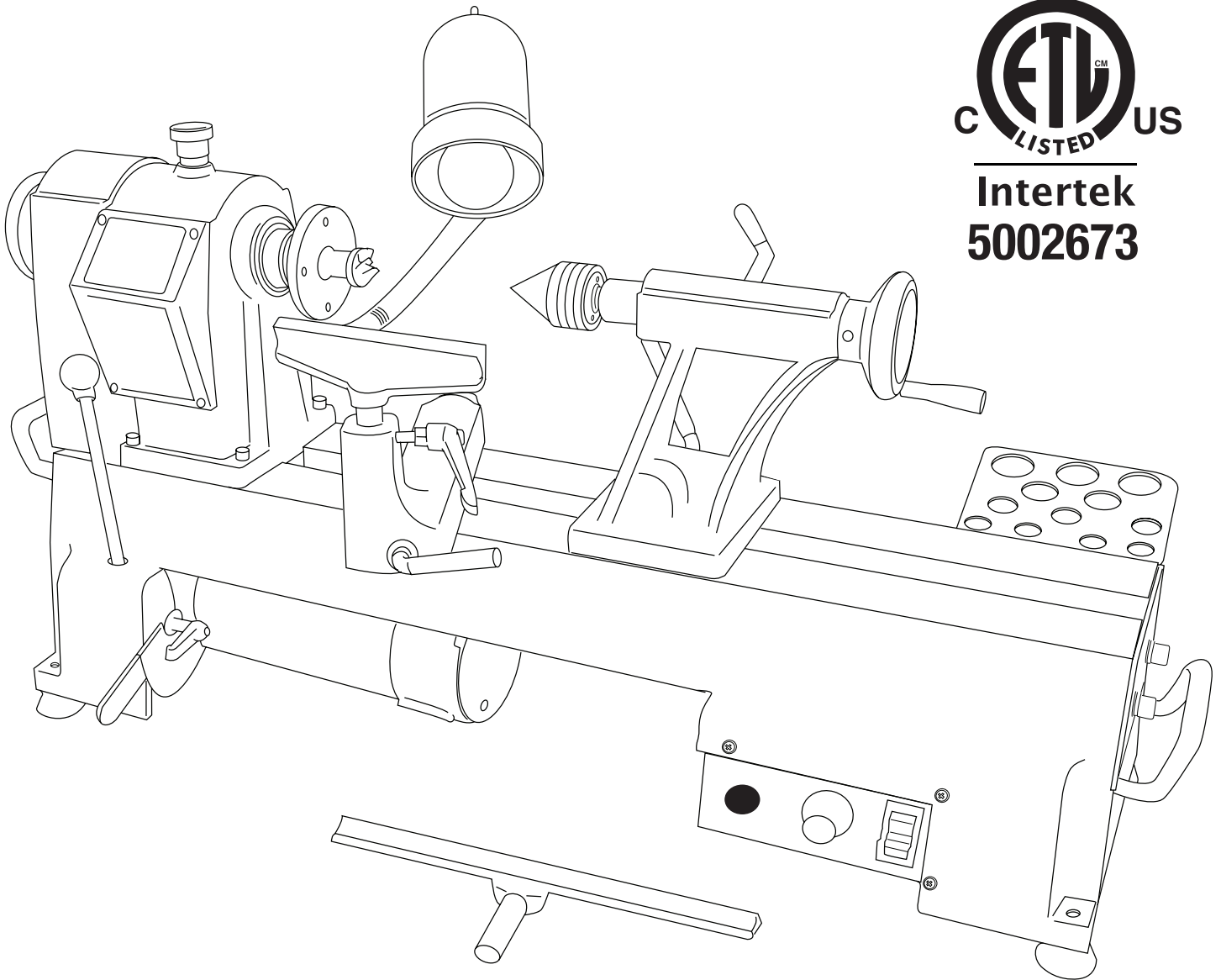


KWL-1218VS

Turncrafter Commander™ Lathe

User's Manual



GENERAL & SPECIFIC SAFETY RULES

- KEEP GUARDS IN PLACE** and in working order.
- KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- 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.
- KEEP CHILDREN AWAY.** All visitors should be kept safe distance from work area.
- MAKE WORKSHOP KID PROOF** removing starter keys.
- DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
- USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
- 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.
- WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
- 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.
- DON'T OVERREACH.** Keep proper footing and balance at all times.
- MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits, cutters, and the like.
- REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
- USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
- NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
- 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.
- 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				
5	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.

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

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

ADDITIONAL SAFETY RULES FOR WOOD LATHES

- Do not allow the turning tools to bite into the wood. The wood could split or be thrown from the lathe.
- Always position the tool rest above the centreline of the lathe when shaping a piece of stock.
- Do not operate the lathe if it is rotating in the wrong direction. The workpiece must always be rotating toward you.
- 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.
- Position your hands so that they will not slip onto the workpiece.

