Draftguard™

Anti-Rotation Device

DRAFTGUARD™

Powering Progress

- ACHE fan back drafting and safety concerns
- Design Benefits and Features (Sprag Clutch)
- Components, Specifications, and Drawings
- Mounting Options
- Screw Length Calculations
- Installation Instructions
- Part #’s, Product #’s, Pricing
- Sales Opportunities
- Competitors
- Other Applications
- Product Support

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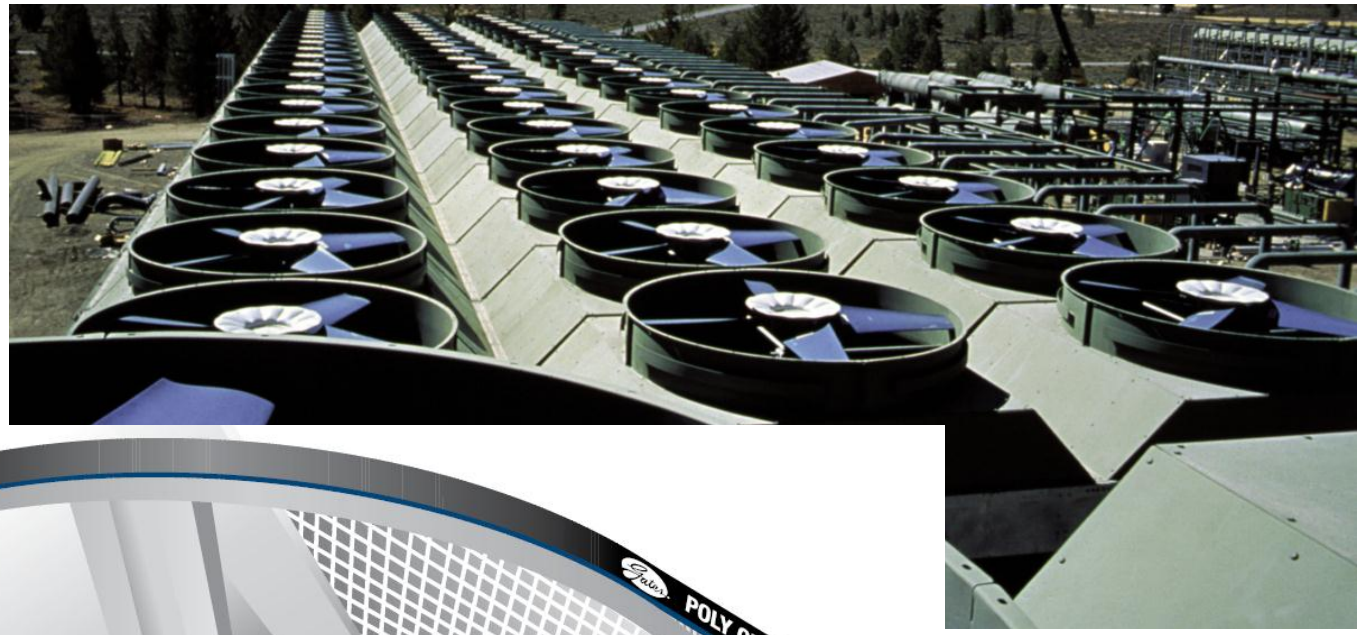
Drives commonly found in the gas and chemical processing industries



Fan Back Drafting and Safety Concerns

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- Back drafting – with fan turned off, an external wind or air movement causes fan blades to turn and belt drive to rotate
- Maintenance people working around the moving fan drive creates a dangerous situation
- “Mechanic Solutions” of wrangling the drive to a stop and wedging screw drivers or boards in the drive can create other safety issues and potentially damage drive components

2x4 Stop 05.wmv

- Starting the drive up while the fan is wind-milling can shock the drive causing accelerated wear to the belt drive and fan.

