



**NSS® and NFS® Series Clutches
Installation and Maintenance Instructions
for Models NSS-8-NSS-60, NFS-12-NFS-80**

Power Transmission Solutions

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F O R M

PS-740-0001
4146-005E
Revised
October 2016

⚠ 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.

A. Preinstallation

1. For proper clutch operation, concentricity between shaft and housing bore should not exceed .0015 inch T.I.R. The NSS and NFS Series Clutches must have additional bearing support so that on assembly a concentric condition exists between inner and outer members of the clutch.
2. Check overrun direction of clutch before mounting. To change direction of rotation, turn clutch through 180°. Check fit of bore and shaft.
3. Depending on the given operating conditions, the fit between the shaft and the bore can be selected in such a way that either a push fit or a press fit can be obtained. For the shaft, we recommend a tolerance of h 6 or j 6. The NSS and NFS Series Clutches are manufactured with a bore tolerance of H 7.

| Clutch Model No. | Clutch Bore Dia. | Clutch Bore Tolerance (H 7) | Recommended Shaft Tol. | | Recommended Housing Bore | |
|------------------|------------------|-----------------------------|------------------------|-------------------|--------------------------|-----------------|
| | | | Push FI (h 6) | Press Fit (j 6) | NSS (H 6) | NFS (H 7) |
| NSS 8 | 8MM (.3150)" | +0.006 -0.000" | +0.000 -0.0035" | +0.0002 -0.0016" | .9449 -0.9441" | - |
| NSS 10 | 10MM (.3937)" | +0.006 -0.000" | +0.000 -0.0035" | +0.0002 -0.0016" | 1.1811 -1.1803" | - |
| NSS & NFS-12 | 12MM (.4724)" | +0.007 -0.000" | +0.000 -0.0043" | +0.00024 -0.0002" | 1.2598 -1.2589" | 1.3780 -1.3789" |
| NSS & NFS-15 | 15MM (.5906)" | +0.007 -0.000" | +0.000 -0.0043" | +0.00024 -0.0002" | 1.3780 -1.3770" | 1.6535 -1.6545" |
| NFS-17 | 17MM (.6993)" | +0.007 -0.000" | +0.000 -0.0043" | +0.00024 -0.0002" | - | 1.8504 -1.8514" |
| NSS & NFS-20 | 20MM (.7874)" | +0.008 -0.000" | +0.000 -0.0005" | +0.00032 -0.0002" | 1.8504 -1.8494" | 2.0472 -2.0484" |
| NSS & NFS-25 | 25MM (.9843)" | +0.008 -0.000" | +0.000 -0.0005" | +0.00032 -0.0002" | 2.0472 -2.0461" | 2.4409 -2.4421" |
| NSS & NFS-30 | 30MM (1.1811)" | +0.008 -0.000" | +0.000 -0.0005" | +0.00032 -0.0002" | 2.4409 -2.4398" | 2.8346 -2.8358" |
| NSS & NFS-35 | 35MM (1.3780)" | +0.001 -0.000" | +0.000 -0.0006" | +0.0004 -0.00024" | 2.8346 -2.8335" | 3.1496 -3.1508" |
| NSS & NFS-40 | 40MM (1.5748)" | +0.001 -0.000" | +0.000 -0.0006" | +0.0004 -0.00024" | 3.1496 -3.1484" | 3.5433 -3.5447" |
| NSS & NFS-45 | 45MM (1.7717)" | +0.001 -0.000" | +0.000 -0.0006" | +0.0004 -0.00024" | 3.3465 -3.3451" | 3.9370 -3.9384" |
| NSS & NFS-50 | 50MM (1.9685)" | +0.001 -0.000" | +0.000 -0.0006" | +0.0004 -0.00024" | 3.5433 -3.5419" | 4.3307 -4.3321" |
| NSS & NFS-60 | 60MM (2.3622)" | +0.0012 -0.000" | +0.000 -0.00075" | +0.0005 -0.00024" | 4.3307 -4.3293" | 5.1181 -5.1197" |
| NSS & NFS-70 | 70MM (2.7559)" | +0.0012 -0.000" | +0.000 -0.00009" | +0.0005 -0.00024" | - | 5.9055 -5.9065" |
| NSS & NFS-80 | 80MM (3.1496)" | +0.0012 -0.000" | +0.000 -0.00009" | +0.0005 -0.00024" | - | 6.5929 -6.6939" |

B. Installation

These clutches are integral assemblies and must not be taken apart for installation. It is very important that equal forces be applied to both inner and outer races otherwise the clutches can be damaged. It is recommended that a clearance of .004 to .008 inches be held between the clutch outer race and the cover plate face.

A key equal to length of inner race is required for proper support. Install key with push fit taking care that key seats squarely. For indexing applications fit key tight on width dimension to prevent loosening in service. Do not exceed .001 inch tight side fit. The outer race of NSS Series Clutches should be press fitted into the housing assembly, however, not to exceed dimensions shown above.

C. After Installation

Check to see that clutch operates freely in the overrunning direction.

D. Lubrication

The clutches are supplied with a protective coating of oil and must be lubricated before putting into service.

The following lubricants are recommended:

Oil:

- 15°F to 125°F (Max. Ambient Temp.)
Multi-Purpose Automatic Transmission Fluid
- 20°F TO 125°F (Max. Ambient Temp.)
*Socony Mobil D.T.E. Heavy Medium
- 30°F TO 125°F (Indexing Applications)
*Socony Mobil D.T.E. Light Oil

Grease:

- 20°F to 125°F (Max. Ambient Temp.)
*Shell Alvania RL 2, *Mobilith SHC 100,
*Texaco Premium RB

Notice: Do not use lubricants of the EP type or those containing slippery additives such as molybdenum disulphide and graphite.

E. Maintenance

Check clutch periodically to insure adequacy of lubrication. Flush clutch with mineral spirits or kerosene to assure continued efficiency of operation. Relubricate with proper lubricant.

F. General Information

1. Application Engineering: 1-800-626-2093.

CAUTION: Do not use the clutch above its torque or speed ratings. Do not attempt to take this clutch apart.

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