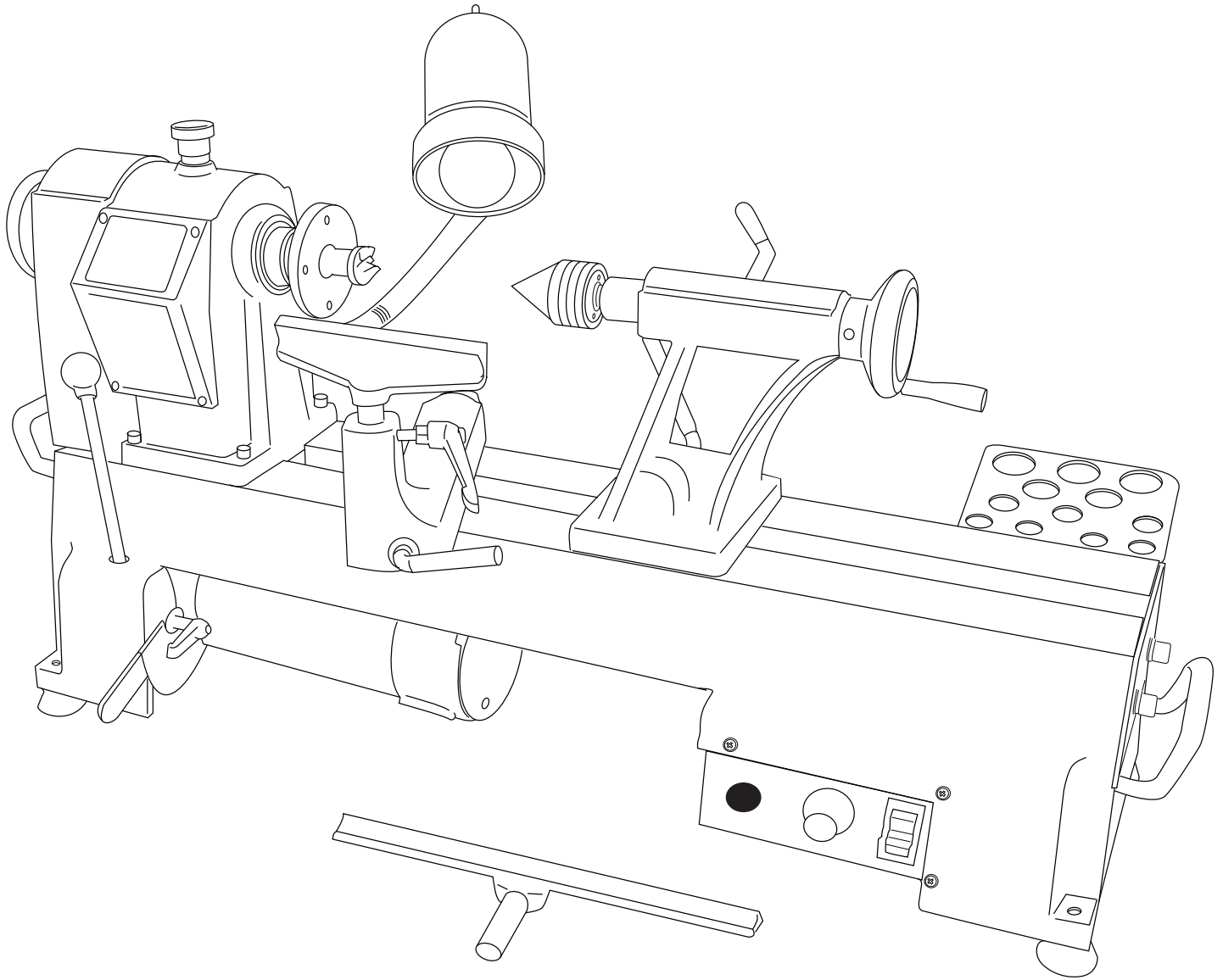


Turncrafter Commander Lathes User Manual

(Applies to models: TCLC10, TCLC10VS & TCLC12VS)

Read this manual completely before usage.



Model shown: TCLC12VS

WARRANTY

The 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.

Date Purchased

Invoice No.

SAFETY INSTRUCTIONS

1. Read and understand this instruction manual.
2. NEVER connect plug to power source until all the assembly steps have been completed.
3. Check that your supply voltage and grounding are correct.
4. Do not use the lathe in a damp or wet location.
5. Keep lathe clean and lightly oiled.
6. Make sure the belt, pulley, and control box are adequately guarded at all times.
7. Always remove tools, chuck keys, toggle bars, etc. When you are finished with them.
8. Keep the work area well lit and adequate ventilation in the workspace.
9. Keep young children and bystanders a safe distance from the lathe.
10. Do not force the lathe to do more than it is designed to do.
11. Do not wear loose clothing, jewelry or neckties, which could get caught in revolving parts. It is recommended that long hair be restrained.
12. Safety eye wear should be worn at all times. Also, it is recommended to use a face or dust mask during lathe operation.
13. Attach all work pieces securely to the lathe, whether between centers, on faceplates, or in chucks, etc.
14. For best results be sure to keep turning tools sharp, clean, and free from rust.
15. Use only three wire extension cords that have 3-prong grounding type plugs and 3-hole receptacles that except the tool's plug.
16. Check the speed BEFORE mounting any material onto the lathe. ALWAYS start the lathe at its slowest speed.
17. Always use an appropriate speed for the projects being turned - Slow speeds for larger bowls, faster speeds for smaller spindles.
18. Keep the door to the pulleys and belts securely screwed closed during lathe operation.
19. Always check that the index/spindle lock knob is disengaged prior to turning on the lathe.
20. Vacuum excess dust build-up that may accumulate in or near the variable speed control box.

