

REVO 18|36 Lathe Manual

Original Instructions



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LAGUNA



EC DECLARATION OF CONFORMITY

We

Laguna Tools Inc.
2072 Alton Parkway, Irvine, California 92606, USA

Declare that the product name: Wood Lathe

Model Name : REVO 18 | 36 Lathe, REVO 24 | 36 Lathe, REVO 12|16 Lathe

Conform with the essential safety requirements of the relevant European Directive:

- Machinery Directive 2006/42/EC
- Low voltage Directive 2014/35/EC
- Electromagnetic Compatibility Directive 2014/30/EC

The person who compile technical file established within the EU:

Name: SGS UK
Address: SGS United Kingdom Rossmore Business Park, Ellesmere Port, Cheshire CH65
3EN

Mounting and connecting instructions defined in catalogues and technical construction files must be respected by the user.

They are based on the following standards :

- EN ISO 12100:2010 Safety of Machinery - General principles for design / Risk Assessment and Risk reduction.
- EN 60204-1:2006+AC:2010 Safety of machinery – Electrical equipment of machines, part 1 : General requirements.
- EN 13849-1:2015 Safety of machinery – Safety – related parts of control systems Part 1: General principles for design
- EN 50370 -1:2005 Electromagnetic compatibility (EMC) – Product family standard for machine tools – Part 1: Emission.
- EN 50370 -2:2003 Electromagnetic compatibility (EMC) – Product family standard for machine tools – Part 2: Immunity.
- EN 61000-4-2: 2009 Electrostatic (ESD)
- EN 61000-4-4: 2012 Electrical fast transient/burst requirements (EFT/Burst)
- EN 61000-4-6: 2014 Immunity to conducted disturbances, induced by radio-frequency fields (CS)

Name : Torben Helshoj

Responsibility : President

Authorized Signature : 

Date : August 29, 2018

Place : Laguna Tools, USA



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Safety Rules.

"WARNING": For Your Own Safety Read Instruction Manual before Operating Lathe

- (a) Wear eye protection.
- (b) Do not wear gloves, a necktie, or loose clothing.
- (c) Tighten all locks before operating.
- (d) Rotate work piece by hand before applying power.
- (e) Rough out work piece before installing on faceplate.
- (f) Do not mount split work piece or one containing a knot.
- (g) Use lowest speed when starting new work piece.

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. DON'T USE IN A DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. KEEP CHILDREN AWAY. All visitors should be kept at a safe distance from the work area.
6. MAKE YOUR WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.
7. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
8. USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.
9. 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 A shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
10. 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.
11. ALWAYS USE SAFETY GLASSES. Also use a face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
12. SECURE WORK. Use clamps or a vise to hold the work when practical. It's safer than using your hand and it frees both hands to operate the tool.
13. DON'T OVERREACH. Keep proper footing and balance at all times.
14. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. DISCONNECT TOOLS before servicing and when changing accessories, such as blades, bits, cutters, and the like.
16. REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure power switch is in the OFF position before plugging the machine in.
17. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
18. NEVER STAND ON TOOL Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
19. 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.
20. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
21. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