SPECIFICATIONS OF THE TURNCRAFTER COMMANDER MIDI LATHE

Turncrafter Commander Specification	12" Swing Variable Speed Commander
Item No.	#KWL-1218VS
Motor Power	120V-60HZ , 7A
Belt Positions	2
Spindle Speeds (Variable)	500-1800 RPM (Position A) & 1950-3800 RPM (Position B)
Headstock/Tailstock	1" x 8tpi / #2 MT
Between Centers	18"
Construction	Cast Iron
Swing over bed	12"
Weight	106 lbs.
Footprint	31" x 9-1/2"
Tailstock & Spindle Bore	3/8"
Quill Travel	1-5/8"

WARRANTY

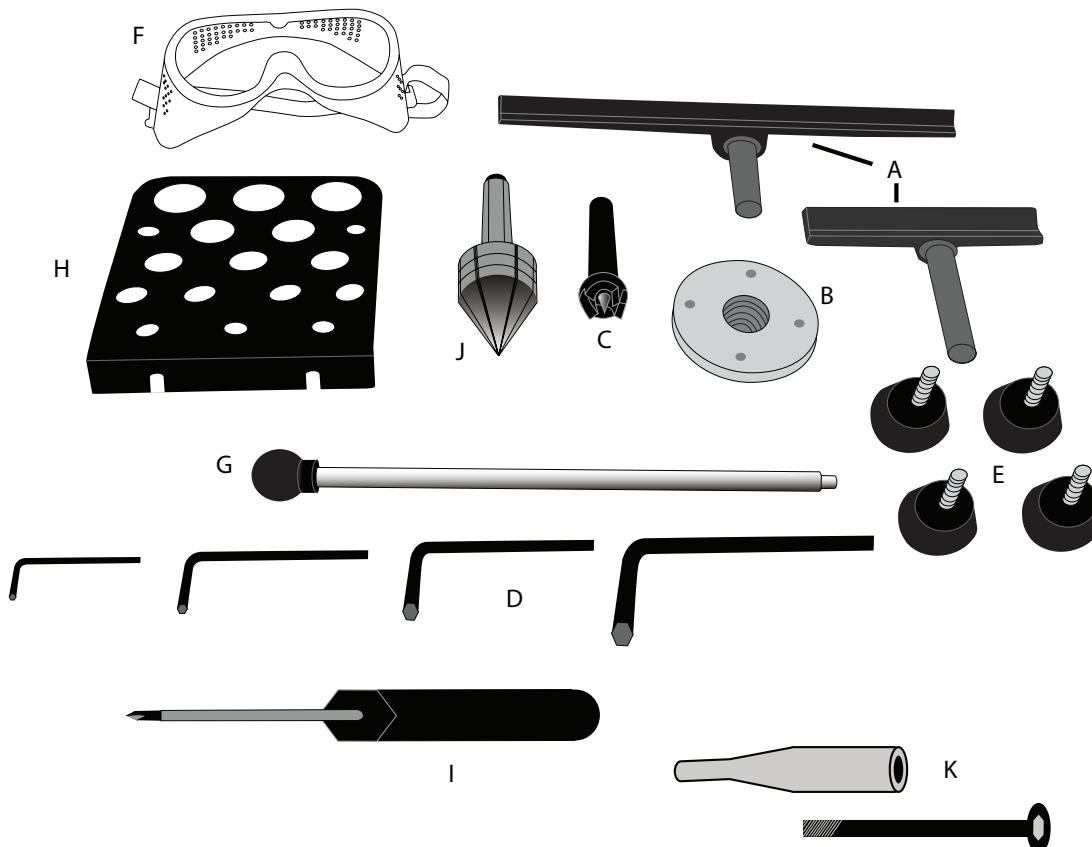
Turncrafter Commander Lathes are warranted against defects in materials and workmanship for a period of three (3) years from the date of purchase. This warranty applies to the purchaser of this product, and is limited to repair or replacement of the product or it's parts at PSI Woodworking Products' 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.