Shock Start 05.wmv

Fan Back Drafting and Safety Concerns

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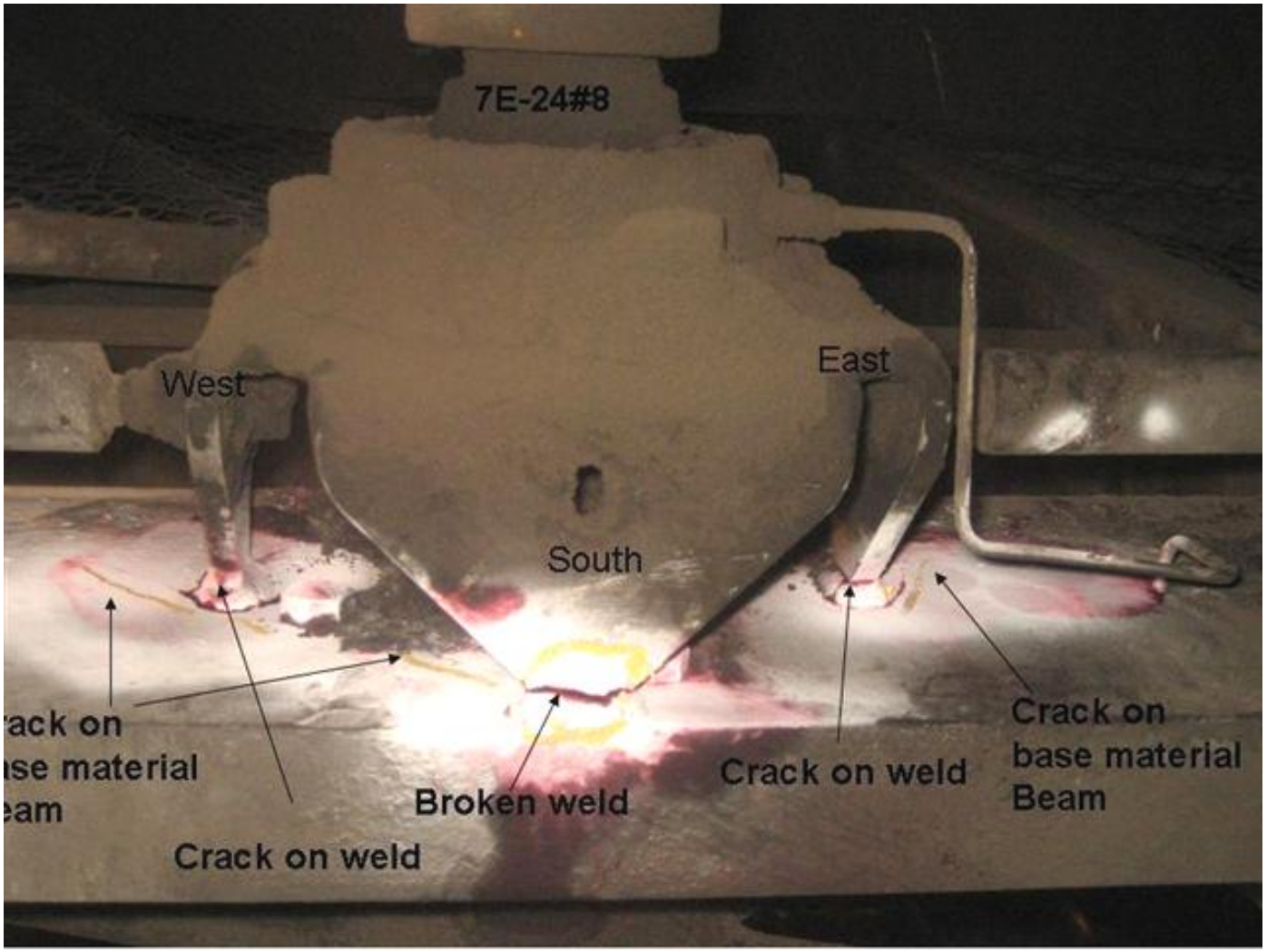
Damage to fan and structure from back drafting



Design Benefits and Features

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- Prevents back drafting, wind-milling of fans
- Eliminates hard starts during wind-milling
- Avoids damage to belt drive, motor, bearings and structure during startup
- Maintenance free bearings, greased for life assembly
- Universal, versatile mounting plate
- Flange plate counter bore accommodates ½ inch shaft protrusion without spacers
- Adapts to clockwise or counter-clockwise operation easily
- Compact, thin design fits under most drive guards
- Bright yellow color stands out for safety

