



## Mounting Instructions for Browning® Idler Bushings

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**FORM**  
**4383E**  
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### ⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock-out power before installation and maintenance. Working on or near energized equipment can result in severe injury or death.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.

### ⚠ CAUTION

- Periodic inspections should be performed. Failure to perform proper maintenance can result in premature product failure and personal injury.
- To avoid damage, supporting structure including shafts and bearings must be designed to handle transmitted loads and belt tension(s).

A. Browning Idler Bushing consists of the following parts:

1. One tapered bushing
2. Two ball bearings (no relube type)
3. One spacer
4. One stud bolt
5. Two jam nuts
6. Two bushing capscrews for IDH1 1/2 and three bushing capscrews for the other sizes

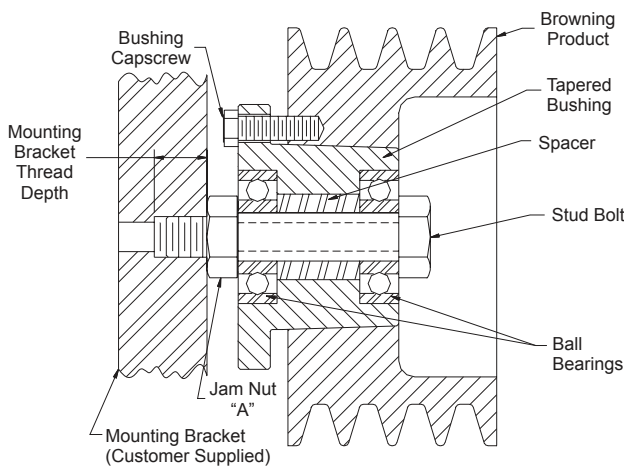


Figure 1

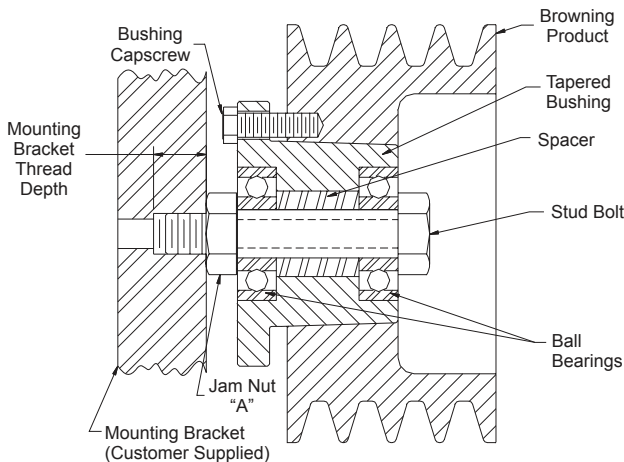


Figure 2

1) Verify the mounting bracket will receive the stud bolt:

- A) For applications using a pilot hole and two jam nuts, Table 1 shows:
  - The maximum thickness of the mounting bracket.
  - The maximum counterbore diameter (if one exists) to allow for socket clearance
  - The recommended pilot hole size for the stud bolt.
- B) For applications using one jam nut and threading the stud bolt into the mounting bracket, Table 2 shows:
  - Stud bolt thread size
  - Minimum thread depth (available stud bolt thread length)

2) Remove the outer jam nut "B".

3) The stud bolt is factory installed in the idler bushing as shown in Figure 2 with the bolt head on the flange side of the bushing. If desired, remove the inner jam nut "A", remove the stud bolt from the bushing, and re-install it as shown in Figure 1. Thread jam nut "A" back onto the stud bolt.

4) Whether the stud bolt was removed in step 3 or not, torque jam nut "A" to the value shown in Table 2. The jam nut is torqued at the factory, but must be checked. A deep well socket or crow foot wrench may be required to properly torque jam nut "A".

5) Before installation of the Browning product, hereafter referred to as "product", on the idler bushing, make sure the bushing barrel and product bore are free of burrs, paint, etc.

