

Bearing Cup / Wheel Bolt Removal and Installation



Bearing Cup Removal and Installation

Scope: This service procedure is intended to provide instructions for removal and installation of bearing cups in ferrous wheel hubs. To understand the conditions for replacement of bearing cups and cones please read TMC's recommended practice RP 644 which is available upon request from Walther EMC.

Removal

After disassembling the hub assembly from the axle end, remove the seal and the inner and outer bearing cones. Clean the hub assembly thoroughly.

Use a mild steel drift punch or cup driver to drive out the bearing cup. Alternate the location of impact on the cup by 180 degrees and/or 90 degrees. (*Image A*)

Inspection of the Bearing Bores

Inspect the bearing bores and bearing cup stop for damage. If there is evidence of cup spinning (*Image B*), the hub should not be reused. Use an emery cloth to remove minor burrs or raised areas. (*Image C*)



Image A

Remove cups with a mild steel drift punch



Image B

Hub damage due to cup spinning



Image C

Use emery cloth to remove minor burrs or raised areas

Installation

If a cup driver and a press are available, they are the best tools to use to install bearing cups. If a press is not available, impact on a cup driver is acceptable. (Image D)



Install by impacting the cup driver



Check for gap between cup and bearing stop

Use a 0.004" or smaller feeler gage to check for a gap between the cup and the bearing cup stop. The feeler gage should not fit between the cup and the stop. (Image E) Inspect the bearing surface for any damage, which might have occurred during installation. There should be no scoring of the new bearing cup surface.

Wheel Bolt Removal and Installation

Scope: This service procedure is intended to provide instructions on removing and replacing M22 wheel bolts in ferrous wheel hubs. Reasons for replacing wheel bolts include heavily corroded threads, damaged threads or broken wheel bolts.

Removal

Place inboard hub face on a surface softer than the hub material; wood is a good choice. Use a hammer to remove the selected wheel bolts. (Image F) Stabilize the hub during impact.

Inspection of the Wheel Bolt Hole

Examine the condition of the wheel bolt hole. If the wheel bolts have serrations, which dig into the inner diameter (ID) of the wheel bolt hole, be sure that the indications of the serrations in the holes are well defined. If the ID of the wheel bolt hole is significantly damaged (marred or out-of-round, i.e. serrations do not have metal to embed in for the entire diameter of the bolt serrations) replace the hub. Some hubs do not use serrated bolts. On a hub using non-serrated or smooth-shank bolts, the holes should be smooth and perfectly round.

Installation

Insert a new matching wheel bolt in a wheel bolt hole and use a two-piece M22 flange nut to draw the wheel bolt into the hole until the head of the bolt is seated on inboard surface of the wheel bolt boss. (Image G)



Use a hammer to remove the wheel bolts



Use an M22 flange nut to install wheel bolt