SHAFT SEAL FOR HYDRODYNAMIC BEARING UNIT

Abstract of the Disclosure

A seal for a hydrodynamic bearing unit having a shaft and a sleeve includes a seal ring secured to the shaft and extending radially outwardly of the pair of spaced-apart hydrodynamic journal bearings defined between the seal ring and a thrust plate. The seal ring adjacently faces adjacent radial and axial portions of the sleeve. An annular taper capillary seal is defined between a diverging outer wall surface of the seal ring and the adjacent axial portion of the sleeve. A containment ring extends from the sleeve to surround a radial wall portion of the seal ring adjacent to an opening of the taper capillary seal and forms a secondary containment seal opening toward the shaft for preventing escape of the hydrodynamic bearing lubricant. The hydrodynamic lubricant is placed within the annular taper capillary seal and is retained in place by capillary force in the absence of rotation, and is retained in place by capillary force and by centrifugal force in the presence of relative rotation between the shaft and the sleeve.

This Sheet Has Been Replaced

