



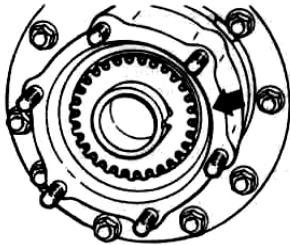
Okabe Co., Inc.

Hub-Tite™ Wheel Bearing Lock Nut System Installation and Adjustment Procedures.

Warning!

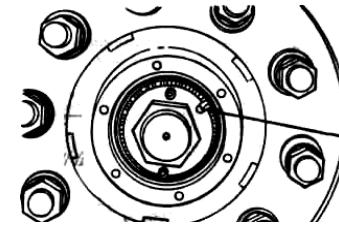
Failure to follow these instructions could cause the wheel to come off and cause bodily injury and or property damage.

- 1) Ensure all wheel-end components are assembled and pre-lubricated, if required, to their respective manufacturer's warranty, quality, care, and assembly instructions.
Care must be taken not to lubricate spindle threads. False torque readings will occur if spindle threads are lubricated.
- 2) Install the Hub-Tite™ wheel bearing lock washer as shown in sketch below.



Washer tab must be engaged in keyway and pushed deep on spindle until it contacts and moves the outboard bearing into its hub mounted race.

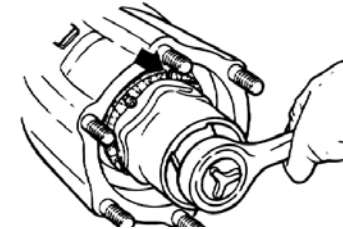
- 3) The Hub-Tite™ lock nut can now be threaded onto the spindle as shown in sketch below and tightened by hand.



- 4) Using a 3" six-point thin wall tubular socket for the 2 5/8-16 thread size and a 3 3/4" six-point thin wall tubular socket for the 3 1/4-12 thread size with the appropriate **calibrated torque wrench**, torque nut to 220 ft-lbs while rotating the wheel. After torque is achieved, rotate wheel / hub assembly an additional two full revolutions.

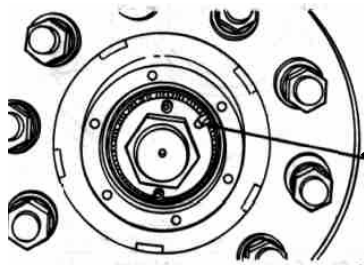
(Wheel should not rotate freely at a nut torque of 220 ft-lbs)

See sketch below for socket placement.



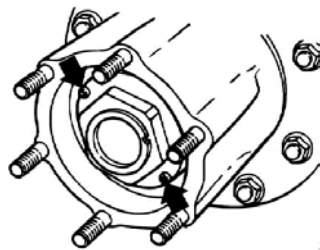
- 5) Without disturbing the wheel/hub, back off Hub-Tite™ lock nut one half-turn.
- 6) Re-torque Hub-Tite™ wheel nut to 105 ft-lbs while rotating the wheel.
 - a) Rotate two full additional revolutions.
 - b) Back off nut **4 washer notches for a 3 1/4 -12 nut** and **6 washer notches for a 2 5/8 -16 nut** using the sight-gage in flange of nut.
 - c) Verify bearing end play of **.001 to .003 of and inch** using process in step # 10 of this procedure.
- 7) When end play is verified it is time to arm the Hub-Tite™ wheel bearing lock nut system for field use. Without disturbing the wheel/hub, locate the slot cut in the flange of the Hub-Tite™ wheel nut. This slot is

an alignment sight gage for the SHCS harmonic proof locking system. See sketch below.



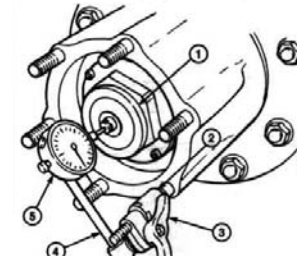
Alignment Sight Gage

- 8) If sight gage slot aligns with washer slot, tighten and torque SHCS locking system as indicated in step # 9. If sight gage slot does not align with washer slot, rotate nut clockwise until alignment occurs, then tighten and torque SHCS locking system as indicated in Step # 9.
- 9) When nut sight gage and lock washer slot alignment occurs the SHCS locking system can be torque to a final reading of 10-13 foot-pounds using a 3/16 hex bit socket and the appropriate calibrated torque wrench. **(Make sure heads of cap screws contact nut flange surface) Hub should rotate freely after SHCS locking system is armed. SHCS must be replaced with each and every removal of the Hub-Tite™ wheel bearing lock nut system with an engineered approved replacement kit (Part # 25R37SKCSF/NP/2EB)** See sketch below for SHCS location.



- 10) The following procedure can be used to verify end play:
 - a) Make sure the brake drum to hub fasteners (wheel lug nuts) are tightened to the correct torque.
 - b) Clean off all surfaces of the exposed axle end and the hub face.

- c) Setup gauging with similar equipment as shown in sketch below.



| | |
|----------------------------------|--------------------------------|
| 1. Magnetic Drive Axle End Plate | 3. Sliding Swivel |
| 2. Female Adapter Mounting Rod | 4. Dial Indicator Mounting Rod |
| | 5. Dial Indicator |

- d) Set the dial indicator to zero. (Gauge must be mounted to the hub and the indicator must be zeroed out on the spindle)
- e) Grasp the hub/drum assembly at the 3 o'clock and the 9 o'clock positions. Push the assembly straight in, then straight out while reading the indicator. **DO NOT** rock or rotate the hub/drum assembly as an incorrect reading will result. Wheel bearing end play is the total movement of the dial indicator.
- f) **Bearing end play must be at least .001 of an inch and no greater than .003 of an inch.**

Procedure Revision Date: September 5, 2007

Hub-Tite™ is a registered trademark of Okabe Company Inc.
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