SHARP

PRECISION.
RELIABLITY.
PRODUCTIVITY.

THE FUTURE OF MANUAL MACHINING

AutoAssist Lathes

1440-PLC-2N | 1440-PLC-T4
1640-PLC-2N | 1640-PLC-T4

AutoAssist

Simple Part.
Simple Solution.

Sharp AutoAssist™ delivers the power and efficiency of conversational programming while preserving the accessibility of manual operations.

Make a FINISHED part FASTER than it takes to write a CNC program.

1440-PLC-2N

Swing over bed: 14”
Center distance: 40”
Spindle bore: 1.5”

1640-PLC-2NX

Swing over bed: 14”
Center distance: 60”
Spindle bore: 3.39”

CONSISTENT

Direct-drive spindle motor for consistent cutting quality.

PRECISE

Rigid construction and advanced controls deliver precise results.

EFFORTLESS

Intuitive control auto-calculates machining parameters.

AutoAssist

Machine Highlights

DIRECT-DRIVE SPINDLE

5kW servo motor delivers better control of surface finish and tool engagement.

ALL-SERVO DRIVE SYSTEM WITH BALL SCREWS FOR BETTER ACCURACY

The spindle and X/Z axes are all driven by servo motors with ball screws. With no gearbox in the system, the machine offers lower mechanical wear, easier maintenance, longer service life, and more consistent accuracy.

DRO FUNCTIONALITY

Flexibility to run as a manual machine, but with the built-in features of a Digital Readout (DRO).

FULL SAFETY ENCLOSURE

The machine is standard equipped with a safety slide door, effectively preventing coolant splash and chip scattering.

VERSATILE MACHINING FUNCTIONS

Capable of OD turning, facing, chamfering, taper cutting, and threading (both inch and metric).

ON-THE-FLY FEED RATE ADJUSTMENT FOR X AND Z AXES

Feed rates for the X and Z axes can be adjusted during cutting to achieve optimal machining conditions. On traditional machines, operators must stop machining and manually change gears in the headstock to select another speed.

ELECTRONIC HANDWHEELS

Both X and Z axes feature electronic handwheels (MPG), providing smooth and precise manual controls.

IDEAL FOR MULTIPLE ENVIRONMENTS

Perfect for toolrooms, job shops, prototyping, and training institutions alike.

AutoAssist

WHAT IS SHARP AUTOASSIST?

Designed by Sharp, AutoAssist is an intuitive, easy-to-use graphical conversational control system that guides users step-by-step through entering machining profiles and parameters, resulting in enhanced precision, speed, and efficiency.

AUTOASSIST FEATURES

CONVERSATIONAL PROGRAMING:

Guides users step-by-step through entering machining profiles and parameters, ultimately generating executable machining programs.

NO ZERO-RETURN REQUIRED:

Equipped with servo motors utilizing absolute encoders. There is no need for axis zero-return (homing) upon every startup, and physical limit switches are eliminated.

AUTOMATIC MACHINING PARAMETER:

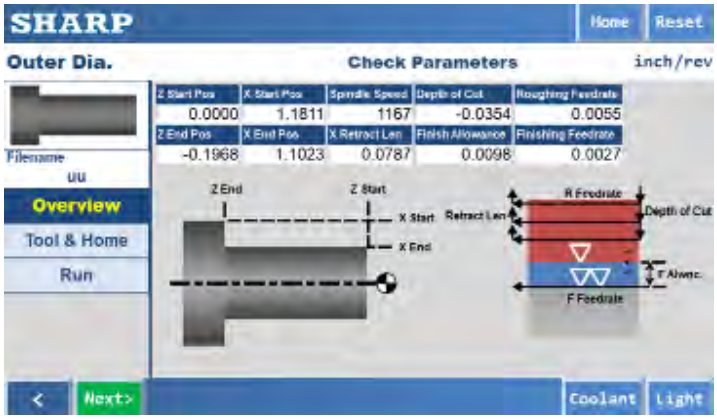
Built-in cutting conditions tailored for various materials allow the system to automatically generate optimal machin-ing parameters based on the user's selected material and part geometry.