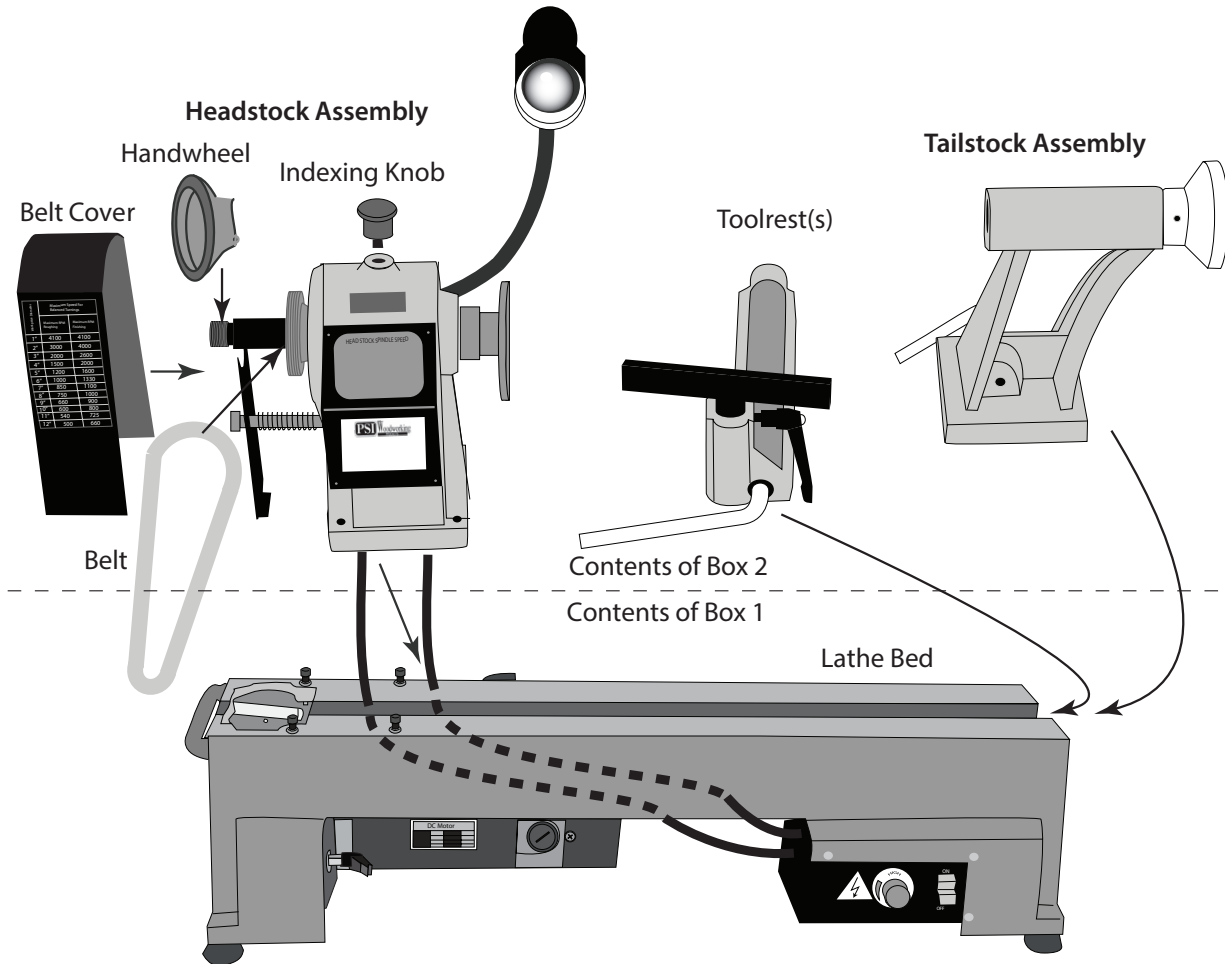
Loose Parts Included with Lathe (Box no.2)

- | | |
|---------------------------------------|--|
| A. Tool rest (6" and 12") | G. Knock out rod |
| B. Faceplate (3" pre-installed) | H. Tool Caddy |
| C. Spur Drive Center (#2 MT) | I. Phillips Screw Driver |
| D. Hex wrench (set of 4) | J. Heavy duty tailstock
live center |
| E. Rubber feet (4) (if not installed) | K. Tailstock Handle and bolt |
| F. Safety Goggles | |



