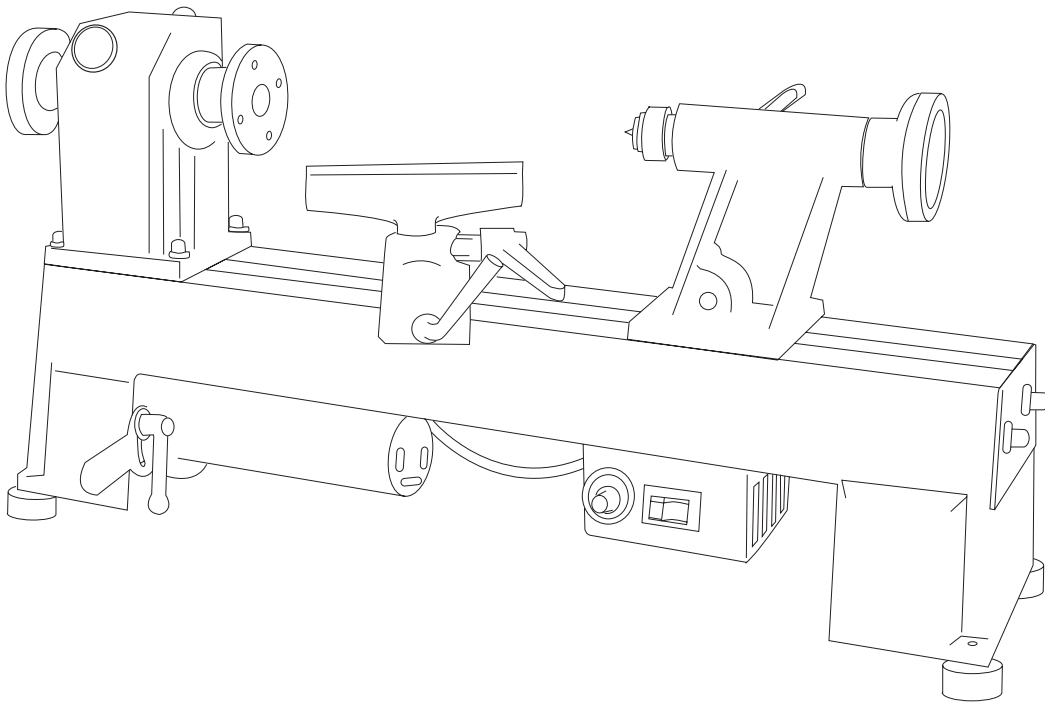


# TurncrafterPro™ Variable Speed Lathe User's Manual

*Read this manual completely before usage.*



**Model #TCLPROVS**



9900 Global Rd.  
Philadelphia ,PA. 19115

*Version 2 – 10/06*

# SPECIFICATIONS OF TURNCRAFTER™PROVS MIDI LATHE

Model number: ..... #TCLPROVS  
Motor: ..... 1/2 HP, 120V AC, 8A  
Variable speed: ..... 650 to 3800 RPM  
Distance between centers: ..... 18"  
Distance between centers with extension bed: ..... 39"  
Swing over bed: ..... 10"  
Head stock spindle thread: ..... 1" x 8tpi  
Hollow head stock ..... #2 Morse Taper  
Hollow tail stock ..... #2 Morse Taper  
Overall Size: ..... 30"L x 7-1/4" W x 14-1/2"H  
Overall Size with extension bed: ..... 54"L x 7-1/4" W x 14-1/2"H  
Net weight (lathe only): ..... 71 lbs.  
Net weight with extension bed: ..... 90 lbs.

## WARRANTY

THE TURNCRAFTERPROVS™ LATHE IS  
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 THE REPAIR OR REPLACEMENT  
OF THE PRODUCT OR ITS 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 PERSONS,  
PROPERTY, AND/OR MATERIALS. YOUR  
INVOICE SERVES AS PROOF OF PURCHASE  
AND MUST BE REFERENCED PRIOR TO  
RETURN AUTHORIZATION.