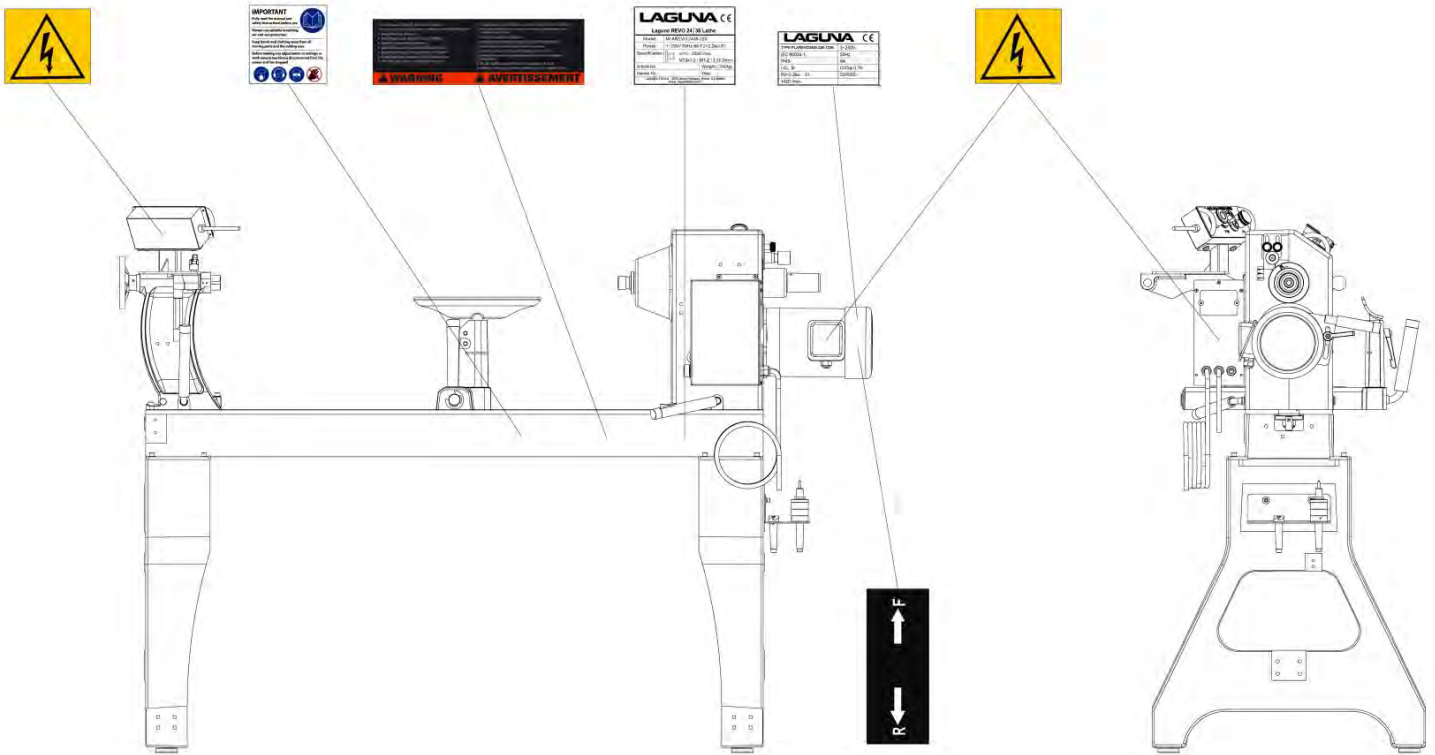
Règles de sécurité

"AVERTISSEMENT": Pour votre sécurité, lire le manuel d'instruction attentivement avant d'utiliser le tour à bois.

- (a) Porter des lunettes de protection.
- (b) Ne pas porter de gants, de cravate, ou de vêtements amples.
- (c) Serrer tous les verrous avant d'opérer la machine.
- (d) Tourner la pièce à la main avant d'appliquer le courant.
- (e) Débiter grossièrement la pièce avant de l'installer sur le plateau de montage.
- (f) Ne pas monter une pièce fendue ou comportant un nœud.
- (g) Utiliser la vitesse la plus lente au démarrage d'une nouvelle pièce.

