

Grizzly *Industrial, Inc.*®

MODEL T23104/T23105/T23106 1, 2, & 5 TON CHAIN HOISTS OWNER'S MANUAL



COPYRIGHT © NOVEMBER, 2010 BY GRIZZLY INDUSTRIAL, INC.
WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.

#TS13464 PRINTED IN CHINA



WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



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.

SAFETY

WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

DANGER

Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the equipment.

WARNING

Safety Instructions for Machinery

- 1. READ THROUGH THE ENTIRE MANUAL BEFORE STARTING MACHINERY.** Machinery presents serious injury hazards to untrained users.
- 2. ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- 3. ALWAYS WEAR A NIOSH APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Wood dust is a carcinogen and can cause cancer and severe respiratory illnesses.
- 4. ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing damage.
- 5. WEAR PROPER APPAREL.** DO NOT wear loose clothing, gloves, neckties, rings, or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.
- 6. NEVER OPERATE MACHINERY WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.

WARNING

Safety Instructions For Machinery

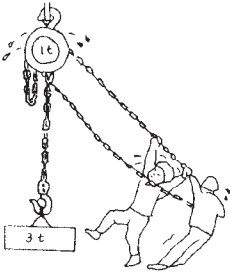
7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.
8. **KEEP CHILDREN AND VISITORS AWAY.** Keep all children and visitors a safe distance from the work area.
9. **MAKE WORKSHOP CHILD PROOF.** Use padlocks, master switches, and remove switch keys.
10. **NEVER LEAVE WHEN MACHINE IS RUNNING.** Turn power **OFF** and allow all moving parts to come to a complete stop before leaving machine unattended.
11. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.
12. **KEEP WORK AREA CLEAN AND WELL LIT.** Clutter and dark shadows may cause accidents.
13. **USE A GROUNDED EXTENSION CORD RATED FOR THE MACHINE AMPERAGE.** Undersized cords overheat and lose power. Replace extension cords if they become damaged. DO NOT use extension cords for 220V machinery.
14. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY.** Make sure switch is in OFF position before reconnecting.
15. **MAINTAIN MACHINERY WITH CARE.** Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
16. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**
17. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make a habit of checking for keys and adjusting wrenches before turning machinery **ON**.
18. **CHECK FOR DAMAGED PARTS BEFORE USING MACHINERY.** Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other conditions that may affect machine operation. Repair or replace damaged parts.
19. **DO NOT FORCE MACHINERY.** Work at the speed for which the machine or accessory was designed.
20. **SECURE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.
21. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
22. **MANY MACHINES WILL EJECT THE WORKPIECE TOWARD THE OPERATOR.** Know and avoid conditions that cause the workpiece to "kickback."
23. **BE AWARE THAT CERTAIN WOODS MAY CAUSE AN ALLERGIC REACTION** in people and animals, especially when exposed to fine dust. Make sure you know what type of wood dust you will be exposed to and always wear an approved respirator.

