

MATCH PREP PRESENTS THE GRACEY POWER NECK SHAVER

INFORMATION SHEET:

The power neck shaver employs the patented principle of indexing on the cartridge case shoulder that is fundamental in the other Gracey products. By inserting a cartridge case into a **threaded cartridge case holder**, until the case shoulder contacts the bottom of the holder, very accurate and highly repeatable results can be obtained. The heart of the Gracey Power Neck Shaver is the patented cutter head which houses three **adjustable cutters** and a **mandrel** matching the inside diameter of the case neck to be shaved. This cutter head carries three cutters that are at different angles and which all cut at the same time. By this action a smooth surface on the neck is obtained.

All cutters are identical and interchangeable with one another in any position. This will be of great benefit to you if a cutter should become damaged. This would permit you to immediately install one of the other cutters from another position on the cutter head in its place and continue neck shaving cartridges cases without delay. Set screws on the back side of the cutter head (the side toward the motor) are provided to lock the desired adjustment on each cutter and to unlock the cutter when adjustment is required.

Cartridge case holders and mandrels of the appropriate caliber must be used. Case holders are removed and installed by **loosening a set screw on the top of the Neck Shaver body** and then unscrewing one cartridge case holder and screwing another into its place. Fine adjustment to the amount of the case neck surface that is shaved is accomplished by **loosening the set screw on top of the Neck Shaver body** above the cartridge case holder and turning the case holder in or out the desired amount. When the desired result is achieved, **tighten the set screw to lock** the cartridge case holder into place.

Mandrels must be changed every time the inside diameter of the case neck that is to be shaved changes. For example, no change of the mandrel would be needed to go from .308 Win., to 30-06 or .300 Win Mag, as all of these cartridges share a common bore diameter. However, a mandrel WOULD need to be changed to go from .308 Win to .243 Win as these cartridges do not share a common bore diameter. Before the mandrel can be removed, the cartridge case holder must be removed by the method explained in the previous paragraph. To assist in the removal of the mandrel, a threaded hole has been provided through its center. Use a long 8/32 machine screw, included with the Neck Shaver, to remove the mandrel. The long machine screw will thread into the end of the mandrel and provide a convenient handle for removal and installation. Mandrels are changed by **loosening a set screw** behind the cutter head (the side toward the motor) and sliding one mandrel out and another one of the appropriate diameter into its place. It is only necessary to loosen the cutters to accomplish the changing of the mandrel. There is no need to completely remove the set screw. Removal of the set screw holding cutter head to the shaft, is part of the disassembly process and should rarely, if ever, be necessary.

User Instructions:

Before using your Power Neck Shaver you will want to lubricate it to assure that it will give you a long service life. There are two black rubber caps on top of the motor. You will notice a small slit in the rubber caps. By gently squeezing the rubber caps, they can be opened to expose an

oiling point for the bearing of the motor. One or two drops of light oil (Three in One, Sewing Machine Oil, etc.), every 10 to 12 hours of operation is plenty. Oiling the motor is one place where MORE is definitely **not** better. There is an oil cup with a flip-top cover on the top of the Power Neck Shaver body. Open the flip-top cover and fill up the oil cup cavity. This cup should be filled every time you use your Power Neck Shaver. Frequent lubrication at this point will prevent bearing wear and assure a long service life from the device.

With routine maintenance out of the way, plug in the unit and get started. We have already discussed cutters, mandrels and cartridge case holders. Assuming that all are installed properly, you are ready to neck shave cases faster and more accurately than you thought possible.

TO OPERATE THE GRACEY OUTSIDE NECK SHAVER

- 1) Using a resized cartridge case, slowly begin to insert the case into the case holder. You will feel a slight resistance as the cartridge case mouth contacts the mandrel in the cutter head. This occurs as the spinning mandrel is beginning to enter the mouth of the case neck.
- 2) Continue to insert the cartridge case into the cartridge case holder and you will feel the case begin to contact the cutters. Smoothly continue feeding the cartridge case into the cartridge case holder until it bottoms out and stops its forward motion..
- 3) Withdraw the case and examine the result. The neck shaved surface should extend from the case mouth to the beginning of the case shoulder. It is important that the shaved surface extend all the way to the case shoulder but not into it.
- 4) Any adjustments required can be achieved by **loosening the set screw** above the case holder on the Neck Shaver body and turning the cartridge case holder in or out to achieve the desired result.

CUTTER ADJUSTMENT The amount of material removed from the outside of the cartridge case neck and ultimately the neck wall thickness, is controlled by adjusting the cutter in or out of the cutter head. This is accomplished by loosening the set screw on the back side of the cutter head (the side toward the motor), to allow an allen wrench to be used to turn the cutter in or out , the amount desired. To adjust the cutters, place the proper mandrel in the cutter head and lock it in position with the set screw. To effect a starting point mark the cutter head with a colored marker at one cutter position. Unlock the three set screws on the back of the cutter head by backing them off one turn. Now, place a cartridge in the shaver. Start with the one you marked and turn the cutter in until it touches the case to be shaved. When contact is felt, back it out one flat on your allen wrench. Move to the second cutter and repeat the process. Move to the third cutter and when you feel contact, lock it down. Return to the other two cutters and advance them one flat. Lock them and shave a case. Repeat process if necessary.

That's about it. As with any precision piece of equipment, speed will come with practice. In a very short time you will be shaving cases faster and easier than ever before.

FACTS TO REMEMBER

FRICTION The mandrel of your Power Neck Shaver is machined to very exact tolerances. There may be times that you will experience substantial friction between the inside of the cartridge case mouth and the mandrel. This happens if the cartridge case mouth is slightly undersize due to a worn expander ball in your re-sizing die. This friction can be overcome by

using a small amount of lubrication on the inside of the cartridge case mouth. A small amount of lubricant can be sprayed on the inside of the case mouth to eliminate friction between the mandrel and the inside of the cartridge case mouth.

PLIERS It is helpful to use the insulated pliers provided to hold the cartridge case while performing the neck shaving process. The padded jaws hold the cartridge securely without causing damage to the outside surface of the cartridge case. They also prevent sore fingers when one shaves hundreds of cases.

**TRIM YOUR CASES AFTER THE NECK SHAVING PROCESS IS COMPLETED
IT IS NOT NECESSARY TO SHAVE A CARTRIDGE MORE THAN ONCE.**