



# TECH BULLETIN

057  
04/91

*Published regarding engineering changes and improvements*

## SUBJECT: Set Screw and Hardened Key - 4SF

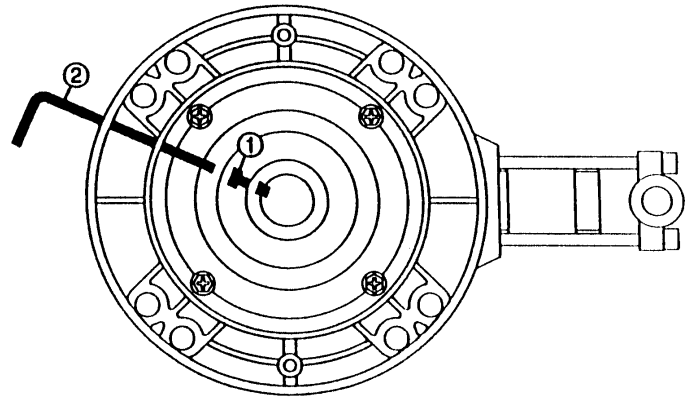
The 4SF pumps have been designed to accommodate a set screw to provide additional security for the key on the shaft. All direct drive assemblies are prone to some fretting corrosion with the metal to metal contacts. The set screw has been added to the 4SF design to lock the key in place. This will minimize movement and prevent excessive wear.

The crankshaft will have the set screw hole tapped into the keyway area and there will be an access hole in the pump mounting flange to enable the insertion of a hex allen wrench for tightening the set screw.

Should a replacement crankshaft be needed for units prior to these production dates, the new tapped crankshaft will interchange, however, the crankcase flange will need to be drilled out for access to the set screw. Contact CAT PUMPS for further information. The current part numbers for the crankshaft and crankcase will be used for these new parts.

The following steps should assist in properly installing this set screw:

1. Apply Loctite 242 to the threads of the set screw and thread 2-3 turns into the crankshaft.
2. Rotate pump crankshaft by hand to line up set screw with access hole in pump flange. Insert allen wrench for guide.
3. Apply antiseize lubricant (PN 6106) to engine or motor shaft.
4. Line up engine or motor shaft with pump shaft. Rotate engine or motor shaft to match pump keyway position. Rotate the engine shaft to line up the **etched line** in the pump crankshaft end (visible through the bubble oil gauge) with the **access hole** at the **top right** of the pump mounting flange.
5. Install the key into the motor or gas engine keyway. On gas engine shaft, key (PN 44455) may be installed either direction in the keyway. On electric motor shaft, key (PN 46076) must be installed with special tapered end **down and towards motor**.
6. Carefully slide pump onto engine or motor shaft until pump flange is flush with drive face.
7. Secure pump to gas engine or electric motor with hex head screws and lockwashers and torque to 110 in/lbs. (125 Kg/cm).
8. Then insert any standard M4 x M90 allen wrench into the access hole and torque set screw to 60-70 in/lbs. (70-80 Kg/cm).
9. Rotate engine or motor shaft to assure free movement and commence operation.



Effective with manufacturing dates:

4SF35GH1 .....	5910001
4SF40GH1 .....	D900221
4SF45GH1 .....	2910001
4SF40EL .....	2910201
4SF45EL .....	1910801
4SF50EL .....	2910241

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