SPECIFICATIONS OF TURNCRAFTER COMMANDER MIDI LATHES

Turncrafter Commander Specifications

Turncrafter Commander Specification	10" Swing Multi Speed Commander	10" Swing Variable Speed Commander	12" Swing Variable Speed Commander
Item No.	#TCLC10	#TCLC10VS	#TCLC12VS
Motor Speeds	Single Speed 110v	Variable Speed 110v	Variable Speed 110v
Motor Power	3/5 HP	3/4 HP	1 HP
Belt Positions	5	2	2
Speeds	650, 1000, 1450, 2000, 3000 RPM	Variable 150-1900 & 300-3600 RPM	Variable 150-1900 & 300-3600 RPM
Headstock Thread	1" x 8tpi	1" x 8tpi	1" x 8tpi
Between Centers	18"	18"	18"
Construction	Cast Iron	Cast Iron	Cast Iron
Swing over bed	10"	10"	12"
Weight	83lbs.	82lbs.	106lbs.
Footprint	31" x 7-1/4"	31" x 7-1/4"	32" x 10"
Tailstock Travel	1-5/8"	1-5/8"	1.5/8"

Included with Lathe

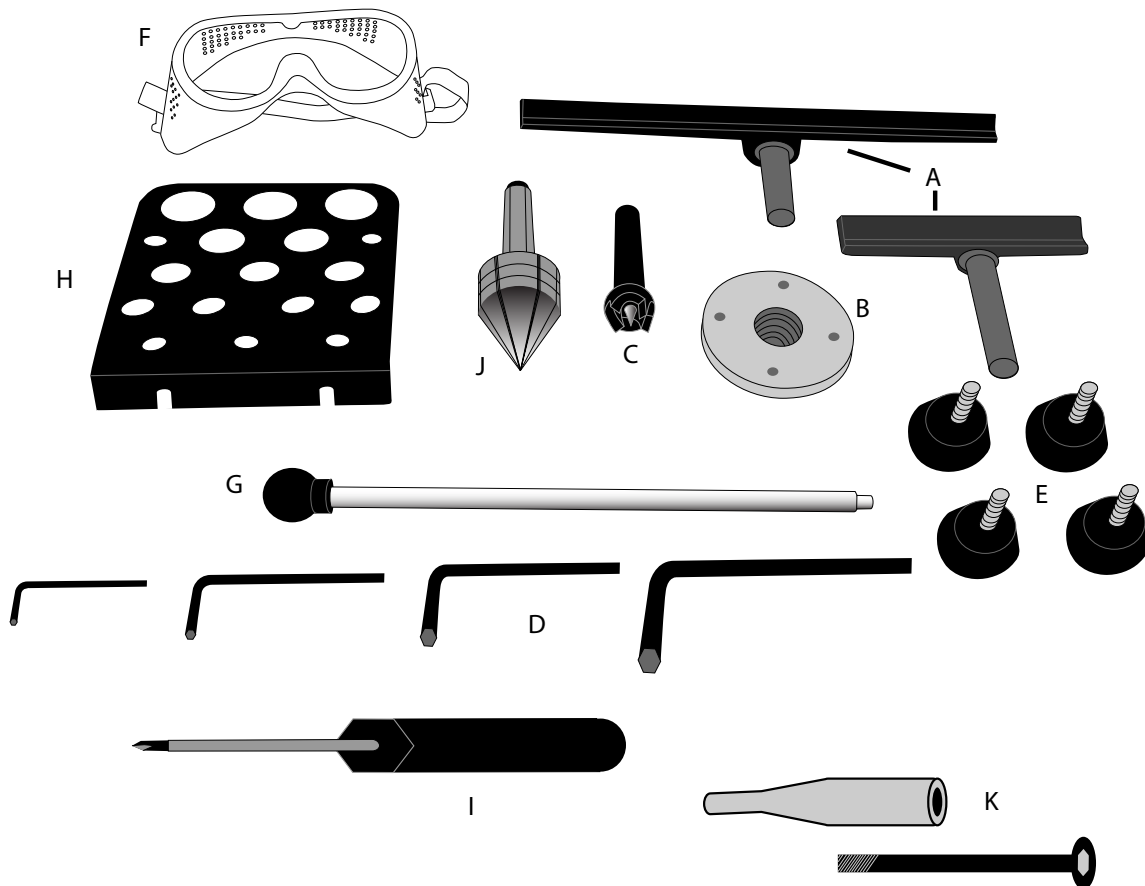
Tool Rests(s)	6" tool rest	6" tool rest	6 & 12" tool rests
Face Plate	4" faceplate	4" faceplate	4" faceplate
#2MT Spur Drive Center	Included	Included	Included
Heavy Duty Tailstock Live Center	Included	Included	Included
Carry Handles	--	--	Included

RECEIVING:

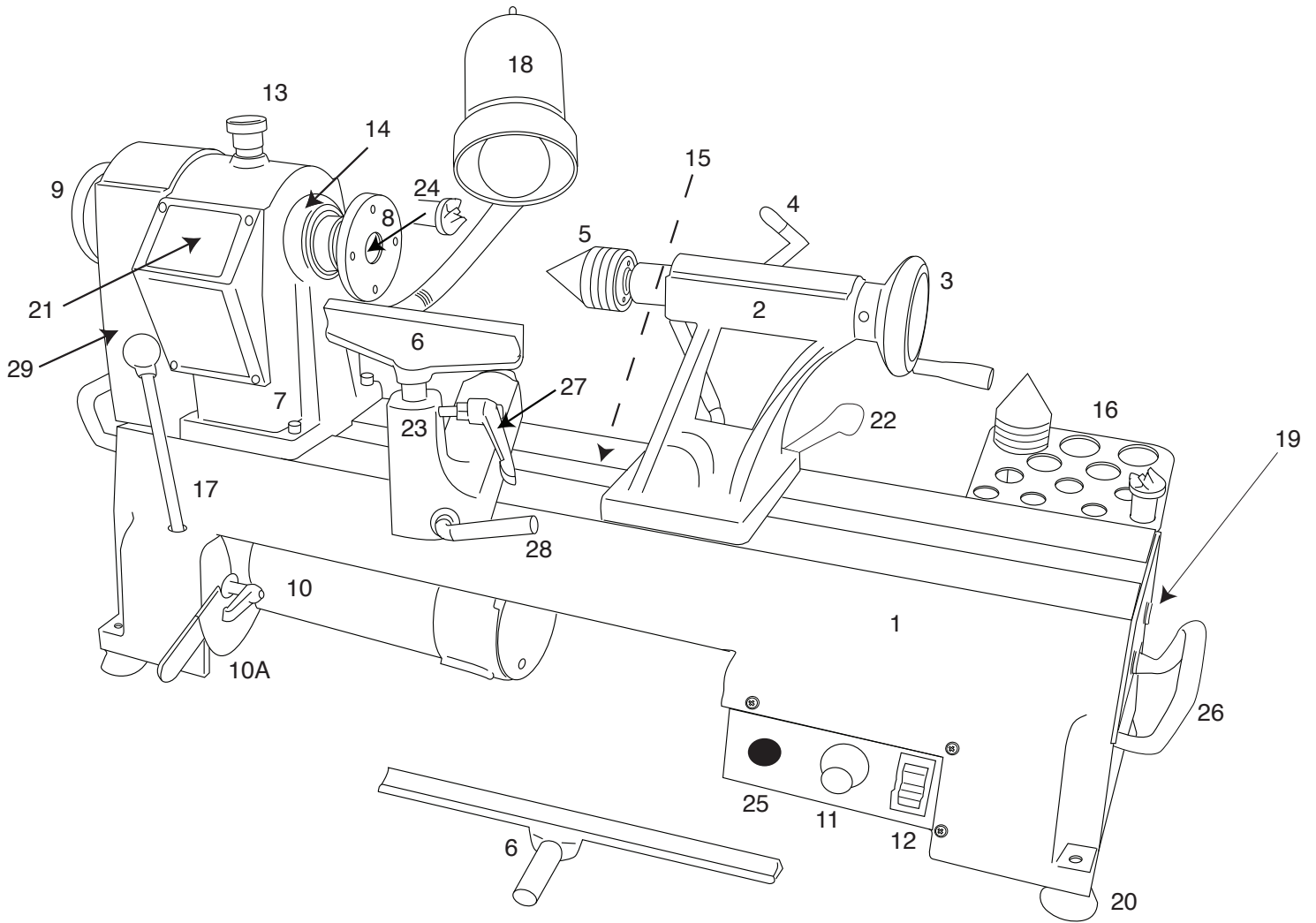
1. Remove all parts and components from shipping carton. Remove all the packing and locate all loose parts.
2. Inspect the contents of the carton for shipping damage. Compare the contents of the loose parts list provided. Report any missing or damaged parts to your distributor.
3. Keep the carton and 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.

Receiving Loose Parts

- A. Tool rest (6in) and (10in) (Model TCLC12VS)
- B. Faceplate (3in)
- C. Spur Drive Center (#2 MT)
- D. Hex wrench (set of 4)
- E. Rubber feet (4) (if not installed)
- F. Safety Goggles
- G. Knock-out rod
- H. Tool Caddy
- I. Phillips Screw Driver
- J. Live tailstock center
- K. Tailstock Handle and bolt



LATHE COMPONENTS AND ASSEMBLY



Lathe Assembly Components

1. Lathe Bed
2. Tailstock
3. Hand Wheel (Quill Adjustment)
4. Quill Tightening Lever
5. Live Tailstock Center
6. 6" Tool rest (12" with TCLC12VS only)
7. Headstock
8. Faceplate
9. Headstock Hand Wheel
10. Motor & Adjustment lever (10A)
11. Speed Control (VS Models)
12. Power Switch
13. Spindle Lock Knob
14. Index Indicator
15. Cord Wrapping Supports
16. Tool Holder rack
17. Knockout Rod
18. Work Light (BULB NOT INCLUDED)
19. Mounting Holes for extension bed
20. Rubber Feet (4)
21. Variable Speed Indicator Window (VS Models)
22. Tailstock tightening lever
23. Tool rest holder Assembly
24. Spur Drive Center
25. Reset Button (VS models)
26. Carry Handles (VS Models)
27. Tool rest post tightening lever
28. Tool rest holder tightening lever
29. Belt Cover

GENERAL ASSEMBLY - INSTRUCTIONS

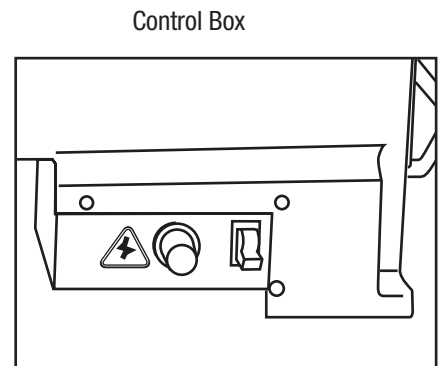
1. Install loose parts (a) - (k) as indicated in the assembly diagram above.
2. Inspect Tailstock: Verify that all knobs and handles work properly and that tailstock slide along bed and live center bearings spin freely.
3. Tool rest: (6) - Verify all handles work properly and assembly (23) slides and 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. 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: (12) - to off position. Plug in lathe. Test work light switch.
8. 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. (VS Models only)

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 (4) rubber feet (21)

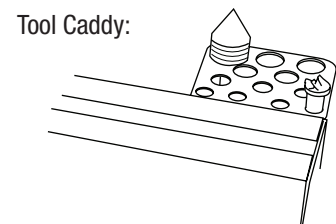
Control Box:

Align the control box with the threaded holes on the tail stock side of the lathe. Insert the two screws through the hinge plate and into the corresponding holes on the lathe body.



