

“Case Study for Turret Cam box comp. on SONIC”

Customer name : M/s. , Bangalore.

Case Study No. : TSG-CS- 022/TR-009.

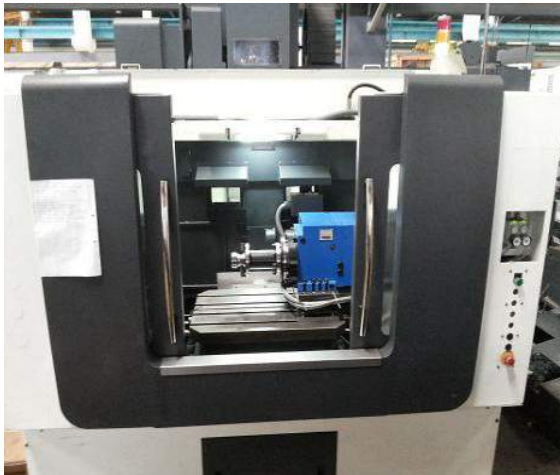
Machine Details : Sonic, Fanuc 0IM-D System

Main Features : Spindle-HSK A63 Taper, 6000 rpm, LM Guide ways for all 3 Axes,
Traverse (X, Y&Z) - 500 / 450 / 500 mm, Spindle Power 15/7.5 kw.

Component Name : Roller Housing.

Component Material : **Steel - EN 8 / C45, Toughened, Hardness – 20 to 22 HRC.**

Output



Example of Cutting operations & its Cycle time: (Few opn.only).

Actual cutting parameters and cycle time depends on Component material, Tools, Tool holders and Fixture concept.

Sl. No.	Operation	Tool	Spindle speed (rpm)	Feed (mm/min)	Axial DOC (mm)	Radial DOC (mm)	Cutting Time (sec)
1	Face Milling	Ø 50 Face Mill	1200	250	1.5	80%	2.3
2	Drill	Ø 8.8 Solid Carbide Drill	1200	100	-	-	1.5
3	End Mill	Ø 9.5 Solid Carbide End Mill	1000	100	0.2	60%	2.9
4	Slot Drill	Ø 7 Solid Carbide Slot Drill	1500	60	-	-	1.6
5	Tap	M6 X 1.0 Emuge Tap	500	500	-	0.5	1.8
6	Reamer	Ø 10 Koolcut Reamer	250	25	-	0.08	1.7

Achievements:

1. Time taken on machine for complete profile machining is 11.8 mins @12.6 mins.(Cam Time)
2. Customer is satisfied with Machine performance, Accuracy, Surface finish & Cycle time.
3. Surface finish was good in Dowell holes & Milled surface, which has within permissible limits, Approx. 0.3 Ra.
4. Dowell Hole Ø10 H6 (+0.009) & WRT butting face Dimension 50mm to be maintained within 0.030 mm.
5. Dowell hole CD observed within 0.018 mm & Cross angle hole 60° and 15° to be maintained within ± 0°1'.

The objective of the case study is to show the Machine performance, Capability, Quality & Surface finish.