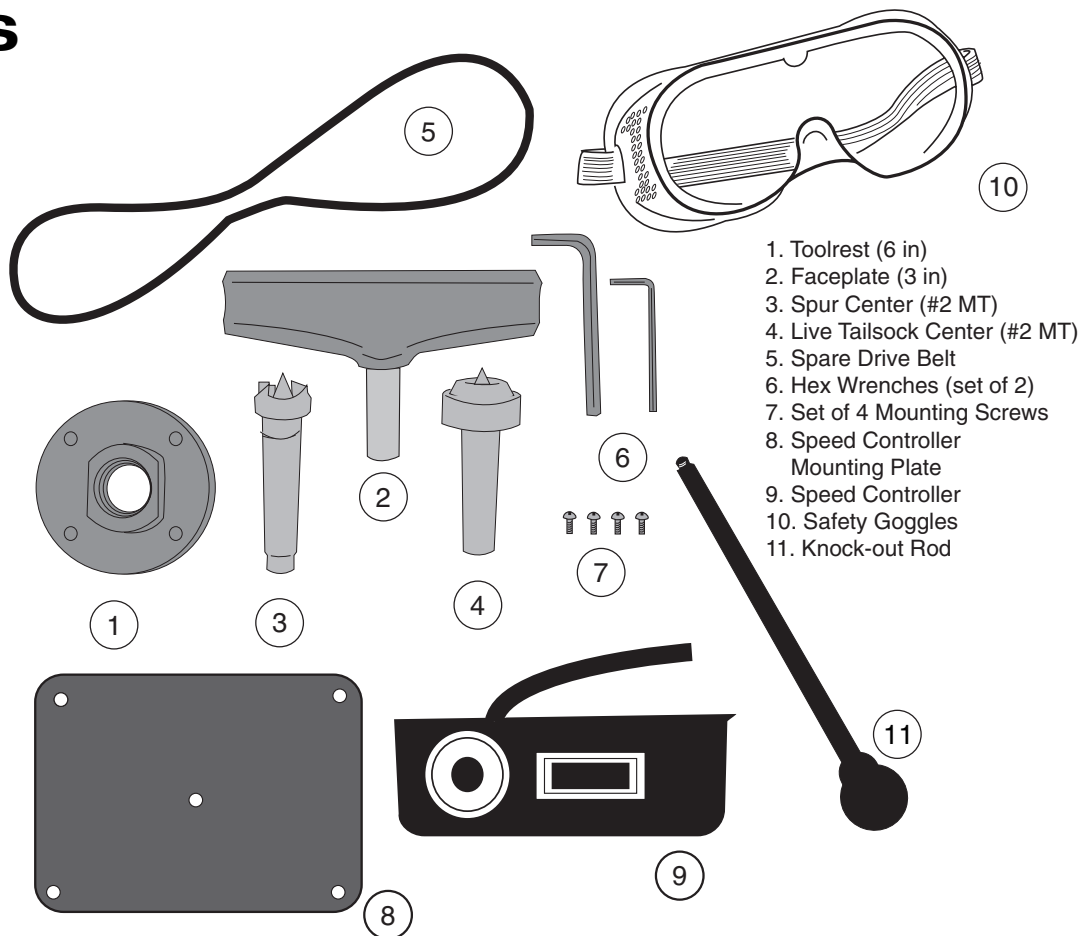
\_\_\_\_\_  
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# SAFETY INSTRUCTIONS

