



SERVICE BULLETIN

Classification: T&E97-001	Reference: NTB97-012	Date: February 19, 1997
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WHEEL BALANCE MACHINE ADAPTER KITS

APPLIED VEHICLE(S): Vehicles 1986 to present as noted on the matrix on page 3

SERVICE INFORMATION

This bulletin provides information about how to correctly use the new wheel balance adapter kit. The kit is an essential tool for all Nissan dealers.

Adapter Kit Hardware

1. Base Kit (for all dealers)
 - 1- Spring
 - 1- Cone (with insert installed for machines with 28, 30 and 36 mm shafts)
 - 1- Flange plate (with insert installed for machines with 28, 30 and 36 mm shafts)
 - 6- Flange plate studs
2. Adapter Kit with Replacement Shaft (for dealers with Coats, Sun 1742 & 1762, and Nortron balance machines with 28 mm shafts only, and Bear 8-200 with 30 mm shafts)
 - 1- Base Kit
 - 1- Replacement shaft
 - 1- Wing nut
 - 1- Pressure cup

NOTE: The replacement shaft is necessary for the above mentioned machines since the threaded portion of their spindle shaft is slightly smaller than the non-threaded part. This causes incorrect centering of the flange plate in the new adapter kit which results in measurement errors and eventually customer complaints.

The 28, 30 and 36 mm cone and flange plates have factory installed inserts to fit the spindle shaft on your balance machine. The inserts can be pressed out and fitted with new inserts (if necessary) to match other spindle shafts of various balance machines that are currently in the market. For further assistance, contact your TECH MATE program at 1-800-NMC-2001.

Check the Operating Condition of Your Balance Machine

Your balance machine must be calibrated and in good condition to achieve a correct wheel balance. You must perform the following procedure periodically and before using the new adapter kit.

1. Check the back plate and spindle shaft on the balance machine for excessive runout and wear. Contact your specific balance machine manufacturer for specifications. If the runout or diameter of the back plate or spindle shaft are out of specification, it will be impossible to correctly balance a tire/wheel assembly to within Nissan standards.
2. Locate the operation manual and calibrate the balance machine per the instructions.

Service Procedure Mounting Procedure

You **must** use the following procedure to mount the wheels/tires on balance machines to achieve maximum accuracy in measurements.

Please review SIR video Volume 43, entitled Understanding Wave Forms (distribution date February 17, 1997) before performing this procedure.

