

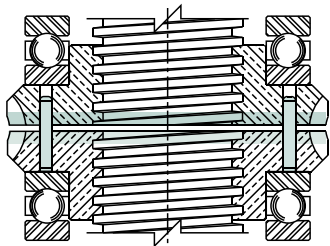
# OPTIONS ANTI-BACKLASH DESIGNS

## Anti-Backlash Designs

Anti-backlash devices are internal jack components used to minimize backlash (free movement between the lifting screw and nut) in machine screw jacks. These devices are used in reversing load applications where the lifting screw position is critical.

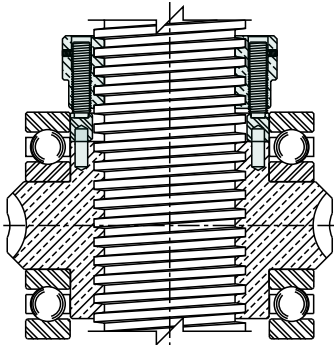
These devices are frequently used in steel mill applications where the screw jacks are used to set and maintain the position of the movable upper roll of a rolling mill. In operation, the initial weight of the roll pulls the lifting screw to one side of the internal nut. When steel passes through the rolls, the load reverses on the lifting screw and movement in the opposite direction is limited by the anti-backlash device.

Other common applications include screw jacks used to position communication antennas and solar panels. In these applications, directional changes in the wind can buffet the panels thus affecting the position of the lifting screw. During high wind conditions, anti-backlash devices minimize the lifting screw movement.



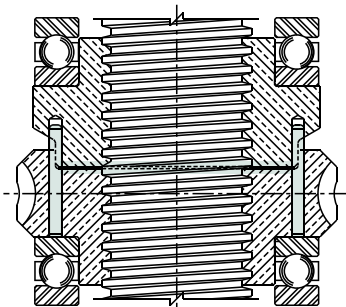
### A-Split Gear Design

- Best suited for light dynamic loads (1/3 jack capacity or less) and full jack capacity for static loads.
- A split gear and dowel pins maintain gear alignment.
- Adjustments are made by tightening the sleeve (housing) cap.
- Typically reduces endplay to 0.010" — 0.015" without increased torque.\*
- Available on translating models, 500-pound to 75-ton (upright and inverted) jacks.
- Available on some keyed models. Contact Joyce.
- Order using an "A" designation in the suffix of the part number.



### A90 Design

- Best suited for medium dynamic loads (1/2 to 3/4 jack capacity) and full jack capacity for static loads.
- This design incorporates a hardened steel plate pinned to the top of the internal gear and a secondary nut placed above the steel plate.
- Setting the backlash is accomplished by tightening the dog point set screws located inside the secondary nut. The set screws are externally adjustable.
- Typically reduces endplay to 0.008" — 0.012" without increased torque.\*
- Available on upright translating models, 25-ton to 100-ton capacity jacks.
- Available on some keyed models. Contact Joyce.
- Order using an "A90" designation in the suffix of the part number.



### A95 Design

- Capable of handling full jack capacity in dynamic as well as static conditions.
- This design allows the gear teeth to remain intact and therefore retain their full load carrying capacity.
- Adjust endplay by tightening the sleeve (housing) cap.
- Typically reduces endplay to 0.008" — 0.012" without increased torque.\*
- Available on upright and inverted translating models, 2-ton to 150-ton capacity jacks.
- Order using an "A95" designation in the suffix of the part number.

\*If the backlash is set below the recommended values, torque values will increase significantly and thread wear will accelerate.  
**Ordering information is found within specific product sections.**

Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.