A310, MPL-B310	MPL-SSN-A3B3
MPL-A320, MPL-B320	
MPL-A330, MPL-B330	
MPL-A420, MPL-B420	MPL-SSN-A4B4
MPL-A430, MPL-B430	
MPL-A4520, MPL-B4520	MPL-SSN-A5B5
MPL-A4530, MPL-B4530	
MPL-A4540, MPL-B4540	
MPL-A4560, MPL-B4560	
MPL-A520, MPL-B520, MPL-A540, MPL-B540, MPL-A560, MPL-B560	MPL-SSN-F165
MPL-B580	MPL-SSN-F165-32MM

For instructions on how to install a shaft seal, refer to the Shaft Seal Kit Installation Instructions, publication 2090-IN012.

Specifications

Attribute	Value
Temperature, operating	0…40 °C (32…104 °F) (4)
Temperature, storage	-30…70 °C (-22…158 °F)
Relative humidity, storage	5…95% noncondensing
Atmosphere, storage	Noncorrosive
IP Rating (1) of motor with optional shaft seal (2) installed	IP66 (dust tight, powerful water jets, room temperature water)
Motor without a shaft seal, and mounted in this direction: Shaft down Shaft horizontal Shaft up	 IP53 IP51 IP50
Motor with ATEX rating (3)	Group II, Zone 2 (non-mining, normal operating conditions)

(1) International protection code (IP66) is roughly equivalent to a NEMA 35 (dust-tight, drip tight). IP rating descriptions are only for reference. See the international standards for complete rating descriptions.
(2) An optional shaft seal kit is required to provide the IP66 rating (excludes lower rating for cable connectors).
See Additional Resources on page 24 for shaft seal installation instructions.
(3) Operational environment according to ATEX directive 94/9/EC. See motor label for specific level of protection markings.
(4) To obtain the specified motor thermal rating, mount the motor on a surface with heat dissipation equivalent to a 304.8 x 304.8 x 12.7 mm (12 x 12 x 0.5 in) aluminum heatsink.

Motor feedback, auxiliary feedback, and I/O connector kits are not provided. See the Kinetix Motion Accessories Specifications Technical Data, publication KNX-TD004, for connector kit catalog numbers.