1. CONSERVEZ TOUS LES DISPOSITIFS DE PROTECTION EN PLACE et en bon état de fonctionnement.
2. ENLEVEZ LES CLÉS ET OUTILS. Prenez l'habitude de vérifier si les clés et autres outils ne sont pas trop près de la machine avant de la démarrer.
3. CONSERVEZ LA SURFACE DE TRAVAIL PROPRE ET LIBRE D'ENTRAVES. Les endroits encombrés augmentent le risque d'accident.
4. NE PAS UTILISER DANS LES ENVIRONNEMENTS DANGEREUX. N'utilisez pas d'outils électriques dans les endroits humides, détrempés, ou sous la pluie. Conservez l'espace de travail bien éclairé.
5. TENEZ LES ENFANTS À L'ÉCART. Tous les visiteurs doivent être tenus à une distance sécuritaire de l'aire de travail.
6. RENDEZ L'ATELIER À L'ÉPREUVE DES ENFANTS avec des verrous, des interrupteurs principaux ou en enlevant les clés de démarrage sur les outils.
7. NE FORCEZ PAS L'OUTIL. L'outil effectuera un meilleur travail et de façon sécuritaire s'il est utilisé au rythme pour lequel il a été conçu.
8. UTILISEZ L'OUTIL APPROPRIÉ. Ne forcez pas un outil ou un accessoire pour effectuer un travail pour lequel il n'a pas été conçu.
9. UTILISEZ UNE RALLONGE ÉLECTRIQUE APPROPRIÉE. Assurez-vous que votre rallonge électrique est en bon état et que le calibre du filage soit adéquat pour transporter le courant que la machine a besoin. Une rallonge de trop faible calibre induira une perte d'intensité du voltage, ce qui provoquera une surchauffe et une perte de puissance. Le tableau A indique le bon calibre à utiliser en fonction de la longueur de la rallonge et de la demande en intensité du moteur. En cas de doute, utilisez la rallonge de calibre plus fort. Plus le numéro est petit, plus la rallonge est de fort calibre.
10. PORTEZ DES VÊTEMENTS APPROPRIÉS. Ne portez pas de vêtements amples, des gants, des colliers, des bracelets, ou tout autre bijou ou accessoire qui pourrait être entraîné par des pièces mobiles. Des souliers à semelle antidérapante sont également recommandés. Attachez les cheveux longs et portez un bonnet pour contenir la chevelure trop abondante.
11. PORTEZ DES LUNETTES DE PROTECTION. Portez également un masque contre la poussière si le travail exécuté dégage de la poussière. Veuillez prendre note que les lunettes de prescription ordinaire ne résistent pas aux impacts et qu'elles ne sont pas homologuées à titre de lunettes de sécurité.
12. IMMOBILISEZ VOTRE TRAVAIL. Utilisez des serres ou un étau pour immobiliser votre travail lorsque c'est possible. C'est plus sécuritaire que d'utiliser votre main, et ça permet de libérer vos deux mains pour opérer l'outil confortablement.
13. NE VOUS ÉTIREZ PAS AU-DESSUS DE LA MACHINE. Demeurez solidement en équilibre sur vos pieds en tout temps.
14. ENTRETENEZ LES OUTILS AVEC SOIN. Gardez les outils de coupe tranchants et propres pour en tirer les meilleures performances. Suivez les instructions du fabricant pour la lubrification et l'entretien des accessoires.
15. DÉBRANCHEZ LES OUTILS avant d'en effectuer l'entretien ou lors du changement d'accessoires tels que lames ou couteaux.
16. RÉDUISEZ LES RISQUES DE DÉMARRAGE NON INTENTIONNEL. Assurez-vous que l'interrupteur est en position fermée avant le branchement d'un outil.
17. UTILISEZ LES ACCESSOIRES RECOMMANDÉS. Consultez le manuel d'instruction pour connaître les accessoires recommandés. L'utilisation d'accessoires inappropriés pose des risques de blessures aux utilisateurs.
18. NE VOUS TENEZ JAMAIS DEBOUT SUR UNE MACHINE. Des blessures graves pourraient survenir si la machine bascule ou si les outils coupants sont touchés accidentellement.
19. VÉRIFIEZ LES PIÈCES ENDOMMAGÉES. Avant de poursuivre l'utilisation d'un outil, tout dispositif de protection ou toute pièce endommagée devra être inspecté pour déterminer si elle peut fonctionner correctement et selon l'utilisation qui en est prévue. Vérifiez l'alignement des pièces mobiles à savoir s'il y a un blocage, un bris, ou toute autre condition qui nuit à son utilisation. Une pièce ou un protecteur endommagé doit être réparé ou remplacé.
20. SENS D'ALIMENTATION. Alimentez la pièce vers la lame ou le couteau dans le sens contraire de sa rotation seulement.
21. NE LAISSEZ JAMAIS UN OUTIL FONCTIONNER DANS SURVEILLANCE – ÉTEIGNEZ L'OUTIL. Ne laissez pas l'outil sans surveillance jusqu'à ce qu'il s'arrête complètement.

Location of warning signs



Electrical supply conditions

- Voltage: Steady state voltage: 0,9 to 1,1 of nominal voltage.
- Frequency: 0,99 to 1,01 of nominal frequency continuously; 0,98 to 1,02 short time.
- Harmonics: Harmonic distortion not exceeding 10 % of the total r.m.s. voltage between live conductors for the sum of the 2nd through to the 5th harmonic. An additional 2 % of the total r.m.s. voltage between live conductors for the sum of the 6th through to the 30th harmonic is permissible.
- Voltage unbalance: Neither the voltage of the negative sequence component nor the voltage of the zero sequence component in three-phase supplies exceeding 2 % of the positive sequence component.
- Voltage interruption: Supply interrupted or at zero voltage for not more than 3 ms at any random time in the supply cycle with more than 1 s between successive interruptions.
- Voltage dips: Voltage dips not exceeding 20 % of the peak voltage of the supply for more than one cycle with more than 1 s between successive dips.

