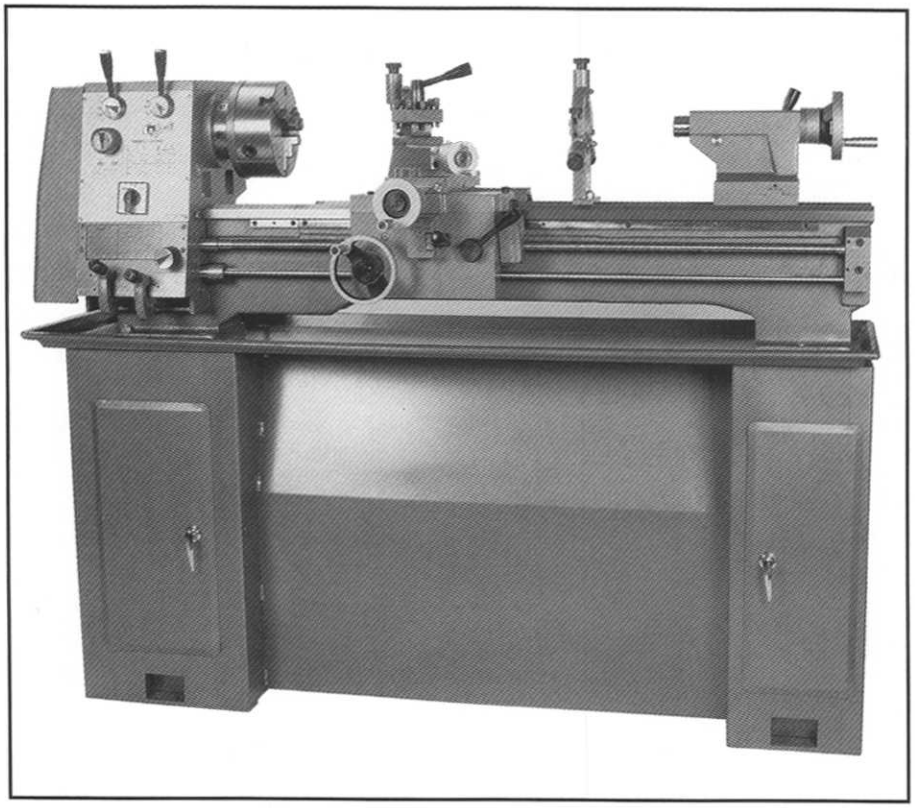
IMPORTS, INC.

GEAR HEAD METAL LATHE

MODEL G1001

INSTRUCTION MANUAL



REVISED OCTOBER, 1994. PRINTED IN USA

WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement, and other masonry products.
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

METALWORKING EQUIPMENT SAFETY INSTRUCTIONS

⚠WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

Metalworking can be fun and rewarding, however it can also be a dangerous activity if safe and proper operating procedures are not followed. Please take the time to review the manual which was supplied with your machine, as well as these general safety instructions. Make sure you have properly assembled and adjusted the machine before operating it the first time. Metalworking requires a certain degree of specialized knowledge. The manual is provided to familiarize you with the features of this machine, but is not intended to be a complete training manual. If you are not familiar with the proper use of this type of machine, consult a trained machinist, refer to books/reference materials, or enroll in training classes in your community.

If you have assembly, adjustment or operation questions, or you cannot find adequate assistance regarding metalworking procedures, please contact Grizzly Industrial's Customer Service:

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Fax: 1-800-438-5901
E-Mail: techsupport@grizzly.com
Web Site: http://www.grizzly.com

⚠WARNING

Safety Instructions For Metalworking Machines

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.
3. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
4. **DON'T USE IN DANGEROUS ENVIRONMENT.** DO NOT use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.
5. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
6. **MAKE WORK SHOP CHILD PROOF** with padlocks, master switches, or by removing starter keys.
7. **DO NOT FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
8. **USE RIGHT TOOL.** DO NOT force tool or attachment to do a job for which it was not designed.

⚠WARNING

Safety Instructions For Metalworking Tools

9. **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. Conductor size should be in accordance with the chart below. The amperage rating should be listed on the motor or tool nameplate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.

Minimum Gauge for Extension Cords

	LENGTH		
AMP RATING	25ft	50ft	100ft
0-6	16	16	16
7-10	16	16	14
11-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No

10. **WEAR PROPER APPAREL.** DO NOT wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

11. **ALWAYS USE SAFETY GLASSES.** Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

12. **SECURE WORK.** Use properly secured clamps or vises to hold work while performing the machining operation

13. **DO NOT OVERREACH.** Keep proper footing and balance at all times.

14. **MAINTAIN TOOLS AND MACHINERY WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury.

16. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** On machines with magnetic contact starting switches there is a risk of starting if the machine is bumped or jarred. Always disconnect from power source before adjusting or servicing. Make sure switch is in OFF position before reconnecting.

17. **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.

18. **NEVER LEAVE MACHINE RUNNING UNATTENDED. TURN POWER OFF.** DO NOT leave machine until it comes to a complete stop.

19. **SOME COOLANTS USED FOR MACHINING MAY CONTAIN HAZARDOUS CHEMICALS.** Read and understand all user information on the coolant container and protect yourself accordingly.

20. **NEVER OPERATE A MACHINE WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Full mental alertness is required at all times when running a machine.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment or poor work results.

TABLE OF CONTENTS

I. INTRODUCTION

We are proud to offer the Model G1001 12" x 36" Gear-Head Metal Lathe. The Model G1001 is part of a growing Grizzly family of fine metalworking machinery. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

The Model G1001 is a precision metalworking lathe. It features cast iron construction, 36" V-bed, removable gap bed for increased turning capacity, helical back-gears, a speed range of 88-1610 RPM, quick-change gearbox and a complete electrical package. The electrical package consists of a dual-voltage, 1½ H.P capacitor-start motor, mechanical forward and reverse switch and cord set. All running parts operate on shielded ball bearings and require no lubrication for the life of the bearings. We also offer many accessories for this lathe. Please refer to the latest Grizzly catalog for prices and information.

We are also pleased to provide this instructional manual with the Model G1001 Lathe. This manual was written to guide you through assembly, review safety considerations and cover basic operating procedures. It represents our latest effort to produce the best documentation possible. If you have any constructive criticisms or comments you feel we should include in our next printing, please write us at the address below.

Manager, Technical Documentation
Grizzly Imports, Inc.
P.O. Box 2069
Bellingham, WA 98227

Finally, we stand behind our machines. We have two excellent regional service departments at your disposal, should the need arise. If you have any service questions or parts requests, please call or write us at the appropriate location listed below.

If you live West of the Mississippi River, contact:
P.O. Box 2069
Bellingham, WA 98227
Phone: 1-360-647-0801
FAX: 1-800-225-0021

If you live East of the Mississippi River, contact:
2406 Reach Road
Williamsport, PA 17701
Phone: 1-717-326-3806
FAX: 1-800-438-5901

II. COMMENTARY

To operate this, or any metalworking machinery safely and efficiently, it is essential to become as familiar with its characteristics as possible. Take as much time as necessary to become acquainted with the Model G1001 Metal Lathe. The time you invest before you begin to use this machine will be time well spent. Also, read all of the safety procedures. If you do not understand something, do not operate this machine.

The specifications, drawings and photographs illustrated in this manual represent the Model G1001 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes to the Model G1001 may be made at any time with no obligation on the part of Grizzly.

The information in this manual has been obtained from sources believed to be reliable and as up-to-date as possible. While this manual is intended to be a good source of basic information, it is by-no-means the last word on metal turning. Instead, we have focused primarily on the proper assembly and adjustment of the machine. We have also included some important safety measures which we believe to be essential to this machine's operation. While most safety measures are generally universal, Grizzly cautions that each workshop is different and safety rules should be considered *as they apply to your individual situation.*

The metal lathe is capable of performing a wide range of work. Its primary function is to turn cylindrical stock. The lathe can also be used for drilling, threading and machining a number of metals and metal alloys into a variety of shapes and designs.

The metal lathe is designed for highly-skilled individuals who have an understanding of metalworking. We realize there are numerous kinds of cutters and specialized techniques used to turn metals. To list all of the techniques necessary to operate a metal lathe correctly for specific applications would require many volumes.

If you are not familiar with metal lathes and their safe operation, we strongly suggest you obtain as many books on the subject as you can. A visit to the local library, or time spent browsing through back issues of machinist's magazines will prove beneficial in gaining knowledge of lathe operations.

III. SAFETY RULES FOR ALL TOOLS

WARNING! As with all power tools, there is a certain amount of inherent danger associated with the Model G1001 Metal Lathe. Using the tool with respect and caution will considerably lessen the possibility of mechanical damage or operator injury. However, if normal safety precautions are overlooked or ignored, injury to the operator or others in the area is possible.

There are certain applications for which this tool was designed. We strongly emphasize that this tool should never be modified and/or used for any application other than that for which it was designed. If you are confused about any aspect of this machine, **do not** use it until you have resolved any questions you might have. The following are important safety rules for all tools:

1. **KNOW YOUR POWER TOOL.** Read the owner's manual carefully. Learn the tool's applications and limitations, as well as its particular hazards.

2. **KEEP GUARDS IN PLACE** and in working order.

3. **GROUND ALL TOOLS.** If the tool is equipped with a three-prong plug, it should be plugged into a three-hole grounded outlet. If an adapter is used to accommodate a two-prong receptacle, the adapter plug must be attached to a known ground. Never remove the grounding prong.

4. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make it a habit to check that keys and adjusting wrenches are removed from the machine before turning it on.

5. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.

6. **AVOID DANGEROUS ENVIRONMENTS.** Do not use power tools in damp or wet locations or expose them to rain. Keep your work area well lighted.

7. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance away from your work area.

8. **MAKE WORKSHOP CHILD-PROOF** with padlocks, master switches, or by removing starter keys.

9. **DO NOT FORCE TOOL.** Tools work better and more safely when they are allowed to work at their own speed.

10. **USE THE RIGHT TOOL.** Do not use a tool or an attachment to do a job it wasn't intended for.

11. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, or jewelry that might get caught in moving parts. Non-slip footwear is also recommended. Wear a hat or other protective head wear if your hair is long.

12. **USE SAFETY GLASSES AND EAR PROTECTION.** Also use a dust mask if the turning operation produces dust or fine chips.

13. **SECURE YOUR WORK.** Use clamps or a fixture to hold your work. It is safer than using your hands and frees up both hands for operating the tool.

14. **DO NOT OVERREACH.** Keep proper footing and balance at all times.

15. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. **DISCONNECT TOOLS FROM POWER** before servicing and when changing accessories.

17. **USE RECOMMENDED ACCESSORIES.** Consult the current catalog for recommended accessories. The use of improper accessories may be hazardous.

18. **AVOID ACCIDENTAL STARTING.** Make sure the switch is in the "OFF" position before plugging in the power cord.

19. **NEVER STAND OR LEAN ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting surfaces are accidentally contacted.

20. **CHECK DAMAGED PARTS.** Before further use of the tool, any part or guard that is damaged should be promptly repaired or replaced. Do not operate the machine until you are certain it is in perfect running condition. Failure to follow this precaution could result in further mechanical damage and operator injury.

21. **DIRECTION OF FEED.** Always turn your work against the direction of bit or cutter. Failure to do so could result in damage to the cutting tool and your workpiece.

22. **NEVER LEAVE THE TOOL RUNNING UNATTENDED - TURN POWER OFF.** Do not leave the tool until it comes to a full stop.

23. **DO NOT OPERATE THE MACHINE WHILE UNDER THE INFLUENCE** of any medication that could hinder your judgement or reaction time. Never operate this machine after consuming alcohol.

24. **DO NOT WORK IN HASTE** or operate machinery if you are mentally or physically fatigued.

25. **IF THERE IS SOMETHING YOU DO NOT UNDERSTAND**, do not operate the machine! Ask for help first. Confusion can be hazardous to your health.

26. **BAD HABITS ARE DANGEROUS.** Periodically review all safety considerations and follow them.

IV. UNPACKING

Your lathe and accessories have arrived in a crate on a pallet. If you find damage to the components after you've signed the delivery receipt and the truck and driver have already gone, you will need to file a freight claim with the carrier. Save the containers and all packing material for inspection by the carrier or their agent. Without the packing material, filing a freight claim can be difficult. Of course, if you need advice regarding a freight claim, please call us.

To uncrate your lathe, you'll need a hammer and pry-bar. Remove the nails from the bottom end of the wood uprights and lift the crate off the pallet. Use caution when uncrating the Model G1001. Exposed nails and banding materials can cause injury if handled carelessly. Always wear eye and ear protection when unpacking or operating lathe.

V. PIECE INVENTORY

The Model G1001 is, for the most part, pre-assembled at the factory. Taking inventory should not take long. Inside the crate, you'll find:

- Lathe assembly
- A 3-jaw chuck, 4-jaw chuck and face plate
- Steady rest secured to the ways
- Turret tool post mounted on the compound slide
- Toolbox

The Model G1001 Toolbox contains:

- A pouch of metric Allen wrenches
- A combination wrench, sized 14mm and 17mm
- An American Rocker tool post assembly
- A 30-tooth change gear for metric threading
- A 32-tooth change gear for metric threading
- A wrench for each chuck
- A square wrench for the turret tool post
- A set of extra jaws for the 3-jaw chuck
- Two MT #3 centers
- A center reducing sleeve – from MT #5 to MT #3
- Follow rest mounted on carriage

VI. CLEAN UP

All of the unpainted surfaces on this machine – and a few of the painted ones – are coated with a preservative oil, called Cosmolene, which prevents rust and corrosion during shipping. The coating can be removed with paint thinner (mineral spirits) and a good supply of paper towels, although you may find that careful scraping with a putty knife may be necessary where the coating is particularly thick. Use caution when removing the coating with your putty knife to avoid scratching painted surfaces on your metal lathe.

DO NOT use gasoline, lacquer thinner, acetone, or other highly-flammable solvents. The possibility of flash fire or explosion is far greater and they don't work much better anyway.

Don't use chlorinated solvents, such as perchloroethelene; they will lift the paint and ruin the lathe's finish. Be careful when working around the drive belt. Any solvent that cuts grease will, in the long run, be harmful to rubber. While you are cleaning the lathe, please pay attention to the following rules:

1. Work only in a well-ventilated area.

2. Make sure there are no sources of open flame in your work area, such as pilot lights or woodstoves.

3. DO NOT smoke while you're working.

4. Dispose of soiled towels in a proper manner to avoid fire and environmental damage.

VII. SITE PLANNING

When placing the metal lathe in your shop, three considerations should be addressed; floor load, working clearances and electrical requirements. We'll look at the first two requirements now and leave the third for the next section.

A. FLOOR LOAD

Your Model G1001 Metal Lathe represents an extreme weight load in a small footprint. For planning purposes, the intended work area should be able to take a uniform distributed live load of 250 pounds per square foot. Most commercial concrete floors and 4" concrete slab floors (such as those found in most modern residential garages) should be suitable for the Model G1001, its stand and operator. Rigidity is a key factor in proper lathe operation. If you intend to set the Model G1001 up on a floor other than those described above, it's absolutely essential you make sure the floor below the lathe be extremely stable and well-supported. Consideration should also be given to the ease of placing the lathe in its work area. Due to its size and weight, the Model G1001 is extremely difficult to transport. Place the lathe in a permanent position, if possible. The Model G1001 weighs in at 1,000 lbs. in its container and 850 lbs. unpacked, so any unnecessary movement is going to be difficult.

In some cases, moving the Model G1001 up or down stairs is going to be unavoidable. We'll spend some time in the Assembly section of this manual, disassembling the various components of the

Model G1001. Though it should be avoided under most circumstances, dismantling the lathe will make it possible to move it in several more-manageable pieces.

B. WORKING CLEARANCES

Working clearances will vary from one customer to the next, depending on individual requirements. Place the Model G1001 in a place that can handle your most ambitious turning requirements. The Model G1001 measures 70" long by 30" wide, so you'll need to locate it in a relatively large work area. If most of your projects are shorter than the bed length, you'll be able to place the tailstock fairly close to the corner of your shop. On the other hand, if you intend to machine long stock, you'll need to give yourself plenty of extra room to work. The gap insert in the bed can be removed by loosening the four cap screws on top of the insert. Removing the insert can cause paint chipping at the joint. Only remove the insert if necessary. The area around the Model G1001 should be lit well enough to eliminate any shadows.

VIII. ELECTRICAL SERVICE REQUIREMENTS

The Grizzly Model G1001 is furnished with a complete electrical package: A 1720 RPM TEFC 1½ H.P. motor, magnetic ON-OFF / reverse switch and a 110V cord set. The motor is single phase and can be operated on either 110/120V or 220/240V (if properly re-wired).

A. GENERAL

The Model G1001 draws up to 18 amps at 110V while under load. We suggest a 20-amp circuit for the machine. The Model G1001, when configured for 220V, will draw about eight amps under load. A 20-amp breaker is satisfactory for 220V use. We've illustrated in Figure 2, a typical plug configuration that would be appropriate for the Model G1001 when set up for 220V. This isn't the only possible configuration – you may want to discuss your particular application with a local electrical equipment supplier for possible alternatives. Ideally, when running either 110V or 220V, your Model G1001 will be best protected by dedicating a circuit specifically for that machine. While 20-amp breakers are more than capable of supporting a number of outlets under most circumstances, overloading could occur under peak usage.

