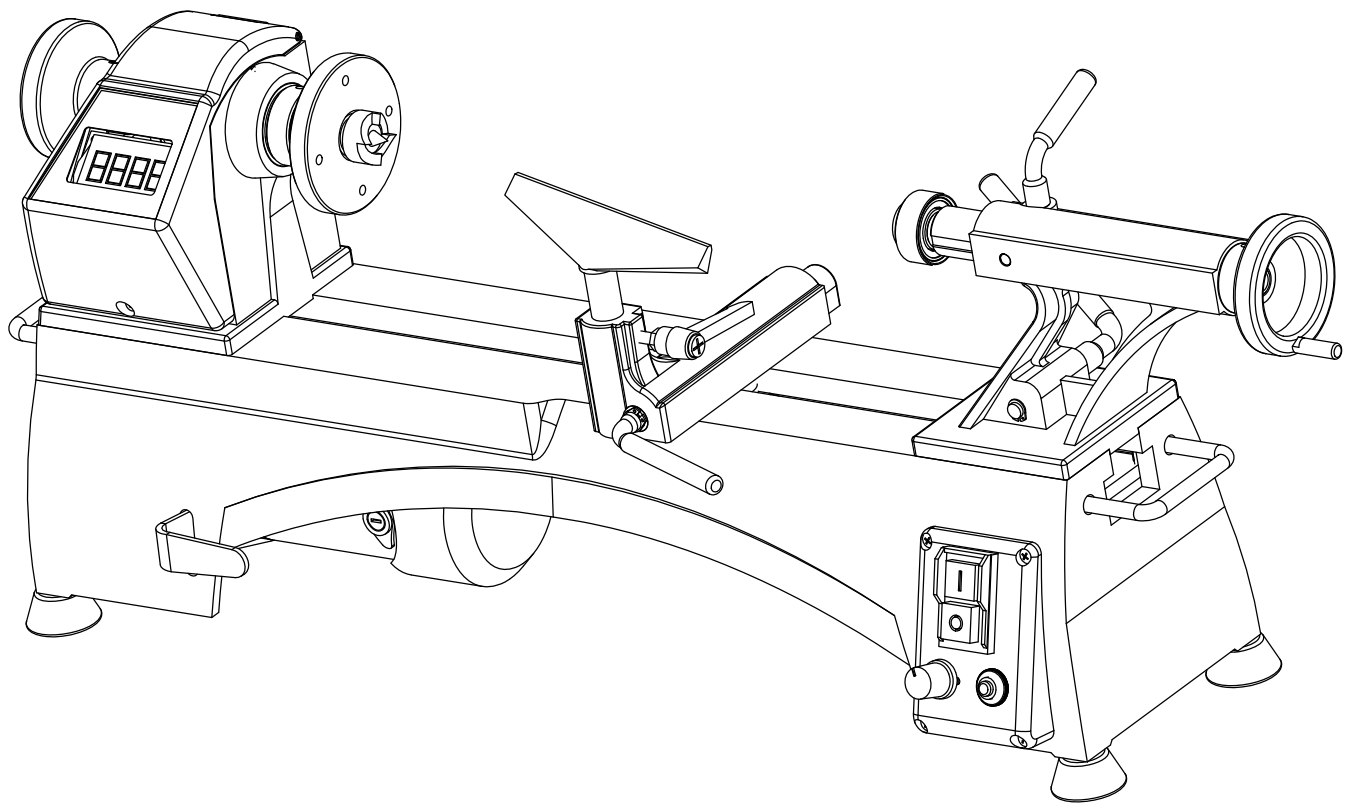


Turncrafter™ Commander™, 8" x 14" Lathe

User Manual For Model TCL8VS, 8" swing variable speed lathe

Read this manual completely before using.



GENERAL & SPECIFIC SAFETY RULES

1. **KEEP GUARDS IN PLACE** and in working order.
2. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
3. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
4. **KEEP CHILDREN AWAY.** All visitors should be kept safe distance from work area.
5. **MAKE WORKSHOP KID PROOF** removing starter keys.
6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
7. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
8. **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.
9. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
11. **DON'T OVERREACH.** Keep proper footing and balance at all times.
12. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
13. **DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits, cutters, and the like.
14. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
15. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
16. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
17. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function – check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
18. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

Minimum gage for cord*

Ampere Rating		Total length of cord in feet				
		120 V	25 ft	50 ft	100 ft	150 ft
More Than	Not More Than	AWG				
0	6		18	16	16	14

Ampere Rating		Total length of cord in feet				
		120 V	25 ft	50 ft	100 ft	150 ft
More Than	Not More Than	AWG				
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

SPECIFIC SAFETY RULES FOR WOOD LATHES

WARNING - No adjustment should be made until the tool has been stopped.

WARNING - Risk of injury due to accidental starting. Do not use in an area where children may be present.

WARNING For Your Own Safety Read Instruction Manual Before Operating Lathe.

