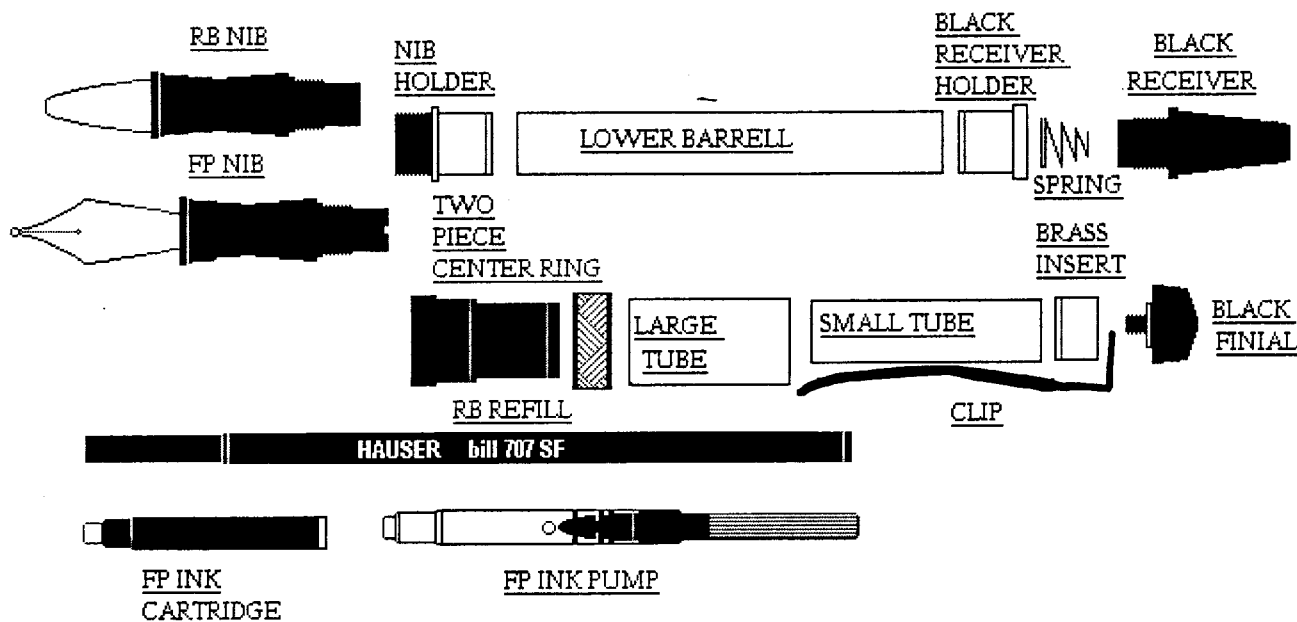


18745 Sheldon Rd.  
Middleburg Hts., Ohio 44130  
(216) 898-8956  
(216) 898-8962 Fax

Nº 9 ALLEY 1, Lane 90  
Chiu Chiong Lu Chou  
Taipei Hsien  
Taiwan R.O.C.  
Ph: (02) 2281-8293  
Fax: 886-2-2281-8818

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### ELGRANDE STREAMLINE ROLLERBALL AND FOUNTAIN PEN

#### Tooling

B mandrel  
18B Bushing  
11mm drill  
31/64 drill  
33/64 drill

#### Turning Instructions – Lower Barrel (longest tube)

1. Cut wood same length as tube or a little longer to square off.
2. Drill with 31/64" drill and glue in tube.
3. Use the two bushings that are same for lower barrel.

#### Top Barrels – Cap – 2 tubes

1. Cut wood 1-7/8" long.
2. Drill **FIRST** with 11mm drill all the way through.
3. At one end of blank drill with 33/64". Drill 3/4" deep – deep enough so large tube will fit in flush. (See helpful hint.)
4. Insert tubes into blank **without** gluing them in.
5. Using the smallest bushing & the largest bushing mount on mandrel with other blank tighten nut.
6. Turn to bushing, sand & polish. Reason for not gluing tube to be explained in cap assembly instructions

## Assembly – Lower Barrel

1. Press nib holder into one end of lower barrel.
2. Press receiver holder into other end of black screw on black receiver.
3. Roller Ball ONLY – drop small spring into lower barrel small end up. Insert refill and screw in nib.
4. Fountain Pen – plug pump or ink cartridge into fountain pen nib the screw in nib holder.

## Cap

1. Small tube press brass insert into one end of small tube. (This cannot be done if tube is glued in pen blank. Apply small amount of glue or epoxy evenly over tube and slide into small hole in blank.
2. Slide center ring band over black delrin center ring and press this into one end of large tube. Apply glue or epoxy evenly over tube and slide into large hole in blank.
3. Let sit for a few minutes to let glue dry.

## Helpful Hints

When drilling 33/64 hole in cap blank let drill dwell in place to clean away chips and reem out hole. Then using large upper barrel tube check for depth. Use large diameter bushing to hold tube. A little deeper won't hurt; center ring will place tube in right place. (See cap assembly) 11/03