Should you decide to re-wire the Model G1001 to run on 220V, keep in mind that the process is more

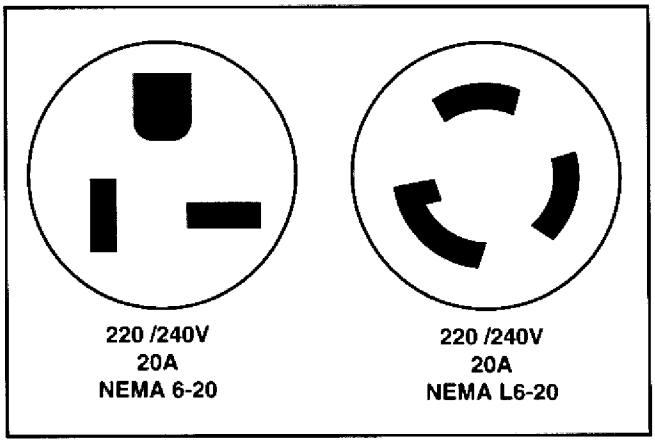


Figure 1

complicated than simply changing plugs. You will need to re-wire the motor to the specifications supplied along with this manual. If you are unsure about re-wiring methods, you are welcome to contact our service department. Your local building department or a licensed electrical contractor should also be able to help you if electrical requirements exceed your understanding.

B. GROUNDING

If you are plugging into an existing outlet, ensure that it is grounded. If not, it will be necessary to run a separate grounding wire, #10 copper or larger, from the frame of the machine to the grounding stud at your service panel.

If you find it necessary to use an extension cord with your metal lathe, make sure its conductors are rated at #10 or larger (for 220V) and #14 or larger for 110V. The cord should be rated for hard service (S-type jacket), with NEMA-approved connectors and a ground wire.

CAUTION: Never cut the grounding pin from the plug. If you have problems with the electrical components supplied with the G1001, please contact our service department for assistance. Should you decide to use a larger motor on the machine, DO NOT rely on the information above. Contact a licensed electrician or your local building department for proper wiring requirements.

C. WORD OF CAUTION

In this section we have covered some basic electrical requirements for the safe operation of your Model G1001 Metal Lathe. As with the safety rules noted earlier, these requirements are not necessarily comprehensive. Further, you must be sure that your particular electrical configuration complies with state and local codes. The best way to ensure compliance is to check with your local building department or a licensed electrical contractor.

IX. ASSEMBLY / DISASSEMBLY

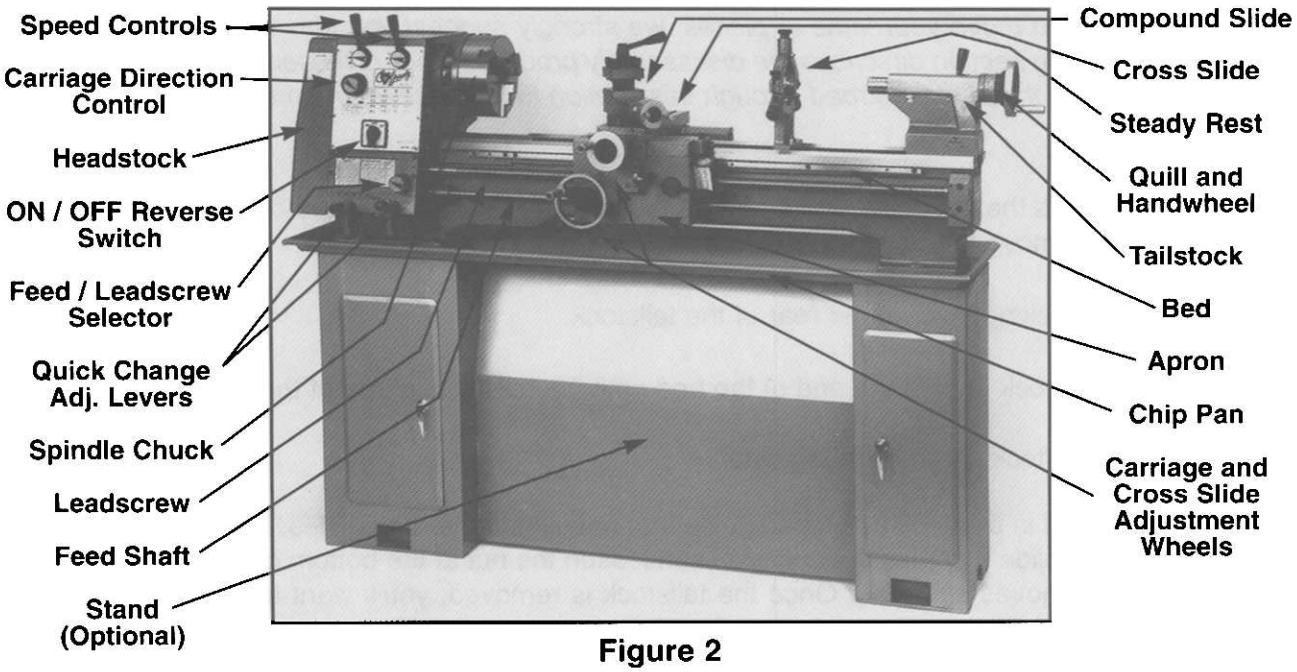


Figure 2

As we mentioned in the Unpacking section of this manual, the Model G1001 comes nearly assembled from the factory. Proper methods should be used when moving the Model G1001. Ideally, the lathe is best moved with slings and a forklift. An engine hoist, obtained from a local rental yard, will also make transport safer and more efficient.

Slinging the lathe should be done with care. DO NOT wrap your chain or sling strap around the lathe's bed. Lifting that way will invariably bend the leadscrew and feed shaft. The gap bed features a number of ribs capable of carrying the lathe's weight. The problem is keeping the machine from tipping when it's lifted. Extreme care should be taken when lifting the lathe from its pallet to make sure the sling is located so the weight is evenly distributed from end to end. The machine may still have a tendency to roll from side to side as it's lifted. You can cautiously support the machine by hand or rig lateral supports. Either way, use extreme care. At approximately 900 lbs., the Model G1001 is extremely capable of causing severe injury or worse, should control be lost during movement.

An optional cabinet stand is available for use with the Model G1001. If you choose to use the stand, you will find the holes for bolting the G1001 to the stand are already in place. If you are using your own bench, you will want to pre-drill mounting holes. The best way to pre-drill is to use the chip pan as a template. Lay the chip pan on your bench and drill holes to match those already drilled in the pan. Once the holes are in place, the lathe can be set on top of the chip pan and bolted down.

If you find it necessary to move the lathe by hand, get lots of help. You should NOT try to move the lathe with less than eight people...unless you move the machine in sections. The following instructions will enable you to break the lathe down into a number of more-manageable pieces.

Assembling and disassembling the Model G1001 requires a good selection of metric hand tools. You'll need a full assortment of metric Allen wrenches and metric open end wrenches. An assortment of metric pin punches is also helpful. If you find that components won't move easily, DO NOT attempt to force them with a steel-faced hammer. If you must tap parts off, use a dead blow or brass hammer. Iron castings are heat treated and can easily be marred or damaged by steel hammers. If a lathe component remains stubborn after attempts to remove it, call our service department.

NOTE: *The process of disassembly or re-assembly should only be taken on if absolutely necessary. If you don't need to move your lathe in pieces, we strongly suggest you leave the machine in one piece. The following section describes the disassembly process. While disassembly may not be necessary on your machine, please read through this section to increase your familiarity with the Model G1001.*

The **TAILSTOCK** is the first component of the machine you'll want to remove during the disassembly process. To remove the tailstock from the bed:

1. Loosen the locking lever at the rear of the tailstock.

2. Slide the tailstock toward the end of the bed until the tailstock is free of the machine.

3. Place the tailstock carefully to the side.

The tailstock is held in place by a notched guide that rides under the bed glides. If the tailstock grabs or catches as you slide it across the bed, you can loosen the nut at the bottom of the notched guide until the tailstock moves smoothly. Once the tailstock is removed, you'll want to remove the **CARRIAGE ASSEMBLY**. The process of removing the carriage assembly requires disassembly elsewhere, so follow along carefully. To begin the disassembly process:

1. Loosen, but do not remove the lock nuts and setscrews on the gib at the back side of the carriage. See Figure 3. The small setscrews and lock nut are metric (be sure to use appropriate metric hand tools).

2. Open the **MOTOR TERMINAL WIRING** box. Note the existing placement of wires in the box and jot the pattern on a scratch sheet. Label and disconnect the wires. Loosen the bushing at the terminal box and remove the motor power cable from the motor.

3. Remove the **MOTOR** from its mounting base. Four bolts will need to be removed to separate the motor from its mounting.

4. Remove the three mounting screws from the **MOTOR MOUNTING BRACKET** and remove the bracket from the lathe.

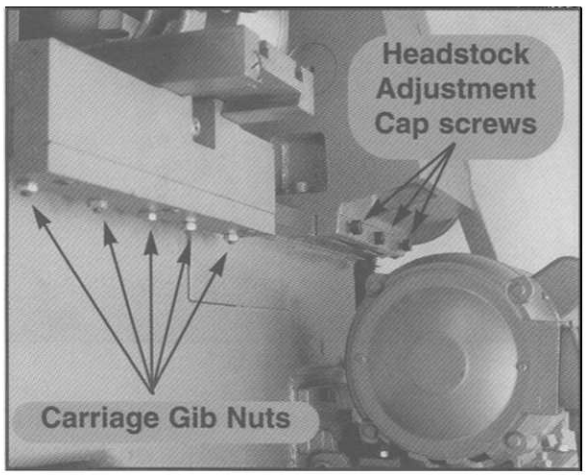


Figure 3

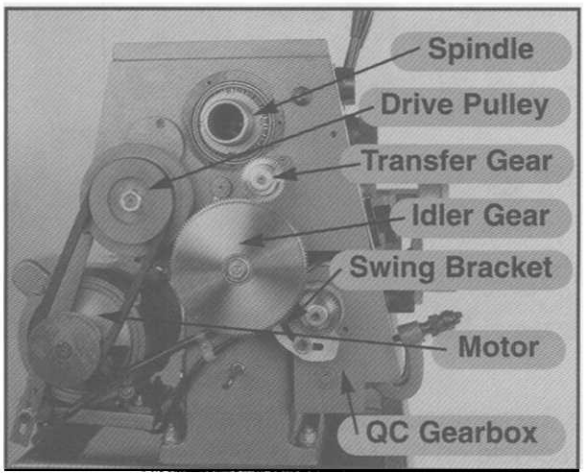


Figure 4

5. On the bottom rib at the back of the **HEADSTOCK CASTING** – behind the motor – are three cap screws. See Figure 3. These screws are intended to adjust the headstock square to the bed. Remove the center screw and loosen the two side screws. DO NOT remove the side screws at this time.

The next few steps require you to move around to the far left side of the machine at the end of the headstock. See Figure 4 for part locations. To proceed:

1. Remove the cast cover at the end of the machine. Two knurled nuts hold the cover in place.

2. Remove the lower gear that connects the drive gear to the quick change gearbox. The gear above the idler gear can be left in place for now. Use an Allen wrench to remove. The gear is keyed to the shaft. Use care not to lose the key when removing the gear.

3. Remove the **IDLER GEAR AND SWING BRACKET**. Try to remove both as one piece. Use a spray lubricant to help loosen the assembly, if necessary. The bracket and idler gear should come off with just minor pressure.

4. The **WIRING HARNESS** between the control panel and the motor has a a clamp connecting it to the headstock just below the idler gear. Loosen and remove the clamp.

5. There are two Allen head cap screws extending upward from below the bed through the headstock casting. Loosen the two cap screws. DO NOT completely remove them yet.

Once you've finished the preceding steps, return to the main portion of the lathe's bed. At this point, remove the **STEADY REST** from the bed. The steady rest is attached to the bed with a bracket much like the one you encountered on the tailstock. If the steady rest grabs as you try to slide it along the bed, loosen the nut and bolt holding the rest to the bracket and slide the rest. Slip the rest off of the end of the bed and put it safely off to the side.

The **COMPOUND SLIDE** can be removed, at this point, by removing the two capscrews that hold it in place. See Figure 5. Once the screws are removed, slip the slide off of its pin. Carefully remove the slide and place it away from your work area, along with the tailstock and the motor assembly.

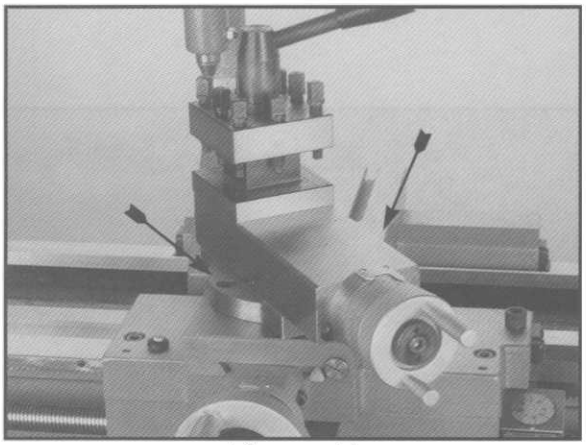


Figure 5

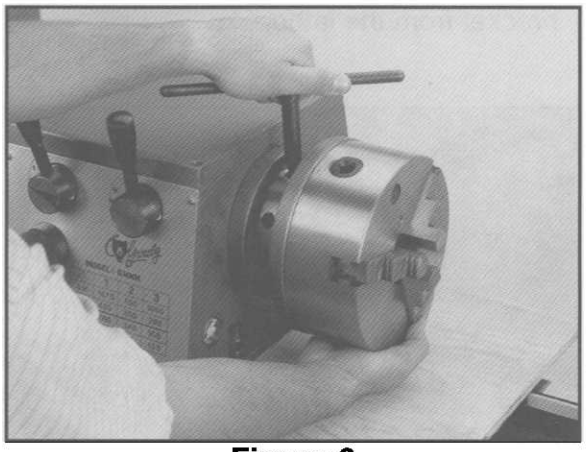


Figure 6

After the compound slide is free from the carriage, preparations can be made to remove the **CHUCK.** The spindle on the Model G1001 is a camlock design. Instead of threading the chuck and other hold downs onto the spindle, the cam lock design holds your chuck and faceplate, using locking pins. The following instructions describe chuck attachment and removal:

1. Align the chuck with the camlock on the spindle so the three notched pins line up with the three holes in the face of the camlock and insert the pins until the chuck and camlock are secure. See Figure 6.

2. Place the chuck key in the hex socket at the top of the camlock and turn the key counterclockwise until you feel a locking click. Turn the spindle and repeat on the remaining socket heads. The chuck or faceplate should be drawn into the camlock as the socket heads are tightened. If the chuck or faceplate feels loose on the camlock, turn to the directions in the maintenance section for camlock adjustment. Reverse these directions for removal.

NOTE: When removing or changing chucks always place a piece of plywood across the the lathe's bed. The plywood will protect the bed, should the chuck be dropped while removing it or placing it on the spindle.

Once the chuck is removed from the spindle, you can reach the two remaining headstock attachment cap screws located in the indentations just below the spindle. Loosen, but do not remove the cap screws. After that, we can concentrate once again on the carriage. First:

1. Remove the threading dial indicator on the side of the apron. The indicator is held on by a single cap screw.

2. Loosen, but do not remove the socket head cap screw that locks the carriage.

3. Remove the two setscrews located on the feed shaft hub. Use care when removing the setscrews. A spring and ball bearing are located under each setscrew. Ensure that none are lost during removal. The balls and springs – which work as overload devices – should be stored safely after removal.

4. Both the **LEAD SCREW** and the **FEED SHAFT** are secured to their drive hubs by roll pins. Use a small pin punch to drive the pins out. See Figure 7.

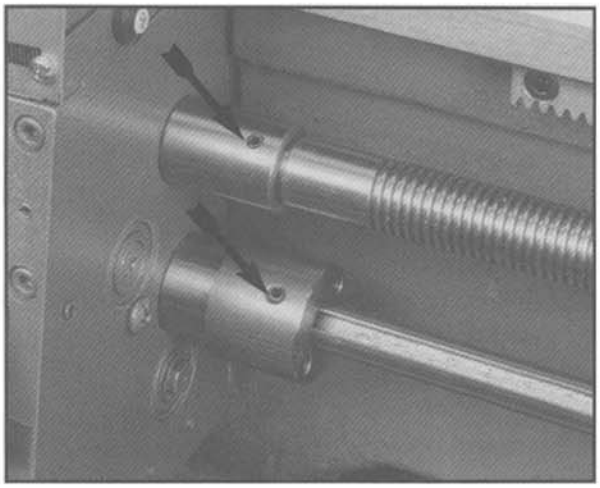


Figure 7

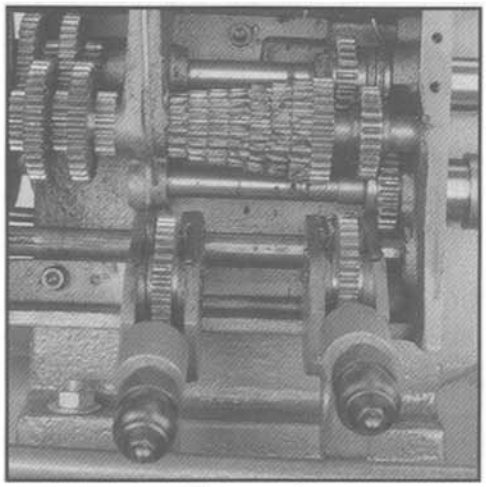


Figure 8

5. Remove the two cap screws from the bearing block that holds the lead screw and feed shaft. The block is pinned to the bed casting. Pull the block straight away from the bed to remove.

6. Free the the lead screw and feed shaft from the block.

7. Carefully pull the lead screw through the open half nuts and remove from the machine.

8. Repeat the process with the feed shaft. Make note that the feed shaft has a worm gear keyed to it. Be ready to catch it as you remove the feed shaft from the machine.

9. Remove the four cap screws that fasten the cover of the **QUICK CHANGE GEARBOX**. The gearbox can now be removed.

10. Once the cover is off, you can remove the cap screws holding it in place. The gearbox is pinned to the head casting. Pull straight away to remove it. See Figure 8.

After removing the gearbox, you'll want to remove the **APRON** from the carriage. To remove the apron:

1. Remove the two cap screws on top of the carriage that hold the apron in place. The apron is pinned to the bottom of the carriage and will need to be lowered straight down from the carriage.

