

Tracksure

Innovating for a Safer Railway

PWI London Section

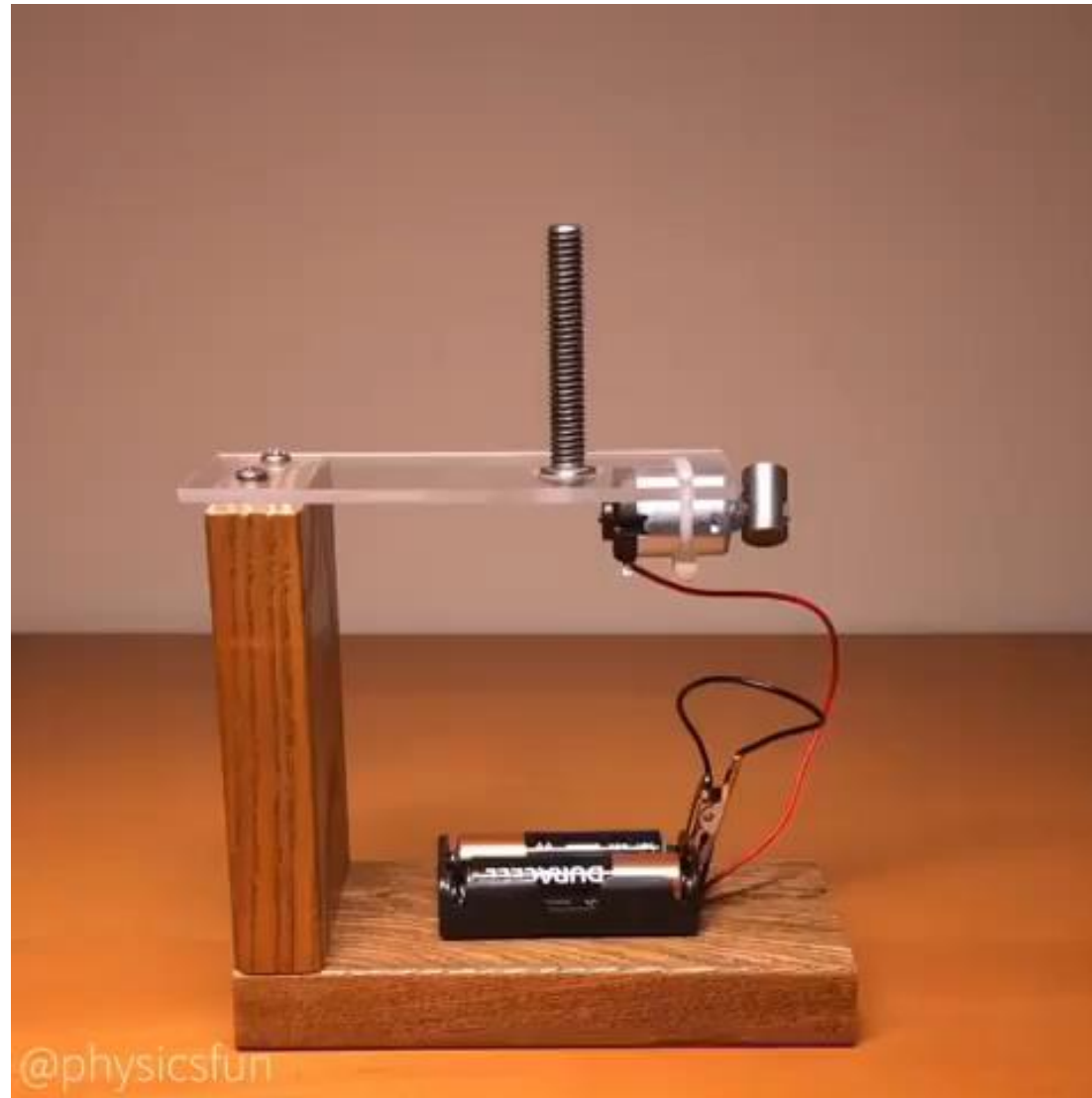
2020

Safety Challenges

- "Boots off the Ballast"
- 50-100 railway employee fatalities each year
(2010-18 source ec.europa.eu/eurostat)
- 3 UK fatalities, 130 major injuries
(2019-20 source ORR)
- Every maintenance or emergency intervention carries risk!



