



**ATTENTION: This Technical Service Bulletin was issued by Southeast Toyota Distributors, LLC.**

**For Toyota Dealers located within the Southeast Region:** Please refer to SET Dealer Daily to obtain instructions on how to order parts and submit a warranty claim (If applicable).

**For Lexus Dealers or Toyota Dealers NOT located in Florida, Georgia, Alabama, South Carolina or North Carolina:** For Repair Authorization, Parts Ordering, and Warranty Claims please contact Southeast Toyota Distributors Warranty Claims Department:

(888)851-2722

Press 5, then Press 4 for Out of Region SET Repairs

[Accessory.Warranty@SEToyota.com](mailto:Accessory.Warranty@SEToyota.com)

Thank you for your continued support.

# 2017-18 4Runner

## Southeast Toyota Accessory Wheel Balance

### APPLICABILITY

YEAR(S)	MODEL(S)	INSTALLED ACCESSORY INFORMATION		
		DESCRIPTION	ACCESSORY CODE	PART NUMBER
2017-18	4Runner	17in TRD w/ Goodyear Duratrac	AJ1700 or WPRO90	00041-34240
		20in Gunner w/ Nitto Terra Grappler	AC1010	00041-89160

**\*\*This Publication does not apply to Vehicles Equipped with factory wheels or Wheels added by other manufacturers.**

#### REVISION NOTICE

04/03/2018 Original Release

*Any previous printed versions of this bulletin should be discarded.*

### INTRODUCTION

Some vehicles equipped with Southeast Toyota Accessory tire and wheel packages may experience vibrations while driving. This publication discusses the best practices to be followed by dealer technicians when addressing tire vibration related concerns on vehicles equipped with SET tire and wheel packages.

### WARRANTY INFORMATION

For Dealers located in the Southeast Region, Florida, Georgia, Alabama, South Carolina, or North Carolina, Submit Warranty claim utilizing the information below.

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
AWB011	Road Force Balance 4 tires (includes phase match 2 tires)	1.2	00016-SPECL	99	99
<i>Note: Accessory Warranty may require screen shots of Road force values and punch times should additional "Z" time be requested. See SET Accessory Warranty Policy and Procedures on SET Dealer Daily.</i>					
<b>Port Installed Option (PIO)</b> - is in effect for 12 months or 12,000 miles from the vehicle's in-service date, whichever occurs first. <i>Unless otherwise specified in vehicle VIN inquiry.</i>					
<b>Dealer Installed Option (DIO) &amp; Over the Counter Sale (OCS)</b> – Not Applicable					

If you are a dealer located outside of the Southeast Region, please contact the SET Accessory Warranty Department at (888) 851-2722 or email [Accessory.Warranty@SETToyota.com](mailto:Accessory.Warranty@SETToyota.com) for claim payment instructions.

## 2017-18 4Runner Tire Balance

### PARTS INFORMATION

PART NUMBER	DISCRIPTION
NA	Should replacement tires be needed, follow procedures listed in the SET Accessory Warranty Policies and Procedures posted on SET Dealer Daily.

If you are a dealer outside of the SET region, please contact the SET accessory department at (888) 851-2722 or email [Accessory.Warranty@SETToyota.com](mailto:Accessory.Warranty@SETToyota.com).

### ACCESSORY IDENTIFICATION

1. Perform TIS VIN inquiry or Service Lane Search
  - a. Port installed accessories are identified by the accessory code listed in applicability chart on page 1.
  - b. Dealer installed accessories can be identified by part number listed in the applicability chart on page 1 shown in service history.
  - c. This TSB does not apply to vehicles equipped with Wheel packages other than what is indicated.