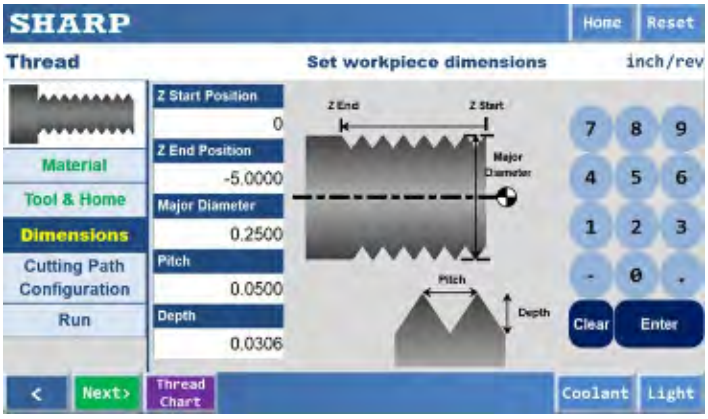
AUTOMATICALLY CUT THREADS:

Automatically cut threads without using the traditional lathe threading method. You simply select the thread you want, straight or tapered, and the threading speed is 4 to 8 times faster than conventional threading.

WI-FI CONNECTIVITY:

Improved mobility and convenience allowing software updates, programming enhancements, diagnostics, and troubleshooting.





Increase Productivity over Manual Machining with AutoAssist:

Sharp AutoAssist is built with simplicity in mind. The intuitive program interface minimizes the learning curve and reduces dependency on highly specialized labor. With Sharp AutoAssist, shops can reduce their cycle times by up to 70%

TURNING	FACING	TAPER TURNING	THREADING
40%	40%	50%	70%
Reduced cycle time	Reduced cycle time	Reduced cycle time	Reduced cycle time

TAPER TURNING CAPABILITY WITHOUT ATTACHMENT:

This machine is capable of taper turning without the need for a taper attachment, simplifying operation while maintaining high accuracy and eliminating additional equipment costs.

DRO FUNCTIONALITY:

Features a DRO (Digital Readout) style manual operation page, allowing users accustomed to traditional DROs and manual operations to adapt quickly.

TOOL OFFSET FUNCTION:

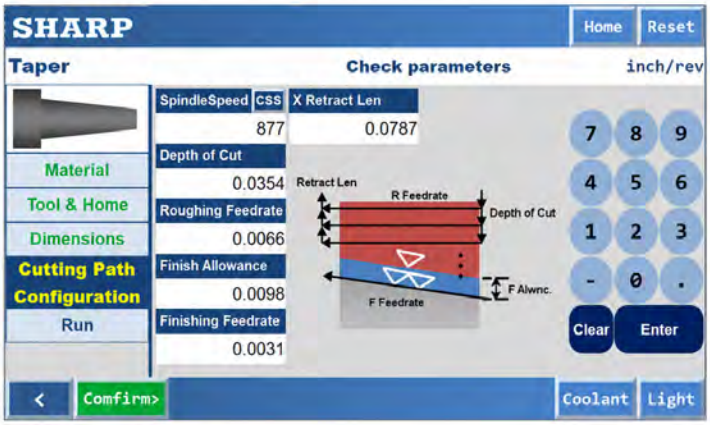
Provides storage for up to 4 sets of tool offsets, significantly reducing repetitive tool-setting time.

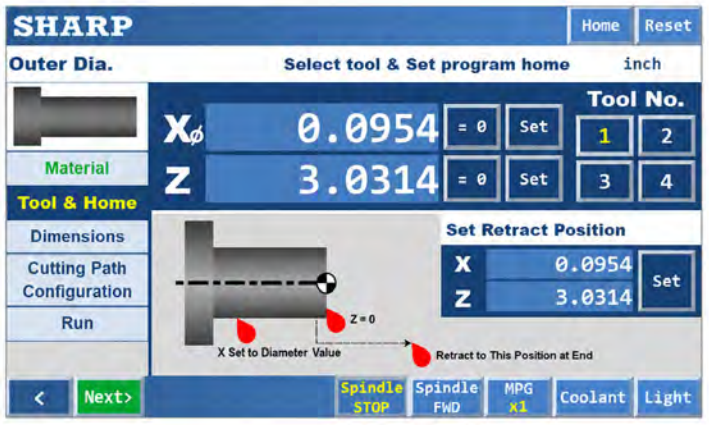
BUILT IN STORAGE:

Store and recall up to 60 jobs with storage capacity of 64 MB.