- a) Wear eye protection.
- b) Do not wear gloves, necktie, or loose clothing.
- c) Tighten all locks before operating.
- d) Rotate workpiece by hand before applying power.
- e) Rough out workpiece before installing on faceplate.
- f) Do not mount split workpiece or one containing knot.
- g) Use lowest speed when starting new workpiece.

WARNING: DO NOT EXPOSE TO RAIN OR USE IN DAMP LOCATIONS.

ADDITIONAL SAFETY RULES FOR WOOD LATHES

1. Do not allow the turning tools to bite into the wood. The wood could split or be thrown from the lathe.
2. Always position the tool rest above the centreline of the lathe when shaping a piece of stock.
3. Do not operate the lathe if it is rotating in the wrong direction. The workpiece must always be rotating toward you.
4. Before attaching a workpiece to the faceplate, always rough it out to make it as round as possible, this minimizes the vibrations while the piece is being turned. Always fasten the workpiece securely to the faceplate, failure to do this could result in the workpiece being thrown away from the lathe.
5. Position your hands so that they will not slip onto the workpiece.

SPECIFICATIONS OF TURNCRAFTER COMMANDER 8" MIDI LATHE

Turncrafter Commander Specifications

Turncrafter Commander Specification	8" Swing Variable Speed Commander
Item No.	#TCL8VS
Motor Speeds	Variable Speed 110v
Motor Power	1/3 HP-2.2A
Belt Positions	2
Speeds	300-3000 RPM
Headstock/Tailstock	1" x 8tpi/#2 MT
Between Centers	Max 14"
Construction	Cast Iron
Swing over bed	8"
Weight	55lbs.
Footprint	26-3/8" x 6-11/16"
Tailstock Travel	3-1/2"

* Motor may run faster or slower

WARRANTY

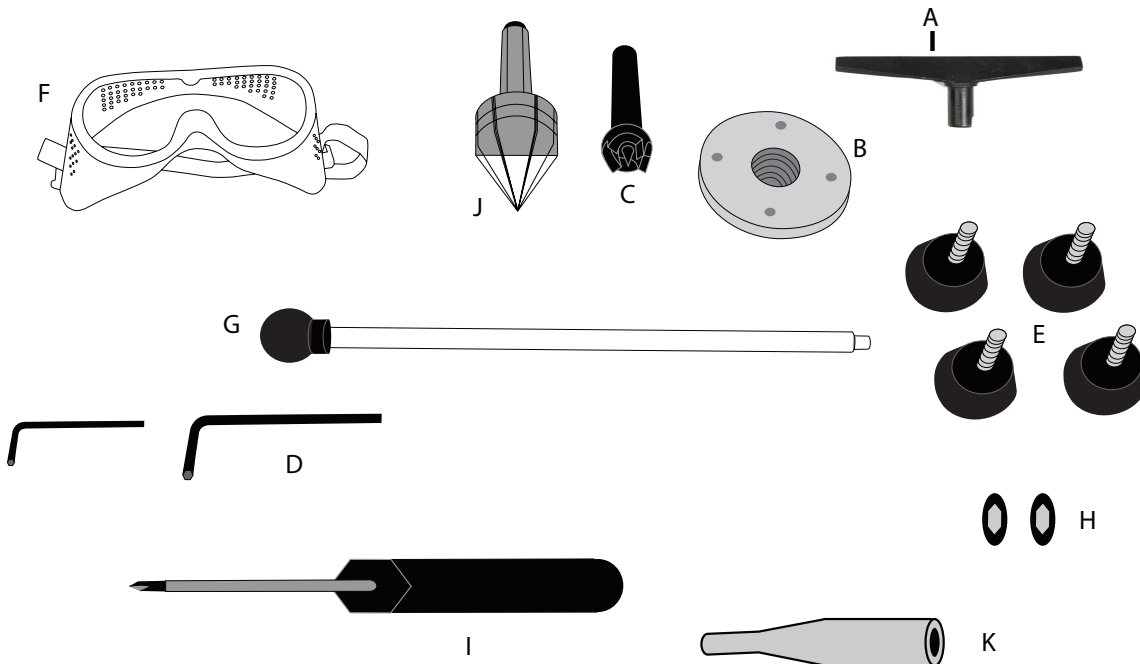
Turncrafter Commander Lathes are warranted against defects in materials and workmanship for a period of three (3) years from the date of purchase. This warranty applies to the purchaser of this product, and is limited to repair or replacement of the product or it's parts at PSI Woodworking Products' discretion. Excluded are parts, which have been misused, abused, altered, or consumed by normal operation of the machine. Also excluded are direct or consequential damages to the persons, property, and/or materials. Your invoice serves as proof of purchase and must be referenced prior to return authorization. Contact your dealer where you purchased your lathe for service or repair issues.

