

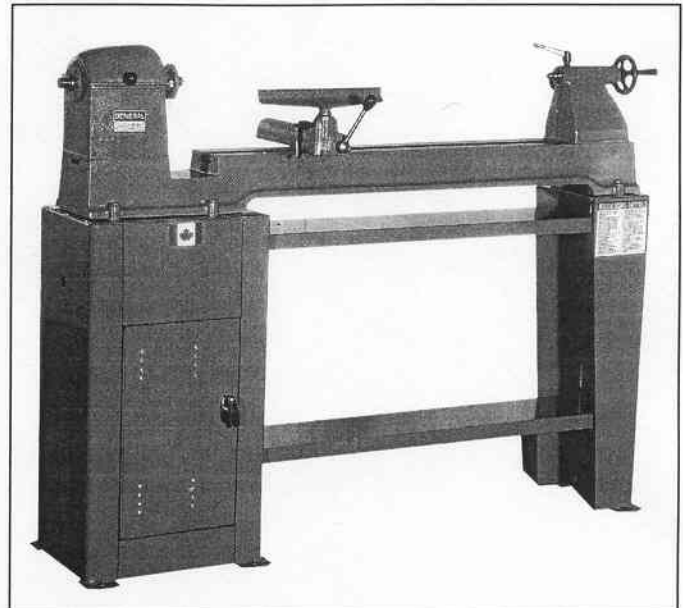


12" WOODWORKING LATHE 160-1 AND 160-2

OPERATING AND MAINTENANCE INSTRUCTIONS

SPECIFICATIONS:

Swing over bed	12"	304.8mm
Swing over bed gap	15"	381mm
Distance between centers	38"	965.2mm
Lenght (bed)	56"	1461.6mm
Variable speed model 160-2	500 to 3000 Rpm	
4 speed model 160-1	850-1375-2160-3500 Rpm	
Spindle threads	1"-8 inboard or 25.4mm	
Lenght	1"-8 outboard or 25.4mm	
Overall lenght	56"	1461.6mm
Headstock and tailstock taper	Morse no 2	
Height center of spindle to floor	41"	
Approx. Shipping weight with motor	160-1 283 lbs or 128 kg	160-2 339 lbs or 154 kg



MODEL No.	SERIAL No.
160-1 + 160-2	

IMPORTANT: When ordering replacement parts, always give the model number, serial number of the machine and part number. Also a brief description of each item and quantity desired.

EQUIPMENT INCLUDED

1632SA	Spur center
1637	3" face plate
1640	Wrench
165	4" tool rest
166	12" tool rest
169	Motor pulley
264SA	Tool rest base
2644	Knock-out bar
2651MT2	Ball bearing center 2MT

All replacement parts can be obtained from:

GENERAL MFG. CO. LTD
 835, Cherrier street
 Drummondville, Quebec, Canada
 J2B 5A8
 Phone: (819) 472-1161
 Fax: (819) 472-3266
 Web site: www.general.ca
 E-mail: general@general.ca

SAFETY RULES

Read carefully before operating the machine

- 1) Learn the machine's applications and limitations as well as the specific potential hazard peculiar to this machine. Follow available operating instructions and safety rules carefully.
- 2) Keep working area clean and be sure adequate lighting is available.
- 3) Do not wear loose clothing, gloves, bracelets, necklaces or ornaments. Eye safety: wear an approved safety face shield, goggles or glasses to protect eyes when operating the lathe.
- 4) Guards: keep the machine guards in place at all times when the machine is in use. Do not operate the machine with the guards off.
- 5) Use the proper speed. Always start the lathe at low speed. Change the variable speed before inserting the work piece on the lathe. Motor must be running to change variable speed.
- 6) Remove chuck wrench: when a chuck wrench is used, remove it immediately after using it to lock a part piece in the chuck. If it is not removed, starting the spindle can cause it to be thrown off the chuck and could result in serious injury.
- 7) Machine adjustments: make all machine adjustments with power off except speed on a variable speed model.
- 8) Never stand directly in line with a rotating piece of stock when initially installed on the machine. Rotate the workpiece to make sure you have enough clearance before turning on the power.
- 9) Use only accessories designed for the machine.
- 10) Always disconnect power from the machine before servicing.
- 11) Make sure tailstock is securely locked in position and properly supported.
- 12) Always keep tool rest as close to the workpiece as possible.
- 13) Do not use the index pin to lock spindle while replacing face plates and other attachments.
- 14) Do not drive wood into center when it is in the headstock. Set drive center into wood with a soft mallet prior to installation on the lathe.
- 15) To remove centers from the headstock, use a diameter rod inserted through spindle. #2644 knock-out bar.