2. Slide the **CARRIAGE** off the end of the bed.

At this point, you'll be able to prepare to lift the **HEADSTOCK** off of the bed. Keep in mind that the headstock is still quite heavy. You will want to have assistance in lifting the headstock off the bed and onto blocks away from your work area.

You will need a block to set the headstock on once it's off the machine. An 18" long piece of 8" x 8" lumber is well suited to the job. To lift the headstock off the machine:

1. Remove the four cap screws holding the headstock to the bed.

2. Remove the headstock from the bed and set in a safe place on top of your 8" x 8" blocking. Be conscious of any shims that might fall from the bottom of the headstock as you remove it from the bed. They will be important to the lathe's proper alignment when you re-assemble the machine in its new location.

Use extreme caution during this process. It is crucial to the operation of the lathe that the seating surface between the headstock and the bed casting be clean and well protected. Also avoid leakage of spindle bearing oil.

While the lathe is dismantled, you'll have a good opportunity to remove much of the cosmolene that was missed during your initial cleaning. Take a moment now to give the various components a good looking over and clean off any preservative oil you find.

Re-assembling the Model G1001 should require the same basic steps in reverse order. Make sure, when you re-assemble the machine, that shims and other leveling and alignment aids are returned as closely as possible to their original positions.

X. LEVELING

The Model G1001 must be perfectly level for precision operation. This section covers the steps necessary to ensure your stand and lathe are correctly adjusted for level.

The Model G1001 can be placed on the optional Grizzly stand, as shown in our catalog, or on a home fabricated stand. Keep in mind that the lathe weighs nearly 900 lbs. in place, so the stand must be designed and built to withstand a sizeable load. In addition, it's extremely important that the floor you place your lathe on be not only extremely strong, but also as nearly flat and level as possible.

Once you have obtained a quality stand and you've placed the Model G1001 and the stand in your desired working location, begin by placing a carpenter's or machinist's level across the lathe bed (longitudinally along the ways). If necessary, place shim material under the feet of your stand to bring the table and lathe to level from end to end.

When you've established level from end to end, lay your level perpendicular to the bed. Use a machinist's or framer's square, if necessary to ensure the level is 90° to the bed. If the lathe is out of level from front to back, place shims under the stand to establish level in those directions. Recheck your level from end to end to make sure that your lathe and stand are still level.

XI. LATHE SAFETY PROCEDURES

Now that we're just about ready to flip the switch on your Model G1001, let's take a few moments to consider some safety guidelines for metal lathe use.

The Model G1001 is a powerful machine that carries some potential danger for accident or injury. While these guidelines aren't intended to make you fear this machine, they should encourage you to give it plenty of respect.

Metalworking lathes can run at high speeds and have several exposed moving parts. Because of this, certain safeguards and operating methods must be followed to ensure safe and hazard-free operation.

1. **KEEP COVERS AND GUARDS IN PLACE.** Don't be tempted to run the machine without its covers in place. They are there to protect the machine and the operator.

2. **GROUND YOUR MACHINE.** We've mentioned it before and again here, because it's terribly important. A poorly grounded or un-grounded machine has the potential for severe shock hazard. Don't take the chance.

3. **DON'T SMOKE OR ALLOW OPEN FLAMES NEAR YOUR LATHE.** Solvents, lubricants and some metal shavings are highly combustible.

4. **DISCONNECT POWER.** Always disconnect your lathe from its power source when making modifications or repairs. Disconnect, also, when the tool is not being used.

5. **ELIMINATE LOOSE CLOTHING** or other articles, such as jewelry, ties, or gloves that could possibly be caught in the lathe as it rotates.

6. **DO NOT MODIFY THE MACHINE.** Any modifications made to the Model G1001 will void its warranty and expose the operator and others to severe safety hazards.

7. **GIVE YOUR MODEL G1001 PLENTY OF ROOM TO WORK.** A crowded or cluttered work area invites accidents.

8. **REMOVE CHUCK KEYS** and all adjustment tools as soon as adjustments are completed.

9. **NEVER CHANGE QUICK-CHANGE GEARS** or directional gears while the spindle is turning.

10. **NEVER REVERSE MOTOR DIRECTION** while the motor is running.

11. **WHEN DOING FACEPLATE WORK,** ensure the workpiece is well balanced.

12. **INSPECT YOUR CHUCK** and faceplate frequently. If they are improperly seated, do not operate the lathe.

13. **NEVER USE YOUR FINGERS** to apply grease to open gearing. Use a stick or spreader instead.

14. **MAKE SURE STOCK IS FULLY ENGAGED** in the chuck whenever possible. This will extend the life of the jaws.

15. **ALWAYS PLACE A BOARD OR PIECE OF PLYWOOD ACROSS THE BEDWAY** when removing or installing chucks to prevent damage, should the chuck slip and fall.

16. **COVER THE LATHE** with an old bedsheet or other breathable cotton cover when the machine is not in use. **DO NOT** use a plastic tarp; condensation can promote rust and corrosion.

17. **REVIEW SAFETY PROCEDURES** often and follow them.

18. **TAKE THE TIME TO DO THINGS RIGHT.** Hurrying through projects not only produces inferior results, it can also cause accidents and injuries.

XII. OPERATION

Now that the lathe is securely in place and you've read through the safety guidelines, it's time to give the machine a trial run.

Before starting the machine, make sure the electrical connections are correct. Is the machine properly grounded? Are connections secured to their correct leads? Is the power switch in the "OFF" position? If so, go ahead and flip the breaker switch to the "ON" position.

Inspect the machine, at this point, to ensure that all hand tools are out of the way. If any guards are off the machine, return them to their proper location. Are there any components impeding the movement of the chuck? Is the machine bolted firmly to its stand? If everything checks out, switch the power switch to the "FORWARD" position.

The chuck should be turning in a counterclockwise direction in "FORWARD". If the direction is reversed, inspect the motor terminals, with reference to the wiring diagram supplied along with this manual. Turn off the power at the breaker and change the switch leads to reflect those shown in the diagram.

Once you've determined that the machine runs correctly, take some time to become familiarized with the various controls on the Model G1001. We'll run through them in the next few sections. The controls will be reviewed by location on the machine.

A. HEADSTOCK CONTROLS

Power and Directional Switch – Located at the center of the control console. This switch controls the supply of power to the motor and direction of motor rotation.

Carriage Direction Control – Determines the rotation of the lead screw or feed shaft which, in turn, control the direction of the carriage toward or away from the headstock. The control features forward, reverse and neutral positions.

Spindle Speed Controls – The Model G1001 features 12 speeds ranging from 88 RPM to 1610 RPM. The various lever positions that determine spindle speeds are listed on the lathe's control panel. The levers are capable of selecting six speeds with each belt and pulley range. To select a higher or lower range, it is necessary to remove the end guard from the headstock, loosen the adjusting cap screw on the motor mount, and raise the motor to free the belt. Once the belt is raised, move the belt to the alternate pulleys and tension the belt, using the motor as a tensioner. WARNING: do not attempt to angle the belts to increase the number of speeds. The lateral tension created could cause premature wear to the belt and the drive bearings.

Lead screw / Feed Shaft Selector – The control determines which shaft is driven by the quick-change gears. The feed shaft is used for most turning operations, while the lead screw is used for thread cutting.

Quick Change Gear Levers – The two levers at the bottom of the headstock are used to control the feed rate, while utilizing the feed rod; or the thread size, while using the leadscrew. Do not attempt to change the gearing while the machine is moving. Make gearing adjustments after the lathe has come to a complete stop.

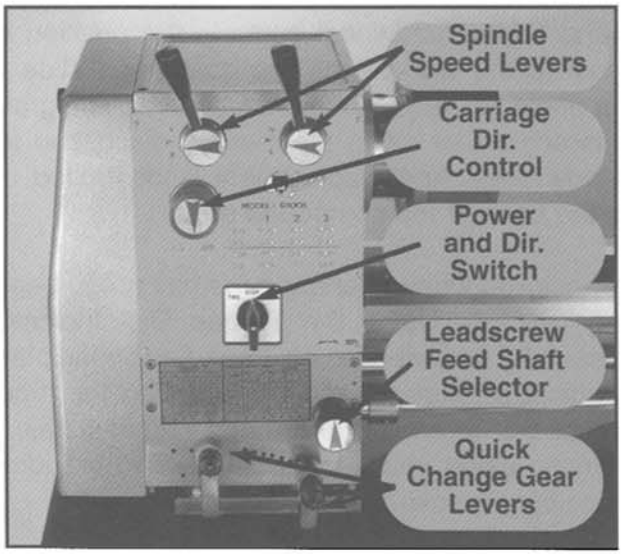


Figure 9

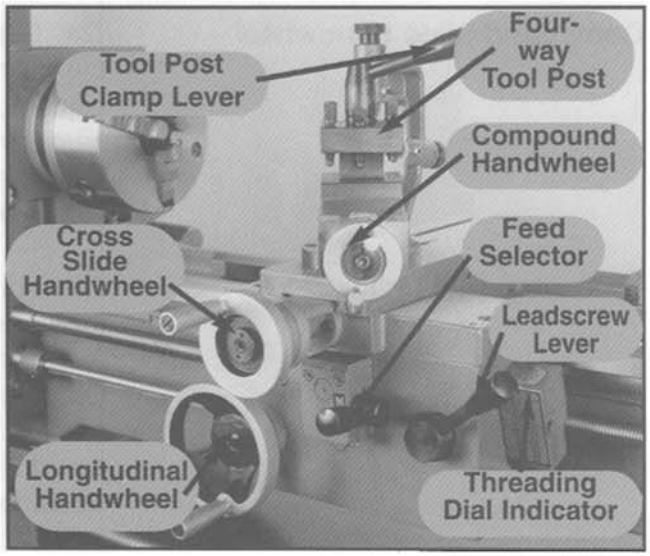


Figure 10

B. CARRIAGE CONTROLS

The carriage allows the cutting tool to move along the length of the lathe bed. The cross slide allows the cutting tool to travel at a 90° angle to the bed. The carriage features a compound slide which allows linear movement of the cutting tool at any preset angle. This section will review the individual controls on the carriage and descriptions of their uses.

Longitudinal Handwheel – The Longitudinal Handwheel moves the carriage up and down the bed. The control is helpful when setting up the machine for turning or when manual movement is desired during turning operations. The graduated scale can be set by holding the handwheel with one hand, while turning the scale with the other.

Feed Selector – This lever controls the movements of the longitudinal feed and cross slide movement. When the lever is in the "down" position, the cross slide is engaged, if the lever is in the "upper" position, the longitudinal feed is engaged. The feed selector can also be placed on the neutral position, which disables both the longitudinal feed and the cross feed.

Cross Slide Handwheel – The Cross Slide Handwheel moves the compound slide toward and away from the work. Turning the dial clockwise moves the slide toward the workpiece. The graduated scale can be adjusted using the same method as the longitudinal scale.

Lead screw Lever – This lever compresses and releases the half nut that engages the lead screw. The lever is only engaged while turning threads in stock. A lockout device featured in the lever mechanism engages when the feed selector is used.

Compound Slide Handwheel – The Compound Slide Handwheel controls the position of the cutting tool to the workpiece. The compound slide is adjustable for angle as well as longitudinal travel. The graduated scale is adjustable using the method discussed for the other handwheels. Angle adjustment is controlled by setscrews in the base of the compound slide.

Threading Dial Indicator – The indicator tells you when to engage the half nut to begin the threading process. Using the Thread Dial Indicator requires a specific knowledge of threading principles. Obtain a machinist's reference manual covering the theories and practices of threading and machining in detail. If you don't plan on using your Model G1001 for threading operations, you can remove the indicator.

4-way Tool Post – The 4-way Tool Post holds your cutting tools in place during the lathe's operation. The post holds up to four cutting tools for multi-tasking operations, although attaching that many tools at once could be both inconvenient and potentially hazardous. Cutters used in the post must be shimmed so the top of the cutter is directly in line with the exact center point of the stock material. The **Toolpost Clamp Lever** loosens the 4-way post on the compound slide, allowing you to turn to the cutting tool of your choice (and adjust the angle of the tool to the work). The post should be secured on the compound slide before attempting to operate the lathe.

C. TAILSTOCK CONTROLS

Tailstock Handwheel – Turning the handwheel advances or retracts the quill in the tailstock. The graduated scale on the handwheel is adjustable.

Quill Lock Lever – Locks the quill in place.

Clamping Lever – Locks the tailstock in place on the lathe bed. If the tailstock fails to lock securely, or if adjustment is too tight and the lever cannot be turned to the full lock position, you can adjust locking tension by loosening or tightening the bracket nut under the lathe's bed.

Adjustment Screws – Used for aligning the tailstock to the spindle. We'll discuss their use in the next section.

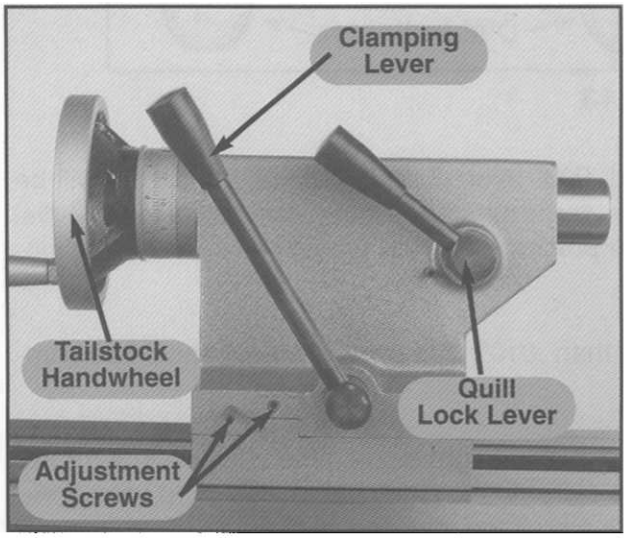


Figure 11

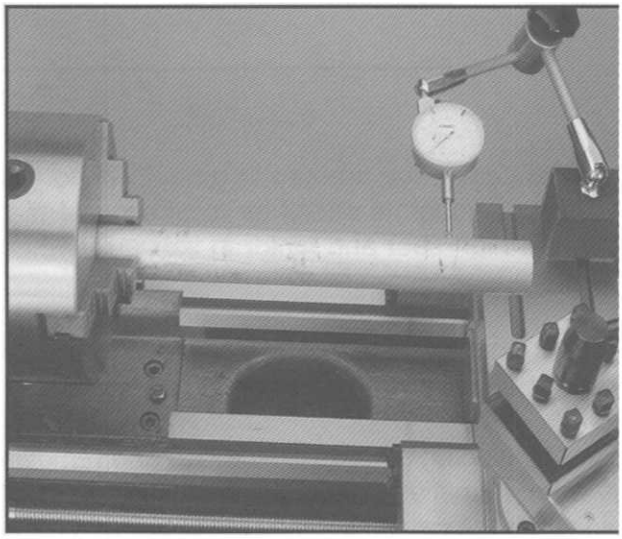


Figure 12

XIII. ADJUSTMENTS

Your Model G1001 was precision adjusted by factory technicians. Since that time, it's been shipped over thousands of miles by ship and truck. For that reason, it's best to assume that, somewhere along the line, some of the fine adjustments may have been lost. In this section, we will detail the adjustments which will return the machine to optimum efficiency and accuracy.

A. AXIAL ALIGNMENT

Once your Model G1001 is located and leveled, the next most important consideration is axial alignment. With the method described below, you can set your lathe's axial alignment (alignment between the headstock and bed) to an accuracy of ±.0001". For this method, you'll need a micrometer, a dial indicator and a length of cold rolled steel (CRS) about 12" long and 2" in diameter. Your test stock should be carefully chosen to ensure that it is perfectly straight and true. A caliper should also be used to verify the stock is of consistent thickness. Also make sure the stock is not out of round.

Before determining axial alignment, take a few moments to check the 3-jaw chuck for excess runout. To check for runout:

1. Mount the bar stock in the chuck.

2. Using your dial indicator, measure the bar stock at three points; the end closest to the chuck, the middle of the bar and the end of the bar. See Figures 12 and 13.

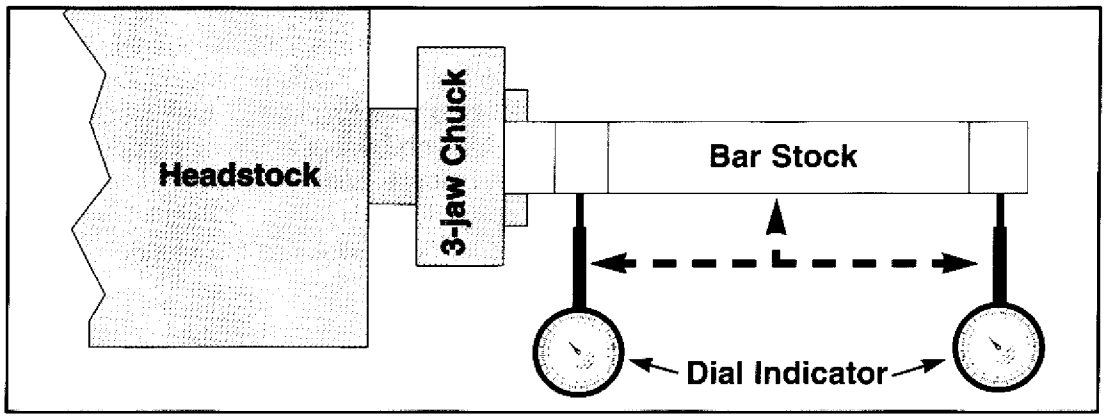


Figure 13

In most cases, the amount of runout will not exceed .003" over 1". At that point, your lathe will be accurate enough to check for axial alignment. If the chuck runs out slightly, you can align the dial with the high spot and factor in that error when you proceed with the adjustments for axial alignment.

If the runout on the chuck is excessive (e.g., greater than .010"), the excess runout should be eliminated befroe moving on to other adjustments.