WARNING

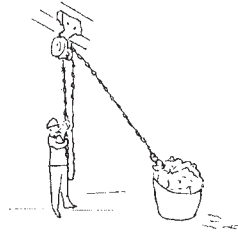
Safety Instructions For Chain Hoists

1. **KEEP ALL SAFETY DEVICES IN PLACE** and in good working order.
2. **LIFTING POWER.** This chain hoist is designed to be comfortable for one person to lift the load using only hand power. Never use a motor or an additional mechanical device with this chain hoist to lift the load.
3. **SAFETY HOOKS.** Before lifting, inspect the safety hooks to make certain they are securely attached, and verify that the safety catches are operating correctly.
4. **METAL FATIGUE.** Before using, inspect the hooks, chains, and hoist housing to verify that the metal parts do not have cracks or other signs of potential failure.
5. **DYNAMIC LOADING.** Swinging or jerking the load will cause dynamic loading that could exceed the capacities of the hoist, which could result in the load falling.
6. **VERTICAL MOVEMENT.** The chain hoist is designed to only move the load straight up and straight down. Swinging or dragging the load could cause hoist failure.
7. **CHAIN ENTANGLEMENT.** Always make sure the chains are not twisted around each other before lifting. Keep body parts, long hair, and jewelry away from the chains and hooks to prevent entanglement during lifting.
8. **WARNING LABEL.** Always make sure the warning label on the hoist is legible so that the operator can be aware of the immediate hazards of operating the hoist. If the label becomes damaged, replace it.
7. **CRUSHING HAZARD.** If the load should fall, it could cause death or serious personal injury to anyone underneath the hoist. Always make sure the operator and bystanders never move under the load.
8. **OPERATION SPEED.** Use a slow and steady pace when raising or lowering the load to avoid jerking or tangling the chains and load.
9. **HEAD PROTECTION.** Always wear a hard hat or similar head protection when using the hoist.
10. **OPERATIONAL DIFFICULTY.** If the lifting chain seems to require excessive force to lift the load, check for the following and resolve them before continuing:
 - Is the load heavier than the rated capacity of the hoist?
 - Are the chains or load entangled in any way?
 - Is an obstacle blocking the load or chains?
 - Are the chains and load not directly under the hoist?
 - Have the gears inside the hoist housing jammed?

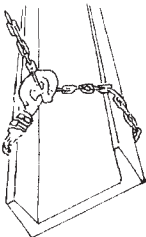
Additional Safety Precautions for Chain Hoists



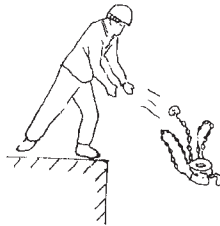
DO NOT attempt to lift a load in excess of the rated load capacity.



DO NOT drag the load or lift it when it is not directly under the chain hoist.



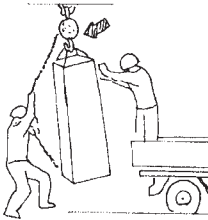
DO NOT wrap the lifting chain around the load to lift it—use a separate chain.



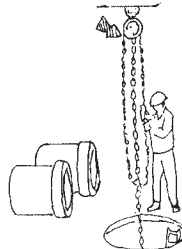
DO NOT mishandle the hoist assembly.



DO NOT allow the hook to become twisted around the chain.



DO NOT exceed the maximum lifting or lowering distance.



⚠️ WARNING

Read and understand this entire manual before using this hoist. Serious personal injury may occur if safety and operational information is not understood and followed. DO NOT risk your safety by not reading!

⚠️ CAUTION

Use this and other tools with caution and respect. Always consider safety first, as it applies to your individual working conditions. No list of safety guidelines can be complete for every environment. Failure to follow guidelines could result in death, serious personal injury, or damage to equipment.

INTRODUCTION

Foreword

We are proud to offer the Grizzly Model T23104/T23105/T23106 Chain Hoist. This equipment is part of a growing Grizzly family of fine tools. 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.

It is our pleasure to provide this manual with the Model T23104/T23105/T23106. It was written to encourage safety considerations and guide you through general operating procedures and maintenance.

The specifications, details, and photographs in this manual represent the Model T23104/T23105/T23106 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly.

Contact Info

If you have any comments regarding this manual, please contact us:

Grizzly Industrial, Inc.
C/O Technical Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

Most importantly, we stand behind our tools. If you have any service questions or parts requests, please call or write us at the location listed below.

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

Specifications

Specification	T23104	T23105	T23106
Full Load Capacity (tons)	1	2	5
Maximum Vertical Lift (in.)	98	98	118
Headroom (in.)	11 ^{13/16}	15	23 ^{5/8}
Force to Lift Full Load (lbs.)	76	76	95
No. of Load Chain Fall Lines	1	2	2
Hoist housing Diameter (in.)	5 ^{9/16}	5 ^{9/16}	8 ^{1/4}
Hoist housing Width (in.)	5	5	6 ^{1/2}
Maximum Hook Opening (in.)	1 ^{5/16}	1 ^{3/16}	1 ^{3/4}
Net Weight (lbs.)	22	31	79

OPERATION

To operate the chain hoist:

1. Read and follow the safety precautions included in the front of this manual, wear protective head gear, and clear the area around the lifting operation of people, animals, and obstructions.
2. Secure the safety hook on top of the hoist housing to a structurally sound overhead beam that is capable of supporting the load weight.