RECEIVING

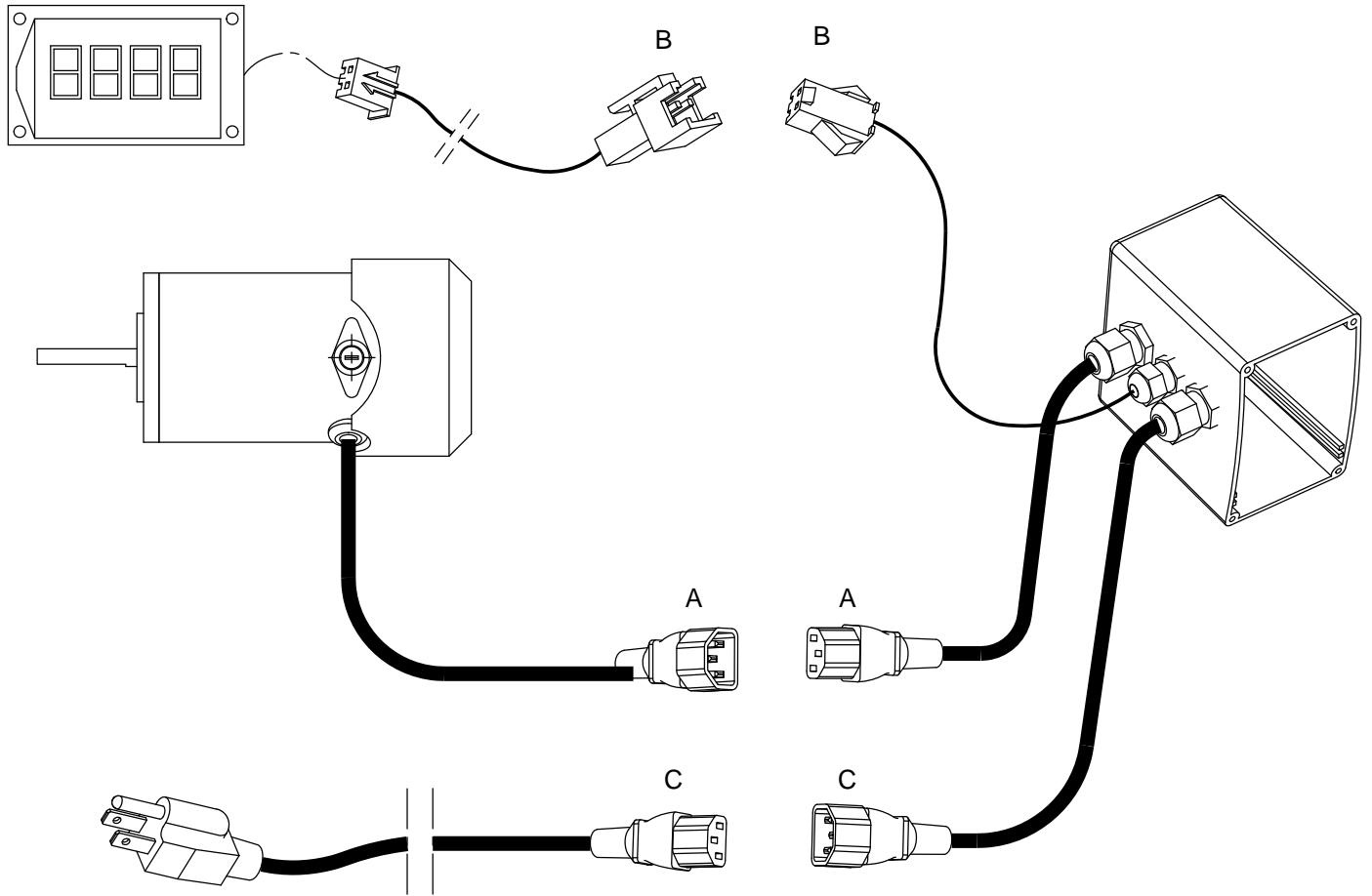
1. Remove all parts and components from shipping carton. Remove all the packing and locate all loose parts.
2. Inspect the contents of the carton for shipping damage. Compare the contents of the loose parts to the list provided. Report any missing or damaged parts to your distributor.
3. Keep the carton and packing material in case you need to pack and move the lathe.
4. Some metal surfaces on the lathe may have been treated with a protective coating prior to shipping. Clean them with a soft rag prior to use. DO NOT use paint thinner, gasoline, or any other heavy solvents to remove the protective coating or you will damage the lathe's painted surface. Clean the lathe using only a damp cloth or a very mild solvent.

