Some models are equipped with front and rear wheels of different offsets or width. Wheel offset, defined as the distance between the wheel’s centerline and the wheel-to-rotor mounting surface, affects the clearance between the back of the wheel and surrounding brake components (Figure 1).

Installation of a wheel with an offset or width different than the correct specification, such as installing the rear wheel on the front, can cause damage to brake components due to interference between the wheel and adjacent parts. The wheel could contact the brake caliper thereby introducing stress into the caliper, brake rotor, and potentially other components. In some cases, this stress could contribute to cracking or separation of the brake rotor.
Note that wheels of different offsets or width can appear virtually identical even when compared side by side and therefore the wheels can be inadvertently swapped. Offset and width can be identified by inspecting the back of the wheel (Figure 2).

Wheel offset information is also available on TIS in the Suspension (Tire/Wheel) section in New Car Features. Tire size information is located on the vehicle’s tire placard.
**Tech Tip**  L-TT-0257-19

**Subject**  
Front/Rear Wheel Offset and Width

**Applicability**  
IS GS LC RC

**Market**  
USA

Expires on 02/14/2020

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**Figure 3. Caliper w/witness mark**

- **Rotor disc surface is separated.**
- **Witness mark from wheel contacting the caliper.**

**Figure 4. Wheel w/witness mark**

- **Corresponding witness mark.**

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**Recommendations**

- Ensure front and rear wheels are installed at the proper location on the vehicle.
- If damage is evident on the brake caliper and corresponding wheel, replace the brake rotor. (Figure 3 and 4)

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**Link References**

This Tech Tip does not contain any link references