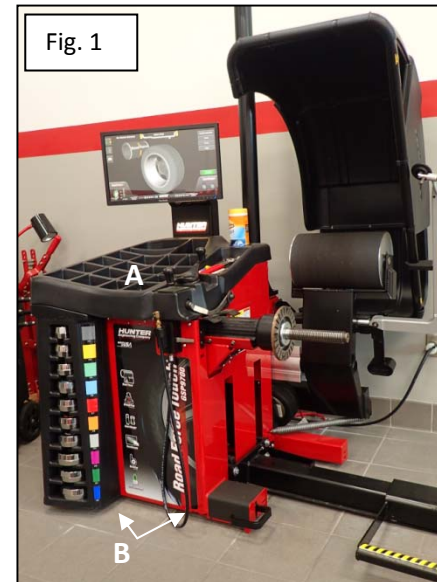
### VERIFY CUSTOMER'S CONCERN

2. Obtain clear and concise description of the customer's concern indicating:
  - At what speeds vibration occurs.
  - If condition is continuous or intermittent while driving.
  - If intermittent question the customer about their parking and driving habits.
  - Have the customer demonstrate the vibration to the technician.
3. Duplicate the customer's concern and note speeds and vibration levels.

## 2017-18 4Runner Tire Balance

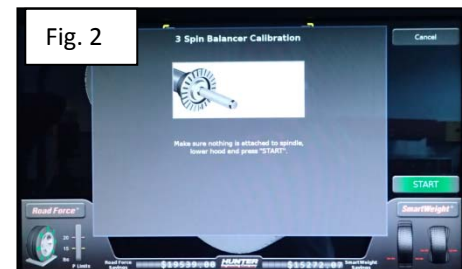
### TIRE BALANCER PREPERATION

4. Make certain balancer is clean and clear of debris. (Fig. 1)
  - A. Clear heavy objects from top balancer tray.
  - B. Clear loose weights from under balancer. Balancer should be sitting on level surface.



5. Perform “3 spin calibration” located in the advanced tools menu. Use the calibration weight located on the right rear of the machine. Follow screen prompted instructions. (Fig. 2)

*HINT: Consult the Balancer’s operation manual for additional information.*

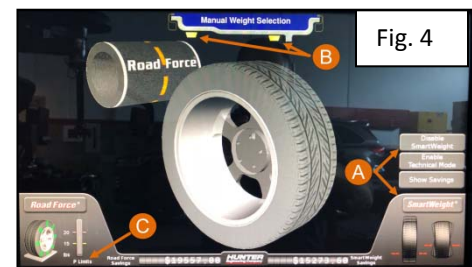


6. Perform “Quick calibration check” located in the tools menu. tools menu. Use the calibration weight located on the right rear of the machine. Follow screen prompted instructions. (Fig. 3)

*HINT: Consult the Balancer’s operation manual for additional information.*



7. Verify “SmartWeight” functions. (Fig. 4 A)
8. Set wheel weight position to tape weight for inner and outer planes. (Fig. 4 B)
9. Set Road Force Limits to “P limits” for passenger or Iso-Metric tires or “LT limits” for Light Duty Truck tires. (Fig. 4 C)

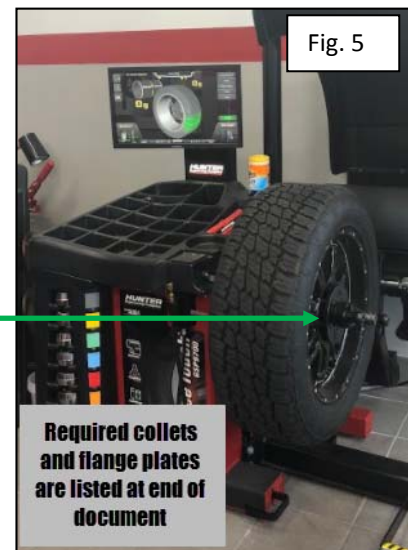


## 2017-18 4Runner Tire Balance

### TIRE BALANCE

**IMPORTANT:** Tires must be “warm” before checking balance. Vehicle must have been driven at least 5 miles within 20 minutes of balancing tires. Failure to do so may result in skewed readings due to “cold tire memory” conditions.

