

**BULLETIN A-3036**

**P-222-22**

**Installation Instructions**  
**Overrunning Clutches**  
**Models ASK & CSK**



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## Introduction

- FORMSPRAG-STIEBER ASK & CSK overrunning clutches are specifically designed to be built into each application and can be used equally well in overrunning or backstopping operations.
- Both the ASK and CSK models contain bearings to maintain concentricity and provide axial alignment.
- The ASK and CSK models are dimensionally similar to metric bearings series 62 (Model CSK – except CSK-8) or series 60 (Model ASK) and are designed to transmit torque through a press fit or the use of special adhesives. CSK-P designs uses a key to transmit torque.

## Pre-Installation Check

### 1. Shaft and Housing Bore Tolerances

Prior to installing the clutch, check the clutch housing and shaft for proper tolerances per DIN standards 7160 and 7161 (see page 3).

Clutch Model	Shaft Fit	Housing Bore Fit
ASK	h6 or j5	K6
ASK (using adhesives)	f7	G7
CSK	n6	N6
CSK (using adhesives)	g6	J7

### 2. ASK Rotation

Clutch model ASK is designed for outer race overrunning. Therefore, prior to each installation, check the overrunning direction by rotating the outer race. To reverse the rotation direction, simply reverse the clutch prior to installation.

### 3. CSK Rotation

Clutch model CSK is designed for inner race overrunning. Therefore, prior to each installation, check the overrunning direction by rotating the inner race. To reverse the rotation direction, simply reverse the clutch prior to installation.

## Installation Procedure

1. When installing the clutch, apply pressure only to the race that is resisting axial motion.
3. Check the overrunning direction of the clutch after installation.

## Lubrication

Proper lubrication and lubrication maintenance are the single most important maintenance factors for long, effective, and trouble free clutch operation.

## Lubrication Schedule

As previously stated, the lubrication for standard ASK & CSK model clutches is grease which is contained within the clutch. However, if outside lubrication is used, certain minimum requirements must be met. These include changing the lubricant after the first 10 hours of operation. For the duration of the unit's life, check the lubrication level at least every 1,000 hours and change it at least every 2,000 hours.

## Lubrication Instructions

Both the ASK & CSK clutches are grease lubricated and sealed for life. However, if the customer requires, the grease can be flushed out with kerosene. If the clutch is to be used in an oil lubricated environment, use lubricants selected from the following table for the ambient temperature to be encountered.

Temperature	Recommended Lubricant
Ambient Temperature +20°F to +150°F ISO Grade 68	Mobil DTE Heavy Medium Shell Turbo Oil #68 Texaco Regal Oil R & O 68 Chevron GST 68 Exxon Teresstic 68 Sunoco Sunvis #931 Any automatic transmission fluid (ATF), GM Dextron II Specification Chevron ATF Dextron II Mobil ATF 220 Texaco Texamatic Fluid 9226
Ambient Temperature +20°F to -10°F ISO Grade 32 or 46	Mobil Gargoyle Arctic "C" HVY Exxon Oil – Esstic 32 Texaco-Regal "R & O" 32 Texaco Rando "R & O" 46 Exxon Zerice #46 Any automatic transmission fluid (ATF), GM Dextron II Specification Chevron ATF Dextron II Mobil ATF 220 Texaco Texamatic Fluid 9226
Ambient Temperature -40°F to +150°F	Mobil Jet Oil No. 2 Shell Turbine Oil #555 Shell Aeroshell Turbine 500 Exxon ETO #2389 Standard Esso Turbo Oil #2389 MIL-L-23699 or MIL-L-7808 military specification oils General Electric Versilube #F-50 If operating at temperature below -40°, consult Formsprag.

Ambient temperature below -40°F, consult Formsprag

**▲CAUTION** Do not use lubricants containing slippery additives, or those having extreme pressure characteristics such as any EP type lubricants. For additional lube information, see Brochure #A-4032.

These instructions cannot cover all details or variations in equipment and applications nor provide for every possible contingency which may arise in installation, operation or maintenance. Should further information be needed, contact Formsprag Clutch.

### Rotating Equipment

Rotating equipment is potentially dangerous and should be properly guarded. The user should check for all applicable safety codes in his area and provide a suitable guard.

Bore MM	DIN 7160 (Shaft Fit)					DIN 7161 (Bore Fit)			
	h6 µM	j5 µM	f7 µM	n6 µM	g6 µM	K6 µM	G7 µM	N6 µM	J7 µM
8	+0 -9	+4 -2	-13 -23	+19 +10	-5 -14	+2 -7	+20 +5	-7 -16	+8 -7
17	+0 -11	+5 -3	-16 -34	+23 +12	-6 -17	+2 -9	+24 +6	-9 -20	+10 -8
20	+0 -13	+5 -4	-20 -41	+20 +15	-7 -20	+2 -11	+28 +7	-11 -24	+12 -9
30	+0 -13	+5 -4	-20 -41	+20 +15	-7 -20	+2 -11	+28 +7	-11 -24	+12 -9
35	+0 -16	+6 -5	-25 -50	+33 +17	-9 -25	+3 -13	+34 +9	-12 -28	+14 -11
40	+0 -16	+6 -5	-25 -50	+33 +17	-9 -25	+3 -13	+34 +9	-12 -28	+14 -11
60	+0 -19	+6 -7	-30 -60	+39 +20	-10 -29	+4 -15	+40 +10	-14 -33	+18 -12

Note: 1µM = .0004 in.

## Warranty

Formsprag LLC warrants that it will repair or replace (whichever in its sole discretion it deems advisable) any product it manufactured and sold which proves to be defective in material or workmanship within a period of one (1) year from date of original purchase for consumer, commercial or industrial use. This warranty extends only to the original purchaser and is not transferable or assignable without Formsprag LLC's prior consent.

This warranty covers normal use and does not cover damage or defect which results from alterations, accident, neglect, disassembly, or improper installation, operation, or maintenance.

Formsprag LLC's obligation under this warranty is limited to the repair or replacement of the defective product. In no event shall Formsprag LLC be liable for consequential, indirect or incidental damages of any kind incurred by reason of manufacture, sale or use of any defective product. Formsprag LLC neither assumes nor authorizes any other person to give any other warranty or to assume any other obligation or liability on its behalf.



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