**WARNING!** Lubricant on bushing barrel, hub or screws could lead to breakage.

6) Align the threaded holes in the product with the non-threaded holes in the bushing flange. Insert the capscrews through the non-threaded holes in the bushing flange and thread them by hand into the product three or four turns.

7) Using a torque wrench and appropriate socket, tighten the capscrews sequentially until each is tightened to the torque shown in Table 3. When the capscrew torque is at or near recommended torque, make at least two more sequential rounds to assure all capscrews are at the Table 3 capscrew torque value.

**CAUTION:** Tightening the capscrews to a torque higher than shown in Table 3 may lead to product failure. Avoid.

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8) Check installation gap - there must be a gap between the bushing flange and the product face. If there is no gap between them, disassemble the parts (following removal procedure) and determine the reason(s) for the faulty assembly.

**When Using Two Jam Nuts and a Pilot Hole in the Mounting Bracket**

9) Slide the idler bushing stud bolt through the mounting bracket pilot hole and thread jam nut "B" onto the stud bolt. See Figure 2.

10) Tighten jam nut "B" to the torque shown in Table 2.

**When Using One Jam Nut and a Threaded Hole in the Mounting Bracket**

11) Thread the stud bolt into the threaded hole in the mounting bracket. See Figure 1. Tighten the head of the stud bolt to the torque listed in Table 2. Discard the unused jam nut "B".

**CAUTION:** Failure to tighten jam nut(s) and stud bolt to the torque shown in Table 2 may lead to an unsafe assembly.

12) Position other drive components such that they are aligned with the idler bushing assembly. This may be accomplished by using a straightedge or length of piano wire or string contacting each component's face in two places as shown in Figure 3 below.

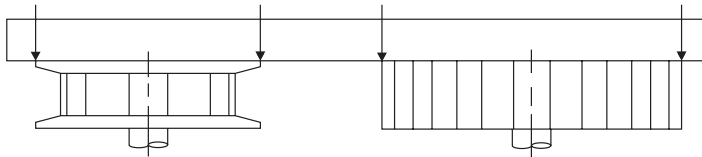


Figure 3

**Removal of Product From Bushing**

1. Remove all capscrews sequentially.
2. Insert capscrews in all threaded bushing flange holes. Tighten the capscrews against the (hub) face of the product until the screw force releases the product from the bushing.

**Mounting Bracket Dimensions at Jam Nut "B" Location**

Table 1

Idler Bushing	Mounting Bracket Thickness	Counterbore Diameter	Pilot Hole Size	
	Max.		Min.	Max.
IDH1 1/2	.294"	1.120"	.502"	.530"
IDP1 5/8	.419	1.370	.627	.655
IDQ1 3/4	.251	1.610	.752	.780
IDQ1 1	.234	2.200	.987	1.015
IDR1 1 1/2	.682	3.360	1.502	1.530

**Stud Bolt Size, Mounting Bracket**

**Thread Depth and Jam Nut Tightening Torque Range**

Table 2

Idler Bushing	SAE Grade 5 Stud Bolt Size	Mounting Bracket Thread Depth	Tightening Torque Range
		Min.	(IN-LBS)
IDH1 1/2	1/2-13NC	.771"	200-250
IDP1 5/8	5/8-11NC	1.008	325-375
IDQ1 3/4	3/4-10NC	.923	325-375
IDQ1 1	1-8NC	1.083	325-375
IDR1 1 1/2	1 1/2-6NC	1.892	325-375

**Tapered Bushing Capscrew**

**Size and Tightening Torque**

Table 3

Idler Bushing	SAE Grade 5 Bushing Cap Screws		Tightening Torque		
	No.	Size	(IN-LBS)	(FT-LBS)	(N - M)
IDH1 1/2	2	1/4-20NC	95	8	10.7
IDP1 5/8	3	5/16-18NC	192	16	21.7
IDQ1 3/4	3	3/8-16NC	348	29	39.3
IDQ1 1	3	3/8-16NC	348	29	39.3
IDR1 1 1/2	3	3/8-16NC	348	29	39.3

(N-M) = Newton Meters

**Have questions? Contact Application Engineering at 1-800-626-2093.**