Loose parts

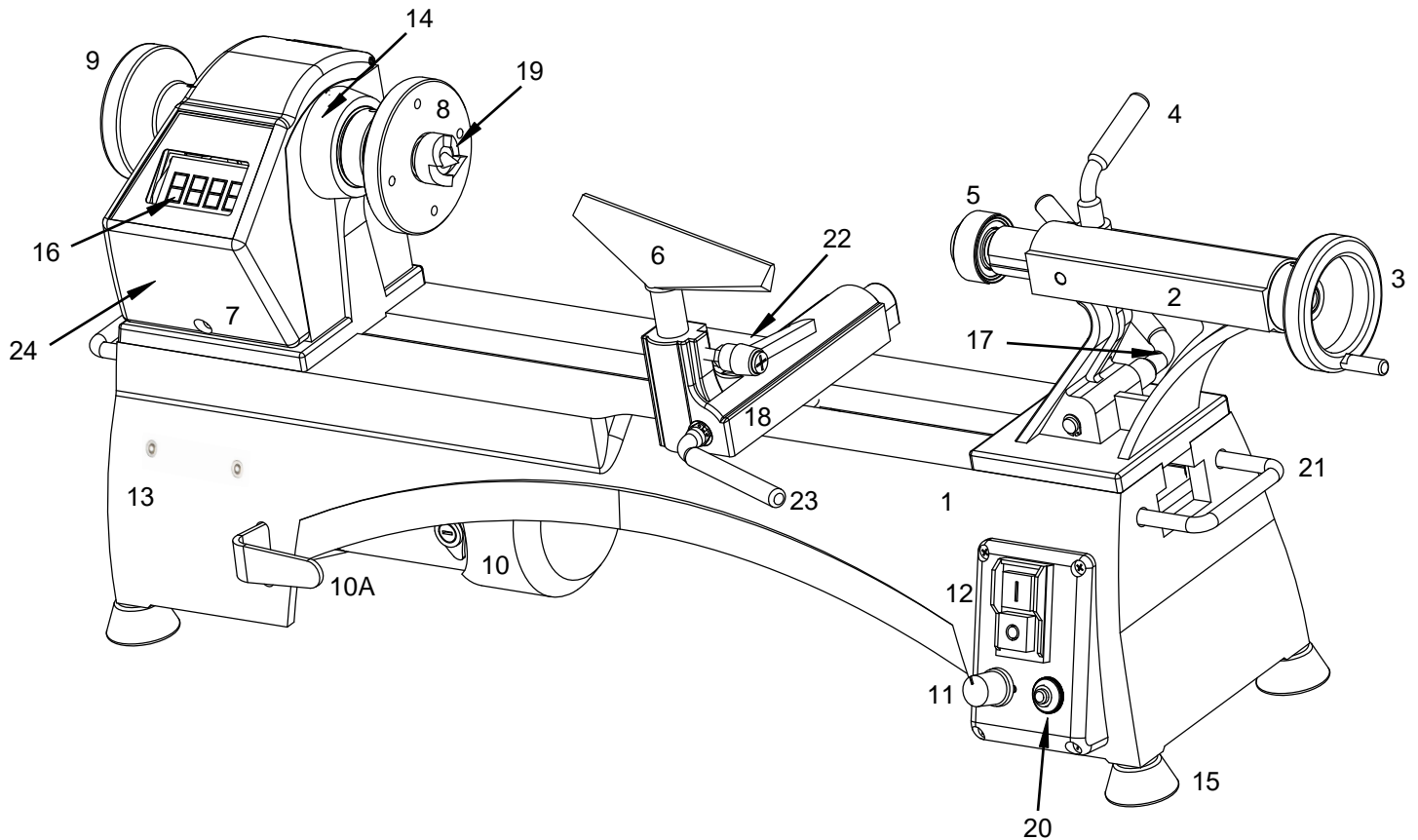
- A. Tool rest (6in)
- B. Faceplate (3in/pre-installed)
- C. Spur Drive Center (#2 MT)
- D. Hex wrench (set of 2)
- E. Rubber feet (4) (if not installed)
- F. Safety Goggles
- G. Knock-out rod
- H. Magnet(set of 2)
- I. Phillips Screw Driver
- J. Live tailstock center
- K. Tailstock Handle



MOTOR CONNECTION



LATHE COMPONENTS AND ASSEMBLY



- | | |
|------------------------------------|---|
| 1. Lathe Bed | 15. Rubber Feet (4) |
| 2. Tailstock | 16. Variable Speed Indicator Window (VS Models) |
| 3. Hand Wheel (Quill Adjustment) | 17. Tailstock Tightening Lever |
| 4. Quill Tightening Lever | 18. Tool Rest Holder Assembly |
| 5. Live Tailstock Center | 19. Spur Drive Center |
| 6. 6" Tool Rest | 20. Reset Button |
| 7. Headstock | 21. Carry Handles |
| 8. Face plate | 22. Tool Rest Post Tightening Lever |
| 9. Headstock Hand Wheel | 23. Tool Rest Holder Tightening Lever |
| 10. Motor & Adjustment Lever (10A) | 24. Belt Cover |
| 11. Speed Control (VS Models) | |
| 12. Power Switch | |
| 13. Knockout Mounting Magnets | |
| 14. Index Indicator | |

GENERAL ASSEMBLY – INSTRUCTIONS

1. Install loose parts as indicated in the Assembly Diagram on pg. 6.
2. Inspect Tailstock: Verify that all knobs and handles work properly and that the tailstock slides along bed and live center bearings spin freely.
3. Tool rest: (6) - Verify all handles work properly and assembly (23) slides and locks properly along bed.
4. Headstock: (7) - Belt is attached and tight. Door levers and bearings operate properly - spindle turns freely.
5. Control Box: (11) - Check that knob and switch is intact and operate without power.
6. Turn Power: (12) - to off position. Plug in lathe. Test work light switch.
7. Dial speed to lowest speed. Make sure spindle turns freely and free from loose parts or obstructions. Turn on lathe. Test speed knob (11) from slow to fast.