10. Mark the inside sidewall of each tire to note location on vehicle with grease pencil and remove tire and wheel assemblies from the vehicle.
11. Mount tire and wheel assembly to balancer using adapters listed in the quick reference chart at the end of this document. (Fig. 5)

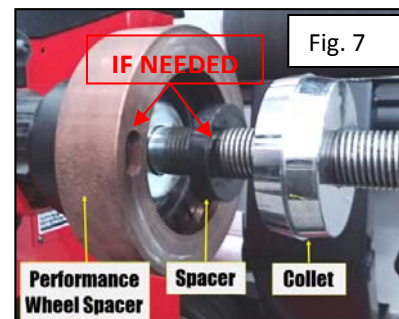


12. Ensure wheel is fully seated against balancer spindle flange. (Fig. 6)



If not fully seated, check for collet contacting the flange plate opening. Use the Performance wheel spacer and collet spacers shown in Fig. 7 only to prevent collet contact with spindle flange.

Use spacers ***only*** when needed.





## 2017-18 4Runner Tire Balance

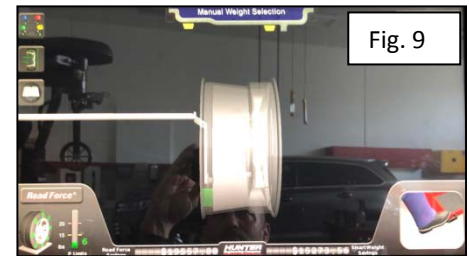
### 13. Perform Centering Check.

- Centering Check PASS. (Fig. 8)
  - ✓ Proceed to step 14.
- Centering Check FAIL.
  - ✓ Check wheel hub for debris.
  - ✓ Verify proper adapters.

*Hint: This step is essential to verifying the mounting of the wheel to the balancer spindle is centered and correct. If centering check fails, balancer may provide false readings.*



### 14. Using the inner dataset arm, set wheel weight location following the prompts on GSP9700. (Fig. 9)



### 15. Check tire balance and road force. (Fig. 10)

- Road force variation **below** Road Force Limits.
  - ✓ Proceed to step 16 for balance adjustment.
- Road force variation **above** Road Force Limits.
  - ✓ Continue to step 17 to adjust road force.

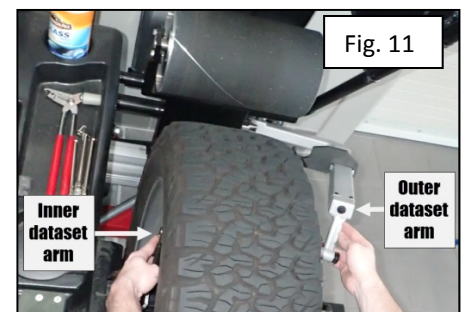
*Hint: SET Accessory warranty may request screen shots of each assemblies balance attached to warranty claim.*



### 16. Adjust Road Force

- A. Follow Prompts on Hunter GSP9700 to measure rim run out using dataset arms. (Fig. 11)

*Hint: If outer dataset arm cannot be used due to wheel design, use only the inner dataset arm.*



## 2017-18 4Runner Tire Balance

- B. Mark tire side wall and wheel face with grease pencil as directed by Hunter GSP9700. (Fig. 12)

*Hint: If balancer indicates no road force improvement can be made by phase matching, the source of high road force maybe tension in tire sidewall or bead. Proceed to with dismounting and remounting tire to wheel to ensure proper assembly and relieve tension before condemning tire.*



Fig. 12

- C. Dismount tire using appropriate equipment and procedures.

- D. Apply lube to both tire beads. Ensure lube covers all areas the bead will contact the wheel during mounting and entire circumference of bead. (Fig. 13)



Fig. 13

- E. Apply lube to wheel in areas shown in Fig. 14. Bead safety humps and drop center portions should be lubed thoroughly.