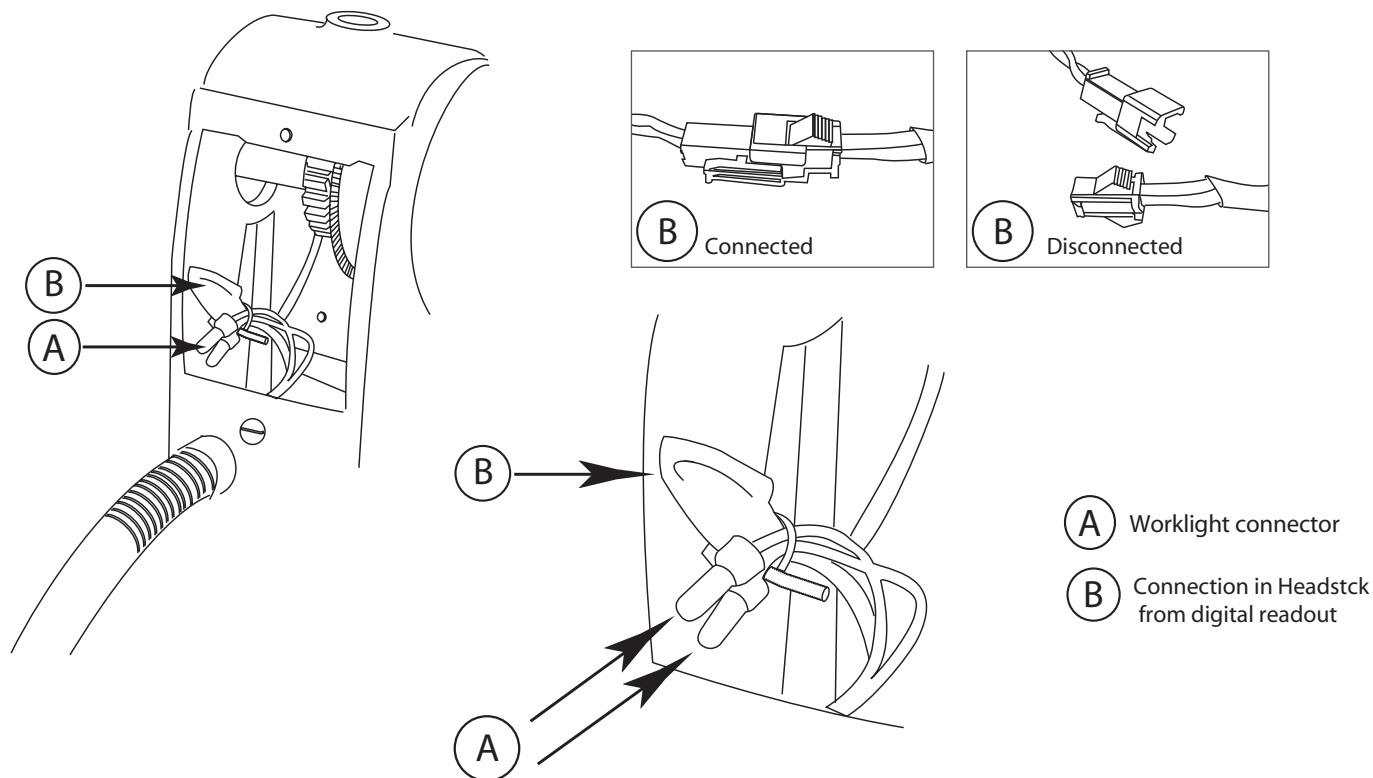
ASSEMBLY OF MAJOR COMPONENTS

The packing of the TCLC12VS is in two boxes. The first box contains the lathe bed with motor assembly and switch box (mounted). The second contains the headstock assembly, toolrest and tailstock assembly.

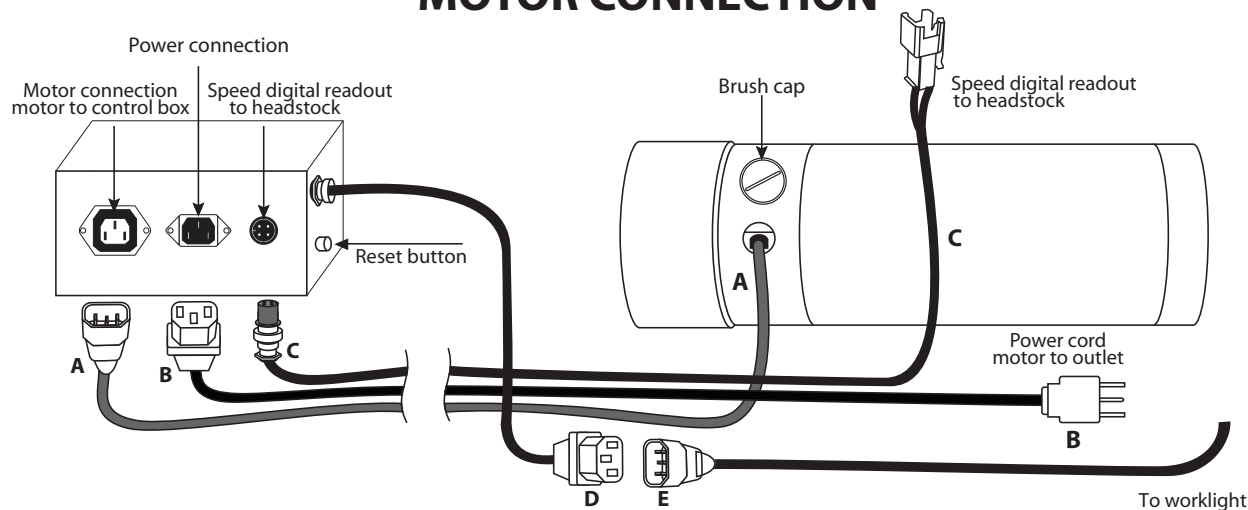


We recommend installing the headstock assembly first. Attach headstock using the four screws and washers (**packed in box#1**). Lead the digital readout cable (**C**) from the switch box, through the lathe bed and attach to circuit board inside the bottom of the headstock. Please note your lathe is delivered with the motor cable (**A**) and power cord (**B**) already plugged into switch box attach the belt to the pulley step you choose to use (see page 9 for speed chart) now, screw on the handwheel to headstock assembly. From the opposite end of the lathe bed, attach the toolrest first, then follow with the tailstock assembly. Make sure all connections are tight and secure. Now you are ready to start your lathe. (**See page 6**)