GENERAL WARRANTY

All components parts of **GENERAL** machinery are carefully inspected during all stages and each machine is thoroughly inspected upon completion of assembly. Because of quality **GENERAL** agrees to repair or replace any genuine part, which upon examination proves to be defective in workmanship or material within a period of 24 months. In order to obtain warranty, a defective parts must be returned prepaid to **GENERAL MFG CO. LTD.** Repairs made without our written authorization voids all warranty.

12" WOODWORKING LATHE

The GENERAL 12" lathe is well designed, of rigid construction and accurately built. Its ease of operation makes it a favorite. It is designed for use in schools home work shops, cabinet shops, pattern shops and many other uses. It is easy to operate and requires little maintenance, but a reasonable amount of care and attention is required to insure perfect performance and accurate work. It will take just a few moments to read and familiarize yourselves with these instructions and they will probably save you a lot of trouble and time.

INSTALLATION

The lathe is packed assembled and ready for use. Remove the crate taking care not to damage the finished surface while unpacking. It is very important that the lathe sit on a solid foundation. It may be necessary to shim under the lathe cabinet in order to put the bed level. This is checked by putting a spirit level across the bed at the headstock, tailstock and center. Use metal shims to level the cabinet on uneven floor. This procedure is very important to prevent twisting of the bed. Occasionally the lathe should be checked and adjustments made to compensate for setting of floor or building.

POWER REQUIRED

The motor required for this lathe is 3/4 Hp, 1725 Rpm. For ordinary work in shops or schools it will be sufficient to give satisfactory service. However, where the lathe will be handling heavy work under steady production a 1 HP, 1725 Rpm motor should be used. Speeds of 850, 1375, 2160, 3500 Rpm will be obtained with the 4 speed lathe. Speeds of 500 to 3000 Rpm will be obtained with the variable speed lathe. The motor is mounted in the cabinet on an adjustable motor base.

HEADSTOCK

The headstock is the most important part of the lathe and it is necessary that it be kept in perfect condition. The design and construction of our headstock with the use of grease sealed, ball bearings, eliminates the most common cause of trouble, that is, lack of lubrication or improper lubrication. Since we use endless belt which may sometimes need replacement, it may be necessary to remove the spindle and pulley. To remove spindle proceed as follows: loosen the bearing retaining flange #1611. Remove the spindle nut #1613 by holding the pulley on the flat with wrench #1640. Unscrew the set screw of the pulley, now the spindle is ready to tap out toward the tailstock. Always use a piece of wood between spindle and hammer and tap lightly. Do not use heavy blows as this will damage the bearing. To re-assemble reverse the above procedure. The indexing mechanism is useful for fluting or reeding. A row of 60 holes is provided in the pulley flange and engaged or disengaged by an index pin.

Do not under any circumstance use index pin as a lock to hold the pulley while taking off face plate otherwise you will ruin indexing device. The pin must be pulled back when the lathe is used for turning.

THE TAILSTOCK

The tailstock is securely fastened to the bed by the clamping action of the eccentric shaft and lever located at the rear of the tailstock. To adjust the clamping action tighten or loosen the nuts which are located under the clamp plate in the bed ways. The quill is moved in and out of the tailstock by the handwheel and can be locked in place by the hand lever at the top. The tailstock center can be ejected by pulling in the quill to the limit which brings the point of the operating screw against the back of the force center. A slight additional turn will force out the center.

