

Safeguarding Machinery and Equipment

General Requirements

**Some Common
Safeguarding Applications:**

Power transmission



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Power transmission parts typically consist of belts, pulleys, chains, sprockets, gears, shafts, and couplings. Contact with these moving parts accounts for a large number of preventable injuries. It is usually a straightforward task to fabricate and install guards for these hazards. Refer to “Design and performance requirements for barrier guards” (page 25 from *Safeguarding Machinery and Equipment*) for the do’s and don’ts associated with barrier guards.

Two very common machine guards are:

- V-belt/chain-sprocket guard
- PTO (power take-off) drive shaft guard (frequently found in agriculture)

To view relevant WorkSafeBC Hazard Alerts, go to WorkSafeBC.com, click “Find a hazard alert poster” under Safety at Work, then click “Guarding” under Topic.

V-belt/chain-sprocket guard

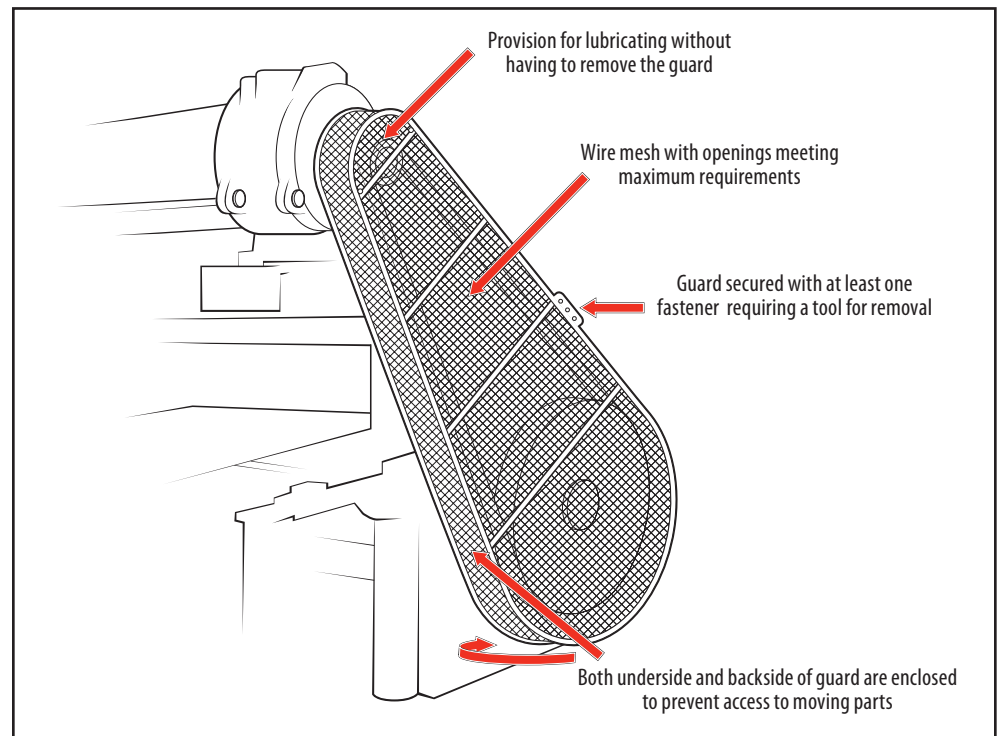


Figure 4.1. Typical fabrication design of the V-belt/chain-sprocket guard.

PTO drive shaft guard

Unguarded PTO (power take-off) drive shafts account for a large number of serious entanglement injuries, especially in agriculture, where they are frequently used with tractors for powering portable machinery such as irrigation pumps. Because the equipment is powered for frequent, short periods there is a tendency to neglect installing guards over these drives. It is a good practice to install a chain or cable tether at each end of the PTO drive shaft guard so that the guard can be readily secured to the tractor or portable equipment when not in use.

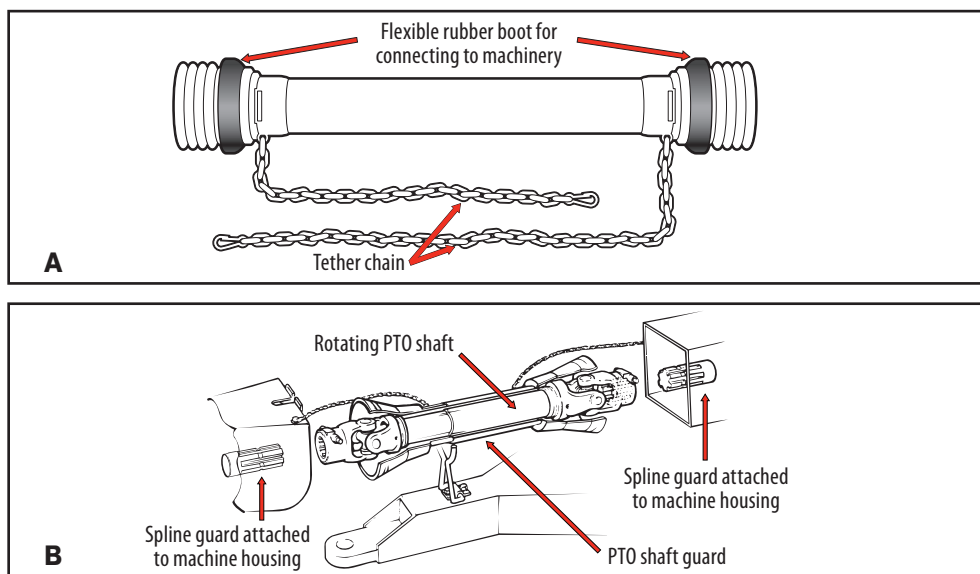


Figure 4.2. PTO drive shaft guards. (A) With tether chain attached to each end of the guard. (B) Cutaway view of PTO drive shaft and typical guard.

Rotating shaft and coupling guard

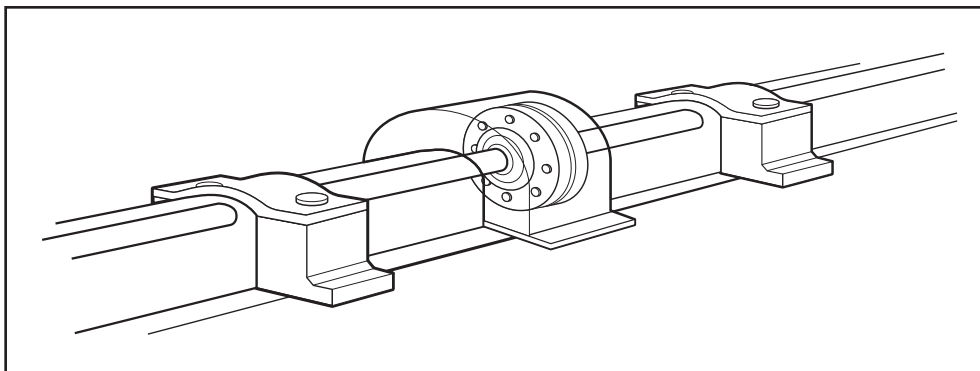


Figure 4.3. Typical design of a rotating shaft and coupling guard.