



Fig. 7-8: rotating deep rolling tool

Some knuckles have very high eccentric mass and a large rotation diameter because of steering lever. These knuckles are deep rolled in the stationary setting on machines with rotating tools. One of these tools is shown in Fig. 7-8. They are equipped with up to three burnishing elements per diameter. All nine elements work at the same time. This leads to an extremely short process time of few seconds only.

High dynamic loads like all knuckles picked as well on **wheel hubs**. Those can also generate material fatigue at these components. To exclude safety hazards and/or to be able to build components smaller and lighter, fillet radius of hubs are also deep

rolled according to Fig. 7-9. The same treatment is applied to driven rear axles (Fig. 7-10). Hydrostatic tools are predominantly used for this applications. For radii < 4 mm, mechanical deep roll in tools are used.

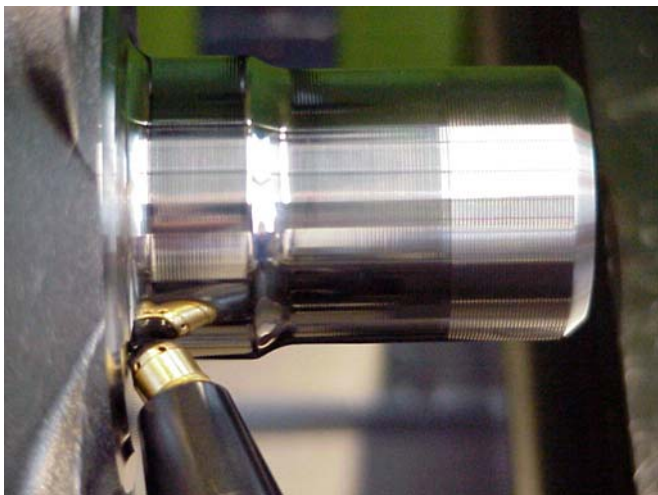


Fig. 7-9: deep rolling of hubs



Fig. 7-10: deep rolling of driven rear axles