Design Benefits and Features

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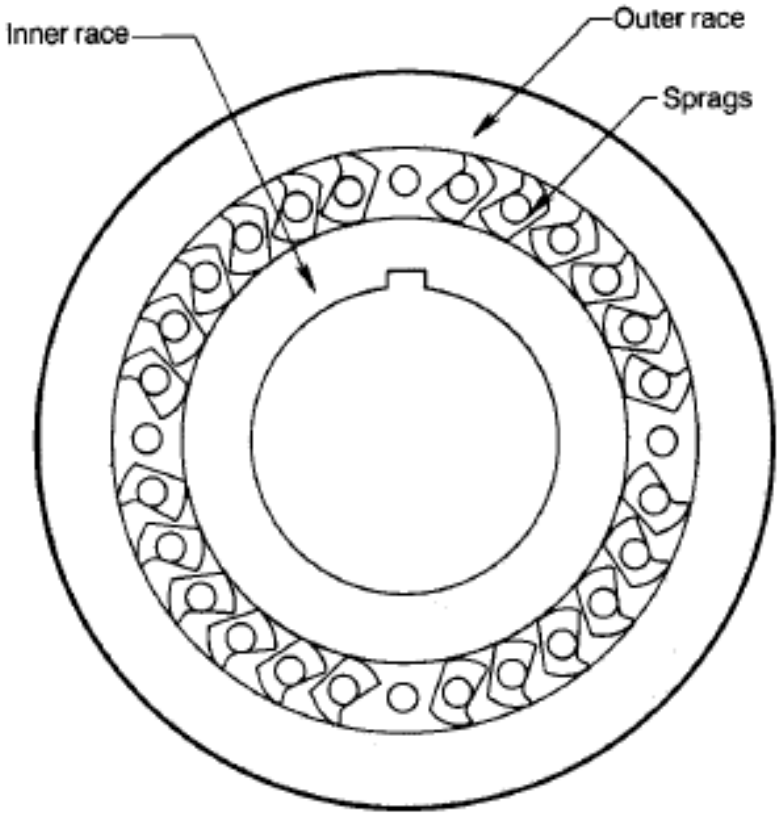
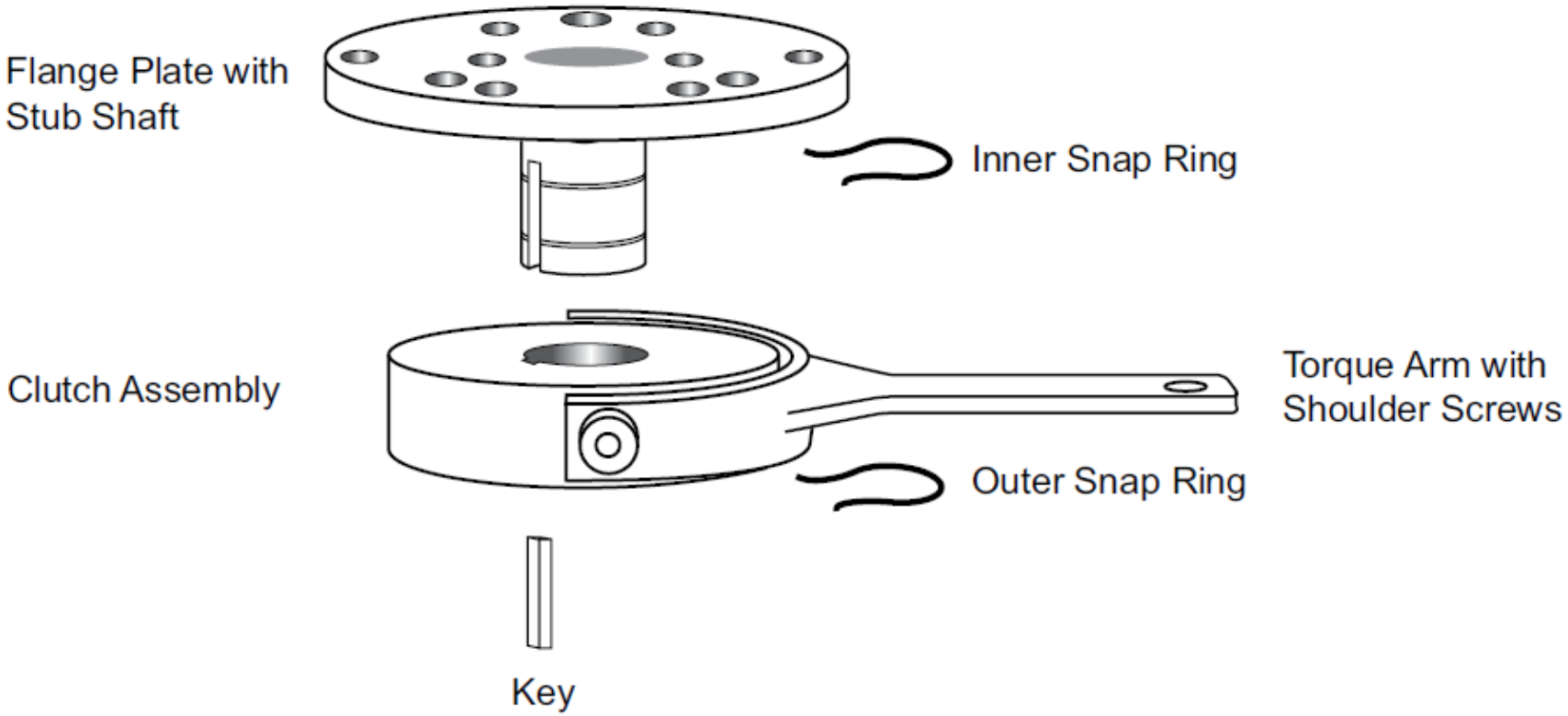
Sprag Clutch Technology:

- A one-directional positive clutch design that connects two shafts when motion causes rotating elements located within races to wedge together. Rotation in the opposite direction disconnects the input and output shaft.



Components, Specifications and Drawings

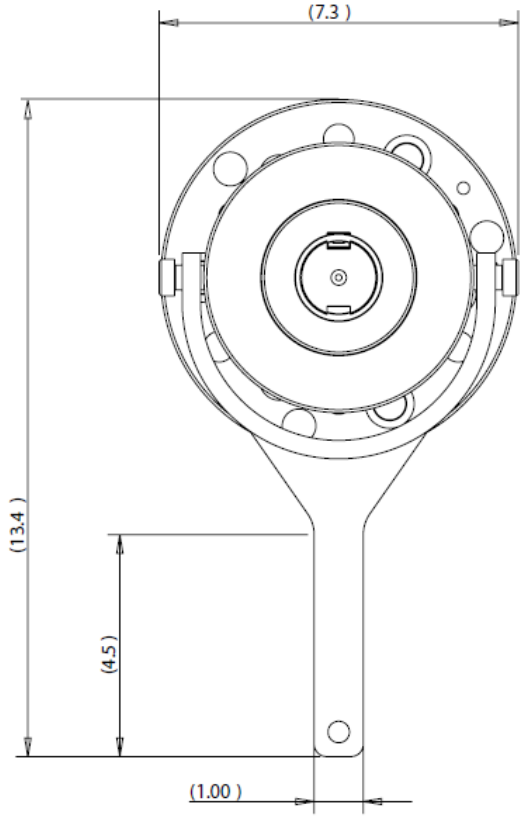
DraftGuard™ Kit (7814-0004) Components

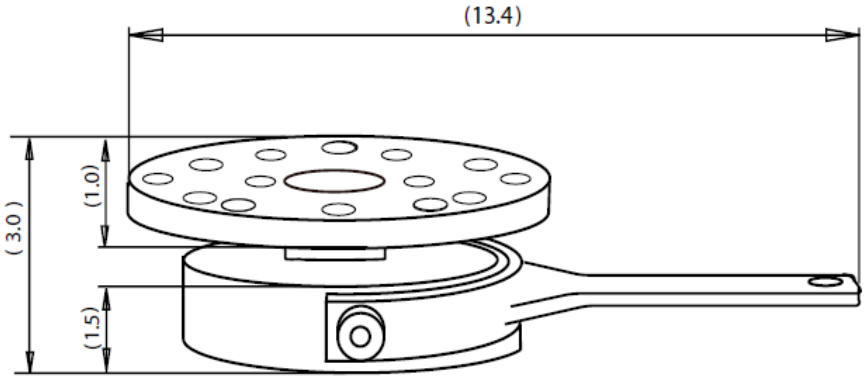


Components, Specifications and Drawings

Powering Progress

DraftGuard Kit Dimensions.pdf





Weight	MAX Torque	MAX Speed