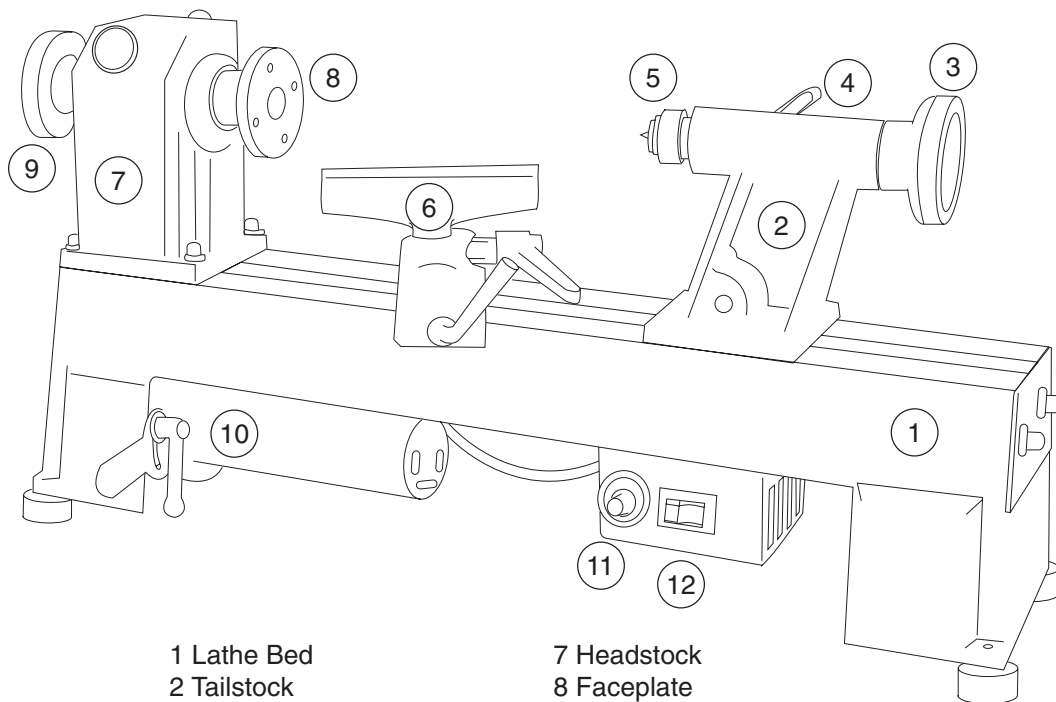
1. Read and understand this instruction manual.
2. **NEVER** connect plug to power source until all of the assembly steps have been completed.
3. Check that your supply voltage and grounding are correct.
4. Do not use the lathe in a damp or wet location.
5. Keep lathe clean and lightly oiled.
6. Make sure the belt, pulley, and control box are adequately guarded at all times.
7. Always remove any tools, chuck keys, toggle bars, etc. when you are finished with them.
8. Keep the work area well lit and provide adequate ventilation and workspace.
9. Keep young children and bystanders at a safe distance from the lathe.
10. Do not force the lathe to do more than what 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 a use of face or dust mask during lathe operation.
13. Attach all workpieces securely to the lathe, whether between centers, on face plates, 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 accept the tool's plug.
16. Check the speed **BEFORE** mounting any material onto the lathe. **ALWAYS** start the lathe at a slow speed.
17. Keep the door to the pulleys and belts securely screwed closed during lathe operation.

# PARTS



- 1. Toolrest (6 in)
- 2. Faceplate (3 in)
- 3. Spur Center (#2 MT)
- 4. Live Tailstock Center (#2 MT)
- 5. Spare Drive Belt
- 6. Hex Wrenches (set of 2)
- 7. Set of 4 Mounting Screws
- 8. Speed Controller Mounting Plate
- 9. Speed Controller
- 10. Safety Goggles
- 11. Knock-out Rod

# ASSEMBLY



- 1 Lathe Bed
- 2 Tailstock
- 3 Hand Wheel (Quill Adjustment)
- 4 Tailstock Tightening Lever
- 5 Live Center
- 6 Toolrest
- 7 Headstock
- 8 Faceplate
- 9 Hand Wheel (Headstock Adjustment)
- 10 Motor
- 11 Speed Controller
- 12 Power Switch

# MULTI-POSITIONING CONTROL BOX FOR THE #TCLPROVS LATHE



▲ The control box for the **TCLPROVS** is easily mounted on the bottom of the bed. This is completed by using the screws that also mount it to the rear of the bed and using the provided mounting plate.



▲ The control box for the **TCLPROVS** can also be easily mounted anywhere that is convenient for you. The 3' cord from the motor to the control box allows you that flexibility.