Physical environment and operating conditions

- Ambient air temperature: Between air temperatures of +5 °C and +40 °C.
- Humidity: The relative humidity does not exceed 50 % at a maximum temperature of +40 °C.
- Altitude: Up to 1 000 m above mean sea level
- Transportation and storage: Within a range of -25 °C to +55 °C and for short periods not exceeding 24 h at up to +70 °C.

Wood lathe

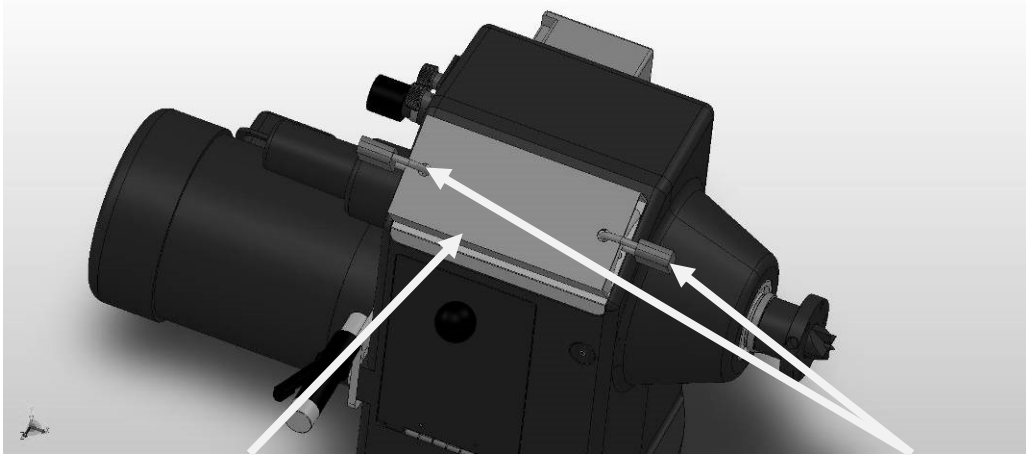
Wood turning lathes are typically used to shape wood into cylindrical profiles. Objects made on a wood lathe include such items as furniture legs, lamp posts, baseball bats, bowls and other ornamental forms. Wood lathe tooling consists of fixturing and securing devices for the work piece, a moveable tool rest, and hand-held cutting tools in the form of long handled gouges, skews, scrapers, and parting tools. Specialty tooling is also available for internal shaping and surface development.

Locking the lathe

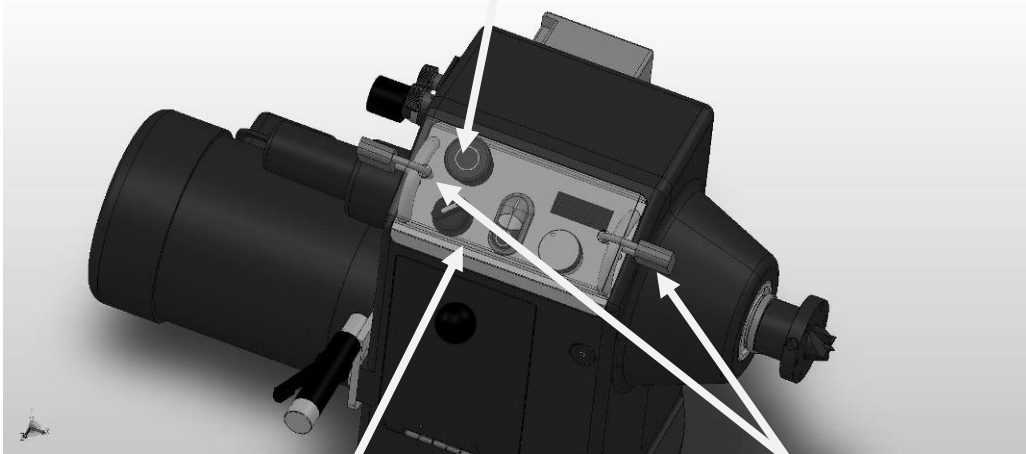
It is strongly recommended that the lathe is never be left unattended in the unlocked condition.

