

3-7 Mounting Area

Bolt hole cracks are usually caused by improper torquing (see Section 5-5), excessive loading or insufficient mounting flange support by the hub or brake drum. Remove wheel from service and scrap.

Figures 3-11 and 3-12 are cracks starting from the bolt hole. Causes are: undersized diameter of wheel support surface (see specifications below), support surface not flat, incorrect attachment parts and insufficient torque (see Section 5-11). Remove wheel from service and scrap.

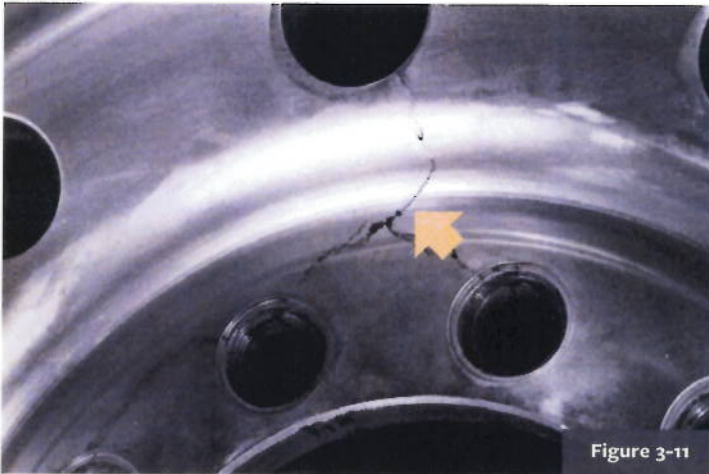


Figure 3-11

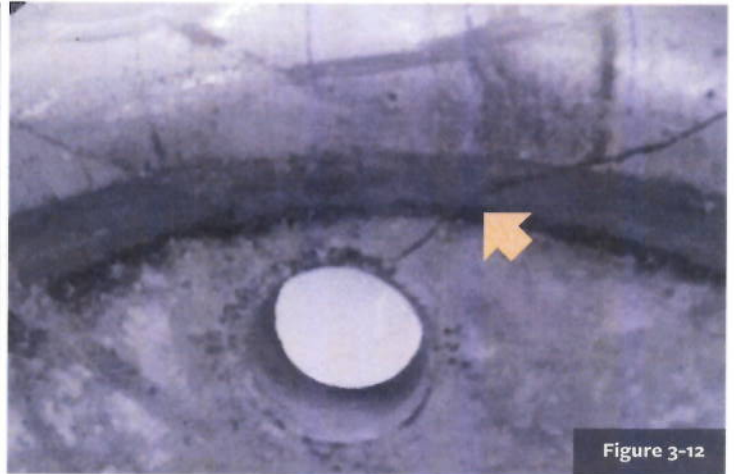


Figure 3-12

Inspect the hub/drum contact area thoroughly for cracks or other damage.

Support surface diameters

Support surface should be flat and match the diameter recommended in Chart 3-1 or 3-2.

Chart 3-1: ISO 4107

STUDS	BOLT CIRCLE	MOUNTING TYPE	MIN. DISC FLAT CLEARANCE DIAMETER	STUD SIZE
6	205 mm	HUB	255 mm	18 mm
8	222.25 mm	HUB	280 mm	20 mm
8	275 mm	HUB	325 mm	20 mm
10	285.75 mm	HUB	345 mm	22 mm
10	335 mm	HUB	390 mm	22 mm

Chart 3-2: SAE J694

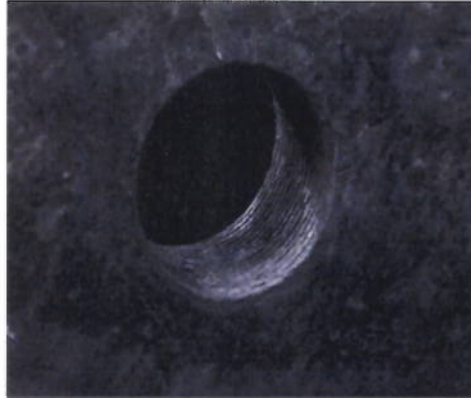
STUDS	BOLT CIRCLE	MOUNTING TYPE	MIN. DISC FLAT CLEARANCE DIAMETER	STUD SIZE
6	205 mm	HUB	255 mm	18 mm
8	6.5"	HUB	8.30"	.563"
8	275 mm	HUB	345 mm	22 mm
8	225.25 mm	HUB	280 mm	20 mm
8	275 mm	HUB	325 mm	20 mm
10	8.75"	STUD	11.32"	.750" / 1.125"
10	285.75 mm	HUB	345 mm	22 mm
10	11.25"	HUB	13.56"	.875"
10	11.25"	STUD	13.56"	.750" / 1.125"
10	335 mm	HUB	390 mm	22 mm

3-8 Bolt Holes

Check bolt holes for enlargement, and elongation, and any damage which can occur if the wheel nuts are not kept tight. Dirt streaks or rust radiating from stud holes may indicate loose wheel nuts.