Start by placing a board on the bed and removing the chuck. Slight taps on the chuck with a rubber or wooden mallet – while slowly rotating the chuck on the spindle – may be necessary to loosen the pins from the camlock. Once the chuck and back plate are off the machine, remove the three mounting bolts holding from the back side of the back plate and tap along the edge of the mounting shoulder until the chuck and back plate are free of each other. This may take a bit of effort.

Once the two are separated, attach the back plate to the camlock and carefully measure the mounting shoulder on the plate. This measurement is critical for an accurate fit between the back plate and the chuck. When you have carefully measured the back plate, remove approximately one half of the thickness of the shoulder (approximately 1/16"). See Figure 14. Remove the exact same thickness off the face of the mounting surface, leaving 1/32" at the meeting point of the mounting surface and the shoulder.

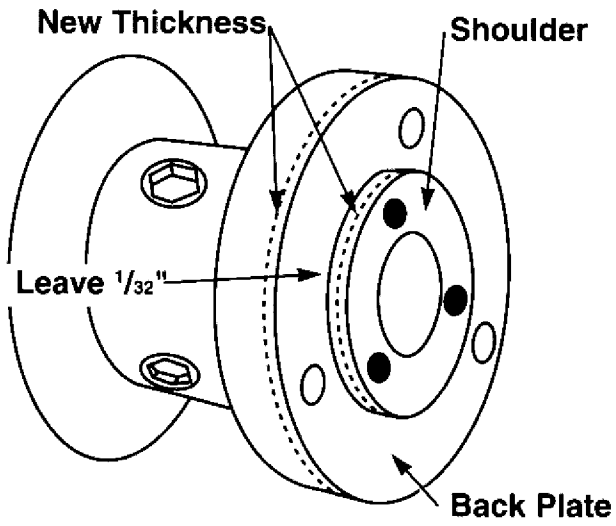


Figure 14

Now, turn the new shoulder .001" wider across

than the shoulder's previous measurement. Chamfer what's left of the old shoulder. This should leave you with a 1/8" actual mounting shoulder. The pivotal goal in re-surfacing the back plate is to furnish the chuck with a tight and solid connection to the lathe. Use extreme care when surfacing the back plate to ensure a proper fit between the mounting surfaces of the plate and chuck. Once the back plate has been re-surfaced, remove it from the lathe and re-attach it to the chuck. If the chuck seats squarely and securely to the back plate, re-mount the assembly on the lathe and re-measure to determine if any runout still exists.

There is a slight possibility the chuck will need to be resurfaced. If necessary, mount the 4-jaw chuck on the lathe, turn a short piece of rod on the lathe until you certain it is true to the lathe's axis and mount the 3-jaw chuck backwards on the lathe (clamping it to the stock you have just turned). At this point, you can surface the chuck to match the back plate and re-attach as described above. Re-test with your dial indicator. If excessive runout is still indicated at this point, contact the Grizzly service department at the number listed in the beginning of the manual.

Once you have completed the previous steps and you are confident you have eliminated runout, re-attach the 12" CRS stock to the chuck. Place your dial indicator's mounting base on the cross slide and adjust the end of the dial indicator so it rests on top of the bar stock. Begin your measurements at the point closest to the chuck. When the dial indicator is in place at the inboard end of the test stock, zero it out. Run the carriage away from the headstock and note any deviation in height between the two ends of the test stock. If the stock varies in height more than .003" in a 10" run, you should shim the headstock to eliminate excess deviation. For more information on adjusting vertical alignment, see Section B.

Once you have determined that the vertical axis is within allowable tolerances, move the dial indicator to the side of the test stock. Once again, start nearest the headstock with the dial indicator set to zero. Move across the length of the test stock and note the amount of horizontal error.

The horizontal alignment is adjusted by manipulating the adjustment screws shown in Figure 3. Loosen the four headstock mounting bolts and adjust the headstock by turning the two outside adjustment screws. The outside screws pivot off of the center screw, causing the headstock to pivot on the bed. Remember to loosen once adjuster screw as you tighten the other. Tightening the screw furthest from the tailstock will turn the headstock so the chuck will move toward the front of the lathe. Keep in mind that adjustments should be made in slight increments to avoid overshooting your intended degree of adjustment.

Be sure to re-tighten the headstock mounting bolts after each adjustment to get accurate test results as you re-check your measurements with your dial indicator.

B. VERTICAL ALIGNMENT

The Model G1001 headstock and lathe bed are matched at the factory, so vertical mis-alignment is generally not a problem, but if you did find a vertical alignment problem during the last few steps, now is the best time to alleviate the problem.

If the amount of deviation is outside of your desired tolerances, use brass or steel shim stock between the headstock and the bed to make corrections. If the outboard end of the bar stock is lower than the inboard end, place your shims at the inboard end of the headstock. You'll need to loosen all four of the cap screws that hold the headstock in place to get the shim stock where it needs to go. You'll get the best results if you get your shims as close as possible to the cap screws.

The shimming process is something of a trial-and-error affair, although, using a shim half as thick as the deviation between inboard and outboard ends of your bar stock is a good beginning thickness. See Figure 15 for inboard placement of shims. Once you've added a shim, re-tighten the cap-screws and re-measure the two ends of the bar stock. Repeat the process until you've gotten the level of deviation down to acceptable tolerances.

As we noted at the beginning of the section, shimming is not necessary for most machines. On the rare occasion that you find it necessary to make re-adjustments, or if you have disassembled the machine and re-shim as part of re-assembly, you will need to re-inspect and re-adjust the axial alignment (section A) after making vertical adjustments.

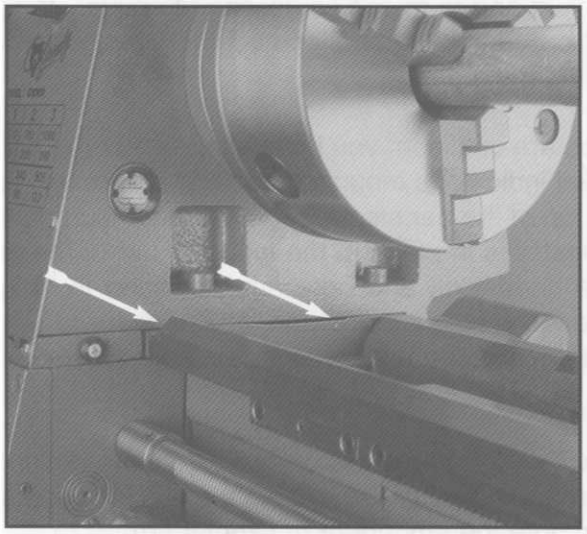


Figure 15

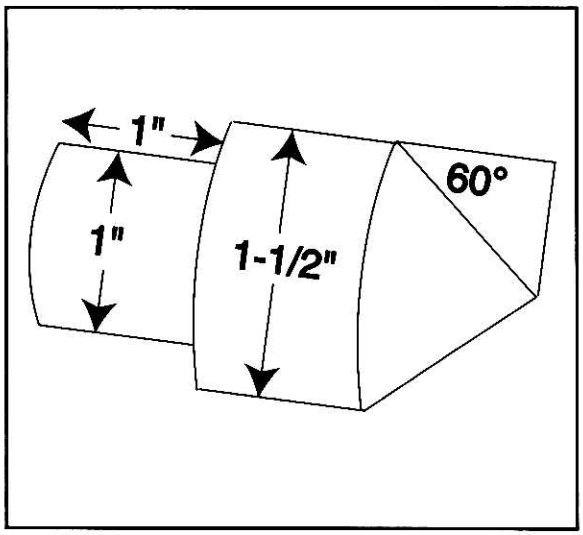


Figure 16

C. TAILSTOCK ALIGNMENT

The tailstock on the Model G1001 is matched at the factory to be in alignment with both the bed and headstock. You may want to take the time to ensure that the tailstock is aligned to your own desired tolerances. Using a commercially made 6" mandrel, you can adjust the tailstock to a high level of accuracy. To align the tailstock:

1. Using CRS stock, create a dead center by turning a shoulder to make a shank, as shown in Figure 16. Flip the piece over in the chuck and turn a 60° point, as shown. As long as it remains in the chuck, the point of your fabricated center will accurately mark your spindle's exact center. Keep in mind that the point will have to be re-turned whenever it is removed and returned to the chuck.

2. Place a center in your tailstock and the dead center in the chuck. Locate and secure your 6" mandrel in place between centers.

3. Place your on the dial indicator mount on the cross slide and position the end of your dial indicator at the chuck end of the mandrel. Determine the amount of taper on the mandrel you're using.

4. Move the cross slide away from the headstock until the dial indicator shows the measurement at the tailstock side of the mandrel. Turn the chuck to determine the largest variation from your original measurement at the chuck. That measurement, minus the amount of taper, will determine the amount of runout in the tailstock. Loosen the setscrews shown in Figure 11 and move the tailstock until the runout is eliminated. Once properly adjusted, the dial indicator should show the same measurement consistently as you rotate the mandrel.

If you don't have a commercially-made mandrel, you can place a home-made mandrel between the centers, but this time attach a lathe dog to it. Be sure to find the exact center of the mandrel's ends and mount accordingly. This will require drilling accurate center holes on both ends of the mandrel. Take a test pass of approximately .010" and measure the taper. Make adjustments as above but keep in mind that the error will be one half the measured difference.

XIV. MAINTENANCE

The Model G1001 Gear-Head Metal Lathe is a precision-engineered machine that's capable of giving long, dependable service. To ensure that you get the most out of your machine, we suggest you establish a routine of regular maintenance. The following section will deal with the various maintenance requirements of the Model G1001. They include:

Lubrication
Bearing Pre-load
Gibs
Belts

A. LUBRICATION

The Model G1001 Gear Head Metal Lathe is pre-lubricated at the factory, but a quick inspection, at this point, will ensure that the lathe will be ready to work. In this section, we'll go through the various components of the Model G1001 and discuss the frequency of lubrication, the types of lubricant necessary and proper amounts of lubricant required for optimum performance.

Spindle Gearing – The gearing systems that provide power to the spindle and the quick change gearbox require constant lubrication while in operation. The main gearbox which controls spindle speed should be filled to the mid-point on the sight glass with a light viscosity oil. We recommend one of the non-detergent synthetic oils on the market, such as Mobil One 10W-30, which are available at nationwide discount department store chains. Oil level should be checked frequently and should be replenished if the oil level drops below the proper level. A periodic inspection of oil quality should also be made. If the oil shows signs of contamination – discoloration, dirt, water or other foreign matter – the gearbox should be drained, wiped down with mineral spirits and refilled with the proper grade and type of oil. As a rule, the spindle gearbox should be drained, cleaned and refilled once a year. The drain plug for the gearbox is located inside the side housing just under the spindle. The plug requires a metric Allen wrench to remove.

External Gearing – Inspect and apply general purpose grease to the external gearing for the quick change gearbox when needed. Graphite-based lubricants, while somewhat expensive, are ideal for this application. Avoid getting grease on the belt or pulleys when lubricating.

Quick-Change Gearbox – Lubrication for the Quick-Change Gearbox is provided by a trickle feed, which drips lubricating oil onto the working components. Oil is introduced to the system through a cloth located over the gears. The cloth provides a ready supply of lubricant to the gears if oil is added after every three-to-four hours of machine use. A squirt or two of light oil (10W-30 synthetic or 10W-20 non-detergent oil) through the access provided on the right side of the Quick-Change Gearbox is sufficient for proper lubrication.

Motor – The bearings used in the motor are shielded and lubricated for life. While lubrication isn't necessary, maintaining cleanliness is of great importance. Wipe down the motor with a clean rag frequently to minimize accumulations of grease and grime.

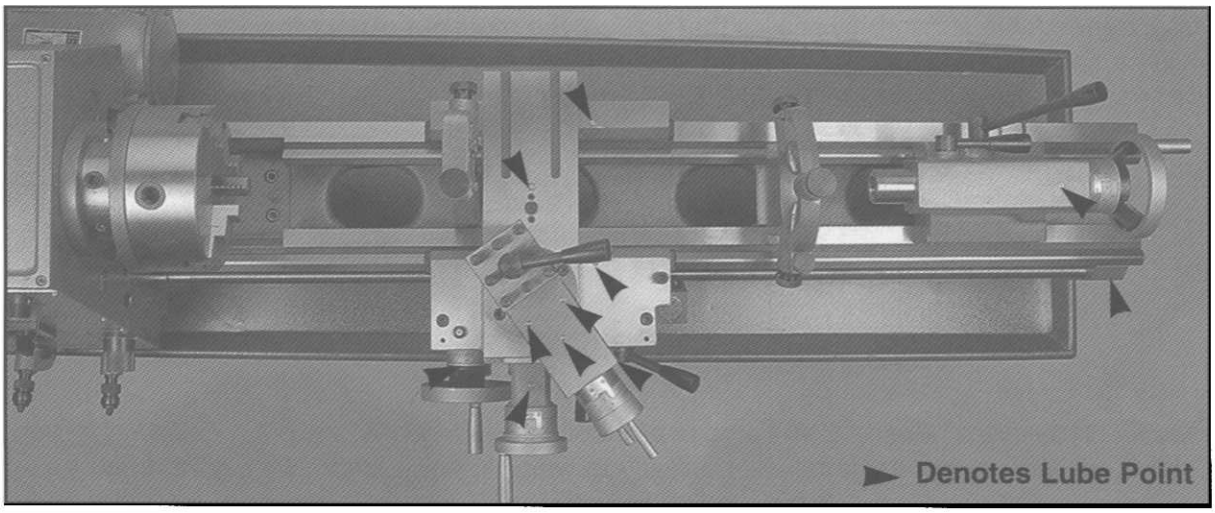


Figure 17

Ways, Slides and Screws – Apply light oil to the ball fittings located along the ways and slides after an hour or two of sustained use. Be sure to wipe the fittings with a clean rag prior to lubrication to ensure that no grime is carried along with your lubricant into friction-sensitive areas. See Figure 17.

Tailstock – The tailstock is fitted with oiling points. Apply light oil each week, or after every five uses (depending on the frequency of operation).

Apron – The apron requires 10 to 12 ounces of light oil in its oil sump. The apron should be removed from the carriage once a year. The old lubricant should be drained and replaced with new oil. Do not overfill the apron, or leaking will occur.

Your Model G1001 will function at its best when it is clean and well lubricated. Designate a time to clean and inspect the machine before each day's operation. Take the time to wipe down the machine after you have completed turning operations. A few minutes of daily maintenance will make a noticeable difference in both the efficiency and the long-term health of your machine.

B. BEARING PRE-LOAD

If you find it necessary to remove the spindle from the Model G1001, whether it be to replace a bearing or gear – or if, after extended use, the spindle bearing loosens up – you will find it necessary to pre-load the spindle bearing.

Pre-loading the bearing removes sloppiness that may develop between the bearing and the head stock casting. Sloppiness can rob your lathe of accuracy much like excess play in a steering wheel can affect an automobile's responsiveness. It can also lead to premature bearing wear. Pre-loading builds in a set level of tension between the spindle, headcasting and bearing. To adjust the pre-loading on the Model G1001:

1. Remove the cast cover surrounding the outboard end of the spindle shaft.

2. Remove the 3-way chuck from the spindle.

3. Pre-loading requires the use of a spanner wrench or a punch and hammer. You can either purchase the spanner wrench or fabricate one, using the specifications noted in Figure 18.

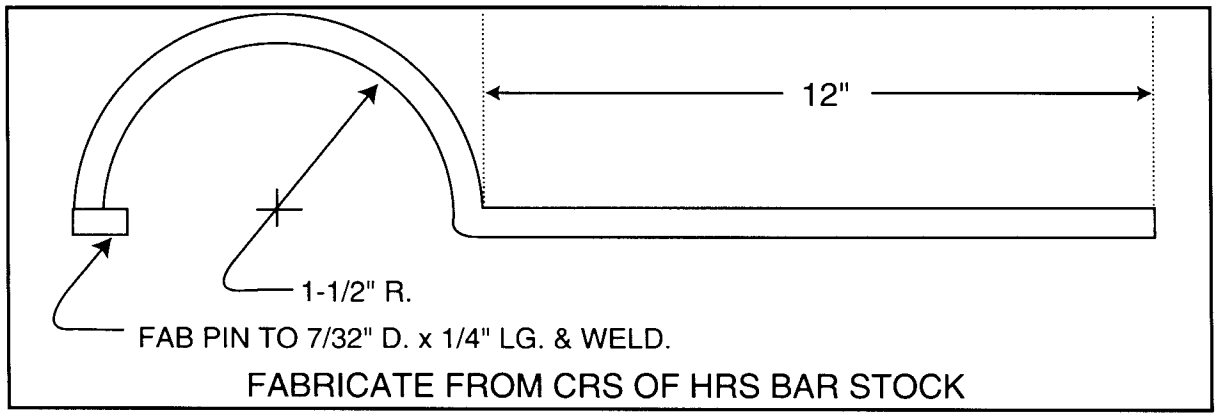


Figure 18

4. Place an appropriate key in the tightening stud on the camlock and hold it steady.

5. Using the spanner wrench or the hammer and punch, loosen the locking spanner nut and remove it to allow access to the inner spanner nut. Once the lock nut is released, you'll need to unload the bearing by placing a block of wood over the outboard end of the spindle and rapping soundly on the block with a small sledge or heavy dead blow hammer.The bearings are unloaded when you can feel movement when you wiggle the spindle by hand.

6. Place the dial indicator on the 4-way post and move the carriage toward the headstock until the contact pin on the dial indicator just touches the end of the camlock.

7. The next step of the process can be made easier if two people are available to provide an extra pair of hands. With the camlock held securely, tighten the spanner nut until the needle on the dial indicator shows that there is no longer spindle movement. This is your "zero" point. In addition to the dial indicator readings, you should periodically wiggle the spindle shaft by hand to check for excess movement. It is essential that you find the "zero" point without going too far. Over-tightening can cause overheating and premature failure of the bearings.

8. If you are unsure that you've found the "zero" point, take the time to unload the bearings as described earlier and re-tighten until you've found the point where the slack is all gone in the spindle, but the tension is not yet enough to compress the bearing into the headcasting. The spindle should turn smoothly at this point, with neither excess play or excess friction.

