

Doctor Preload[®] Bearing Adjustment Tools and Temper-Loc[™] Spindle Nuts For Heavy Duty Trucks and Buses

- Total control of wheel end bearing adjustment.
- Measured, precise, repeatable settings to optimal preload in under one minute.
- Precision single locking nut system for pinpoint accuracy of adjustment.
- Fingertip control retainer ring.
- EasyView[™] verification of positive locking.

Eighty percent of heavy-duty trucks lose 20 to 40% of their achievable wheel end life due to excessive endplay, according to the latest information.¹



Benefits:

- Lower first costs and maintenance costs for wheel ends
- Less equipment downtime
- Improved tire life and wear patterns
- Longer wheel seal life
- Longer bearing life
- Less wear and tear on brake systems.

References: 1. Meritor White Paper TP-1201 dated November 2011; <http://www.meritor.com/ourcompany/news/whitepapers/>

Specifications

Doctor Preload Part Number	Temper-Loc Part #	Spindle Type	Design	Thread Diameter	Thread Direction	Threads per inch	Tool Socket Size	Outer Bearing Part Number
415005	614723	TP	English	3.480 in	RH	12	4-13/16 inch - 8 Point	HM518445/HM518410
415003*	614743	TN	English	2.625 in	RH	16	3-3/4 inch - 8 Point	HM212049/HM212011
415002	614836	FF	English	1.500 in	RH	12	2-1/2 inch - 6 Point	3782/3720
415347	614837	FE	English	1.500 in	RH	18	2-1/2 inch - 6 Point	3782/3720
415004	614973	R	English	3.250 in	RH	12	4-3/8 inch - 8 Point	580/572

***Note: Not compatible with Conmet Aluminum hubs for TN trailer axles. Call for further information.**

Always Perfect bearing adjustment in under one minute!

Assemble the wheel end components according to manufacturer instructions.

Select the correct Temper-Loc spindle nut, remove the yellow retaining ring from the nut using the finger control tabs, and thread the nut onto the spindle.

Using a socket with a 2 to 3 foot bar, tighten the nut to drive the wheel solidly against the axle. Then back off the nut **ONLY** one half turn.



1. **Attach Doctor Preload tool** to end threads of the axle. Use a sweeping motion to guide the load arms around the locknut while engaging the key locator in the keyway. Engage the thread with two turns of thread with the end of the axle.
2. **Seat the bearing rollers.** Tighten T-handle to load the bearings until the gage pointer is in green “Roll In Zone”. Roll the wheel 3 revolutions.
3. **Set the bearings.** Loosen T-handle slowly until gage pointer points to “Set Drive/Trailer Axle” or “Set Front Axle”.
4. **Finger tighten the Temper-Loc nut** against the bearing. Align the closest dot on the nut to the key locator indicator mark.
5. **Remove the Doctor Preload tool.**
6. **Install the Temper-Loc nut retaining ring**, and check for correct retainer installation.

That’s all there is to it!

Axle Reference Table

Nut Part Number	Axle Type	Fits Listed Axles
614723	TRL	MERITOR TP, DANA, EATON (P-22), PROPAR, FRUEHAUF
614743	TRL	17,000#-22,500# DANA SPICER (D-20, D-21, D-22, DD-22, K-21, K-22, K-25, K-30) HENDRICKSON (HN) INGERSOLL (A22T) EATON (C, C2, CD, CD2, CE, ESA-225J, EST, EST 225J, EST 230J, ETA-230C, ETA-225D, ETA-225J, H23L, H25R, HCE, HJ, HJE, LA-15, T18C, 20L-77, 22L, 22R, J, JE, JH, 23L, 23R, 25R) MERITOR (SERIES: F, H, RL, RQ, TK, TKL, TKLD, TL, TLD, TN, TND, TO, TQC, TOD) STANDARD FORGE (A25, A26, 17,000# & 18,000# Trade)
614836	STR	12,000# MERITOR (FD900, FD901, FD961, FE900, FE903, FF900, FF901, FF921, FF931, FF932, FF933, FF941, FF942, FF943, FF944, FF952, FF961, FG941) NAVISTAR/ SPICER (1100S)
614837	STR	MERITOR FE-931; EATON EFA-12FA, EFA-13F5, E-12001, FE 931, 12k, 13.2K; FORD SIFCO 12,000 lbs, FORD 6,000 lbs.
614973	DRV	30,000# 46,000#; TANDEM AXLE, EATON (P-22), FORD, RAINSTAR, MERITOR (TR)