INSTRUCTION MANUAL

QD & TAPER-LOCK® Bushing Reboring Guidelines

Reboring Guidelines: Sintered Steel (PM) Bushings

The reborable QD & Taper-Lock bushings are manufactured from sintered steel (PM) having yield strength equivalent to 1020 hot rolled steel.

Reboring of PM bushings is typical of techniques used to machine 1020 steel:

1. Use *high speed steel* tools (not carbide) with following geometry:
   Nose radius = .005” Back rake angle = 16 1/2 °
   Side relief angle = 12 ° Side rake angle = 14 °
   Front relief angle = 8 °
2. For QD bushings, use QD hub, or similar 4 o taper “pot” chuck with maximum runout of .002 T.I.R. For Taper-Lock bushings, use Taper-Lock hub, or similar 8 ° taper “pot” chuck with maximum runout of .002 T.I.R.
3. Cutting speed of 90 – 100 SFM, Feed .005” - .006” per revolution. Do not use coolant or cutting fluid because acids may penetrate the anticorrosive coating causing premature rusting. Allow part to cool between rough and finish cuts.
4. Use high speed steel broach to cut keyway.
5. Use an “A” temper raker-tooth saw at 150-feet-per-minute speed, 1/2” –per-minute feed. Sawslot to be within .040”/.130” wide.

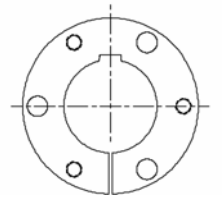
IMPORTANT: Reborable PM QD & Taper-Lock bushings are furnished without sawslot. This allows reboring under best conditions to maintain concentricity. For QD bushings, the sawslot is the final operation and is to be cut opposite the keyway as shown below in FIG 1. For Taper-Lock bushings, the sawslot is the final operation and is to be cut opposite the threaded halfhole as shown in FIG 2 & 3. The sawslot must be made for the QD or Taper-Lock bushing to properly grip the shaft.

QD Bushings

SIZE	* BPRE RANGE	SIZE	*BORE RANGE
H	3/8 – 1 1/4	SD	1/2 - 1 9/16
JA	1/2 –1	SK	1/2 - 2
SH	1/2 - 1 1/4	SF	1/2 – 2 1/4
SDS	1/2 - 1 9/16		

*Bore range based on square keyways (per ANSI B17.1). Consult Dodge for shallow keyways.

FIG. 1.
SAW SLOT THRU ONE
WALL ONLY



Taper-Lock Bushings

SIZE	*BORE RANGE	FIG	DIM "G" ±.03	SIZE	* BORE RANGE	FIG	DIM "G" ±.03
	1/2 – 11/16	2	1.13		1/2 – 1 1/8	2	1.78
1008	3/4 – 7/8	3	---	1615	1 3/16 – 11/12	3	---
	1/2 – 13/16	2	1.22		1/2 – 1 9/16	2	2.22
1108	7/8 – 1	3	---	2012	1 5/8 – 1 7/8	3	---
1210/	1/2 – 13/16	2	1.38		1/2 – 2 1/8	2	2.81
1215	7/8 – 1 1/4	3	---	2517	2 3/16 – 2 1/4	3	---
	1/2 – 7/8	2	1.50		7/8 – 2 5/8	2	3.47
1310	15/16 – 1 3/8	3	---	3020	2 11/16 – 2 3/4	3	---
	1/2 – 1 3/16	2	1.78				
1610	1 1/4 – 11/2	3	---				

*Bore range based on square keyways (per ANSI B17.1). Consult Dodge for shallow keyways.

FIG. 2
SAW SLOT INTO OPPOSITE WALL

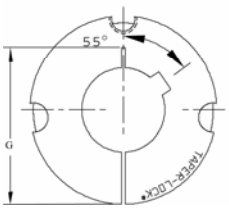
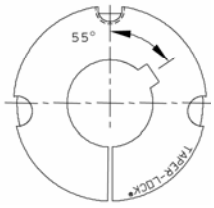


FIG. 3
SAW SLOT THRU ONE WALL ONLY



WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to person(s) or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

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MN4042
(Replaces 499647)

4042-0609

06/30/09