

PARTS, OPERATION AND MAINTENANCE MANUAL

for

HAND WINCH MODELS

AM3/AM3B

1000 LBS (454 KG)

BM3/BM3B

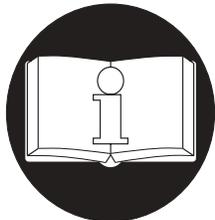
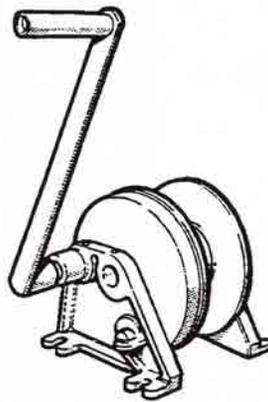
2000 LBS (909 KG)

AM6/AM6B

1000 LBS (454 KG)

BM6/BM6B

2000 LBS (909 KG)



READ THIS MANUAL BEFORE USING THESE PRODUCTS. This manual contains important safety, installation, operation and maintenance information. Make this manual available to all persons responsible for the operation, installation and maintenance of these products.

! WARNING

Do not use this winch for lifting, supporting, or transporting people or lifting or supporting loads over people.

Always operate, inspect and maintain this winch in accordance with American National Standards Institute Safety Code (ANSI B30.7) and any other applicable safety codes and regulations.

Refer all communications to WINTECH or your nearest Distributor.

Form MHD56030

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This manual provides important information for all personnel involved with the safe installation, operation and proper maintenance of this product. Even if you feel you are familiar with this or similar equipment, you must read and understand this manual before operating the product.

Danger, Warning, Caution and Notice

Throughout this manual there are steps and procedures which, if not followed, may result in a hazard. The following signal words are used to identify the level of potential hazard.

DANGER

Danger is used to indicate the presence of a hazard which **will** cause **severe** personal injury, death, or substantial property damage if the warning is ignored.

WARNING

Warning is used to indicate the presence of a hazard which **can** cause **severe** personal injury, death, or substantial property damage if the warning is ignored.

CAUTION

Caution is used to indicate the presence of a hazard which **will** or **can** cause **minor** personal injury or property damage if the warning is ignored.

NOTICE

Notice is used to notify people of installation, operation, or maintenance information which is important but not hazard-related.

Safety Summary

WARNING

- **Do not use this winch for lifting, supporting or transporting people or lifting or supporting loads over people.**
- **The supporting structures and load-attaching devices used in conjunction with this winch must provide an adequate safety factor to handle the rated load, plus the weight of the winch and attached equipment. This is the customer's responsibility. If in doubt, consult a qualified structural engineer.**

The National Safety Council, Accident Prevention Manual for Industrial Operations, Eighth Edition and other recognized safety sources make a common point: Employees who work near cranes or assist in hooking on or arranging a load should be instructed to keep out from under the load. From a safety standpoint, one factor is paramount: conduct all lifting operations in such a manner that if there were an equipment failure, no personnel would be injured. This means keep out from under a raised load and keep out of the line of force of any load.

WINTECH winches are manufactured in accordance with the latest ASME B30.7 standards.

The Occupational Safety and Health Act of 1970 generally places the burden of compliance with the user, not the manufacturer. Many OSHA requirements are not concerned or connected with the manufactured product but are, rather, connected with the final installation: "It is the owner's responsibility and user's responsibility to determine the suitability of a product for any particular use. Check all applicable industry, trade association, federal, state and local regulations. Read all operating instructions and warnings before operation."

Rigging: It is the responsibility of the operator to exercise caution, use common sense and be familiar with proper rigging techniques. See ANSI/ASME B30.9 for rigging information, American National Standards Institute, 1430 Broadway, New York, NY 10018.

This manual has been produced by **Wintech** to provide dealers, mechanics, operators and company personnel with the information required to install, operate, maintain and repair the products described herein. It is extremely important that mechanics and operators be familiar with the servicing procedures of these products, or like or similar products, and are physically capable of conducting the procedures. These personnel shall have a general working knowledge that includes:

1. Proper and safe use and application of mechanics common hand tools as well as special **Wintech** or recommended tools.
2. Safety procedures, precautions and work habits established by accepted industry standards.

Wintech can not know of, nor provide all the procedures by which product operations or repairs may be conducted and the hazards and/or results of each method. If operation or maintenance procedures not specifically recommended by the manufacturer are conducted, it must be ensured that product safety is not endangered by the actions taken. If unsure of an operation or maintenance procedure or step, personnel should place the product in a safe condition and contact supervisors and/or the factory for technical assistance.

SAFE OPERATING INSTRUCTIONS

The following warnings and operating instructions have been adapted in part from American National (Safety) Standard ANSI B30.7 and are intended to avoid unsafe operating practices which might lead to personal injury or property damage.