HEADSTOCK WIRE CONNECTIONS



MOTOR CONNECTION

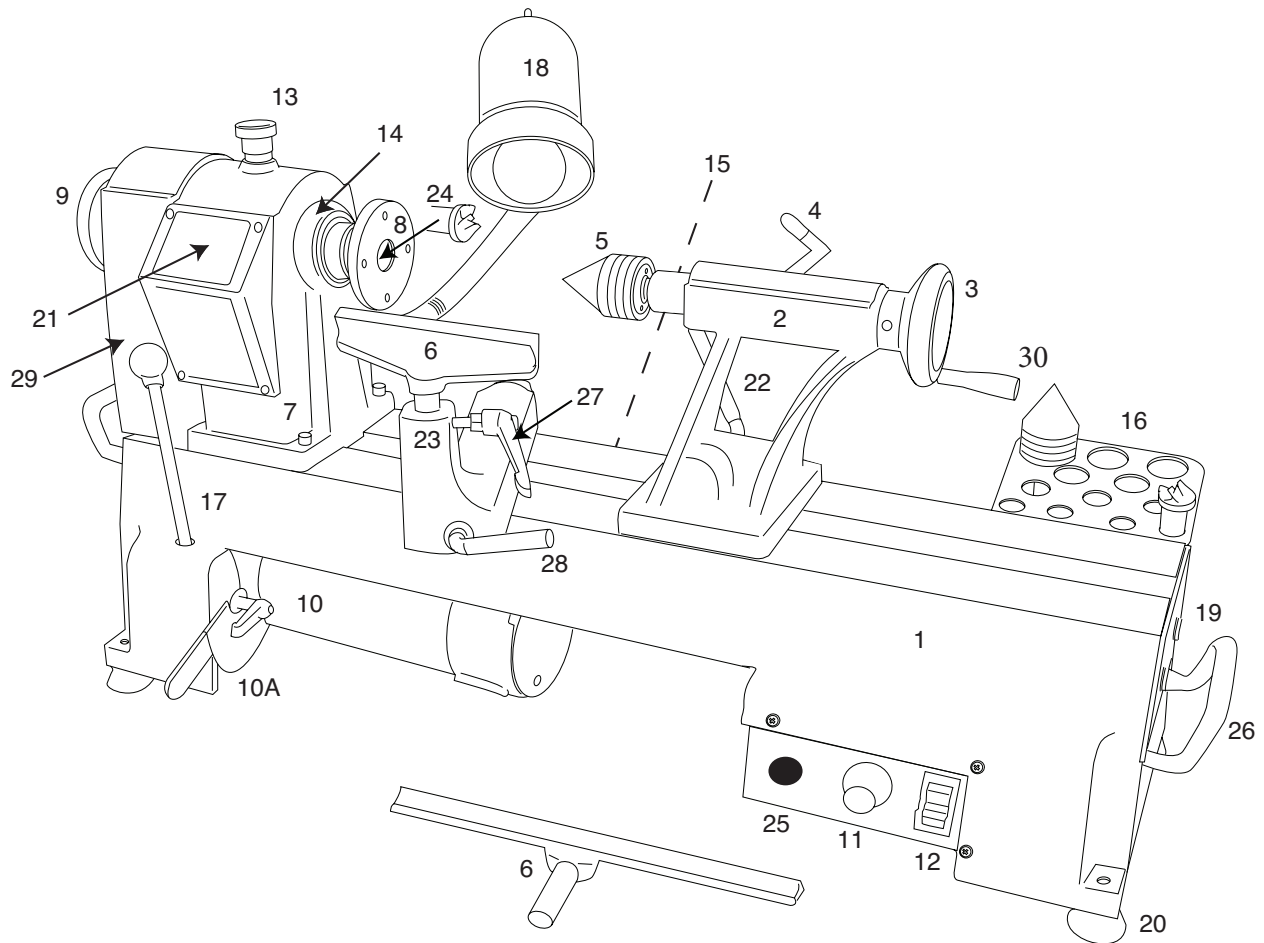


To make connection to the control box

1. Plug the wire from the motor to the box (A) CAUTION: DO NOT PLUG A into B
2. Plug power cord into control box. (B) CAUTION: DO NOT PLUG INTO OUTLET.
3. Plug in cord from switch box to headstock (C)
4. Plug power cord into outlet. (B)
5. Plug worklight wire from switch box (D) to female socket (E) of worklight wire from headstock.



LATHE COMPONENTS



- | | |
|---------------------------------------|---------------------------------------|
| 1. Lathe Bed | 16. Tool Caddy |
| 2. Tailstock | 17. Knockout Rod |
| 3. Hand Wheel (Quill Adjustment) | 18. Work Light (BULB INCLUDED) |
| 4. Quill Tightening Lever | 19. Mounting Holes for extension bed |
| 5. Live Tailstock Center | 20. Rubber Feet (4) |
| 6. 6" Toolrest, 12" Toolrest (6A) | 21. Variable Speed Indicator Window |
| 7. Headstock | 22. Tailstock tightening lever |
| 8. Faceplate (Installed for shipping) | 23. Tool rest holder Assembly |
| 9. Headstock Hand Wheel | 24. Spur Drive Center |
| 10. Motor & Adjustment lever (10A) | 25. Reset Button |
| 11. Speed Control | 26. Carry Handles |
| 12. Power Switch | 27. Tool rest post tightening lever |
| 13. Spindle Lock Knob | 28. Tool rest holder tightening lever |
| 14. Index Indicator | 29. Belt Cover |
| 15. Cord Wrapping Supports | 30. Tailstock handle |

GENERAL ASSEMBLY – INSTRUCTIONS

1. Install loose parts as indicated in the Assembly Diagram on pg.5.
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 are intact and operate without power.
6. Spindle Lock: (13) - Make sure it engages and disengages and it properly locks spindle at indexing indicator. **Unlock knob before turning on lathe.**
7. Turn Power switch (12) - to off position. Plug in lathe. Test work light switch. (with power switch in off position)
8. Dial speed to lowest speed. Make sure spindle turns freely and does not interfere with 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 instead of rubber feet. Be sure to position the lathe so that there is an open space directly beneath the motor and work surface to prevent shavings from building up and fouling the motor or switch box (about the thickness of rubber feet between lathe bed feet and work surface). For general tabletop work, install the four rubber feet (21).

