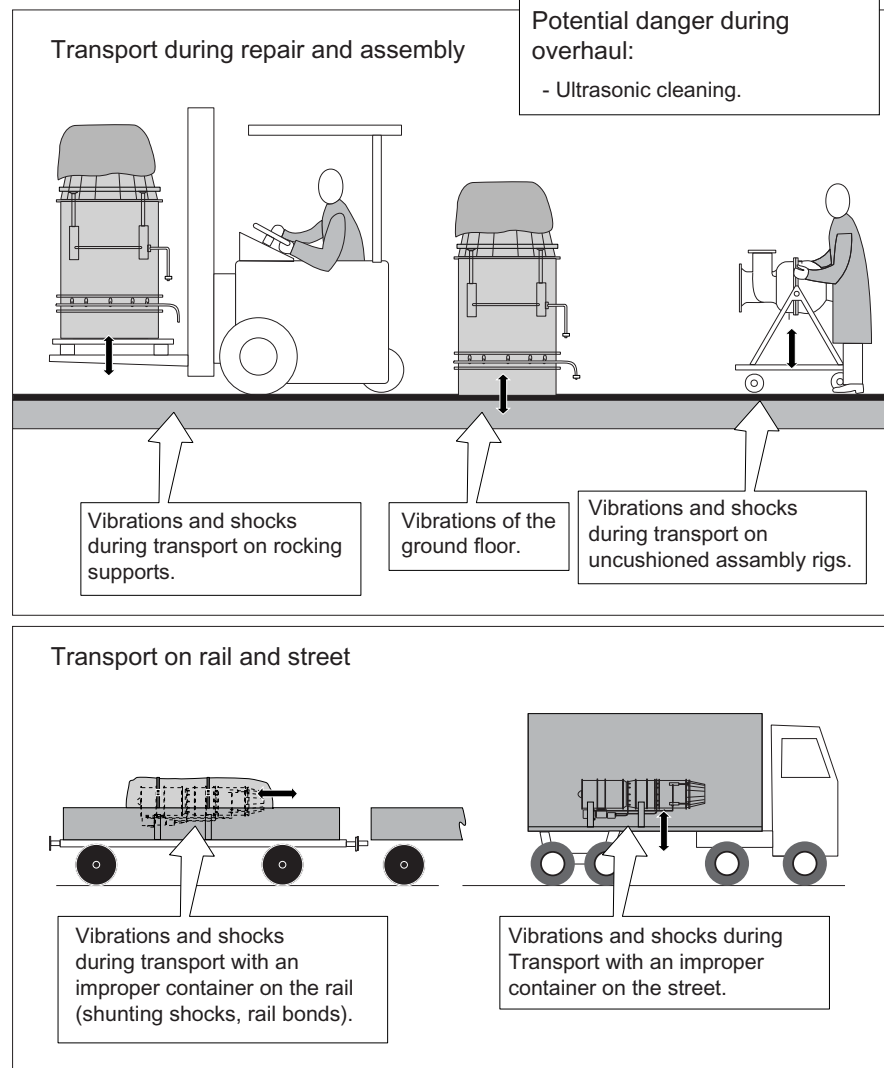


### Typical conditions that can lead to brinelling at antifriction bearings of gas turbines.



III. 3.5-13

**Remedies:**

- Cushioned and damped transport devices like containers.
- Adequate uptightened (wedged) rotors.
- Suitable equipment in the assembly area.

**III. 3.5-13 (Lit. 3.5-6) Vibrations during the transport with not adequate supported engines or not uptightened rotors can lead to (real) 'brinelling' (example 3.5-1). The experience shows, that such damages can trigger , especially on small high speed engines, even **during start up, catastrophic failures in seconds.****