WINTECH recognizes that most companies who use winches have a safety program in force in their plants. In the event that some conflict exists between a rule set forth in this publication and a similar rule already set by an individual company, the more stringent of the two should take precedence.

Safe Operating Instructions are provided to make an operator aware of dangerous practices to avoid and are not necessarily limited to the following list. Refer to specific sections in the manual for additional safety information.

1. Only allow qualified personnel (trained in safety and operation) to operate and maintain a winch.
2. Only operate a winch if you are physically fit to do so.
3. When a "DO NOT OPERATE" sign is placed on the winch, do not operate the winch until the sign has been removed by designated personnel.
4. Before each shift, check the winch for wear or damage.
5. Never lift a load greater than the rated capacity of the winch. See warning labels attached to winch.
6. Keep hands, clothing, etc., clear of moving parts.
7. Never place your hand in the throat area of a hook.
8. Always rig loads properly and carefully.
9. Be certain the load is properly seated in the saddle of the hook. Do not tiplload the hook as this leads to spreading and eventual failure of the hook.
10. Do not "side pull" or "yard".
11. Make sure everyone is clear of the load path. Do not lift a load over people.
12. Never use the winch for lifting or lowering people, and never allow anyone to stand on a suspended load.
13. Ease the slack out of the wire rope when starting a lift. Do not jerk the load.
14. Do not swing a suspended load.
15. Never suspend a load for an extended period of time.
16. Never leave a suspended load unattended.
17. Pay attention to the load at all times when operating the winch.
18. After use, properly secure winch and all loads.
19. The operator must maintain an unobstructed view of the load at all times.
20. Never use the wire rope as a sling.

WARNING TAG AND LABELS

Each winch is supplied from the factory with the warning tag shown. If the tag is not attached to your unit, order a new tag and install it. Refer to the parts list for the part number. Read and obey all warnings and other safety information attached to this winch. Tag shown may not be actual size.



AM AND BM WINCH ASSEMBLY PARTS LIST

Model Code Explanation:

Example: AM6B-GC

AM 6 B - GC

Series/Capacity:

AM = Spur Gear 1,000 lbs(1/2 US ton) / 454 kg

BM = Spur Gear 2,000 lbs(1 US ton) / 909 kg

Drum Length (Distance between drum flanges):

3 = 3 inch (76mm)

6 = 6 inch (152mm)

Brake:

B = Drum Band Brake

Options:

GC = Gear Cover

M = Marine 812 top coatl.

SBH = Disc Brake Handle

SD = Drum Divider Flange (with additional wire rope anchor)

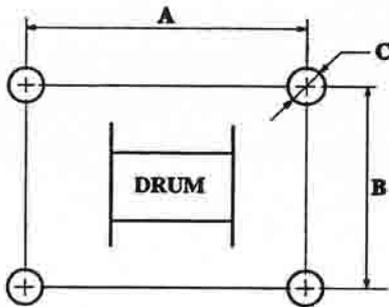
Model No.	Capacity First Layer		Gear Ratio	Drum Capacities ft. (m)								Net Weight (without wire rope)			
				(w/o brake)		(with brake)									
	ins.	mm		ins.	mm	ins.	mm	ins.	mm	lbs	kg	lbs	kg		
AM3/AM3B	1000	454	5.25:1	387	122	146	43	84	27	45	14	20	9.1	22	10
AM6/AM6B	1000	454	5.25:1	791	250	300	89	176	56	95	29	22	10	24	10.9
BM3/BM3B	2000	909	5.25/10.5:1	387	122	146	43	84	27	45	14	23	10.5	25	11.4
BM6/BM6B	2000	909	5.25/10.5:1	791	250	300	89	176	56	95	29	24	10.9	27	

⚠ CAUTION

• Owners and users are advised to examine specific, local or other regulations, including American National Standards Institute and/or OSHA Regulations which may apply to a particular type of use of this product before installing or putting winch to use.

Mounting

1. If product is to be mounted in one position be sure the mounting surface is even and of sufficient strength to handle the rated load and prevent possible binding of the winch.
2. Make sure the winch is positioned so handle can rotate a full 360 degrees unobstructed. Reposition winch if necessary.
3. Make sure the mounting surface is flat to within 1/16 inch (2 mm). Shim if necessary.
4. Mounting bolts must be 3/8 in. (9 mm) and must be Grade 5 or better. Torque bolts to 30 lbs. ft. (40 N.m). Use self-locking nuts or nuts with lockwashers.
5. Torque mounting bolts evenly.
6. Maintain a fleet angle between the sheave and winch of no more than 1-1/2 degrees. For every inch of drum length, the lead sheave must be at least 1.6 feet (0.5 m) from the drum.
7. Do not weld to any part of the winch without first receiving approval from the factory.