To lock the machine it is recommended that a cover (not supplied) is made to lock the control panel. We have supplied two concepts for locking the panel (see below). The cover can be made from wood or plastic.

First, push down the emergency stop. Then lock the cover together by putting padlocks [not included] on the two handles on the control panel. To safeguard your machine from unauthorized operation and accidental starting by young children, the use of padlocks is strongly recommended.



Wooden safety cover
Emergency stop switch
Padlocks



Plastic safety cover
Padlocks

Limited Warranty.

New woodworking machines sold by Laguna Tools carry a one-year warranty from the date of shipping. Laguna Tools guarantees all new machines sold to be free of manufacturer's defective workmanship, parts, and materials.

We will repair or replace, without charge, any parts determined by Laguna Tools, Inc. to be a manufacturer's defect. We require the defective item/part to be returned to Laguna Tools. In the event the item/part is determined to be

damaged due to lack of maintenance, cleaning or misuse/abuse, the customer will be responsible for the cost to replace the item/part, plus all related shipping charges.

This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, lack of or inadequate dust collection, misuse/abuse or damage caused when repair or alterations have been made or attempted by others.

Laguna Tools, Inc. is not responsible for additional tools or modifications sold or performed (other than from/by Laguna Tools, Inc.) on any Laguna Tools, Inc. woodworking machine. Warranty may be voided upon the addition of such noted tools and/or modifications, determined on a case-by-case basis.

Normal user alignment, adjustment, tuning and machine settings are not covered by this warranty. It is the responsibility of the user to understand basic woodworking machinery settings and procedures and to properly maintain the equipment in accordance with the standards provided by the manufacturer.

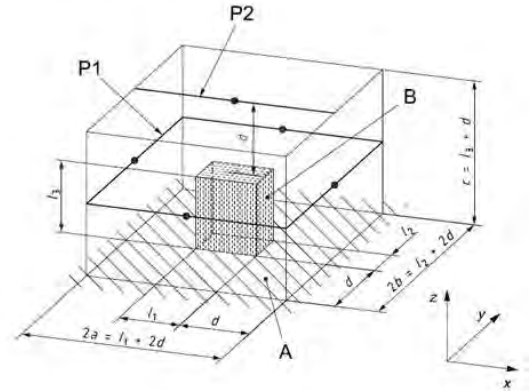
Parts, under warranty, are shipped at Laguna Tools, Inc's cost either by common carrier, FedEx Ground service or a similar method.

Technical support to install replacement parts is primarily provided by phone, fax, or e-mail. The labor required to install replacement parts is the responsibility of the user.

Laguna Tools is not responsible for damage or loss caused by a freight company or other circumstances not in our control.

Only new machines sold to the original owner are covered by this warranty. For warranty repair information, call 1-800-332-4094.

Equivalent A-weighted Sound pressure level according to EN ISO 3746: 75.66 dB(A)
 Uncertainty, K in decibels: 4.0 dB (A) according to EN ISO 4871 The figure quoted is emission levels and are not necessarily safe working levels. Whilst there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of the workforce include characteristics of the work room, the other sources of noise, etc. i.e. the number of machines and other adjacent processes. Also the permissible exposure level can vary from country to country, This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.



Specification sheet.

Motor	Induction, 1420RPM, 2 HP 230V	
Voltage	230v 50hz single phase input, 3 phase output	
Recommended breaker size	15 amp	
Swing over bed	18" (457mm)	
Swing over banjo	13.5" (343mm)	
Outboard swing max	32" (813mm)	
Distance between centers	36" (914mm)	
Floor to spindle center	41.5"(1054mm)	
Floor to bed height	32.5" with pads (826mm)	
Floor space	W60" D26" H47"(1524mm, 660mm, 1194mm)	
Tool rest	12" (305mm)	
Speed range high	135 - 3500 RPM	
Speed range low	50 - 1300 RPM	
VFD	Delta variable frequency drive	
Drive belt	Poly-groove drive belt with easy access	
Spindle	M33 x 3.5 mm right hand thread	
Spindle taper	MT 2	
Spindle lock	Spring loaded	
Spindle index	14 / 36 / 48 positions with lock	

Headstock & tailstock bore	0.375" dia (9.5mm dia)	
Tail stock travel	4.5" (114mm)	
Tail stock removal	Self- ejecting	
Tailstock tapers	MT 2	
Face plate	3" diameter (76mm)	
Bed material	Steel	
Weight (Net / ship)	427/452 lbs (194kg / 206 kg)	

Receiving your machine.

