CAUSE	INACCURATE WORK	REMEDY
1.	Lathe not correctly installed causing tapering.	1. Check levelling (Section 2.5)
2.	Excessive play in saddle guideways.	2. Adjust gib plates on saddle.
3.	Excessive play in cross slide and compound slides.	3. Adjust slips on cross slide (Section 7.2) & on compound slide (Section 8.1).
4.	Tailstock spindle out of line with headstock spindle.	4. Check & adjust (Section 4.7)
5.	Foreign matter preventing correct location of chucks, faceplates and centres.	5. Remove & clean requisite parts.
6.	Centres running out.	6. Check centres for bruising. For built in roller bearing centre follow instructions on tailstock. See Section 4.71.
7.	Uneven locking of spindle nose cams.	7. Refer to locking sequence. (Section 4.5).
8.	Uneven nipping of chuck jaws.	8. Repair or replace jaws.
9.	Incorrect centres in work piece.	9. Centre should be trued up.

INFERIOR FINISH OF WORKPIECE

1.	Excessive play in spindle bearings.	1. Check and adjust preload (Section 4.4)
2.	Belt slip.	2. Adjust belts (Section 12.1)
3.	Vibration caused by unbalanced work or intermittent cutting.	3. Counter balance workpiece. It is advisable for this type of work to have the machine bolted to the foundations. (Section 2.1.)
4.	Drive to the feed motion is taken through the end change gears, and regular pitch markings occur if gears are too deep in mesh.	4. Check & adjust for correct backlash (Section 6.1)
5.	Bent feed shaft or cross slide screw giving regular pitch markings.	5. Remove & straighten.
6.	Levelling screws not correctly set & locked.	6. Re-level machine (Section 2.5)
7.	Inefficient clamping of work piece.	7. Check clamping on chucks & driving mediums.
8.	Insufficiently supported work piece.	8. Use steadies or tailstock support.
9.	Dull cutting edge or incorrect cutting and clearance angles.	9. Check tool & regrind accordingly.
10.	Tool not set to correct centre height.	10. Re-set correctly. Any packing used should be parallel & flat.
11.	Tool inadequately clamped.	11. Re-clamp.
12.	Unsuitable feeds & speeds.	12. Try adjacent feeds & speeds.
13.	Lack of cutting fluid.	13. Use appropriate cutting fluid.
14.	Incorrect oil on bed or cross slide.	14. Use correct oil (Section 3.1).
15.	Dirty oil in headstock causes roughness in spindle bearings.	15. Change oil & clean filter (Section 3.11).

WEIGHT OF WORK PIECE CAPACITY

SPINDLE SPEEDS	WEIGHT IN CHUCK C. of G. up to 6 ins. from chuck face	WEIGHT BETWEEN CENTRES		MAXIMUM UNBALANCED
		13 x 30	13 x 42	
1000 R.P.M.	90 lbs.	280 lbs	400 lbs	10 oz. ins.
Max. eccentricity of C. of G.	.007 ins.	.003 ins	.002 ins	
500 R.P.M.	90 lbs	280 lbs	400 lbs	40 oz. ins.
Max. eccentricity of C. of G.	.028 ins	.009 ins	.006 ins	

MAXIMUM SPEEDS OF CHUCKS AND FACEPLATES

DIAMETER OF STEEL CHUCK		MAXIMUM SPEED
$8\frac{1}{4}$ ins.	3 Jaw	2240 R.P.M.
10 ins.	3 or 4 Jaw	1400 R.P.M.
14 ins.	4 Jaw	1000 R.P.M.

DIAMETER OF C.1. FACEPLATE	MAXIMUM SPEED
12 ins.	710 R.P.M.
16 ins.	500 R.P.M.

The above maximum speeds are recommended only in cases where the work being held is comparatively light (up to half the weight of the chuck) and well balanced.

Speeds must be considerably reduced under the following conditions:-

1. Work out of balance.
2. Heavy work (exceeding half the weight of the chuck).
3. Work having large projection from the face of chuck or faceplate.

SPEED AND FEED COMBINATION

To avoid running the feed gears and feed shaft at excessive speeds, the feeds at the higher spindle speeds must be limited as follows:-

Up to 1000 R.P.M. Max. feed is .0256 in. (.650 mm) per rev.
At 1120 R.P.M. " " " .0216 in. (.549 mm) " "
" 1400 R.P.M. " " " .016 in. (.406 mm) " "
" 1600 R.P.M. " " " .0142 in. (.361 mm) " "
" 2240 R.P.M. " " " .0111 in. (.282 mm) " "