



Ratchet Repair Instructions

Caution: Wear approved eye protection when using striking tools and when servicing spring-loaded assemblies.

Use a workbench or vise and wood block when repairing a ratchet.

Disassembly

Cover plate and gear – Remove the two plate screws, and pull out the cover plate and gear. If necessary, strike the square drive downward against a block of wood to pop off the plate.

Reverse lever – Using the correct size pin punch (check the pin diameter of the replacement pin and pawl), drive out the reverse lever, shearing off the upset. See Figure 1. On $\frac{3}{4}$ " drive and larger ratchets, remove the reverse lever screw and pull the lever straight up. *Do not pry the lever.*

Pawl, ball and spring – The pawl is spring-loaded, so carefully pull it out, noting its position against the ball and spring. Remove the ball and spring.

Bushing and nameplate (some models do not have them) – Inspect the nameplate and dust cover. Check bushing wear. If there is appreciable wear or if the inside diameter is .010" greater than the new bushing, remove as follows:

Nameplate and dust cover models: Use a bushing driver or socket and soft face hammer to tap out the nameplate and bushing together.

Shoulder type bushings: Use a bushing driver or socket and soft face hammer and tap out from the reverse lever side. See Figure 2.

Hidden bushings: Use a PPC407A cape chisel to engage the upper edge of the bushing. Tap the chisel with a $\frac{1}{2}$ lb. hammer and move the chisel around the bushing to push it out evenly. See Figure 3.



Figure 1



Figure 2



Figure 3

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Assembly

Cleaning and inspection – Clean the ratchet housing. Use an approved cleaning solvent. Check for burrs on the inner corners between the pawl and gear housings. File or use a whetstone to remove them and clean again with solvent. The ratchet is now ready to recondition with the parts of this kit.

Nameplate dust cover models – Replace the nameplate, making sure the arrow on the back points towards the top of the ratchet.

Bushing (some models do not have them) – Place the bushing onto its seat with the beveled side up, facing the gear. Use a bushing driver to drive the bushing straight downward onto its seat and flush with the bottom of the housing, or use the old gear and press the bushing in with a vise.

Spring, ball and pawl – Place the ratchet handle in a vise. Insert the spring, large end first if the spring is cone shaped. Put a small amount of cup grease on the blade of a small screwdriver and pick up the ball with it. Place the ball against the spring and wedge the ball and spring into the spring hole. Insert the pawl, square end first, and at the same time pull out the screwdriver so that the pawl, ball and spring are in proper position.

Reverse lever – Insert the lever and check that the ON-OFF settings move the pawl into the proper positions. Peen the pin end where it protrudes from the plate side on pin type ratchets. Fasten with a screw on $\frac{3}{4}$ " drive and larger ratchets.

Gear, plate and screws – Insert the gear with the square drive extending toward the plate side. Lubricate with light machine oil. DO NOT USE ANY KIND OF GREASE. Replace the plate. Position it by placing the hex end of a socket over the square drive and tapping the socket with soft face or brass hammer.

Replace and tighten the screws and check the ratcheting action. If it works hard, strike the drive end against a wood block. Retighten the screws.

SNAP-ON INCORPORATED
Kenosha, WI 53141-1410

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