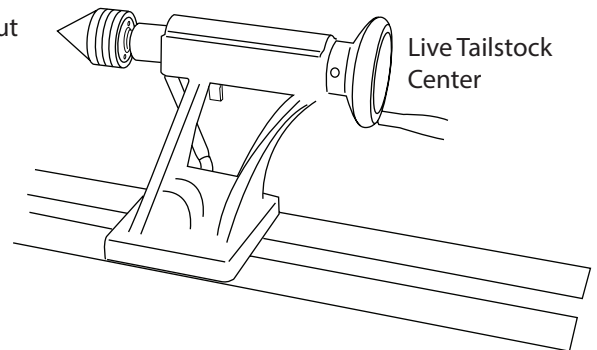
Mounting:

Before assembly, the lathe can be permanently attached to a work surface by inserting screws through the holes in the base. Be sure to position the tool so that there is an open space directly beneath the motor to prevent shavings from building up and fouling the motor fan housing. For general tabletop work (portable), install the four rubber feet (15)

Live Tailstock Center - Install and remove:

Turn the tailstock hand wheel (3) clockwise to extend the tailstock spindle. Turn it counter clockwise to retract the tailstock spindle. The tailstock quill lock (4) locks the quill at its current extension. Be sure to release the lock before attempting to adjust the quill's extension. The tailstock lock (17) locks the tailstock in its current position on the bed in relation to the headstock. Release to move the tailstock assembly closer or further from the headstock.

To adjust clamping to the bed, slide the tailstock off the bed and rotate the nut located on the bottom of the tailstock.



USING YOUR LATHE

Powering the Lathe:

The power switch (12) controls the flow of power to the motor. Toggling the switch to the ON position will start the motor. The lathe will begin turning and reach its full speed within a few seconds. The time the motor takes to reach its full speed will depend on the size of the work piece and the speed setting. Toggle the switch to the OFF position to stop the lathe. Wait for the tool to come to a complete stop before attempting any further operation.

Variable Speeds

The speed control knob (11) determines the rate at which the lathe will turn. Turn the knob clockwise to increase speed control and counter clockwise to decrease speed. Always set this to the lowest setting prior to turning on the lathe. The lathe speed is indicated digitally through the window. (16)

Changing Belt Speeds - Make sure the lathe is unplugged. Loosen the knob on the cover plate. Slide the cover up and off the lathe. Loosen the motor plate ratchet handle (10a) to allow the motor plate to swivel upwards. To change the speed, move the belt drive from one pulley to another. (Note, Always go from the headstock pulley to the motor pulley) After moving the belt, tighten the motor pulley with the ratchet handle (10a); this also tightens the belt. Turn your lathe's power on, and make sure that the belt is running consistently in its parallel groove. If all is smooth, turn the power off, reattach the cover.

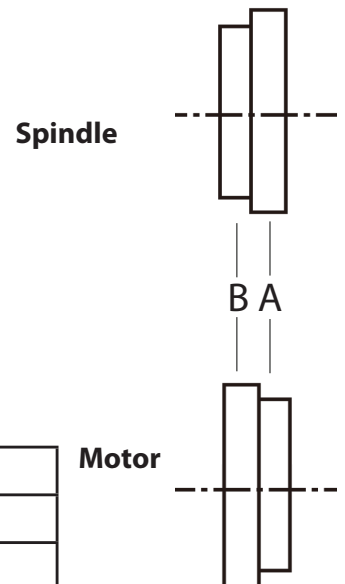
Replacing the Belt

The Turncrafter Commanders are designed with a special feature that allows quick and easy belt changes.

- Remove belt cover
- Loosen motor plate handle (10a)
- Loosen belt and remove old belt
- Slide the new belt over the headstock spindle pulley and onto the motor pulley.
- Tighten belt with motor plate handle (10a)

Pulley Positions and Speeds:

Remove the belt cover (24). Loosen motor racket handle (10). Move belt to speed position as indicated in illustration below.



Speeds RPM*

	TCL8VS	
Position	A	B
Minimum	300	470
Maxium	1800	3000

USE OF INDIVIDUAL COMPONENTS

Powering the Lathe:

The power switch (12) controls the flow of power to the motor. Toggling the switch to the ON position will start the motor. The lathe will begin turning and reach its full speed within a few seconds. The time the motor takes to reach its full speed will depend on the size of the work piece and the speed setting. Toggle the switch to the OFF position to stop the lathe. Wait for the tool to come to a complete stop before attempting any further operation.