Tool Caddy:

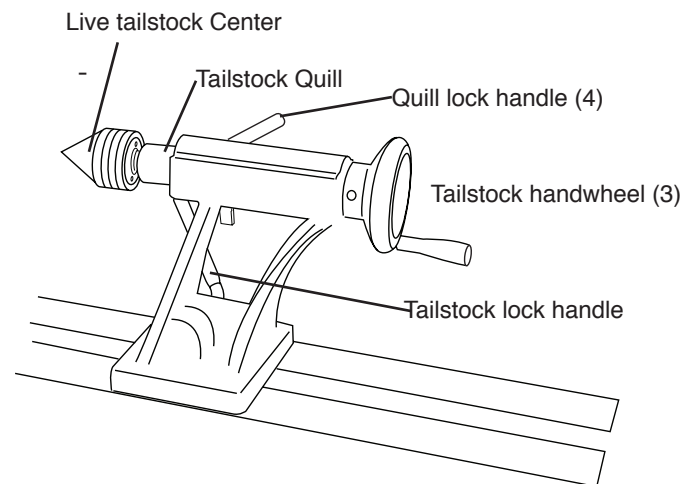
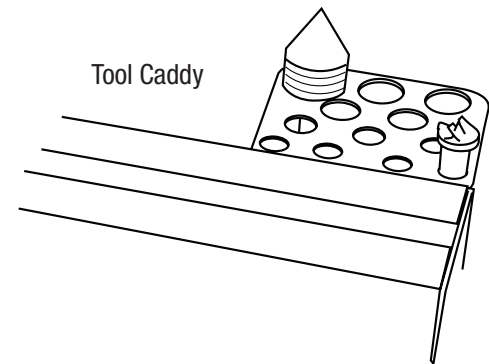
Using the two pan head screws, install the tool caddy on the rear of the lathe bed.

Live Tailstock Center - Install and remove:

Turn the tailstock hand wheel (3) clockwise to extend the tailstock quill. Turn it counter clockwise to retract the tailstock quill. 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 handle 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.

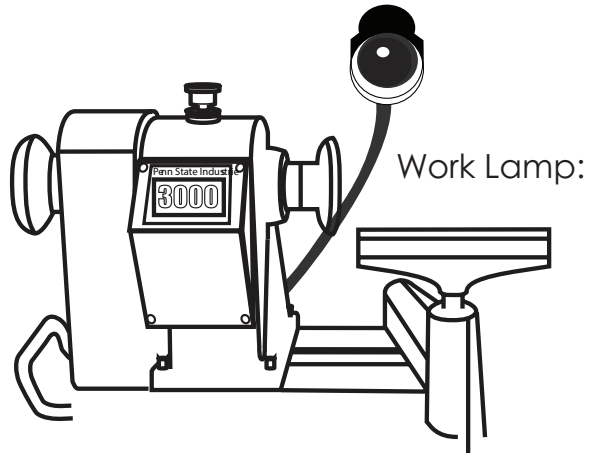
NOTE: The tailstock quill lock handle places a screw in a channel in the quill. Make sure this screw is in the channel.

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



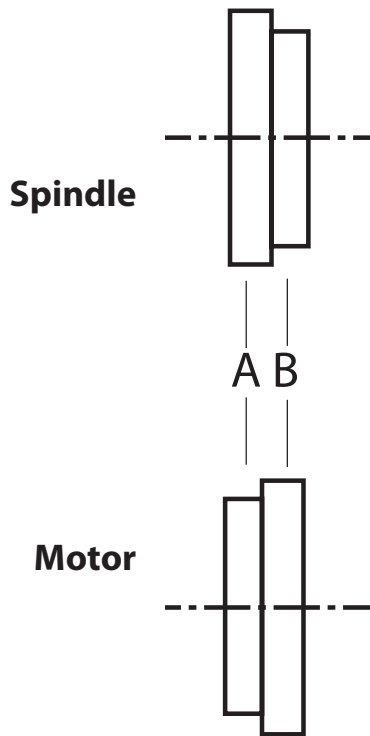
Work Lamp:

Use only a **40 watt** or smaller bulb in the work lamp. Position the lamp to prevent shavings from accumulating in the housing. Bulb not included.



Pulley Positions and Speeds:

Remove the belt cover (29). Loosen motor racket handle (10). Move belt to speed position as indicated in illustration below.



Speeds RPM

Position	A	B
Minimum	500	950
Maxium	1800	3800

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.

Variable Speeds

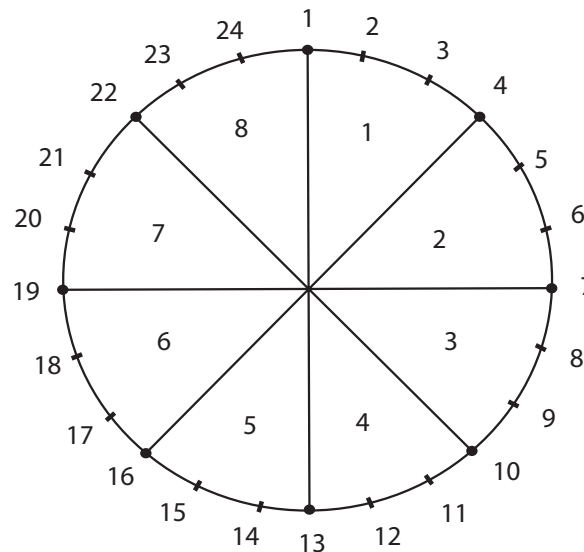
The speed control knob (11) determines the rate at which the lathe will turn. Turn the knob clockwise to increase speed control and counter clockwise to decrease speed. Always set this to the lowest setting prior to turning on the lathe. The lathe speed is indicated digitally through the window. (21)

Indexing Operation:

The indexing knob (13) allows you to make evenly spaced cuts on a work piece while keeping the headstock spindle locked. The spindle index indicator (14) has 24 grooves so the turning's sections can be made in multiples of 24, 12, 8, 6, 4, 3, and 2. For example, to make 8 equal sections, mark your work at 1, 4, 7, 10, 13, 16, 19, and 22.