*Hint: Lube is essential in allowing a tire to properly seat on the bead during tire inflation. The effectiveness of lube will decrease over time. Advise the customer to avoid hard acceleration or sudden stops for 500mi after service.*

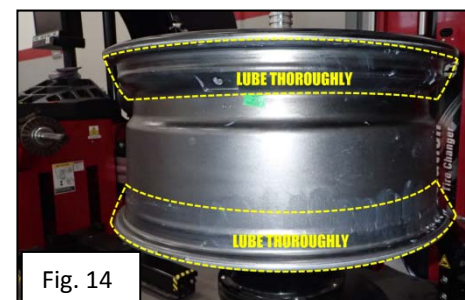


Fig. 14

- F. Mount tire using appropriate equipment.
- G. Align grease pencil markings on tire and wheel. Ensure tire is centered on wheel.
- H. Tire inflation:
- Inflate tire slowly, beads should move into position against the outer edge of the wheel with low air pressure, less than 15psi. Loud pops or additional pressure required may indicate lack of lubrication and bead tension.
  - After beads are seated, inflate to maximum bead seat pressure as indicated on tire sidewall. Never exceed maximum bead seat pressure.
  - Allow the tires to rest for 3-5 minutes.
  - Completely deflate tire to relieve pressure on bead.

## 2017-18 4Runner Tire Balance

- Inflate to operating pressure.

*Hint: Some tire machines such as the Hunter Revolution utilize a bead massage function. Bead massage function is recommended if the machine is applicable. Consult tire machine operation manual for details.*

I. Return to Step 11 to mount to balancer and recheck balance and Road Force.

**NOTE:** If the same tire fails road force after performing this procedure (step 15) twice, Record road force on repair order and on tire with grease pencil. See Accessory Tire Warranty Policies and Procedures listed on SET Dealer Daily.

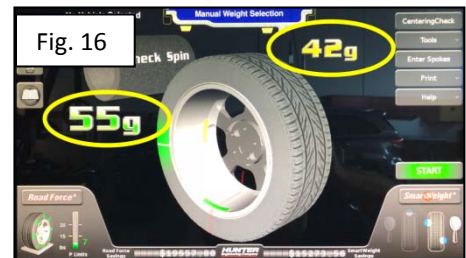
**NOTE:** Wheel machining / finish may not always be true to rim bead surface. This could cause an illusion of wheel run-out concerns. If rim run-out is suspected dismount the tire and measure bare rim run-out with the GSP9700 to verify condition.

### 17. Adjust Tire Balance

A. Remove all weight from wheel using a non-gouging tool. Clean tape residue left from adhesive tape. (Fig. 15)



B. Recheck balance to determine exact weight needed. (Fig. 16)





## 2017-18 4Runner Tire Balance

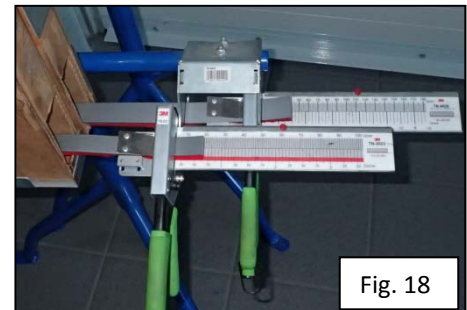
**NOTE:** Southeast Toyota Vehicle Processing centers utilizes 3M tape weight systems (Fig. 17) which can be cut to precise lengths in 1 gram increments. See [www.3m.com](http://www.3m.com) for details.

This procedure has been written using this weight system. While Southeast Toyota recommends the use of this product due to ease of use and accuracy of weight, dealer technicians may alter process using weight available in shop.