Make sure that the overhead connection point conforms to the require local and state safety and building codes for the hoist and load used.

Note: *The hoist can be mounted on a beam trolley if the capacity of the trolley system is at least twice the maximum load capacity of the hoist.*

3. Position the load directly under the chain hoist.

WARNING

Always connect the chain block lifting hook to a separate lifting device attached to the load, such as straps, chains, or an eye bolt, so that the lifting chain is vertical. DO NOT wrap the lifting chain and hook around the load in any way, which could cause them to fail under load. Ignoring this warning could lead to serious personal injury or property damage.

4. Make sure the hoist chains are not tangled, then attach the lifting hook to the load.
 5. Pull on the lifting chain until there is slight tension between the hoist and the load.
 6. Inspect the hoist and load to make sure that the load chains will stay vertical during the lifting operation, that there is not a possibility of any type of entanglement, and that there are not obstacles in the path of the lift.
 7. While standing to the side of the lifting path, continue to pull on the lifting chain with a slow and steady pace.
- Note:** *The hoist has a built-in braking mechanism that will suspend the load at the current position when you release the lifting chain.*
8. When you are ready to lower the load, pull on the opposite side of the lifting chain at a slow and steady pace.
 9. When the tension between the hoist and the load is completely released, detach the hoist hook.

MAINTENANCE

Follow regular maintenance to keep the hoist in good working condition. To avoid serious injury from hoist failure, never attempt to repair a hoist that malfunctions or becomes damaged. Hoist repair or service must be done by a qualified technician only.

The hazard of an improper repair job is that it could cause the hoist to fail and unexpectedly drop the load, which could crush or kill people below, or cause major property damage. For this reason, we strongly recommend replacing the hoist if it malfunctions or becomes damaged.

To avoid contaminating the friction brake during maintenance, you must know the difference between the gear cover and the lifting chain cover (see **Figure 1**).

The **Gear Cover** will be removed during routine maintenance. The **Lifting Chain Cover** should only be removed by a qualified technician; it encloses the friction brake and protects it from exposure to contaminants, such as liquids or lubrication, that will cause the brake to fail under load.

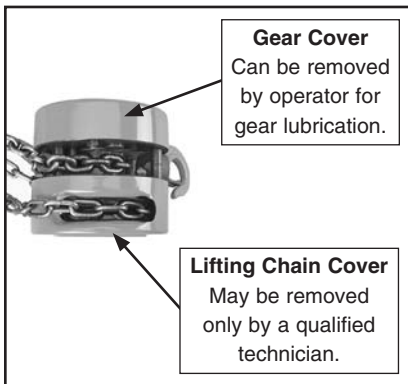


Figure 1. Hoist housing cover identification.

Cleaning

To prevent the chains from jamming, clean away dirt and debris from the outside of the hoist housing and the chains.

NOTICE

DO NOT submerge the hoist housing in liquid of any kind or allow liquid to enter the lifting chain housing during cleaning, or the braking mechanism may fail to work properly and drop the load.

Chain Lubrication

When the chains are clean and dry, apply a thin coat of light machine oil to the links with an oiled shop rag to ensure smooth movement and prevent corrosion.

Storage

Before storing the hoist, clean and lubricate the chains. Always store the hoist in a clean, dry, and protected area to prevent corrosion or damage.

⚠ WARNING

A malfunctioning or damaged hoist may drop its load and crush or kill people below, or cause major property damage. To reduce this risk, observe all care and maintenance noted in the manual. If the hoist malfunctions or becomes damaged, replace it, or have it serviced by a qualified service technician.

Greasing Gears

Clean and grease the hoist gears every 6 months with normal use, or more frequently with heavy use or exposed to adverse conditions.