Tool Caddy:

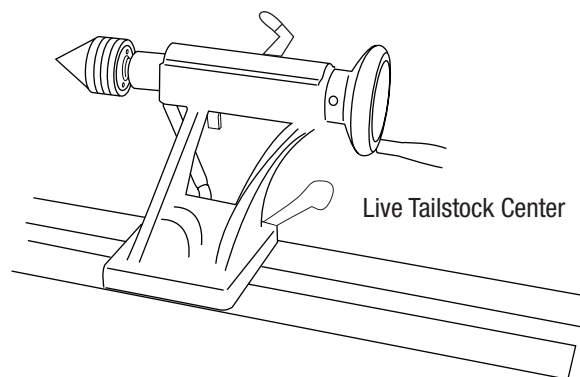
Using the two pan head screws, install the tool caddy on the rear of the lathe.



Live Tailstock Center - Install and remove:

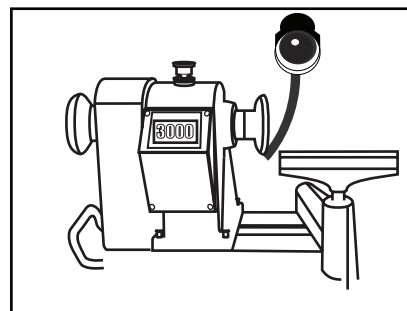
Turn the tailstock hand wheel (3) clockwise to extend the tailstock spindle. Turn it counter clockwise to retract the tailstock spindle. The tailstock quill lock (4) locks the quill at its current extension. Be sure to release the lock before attempting to adjust the quill's extension. The tailstock lock (28) 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.



Work Lamp:

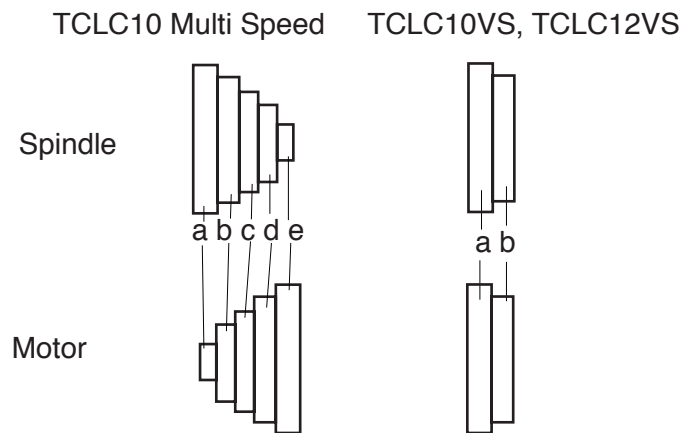
Use only a 40 watt or smaller bulb in the work lamp. Position the lamp to prevent shavings from accumulating in the housing. Bulb not included.



Work Lamp:

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

	a	b	c	d	e
TCLC10	650	1000	1400	2000	3000
TCLC10V TCLC12V	150- 1900	300- 3600	/	/	/

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.

(VS Models Only)

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, 3, and 2. For example, to make 8 equal sections, mark your work at 1, 4, 7, 10, 13, 16, 19, and 22.

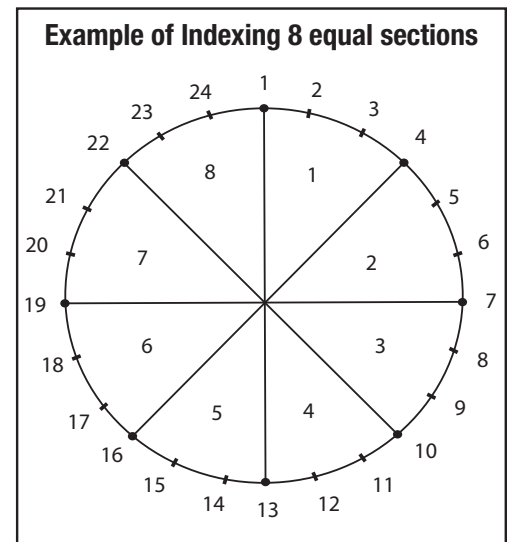
To use the index pin (13), screw it into the headstock until it engages a hole in the spindle pulley. Make your first indexing operation. Next, unscrew the index pin so that it frees the spindle, and rotate the next spindle position. Continue until all operations are completed.

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

Spur Center (24) - The spur drive center locks into the headstock and holds the work piece in place while the spindle is in operation. The knock-out rod (g) 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, 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: The lock levers are spring loaded. To operate, pull out on the lever, rotate it on the pin, and 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 (10) 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 (10)- 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 TCLC10VS & TCLC12VS

Maximum Speeds for Balanced Turnings

Work piece Diameter	Max RPM Roughing	Max RPM Finishing
1"	3600	3600
2"	3000	4000
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	725
12"	600	660

Multi Speed Chart for TCLC10

Max work piece dia.		Max Speed
Roughing 9"	Finishing 10"	610
6"	8"	1000
4"	5.5"	1450
3"	4"	2000
2" or less	2.5"	3000

Replacing the Belt -

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

- Loosen belt, `Remove old belt
- Slide the new belt over the headstock spindle pulley and onto the motor pulley.