9. If you are confident that you've determined the location of the "zero" point, tighten the spanner wrench until you have preloaded the bearing an additional .001". Return the lock nut to its original position. The locknut should be secure, but not too tight. Overtightening the locknut can add preload by forcing the bearings even tighter against the headstock casting. That excess preload will contribute to overheating and premature bearing failure.

10. Replace the cast iron cover, making sure to return the gasket to its proper location and tighten the cap screws which hold it in place.

C. GIBS

There are three main gib adjustments necessary for the Model G1001. They are: The carriage gib the cross-slide gib and the compound slide gib. We'll also include the nut on the cross-slide screw, because it has a direct effect on the cross-slide's operation.

Carriage Gib – The carriage gib can be adjusted by using the setscrews and the checknuts at the back of the carriage. A 5mm gib screw is also used to adjust gib tension.

When adjusting gibs, keep in mind that the goal of gib adjustment is to remove unnecessary sloppiness from the carriage movement without causing the carriage to bind. The same is true with the cross-slide and the compound slide.

Cross-slide Gib – The gib on the cross slide is tapered and can be adjusted by turning the gib screws at either end of the slide. You must loosen the gib screw at one end when you tighten the one at the other end. See Figure 19.

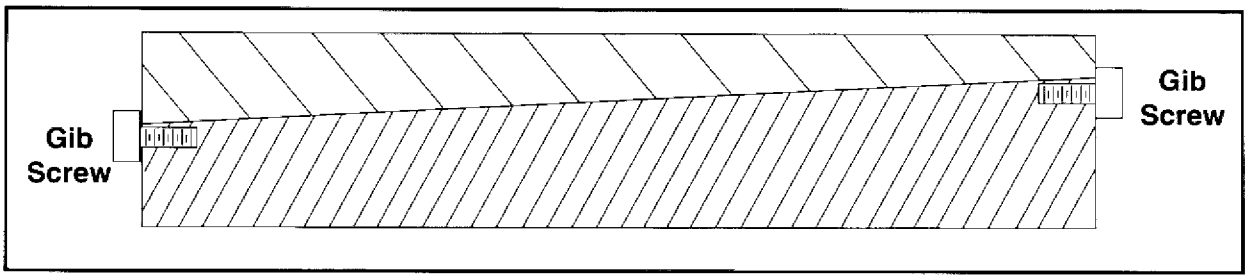


Figure 19

Compound Slide Gib – The compound-slide gib is adjusted using the same guidelines as the cross-slide gib. As before, you must loosen one gib screw in order to tighten the other.

Cross Slide Lead-nut – The cross slide features a lead-nut, which is held in place by a cap screw and two setscrews which also control the alignment between the cross slide and the lead screw. The screws must be loosened to allow for free gib movement during adjustment and must be carefully re-tightened afterward, with attention given to proper alignment between the nut and the lead screw. Adjust as follows:

1. Move the cross slide as close to the front of the lathe as possible to the origin of the screw after having adjusted the gib.

2. Tighten the capscrew and slowly advance the setscrews to lock the block in place. Move the cross slide dial to check for binding. If the lead screw binds, Loosen the screws and re-adjust with a slightly different tension on the setscrews. Adjustments should be made in extremely small increments (1/10th of a turn of adjustment each time would be appropriate).

3. Re-adust until the lead screw and block are properly aligned.

4. Secure the capscrew when the setscrews are in proper alignment.

D. BELTS

The Model G1001 features just one belt. It's located inside the side case on the headstock. The belt should be inspected daily for the first couple of weeks. The belt will be most likely to stretch during that time. The motor acts as a tensioner on the Model G1001, so re-tensioning is not an issue, but periodic inspection is wise.

After the first few weeks, a periodic inspection (for wear or damage) should be a part of your workshop routine. Grizzly carries a supply of the belt for your Model G1001. Call our customer service operators for information on ordering replacement belts.

XV. CLOSURE

Thank you for purchasing the Model G1001 Gear-Head Metal Lathe. We're confident you will find this to be fine addition to your workshop and a source of metalworking enjoyment. Please be sure to follow the specifications we've outlined for safety and maintenance practices. Developing a solid habit of following these guidelines and you'll be assured good, long service from the Model G1001.

The next several pages will feature specific technical information regarding the Model G1001 and a full series of detailed parts drawings and parts lists which cover various machine components. Be sure to have these drawings in front of you if you ever need to contact our service or parts departments. The drawings will enable you to pinpoint individual parts and problems when talking to our service and parts technicians.

We invite you to call or write to us if you have any question about the machine or the manual. Please refer to the addresses listed in the manual's introduction to properly direct your questions or comments.

Thank you again for your business and continued support. We hope to serve you again soon.

XVI. WARRANTY AND RETURNS

LIMITED WARRANTY

Grizzly Imports, Inc. warrants every product it sells for a period of one year on all parts and one year on all electric motors to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty for any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, the product or part must be returned to either our Bellingham or Williamsport warehouse, freight pre-paid. Proof of purchase must accompany the merchandise. The manufacturers reserve the right to change specifications at any time as they continually strive to achieve better quality equipment.

We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

XVII. MACHINE DATA

GRIZZLY MODEL G1001 GEAR HEAD METAL LATHE

Design Type ..... Bench Model

Overall Dimensions:

Width ..... 30"
Length ..... 70"
Height (Without Stand) ..... 30"
Bed Width ..... 7 1/2"
Spindle Bore ..... 1 9/16"
Spindle Taper ..... M.T. #5
Tailstock Taper ..... M.T. #3
Weight (Shipping) ..... 1000 lbs.
Weight (In Place) ..... Approx. 850 lbs.

Construction ..... Cast Iron

Capacity:

Swing Over Bead ..... 12"
Swing Over Gap ..... 18"
Swing Over Saddle ..... 6"
Distance Between Centers ..... 36"
Top Slide Travel ..... 3 1/2"
Cross Slide Travel ..... 6 3/4"
Tailstock Barrel Travel ..... 4"
Spindle Speeds 88, 133, 200, 205, 290, 340, 430, 505, 700, 760, 1060, 1610

Motor:

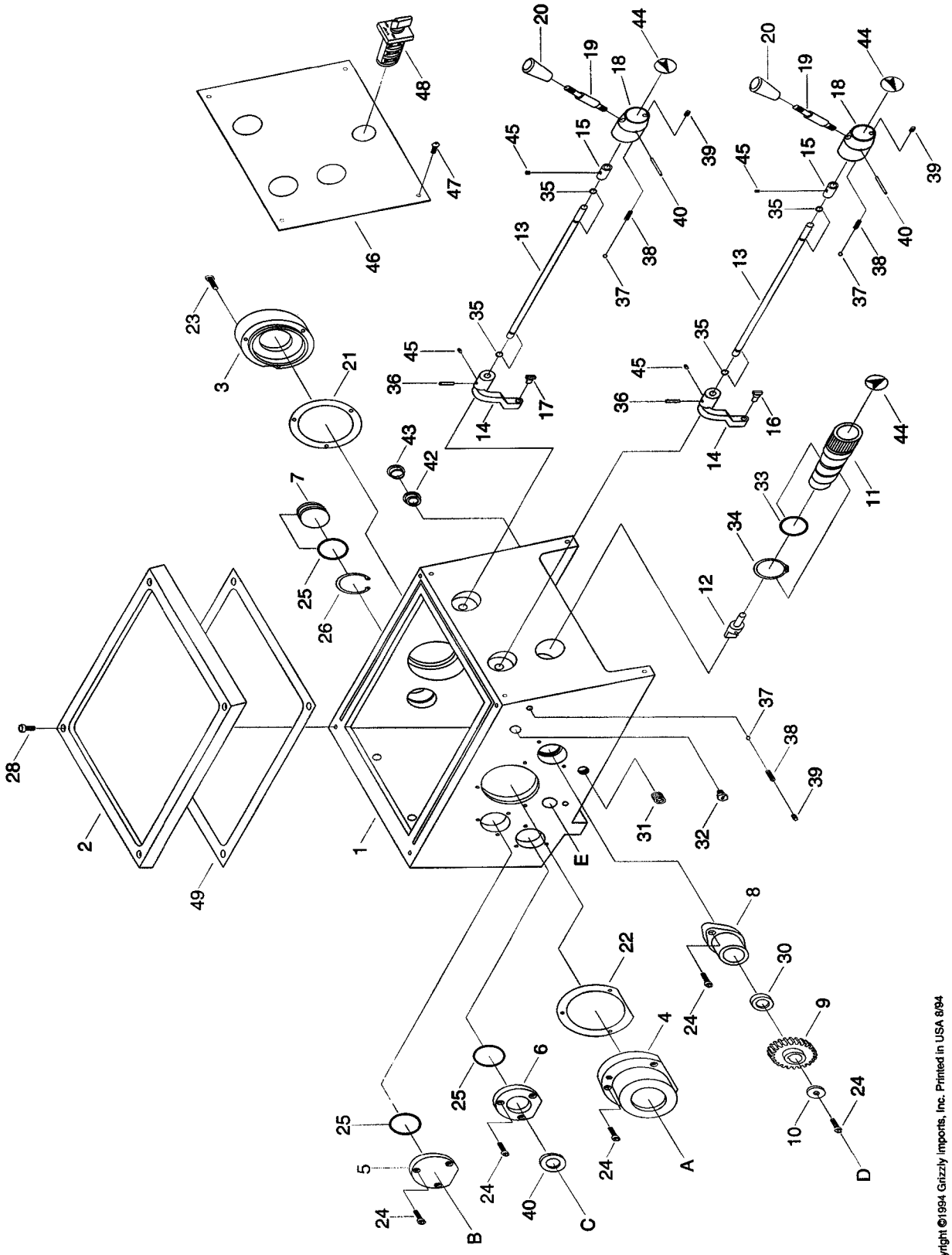
Type ..... TEFC Capacitor Start Induction
Horsepower ..... 1 1/2 H.P.
Phase / Cycle ..... Single Phase / 60 HZ
Voltage ..... 110V / 220V
Amps ..... 18 / 9
RPM 1720
Bearings ..... Shielded and Lubricated-For-Life

FEED RATE								
	1	2	3	4	5	6	7	8
A	.082	.073	.069	.065	.06	.055	.051	.047
B	.041	.036	.034	.032	.03	.027	.025	.023
C	.02	.018	.017	.016	.015	.013	.012	.011
D	.01	.009	.0085	.008	.0075	.0065	.006	.0055
E	.005	.0045	.0042	.004	.0037	.0032	.003	.0027

Specifications, while deemed accurate, are not guaranteed.

XVIII. PARTS LISTS AND DIAGRAMS

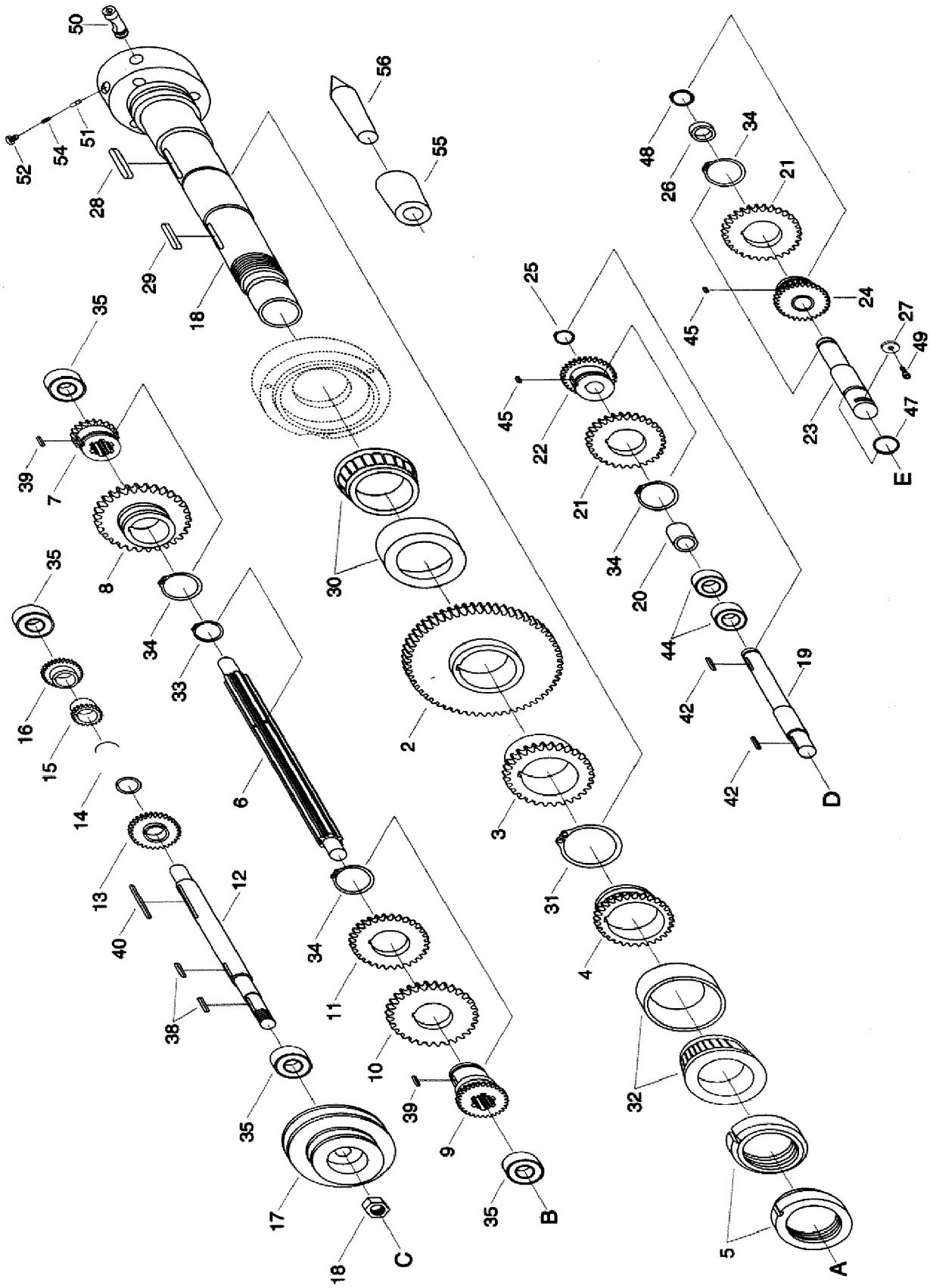
A. HEADSTOCK DIAGRAM #1



B. PARTS LIST – HEADSTOCK DIAGRAM #1

Ref. #	Part #	Description		Ref. #	Part #	Description
001	P1001001	Headcasting		025	P1001025	O-Ring
002	P1001002	Headstock Cover		026	PR25M	Snap Ring 47mm
003	P1001003	Front Bearing Cap		028	PSB06M	Cap Screw M6-1.0x25
004	P1001004	Rear Bearing Cap		030	P1001030	Oil Seal 22-35-7
005	P1001005	Bearing Cap		031	P1001031	Oil Plug
006	P1001006	Bearing Cap		032	P1001032	Oil Plug
007	P1001007	Bearing Cap		033	P1001033	O-Ring
008	P1001008	Bearing Cap		034	PR32M	Snap Ring 48mm
009	P1003605	Gear 40T		035	P1001035	O-Ring
010	P1003610	Special Washer		036	PRP26M	Roll Pin 5x26
011	P1001011	Knob		037	P1001037	Steel Ball
012	P1001012	Gear Shifter		038	P1001038	Spring
013	P1001013	Shaft		039	PSS17M	Setscrew M8-1.25x6
014	P1001014	Shifting Crank		040	PRP28M	Roll Pin 5x40
015	P1001015	Collar		041	P1001041	Oil Seal 20-35-7
016	P1001016	Gear Shifter, Long		042	P1003049A	Oilsite
017	P1001017	Gear Shifter, Short		043	P1003049B	Gasket
018	P1001018	Hub		044	P1001044	Indicator
019	P1001019	Lever / Stud		045	PSS02M	Setscrew M6-1.0x6
020	P1003050	Knob		046	P1001046	Front Cover
021	P1001021	Gasket, Front		047	PB20M	Hex Bolt M8-1.25x35
022	P1001022	Gasket, Rear		048	PSW03	F / R Switch
023	PSB02M	Cap Screw M6-1.0x20		049	P1001049	Gasket
024	PSB01M	Cap Screw M6-1.0x16				