To use the index pin (13), screw it into the headstock until it engages a hole in the spindle pulley. Make your first indexing operation. Next, unscrew the index pin so that it frees the spindle, and rotate to the next spindle position. Continue until all operations are completed.

Example of Indexing 8 equal sections



Always back the index pin out completely before turning on the lathe.

Spur Center (24) - 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 (17) slides into the headstock from the rear to tap the spur center free. The knockout rod can be stored in the hole (17) 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.

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, hold the headstock hand wheel , 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 tool rest locking handle can be adjusted by reaching under the bed and loosening the clamp nut. Slide the handle 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 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.

USE OF INDIVIDUAL COMPONENTS

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

KWL-1218VS

Maxium Speeds for Balanced Turning

Work piece Diameter	Max RPM Roughing	Max RPM Finishing
1"	MAX	MAX
2"	3000	MAX
3"	2000	2600
4"	1500	2000
5"	1200	1600
6"	1000	1330
7"	850	1100
8"	750	1000
9"	660	900
10"	600	800
11"	540	735
12"	600	660

MAX = Maximum Lathe Speed 3600

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)

TYPICAL LATHE OPERATIONS

NOTE: Remove Faceplate (8) prior to using lathe

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 with live tailstock center
- Requirements: pen mandrel

Drilling

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

Sanding

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

Finishing

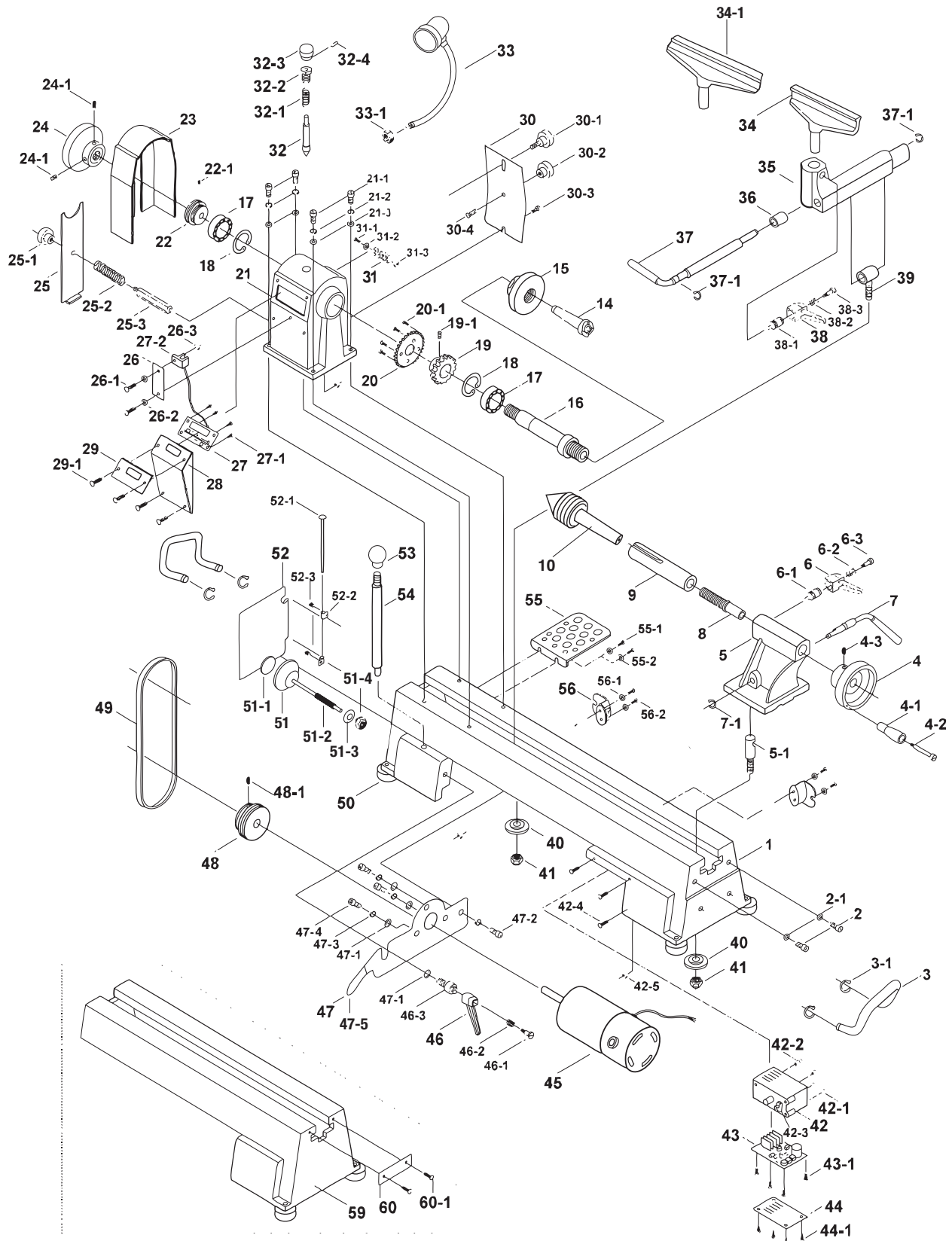
Generally finishing can be done at faster speeds than turning. Finish using finishing polishes, waxes and buffing compounds on or off the lathe.

For more information visit your local PSI dealer.