MANUAL OR AUTOMATIC MODE:

Operators have the flexibility to switch operations between Manual mode or Automatic mode depending on their needs.





8 Conversational Turning Applications Come Standard

Sharp's AutoAssist control comes standard with eight conversational turning applications, allowing operators to produce parts faster with less programming effort.

STANDARD APPLICATIONS

1. OD Turning
2. Face Turning
3. Taper Turning
4. Straight Threading
5. Tapered Threading
6. Chamfering & Corner Radius
7. Grooving/Parting
8. Drilling

*Additional programs available as options. Request a Quote.

Have a more complex part or just need help getting started?

We program it. You make the parts.

Take the guesswork out of complex part production. Our experienced applications engineers can create custom PLC programs for multi-step machining processes, automated sequencing, and specialized operations.

Available as a professional programming service, we'll configure, sequence, and optimize your machine so it's ready to produce parts efficiently from day one, helping reduce setup time, minimize errors, and get you into production faster.

Contact Sharp to Request a Quote.

SPECIFICATIONS

MODEL	1440-PLC-2N	1440-PLC-T4	1640-PLC-2NX	1640-PLC-T4X
CAPACITY				
Swing Over Bed	14"	14"	16"	16"
Swing Over Cross Slide	7.55"	7.55"	9.25"	9.25"
Distance Between Centers	40"	40"	40"	40"
Max. Length for Workpiece	33"	33"	34"	34"
Maximum weight of workpiece (chuck)	66 lb	66 lb	286 lb	286 lb
Maximum weight of workpiece (chuck + tailstock)	176 lb	176 lb	617 lb	617 lb
Center Height	7"	7"	8.66"	8.66"
SPINDLE				
Spindle Bore	1.5"	1.5"	3.39"	3.39"
Spindle Nose/Taper	D1-4 Camlock, MT-5	D1-4 Camlock, MT-5	D1-8 Camlock, MT-7	D1-8 Camlock, MT-7
Spindle Speed	1-2000 RPM	1-2000 RPM	10-2000 RPM	10-2000 RPM
Chuck Diameter	6" (option)	6" (option)	10" (option)	10" (option)
Spindle Center to Ground	41.7"	41.7"	42.13"	42.13"
TRAVELS				
Z axis travel	34"	34"	34"	34"
X axis travel	7"	7"	8"	8"
Quill Travel	4"	4"	5.91"	5.91"
FEEDS				
Longitudinal Feed Range (Z)	118 in/min	118 in/min	236 in/min	236 in/min
Cross Feeds Range (X)	118 in/min	118 in/min	315 in/min	315 in/min
Ball screw diameter (X/Z axis)	Ø0.78" / Ø1.26"	Ø0.78" / Ø1.26"	Ø0.98" / Ø1.26"	Ø0.98" / Ø1.26"
BED				
Bed Length	65.66"	65.66"	78.74"	78.74"
Bed Width	10.23"	10.23"	12.99"	12.99"
TAILSTOCK				
Tailstock Quill Diameter	1.57"	1.57"	2.95"	2.95"
Tailstock Quill Center Taper	MT-3	MT-3	MT-5	MT-5
TOOLING				
Tool Post Type	Manual 4-Way Tool Post	Electric 4-Way Tool Post	Manual 4-Way Tool Post	Electric 4-Way Tool Post
Number of Tools	4 stations	4 stations	4 stations	4 stations
Tool shank size	3/4"	3/4"	3/4"-1"	3/4"-1"
MOTOR				
Spindle Motor	6.7 hp	6.7 hp	9.4 hp	9.4 hp
Servo Motor for X/Z axis	0.5 / 0.5 hp	0.5 / 0.5 hp	1.3 / 2.0 hp	1.3 / 2.0 hp
Coolant pump	1/8 hp	1/8 hp	1/8 hp	1/8 hp
GENERAL				
Power Consumption (220V)	7 kW	7 kW	10.3 kVA	10.3 kVA
Net Weight (Approx)	1,664 lb	1,664 lb	3,858 lb	3,858 lb
Machine Dimensions (L×W×H)	84 x 42 x 69"	84 x 42 x 69"	100 x 61 x 70"	100 x 61 x 70"

PRECISION.
RELIABLITY.
PRODUCTIVITY.

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