

**Front Wheel Bearing**

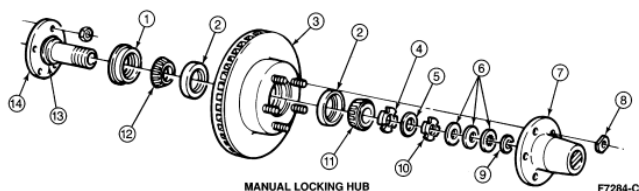
**SPECIAL SERVICE TOOL(S) REQUIRED**

Description	Tool Number
Hub Locknut Wrench Prong	T83T-1197-B
Hex Locknut Wrench	T70T-4252-B

**Manual Locking Hubs, Ranger**

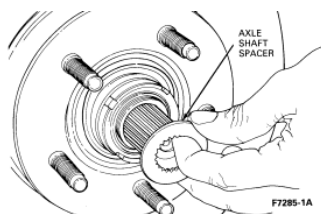
1. Raise the vehicle and install safety stands.
2. Remove the lug nuts (1012) and wheel and tire assembly. Refer to [Section 04-04](#).
3. Remove the retainer washers from the wheel hub bolt nut studs and the manual locking hub assembly from the front wheel spindle (3105).
4. Remove the snap ring from the end of the shaft of the front wheel spindle.

**Manual Locking Hub, Exploded View, Ranger**

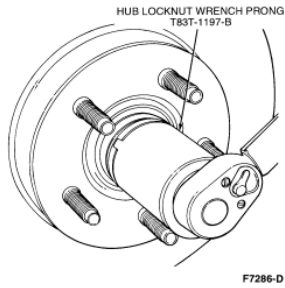


Item	Part Number	Description
1	1175B	Wheel Hub Grease Seal
2	4222	Wheel Bearing Cup
3	1102	Rotor
4	1197	Inner Locknut
5	3B549	Washer
6	3B548	Axle Shaft Spacer
7	3B396	Hub
8	1A107	Retainer Washer
9	3B457	Snap Ring
10	1197	Outer Locknut
11	4221	Wheel Bearing (Outer)
12	4221	Wheel Bearing (Inner)
13	1175A	Excluder Seal
14	3105	Front Wheel Spindle

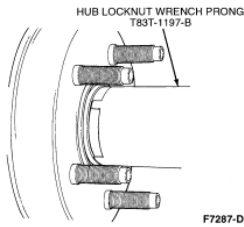
5. Remove the axle shaft spacers.



6. Remove the outer wheel bearing locknut from the front wheel spindle using Hub Locknut Wrench Prong T83T-1197-B. Engage tool tabs into locknut slots.
7. Remove locknut washer from front wheel spindle.



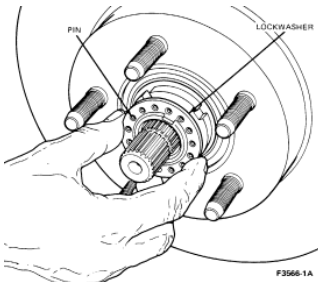
- Loosen the inner wheel bearing locknut. Engage tool tab in locknut slots. Make sure tool is centered over the locknut pin.



- Tighten the inner locknut to 47 Nm (35 lb-ft) while turning the rotor in the opposite direction to seat wheel bearings.
- NOTE: If necessary, tighten inner locknut slightly to align the locknut pin with lockwasher hole.**

Spin the rotor and back off the inner locknut one-quarter turn. Retighten the inner locknut to 1.8 Nm (16 lb-in).

- Install the lockwasher on the front wheel spindle.

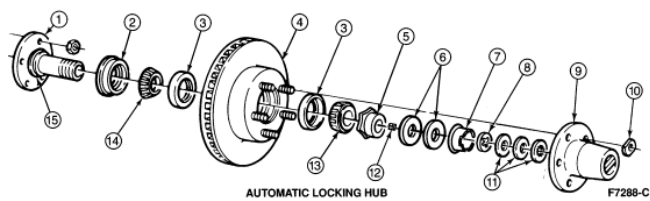


- Install the outer wheel bearing locknut using locknut wrench. Tighten locknut to 203 Nm (150 lb-ft).
- Check the end play of the wheel and tire assembly on the front wheel spindle. Final end play should be 0.00-0.08mm (0.000-0.003 inch). The maximum torque to rotate the hub is 2.8 Nm (25 lb-in).
- Install the axle shaft spacer.
- Clip the snap ring onto the end of the shaft of the front wheel spindle.
- Install the manual hub assembly over the front wheel spindle. Install the retainer washers.
- Install the wheel and tire assembly. Install and tighten lug nuts to 135 Nm (100 lb-ft).

#### Automatic Locking Hubs, Ranger

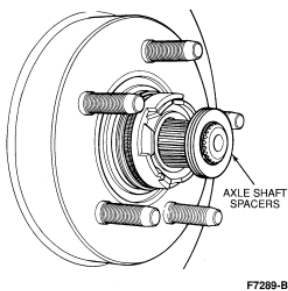
- Raise the vehicle and install safety stands.
- Remove the lug nuts and the wheel and tire assembly. Refer to [Section 04-04](#).
- Remove the retainer washers from the wheel hub bolt nut studs. Remove the automatic locking hub assembly from the front wheel spindle.