24.6 lbs	284 lb-ft	500 rpm

Gates Corporation
Denver, CO

Draftguard™ Kit

Created
June 24, 2009

Product Number
7814-0004

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

Components, Specifications and Drawings

Flange Plate (7814-0003) & Snap Rings

Components, Specifications and Drawings

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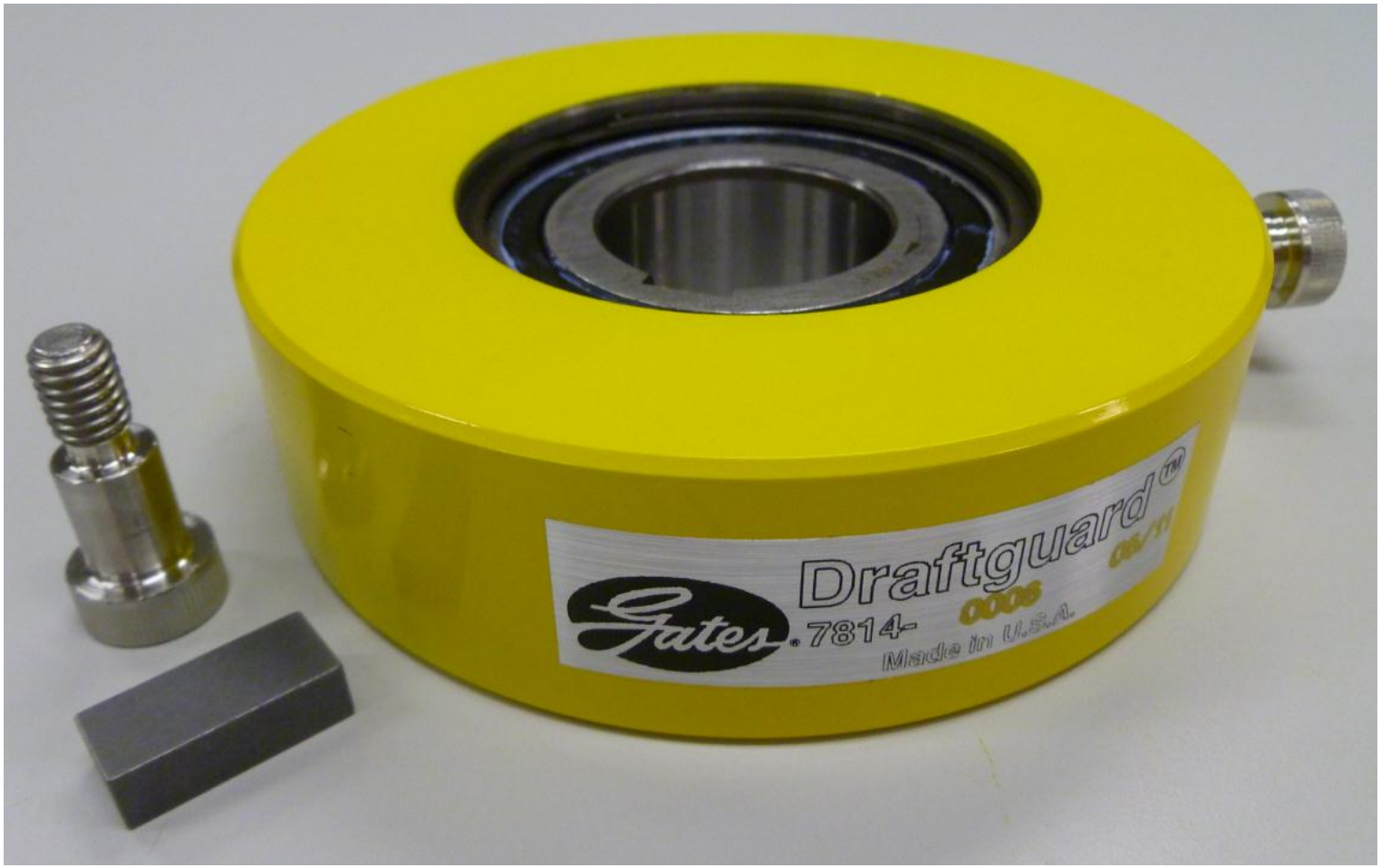
Rear of Flange Plate (7814-0003) showing recess

- Recess is 7/16” (11.11mm) Deep and 3” (76.2mm) diameter.