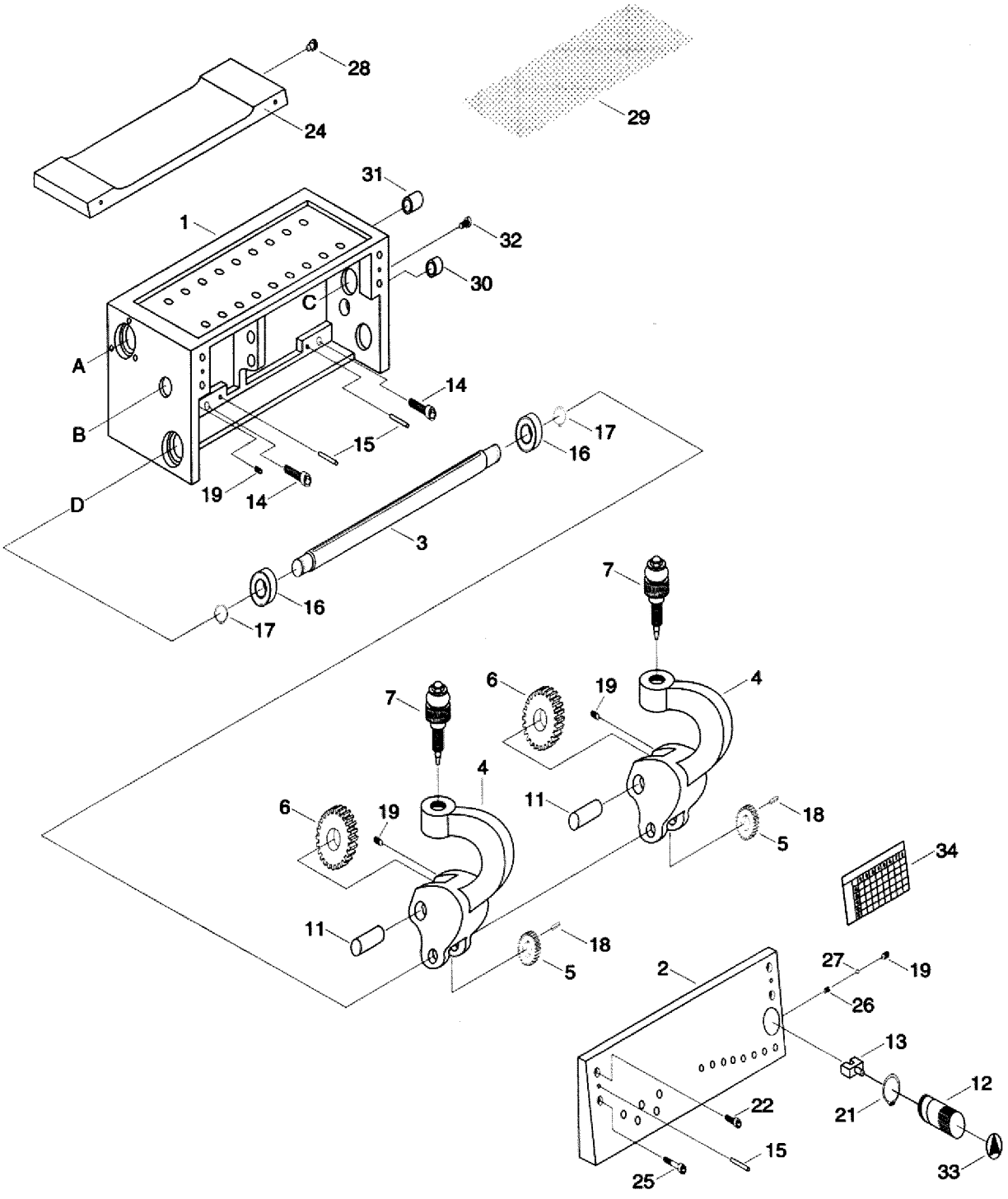
C. HEADSTOCK DIAGRAM #2



D. PARTS LIST – HEADSTOCK DIAGRAM #2

Ref. #	Part #	Description		Ref. #	Part #	Description
101	P1001101	Main Spindle		127	P1003610	Special Washer
102	P1001102	Gear 60T		128	PK43M	Key 8x8x45
103	P1001103	Gear 46T		129	PK11M	Key 6x6x40
104	P1001104	Gear 39T		130	P1001130	Bearing 30212
105	P1001105	Spanner Nut		131	PR33M	Ext. Retaining Ring 57mm
106	P1001106	Shaft		132	P1001132	Bearing 30211
107	P1001107	Gear 60T		133	PR11M	Ext. Retaining Ring 25mm
108	P1001108	Gear 51T		134	PR34M	Ext. Retaining Ring 40mm
109	P1001109	Gear 34T		135	P6204	Bearing
110	P1001110	Gear 47T		138	PK45M	Key 6x6x24
111	P1001111	Gear 41T		139	PK07M	Key 6x6x20
112	P1001112	Shaft		140	PK44M	Key 6x6x50
113	P1001113	Gear 32T		142	PK19M	Key 5x5x14
114	P1001114	Gear Spacer		144	P6203	Bearing
115	P1001115	Gear 19T		145	PK46M	Key 6x6x8
116	P1001116	Gear 25T		146	PR35M	Ext. Retaining Ring 17mm
117	P1001117	Pulley		147	P1001147	O-Ring
118	PN13M	Hex Nut M16-2.0		148	PR09M	Ext. Retaining Ring 20mm
119	P1001119	Shaft		149	PSB26M	Cap Screw M6-1.0x12
120	P1001120	Spacer 25-17-14		150	P1001150	Camlock
121	P1001121	Gear 39T		151	P1001151	Camlock Stud
122	P1001122	Gear 28T		152	PSB52M	Cap Screw M8-1.25x10
123	P1001123	Shaft		154	P1001154	Spring
124	P1001124	Gear 28T		155	P1001155	#3 to #5 MT Adaptor
126	P1001126	Spacer 25-20-4		156	P1001156	#3 MT Dead Center

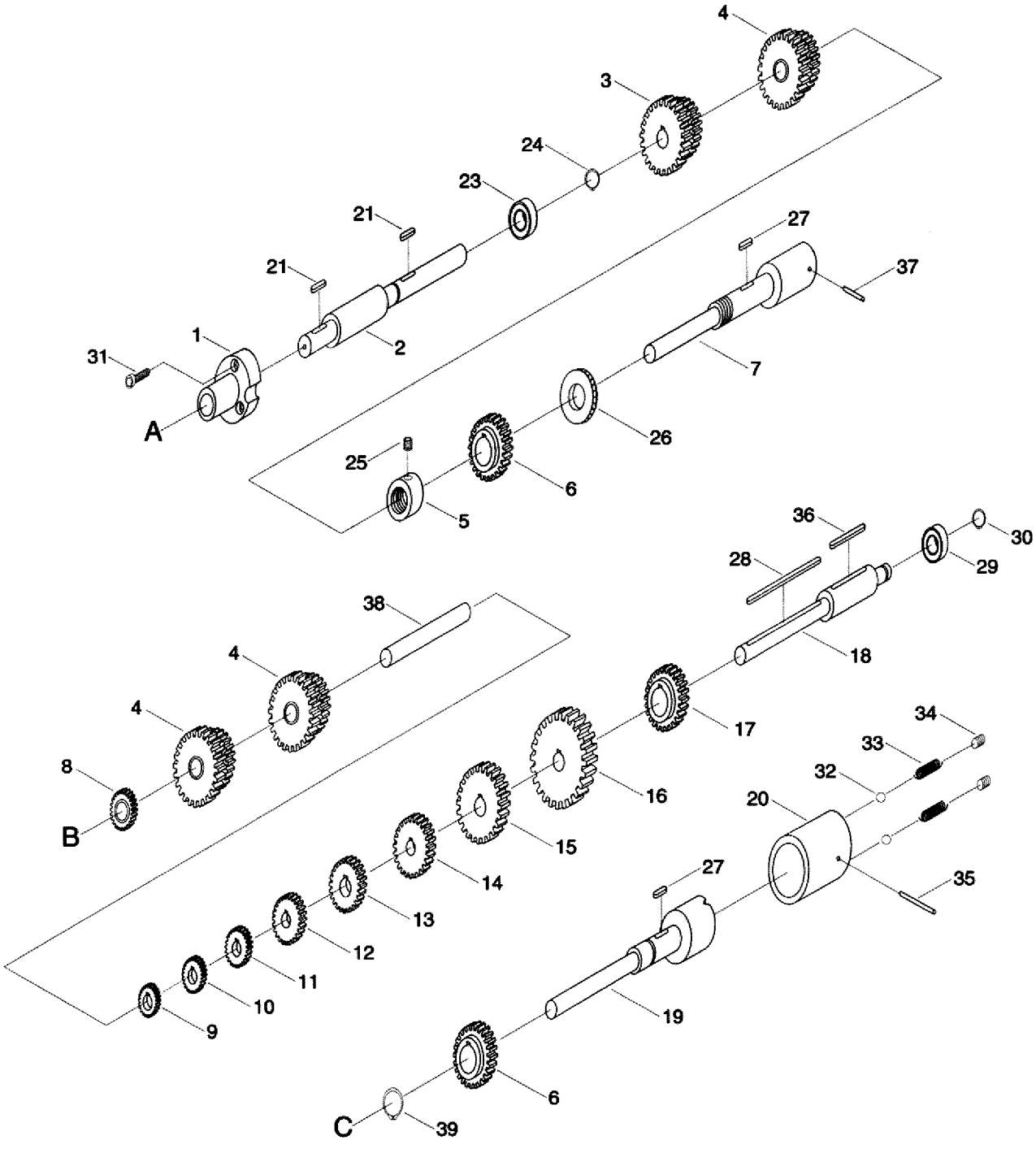
E. GEARBOX DIAGRAM #1



F. PARTS LIST – GEARBOX DIAGRAM #1

Ref. #	Part #	Description		Ref. #	Part #	Description
201	P1003701	Gearbox Casting		219	PSS02M	Setscrew M6-1.0x6
202	P1001201	Front Cover		221	PR31M	Ext. Retaining Ring 38mm
203	P1003705	Shifting Shaft		222	PSB02M	Cap Screw M6-1.0x20
204	P1003718	Change Gear Handle		224	P1003042	Cover
205	P1003715	Gear 16T		225	PSB07M	Cap Screw M6-1.0x30
206	P1003717	Gear 36T		226	P1001226	Spring
207	P1003719	Locating Device		227	P1001227	Ball 5mm
211	P1003716	Shaft		228	P1003115	Oil Cap
212	P1001212	Shift Knob		229	P1001229	Cheese Cloth
213	P1001213	Gear Shifter		230	P1001230	Brass Bush 18x25x15
214	PSB13M	Cap Screw M8-1.25x30		231	P1001231	Brass Bush 18x25x20
215	PRP27M	Roll Pin 5x28		232	P1001232	Special Screw
216	P6201	Bearing		233	P1001044	Indicator
217	PR05M	Ext. Retaining Ring 15mm		234	P1001234	Chart
218	PK19M	Key 5x5x14				

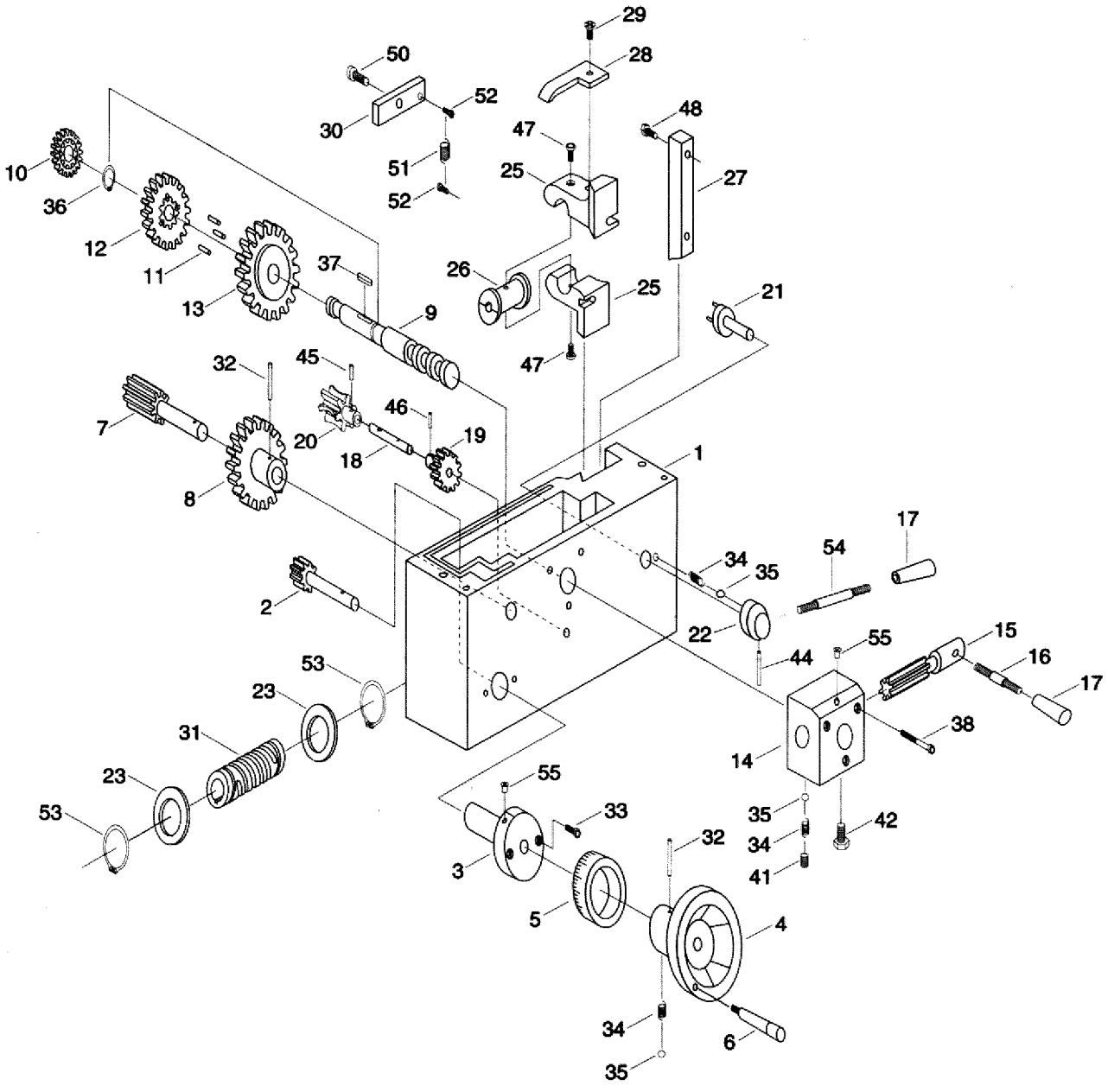
G. GEARBOX DIAGRAM #2



H. PARTS LIST – GEARBOX DIAGRAM #2

Ref. #	Part #	Description	Ref. #	Part #	Description
301	P1003709	Bearing Cap	320	P1001320	Feed Shaft Collar
302	P1003703	Spindle Shaft	321	PK19M	Key 5x5x14
303	P1003710	Gear 16T/ 32T	323	P6003	Bearing
304	P1003711	Gear 16T/ 32T	324	PR06M	Ext. Retaining Ring 16mm
305	P1003729	Thrust Nut	325	PSS02M	Setscrew M6-1.0x6
306	P1003730	Gear 24T	326	P1003757	Thrust Bearing
307	P1003707	Leadscrew Drive Shaft	327	PK10M	Key 5x5x12
308	P1003712	Gear 16T	328	PK13M	Key 5x5x70
309	P1003720	Gear 16T	329	P6002	Bearing
310	P1003721	Gear 18T	330	PR05M	Ext. Retaining Ring 15mm
311	P1003722	Gear 19T	331	PSB01M	Cap Screw M6-1.0x16
312	P1003723	Gear 20T	332	P1001332	Spring
313	P1003724	Gear 22T	333	P1001333	Ball
314	P1003725	Gear 24T	334	PSS17M	Setscrew M8-1.25x6
315	P1003726	Gear 26T	335	PRP28M	Roll Pin 5x40
316	P1003727	Gear 28T	336	PK15M	Key 5x5x35
317	P1003728	Shifting Gear 24T	337	PRP27M	Roll Pin 5x28
318	P1003704	Spindle Shaft	338	P1003704	Spindle Shaft
319	P1003708	Feed Drive Shaft	339	PR07M	Ext. Retaining Ring 18mm

