



## Reducing the Effects of Vibration on Cover Boards

**ERM locknuts prove to be an efficient solution to an old problem**



### CHALLENGE

#### Common Cover Board Problems

Many of our railway clients faced a common problem: loosened or damaged fasteners that compromised the integrity of power rail cover boards and the safety of maintenance crews and passengers.

When cover boards are subjected to intense vibration from ballasted tracks and tension from collector shoes, loosened nuts pose a serious problem for railway operators. Because of clearance requirements between the top of the power rail and the cover board installation (with an underside bolt and top nut), lost nuts will cause bolts to fall out or become dislodged by the collector shoe as a train passes. Trains will end up ripping off entire sections of cover board that have sunk due to lost hardware assemblies (bolt, nut and washer).

The high and recurring costs resulting from service interruptions and **physical damage can exceed \$1M**:

- Repairing tracks and trains
- Replacing cover board assemblies
- Arranging shuttle buses to redirect passenger train riders
- Delayed deliveries for freight operations
- Damage to brand and client trust

#### ERM LOCKNUT CHARACTERISTICS

##### Prevailing torque

ASME B18.16.6  
(IFI 100/107)

##### Mechanical

SAE J995- Gr.5 & Gr.8  
ASTM A563, A194  
ASME B18.16.6

##### For use with

Standard track bolts  
Threaded rods  
Frog bolts/hex bolts

##### Features

Installs with standard tools  
Suitable for hand tools  
Locks in any position  
Highly reusable



## WHY USE THE ERM?

### Benefits of ERM Locknuts

#### 1 Improve safety

by ensuring the integrity of power rail assemblies and eliminating fastener failure-related maintenance.



ERM on cover board

#### 2 Increase track time

by reducing service interruptions caused by track/train damage and associated maintenance.

#### 3 Improve operational efficiency

by eliminating the need to send maintenance crews to repair or re-tighten loosened fasteners.

#### 4 Easy to install

with standard tools and bolts — no need for specialized equipment or training.

### What are ERM locknuts?

With an all-metal design made of a single unique material, the J.Lanfranco ERM locknut requires no insert. It derives its prevailing torque from two radially de-pitched locking slots positioned parallel to the thread pitch in the turret portion of the nut.

The locking slots are opened by the bolt threads and apply precise and controlled locking torque directly on the thread flank. As a result, this non-galling fastener technology resists all forms of dynamic and cyclical vibration without damaging the bolt threads.

## SOLUTION

### Unique Solution to a Familiar Problem

J.Lanfranco proposed a reliable and easy-to-install solution to its clients that not only ensures the longevity of railway cover board installations, but also maximizes operational security for maintenance crews.

The J.Lanfranco cover board solution consists of:

- ERM locknuts
- 1/2" and 3/8" dual-slotted nut, bolt, nut and washer assemblies
- Hardware for splice plate assemblies

**A solution that can save you from damages costing over \$1 million.**