Fit & Forget with Confidence



The Product

Tracksure

- is failsafe and reusable
- requires no specialist equipment to fit
- maintains and incorporates existing approved OEM standard product



[Link to video](#)



Fit & Forget with Confidence

Proposal

- 100% eliminates any nut loosening caused by high vibration
- Reduces interventions
- Reduces emergency repairs
- Keeps “boots of the ballast”

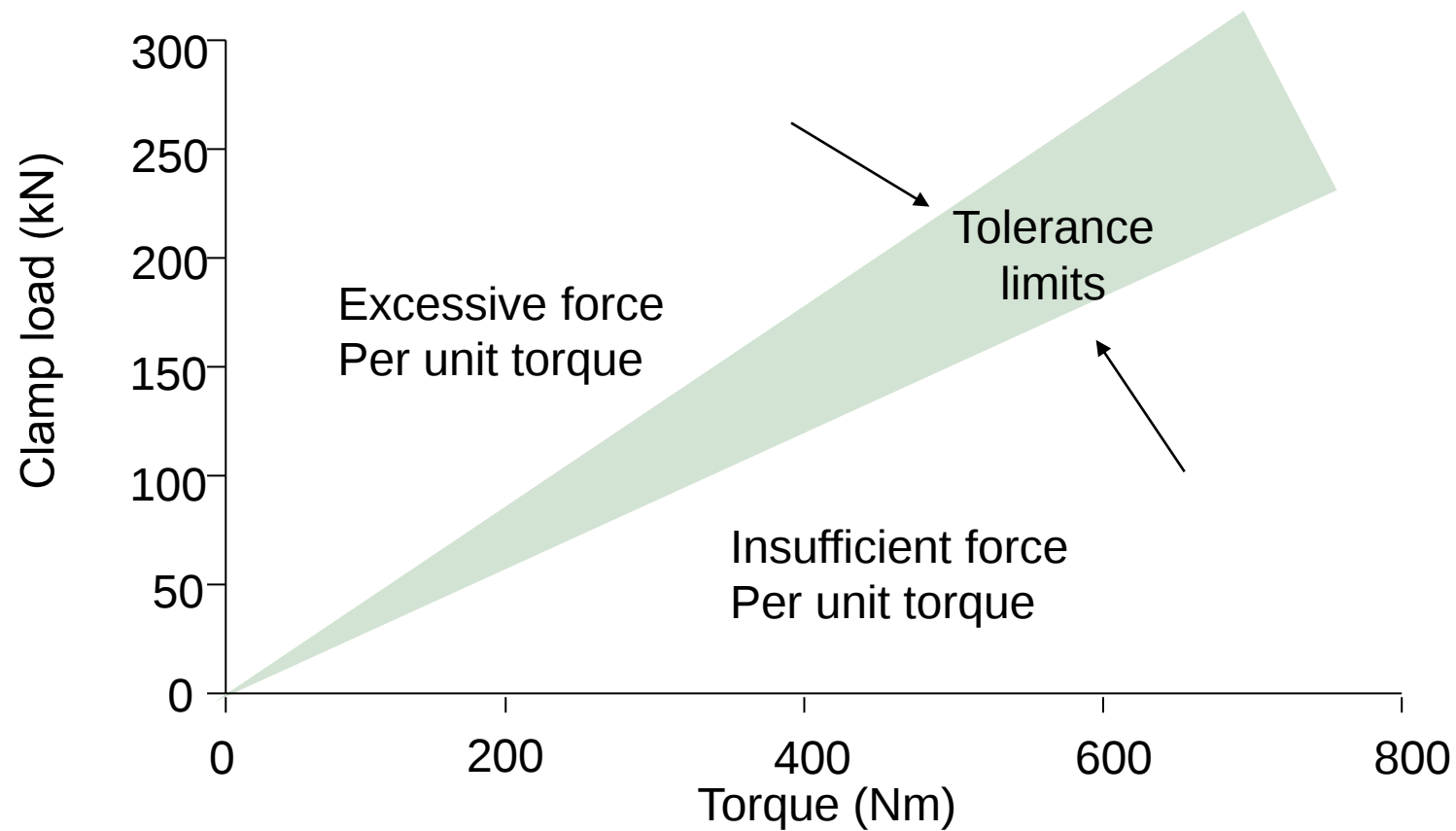


Bolt Science

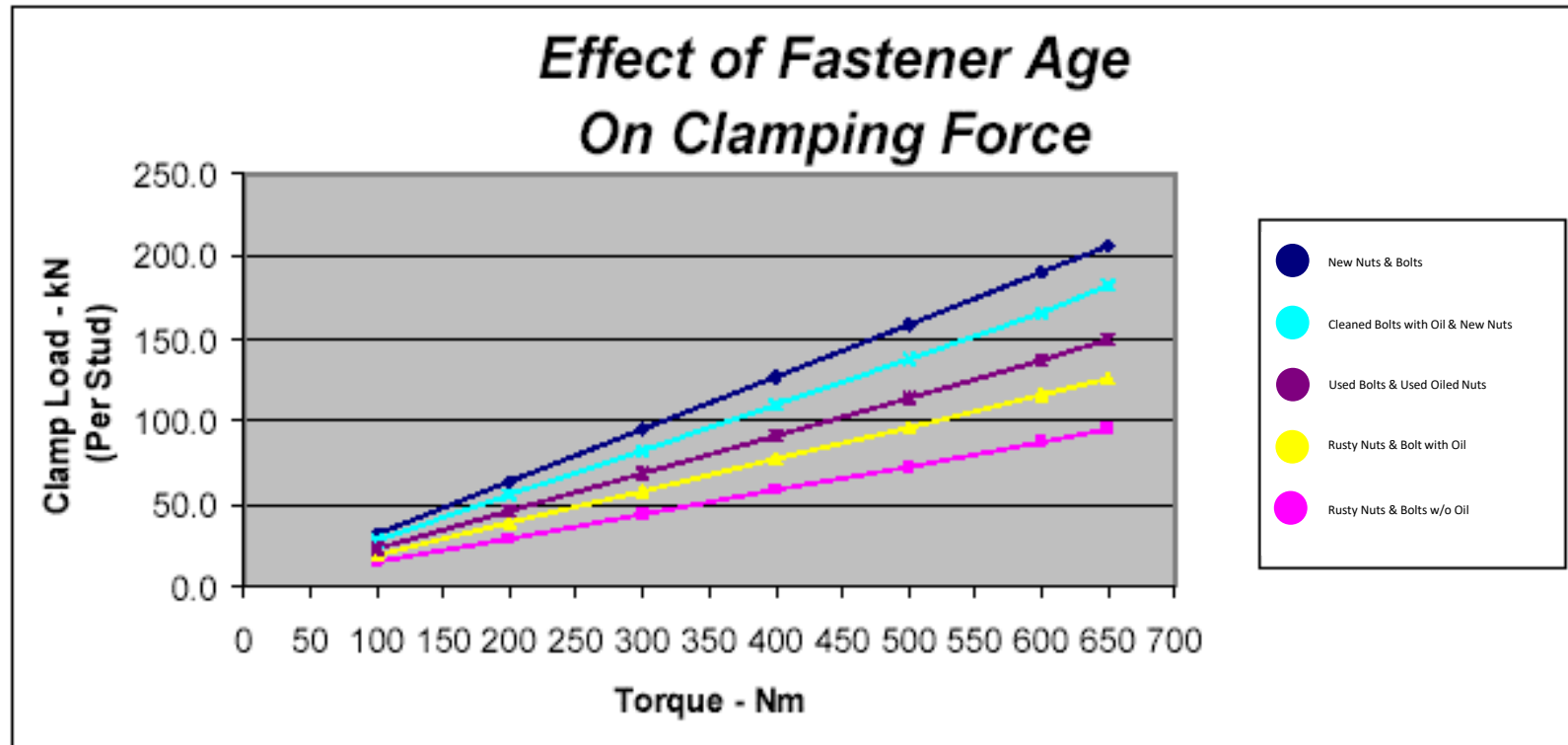
- Maintenance
- Inspection
- Design challenge
- Bolt science –
independent test results
- Interpretation of results

