INSTALLATION GUIDELINES

EDON
LINE-TRACKERS AND ENCODER DRIVES

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INSTALLATION GUIDELINES FOR EDON LINE-TRACKERS/ENCODER DRIVES

EDON Encoder Drives generally fall into two (2) categories: (A) Parasitic Line-Trackers (also referred to as Caterpillar Take-Offs) and (B) Head Shaft Take-Offs.

A. **PARASITIC LINE-TRACKERS**

The Parasitic Line-Trackers are designed and built for all types of conveyors. The installation and maintenance procedures are provided in Form #430-5-22-02 and Drawing #A-4480 (Inst), dated 9/20/99, sheet 1 of 1 for Standard Duty Line-Trackers and Heavy Duty Line-Tracker instructions, dated 10/2/99, sheet 1 of 1. EDON provides standard and special mounting brackets for Line-Trackers to fit both floor and overhead conveyor systems. These types of Line-Trackers generally incorporate single or dual on-board mounted encoders resolved to conform to customer requirements.

B. **HEAD SHAFT DRIVEN ENCODERS**

Head Shaft Driven Encoder Systems are custom designed and generally connected to the conveyor head shaft (not tail shaft) or speed reducer shaft via shafting with universal joints/coupling. The encoders are typically mounted adjacent or remote in a Nema-12 enclosure and are geared to produce a specific tracking resolution to conform to customer requirements.

Connecting drive shafting consists of appropriately sized steel shafting (min. 3/4" dia.) which direct connects the head shaft of the conveyor to the encoder enclosure input shaft. The drive shaft run may incorporate right-angle gear boxes to orient the connecting shaft to clear obstructions, etc. All shaft universal joints/couplers are normally secured via Woodruff keys or in some exceptional cases they are roll-pinned to the drive shafts.

Drive shaft runs require a connecting shaft and two (2) universal joints (one at each end). Runs can be up to 6 feet in length without intermediate support bearings; over 6 feet an intermediate bearing support is required. If right-angle gearboxes are incorporated into the system they are likewise connected with keyed universal joints.

It is important to note that universal joints/couplings are used in a system to provide installation compliance for any non-intentional component misalignment. Universal joints and couplings should not be used to intentionally offset drive shafts. Shaft centerlines, by design, should be in line to minimize component wear.

All exposed shafting and rotating components must be properly guarded. EDON provides, as an option, shaft guarding complete with all connecting brackets, etc. and appropriate intermediate bearing supports.

Installation of shafting, encoder enclosures, universal joints, etc. should follow accepted practices for drive and transmission components.

INSTALLATION GUIDELINES FOR HEAD SHAFT DRIVEN ENCODERS:

- Enclosures should be mounted securely, level and plumb; if floor-anchored they must be attached with minimum 4" x 1/2" dia. steel anchors.

- All shafting must be a minimum 3/4" dia.

- All shafting sections must have at least (1) universal joint on each end of the shaft.

- Intermediate self-aligning spherical bearings are required for all shafts over 6 ft. in length.

- Shafting is supplied in rough-cut lengths; final lengths must be field determined. Key-ways are machined extra long to allow for field cutting. We try to provide a shaft length at least 6" longer than specified and we key 12" from each end in an attempt to provide as much flexibility as possible and to assure adequate key lengths.

- Shaft keys should be installed on all universal joints/couplers and set screws tightened appropriately on all key ways.

- All EDON gearing, universal joints, couplers, shafts, etc. are now keyed to prevent any slippage. Thus, one can visually check key slot alignment to verify position or registration.

- Shafting key slots are machined to provide angular off-setting of the universal joints to zero the angular acceleration.

- Right-angle gear boxes must be rigidly mounted.

- Right-angle gear boxes must be checked for lubrication. For all practical purposes, at the low rpm ranges encoder shafts operate at, the right angle gear boxes are basically maintenance free. However, periodic inspection is recommended at the interval specified for encoder gearing.

- Universal joints should be greased with multi-purpose grease.

- Encoder gearing is factory greased with silicone free grease, but should be checked prior to start-up and every 1,000 hours thereafter.

- On head shaft drives, a special head shaft adapter with a keyed shaft extension is generally provided to enable attachment of the drive shaft universal joint. Adapters are machined with a shoulder to align over the o.d. of the head shaft to enable easy centering for field drilling. The head shaft, if not previously drilled, must be field drilled to match the adapter hole pattern. The adapter is intended to be used as the drilling fixture. The adapter must be mounted concentrically.

- On systems with EDON pedestal stands (used for Nema-12 enclosure mounting with integral right angle drives) a special adapter is used to connect to the horizontal input shaft of the right-angle gearbox. Set screws are used to secure the adapter to the right-angle and to the adapter extension shaft to the adapter. The right-angle must be removed from the pedestal to access the set screw on the right-angle.

- Product documentation and maintenance/installation instructions are provided in a sealed envelope with each shipment and are appropriately marked to avoid accidental discarding.

- Shaft guarding must be provided for all exposed shafts.

- All set screws, keys, gears, encoders, gear ratios, etc. are quality assured to be tight, in place, and correct prior to shipment and are 100% quality audited. The documentation folder includes a "Quality Checklist" which is signed and dated by the technician who built the equipment; it is also signed by the shop foreman and is maintained by EDON as a quality record.

The above installation guidelines are not meant to be all-inclusive, but rather to serve as a checklist and to identify certain key areas which can affect the system's functionality. History has shown that EDON Line-Trackers and Encoder Drives, when installed and maintained properly, will provide years of trouble-free service. EDON assumes no responsibility for improperly installed equipment.