Checklist Viewer

Name
New Mini Lathe
Description
Basic list of things to check on a new mini lathe. This will check the lathe can be run for basic non-precision work and will not do any bad things like strip gears or belts or mar any machined surfaces

Status
[Under Construction]

Comments

Category
Miscellaneous

Date Created
Jan 8, 2022, 5:12:11 PM

Date Completed

Resources
None

Team
Process & Quality

Assignees
David Somerville

Date Targeted
Jan 15, 2022, 12:00:00 AM Overdue!

Date Last Updated
Jan 8, 2022, 7:37:19 PM

Score
0%

Checklist Items

Show Details

1. Visual check

Description Check all parts are present and are not cracked or broken, or loose Carriages, tailstock, gear cover, motor cover, tool holder, leadscrew, power cord, buttons and speed control, chuck, chuckguard, ways , feet, Check accessories are in the box. Check all the screws are in place.

Sequence Number 10

Unknown

2. Grounding safety check

Description Check that the lathe is grounded use a multimeter to check the conductance between the ground pin on the power cord and the lathe bed

Sequence Number 15

Unknown

3. Motor checks

Description Check the motor mounts seem firm that the motor doesn't wobble check that the belt to the main gear is not loose seems the right tension

Sequence Number 20

Unknown

4. Tailstock checks

Description Remove the tailstock, deburr and clean the tailstock using WD-40 or mineral spirits. Check the tail stock can be wound smoothly in an out . oil and grease where appropriate . check no obviously misaligned parts. Put the tailstock to the side until you reassemble. Adjust tailstock clamp and alignment with the chuck

Sequence Number 30

Unknown

5. Top slide Checks

Description Move the top slide back an forth, check for wobble or stiffness (Gibs adjust needed?) or any grittyness (Clean needed). Check extent of backlash (washer needed?) Remove the topside . Clean with wd40 or mineral spirits. Remove gibs , check for alignment with gib screws and check gibs for flatness and straightness . Check threads on any screws. Check for and remove any burrs. Put aside.

Sequence Number 40

Unknown

6. Cross slide checks

Description Move the cross slide back an forth, check for wobble or stiffness (Gibs adjust needed?) or any grittyness (Clean needed). Check extent of backlash (washer needed?) Remove the cross slide . Clean with wd40 or mineral spirits. Remove gibs , check for alignment with gib screws and check gibs for flatness and straightness . Check threads on any screws. Check for and remove any burrs. Put aside.

Sequence Number 50

Unknown

7. Chuck check

Description Remove the main chuck, put some wood underneath to protect the ways incase I drop it. Take chuck apart and clean out all the old grease and oil, remove any gritty stuff. Deburr the spiral . Grease and oil as you reassemble. Check the jaws are smooth when using the chuck key.

Sequence Number 55

Unknown

8. Saddle Checks

Description Move the top saddle back an forth, check for wobble or stiffness (Gibs adjust needed?) or any grittiness (Clean needed). Check extent of backlash (washer needed?) Remove the saddle. Clean with wd40 or mineral spirits. Remove gears/gibs, check for alignment with gib screws and check gibs for flatness and straightness . Check gear bears, check they are fully pressed in. Check threads on any screws. Check for and remove any burrs. Put aside.

Sequence Number 60

Unknown

9. Lead screw checks

Description Remove and clean lead screw. Check for straightness. Adjust the lead screw horizontal level to make sure it does not touch the half nut along the length of the lead screw - also recheck at each quarter turn of the lead screw incase it is bent. Some adjustment can be made at the lead screw bracket on the tail of the lathe.

Sequence Number 70

Unknown

10. Thread gearing

Description Check the forward reverse and neutral lever for the thread gears engages and works. Check the gears all look well seated . no obvious missing teeth. All gears are right angles to the lathe bed and not eccentric. Remove and clean gears. Clean and deburr the inside edges of all the gears (Metal). Check the gears mount smoothly on all the gear shafts. Check for any gear wobble. Check the sizing of all the keys and their fit in the key slots - may need deburring and some filing to make sure they fit and sit level. Put some grease on the gears when replacing them in the machine. Check the banjo mount to make sure it is correctly adjusted and not engaging gears too much or too little. Count gear teath and write on the outside of the gear.

Sequence Number 90

Unknown

11. Spindle and Faceplate Check

Description Use machinists dial indicator to check for play in the spindle - runout (turn manually). Check for play on low speed?

Sequence Number 100

Unknown

12. Run motor checks

Description Run the motor. Check everything runs freely, no surging, tach shows correct speed range. Run for 10 minutes on low speed and there are no electrical smells or change in sounds .

Sequence Number 110

Unknown

13. Electrical & Bed Checks

Description Remove headstock and motor. Remove electrical box. Check the main board for dry joints, missing solder. Only the bed should remain. Clean and deburr. Check for paint in wrong places or poor finish. Check ways are same thickness from left to right of the bed, Check there ate no gouges . Check headstock sits straight on bed and doesn't need shims.

Sequence Number 120

Unknown

14. Optional. Add apron shield

Description Create a shield between the apron and the lead screw to stop chaff getting into the gears.

Sequence Number 130

Unknown

15. Optional. Add carriage shield

Description Add a barrier in front of the saddle to reduce chaff falling between the ways and carriage slides .

Sequence Number 135

Unknown

16. Optional. Add carriage lock

Description Add a basic carriage lock

Sequence Number 140

Unknown

17. Optional. Repaint base

Description If the paint is really bad, clean off factory paint job, sand, and repaint.

Sequence Number 150

Unknown

18. Optional: Rolling workbench

Description Get a rolling workbench to mount the lathe on. It would also be a good place to store accessories.

Sequence Number 153

Unknown

19. Optional: Wider feet

Description Add some wider feet and make the lathe more stable by using some rectangular steel tube to move the feet further apart. Other choose is to bolt the lathe down to the workbench

Sequence Number 155

Unknown

20. Reassemble

Description Pray it still works and there are no extra parts. Oil and grease all parts, Oil all the ways and the "ball oilers". Replace any small bolts if threads or heads are damaged. Replace hex head bolts on the cross/top slide handles with a button head bolt. Locktight the top/cross slide handle bolts to make sure they won't wind out. Adjust gibs and bed slides.

Sequence Number 160

Unknown

21. Document Lathe

Description Document measurements, run out, parallel measurements of chuck, faceplate, tailstock, carriages. Speed ranges. Voltages and current usage.

Sequence Number 170

Unknown

22. Optional: New Handles

Description Turn some new handles for the cross/top slides

Sequence Number 180

Unknown