Note. It is probable that your machine will be delivered by a third party. Before you unpack your new machine you will need to first inspect the packing, invoice and shipping documents supplied by the driver.

Insure that there is no visible damage to the packing or the machine. You need to do this prior to the driver leaving. All damage must be noted on the delivery documents and signed by you and the delivery driver. You must then contact the seller (Laguna Tools) as soon as practical. If damage is found after delivery, contact the seller as soon as is practical.

Note. It is probable that you will find sawdust within your machine. This is because the machine has been tested prior to shipment from the factory and or Laguna Tools. Laguna Tools endeavours to test machines prior to shipping to customers as movement can take place during transportation. It must be noted that additional machine movement can take place between Laguna Tools and the end user and some adjustments may have to be undertaken by the customer. These adjustments are covered in the various sections of this manual.

Introduction to lathes.

This machine is designed to give you years of safe service. Read this owner's manual in its entirety before assembly or use.

Parts of the lathe.

The lathe consists of a number of major parts, which are discussed in this manual. Take the time to read this section and become familiar with the machine.

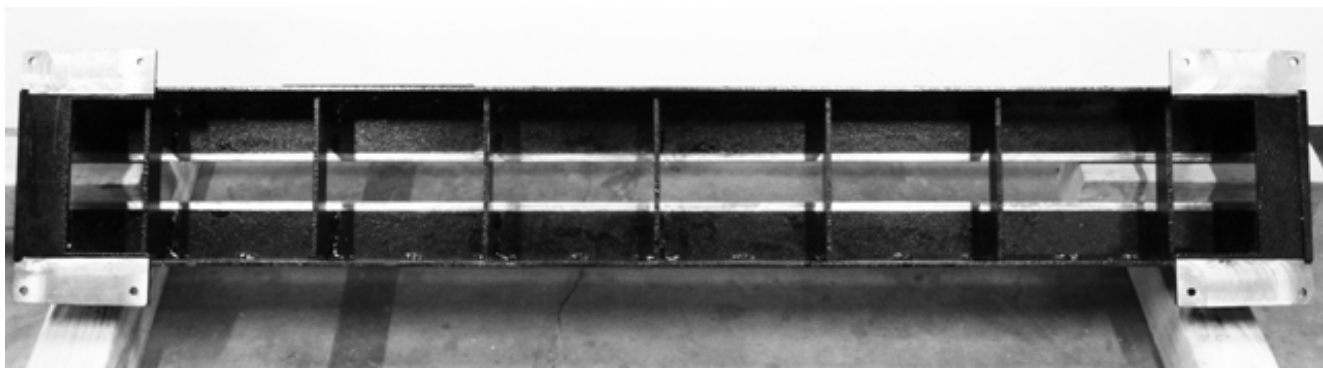
Identification.

There is a plate at the back of the machine listing all the manufacturing data, including the serial number, model, etc.

LAGUNA CE			
Laguna REVO 18 36 Lathe			
Model	MLAREVO 1836		
Power	1~230V 50Hz 5.8A P2=1.5kw S1		
Specification		n ₀ =0 - 3500 /min SCCR=6k A M33x3.5 / MT-2 / ϕ 10.5mm	
Article No.		Weight	194kg
Series No.		Year	
LAGUNA TOOLS 2072 Alton Parkway, Irvine, CA 92606 www.lagunatools.com			

Lathe Bed.

The bed is a machined heavy steel welded construction.



Underside of lathe bed

Lathe legs.

The Legs are cast iron, and their heavy construction gives the machine a low center of gravity and ensures that it is very stable. The legs are supplied with adjustable feet to allow the machine to be leveled.



Legs with adjustable feet assembled

Head stock.

The head stock is cast iron and houses the variable speed control and motor. The Spindle can be locked in 14 / 36 and 48 positions.



