



OUTSIDE NECK TURNER INSTRUCTIONS

Introduction

The Lyman Outside neck Turner is designed for use on the Lyman Acculine and Lyman Universal Case Trimmer. It is not, however, adaptable to the Power Trimmer.

Case necks thicken from reforming and resizing operations. This can lead to inaccuracy and may produce unsafe pressures due to a lack of chamber clearance. The Lyman Outside Neck Turner accessory produces uniform neck wall thickness and exact outside neck diameter. Utilizing a cutter screw which can be adjusted for any diameter between .195 inch and .405 inch, a precisely ground mandrel centers and guides the case for cutting in caliber sizes from .22 to .375. In operation, the cutter passes progressively over the case neck as it is guided over the mandrel, reducing the neck wall of the case to a uniform thickness. Rate of feed is controlled by rotating a fine pitch lead screw, and an adjustable mechanical stop controls the length of the cut. To change calibers, simply insert the desired mandrel and adjust the cutter height. Please note the cases to be turned must be resized, trimmed, neck expanded and chamfered first.

1. Setting up the Outside Neck Turner

- a. Unthread the cutter head from the trimmer shaft.
- b. Slide the trimmer shaft from the trimmer body.
- c. Loosen set screw which locks stop collars onto the trimmer shaft and remove stop collars from the trimmer shaft. The cutter head and stop collars will not be used.
- d. Slide the outside neck turner feed screw assembly onto the shaft so that the ring which contains set screws faces the handle of the trimmer shaft. (See Figure A).
- e. Insert the trimmer shaft back into the trimmer body.
- f. Thread the outside neck turner cutter head body into the trimmer shaft.
- g. Refer to the mandrel specification chart and find the mandrel for your caliber to be turned. After choosing the proper mandrel for the caliber to be neck turned, insert the mandrel into the center hole of the Outside Neck Turner cutter head body, making sure there is clearance between the mandrel and the cutter screw.
- h. Tighten set screw that is closest to the trimmer shaft. This will lock the mandrel in position. Use the hex wrench supplied with the set.

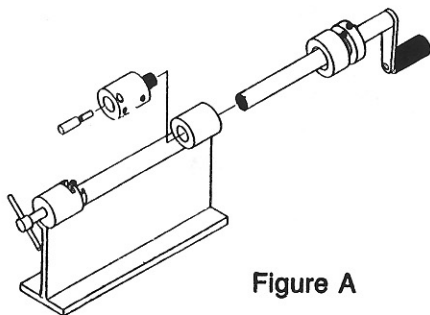


Figure A

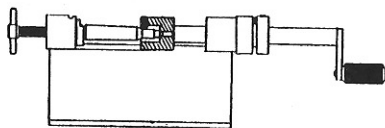


Figure B

2. Case Neck Turning Adjustments

- a. Place a case to be turned into the shellholder/chuck head, however, do not lock the case into position yet.
- b. Slide the trimmer shaft forward until the mandrel enters the case mouth. Check to be sure that there is clearance between the case neck and cutter screw. Position the cutter head body so that the cutter screw is over the case neck as close to the case shoulder as you desire.
- c. Turn the cutter screw # 7 until it just contacts the case neck and lock it in place. (See figure B). Leave the cutter head in this position.
- d. Adjust the feed screw # 5 and feed screw collar # 4 until they are about 1/16" apart. This will enable corrections to the length of cut if required at a later time. Adjust the stop set screw # 6, which is in line with the trimmer shaft, to maintain this spacing and lock the stop into position with set screw # 3.
- e. Slide the feed screw assembly up against the trimmer body. Position a thread locking nylon ball # 8 under the feed screw assembly lock screw. (See drawing).
- f. Lock the feed screw assembly onto the trimmer shaft.
- g. Slide the trimmer shaft back until the cutter screw is off the case neck, leaving the case on the end of the mandrel. (See figure C).
- h. Lock the case into position in the trimmer at this time.

3. Case Neck Turning

- a. Turn the feed screw collar on the feed screw assembly into contact with the trimmer body.
- b. With one hand, hold this collar in position against the trimmer body.
- c. With the other hand, crank the trimmer handle in a clockwise motion. This will feed the cutter screw across the case neck until the feed screw stop # 6 contacts the feed screw collar # 4.
- d. When contact is made, release the feed screw collar and continue turning in the same direction while slowly pulling the cutter off the case neck.
- e. Check the case neck for proper depth and length of cut. Cases should be turned just deep enough to remove brass from the entire diameter of the case neck.

At this point, case necks are concentric and need not be turned any deeper unless a smaller diameter neck is desired for chamber clearance. Make any adjustments for depth or length of cut. Repeat the above steps for the remainder of cases after any needed adjustments have been made.

Caution: Neck diameters should not be smaller than manufacturers specifications.