Components, Specifications and Drawings

Clutch Assembly (7814-0006) & Key

- Screws on edge are for installing the Torque Arm



Components, Specifications and Drawings

Clutch Assembly (7814-0006)

- The centre is marked with the direction of free rotation. Ensure it is installed onto the Flange in the correct orientation.

Components, Specifications and Drawings

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Torque Arm (7814-0005)

Components, Specifications and Drawings

Spacers (7814-0001 & 7814-0002)

- These spacers are both ½” (12.7mm) thick.
- 7814-0001 for 3020 and 7814-0002 for 3525 & 4030 Taper-locks

Mounting Methods

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Three mounting methods:

1. Pulley with Taper-Lock Bushing
2. Pulley with QD Bushing
3. Direct to fan shaft

Mounting screws:

1. Different screw lengths are required depending on the length of fan shaft
2. Need to calculate the screw length required for each application
3. Screws are not included

DraftGuard Installation Instructions.pdf

Mounting

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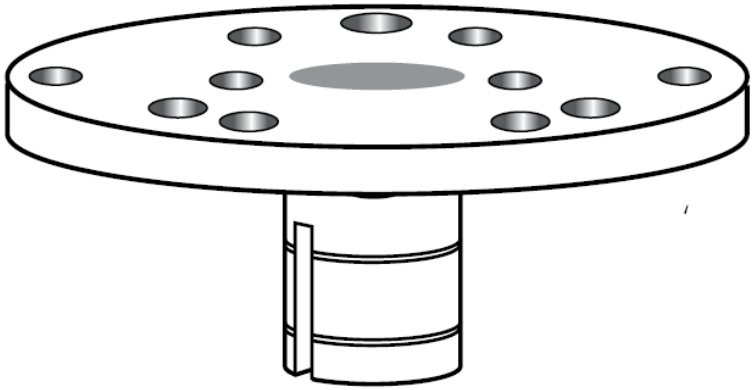
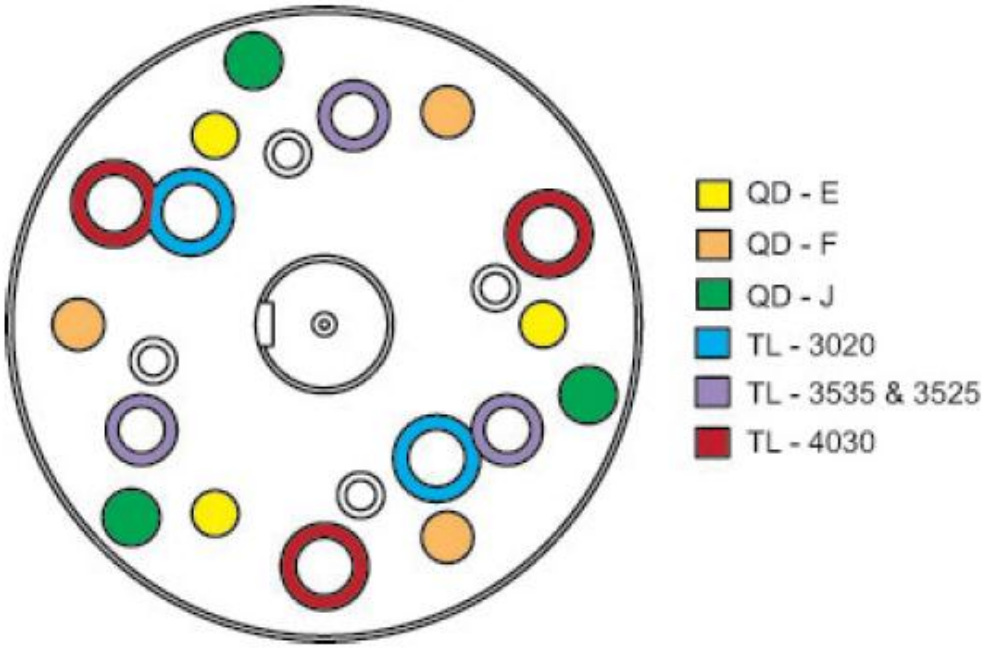
Flange Plate with Stub Shaft:

- Flange plate is mounted to pulley/shaft and clutch is assembled on it
- Flange plate has bolt hole patterns for typical bushings