Headstock removed from the bed



Headstock attached to bed

Tail stock.

The tail stock is of cast iron construction, and the spindle has a travel of 4 1/2 in. It can accommodate centers and other tools which have a number 2 Morse Taper. The tail stock can be moved to any position on the lathe bed and locked to suit the job at hand.



Tailstock viewed from the back



Tailstock viewed from the front

Tool rest.

The tool rest can be moved to any position on the lathe bed and locked to suit the job at hand. The tool rest has a tall profile to allow the bowl turner to turn steep angles. The leading edge is made from 6mm hardened steel.



Tool rest assembled to the bed



Tool rest

Electrical system.

220V: The electrical control system (VFD) is housed at the back of the head stock, The VFD converts single phase 220v to three phase. There is a speed readout at the front of the lathe with controls to fine adjust the RPM of the spindle. . A power cord with 220V plug is provided.



VFD with cover open



Power cord

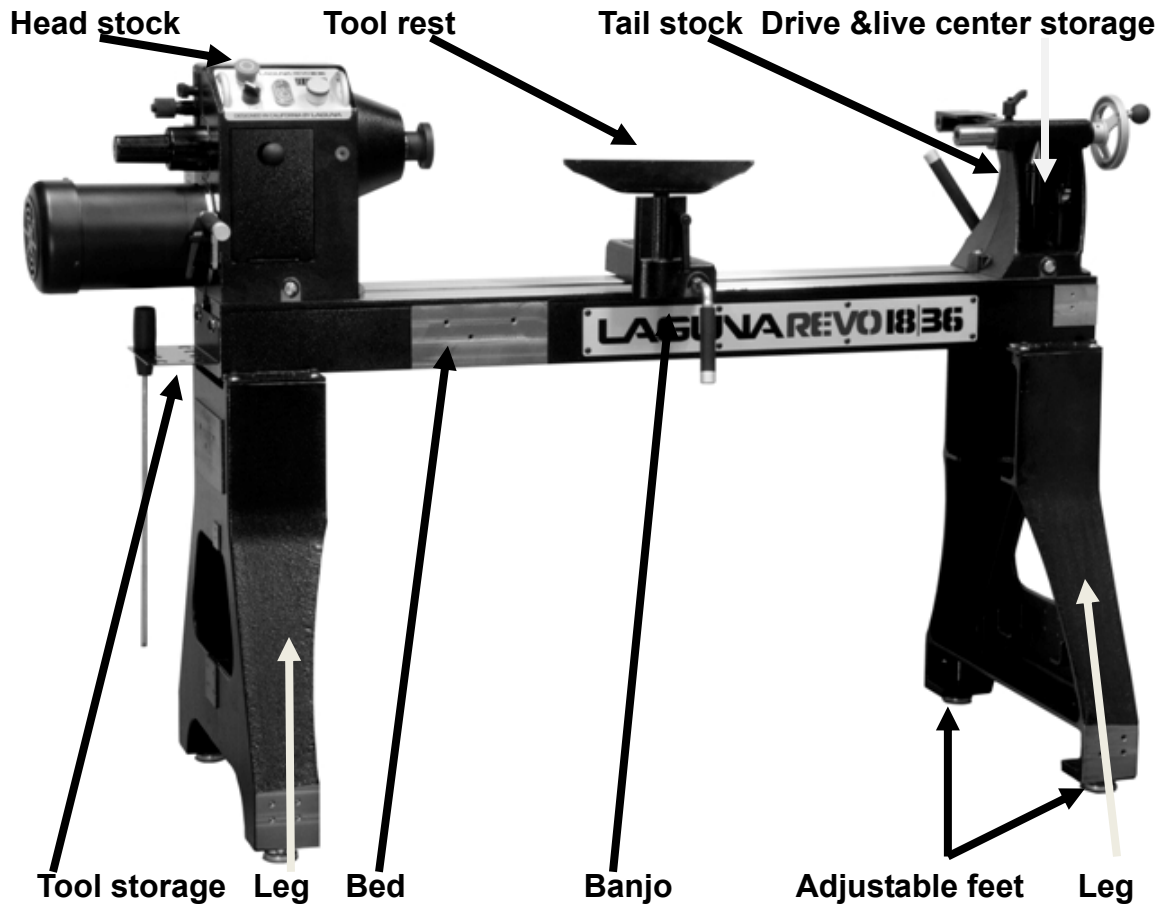
Tool storage.

