

## Problem Solving

### THIS WILL HELP CORRECT:

**Eccentric Threads** - where pitch diameter is not concentric with O.D. of the work, or one side of threaded part will show a flat and other side will show stock removed by root of chaser; usually due to improper alignment of threading tool work. Trouble can be partially corrected by increasing the face angle on the chasers, and beveling the piece so all chasers start cutting at the same time.

**Out of Round or Wavy Threads** - which may cut perfect pitch diameter and smooth threads from first thread to last, but will not fit "Go" gauges; if laid on straight plane, rest of thread would not follow a straight line; correct this by having the chaser grind more over center, a higher micrometer gauge reading on barrel A (for example, if chasers were ground to a .515" micrometer reading, regrind to .520").

**Rough Threads** - to which may be due to too much surface speed, too poor or not enough cutting coolant (flow of cutting oil should be volume, not pressure), chaser chamfer or lead may be too short when longer lead is permitted, or hook angle may not be sufficient or ground deep enough for chip clearance. In most cases this condition is corrected by grinding more off face of chaser (have lower micrometer gauge reading).

**Shaved Threads** - which are very often caused by a turret which is too heavy, or a threading spindle which is binding and not moving freely with the diehead cutting. Be sure turret or spindle "follows" the die without excessive drag, particularly in cutting finer pitches. Shaved threads may also result from chasers which are ground too far behind center, permitting threads beyond the chamfer or first full thread to cut - this usually causes threading behind on lead and shows a taper. Check the lead, increase the face angle and grind chasers more over center (higher micrometer gauge reading).

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### THIS WILL HELP CORRECT:

**Shave or Taper on First Thread** - which is usually due to alignment; or, if on Brass, Cast Iron, Malleable Iron or Aluminum, increase the surface speed.

**Threading ahead on Lead** - grind more off chaser face (lower micrometer gauge reading).

**Threading behind on Lead** - grind more over center (higher micrometer gauge reading).

**Chasers which do not Retract Freely** from work when diehead trips; increase face angle and grind more over center (higher micrometer gauge reading). Also check setting gauge. Use the “C” spanner effectively.