## MOUNTING AND CHANGING THE SPEED CONTROL

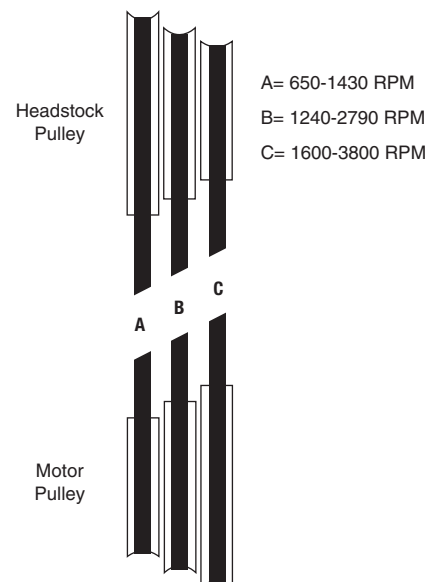
We have packed the speed control box separately to prevent damage. Unpack the speed control box and mount on to the back of the headstock below the hinge under the hand wheel (the control box can be mounted elsewhere, mounting screws and washers included). Once mounting is complete, connect to the plug of the control box to the plug of the motor.

The TCLPROVS is fitted with a 3-step pulley set-up which allows for the ranges of speed. See Speed Chart below.

## CHANGING THE BELT POSITION

Make sure that the lathe is turned off or unplugged. Open the belt door on the headstock. Loosen the ratchet handle to allow the motor plate to swivel upwards. Swing the control box to the side for access to the motor pulley. 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, move down and tighten the motor pulley with the ratchet handle— 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 control box and the belt door to its original position

### Speed Chart



# RECOMMENDED TURNING SPEEDS

Work Diameter in Inches	Speeds
0-2"	2600-3800 RPM
2"-3"	2000-2600 RPM
3"-4"	1300-2000 RPM
4"-5"	650-1300 RPM
6"+	650 RPM

**Note:** These speeds can vary with different wood species and the skill of the operator. Unbalanced pieces generally should be turned on speeds lower than those recommended above.

## SANDING

Use the fastest speed possible without burning the wood.

## POLISHING & FINISHING

Generally finishing can be done at faster speeds than turning.

## BELT, SPINDLE AND BEARING REPLACEMENT FOR THE #TCLPROVS LATHE

To change the belt (#53), spindle (#14), or bearings (#4) for the lathe, you must first loosen the two set screws (#2) and hand wheel (#1). Next remove the upper access door (#7) and knob (#8) loosen the set screw (#69) on the drive pulley (#25).

Tap out the spindle using a mallet. If you do not have a mallet, place a block of wood against the spindle and tap with a hammer. To get the spindle completely out, use a flat head screwdriver to punch it the rest of the way. Be careful not to damage the bearings or the threads.

*Replace the bearings, spindle or belt as required.*

**BELT:** You need only to move the spindle enough to slide a new belt on.

**SPINDLE:** You must knock the spindle completely out through both bearings.

**BEARINGS:** After removal of the spindle, completely – knock out the bearings from the inside of the headstock. This is best accomplished by inserting a long rod or screwdriver through one bearing inside the headstock toward the opposite bearing. Tap firmly to remove the bearing from the casting. Do the same for the second bearing.