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

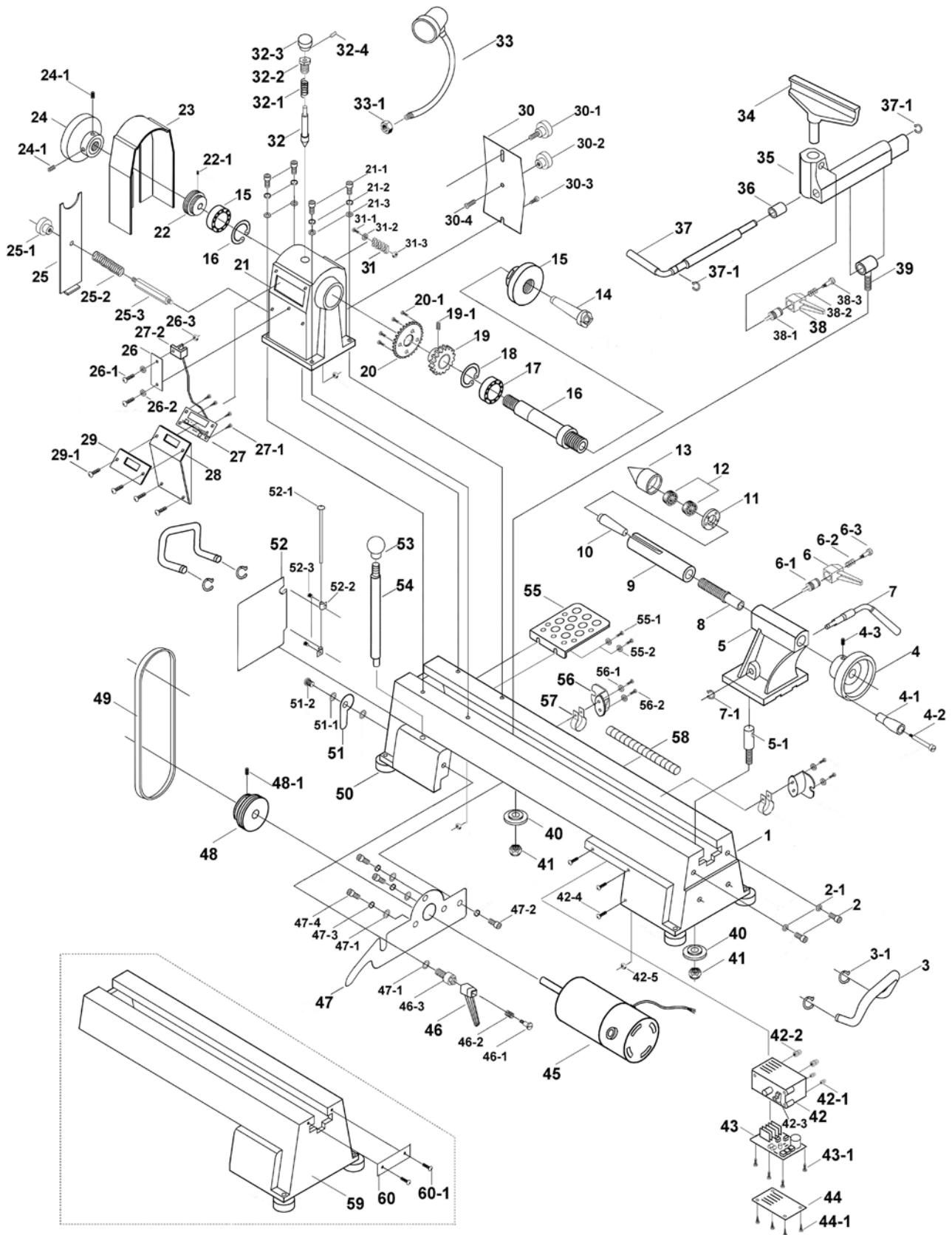
Generally finishing can be done at faster speeds than turning. Finish using finishing polishes, waxes and buffing compounds on or off the lathe.

Accessories Available From Psi Woodworking Products For Your Commander Lathe

Item	Description	Typical Products
Lathe Extension Bed	Extends the lathe and Spindle you can turn to 42"	#TCLC10XB for 10" Styles #TCLC12XB for 12" Style
Duplicating Attachment	Enables duplicating small projects to 9" long. Makes fast and easy copies.	#CMLDUPJ for 10" Styles #CMLDUPR 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	#LX10 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 www.psiwoodworking.com

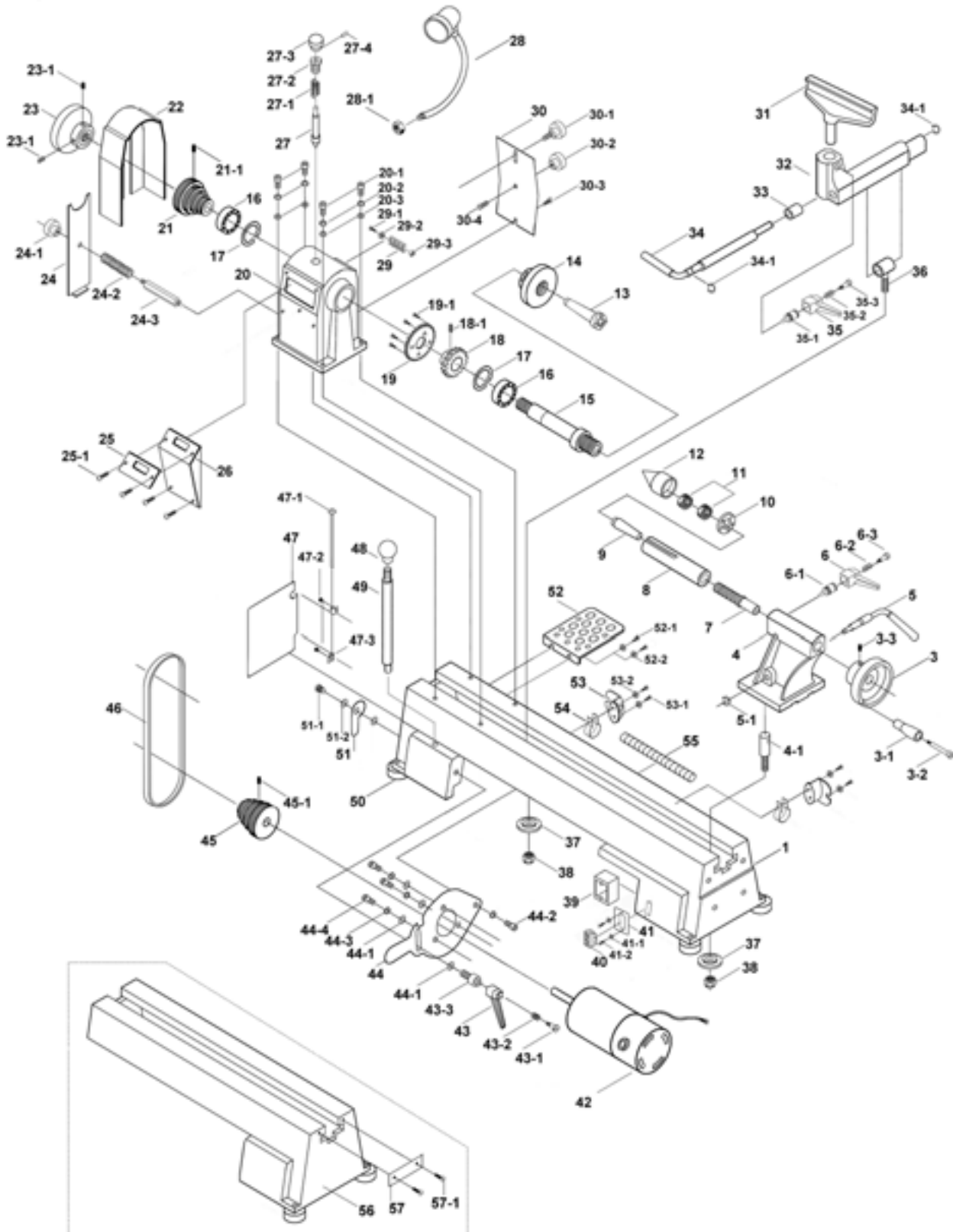
10" & 12" Variable Speed Models TCLC10VS and TCLC12VS Part List