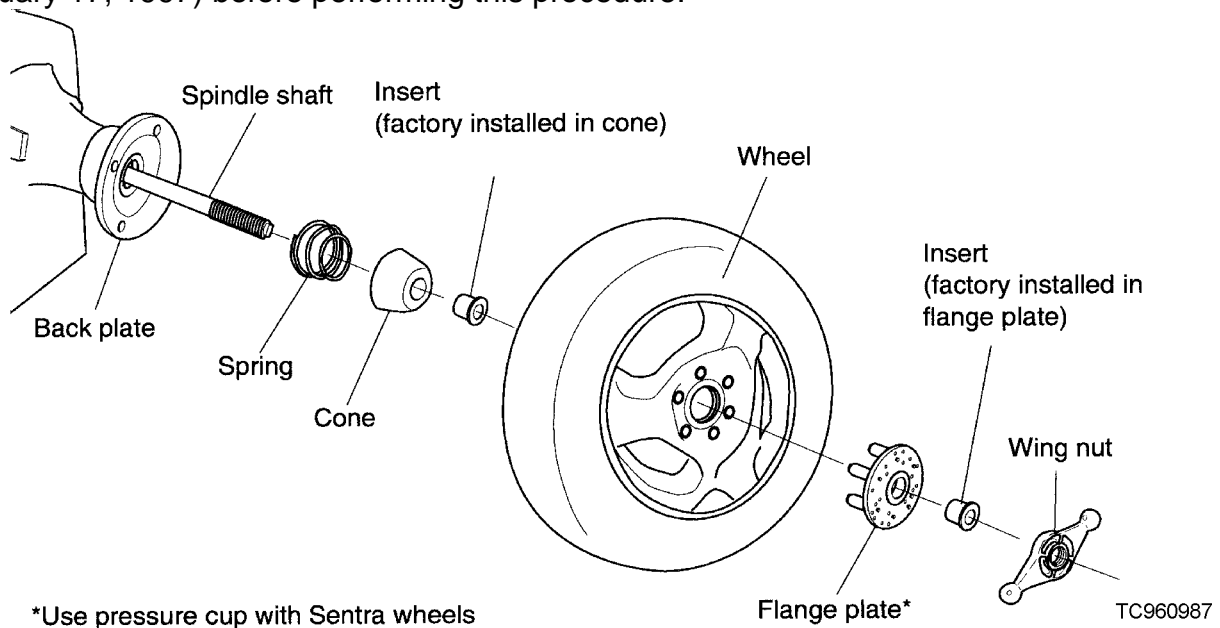


Figure 1

1. Inspect the balance machine back plate, spindle shaft as well as the adapters. Make sure they are clean and free of dirt. If necessary, clean them with a silicone spray or WD40 and wipe dry.
2. Insert the correct number of studs into the flange plate according to the reference card provided in the kit for the vehicle model and year you are working on. The reference card and the matrix on page 3 have the correct bolt pattern diameter and stud quantity for each applicable vehicle.
3. Install the spring on the balance machine spindle shaft.
IMPORTANT: Use the spring provided with the adapter kit. Using other springs may cause incorrect wheel balance measurements. If your machine has a built-in spring, the spring (from the kit) is not required.

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Model	Code	Year	Lug/Bolt Pattern	Center Hole
200SX	S12	84-88	4 x 4.5	66 mm
240SX	S14	95-97	5 x 4.5	66 mm
240SX	S13	89-94	4 x 4.5	66 mm
240Z, 260Z, 280Z	S30	70-78	4 x 4.5	66 mm
280ZX	S130	79-83	4 x 4.5	66 mm
300ZX Turbo	Z31	84-89	5 x 4.5	66 mm
300ZX	Z31	84-89	4 x 4.5	66 mm
300ZX (including Turbo)	Z32	90-96	5 x 4.5	66 mm
Altima	U13	93-97	4 x 4.5	66 mm
Truck 2WD/4WD	D21	86.5-97	6 x 5.5	100 mm
Maxima	A32	95-97	5 x 4.5	66 mm
Maxima	J30	89-94	5 x 4.5	66 mm
Maxima	U11	85-88	4 x 4.5	66 mm
Pathfinder	WD21	87-95	6 x 5.5	100 mm
Pathfinder	R50	96-97	6 x 5.5	100 mm
Pulsar	N12	83-86	4 x 4.5	66 mm
Quest	V40	93-97	5 x 4.5	66 mm
Stanza	T11	82-89	4 x 4.5	66 mm
Stanza	U12	90-92	4 X 4.5	66 mm

4. Select and install the cone that best fits the center hole of the wheel you are working with. The cone supplied with the adapter kit is specifically for the Truck and Pathfinder.

CAUTION: Make sure the cone does not contact any casting portion of the wheel. This will cause incorrect balancing measurements.

5. Install the wheel/tire on the cone with the valve stem at the top (12 o'clock position).
6. Install the flange plate (with studs) on the spindle shaft. Use pressure cup for small diameter lug/bolt patterns (i.e. Sentra).
7. Install the wing nut on the spindle shaft. Make sure the valve stem is in the 12 o'clock position while turning the wing nut. Also, the flange plate studs must be aligned with the wheel lug nut holes.
8. Make sure the back plate and wheel are in contact. **There must be flat contact between the wheel and balance machine back plate in order to achieve correct measurements.** It is important to shake the wheel/tire assembly back and forth as you tighten the wing nut. This will help to avoid wobbling which may result from binding between the contact surfaces of the wheel and cone.
9. Spin the wheel manually to ensure the wheel/tire assembly does not wobble in rotation. If wobbling is detected, dismount the assembly. Check for any binding between the wheel and cone or for improper assembly of the items as stated above.
10. Balance the wheel (to zero) according to the measurements.