TOOL SUPPORT

The tool rests have turned shanks which are clamped in the base to the desired position by a locking handle. The base is clamped to the bed by the clamping action of excentric shaft and leveer. If adjustment is needed, this is done by tightening or loosening locknuts in the ways.

BELT TENSION

The four speed lathe is equipped with a quick release belt tension mechanism. This releases the tension on the belt for ease in changing speed. Reverse operation once the speed has been changed. Be sure that the belt is not too tight as a tight belt will cause excessive wear on the pulley and belt, unnecessary load on the motor bearing and is also the cause of excessive vibration.

IMPORTANT

Taper shank centers are driven by the close fit between shank and socket, therefore, center and taper shank accessories must be driven, not merely placed into the socket. They must not be driven by a hammer but sharply thrust in place by hand.

Never drive the piece to be turned into the spur center when it is the spindle. If this is done, the metal of the headstock spindle will stretch and neigther face plates or centers will fit, and accuracy of your lathe will be ruined.

Always remove the spur center from the lathe and drive it into the end of the work by tapping the end with a mallet to sink the spur into the wood, if it is hard wood, make two diagonal saw cuts to engage the spur.

Place the work between centers, tighten tailstock in position on the bed, now turn the handwheel of the tailstock so that the point of the cup center enters the wood. Turn the lathe by hand to see if the work turns easily, then lock tailstock quill in place with the lockhandle.

Always adjust the tool rest while the lathe is not running. The tool rest should be 1/8" to 1/4" away from the piece being turned and about 1/8" above center. Before starting the lathe, see that all adjustments have been properly made and clamped tight.

The smaller the work being turned the higher the speed should be; the larger the work the slower the speed. Use low speed when roughing off the corners of the work piece.

CAUTION

Do not wear loose neckties, loose shirt sleeves or any other loose clothing while working on the lathe as there is great danger that they be caught in the revolving work.

VARIABLE SPEED DRIVE

The variable speed pulley is mounted on a countershaft. The handwheel placed at the front of cabinet, activates a gear segment which raises or lowers the countershaft assembly. Turn handle only when machine is running to obtain the desired speed. The speed range is from 500 ta 3000 Rpm. The shaft assembly moves up and down on the gear segment to maintain belt length when speeds are changed.

The speed scale is set at the factory and never needs further adjustments. However, should it ever be necessary to adjust it, turn the hanwheel when motor is running to minimum speed, adjust and tighten back in place. To adjust the proper belt tension, move the motor up or down, do not adjust belt too tight because this will cause excessive wear on the belts and shorten the life of the bearings. It will also cause excessive vibration.

REPLACEMENT PARTS

IMPORTANT: always give part number and description of each item when ordering- Also give serial number of lathe.

