

## **OPTOFORM® 40 - Spindle and Collet Maintenance**

The spindle is a high speed, air bearing spindle for contact lens generation.

### Air supply:

The spindle requires a clean, dry supply of air at 80 psig, filtered down to 1 micron. The filtration should remove all water, in liquid or aerosol form at line temperature. Oil carryover should not exceed  $0.1 \text{ mg/m}^3$  at 21 degrees C.

The use of a refrigerant drier is recommended, which should be set to a pressure dew point of 7 degrees C.

A pressure switch is incorporated in the air supply to the spindle, set to trigger at  $4.2 \text{ KgF/cm}^2$  (60 PSIG). In the event of a reduction in bearing supply pressure below the stated figure, a spindle stop will be forced.

### Spindle clamping:

The spindle is clamped in place with a two piece aluminum housing. A support on both sides of the housing mounts the housing to the carriage top. Pivoting the housing within the supports aligns the spindle. Spindle alignment is factory set and should never need adjustment.

### Collet system:

The spindle is fitted with a pneumatically operated collet. When air is supplied at 80 psig ( $5.6 \text{ kgf/cm}^2$ ) to the collet actuating port in the center of the rear face of the spindle, the collet will open. By reducing this pressure to zero, the collet will automatically close to grip the work piece. It is essential that the collet actuating air supply be at atmospheric pressure before the spindle is started.

### Collet maintenance:

If it is desired to remove the collet for cleaning purposes, it is essential to first apply full air pressure at the bearing supply port. Full air pressure is then applied to open the collet. The collet is then removed by unscrewing it counterclockwise, as viewed on the face of the collet.

**Note 1:** At no time should the spindle be run without a collet, a part or a component in the collet jaws.

The collet is lubricated with a molybdenum disulphide grease, marketed under the name Rocol MT-LM, which Precitech can supply.

Prior to replacing the collet it is, of course, essential to thoroughly clean both the shaft bore and the collet. A number of organic solvents are suitable for this purpose, being typified by the cleaner sold under the name Genklene (trichloroethane 111). For collet cleaning, we recommend the use of an ultrasonic cleaning bath.

Once the collet has been cleaned, prior to refitting, the collet must be lubricated lightly in two places using Rocol MT-LM grease. At the bottom of the shaft for the first 10mm, and on the taper.

Install the collet, by screwing it clockwise when viewed on the face of the collet. The precise grip of the collet is dependent upon how far the collet is screwed back in. Adjust as necessary to give the required grip.