11. Use the following procedure to check the **mounting** accuracy/repeatability of the measurement:
 - A. Make note of the spindle position. Make a reference mark on the spindle shaft or back plate in the 12 o'clock position.
 - B. Loosen the wing nut.
 - C. Shake and rotate the wheel in relation to the back plate of the wheel balance machine. Hold the spindle shaft/plate stationary in the 12 o'clock position and rotate the wheel on the cone.
 - D. Tighten the wing nut with the valve stem in the 12 o'clock position.
 - E. Use the non-rounded measurement mode to balance the wheel again. Repeatability must not be over 3 grams (for each side) and any additional weight must be within 10 degrees of the placement in step 10.
12. If accuracy/repeatability of measurements continue to be over 3 grams, check the calibration or call your wheel balance machine manufacturer for maintenance.
13. Mount the wheel/tire assembly on the vehicle with the valve stem in the 12 o'clock position.

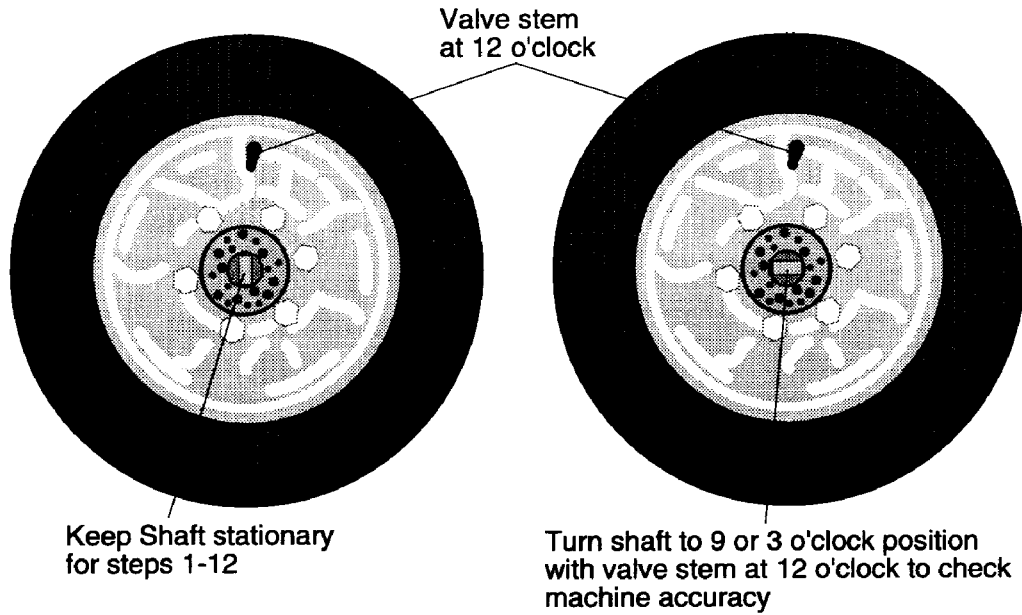
Check the Balance Machine Accuracy/Repeatability

The balance machine may be out of calibration or in need of maintenance. Perform the following to check the accuracy/repeatability of the balance machine (see Figure 2).

1. Perform steps 1 through 12 from the Mounting Procedure beginning on page 2.
2. Turn the balance machine spindle shaft/plate so the previous reference mark is now at the 9 o'clock or 3 o'clock position.
3. Mount the wheel/tire on the machine with the valve stem at the 12 o'clock position.
4. Use the non-rounded measurement mode to balance the wheel again. Repeatability must not be over 3 grams (for each side) and any additional weight must be within 10 degrees of the placement in step 10 on page 3.

5. If accuracy/repeatability of measurements continue to be over 3 grams, check the calibration or call your wheel balance machine manufacturer for maintenance.

NOTE: It is highly recommended that balance machines with 40 mm shafts and two-plane calibration capability **only** be considered when purchasing new equipment. The 40 mm spindle shaft is more durable and less prone to damage and wear. Two-plane calibration greatly increases the accuracy of wheel/tire balancing.



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Figure 2