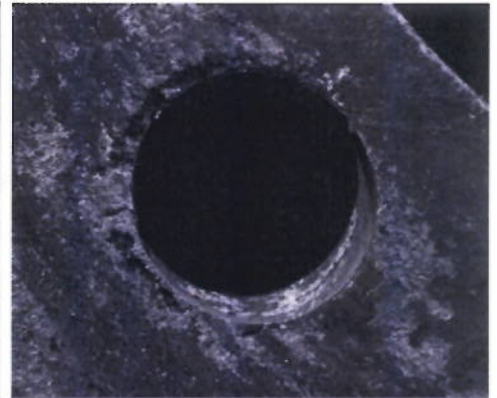
If wheels are run loose, both stud piloted wheels and hub piloted wheels can be damaged. Look for wallowed out or elongated ball seats on stud piloted wheels. On hub piloted wheels look for elongated stud holes. Over torquing can lead to damaged ball seats on stud piloted wheels and can damage the disc surface of hub piloted wheels. Remove damaged wheels from service and scrap.

Machines designed to re-polish aluminum wheels are available at local facilities such as re-treaders, tire service providers, and truck dealerships. During polishing a wheel may experience bolt hole washout. This condition can be seen on the polished side of wheel. Check the wheel's non-polished side to see if bolt holes or hand holes are washed out or wallowed out. Bolt hole washout is not an out-of-service condition. Wheels with bolt hole washout are not pretty but are still serviceable.



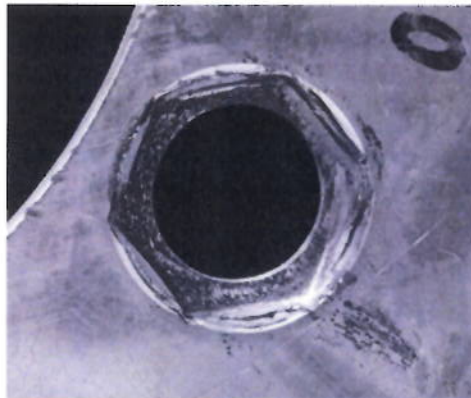
UNACCEPTABLE

Figure 3-13: For hub piloted wheels, visible thread marks on the inside of the stud holes indicate the wheel ran loose.



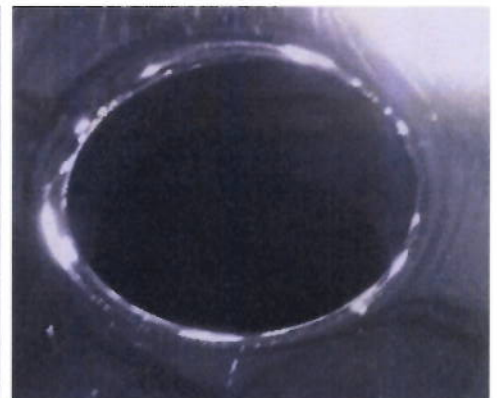
UNACCEPTABLE

Figure 3-14: For hub piloted wheels, a wallowed out stud hole indicates the wheel ran loose.



UNACCEPTABLE

Figure 3-15: For stud piloted wheels, a damaged ball seat contact area indicates the wheel ran loose.



ACCEPTABLE

Figure 3-16: For hub piloted wheels, a washed-out stud hole indicates the wheel ran loose.

3-9 Hand Hole

Inspect both sides of disc area for hand hole cracks. Remove damaged wheels from service and scrap.

Hand Hole Crack/Hand Hole to Disc

Exceeding wheel load capacity or damage to the Hand Hole can lead to cracks in the disc area. Remove wheel from service and scrap.

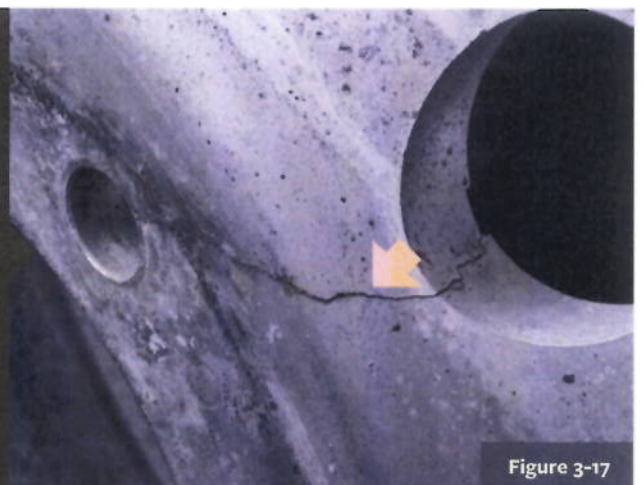


Figure 3-17

3-10 Rim Area (Drop Center, Valve Hole and Bead Seat)

Check the entire rim area for nicks, gouges and cracks. Loss of air may be caused by cracks in areas throughout the drop center, around the valve hole, and in the bead seat area. Remove the damaged wheel from service and scrap.