C. Cut the exact amount of weight as indicated by balancer. (Fig. 18)

- When less than 42g (1.5oz) of weight is needed, use 4x23mm weight 3M PN61405
- When greater than 42g (1.5oz) of weight is needed, use 6x29mm weight 3M PN99473



D. Apply Weight to wheel in locations indicated by Hunter GSP9700. (Fig. 19)



A. Perform check spin to verify balance correct. (Fig. 20)

Repeat this step 14 as needed until optimal balance is achieved.



## 2017-18 4Runner Tire Balance

18. Follow Service Procedures to remount wheels and tires to vehicle in the original locations.

*Hint: Placing a questionable tire in the rear ensures a repeat repair after the tire rotation.*

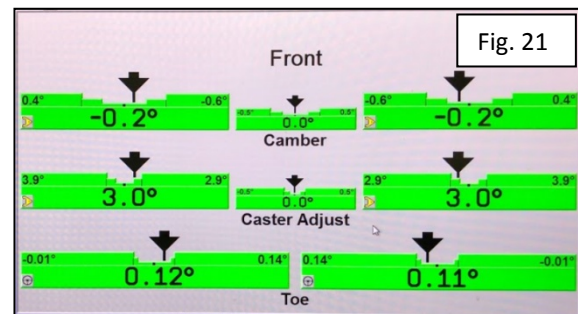
19. Test drive vehicle in conditions previously identified in step 2 to confirm vibration levels observed in step 3 are no longer present.

If vibration concern is unchanged, create a Technical Assistance on TIS. Then Call SET Accessory Hotline (888)851-2722, press 3 for technical assistance.


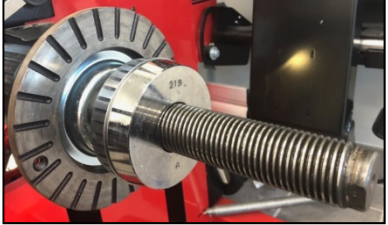
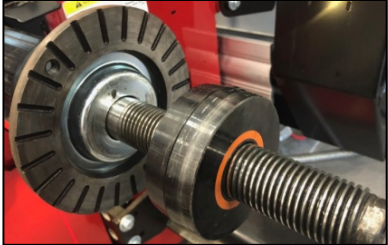


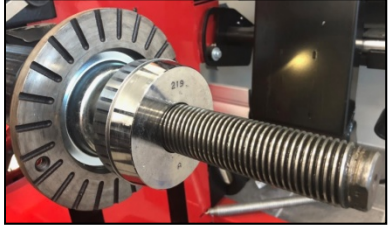
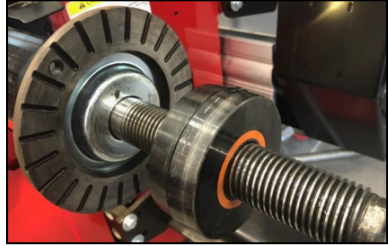

*Hint: Some improvements to steering wheel flutter or shimmy at highway speeds have been noticed with the following considerations within Toyota's alignment specifications (Fig. 21):*

- Set Caster to 3.3-3.5 degrees.
- Toe should be set positive +0.10–0.15 degrees. (+0.2-0.3 degrees total toe)

*Cross caster and camber should never exceed 0.5 degrees.*



2017-18 4Runner Tire Balance

Accessory Wheel	Hunter Collet	Flange Plate / Stud adapters
<p>20in Gunner w/ Nitto Tire</p> 	<p>#219 small side (192-219-1)</p>  <p>#169- small side (192-169-1)</p> 	<p>Hunter Fixed Flange plate Part number 175-388-2</p>  <p>Hunter taper head studs Part number 175-389-2 (80mm) -or- Part number 175-391-2 (100mm)</p>
<p>17in TRD w/ Goodyear Tire</p> 	<p>#219 small side (192-219-1)</p>  <p>#169- small side (192-169-1)</p> 	<p>Hunter Fixed Flange plate Part number 175-388-2</p>  <p>Hunter taper head studs Part number 175-389-2 (80mm) -or- Part number 175-391-2 (100mm)</p>