Items Needed	Qty
Wrench or Socket 10mm.....	1
Wrench or Socket 14mm.....	1
Mineral Spirits.....	As Needed
Stiff-Bristled Brush.....	1
Shop Rags.....	As needed
Multi-Purpose Gear Grease.....	As Needed

To grease the hoist gears:

1. Lay the hoist housing on a flat working surface with the lifting chain cover facing down (see **Figure 2**).

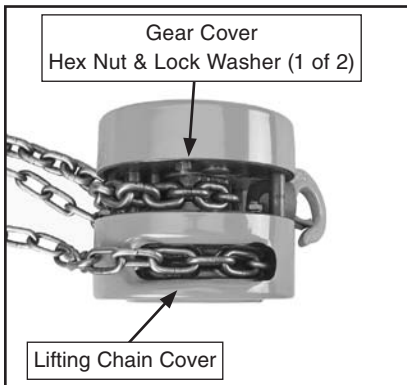


Figure 2. Gear cover fasteners.

2. Remove the two hex nuts and lock washers securing the gear cover, then remove the cover.
3. Remove the three hex nuts and lock washers that secure the gear bracket, then remove the bracket (see **Figure 3**).

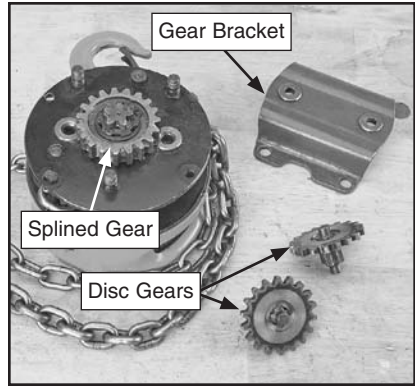


Figure 3. Gears exposed.

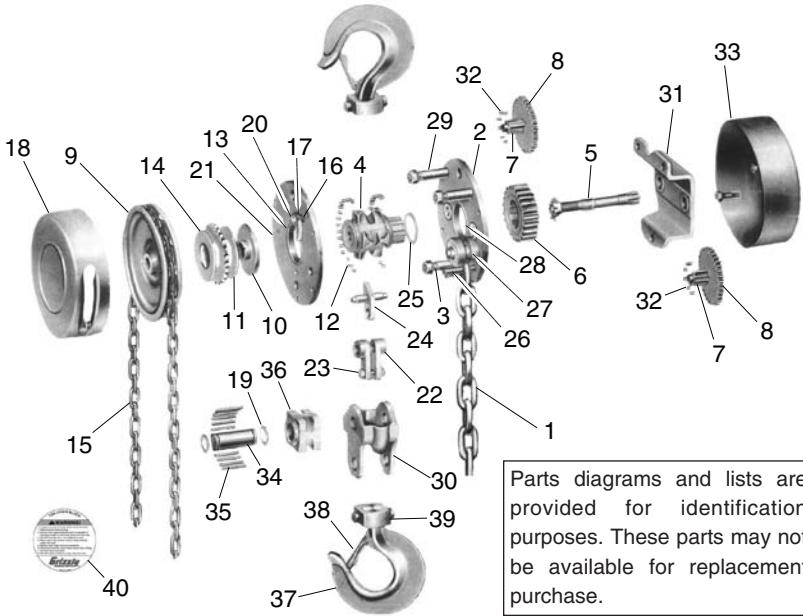
4. Remove the two disc gears from the housing.
5. Use mineral spirits, a stiff-bristled brush, and shop rags to clean the old grease and grime from the disc and splined gears.

Take care not to allow the mineral spirits or lubricant to drip into the lower lifting chain housing and onto the braking mechanism.

6. When the parts are dry, apply a medium coat of multi-purpose gear grease to the gear teeth.
7. Re-assemble the components in the reverse order that you disassembled them.
8. Test the lifting capabilities of the hoist with no load, then, if successful, with the rated maximum load for your hoist.

— If you suspect any problems with the lifting or brake mechanisms, immediately lower the load and resolve any issues before using the hoist again.