**Please be aware not to damage the retainers (#13) when tapping out the bearing.**

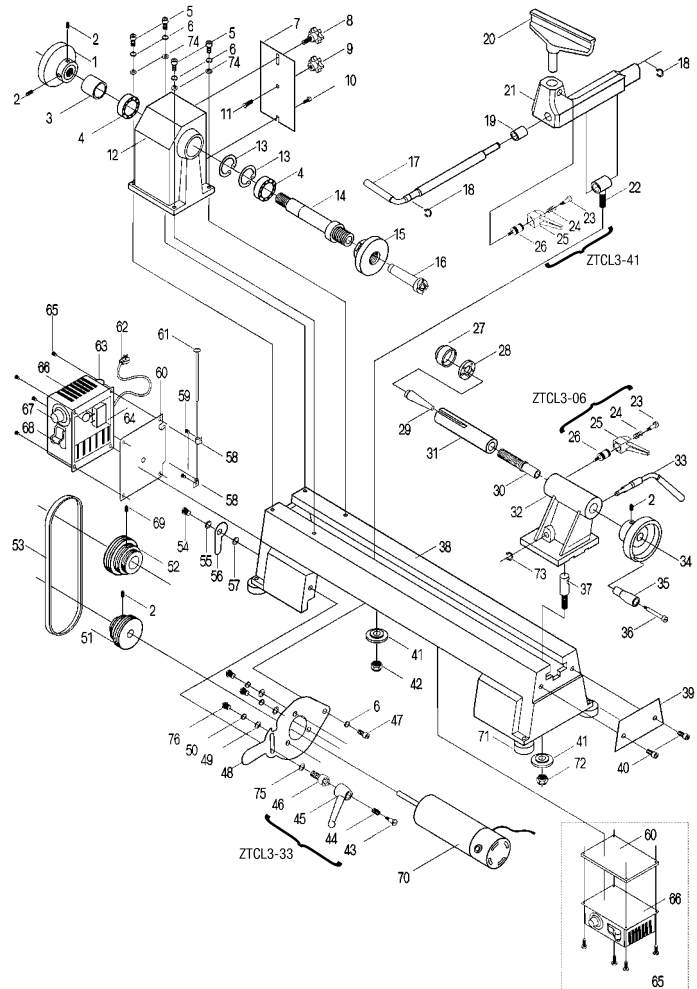
Reassemble the new bearings by tapping them into place from the outside. Replace the spindle.

**Note:** You may have to loosen the ratchet handle (ZTCL3-33 - PARTS #44, #45, #46) to reinstall the spindle pulley (#52), spindle collar (#3), and belt (#53). Reinstall the hand wheel and set screws. DO NOT tighten the hand wheel against the bearings. Tighten the pulley set screw and close the access door.

