

BULLETIN A-3035

P-222-21

Installation Instructions

Overrunning Clutches

Models AS & ASNU



Introduction

- FORMSPRAG-STIEBER AS & ASNU overrunning clutches are specifically designed to be built into each application and can be used equally well in overrunning or backstopping operations.
- Models AS & ASNU do not contain bearings; the customer must supply proper bearing support to maintain axial alignment and concentricity.
- Torque is transmitted from the customer's shaft by a keyway cut into the bore of both models AS & ASNU. Model AS uses a press fit between the clutch outer race and the customer's housing to transmit torque to the customer's part, while model ASNU uses either a press fit or slots cut 180° apart in the face of the outer race.

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.

Pre-Installation Check

1. Shaft and Housing Bore Tolerances
Prior to clutch installation, check clutch housing and shaft for proper tolerances per DIN standards 7160 and 7161 (see table, page 3).

Clutch Type	Shaft Fit	Housing Bore
AS	h6 or j6	H6 or J7
ASNU	h6 or j6	H6 or J7 (K6)*

* for press fit only

2. Shaft and Housing Alignment

The clutch inner and outer race concentricity depends entirely on proper alignment of the shaft with the housing bore. Maintain the following standards of T.I.R.

Model Clutch	Bore Range mm	T.I.R.	
		mm	inch
AS & ASNU	6-12	.020	.0008
AS & ASNU	15-25	.030	.0012
AS & ASNU	20-80	.050	.0020
ASNU	90-200	.080	.0032

3. Rotation

The AS & ASNU model clutches are designed for outer race overrunning. Check for the overrunning direction before each installation by rotating the outer 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.
2. Secure the clutch in position. Use lockwashers, flat washers and a screw, snap rings, set collars, etc.
3. Check the direction of overrunning by hand after installation.

Lubrication

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

Lubrication Instructions

Use oils selected from the following table according to 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 220 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 Oil #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 P-1053.

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.

Lubrication Schedule

Lubrication of the AS & ASNU model clutches which are not self contained is usually a function of the requirements of the machinery in which they are installed. However, certain minimum requirements must be met.

After the first 10 hours of operation, change the lubricant. For the duration of the units life, check the lubricant level at least every 1,000 hours, and change it at least every 2,000 hours.

	Bore MM	From 1 Up to 3	Above 3 Up to 6	Above 6 Up to 10	Above 10 Up to 18	Above 18 Up to 30	Above 30 Up to 50	Above 50 Up to 80	Above 80 Up to 120	Above 120 Up to 180	Above 180 Up to 250
DIN 7160	h6 μM	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16	0 -19	0 -22	0 -25	0 -29
	j6 μM	+4 -2	+6 -2	+7 -2	+8 -3	+9 -4	+11 -5	+12 -7	+13 -9	+14 -11	+16 -13
DIN 7161	H6 μM	+6 0	+8 0	+9 0	+11 0	+13 0	+16 0	+19 0	+22 0	+25 0	+29 0
	J7 μM	+4 -6	+6 -6	+8 -7	+10 -8	+12 -9	+14 -11	+18 -12	+22 -13	+26 -14	+30 -16
	K6 μM	0 -6	+2 -6	+2 -7	+2 -9	+2 -11	+3 -13	+4 -15	+4 -18	+4 -21	+5 -24

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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