SAE torque clamp load – new bolts

(M22 class 10.9)



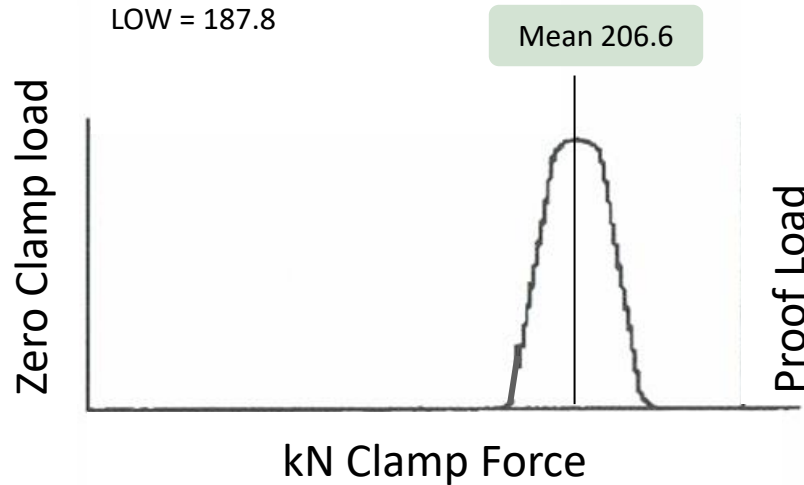
SE Systems Ltd tests on 5 year old fasteners *(M22 class 10.9)*