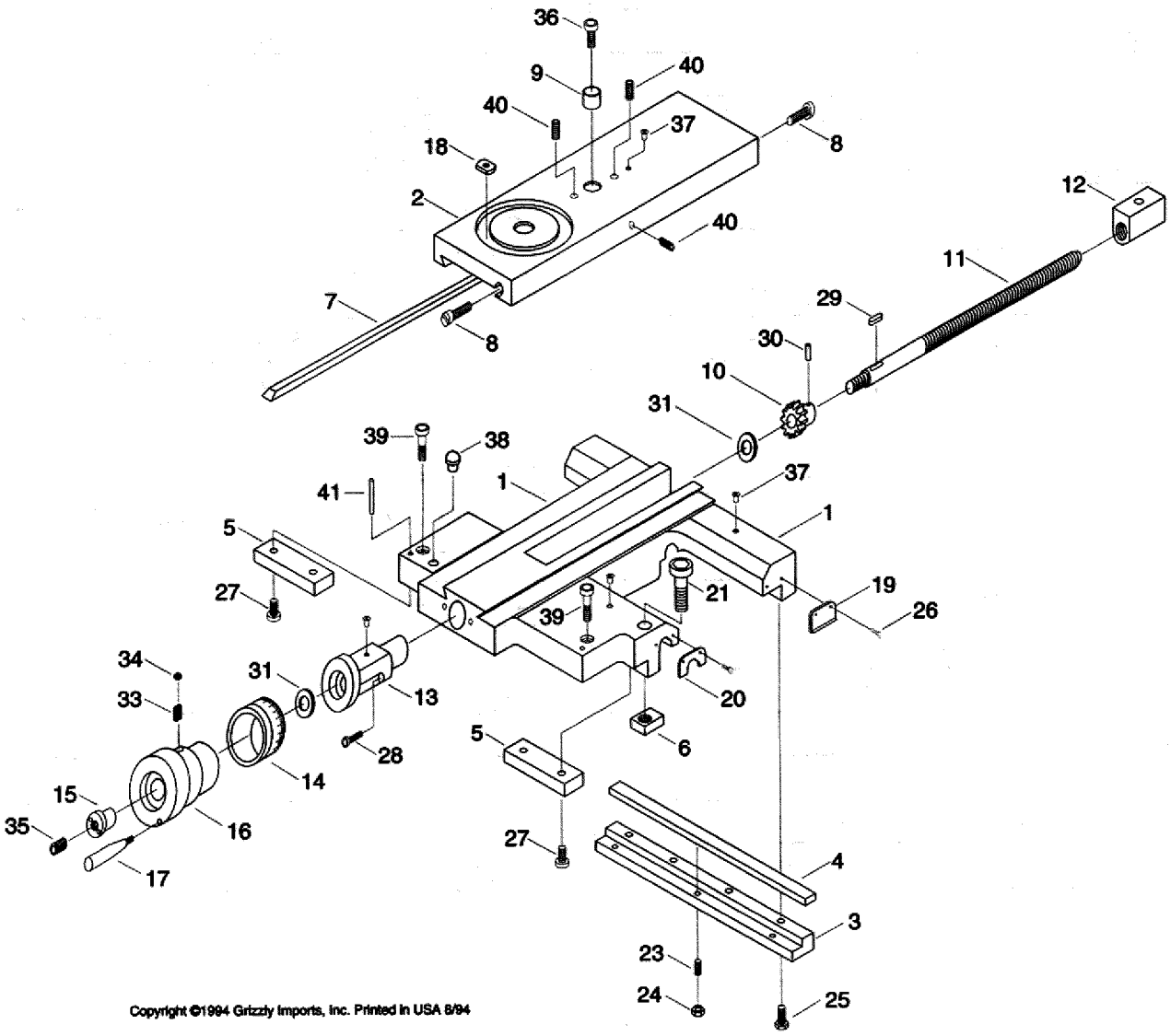
I. APRON DIAGRAM



J. PARTS LIST – APRON DIAGRAM

Ref. #	Part #	Description	Ref. #	Part #	Description
401	P1003301	Apron Body	427	P1003326	Gib
402	P1003302	Gear Shaft	428	P1003323	Control Plate
403	P1003303	Bushing	429	PFH03	Flt. Hd Scr. 1/4"-20x1/2"
404	P1003305	Handwheel	430	P1003322	Locating Plate
405	P1003304	Handwheel Dial	431	P1003317	Worm
406	P1003109	Handle	432	PRP30M	Roll Pin 5x50
407	P1003307	Gear Shaft	433	PSB27M	Cap Screw M6-1.0x14
408	P1003308	Gear 50T	434	P1003336	Spring
409	P1003309	Shaft	435	P1003343	Ball
410	P1003310	Clutch Gear 27T	436	PR05M	Ext. Retaining Ring 15mm
411	P1003339	Pin	437	PK04M	Key 4x4x8
412	P1003311	Clutch Gear 40T	438	PSB29M	Cap Screw M6-1.0x40
413	P1003312	Clutch Gear 48T	441	PSS17M	Setscrew M8-1.25x6
414	P1003313	Bracket	442	PB20M	Hex Bolt M8-1.25x35
415	P1003314	Pinion Shaft	444	PRP29M	Roll Pin 5x45
416	P1003365	Lever Stud	445	PRP27M	Roll Pin 5x28
417	P1003050	Knob	446	PRP22M	Roll Pin 4x32
418	P1003320	Shaft	447	PSB26M	Cap Screw M6-1.0x12
419	P1003321	Gear 24T	448	PB08M	Hex Bolt M6-1.0x20
420	P1003319	Worm Gear	450	P1003348	Special Screw
421	P1003327	Cam	451	P1003350	Spring
422	P1003328	Hub	452	PS01	Phlp Hd Scr. 10-24x1/2"
423	P1001423	Spacer	453	P1003367	Snap Ring 1 1/4"
425	P1003324	Half Nut Clutch	454	P1003329	Handle Lever
426	P1003325	Half Nut Set	455	P1003117	Oil Cap

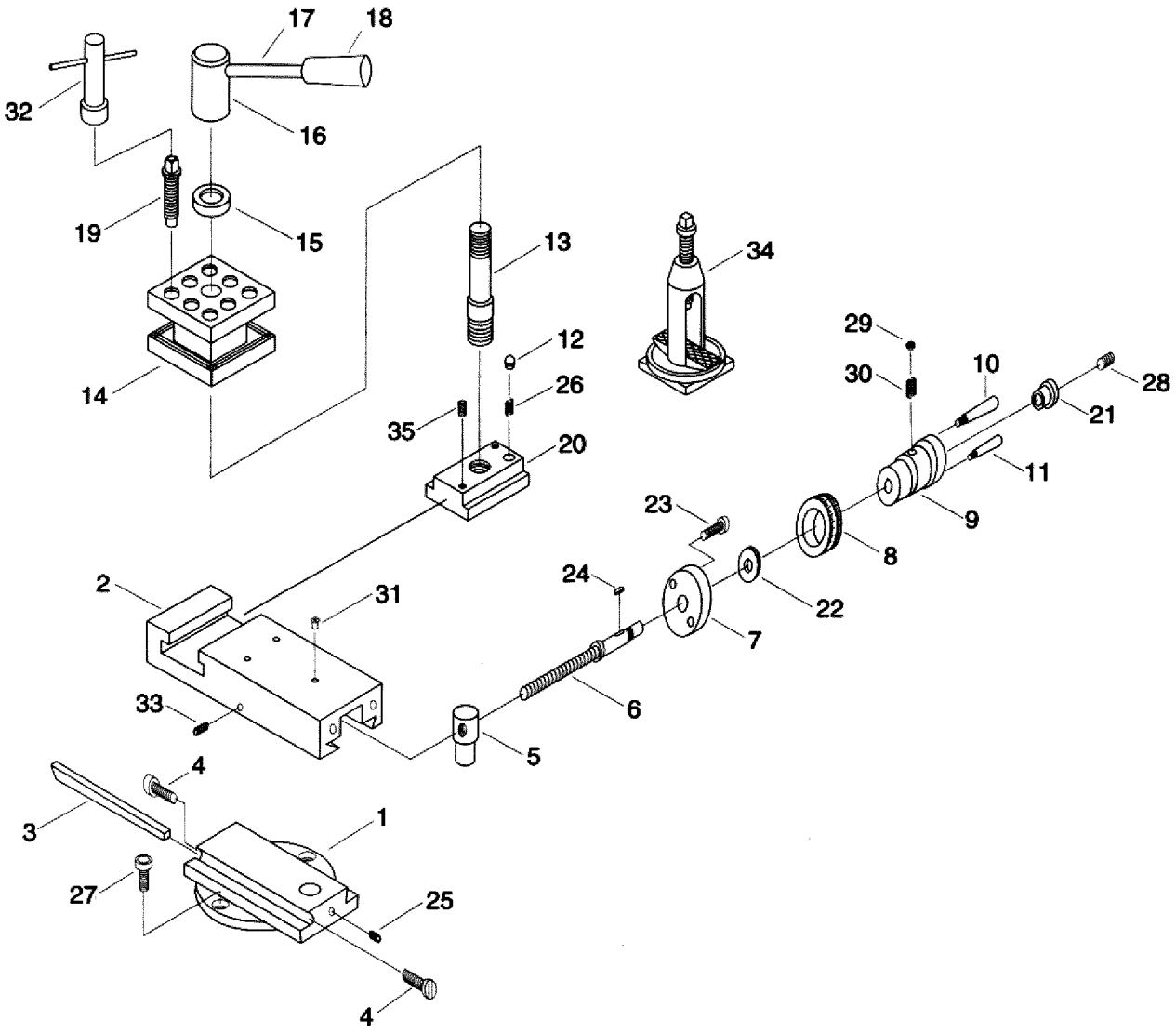
K. CARRIAGE DIAGRAM



L. PARTS LIST – CARRIAGE DIAGRAM

Ref. #	Part #	Description	Ref. #	Part #	Description
501	P1003101	Carriage Casting	521	PSB21	Cap Screw 7/16"-14x2 1/2"
502	P1003201	Cross Slide	523	PSS11M	Setscrew M6-1.0x16
503	P1003111	Rear Clamp	524	PN01M	Hex Nut M6-1.0
504	P1003114	Gib	525	PB20M	Hex Bolt M8-1.25x35
505	P1003110	Front Clamp	526	PS01	Phlp Hd Scr. 10-24x3/8"
506	P1003119	Carriage Lock Nut	527	PSB11M	Cap Screw M8-1.25x16
507	P1003202	Cross Slide Gib	528	PSB06M	Cap Screw M6-1.0x25
508	P1003203	Gib Adj. Screw	529	PK10M	Key 5x5x12
509	P1003204	Screw Set Bushing	530	PRP03M	Roll Pin 5x30
510	P1003104	Cross Feed Pinion	531	P1003122	Thrust Bearing
511	P1003102	Cross Feed Screw	533	P1003124	Spring
512	P1003103	Cross Feed Nut	534	P1003125	Ball
513	P1003105	Cross Feed Bushing	535	PSS15M	Setscrew M12-1.75x12
514	P1003107	Cross Feed Dial	536	PSB14M	Cap Screw M8-1.25x20
515	P1003106	Spanner Nut	537	P1003117	Oil Cap
516	P1003108	Cross Feed Handle	538	P1003115	Oil Plug
517	P1003109	Hand Knob	539	PSB40M	Cap Screw M8-1.25x35
518	P1003209	Swivel Lock Nut	540	PSS11M	Setscrew M8-1.25x20
519	P1003112A	Wiper	541	PRP30M	Roll Pin 5x50
520	P1003112	V-Wiper			

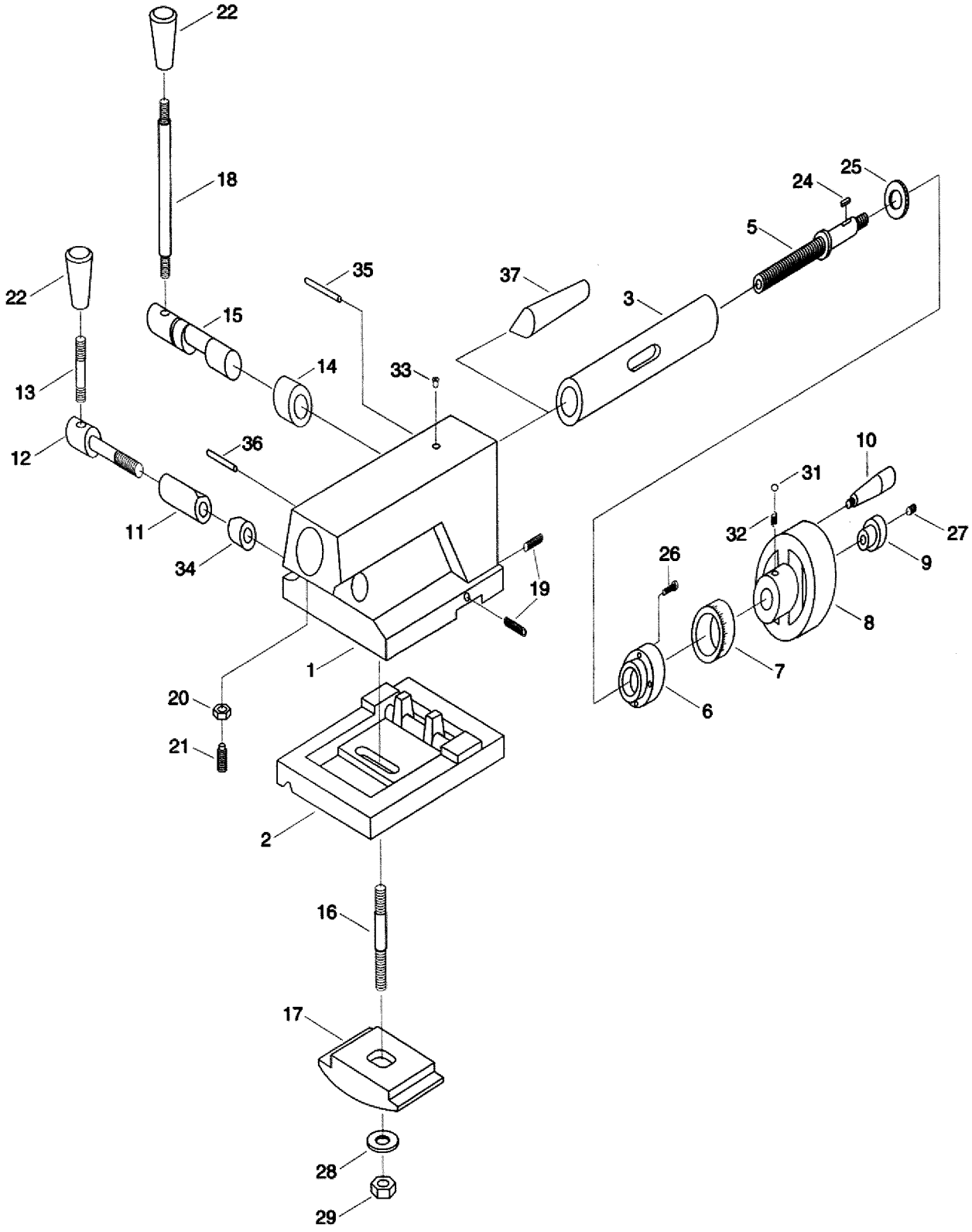
M. COMPOUND SLIDE DIAGRAM



N. PARTS LIST – COMPOUND SLIDE DIAGRAM

Ref. #	Part #	Description		Ref. #	Part #	Description
601	P1003205	Swivel		619	P1003221	Set Bolt
602	P1003206	Compound Slide		620	P1003219	T-Slot Nut
603	P1003207	Gib		621	P1003106	Spanner Nut
604	P1003208	Gib Adjustment Screw		622	P1003231	Thrust Bearing
605	P1003210	Compound Nut		623	PSB14M	Cap Screw M8-1.25x20
606	P1003211	Compound Screw		624	PK05M	Key 4x4x10
607	P1003212	Screw Bushing		625	PSS02M	Setscrew M6-1.0x6
608	P1003213	Dial		626	P1001626	Spring
609	P1003215	Handwheel		627	PSB11M	Cap Screw M8-1.25x16
610	P1003216	Long Handle		628	PSS15M	Setscrew M12-1.75x12
611	P1003217	Short Handle		629	P1003125	Ball
612	P1001612	Pin		630	P1003124	Spring
613	P1003218	Tool Post Pin		631	P1003117	Oil Cap
614	P1003220	Tool Post		632	P1003233A	Tool Post Wrench
615	P1003222	Spacer		633	PSS01M	Setscrew M6-1.0x10
616	P1003223	Tool Post Clamp		634	P1003233B	American Rocker Tool Post
617	P1003224	Clamp Lever		635	PSS11M	Setscrew M6-1.0x16
618	P1003050	Knob				

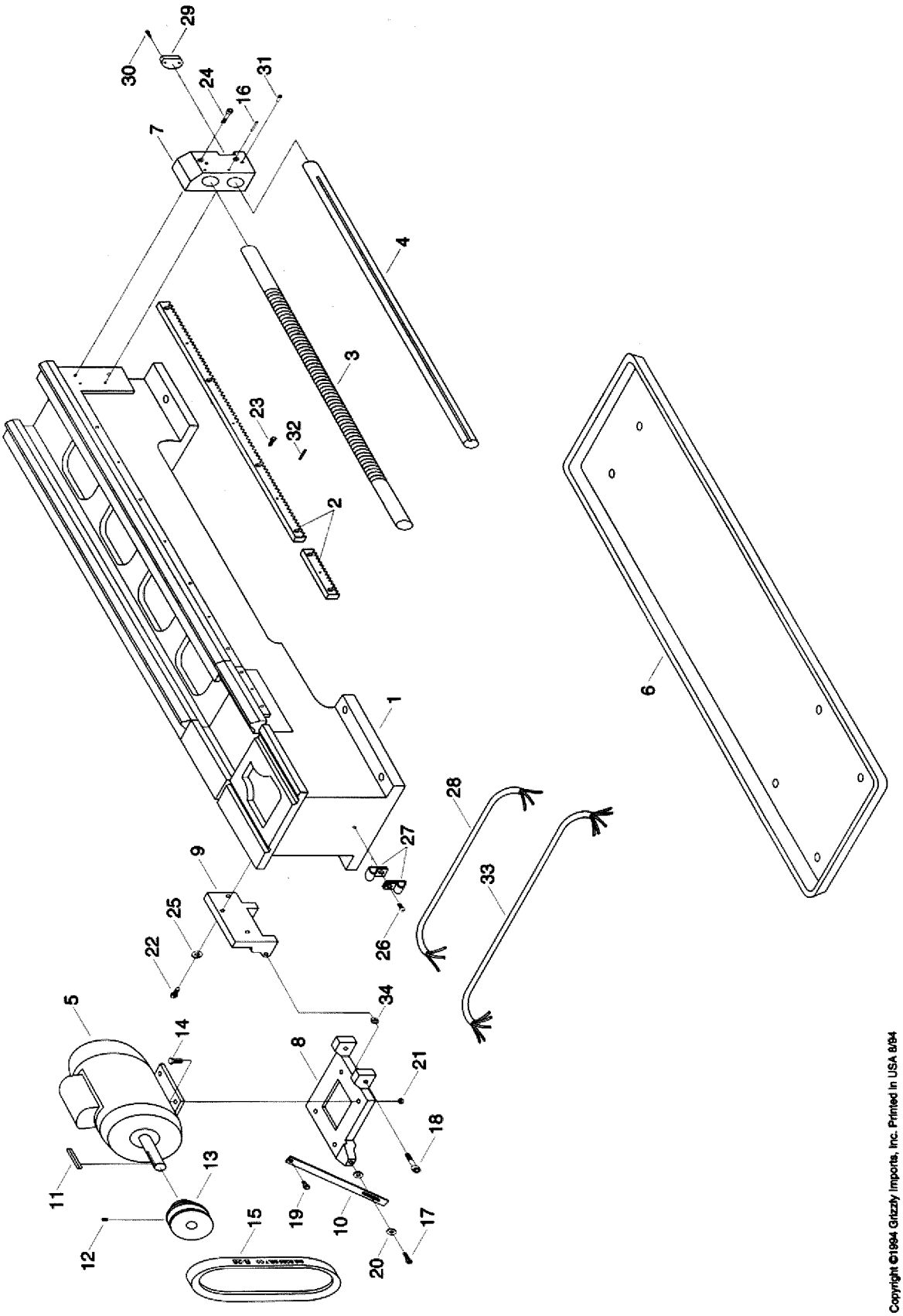
O. TAILSTOCK DIAGRAM



P. PARTS LIST – TAILSTOCK DIAGRAM

Ref. #	Part #	Description	Ref. #	Part #	Description
701	P1003401	Tailstock Casting	719	PSS11M	Setscrew M8-1.25
702	P1003409	Tailstock Base	720	PN03M	Hex Nut M6-1.0
703	P1003402	Tailstock Barrel	721	P1003427	Special Setscrew
705	P1003403	Leadscrew	723	P1003050	Knob
706	P1003404	Leadscrew Bushing	724	PK10M	Key 5x5x12
707	P1003107	Dial	725	P1003423	Thrust Bearing
708	P1003406	Handwheel	726	PSB02M	Cap Screw M6-1.0x20
709	P1003106	Spanner Nut	727	PSS15M	Setscrew M12-1.75x12
710	P1003407	Handle	728	P1003430	Special Washer
711	P1003419	Long Clamp Bushing	729	PN09M	Hex Nut M12-1.75
712	P1003418	Clamp Hub	731	P1003125	Steel Ball
713	P1003417	Locking Lever	732	P1003124	Spring
714	P1003416	Eccentric Sleeve	733	P1003117	Oil Cap
715	P1003414	Clamp Shaft	734	P1003410	Short Clamp Bushing
716	P1003412	Clamp Stud	735	PRP30M	Roll Pin 5x50
717	P1003411	Clamp	736	PRP28M	Roll Pin 5x40
718	P1003413	Clamp Handle Lever	737	P1001156	Dead Center #3 M.T.

