

(50) 1. Engineering Design of Stepped Shaft (including tolerances)

(50) 2. Assembly Design of the shaft using spacers & isolators and bearings

make from 60T gear stock model on calliper

make from 20T gear stock model on calliper

and spacer 2

# Engineering Drawing

Tolerance on shaft ends to provide

LC3 location fit with bearing pin table →

Bore Size		Hole	Shaft
Over	To	H8	h7
0.25	0.40	+0.09	+0.06
0.45	0.71	+0.09	+0.07
0.71	1.19	+0.12	+0.13

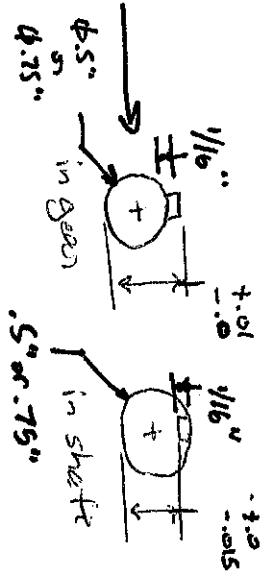
Tolerance on shaft fits into gears to provide tight fit with gear teeth

Use overall length of shaft as driving dimension.

Provide detail view for both key way see Machinery's Handbook for correct key way length

## Assembly Draw

- Bearing within 2 fits on outside of Bearing 2. Shaft within 2 fits on inside of Bearing 2.
- Left side of shaft fits into Bearing 2 such that shoulder of shaft lies against ~~bearing~~ Bg. and spacer 2 which lies against shaft within 2.
- Big Gear fits over shaft and lies against end spacer 2.
- Middle spacer fit over shaft & lies against big gear.
- Small gear fits over shaft & lies against middle spacer.
- End spacer fits over shaft & lies against end spacer 1.
- shaft within 1 fit over shaft & lies against shaft within 1.
- bearing 1 fits over shaft & lies against shaft within 1.
- bearing within 2 lies against bearing 1.



→ every  
 Draw should  
 have BOM &  
 part labels.  
 Exploded view  
 detailing every