Mounting Options – Taper-Lock Bushing

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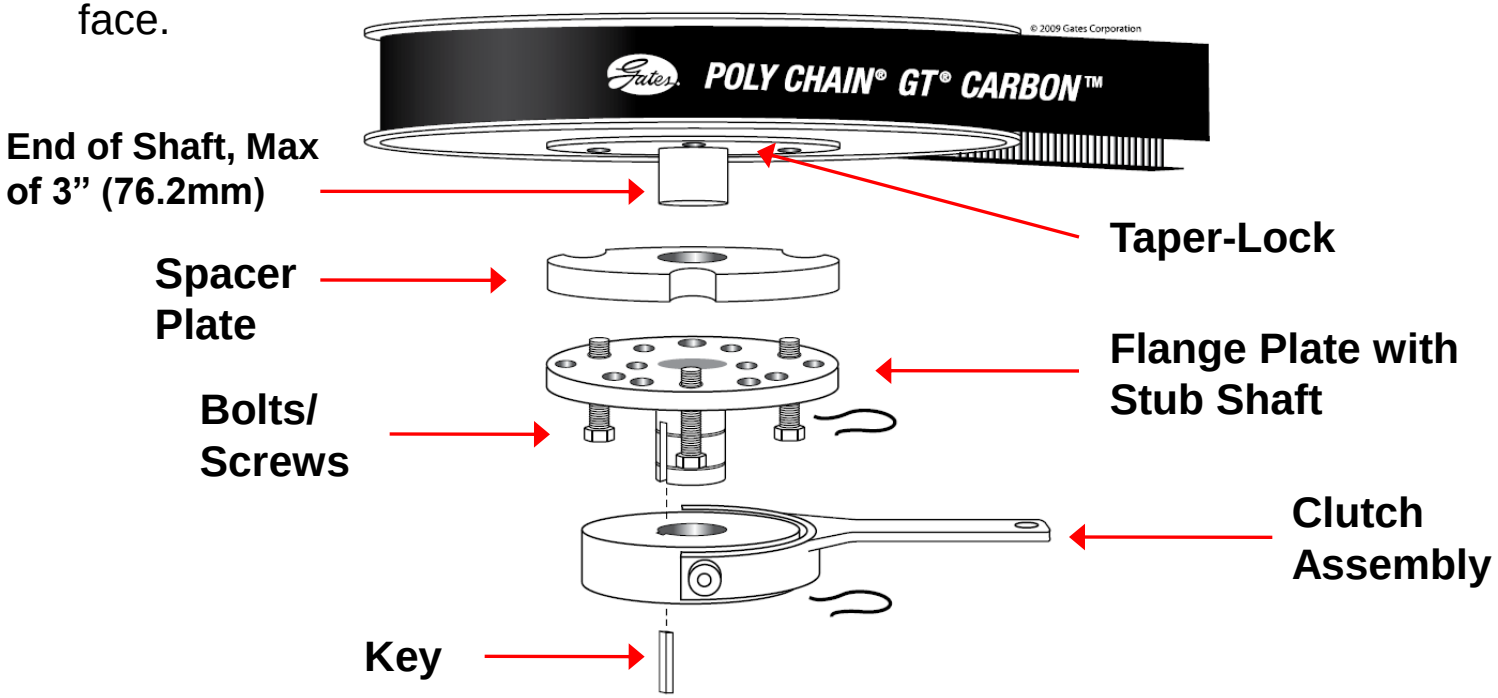
Taper-Lock (TL) Pulley Bushing (3020, 3525, 3535 & 4030)

- Standard bushing screws are removed and replaced with longer ones
- Shafts extending over 7/16” (~10-11mm) require spacers
- **NOTE:** Current key must be cut down so as not to extend past taper-lock face.
- Make sure sprocket and bushing are held safely during installation
- **CAUTION:** to provide proper bushing clamping force, the flange plate must not contact the pulley or end of the shaft. Force must be applied to the bushing face.