The speed control knob (11) determines the rate at which the lathe will turn. Turn the knob clockwise to increase speed control and counter clockwise to decrease speed. Always set this to the lowest setting prior to turning on the lathe. The lathe speed is indicated digitally through the window. (16)

Spur Center (19) - The spur drive center locks into the headstock with a #2 Morse Taper and holds the work piece in place while the spindle is in operation. The knockout rod (g) slides into the headstock from the rear to tap the spur center free. The knockout rod can be mounted with the magnets (13) in the front of the lathe. When performing this operation, be sure to hold the spur center to prevent it from falling and damaging the tip.

Warning - Be sure to clean both the taper on the spur center and the inside of the headstock spindle prior to mounting the spur center. Failure to do so may cause the two components to separate causing possible injury or damage to the tool.

Power Reset (20)- If the motor overheats do to a catch or heavy use the power will turn off automatically , first turn the power switch off and wait about 5 minutes, Press the reset button (20)and power on.

Faceplate (8) - Note: The faceplate is pre-installed with your lathe. Remove it prior to using the lathe. The faceplate screws directly on to the headstock spindle. Use brass wood screws (not included) to secure your work piece to the face plate. Use screws that are not overly long to ensure that they do not enter the portions of the work piece where you plan to remove the material. To remove the faceplate from the spindle, lock the spindle with the index screw and unscrew the faceplate.

Tool Rest (6) - The tool rest is used to steady the cutting tool while the lathe is in operation. You can position the tool rest by releasing the lock handle (28) positioned on the side of the rest and sliding the rest into the desired position. Tighten the lock handle to secure the tool rest into position. The height of the tool rest can be adjusted releasing the lock handle (27) located on the front of the rest and adjusting the height to the desired position and then tightening the lock handle.

The position of the entire tool rest can be adjusted by reaching under the bed and loosening the clamp nut. Slide the rest into position. Tighten the clamp nut. The tool rest should be positioned just above the center line of the work piece.

Note: Lock levers are spring-loaded. To operate, pull out on the lever, rotate it on the pin, then release.

Changing Belt Speeds - Make sure the lathe is unplugged. Loosen the knob on the cover plate. Slide the cover up and off the lathe. Loosen the motor plate ratchet handle (10a) to allow the motor plate to swivel upwards. To change the speed, move the belt drive from one pulley to another. (Note, Always go from the larger pulley to the smaller pulley) After moving the belt, tighten the motor pulley with the ratchet handle (10a); this also tightens the belt. Turn your lathe's power on, and make sure that the belt is running consistently in its parallel groove (this should be done with the hand wheel (9). If all is smooth, turn the power off, reattach the cover.

RECOMMENDED TURNING SPEEDS

WARNING! Turning too fast for the size of your work may result in injuring yourself or damaging the lathe!

Chart for **TCL8VS**

Maximum Speeds for Balanced Turnings

Work piece Diameter	Max RPM Roughing	Max RPM Finishing
1"	MAX	MAX
2"	3000	3500
3"	2000	2600
4"	1500	2000
5"	1200	1600
6"	1000	1330
7"	850	1100

MAX = Maximum Lathe Speed 3000 RPM

TYPICAL LATHE OPERATIONS

Spindle Turning

- Work mounted between headstock spur center and live tailstock center
- Requirements: no additional accessories
- Optional headstock mounting with lathe chuck

Bowl Turning

- Mount work to faceplate with screws
- Requirements: no additional accessories
- Lathe chuck optional

Pen Making

- Work mounts on pen mandrel - secured between centers
- Requirements: pen mandrel

Drilling

- Work mounted on headstock
- #2MT drill chuck mounted in tailstock
- Requirements: lathe chuck, #2MT drill chuck

Sanding

Use the fastest speed possible without burning the wood. Use graduated grits from 150 grit for best results.