ACCESSORIES AVAILABLE FROM PSI WOODWORKING PRODUCTS FOR YOUR COMMANDER LATHE

Item	Description	Typical Products
Lathe Extension Bed	Extends the lathe and Spindle you can turn to 42"	#TCLC12XB for 12" Style
Duplicating Attachment	Enables duplicating small projects to 9" long. Makes fast and easy copies.	#CMLDUPMAX for 12" 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.	#CSC3000C 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.	#CF2 - 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, mandrel saver and more.	

KWL-1218VS PARTS DIAGRAM



KWL-1218VS PARTS LIST

Part No.	Description	QTY
1	Bed	1
2	Hex socket screw M10x25	2
2-1	Washer Ø10	2
3	Handle	2
3-1	Retaining ring 10	2
4	Quill adjusting wheel	1
4-1	Bush	1
4-2	Screw	1
5	Tailstock	1
5-1	Cam follower tailstock	1
6	Handle	1
6-1	Lock bolt	1
6-2	Spring	1
6-3	Bolt	1
7	Eccentric axis	1
7-1	Retaining ring 10	1
8	Tailstock axis	1
9	Tailstock quill	1
10	Tailstock	1
11-12	N / A	2
13	N / A	1
14	Headstock spur center	1
15	Face plate	1
16	Headstock spindle	1
17	Ball bearing 80105	2
18	Retaining ring 47	2
19	Gear	1
19-1	Hex socket screw M6x12	1
20	Round plate	1
20-1	Semi-circle head screw M4x8	4
21	Headstock	1
21-1	Hex socket screw M8x30	4
21-2	Spring washer	4
22	Drive pulley	1
22-1	Hex socket taper screw M6x12	1
23	Side protection guard	1
24	Hand wheel	1
24-1	Hex socket screw M6x12	2
25	Side plate	1
25-1	Stationary knob	1
25-2	Spring	1
25-3	Connecting rod	1
26	Connecting plate	1
26-1	Semi-circle head screw M3x12	2
26-2	Washer	2
26-3	Hex nut M3	2
27	Display plate	1
27-1	Tapping screw	4
27-2	Connector	1
28	Front protection guard	1
29	Cover	1
29-1	Semi-circle head screw M4x12	4
30	Rear plate	1
30-1	Moving knob	1
30-2	Stationary knob	1
30-3	Screw	1
30-4	Screw	1
31	Connecting stand	1
31-1	Semi-circle head screw M3x12	1
31-2	Washer Ø3	1
31-3	Hex nut M3	1
32	Stop bolt	1
32-1	Spring	1
32-2	Bush	1

Part No.	Description	QTY
32-3	Cap	1
32-4	Screw	1
33	Work light	1
33-1	Hex nut M12	1
34	Tool rest 6"	1
34-1	Tool rest 12"	1
35	Tool rest base	1
36	Bush	1
37	Lock handle for tool rest base	1
37-1	Retaining ring 10	2
38	Handle	1
38-1	Lock bolt	1
38-2	Spring	1
38-3	Bolt	1
39	Tool rest cam follower	1
40	Lock nut	2
41	Nut M10	2
42	Switch-box	1
42-1	strain relief	2
42-2	strain relief	2
42-3	Switch	1
42-4	Semi-circle head screw M4x20	3
42-5	Hex nut M4	1
42-6	Fuse	1
43	Variable plate	1
43-1	Tapping screw	4
44	Switch-box plate	1
44-1	Tapping screw	4
45	Motor	1
46	Handle	1
46-1	Lock bolt	1
46-2	Spring	1
46-3	Bolt	1
47	Motor plate with notch	1
47-1	Washer Ø6	4
47-2	Hex socket screw M8x16	1
47-3	Spring washer	3
47-4	Hex socket screw M6x16	3
48	Motor pulley	1
48-1	Hex socket screw M6x12	1
49	Drive belt	1
50	Rubber washer	6
51	Knob	1
51-1	Cover	1
51-2	Spring	1
51-3	Washer	1
51-4	Nut	1
52	Mounting plate	1
52-1	Pin hinge	1
52-2	Hinge	2
52-3	Semi-circle head screw M4x8	2
53	Ball	1
54	Knock-out rod	1
55	Tool rack	1
55-1	Semi-circle head screw M5°;12	2
55-2	Washer Ø5	2
56	Support	2
56-1	Semi-circle head screw M5x12	4
56-2	Washer Ø5	4
59	Extension bed	1
60	Small plate ext Red Only	1
60-1	Semi-circle head screw M5x8	2

The ETL Listed Mark is an alternative to the CSA and UL marks.

ETL Testing Laboratories has been conducting electrical performance and reliability tests since 1896. Intertek Testing Services (ITS) acquired ETL from Inchcape in 1996 . ITS is recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL), just as Underwriters Laboratories (UL), Canadian Standards Association (CSA) and several other independent organizations are recognized.

ITS tests products according to nearly 200 safety and performance standards. The ETL Listed Mark and C-ETL Listed Mark are accepted throughout the United States and Canada when denoting compliance with nationally recognized standards such as ANSI, IEC, UL and CSA.

This certification mark indicates that the product has been tested to and has met the minimum requirements of a widely recognized (consensus) U.S. Product safety standard, that the manufacturing site has been audited, and that the applicant has agreed to a program of periodic factory follow-up inspections to verify continued conformance.

If the mark includes a small US and/or C, it follows product safety standards of United States/or Canada, respectively.



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