

Subject

# Best Practice for Tire Rotation / Nitrogen Filling Procedures

Market

USA

Service Category

Suspension

Section

Tire/Wheel

Applicability

All Models

## APPLICABLE VEHICLES

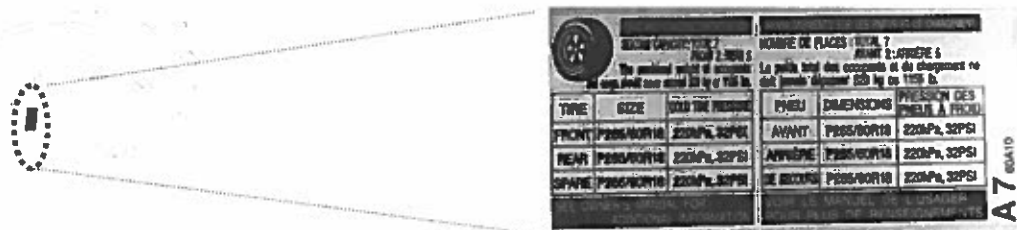
|           |        |                 |        |
|-----------|--------|-----------------|--------|
| 2010-2013 | IS250C | 2005-2010       | SC430  |
| 2008-2013 | LS600H | 2012            | LFA    |
| 2005-2006 | GS300  | 2006-2013       | IS250  |
| 2006-2008 | RX400H | 2005            | IS300  |
| 2008-2011 | GS460  | 2007-2011, 2013 | GS450H |
| 2010-2012 | HS250H | 2013            | ES300H |
| 2005-2006 | ES330  | 2007-2013       | ES350  |
| 2007-2013 | LS460  | 2005-2009       | GX470  |
| 2010-2013 | GX460  | 2005-2007       | LX470  |
| 2010-2013 | RX450H | 2007-2011, 2013 | GS350  |
| 2011-2013 | CT200H | 2006-2013       | IS350  |
| 2007-2013 | RX350  | 2005-2006       | RX330  |
| 2010-2013 | IS350C | 2005-2007       | GS430  |
| 2005-2006 | LS430  | 2013            | IS F   |
| 2008-2013 | LX570  |                 |        |

## RECOMMENDATIONS

### Tire Rotation Best Practices

Please refer to the following recommendations for the best practices for vehicle tire rotations.

- Prior to tire rotation, use the quick reference chart below to verify the size of the lug nut, the lug nut torque specifications, and the tire pressure. The quick reference chart is applicable to current generation vehicles only.
- It is recommended to rotate tires as specified in the vehicle repair or owner's manual.
- For proper tire inflation, please refer to the corresponding "Tire Inflation Pressure Compensation and Adjustment" bulletin, for the listed Lexus models.
- Reference to the Tire Pressure Label on the vehicle for the proper tire inflation pressure.



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- After completing a tire rotation, always initialize the tire pressure warning system. Refer to the specific vehicle repair manual for the appropriate procedure.
- It is recommended that the wheel lug nuts be re-installed by hand starting.
- Tightening of lug nuts should be performed using a "two step" "star" pattern.
- Final tightening of lug nuts should be performed with a manual torque wrench or torque stick.

**Note 1:** The vehicle's spare tire may be included in the rotation only if it is of the same type and style as the other four wheels.

**Note 2:** Failure to comply with proper lug nut torque procedures may contribute to complaints regarding steering / brake pedal vibration or difficulty in removing lug nuts.

**Note 3:** Please ensure that the final lug nut torque be reached with torque wrench and not with impact tool.

| Model  | Model Years    | Lug Nut Size (mm) | Lug Nut Torque (ft.*lb.) | Lug Nut Torque (N*m) |
|--------|----------------|-------------------|--------------------------|----------------------|
| CT200H | 2011-2013      | 21                | 76                       | 103                  |
| ES330  | 2005-2006      | 21                | 76                       | 103                  |
| ES350  | 2007-2013      | 21                | 76                       | 103                  |
| GS300  | 2005-2006      | 21                | 76                       | 103                  |
| GS350  | 2007-2013      | 21                | 76                       | 103                  |
| GS430  | 2005-2007      | 21                | 76                       | 103                  |
| GS450H | 2007-2013      | 21                | 76                       | 103                  |
| GX460  | 2010-2013      | 21                | 82                       | 112                  |
| GX470  | 2005-2009      | 21                | 82                       | 112                  |
| HS250H | 2010-2012      | 21                | 76                       | 103                  |
| ISF    | 2008-2013      | 21                | 76                       | 103                  |
| IS250  | 2006 - 2014    | 21                | 76                       | 103                  |
| IS300  | 2005           | 21                | 76                       | 103                  |
| IS350  | 2006-2014      | 21                | 76                       | 103                  |
| IS250C | 2010-2013      | 21                | 76                       | 103                  |
| IS350C | 2010-2013      | 21                | 76                       | 103                  |
| LFA    | 2012           | E20               | 82                       | 110                  |
| LS430  | 2005-2006      | 21                | 76                       | 103                  |
| LS460  | 2007-2013      | 21                | 103                      | 140                  |
| LS600H | 2008-2013      | 21                | 103                      | 140                  |
| LX470  | 2005-2007      | 22                | 97                       | 131                  |
| LX570  | 2008-2011,2013 | 22                | 97                       | 131                  |
| RX330  | 2005-2006      | 21                | 76                       | 103                  |
| RX350  | 2007-2013      | 21                | 76                       | 103                  |
| RX400H | 2006-2008      | 21                | 76                       | 103                  |
| RX450H | 2010-2013      | 21                | 76                       | 103                  |
| SC430  | 2005-2010      | 21                | 76                       | 103                  |

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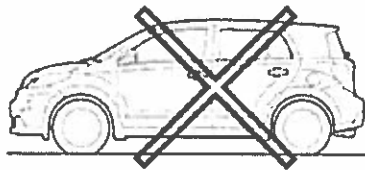
### Nitrogen Filling Procedures

Some customers may complain about vehicle vibration due to incorrect tire balance following a nitrogen refill. It has been found that nitrogen replacement may cause tire out of balance conditions if the tire is deflated and refilled with weight on the tire. When the original air in a tire is evacuated during the replacement procedure, the internal pressure against the tire carcass is reduced. If the vehicle is *on the ground* during this procedure, the low tire inflation pressures may cause the tire sidewall to compress.

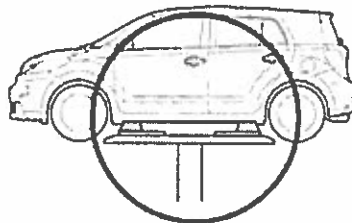


When performing nitrogen replacement procedure with the tire/wheel on the vehicle, ensure the vehicle is lifted on a rack or jack stands. This prevents the weight of the vehicle from compressing the tire sidewall when tire pressure is reduced.

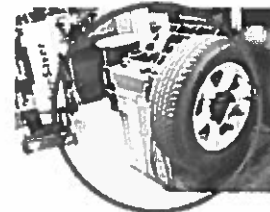
Alternatively, the nitrogen replacement procedure may also be performed with the wheel/tire removed from the vehicle and suspended off the ground; for example, on a wheel/tire balancer machine.



On the ground



Lifted up



On a machine

## LINK REFERENCES

This Tech Tip does not contain any link references

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