T23105

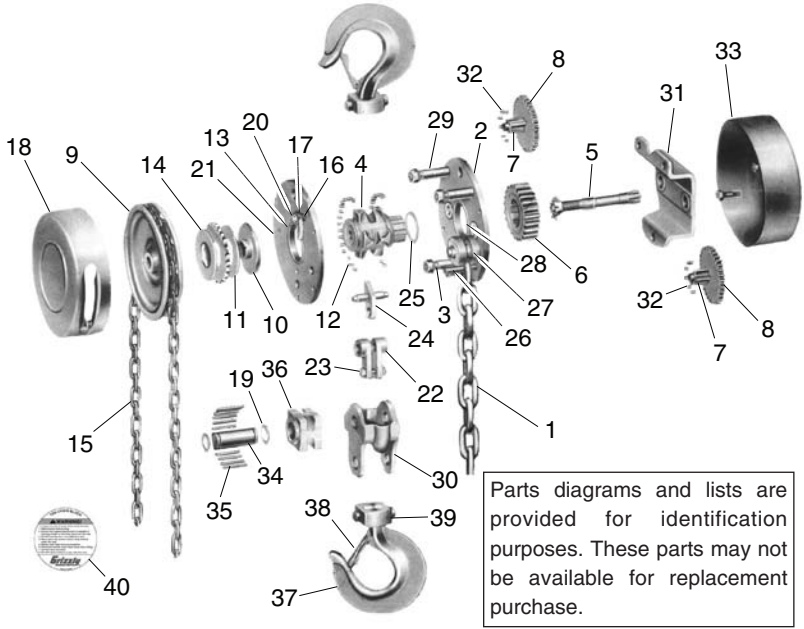


Parts diagrams and lists are provided for identification purposes. These parts may not be available for replacement purchase.

REF PART #	DESCRIPTION
1	PT23105001 LOAD CHAIN G80
2	PT23105002 RIGHT SIDE PLATE
3	PT23105003 SHORT STAY
4	PT23105004 LOAD CHAIN SPROCKET
5	PT23105005 DRIVE SHAFT
6	PT23105006 SPLINED GEAR
7	PT23105007 PINION SHAFT
8	PT23105008 DISK GEAR
9	PT23105009 LIFTING CHAIN SPROCKET
10	PT23105010 BRAKE SEAT
11	PT23105011 FRICTION PLATE
12	PT23105012 ROLLER
13	PT23105013 BEARING RACE
14	PT23105014 RATCHET DISC
15	PT23105015 LIFTING CHAIN
16	PT23105016 PAWL SPRING
17	PT23105017 PAWL
18	PT23105018 LEFT HOUSING
19	PT23105019 EXT RETAINING RING
20	PT23105020 PAWL PIN

REF PART #	DESCRIPTION
21	PT23105021 LEFT SIDE PLATE
22	PT23105022 SUSPENSION PLATE
23	PT23105023 SUSPENSION PIN
24	PT23105024 CHAIN STRIPPER
25	PT23105025 EXT RETAINING RING
26	PT23105026 LOAD CHAIN PIN
27	PT23105027 GUIDE ROLLER
28	PT23105028 BEARING RACE
29	PT23105029 LONG STAY
30	PT23105030 LIFTING HOOK HANGER
31	PT23105031 PLATE BRACKET
32	PT23105032 ROLLER
33	PT23105033 RIGHT HOUSING
34	PT23105034 NEEDLE SHAFT
35	PT23105035 NEEDLE BEARING 3 X 29.8
36	PT23105036 IDLER SHEAVE
37	PT23105037 HOOK
38	PT23105038 SAFETY CATCH
39	PT23105039 HOOK HOLDER
40	PT23105040 ID/WARNING LABEL

T23106



Parts diagrams and lists are provided for identification purposes. These parts may not be available for replacement purchase.