Mounting Options – Taper-Lock Bushing

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Screw length calculation:

For Taper-Lock® Bushings 3020, 3525, 3535 and 4030

1. Measure length of shaft extending from the bushing		
2. Subtract 7/16" for the depth of the flange plate counter bore	- 7/16"	(10.5mm)
3. Divide result by thickness of one spacer	÷ 1/2"	(12.7mm)
4. Round up to whole number to get number of spacers		**7814-0001** Spacer - For use with TL 3020 bushings only **7814-0002** Spacer - For use with TL 3525, 3535, 4030 bushings only
5. Multiply number of spacers by thickness of one spacer	x 1/2"	(12.7mm)
6. Add thickness of flange plate	+ 1"	(25.4mm)
7. Add the bushing thread depth from Table 1	+	(Length of thread into bush)
Length of socket head cap screws required		

TABLE 1: Socket Head Cap Screws for TL Bushings

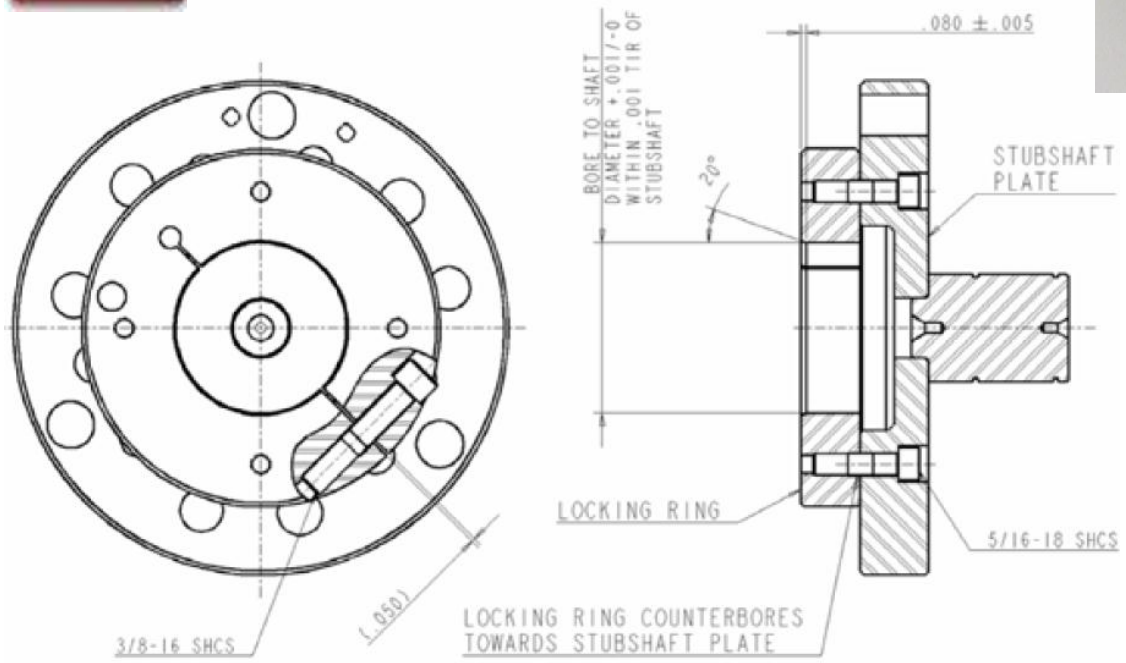
Bushing	Size	Thread Depth	Qty
3020	5/8-11	1-1/4" *(31.8mm)*	2
3525	1/2-12	1-1/2" *(38.1mm)*	3
3535	1/2-12	1-1/2" *(38.1mm)*	3
4030	5/8-11	1-3/4" *(44.5mm)*	3

Mounting Options – Locking Ring

Locking Ring Kit (sold separately)

- Situations with different bushings or extra long shafts
- Clamps to end of the shaft and DraftGuard bolts to it
- Must be bored to fit shaft

Locking Ring Instructions.pdf



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Mounting Options – Locking Ring

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Locking Ring (7814-0007), *for long shaft protrusions*

- The spacer needs to be bored to accept the application shaft size.
- Bolts for mounting the Flange Plate to this are included.

Installation Instructions

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Main Installation Steps:

- Attach flange plate to pulley
- Assembly clutch on stub shaft
- Attach torque arm with stop

For full instructions, refer to pdf file:

DraftGuard Installation Instructions.pdf

Product Information and Support

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For more details on DraftGuard™ please visit..

www.Gates.com/DraftGuard

DraftGuard Flyer.pdf

For further details please contact Gates Customer Service on 03 9797 9688

If you have an application where DraftGuard isn't suitable please contact us to see if we can design a revised version to meet your requirements