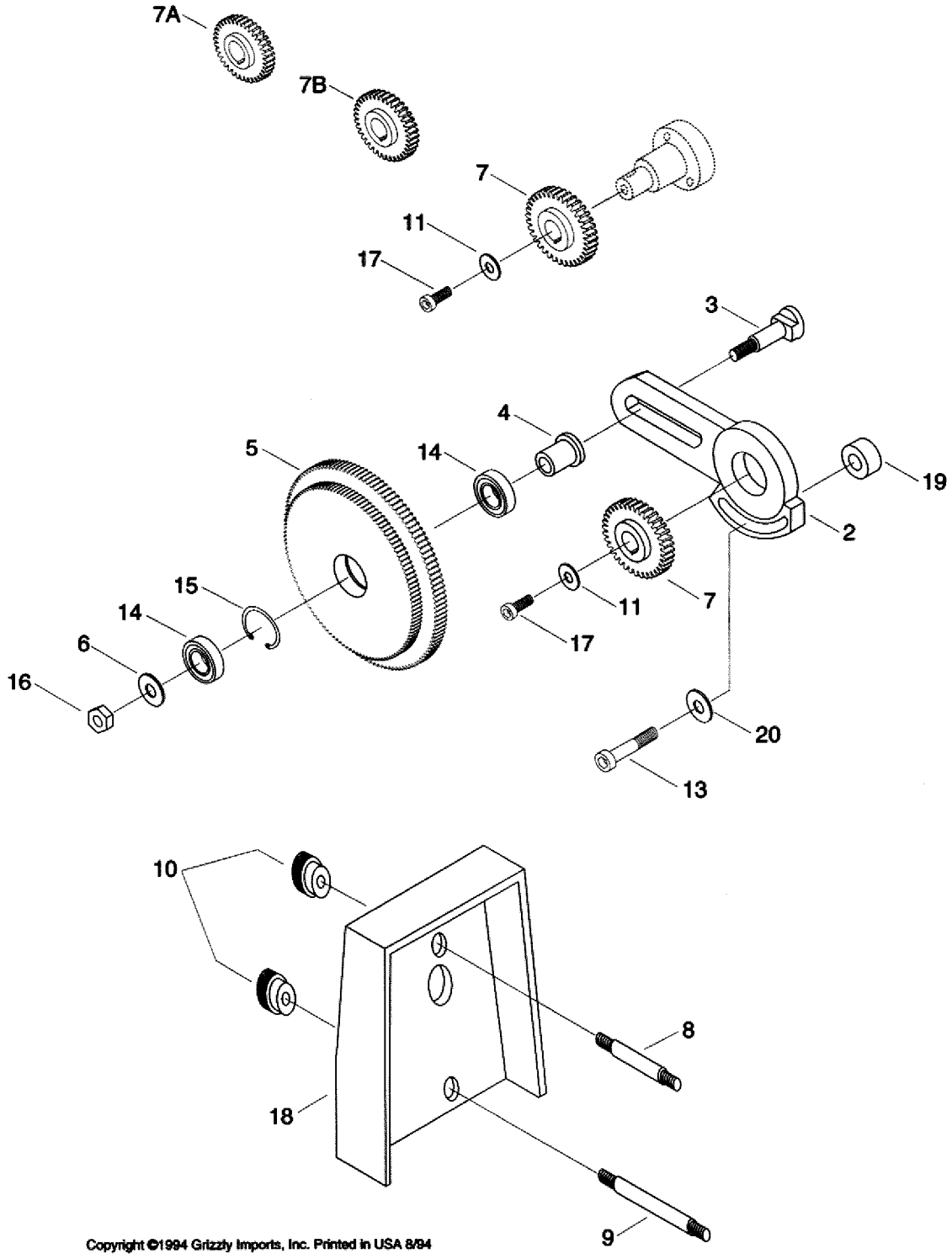
Q. BED DIAGRAM



R. PARTS LIST – BED DIAGRAM

Ref. #	Part #	Description	Ref. #	Part #	Description
801	P1001801	Bed	818	PSB47M	Cap Screw M10-1.5x40
802	P1001802	Rack	819	P1001819	Spec. Bolt M10-1.5
803	P1003503	Leadscrew	820	PW01M	Flat Washer 8mm
804	P1003504	Feed Rod	821	PN03M	Hex Nut M8-1.25
805	P1003082	Motor	822	PB07M	Hex Bolt M8-1.25x25
806	P1003506	Chip Pan	823	PSB02M	Cap Screw M6-1.0x20
807	P1003505	End Bracket	824	PSB05M	Cap Screw M8-1.25x50
808	P1001808	Motor Plate	825	PW01M	Lock Washer 8mm
809	P1001809	Hinge Bracket	826	PS01	Phlp Hd Scr. 10-24x3/8"
810	P1001810	Bracket	827	P1001827	Wire Clamp
811	PK35M	Key 5x5x32	828	P1001828	Power Cord
812	PSS06M	Setscrew M8-1.25x16	829	P1003521	Shaft Retainer
813	P1001813	Motor Pulley	830	PSB33M	Cap Screw M5-0.8x12
814	PB26M	Hex Bolt M8-1.25x30	831	P1003117	Oil Cap
815	PVB26	V-Belt	832	PRP07M	Roll Pin 6x20
816	PRP34M	Roll Pin 6x55	833	P1001833	Switch Cord
817	PSB31M	Cap Screw M8-1.25x25	834	PN02M	Hex Nut M10-1.5

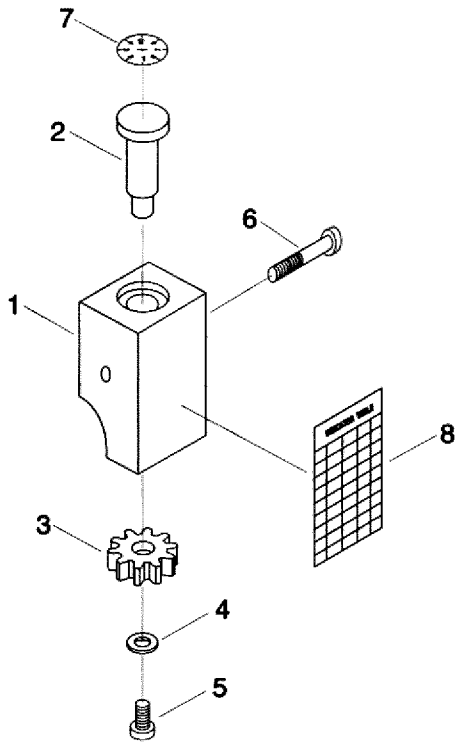
S. END GEAR TRAIN DIAGRAM



T. PARTS LIST – END GEAR TRAIN DIAGRAM

Ref. #	Part #	Description		Ref. #	Part #	Description
902	P1003609	Lever Quadrant		910	P1003604	Cover Set Knob
903	P1003608	Idler Axle		911	P1003610	Special Washer
904	P1003607	Bushing		913	PSB45M	Cap Screw M8-1.25x45
905	P1003606	Idler Gear		914	P6202	Bearing
906	P1003612	Special Washer		915	PR21M	Ext. Retaining Ring 35mm
907	P1003605	Change Gear 40T		916	PN08M	Hex Nut M10-1.25
907A	P1003605A	Change Gear 30T		917	PSB26M	Cap Screw M6-1.0x12
907B	P1003605B	Change Gear 32T		918	P1001918	End Gear Cover
908	P1001019	Stud		919	P1003619	Spacer
909	P1001909	Stud		920	PW01M	Flat Washer 8mm

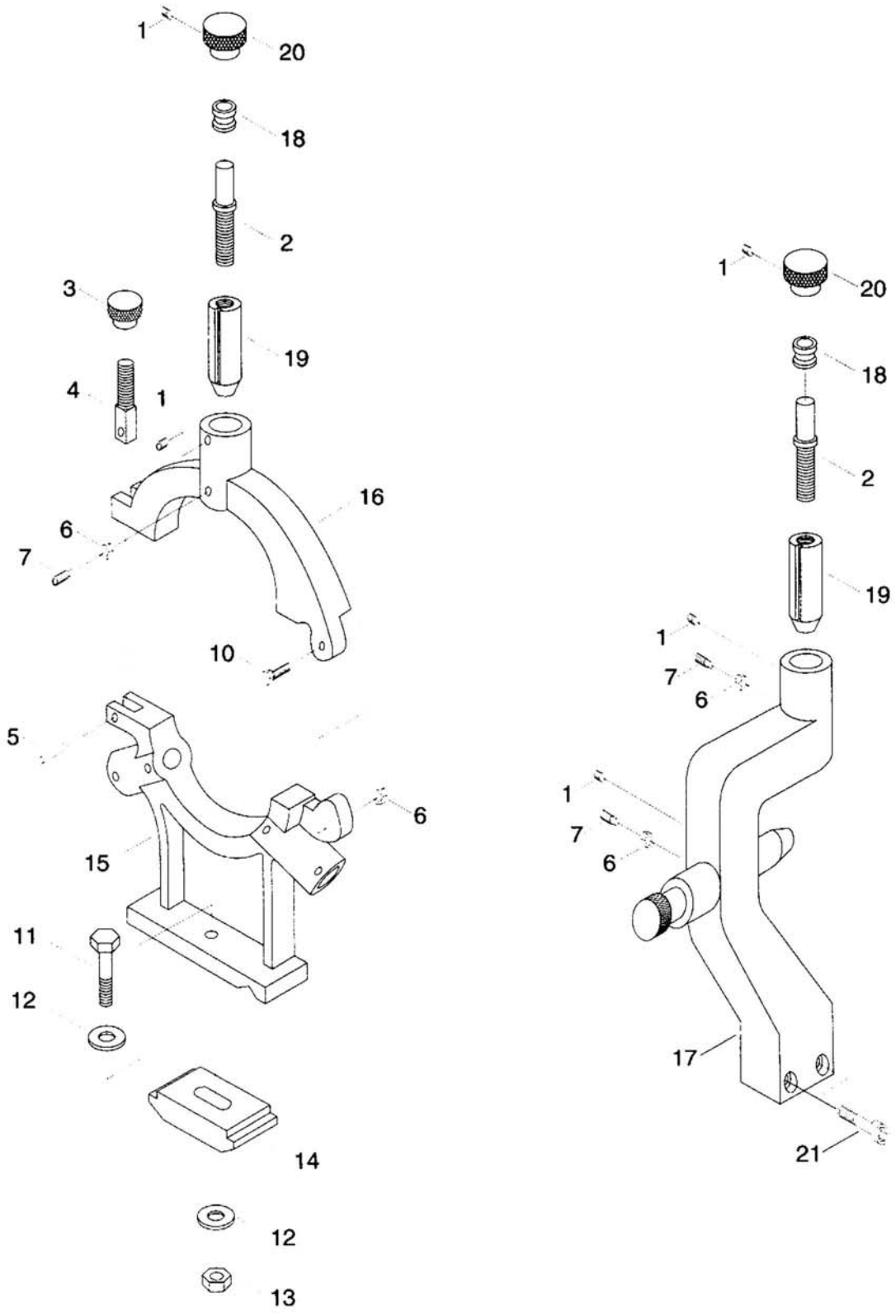
U. THREAD INDICATOR DIAGRAM



V. PARTS LIST – THREAD INDICATOR DIAGRAM

Ref. #	Part #	Description		Ref. #	Part #	Description
1001	P1003330	Lever Quadrant		1005	PSB26M	Cap Screw M6-1.0x12
1002	P1003331	Idler Axle		1006	PSB30M	Cap Screw M6-1.0x45
1003	P1003332	Bushing		1007	P1003804	Thread Dial
1004	PW03M	Flat Washer 6mm		1008	P1003805	Thread Chart

W. REST DIAGRAM



X. PARTS LIST – REST DIAGRAM

Ref. #	Part #	Description	Ref. #	Part #	Description
1101	PSS06M	Setscrew M8-1.25x16	1113	PN19	Hex Nut 7/16"-14
1102	P1003902	Adjusting Screw	1114	P1003411	Clamp
1103	P1003903	Knob	1115	P1003915	Lower Casting
1104	P1003904	Stud	1116	P1003916	Upper Casting
1105	PRP06M	Roll Pin 5x24	1117	P1003917	Follow Rest Casting
1106	PN01M	Hex Nut M6-1.0	1118	P1003918	Bushing
1107	P1003907	Spec. Setscrew M6-1.0x14	1119	P1003919	Mounted Brass Bushing
1110	PB29M	Hex Bolt M6-1.0x30	1120	P1003920	Knob
1111	PB59	Hex Bolt 7/16"-14x2 1/2"	1121	PSB40M	Cap Screw M8-1.25x35
1112	PW04	Flat Washer 7/16"			

From:

_____

_____

_____

PLACE
STAMP
HERE

GRIZZLY IMPORTS INC

P O BOX 2069

BELLINGHAM WA 98226-2069

From:

_____

_____

_____

PLACE
STAMP
HERE

GRIZZLY IMPORTS INC

P O BOX 2069

BELLINGHAM WA 98226-2069

Parts and Service Information

Grizzly stands behind its products with a full parts inventory. These parts are available for purchase by Grizzly machine owners regardless of whether you are the original owner or a subsequent owner. If you are the original owner, please fill out the warranty information on the warranty card, remove the card from this manual and send it back to us within 10 days of product delivery. We appreciate any comments or suggestions you give us. We use them to better our products and service.

If you are not the original owner, please fill out one of the cards below, remove the card from the manual and send it back to us. By registering with us, you will have the same access to parts and service as the original owner.

If you need service or help with this machine, please call or write to us at the appropriate regional service location listed on page 1 of this manual.

CHANGE OF OWNERSHIP

Original Owner Machine name & model no._____

Name_____ Phone Number_____

Street_____

City_____

State_____ ZIP_____ Date purchased_____

New Owner

Name_____ Phone Number_____

Street_____

City_____

State_____ ZIP_____ Date purchased_____

CHANGE OF OWNERSHIP

Original Owner Machine name & model no._____

Name_____ Phone Number_____

Street_____

City_____

State_____ ZIP_____ Date purchased_____

New Owner

Name_____ Phone Number_____

Street_____

City_____

State_____ ZIP_____ Date purchased_____

WARRANTY CARD

NAME_____ PHONE NUMBER_____

STREET_____

CITY_____ STATE_____ ZIP _____

MODEL # _____ PURCHASED FROM GRIZZLY, BELLINGHAM, WA ☐
OR WILLIAMSPORT, PA ☐

INVOICE # _____

The following information is given on a voluntary basis. This information will be used for marketing purposes to help Grizzly develop better products. Your name will be included in our mailing list only. It will not be sold to other companies. Of course, all information is strictly confidential.

1. How did you find out about us?

__ Advertisement __ Friend __ Other_____
__ Catalog __ Card deck

2. Do you think your machine represents good value? __ YES __ NO

3. Would you allow us to use your name as a reference for Grizzly customers in your area? __ YES __ NO
(Note: Your name will be used a maximum of three times.)

4. To which of the following publications do you subscribe? Check all that apply.

__ Home Shop Machinist __ Rifle Magazine Other _____
__ Projects In Metal __ Hand Loader Magazine
__ Model Tech. __ Precision Shooter
__ Live Steam __ RC Modeler
__ Shotgun News __ Model Airplane News

5. What is your annual household income?

__ $20,000-$30,000 __ $60,001-$70,000
__ $30,001-$40,000 __ $70,001-$80,000
__ $40,001-$50,000 __ $80,001-$90,000
__ $50,001-$60,000 __ + $90,000

6. To which age group do you belong?

__ 20-30 __ 41-50 __ 61-70
__ 31-40 __ 51-60 __ +70

7. Which of the following machines or accessories do you own? Check all that apply.

__ Engine Lathe __ Abrasive Cutoff __ Sheet Metal Machine
__ Band Saw (Metal) __ Arc Welder __ Other _____
__ Band Saw (Wood) __ Oxy/Ac. Outfit
__ Milling Machine __ Air Compressor
__ Bench Grinder __ Drill Press

8. How many of the machines you checked in Question 7 are Grizzly machines? _____

9. Which of the following tooling and acessories do you own? Check all that apply.

__ Milling Vises __ Collet Closer __ Digital Readout
__ Indexing Head __ Taper Attachment __ Tool Post Grinder
__ Rotary Table __ Boring Head __ Other _____

10. In the space below, list three tools you would like Grizzly to carry.

11. Of all the mail order metalworking companies you have purchased from, how do you rate Grizzly in terms of overall customer satisfaction?

__ The best __ Above average __ Average
__ Below average __ The worst

12. Comments:_____

FOLD ALONG THIS LINE

From:

_____

_____

_____

PLACE
STAMP
HERE

GRIZZLY IMPORTS

P O BOX 2069

BELLINGHAM WA 98226-2069

FOLD ALONG THIS LINE