REF PART #	DESCRIPTION
1	PT23106001 LOAD CHAIN G80
2	PT23106002 RIGHT SIDE PLATE
3	PT23106003 SHORT STAY
4	PT23106004 LOAD CHAIN SPROCKET
5	PT23106005 DRIVE SHAFT
6	PT23106006 SPLINED GEAR
7	PT23106007 PINION SHAFT
8	PT23106008 DISK GEAR
9	PT23106009 LIFTING CHAIN SPROCKET
10	PT23106010 BRAKE SEAT
11	PT23106011 FRICTION PLATE
12	PT23106012 ROLLER
13	PT23106013 BEARING RACE
14	PT23106014 RATCHET DISC
15	PT23106015 LIFTING CHAIN
16	PT23106016 PAWL SPRING
17	PT23106017 PAWL
18	PT23106018 LEFT HOUSING
19	PT23106019 EXT RETAINING RING
20	PT23106020 PAWL PIN

REF PART #	DESCRIPTION
21	PT23106021 LEFT SIDE PLATE
22	PT23106022 SUSPENSION PLATE
23	PT23106023 SUSPENSION PIN
24	PT23106024 CHAIN STRIPPER
25	PT23106025 EXT RETAINING RING
26	PT23106026 LOAD CHAIN PIN
27	PT23106027 GUIDE ROLLER
28	PT23106028 BEARING RACE
29	PT23106029 LONG STAY
30	PT23106030 LIFTING HOOK HANGER
31	PT23106031 PLATE BRACKET
32	PT23106032 ROLLER
33	PT23106033 RIGHT HOUSING
34	PT23106034 NEEDLE SHAFT
35	PT23106035 NEEDLE BEARING 3 X 29.8
36	PT23106036 IDLER SHEAVE
37	PT23106037 HOOK
38	PT23106038 SAFETY CATCH
39	PT23106039 HOOK HOLDER
40	PT23106040 ID/WARNING LABEL

WARRANTY

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** 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 and 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, contact us by mail or phone and give us all the details. We will then issue you a "Return Authorization Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly 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.

Please feel free to write or call us if you have any questions about the machine or the manual.

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Fax: (800) 438-5901

E-Mail:
techsupport@grizzly.com

Web Site: <http://www.grizzly.com>

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



WARRANTY CARD

Name _____

Street _____

City _____ State _____ Zip _____

Phone # _____ Email _____ Invoice # _____

Model # _____ Order # _____ Serial # _____

*The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **All information is strictly confidential.***

1. How did you learn about us?

____ Advertisement ____ Friend ____ Catalog
____ Card Deck ____ Website Other: _____

2. Which of the following magazines do you subscribe to?

____ Cabinet Maker	____ Popular Mechanics	____ Today's Homeowner
____ Family Handyman	____ Popular Science	____ Wood
____ Hand Loader	____ Popular Woodworking	____ Wooden Boat
____ Handy	____ Practical Homeowner	____ Woodshop News
____ Home Shop Machinist	____ Precision Shooter	____ Woodsmith
____ Journal of Light Cont.	____ Projects in Metal	____ Woodwork
____ Live Steam	____ RC Modeler	____ Woodworker West
____ Model Airplane News	____ Rifle	____ Woodworker's Journal
____ Modeltec	____ Shop Notes	____ Other:
____ Old House Journal	____ Shotgun News	

3. What is your annual household income?

____ \$20,000-\$29,000 ____ \$30,000-\$39,000 ____ \$40,000-\$49,000
____ \$50,000-\$59,000 ____ \$60,000-\$69,000 ____ \$70,000+

4. What is your age group?

____ 20-29 ____ 30-39 ____ 40-49
____ 50-59 ____ 60-69 ____ 70+

5. How long have you been a woodworker/metalworker?

____ 0-2 Years ____ 2-8 Years ____ 8-20 Years ____ 20+ Years

6. How many of your machines or tools are Grizzly?

____ 0-2 ____ 3-5 ____ 6-9 ____ 10+

7. Do you think your machine represents a good value? ____ Yes ____ No

8. Would you recommend Grizzly Industrial to a friend? ____ Yes ____ No

9. Would you allow us to use your name as a reference for our customers in your area?

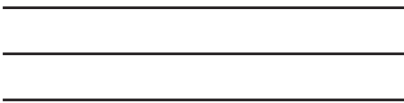
Note: *We never use names more than 3 times.* ____ Yes ____ No

10. Comments: _____

Send a Grizzly Catalog to a friend:

Name _____
Street _____
City _____ State _____ Zip _____

FOLD ALONG DOTTED LINE



Place
Stamp
Here



GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069



TAPE ALONG EDGES--PLEASE DO NOT STAPLE