



Installing the Assembly



**CRITICAL TO
SAFETY**

Employees are not permitted to enter the zone beneath a lifted vehicle
(No feet or legs under the vehicle)

- Keep hands away from the spinning shaft of the impact gun, torque stick and socket
- Lift assembly to the hub by the tread. Never lift assembly to the hub by the spokes
- Visually clear opposite side of vehicle before performing check spin

An assembly will NOT be installed if:

- The wheel and hub have not been cleaned and buffed
- More than one stud or lug is damaged or missing
- Obstruction is present that prevents the wheel from sitting flush on the hub

For aftermarket wheel installation:

- Needs seven turns of thread engagement for proper fitment



**CRITICAL TO
QUALITY**

When installing an assembly:

- Three turns of thread engagement by hand can help reduce potential installation issues (cross threading, thread issues, etc.)
- Maintain pressure on the assembly until the first two lugs are pre-torqued
- Follow the proper pre-torque method for the equipment you are using (pneumatic/cordless)
- During final torquing, use one-star pattern followed by one circle pattern to validate manufacturer's OE torque
- Spin the assembly to confirm clearance
- Set torque wrench to the proper setting
- Use proper torque extension
- ***Using a closed palm, torque all exposed lugs, including all wheel locks***

The Whys

- Missing, broken, or unusable studs reduce the overall torque on the wheel. More than one missing stud is too many on any bolt pattern
- Damage, wear, or gouging of the lug seat, threads, stud, or wheel seat can cause excessive friction, which can reduce overall torque on the wheel
- The star pattern torque process more evenly applies the torque across the bolt pattern. Uneven torque can promote the "warped rotor" brake pulse condition
- Torquing all exposed lugs on assemblies not serviced provides your customer assurance that a previous service provider did not improperly under-torque those assemblies
- Injuries can occur from entanglement on torque stick, or from sharp edges on sockets and lug nuts when free hand is placed on the impact gun shaft, torque stick or socket while it is spinning.
- Injuries can occur when lifting the assembly to the hub by the spokes when fingers are pinched between the wheel and brake or suspension parts.