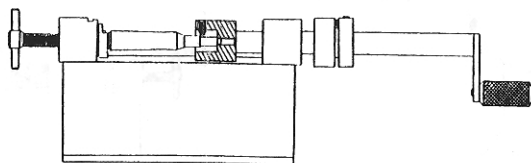
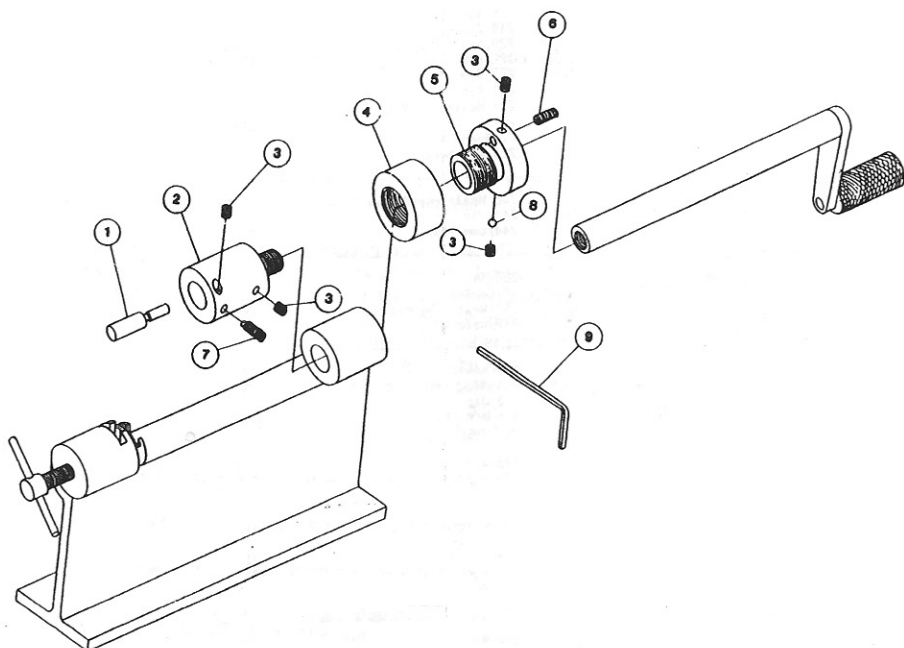


Figure C



OUTSIDE NECK TURNER
(Shown on an Accutrimmer)

KEY	PART DESCRIPTION	PART #
1	Mandrel	See Mandrel Chart
2	Cutterhead Body	7990953
3	Set Screw 8-32 x 1/8 (4)	7994418
4	Feed Screw Collar	7990951
5	Feed Screw	7990952
6	Set Screw 8-32 x 3/8	7993008
7	Cutter Screw	7990954
8	Nylon Ball	7990076
9	Hex Wrench 5/64	2992876

OUTSIDE NECK TURNER MANDREL SPECIFICATIONS

Caliber	Lyman Part No.	Mandrel Diameter	Cartridge	Maximum Cartridge Neck Diameter (with bullet seated)
22*	7810151	.2195"	218 Bee	.242"
			219 Zipper	.252"
			220 Swift	.260"
			222 Rem.	.253"
			222 Rem. Mag.	.253"
			223 Rem.	.253"
			224 Weatherby Mag.	.248"
			22-250 Rem.	.255"
			22 Hornet	.2425"
			225 Winchester	.260"
243/6mm*	7810152	.240"	240 Weatherby Mag.	.271"
			243 Win.	.276"
			244/6mm Rem.	.276"
25*	7810153	.2535"	250 Sav.	.2855"
			25-06 Rem.	.290"
			257 Weatherby Mag.	.285"
			257 Roberts	.290"
6.5(.264)	7810154	.2595"	256 Newton	.290"
			264 Win. Mag.	.298"
			6.5 Jap	.293"
			6.5 Rem. Mag.	.300"
270*	7810155	.2735"	270 Win.	.308"
			270 Weatherby Mag.	.305"
7mm*	7810156	.2795"	7mm Weatherby Mag.	.312"
			7mm Mauser	.3205"
			7mm-08 Rem.	.315"
			7mm Rem. Mag.	.315"
			280 Rem.	.315"
			284 Win.	.320"
30*	7810157	.3045"	30-30 Win.	.330"
			300 Weatherby Mag.	.336"
			300 H+H Mag.	.338"
			30-40 Krag	.338"
			300 Sav.	.339"
			30-06	.3397"
			308 Win.	.3435"
			300 Win. Mag.	.3397"
303(.311)	7810158	.3075"	303 British	.337"
			303 Sav.	.334"
			7.62 x 39	.340"
			7.62 x 54R	.332"
8mm	7810159	.3195"	8mm Mauser	.3493"
			8mm Rem. Mag.	.354"
338	7810160	.3345"	338 Win. Mag.	.369"
			340 Weatherby Mag.	.366"
358	7810161	.353"	35 Rem.	.3838"
			350 Rem. Mag.	.388"
			358 Win.	.388"
375	7810162	.3715"	375 H+H Mag.	.402"
			378 Weatherby Mag.	.403"

*Mandrel Multi-Pack (Includes these Mandrels)