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 quill	1
9	Tailstock axis	1
10	Taper rod	1
11	Ball bearing	1
12	Ball bearing	2
13	Cup center	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
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
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

Part No.	Description	QTY
1-3	Washer Ø8	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
32-3	Cap	1
32-4	Screw	1
47	Motor plate with notch	1
47-1	Washer Ø6	1
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	Door latch	1
51-1	Washer	2
51-2	Screw	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
57	Wire hanger	2
58	Tube	1
59	Extension bed	1
60	Small plate	1
60-1	Semi-circle head screw M5x8	2

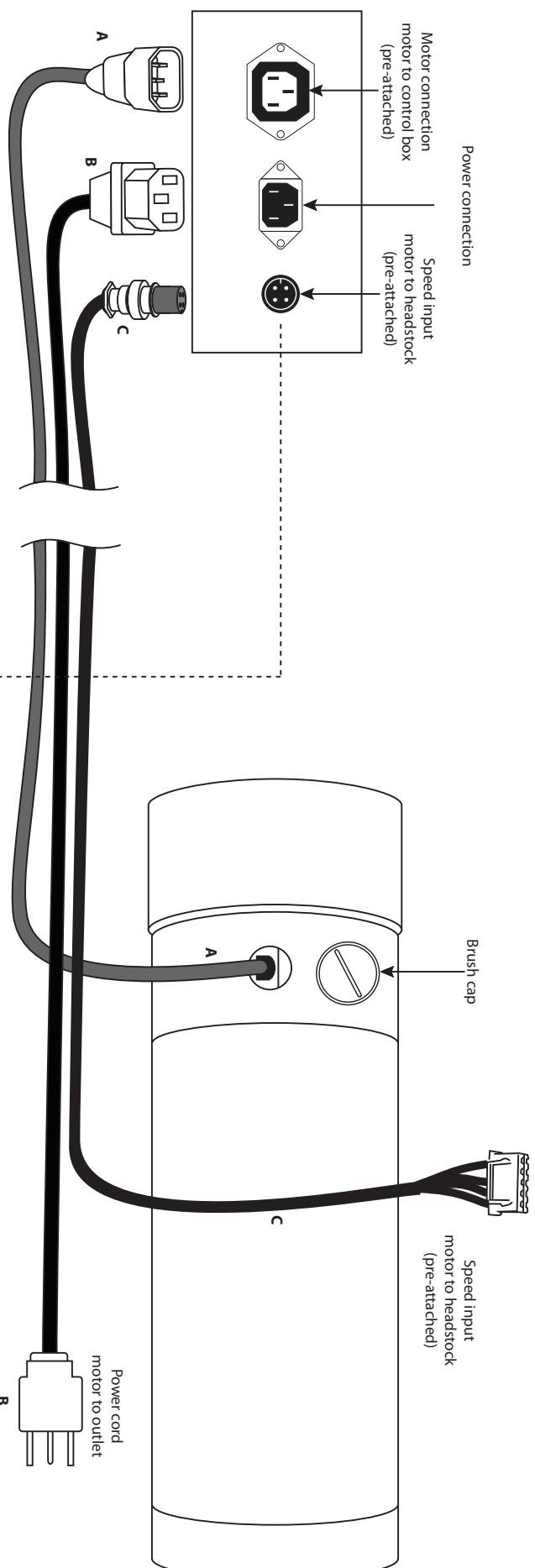
TCLC10 Part List



Part No.	Description	QTY
1	Bed	1
3	Quill adjusting wheel	1
3-1	Bush	1
3-2	Screw	1
3-3	Hex socket screw M6x12	1
4	Tailstock	1
4-1	Cam follower tailstock	1
5	Eccentric axis	1
5-1	Retaining ring 10	1
6	Handle	1
6-1	Lock bolt	1
6-2	Spring	1
6-3	Bolt	1
7	Tailstock quill	1
8	Tailstock axis	1
9	Taper rod	1
10	Ball bearing	1
11	Ball bearing	2
12	Cup center	1
13	Headstock spur center	1
14	Face plate	1
15	Headstock spindle	1
16	Ball bearing 80105	2
17	Retaining ring 47	2
18	Gear	1
18-1	Hex socket screw M6x12	1
19	Round plate	1
19-1	Semi-circle head screw M4x8	4
20	Headstock	1
20-1	Hex socket screw M8x30	4
20-2	Spring washer	4
20-3	Washer Ø8	4
21	Drive pulley	1
21-1	Hex socket taper screw M6x12	1
22	Side protection guard	1
23	Hand wheel	1
23-1	Hex socket screw M6x12	2
24	Side plate	1
24-1	Stationary knob	1
24-2	Spring	1
24-3	Connecting rod	1
25	Cover	1
25-1	Semi-circle head screw M4x12	4
26	Front protection guard	1
27	Stop bolt	1
27-1	Spring	1
27-2	Bush	1
27-3	Cap	1
27-4	Screw	1
28	Work light	1
28-1	Hex nut M12	1
29	Connecting stand	1
29-1	Semi-circle head screw M3x12	1
29-2	Washer	1
29-3	Hex nut	1
30	Rear plate	1
30-1	Moving knob	1
30-2	Stationary knob	1
30-3	Lock screw	1

Part No.	Description	QTY
30-4	Screw	1
31	Toolrest	1
32	Toolrest base	1
33	Bush	1
34	Lock handle for tool rest base	1
34-1	Retaining ring 10	2
35	Handle	1
35-1	Lock bolt	1
35-2	Spring	1
35-3	Bolt	1
36	Tool rest cam follower	1
37	Lock nut	2
38	Nut M10	2
39	Switch box	1
40	Switch	1
41	Switch-box plate	1
41-1	Washer Ø4	2
41-2	Semi-circle head screw M4x25	2
42	Motor	1
43	Handle	1
43-1	Bolt	1
43-2	Spring	1
43-3	Lock Bolt	1
44	Motor plate with notch	1
44-1	Washer Ø6	4
44-2	Hex socket screw M8x16	1
44-3	Spring washer	3
44-4	Hex socket screw M6x16	3
45	Motor pulley	1
45-1	Hex socket screw M6x12	1
46	Drive belt	1
47	Mounting plate	1
47-1	Pin hinge	1
47-2	Semi-circle head screw M4x8	2
47-3	Hinge	2
48	Ball	1
49	Knock-out rod	1
50	Rubber washer	6
51	Door latch	1
51-1	Screw	1
51-2	Washer	1
52	Tool rack	1
52-1	Semi-circle head screw M5x12	2
52-2	Washer Ø5	2
53	Support	2
53-1	Semi-circle head screw M5x12	4
53-2	Washer Ø5	4
54	Wire hanger	2
55	Tube	1
56	Extension bed	1
57	Small plate	1
57-1	Semi-circle head screw M5x8	2