Finishing

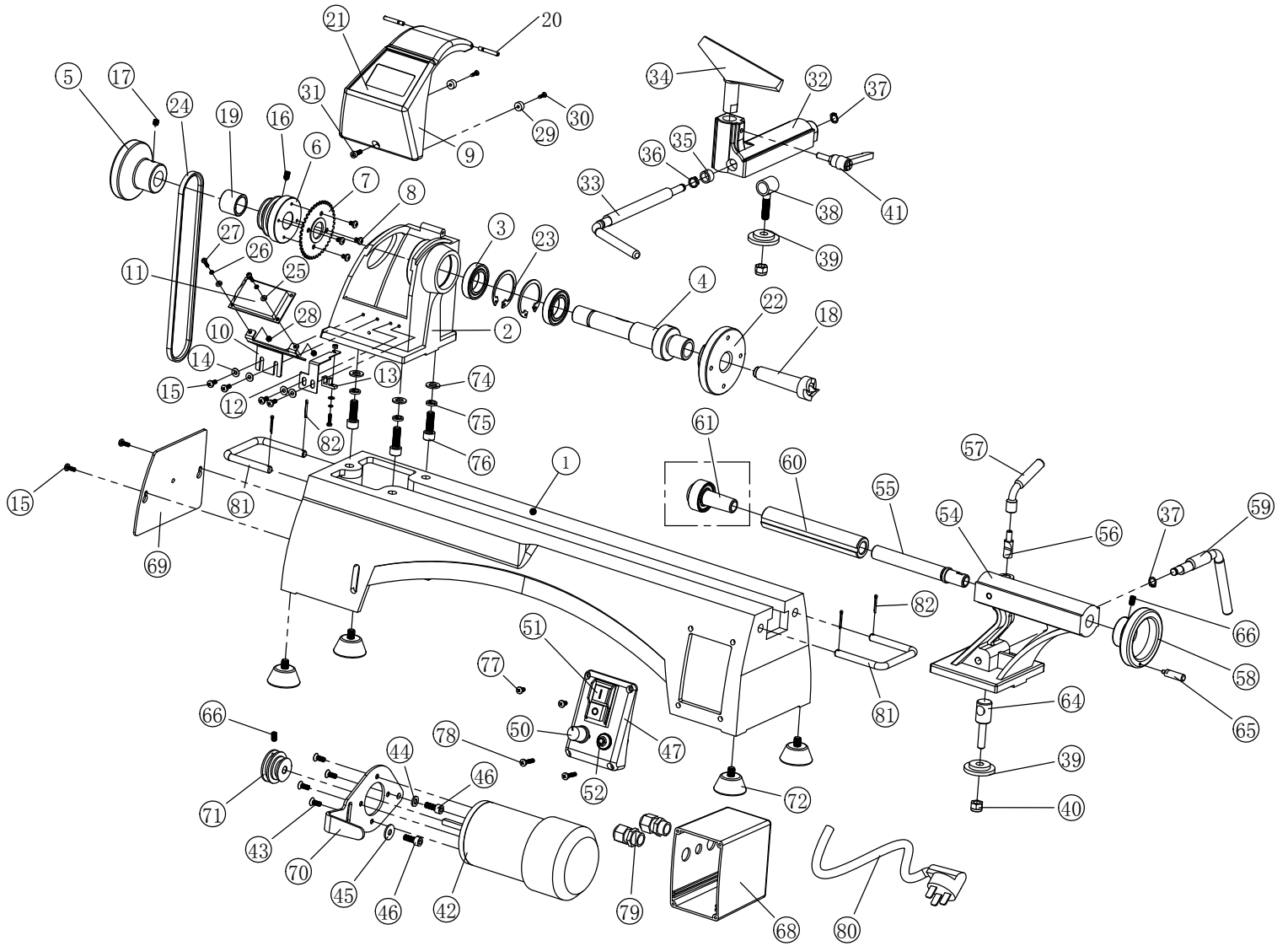
Generally finishing can be done at faster speeds than turning. Finish using finishing polishes, waxes and buffing compounds on or off the lathe.

ACCESSORIES AVAILABLE FROM PSI WOODWORKING PRODUCTS FOR YOUR COMMANDER LATHE

Item	Description	Typical Products
Duplicating Attachment	Enables duplicating small projects to 9" long. Makes fast and easy copies.	#CML-DUP8 for 8" Style
Chucks	To mount up a variety of work on to your headstock. Styles include drill chucks, mini chucks, screw chucks, collet chucks and chuck styles for larger work.	#CSC3500SE Versatile self centering multi component system. Plus many other styles available.
Pen Mandrels	Essential for making pens and other small projects on your lathe. Mounts pen blanks for turning and finishing.	#PKM-FLC - Fits into the #MT2 opening in the headstock
Lathe Tools	Skew Chisels - for final finishing and smooth cuts and beading	#LX010 1/2" plus others
	Parting Tools - to trim off waste establish a diameter or cut flat areas	#LX410 1/2" plus others
	Roughing Gouges- For aggressively taking square spindles to a round	#LX260 1" plus others
	Spindle Gouges - For general purpose turning a spindle from rough round to a near finish. A favorite for pens.	#LX320 3/8" plus others
	Scrapers - For smoothing and for interior clean up inside a bowl after gouge work is completed.	#LX120 1" plus others
	Bowl Gouges - Used for hollowing out bowl centers. Used on most faceplate work.	#LX210 3/8" plus others
	Lathe Tool sets - Include a variety of sizes and styles of the above.	#LCHSS8 - 8 pc variety Other specialty sets available
	Specialty Tools for: Making beads and coves, interior and exterior bowl finishing, bowl hollowing, making tenons and dovetails and more.	#LCHOLSET - Bowl hollowing set with replaceable cutters and others
Faceplates	For Mounting bowls. Many sizes are available depending on the size of the bowl being turned.	#CF6 - 6" faceplate many other sizes available
Drive Centers	Many styles available for special applications	#LCENTSS21 - Super drive multi prong style plus others
Toolrests	Many special profiles available for bowl turning, longer work, shorter work.	#CLTSJ - "S" toolrest for bowl turning plus others
Other Equipment	Specialty items to use with your lathe include: sanding systems, special chuck jaws, measuring and marking products, tailstock centers and more.	