Drop Center crack

Drop center cracks are normally caused by exceeding load or inflation capacity, or corrosion from excessive air line moisture or improper tire mounting lubricants. The Company recommends Severe Service[®] wheels if the issue is overload or significant travel on unimproved roads. Please see the Product Spec Guide for Alcoa Wheels for part numbers and wheel descriptions of the Severe Service[®] wheels. Permanently remove damaged wheel from service and scrap.

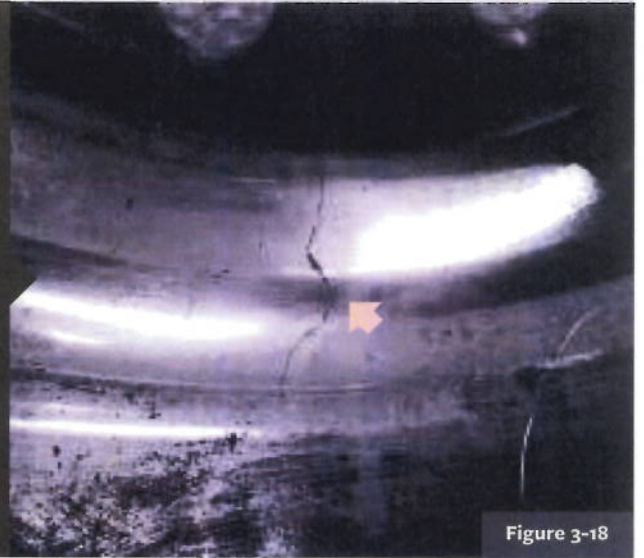


Figure 3-18

Valve Hole crack

Valve hole cracks are normally caused by exceeding load or inflation capacity, rough finish on the valve hole surface, over-torquing of the valve nut, or corrosion. Permanently remove damaged wheel from service and scrap.

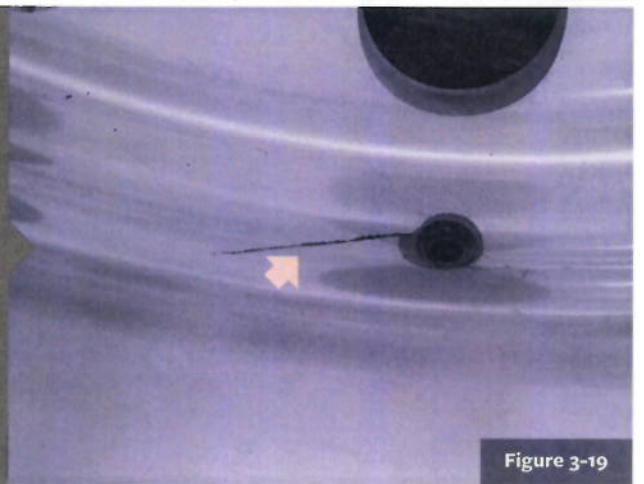


Figure 3-19

Bead Seat crack

Bead seat cracks may be caused by exceeding load or inflation capacity, improper manufacturing, tire tool damage, damage by hammer, impact damage, or rim is too narrow for the tire. Immediately and permanently remove damaged wheel from service and scrap.

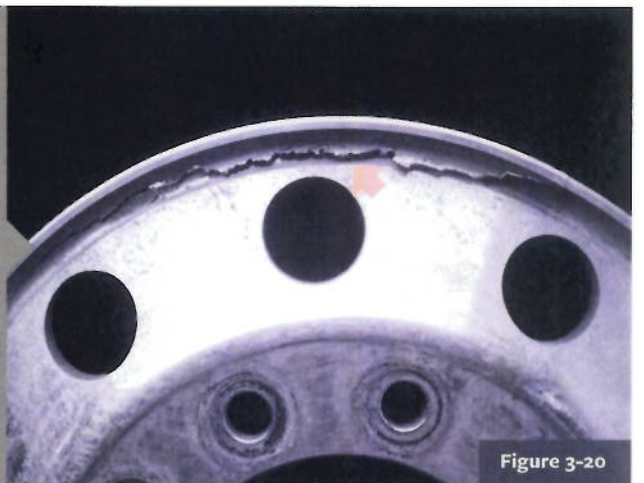


Figure 3-20