Normal Distribution Curve

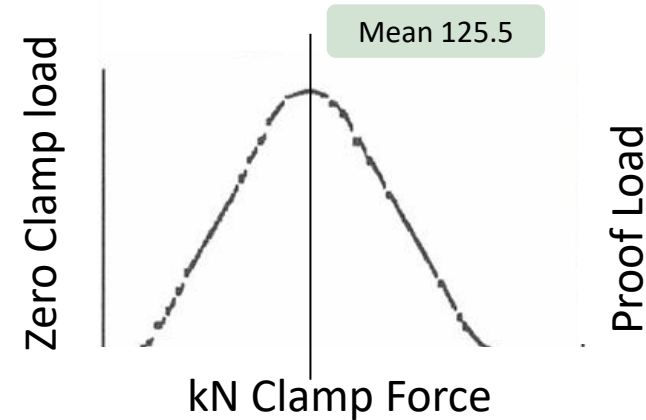
New Bolts

MEAN = 206.6
SIGMA = 12.2
+ 3 SIGMA = 243.2
- 3 SIGMA = 170.0
HIGH = 225.5
LOW = 187.8

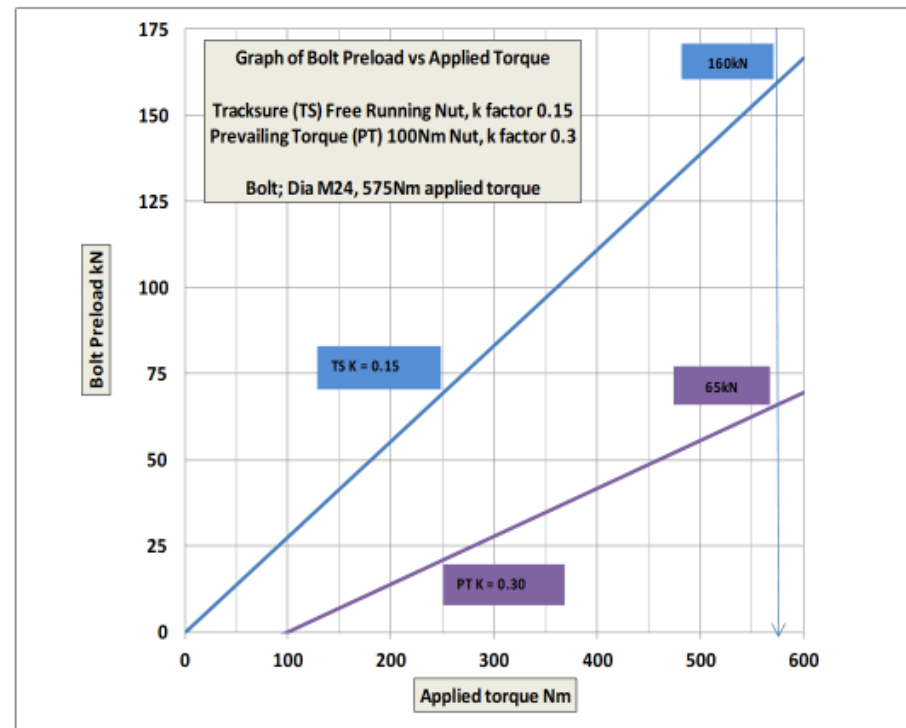


Used Bolts

MEAN = 125.5
SIGMA = 39.8
+ 3 SIGMA = 244.9
- 3 SIGMA = 6.1
HIGH = 180.9
LOW = 66.3



Comparison: New Bolt vs. Prevailing Torque Nut



(David D. Vile, Eng. Director, Tracksure Ltd.)
based on k factors supplied by manufacturers imperial data

Other Factors

- Joint settling & vibration loosening
- High vibration
- Incorrect tightening
- Differential temperature expansion/contraction
- Poor condition of fasteners
- Poor installation
- Oil, grease or dirt on mating surfaces

Technology in Track

- Multiple Track Applications
 - ❑ Breather switches
 - ❑ Fishplates/IBJs
 - ❑ Points/Crossings
 - ❑ Check rails
 - ❑ Insulated rail joints
 - ❑ Temp joints
 - ❑ Composite Safety Anchors

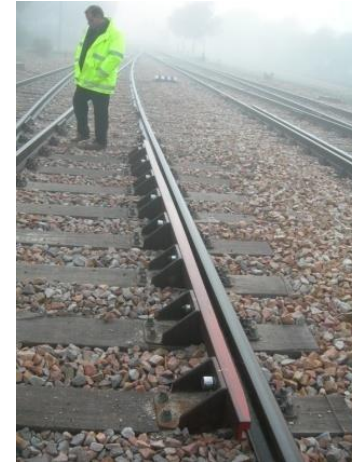


Technology in Track



Fit & Forget with Confidence

Supported by OEM's



Fit & Forget with Confidence

Tracksure Approvals



Innovating for a Safer Railway

- Every track intervention eliminated (or reduced in time) reduces the risk of injury & fatalities
 - It also reduces operational complexity
 - It also frees up valuable labour & costs
- Ultimately creating a safer railway with Tracksure!



Thank You for Listening!

... and supporting us to realise our Vision:

*For Tracksure to become the standard rail bolt system worldwide,
by creating a sustainable, safer and more cost effective modern rail network!*



Fit & Forget with Confidence