

Number 8

HANDLING AND MOUNTING OF BARDEN PRECISION BEARINGS

All Barden bearings meet precision class ABEC 7 specifications or better. All bearings are manufactured, assembled and packaged in controlled environments. If the full potential of these precision bearings is to be realized, the same degree of care and cleanliness must be used in handling and installing them. The first rule for handling bearings is **KEEP THEM CLEAN**. Consider every kind of foreign material—dust, moisture, fingerprints, solvents, lint, dirty grease—to be abrasive, corrosive or otherwise destructive. All work spaces, tools, transport equipment, fixtures and mating parts should be clean also.

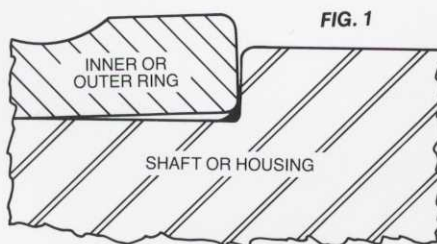
The second rule is to **HANDLE THEM WITH CARE**. Bearings should remain in their original packaging, unopened until ready for installation. Nomenclature for each Barden bearing is printed on its box and should be recorded for future replacement. Since the full bearing number appears only on the box, it should stay with the bearing until installation. Whenever possible, the number printed on the box should be supplied to Barden when requesting information on the bearings.

Do not wash new bearings. Barden takes great care in cleaning its bearings and properly prelubricating them before packaging. If bearings are greased by the customer, consult our Engineering Department for grease compatibility with oil used in the packaged bearing.

The accuracy of the components in the spindle must be maintained to tolerances similar to those in the bearing.

HANDLING AND MOUNTING GUIDELINES

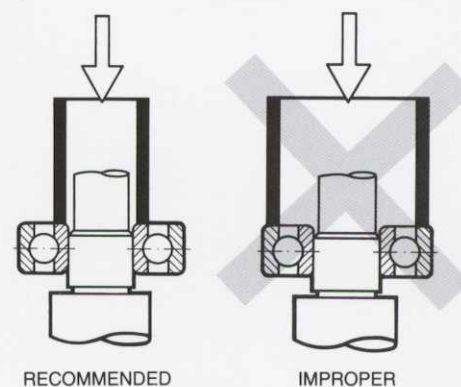
1. Clean the work area and keep it clean.
2. Use clean, burr-free tools that are designed for the job. They should not be painted or chrome-plated.
3. Handle bearings with clean gloves or clean dry hands. Use tweezers for miniature bearings.
4. Remove bearings from original packaging immediately before installation.
5. Protect unwrapped bearings by keeping them covered at all times.
6. Use bearing-quality lubricants, keeping them clean during application and in closed containers between uses. For greased bearings, apply only the proper quantity of grease with a clean applicator. Generally, grease quantity in a bearing should be about 25 to 35% full based on the free internal space in a specific bearing. Before applying grease to the bearings consult our Engineering Department for lubricant compatibility.
7. Assemble only clean burr-free parts. Make sure the bearing seats on the shaft and in the housing are clean (See Figure 1).



Burrs or dirt on shaft or housing shoulders are one of the most prevalent causes of bearing misalignment.

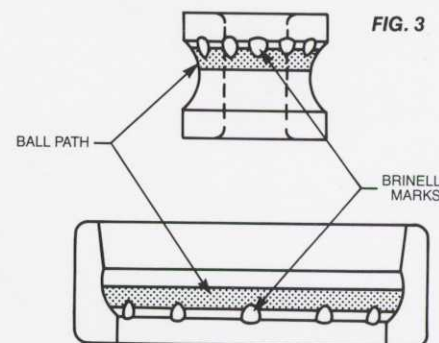
8. For interference fits, use heat assembly (differential expansion) or an arbor press. Never use a hammer or a screw driver and never apply sharp blows.

Press Fitting Practices **FIG. 2**



9. Apply force to the ring being press fitted. A tube made of a softer material and with the end faced square to its axis should be used to press against the ring being press-fitted.

Never push the outer ring to force the inner ring onto a shaft, or brinelling could result and cause high torque and noisy operation (Figures 2 & 3). Applying pressure on the inner ring to force the outer ring into the housing will also damage the bearing ball grooves.



Improper mounting of bearings will result in tiny indentations on the raceways.



THE BARDEN CORPORATION

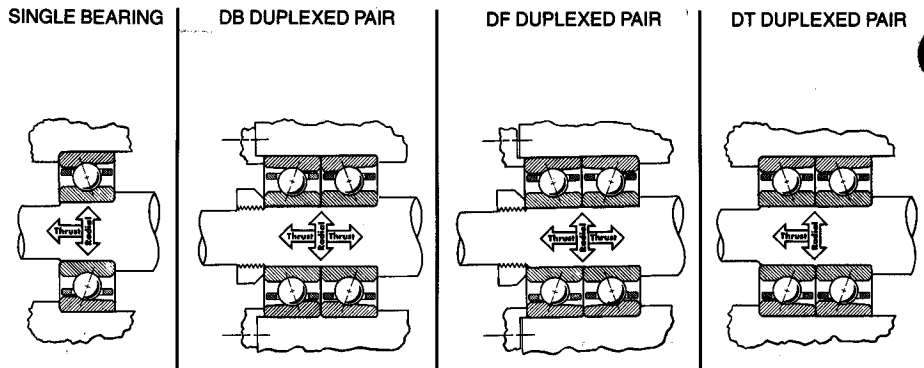
P.O. Box 2449
 200 Park Avenue, Danbury, CT 06813-2449
 (203) 744-2211

10. Keep records of bearing nomenclature and mounting arrangements for future reference and reordering. Most Barden angular contact bearings (duplex pairs) are universally preload ground for mounting in any of the three configurations: DB, DF or DT (Fig. 4).

11. Mount duplex pairs such that the burnish marks, which indicate the high points of radial runout of the inner rings, are in line and *opposite* the high point of the shaft. Mounting instructions are included in each package (Fig. 5).

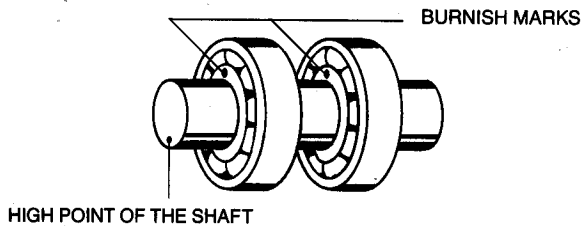
For more information request a copy of "Why Bearings Fail" by calling 203-794-8468.

FIG. 4



Non-Separable Angular Contact Bearings shown in duplexed configurations.

FIG. 5



Proper mounting of duplex pairs.