#### Automatic Locking Hub, Exploded View, Ranger

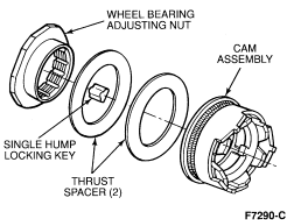


Item	Part Number	Description
1	3105	Front Wheel Spindle
2	1175B	Wheel Hub Grease Seal
3	4222	Wheel Bearing Cup
4	1102	Rotor
5	3N105	Wheel Bearing Adjusting Nut
6	3N105	Thrust Spacers
7	3B477	Front Axle Wheel Hub Retainer
8	3B458	Axle Shaft Spacer
9	3B396	Hub
10	1A107	Retaining Washer
11	3B548	Axle Shaft Spacers
12	3B549	Single Hump Locking Key
13	4221	Wheel Bearing (Outer)
14	4221	Wheel Bearing (Inner)
15	1175A	Excluder Seal

- Remove the snap ring from the end of the shaft of the front wheel spindle.
- Remove the axle shaft spacer.



- CAUTION:** Do not pry on the cam or thrust spacers during removal. Prying may damage the cam or spacers.  
Pull cam assembly off the wheel bearing adjusting nut and remove the two metal thrust spacers from the adjusting nut.

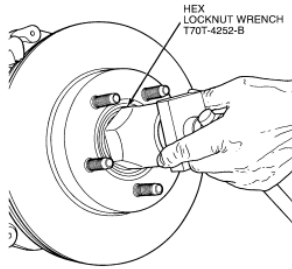


- NOTE:** If required, rotate the adjusting nut slightly to relieve pressure against the locking key, before the key can be removed.

**CAUTION:** To prevent damage to the threads of the front wheel spindle, look into the keyway of the front wheel spindle under the adjusting nut and remove the separate locking key before removing the adjusting nut.

Using a magnet, remove the locking key.

- Loosen the wheel bearing adjusting nut from the front wheel spindle using a Hex Locknut Wrench T70T-4252-B.
- While rotating the hub and rotor assembly, tighten the wheel bearing adjusting nut to 47 Nm (35 lb-ft) to seat the wheel bearings. Spin the rotor and back off the nut one-quarter turn (90 degrees).

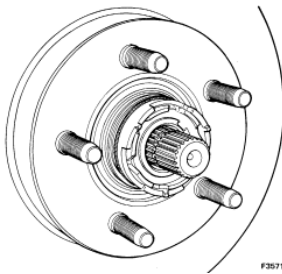


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10. Retighten the adjusting nut to 1.8 Nm (16 lb-in) using a torque wrench.
11. Make sure the final end play of the wheel on the front wheel spindle is 0.00-0.08mm (0.000-0.003 inch). The maximum torque to rotate the hub is 2.8 Nm (25 lb-in).
12. **⚠ WARNING: EXTREME CARE MUST BE TAKEN WHEN ALIGNING THE NUT OF THE FRONT WHEEL SPINDLE ADJUSTMENT LUG WITH THE CENTER OF THE KEYWAY SLOT OF THE FRONT WHEEL SPINDLE TO PREVENT DAMAGE TO THE SEPARATE LOCKING KEY. THE WHEEL AND TIRE ASSEMBLY MAY COME OFF WHILE THE VEHICLE IS IN MOTION IF THE KEY IS DAMAGED.**  
Align the closest lug in the wheel bearing adjustment nut with the center of the keyway slot of the front wheel spindle. Advance the nut to the next lug if required. Install the separate locking key in the keyway of the front wheel spindle under the adjusting nut.

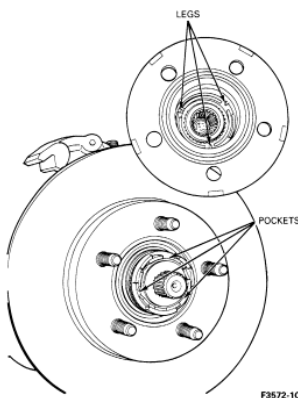
13. **⚠ CAUTION: Extreme care must be taken when aligning the fixed cam key with the keyway of the front wheel spindle to prevent damage to the fixed cam.**

Install the two thrust spacers and push or press the cam assembly onto the locknut by lining up the key in the fixed cam with the keyway of the front wheel spindle.



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14. Install the axle shaft spacer.
15. Clip the snap ring onto the end of the shaft of the front wheel spindle.
16. Install the automatic locking hub assembly over the front wheel spindle. Align three hub assembly legs with three pockets in cam assembly. Install the retainer washers.



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17. Install the wheel and tire assembly. Install and tighten lug nuts to 135 Nm (100 lb-ft).