For more information visit your local PSI dealer.

PARTS DIAGRAM



PART LIST

Part No	TCL8VS	Spare part	Qty	Part No	TCL8VS	Spare part	Qty
1	ZTCL8-01	Bed	1	39	ZTCL8-39	Lock nut	2
2	ZTCL8-02	Headstock	1	40	ZTCL8-40	Nut M10	2
3	ZTCL8-03	Ball bearing 61905-2Z	2	41	ZTCL8-41	Locking handle	1
4	ZTCL8-04	Headstock spindle	1	42	ZTCL8-42	Motor	1
5	ZTCL8-05	Hand wheel	1	43	ZTCL8-43	Cross recessed countersunk flat head screws	4
6	ZTCL8-06	Drive pulley	1	44	ZTCL8-44	Washer 6x1.6	1
7	ZTCL8-07	Round plate	1	45	ZTCL8-45	Large washer 6x1.6	1
8	ZTCL8-08	Semi-circle head screw M4x6	4	46	ZTCL8-46	Hex socket screw M6x16	2
9	ZTCL8-09	Digital display fixed box	1	47	ZTCL8-47	Switch box plate	1
10	ZTCL8-10	Digital display fixed plate	1	50	ZTCL8-50	Speed control knob	1
11	ZTCL8-11	Display plate	1	51	ZTCL8-51	Power Switch	1
12	ZTCL8-12	Connecting plate	1	52	ZTCL8-52	Reset Button	1
13	ZTCL8-13	Encipheror	1	54	ZTCL8-54	Tailstock	1
14	ZTCL8-14	Washer 4x0.5	4	55	ZTCL8-55	Tailstock axis	1
15	ZTCL8-15	Semi-circle head screw M4x10	6	56	ZTCL8-56	Locking shaft	1
16	ZTCL8-16	Hex socket screw M6x10	1	57	ZTCL8-57	Locking handle	1
17	ZTCL8-17	Hex socket screw M6x8	1	58	ZTCL8-58	Quill adjusting wheel	1
18	ZTCL8-18	Spur center	1	59	ZTCL8-59	Eccentric axis	1
19	ZTCL8-19	Bushing of Hand wheel	1	60	ZTCL8-60	MT2 Quill	1
20	ZTCL8-20	Shaft of Digital display fixed box	2	61	ZTCL8-61	Live center	1
21	ZTCL8-21	Display plate Sticker	1	64	ZTCL8-64	Cam follower tailstock	1
22	ZTCL8-22	Face plate	1	65	ZTCL8-65	Handle of Quill adjusting wheel	1
23	ZTCL8-23	Retaining ring 42	2	66	ZTCL8-66	Hex socket screw M6x10	2
24	ZTCL8-24	Drive belt	1	68	ZTCL8-68	Power box	1
25	ZTCL8-25	Washer 3x0.5	3	69	ZTCL8-69	Mounting plate	1
26	ZTCL8-26	Spring washer 3x0.8	3	70	ZTCL8-70	Motor plate with notch	1
27	ZTCL8-27	Semi-circle head screw M3x12	3	71	ZTCL8-71	2 Step Motor Pulley	1
28	ZTCL8-28	Nut M3	3	72	ZTCL8-72	Rubber foot	4
29	ZTCL8-29	Magnet	2	74	ZTCL8-74	Washer 8x1.6	3
30	ZTCL8-30	Cross recessed countersunk head tapping screws 2.9x13	2	75	ZTCL8-75	Spring washer 8x2.1	3
31	ZTCL8-31	Hex socket screw M4x12	1	76	ZTCL8-76	Hex socket screw M8x25	3
32	ZTCL8-32	Tool rest base	1	77	ZTCL8-77	Semi-circle head screw M4x8	2
33	ZTCL8-33	Lock handle for tool rest base	1	78	ZTCL8-78	Semi-circle head screw M4x20	2
34	ZTCL8-34	Tool rest 6"	1	79	ZTCL8-79	Wire Nuts	2
35	ZTCL8-35	Bushing	1	80	ZTCL8-80	Plug	1
36	ZTCL8-36	Retaining ring 10x1	1	81	ZTCL8-81	Handle	2
37	ZTCL8-37	Retaining ring 8x0.8	2	82	ZTCL8-82	Clip spring	4
38	ZTCL8-38	Tool rest cam follower	1				



VS-1/5/23

Distributed by: © 2023 PSI Woodworking • Philadelphia, PA 19115
Manufactured by: Penn State Industries