TCLC10VS Motor Connections



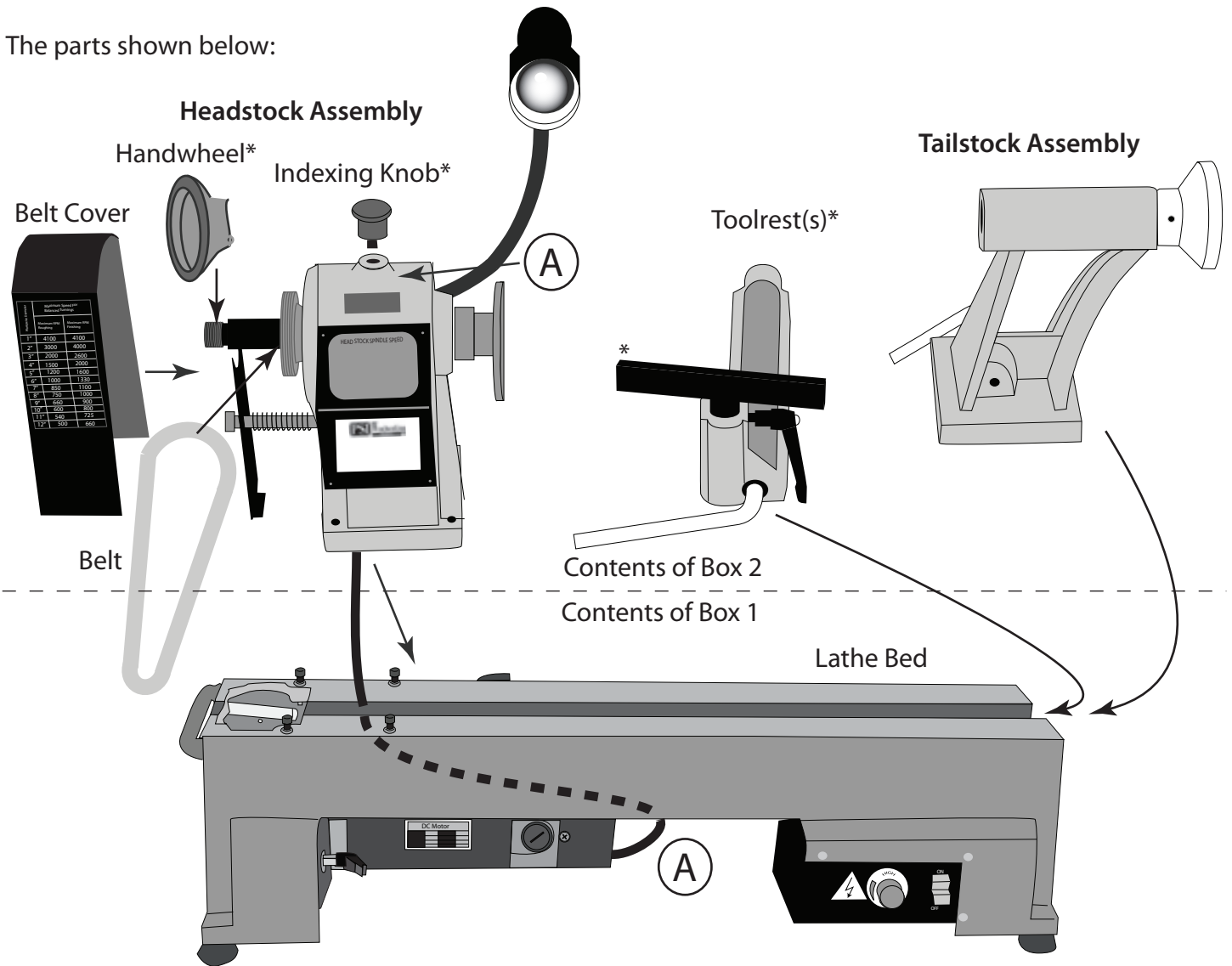
To make connection to the control box

1. Pre-attached - wire from the motor to the box (A) CAUTION: DO NOT PLUG A into B
2. Plug FEMALE end of the power cord into control box: (B)
3. Pre-attached - Plug in cord from the headstock: (C)
4. Plug MALE end of power cord into 110V power outlet.

ASSEMBLY OF TLC12VS VARIABLE SPEED LATHE

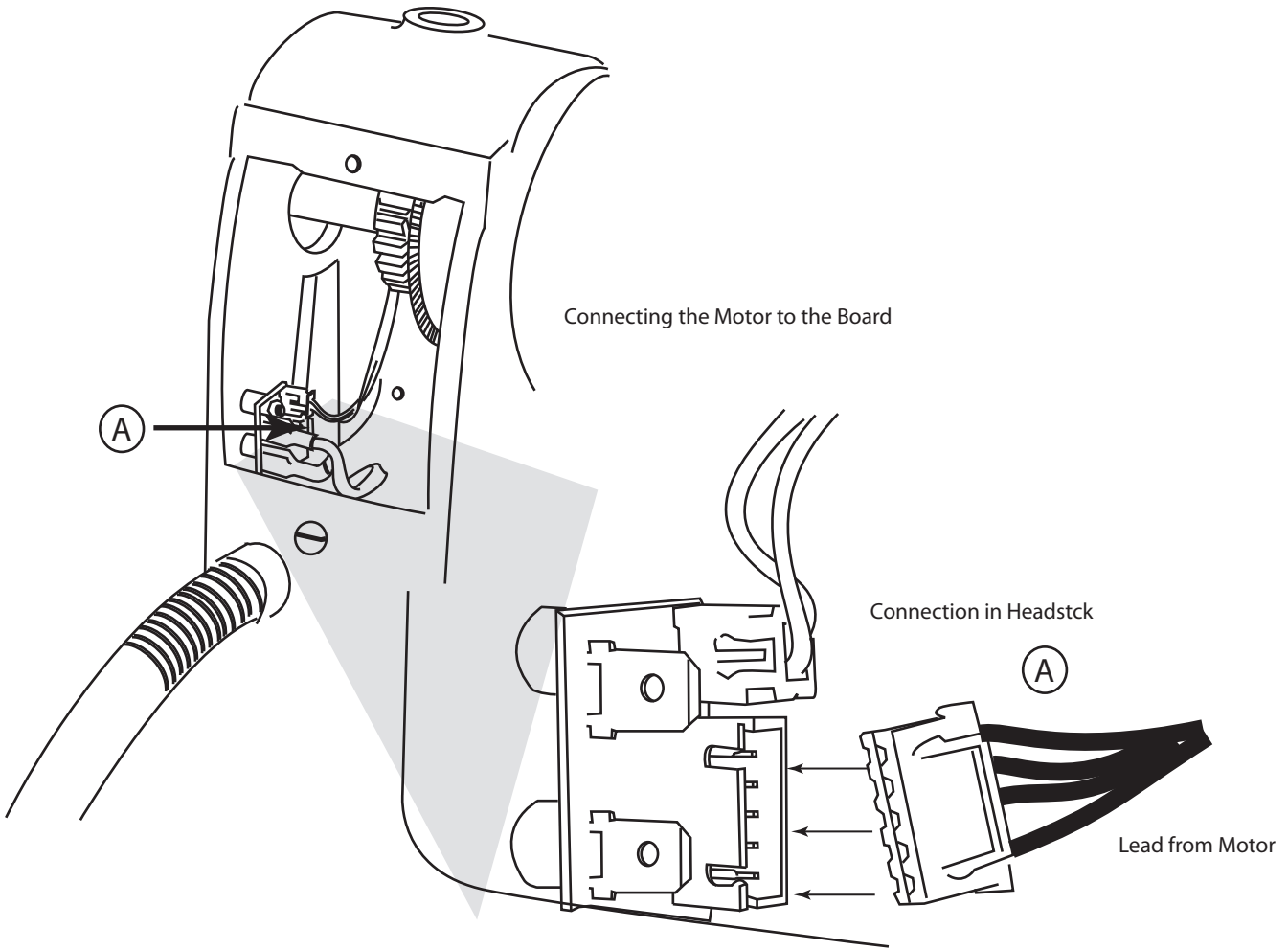
The packing of the TLC12VS is in two boxes. The first box contains the lathe bed and motor assembly. The second contains the headstock assembly, toolrest and tailstock assembly.

The parts shown below:



* incates that item is in Box 1

We recommend attaching the headstock assembly first. Attach headstock using the four screws and washers (packed in Box 1). Lead the motor connection wire through the bed. Keep flat and level. Next, attach the belt to the position you wish to use. See User's Manual for speed choice. Then screw on handwheel to headstock assembly and place on headstock. From the opposite end attach the toolrest first then follow with the tailstock assembly. Make sure that all connections are tight and secure. Lastly attach the lead wire plug from the motor to the headstock socket (over for motor connections **A**). Now you are ready to turn on your lathe.





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