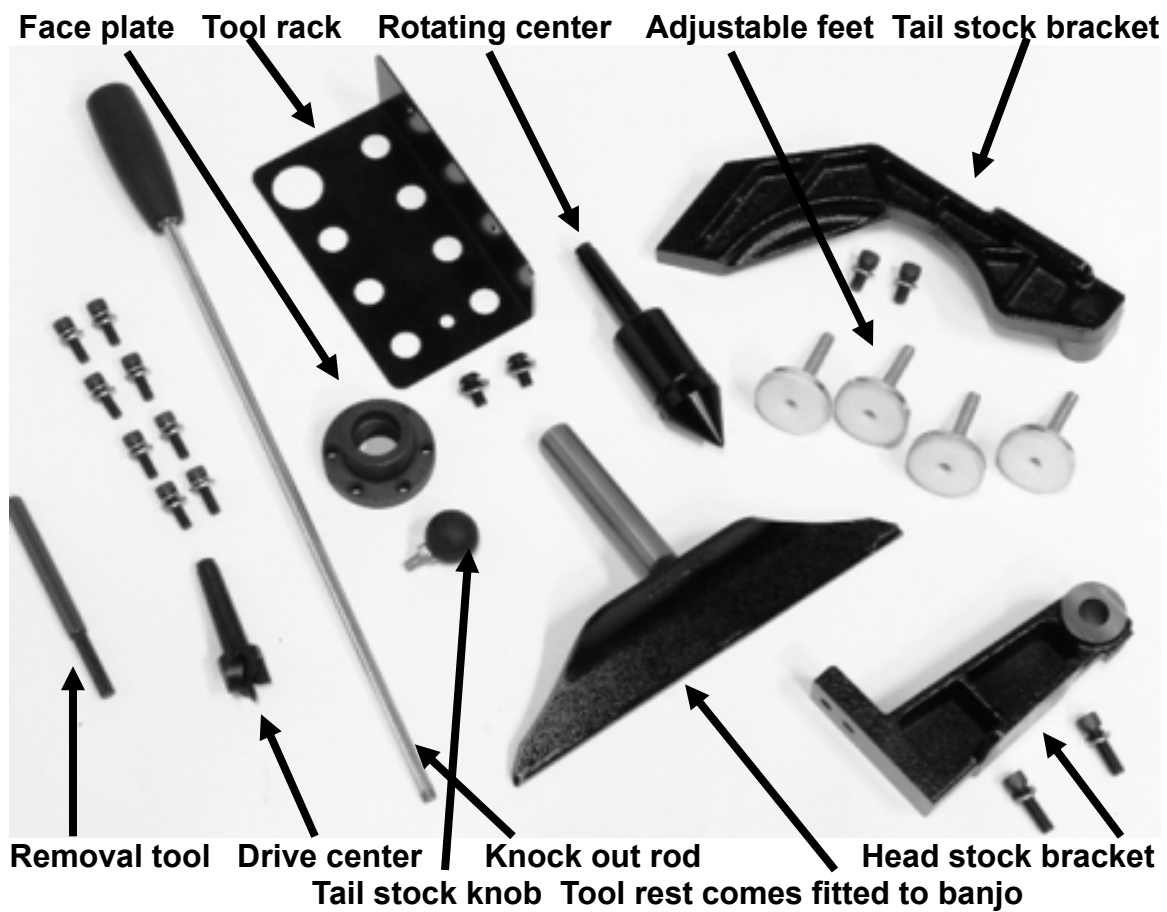
A tool storage bracket which can be mounted on either leg.



Tool storage bracket

What you will receive with the lathe.





Where to locate your machine.

Before you remove your machine from the packaging, select the area where you will use your machine. There are no hard and fast rules for its location, but below are a few guidelines:

1. There should be sufficient area at the front of the machine to allow you to work on it comfortably.
2. There should be sufficient area at the back of the machine to allow access for adjustments and maintenance to be conducted.
3. Adequate lighting. The better the lighting the more accurately and safely you will be able to work.
4. Solid floor. You should select a solid flat floor, preferably one made of concrete or something similar.
5. Locate it close to a power source and dust collection.
6. Allow an area for the storage of blanks, finished products and tools.