# PARTS LIST

1	ZTCL3-22	HAND WHEEL	1
2	ZTCL3-28	HEX SOCKET SCREW M6_12	
3	ZTCL4-03	COLLAR SPINDLE	
4	ZTCL4-04	BALL BEARING 80105	2
5	ZTCL4-05	HEX SOCKET SCREW M8_25	4
6	ZTCL4-06	WASHER	6
7	ZTCL4-07	REAR BELT DOOR	1
8	ZTCL4-08	MOVING KNOB	1
9	ZTCL4-09	STATIONARY KNOB	1
10	ZTCL4-10	BOLT	1
11	ZTCL4-11	SEMI-CIRCLE HEAD SCREW	1
12	ZTCL4-12	HEADSTOCK CASTING	1
13	ZTCL4-13	RETAINING RING 47	2
14	ZTCL4-14	HEADSTOCK SPINDLE	1
15	ZTCL3-13	FACE PLATE	1
16	ZTCL3-12	HEADSTOCK SPUR CENTER	1
17	ZTCL3-40	TOOL HANDLE FOR TOOL REST BASE	1
18	ZTCL3-34	RETAINING RING 10	3
19	PART OF ZTCL3-36 - TOOL REST BUSHING		1
20	ZTCL3-35	TOOL REST	1
21	ZTCL3-36	TOOL REST BASE	1
22	ZTCL3-37	TOOL REST CAM FOLLOWER	1
23	ZTCL4-23	BOLT	2
24	ZTCL4-24	SPRING WASHER	2
25	ZTCL4-25	SPRING WASHER	2
26	ZTCL4-26	LOCK BOLT	2
27	ZTCL3-11	CUP CENTER	1
28	ZTCL3-10	BALL BEARING 80102	1
29	ZTCL3-09	TAPER ROD	1
30	ZTCL3-08A	TAILSTOCK QUILL	1
31	ZTCL3-08B	TAILSTOCK OPERATING SCREW	1
32	ZTCL3-05	TAILSTOCK	1
33	ZTCL3-07	ECCENTRIC AXIS	1
34	ZTCL3-04	QUILL ADJUSTING WHEEL	1
37	ZTCL3-42	CAM FOLLOWER TAILSTOCK	1
38	ZTCL4-38	HOLDDOWN ADJUSTER TAILS	1
39	ZTCL3-03	RETAINING PLATE	1
40	ZTCL3-02	HEX SOCKET SCREW M10_12	2
41	ZTCL3-43	LOCK PLATE	2
42	ZTCL3-39	NUT M10	2
43	ZTCL4-43	FLAT HEAD SCREW	1
44	ZTCL4-44	SPRING WASHER	1
45	ZTCL4-45	RATCHET HANDLE	1
46	ZTCL4-46	LOCK SCREW	1
47	ZTCL3-30	HEX SOCKET SCREW M8_12	1
48	ZTCL4-48	MOTOR PLATE WITH NOTCH	1
49	ZTCL4-49	BIG WASHER	3
50	ZTCL4-50	WASHER 6	3
51	ZTCL4-51	MOTOR PULLEY	1
52	ZTCL4-52	DRIVE PULLEY	1
53	ZTCL3-26	DRIVE BELT	1
54	ZTCL4-54	BOLT	1
55	ZTCL4-55	WASHER	1
56	ZTCL4-56	DOOR LATCH	1
57	ZTCL4-57	WASHER 4	1
58	ZTCL4-58	HINGE	2
59	ZTCL4-59	SEMI-CIRCLE HEAD SCREW M4_8	2
60	ZTCL4-60	SWITCH-BOX PLATE	2
61	ZTCL4-61	PIN HINGE	1
62	ZTCL4-62	POWER CORD	1
63	ZTCL4-63	OVERLOAD PROTECTOR	1
64	ZTCL4-64	LINE BOARD	1
65	ZTCL4-65	SEMI-CIRCLE HEAD SCREW M4_6	4
66	ZTCL4-66	SWITCH-BOX	1
67	ZTCL4-67K	KNOB	1
68	ZTCL4-68	SWITCH	1
69	ZTCL4-69	HEX SOCKET TAPER SCREW M6_12	4
70	ZTCL4-70	MOTOR	1
71	ZTCL3-50	RUBBER WASHER	4
72	ZTCL3-43	NUT M10	4

73	ZTCL3-53	RETAINING RING	1
74	ZTCL4-74	WASHER	4
75	ZTCL3-51	8MM FENDER WASHER	1
76	ZTCL4-76	FLAT HEAD SCREW	3
77	ZTCL4-77	BRUSH CAP	2
78	ZTCL4-78	MOTOR BRUSHING	2
67	ZTCL4-67R	SPEED RHEOSTAT	1
79	ZTCL4-79	KNOCK OUT BAR	1
80	ZTCL4-80	CONTROLLER TO MOTOR CORD	1



# OPTIONAL ACCESSORIES

## DUPLICATING SYSTEM

- PSI duplicator attachment ..... #CML-DUPJ
- Optional 2-ended carbide cutter ..... #CML-DUPX
- Steel duplicator templates for a variety of projects.

## HEADSTOCK ACCESSORIES

(1" X 8TPI OR #2 MORSE TAPER)

- 3/8" Drill chuck- #2 MT mount ..... #TM22
- 1/2" Drill chuck- #2 MT mount ..... #TM32
- Mini screw chuck ..... #PK-TOP-MJ
- Chisel Mate ..... #LCM5
- 4-Piece Drive Center ..... #LCENT4

## CHUCKS

- MiniGrip ..... #CMG3C
- Utility Grip ..... #CUG3418C
- Barracuda ..... #CSC2000C
- Barracuda2 ..... #CSC3000C

## OTHER ACCESSORIES

- Dust collection hood ..... #DLHOODC
- Pen making mandrel- 1" x 8tpi ..... #PKM-BL
- Pen making mandrel- #2 MT ..... #PKM-FLC
- Extension bed ..... #TCLPROXB



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Philadelphia, PA 19115

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