PART #	DESCRIPTION	QUANT.	PART #	DESCRIPTION	QUANT.
	HEADSTOCK			BED	
1610	Spindle	1	161	Bed	1
1611	Flange	1	P-514	Socket hd cap screw 3/8-16 x 1	4
1613	Spindle nut	1		CABINET BENCH	
1614	Spindle spacer(left)	1	1600-1	Cabinet	1
1615	Spindle spacer(right)	1	1600-10SA	Welded door and hinge	2
1616	Index pin	1	1600-11	Motor base	1
163	Headstock	1	1600-3SA	End leg assembly	1
1632SA	Spur center assembly	1	1600-7SA	Shelf assembly	2
1637	Face plate 3"	1	264-3	Link pin	1
1640	Wrench	1	4800-5	Collar	1
1647	Hinge bracket	2	P-157	Hex hd cap screw 1/2-13 x 1	2
167	Headstock cover	1	P-159	Lock washer 1/2	2
P-12	Bearing 6205-2RS-NR	1	P-165	Flat washer 5/16 SAE	2
P-2	Bearing 6205-2RS	1	P-182	Nut 5/16-18	1
P-20	Hex. hd cap screw 1/4-20 x 7/8	4	P-345	Eyebolt 5/16-18 x 5" lg	2
P-220	Spring pin 5/16 x 1	2	P-365	Handle T-304	1
P-25	Cotter pin 1/16 x 3/4	1	P-366	Latch C-15	1
P-3	Socket set screw 1/4-20 x 1/4	1	P-7	Socket hd cap screw 5/16-18 x 5/16	2
P-333	Spring 263-7	1		4 SPEED	
P-4	Woodruff key #9 3/16 x 3/4	1	1600-15	Lever	1
P-400	Socket hd cap screw 10-32 x 3/8	8	1600-16	Connector	1
P-402	Rd hd socket mach screw 5/16 x 3/4	1	1600-17	Stop	2
P-78	Handle 1" 5/16-18	1	MP-27	Groove pin 1/4 x 1 1/4	2
P-9	Steel ball 1/4	1	P-408	Spring 1600-18	1
	4 SPEED		P-7	Socket hd cap screw 5/16-18 x 5/16	1
168	Spindle pulley	1		VARIABLE SPEED	
169	Motor pulley	1	1600-21	Upper girt	1
P-272	Belt A-72 74" lg	1	1600-22	Pivoting bracket	1
P-7	Socket set screw 5/16-18 x 5/16	2	1600-23SA	Handwheel assembly	1
	VARIABLE SPEED		1600-24	Worm shaft	1
1600-30	Spindle pulley	1	1600-25	Worm	1
1600-31	Motor pulley	1	1600-27	Shaft	1
P-155	Belt A-39 41" lg	1	1600-28	Scale bracket	1
P-156	Belt A-42 44" lg	1	1600-32	Connector	1
P-7	Socket set screw 5/16-18 x 5/16	2	1655SA	Variable pulley assembly	1
	TAILSTOCK		4800-5	Collar	2
1618	Lock plate	1	P-136	Lock washer 1/4	6
1619	Eyebolt	1	P-161	Bronze bushing SS-1620-16	1
162	Tailstock	1	P-162	Spring pin 1/8 x 1	1
1625	Quill	1	P-163	Spring pin 1/8 x 3/4	1
1626	Quill center	1	P-315	Drive screw 2 x 1/4	8
1627	Tailstock nut	1	P-409	Woodruff key #9 3/16 x 3/4	1
1628	Sleeve	1	P-409	Drive screw 4 x 5/16	4
1631SA	Locking shaft assembly	1	P-411	Scale 1600-26	1
1635SA	Handwheel assembly	1	P-412	Scale 1600-29	1
2413-A	Locking handle	1	P-7	Socket hd cap screw 5/16-18 x 5/16	6
2651MT2	Ball bearing center No 2 morse taper	1	P-70	Bronze bushing SS-2428-12	2
janv-56	Handle shaft	1	P-88	Hex hd cap screw 1/4-20 x 1/2	6
P-18	Woodruff key #2 3/32 x 1/2	1		AVAILABLE ACCESSORIES	
P-24	Groove pin 3/16 x 1/2 type 1	1	1621	Tool rest (90 degrees)	
P-253	Handle 691-P	1	1624	Tool rest 24"	
P-403	Split head set screw 164-1	1	1633SA	Cup center assembly	
P-405	Bronze bushing ST-1624-2	1	1636	Dead center (60 degrees)	
P-8	Jam nut 3/8-16	1	1638	Face plate 6"	
P-992	Jam nut 1/2-20 (nylon insert)	1	1639	Handwheel	
	TOOL REST		1642	Sanding disc 8"	
1618	Lock plate	1	1648	Screw center	
1619	Eyebolt	1	2643	Floor stand	
1622	Locking screw	1	34-25	Key chuck 0-1/2 with Morse taper #2	
1637	Face plate 3"	1			
165	Tool rest 4"	1			
166	Tool rest 12"	1			
2620SA	Locking shaft assembly	1			
264	Tool rest base	1			
P-403	Split head set screw 164-1	1			
P-992	Jam nut 1/2-20 (nylon insert)	1			