(Dwg. MHTPA0124)

Wire Rope Selection

Consult a reputable wire rope manufacturer or distributor for assistance in selecting the appropriate type and size of wire rope and, where necessary, a protective coating. Use a wire rope which provides an adequate safety factor to handle the actual working load and meets all applicable industry, trade association, federal, state and local regulations.

When considering wire rope requirements the actual working load must include not only the static or dead load but also loads resulting from acceleration, retardation and shock load. Consideration must also be given to the size of the winch wire rope drum, sheaves and method of reeving.

Minimum and maximum wire rope diameters are listed below. The maximum diameter of the wire rope is limited by the size of the wire rope anchor.

Model No.	Wire Rope Diameter			
	Minimum		Maximum	
	in.	(mm)	in.	(mm)
AM3/AM3B	1/8	3	5/16	8
AM6/AM6B	1/8	3	5/16	8
BM3/BM3B	1/8	3	5/16	8
BM6/BM6B	1/8	3	5/16	8

⚠ WARNING

- Check wire rope diameter provides adequate safety factor.

Bolt Pattern Dimensions

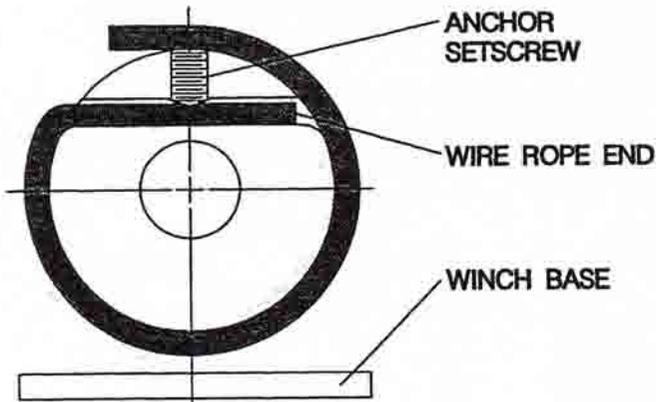
Model No.	"A"		"B"		"C"	
	in.	(mm)	in.	(mm)	in.	(mm)
AM3/AM3B	7-1/2	190	5-3/8	137	7/16	10
AM6/AM6B	10-1/2	267	5-3/8	137	7/16	10
BM3/BM3B	7-1/2	190	5-3/8	137	7/16	10
BM6/BM6B	10-1/2	267	5-3/8	137	7/16	10

Installing a Wire Rope

⚠ CAUTION

• Position the wire rope so that it comes off the top of the drum. On winches with a hand brake the wire rope must depart the drum on the side opposite the brake lever handle.

1. Cut wire rope to length and fuse end to prevent fraying of strands in accordance with the wire rope manufacturers instructions.



(Dwg. MHTPA0070)

2. Feed the fused end of the wire rope into the wire rope anchor hole in the drum, past the wire rope anchor setscrew, and position the end just beneath the drum surface. See Dwg. MHTPA0070.
3. Secure by tightening wire rope anchor setscrew. Make sure wire rope anchor screw is below the surface of the drum when tightened.

Safe Wire Rope Handling Procedures

1. Always use gloves when handling wire rope.
2. Never use wire rope which is frayed or kinked.
3. Never use wire rope as a sling.
4. Always ensure wire rope is correctly spooled and first layer is tight.

Wire Rope Spooling

To allow for uneven spooling and decrease in line pull capacity as the drum fills up, use as short a wire rope as practical. Always maintain three or more wraps of wire rope on the drum. When rewinding wire rope apply tension to eliminate slack. This helps achieve level winding and tight spooling.

Rigging

Make sure all wire rope blocks, tackle and fasteners have sufficient safety margin to handle the required load. Do not allow wire rope to contact sharp edges or make sharp bends which will cause damage to wire rope. Use a sheave. Refer to wire rope manufacturer's handbook for proper sizing, use and care of wire rope.

Safe Installation Procedures

1. Do not use wire rope as a ground for welding.
2. Do not attach a welding electrode to winch or wire rope.
3. Never run the wire rope over a sharp edge. Use a correctly sized sheave.
4. When a lead sheave is used, it must be aligned with the center of the drum. The diameter of the lead sheave must be at least 18 times the diameter of the wire rope.
5. Always maintain at least three full wraps of wire rope on the drum.

OPERATION

The four most important aspects of winch operation are:

1. Follow all safety instructions when operating the winch.
2. Allow only qualified people to operate the winch.
3. Subject each winch to a regular inspection and maintenance procedure.
4. Be aware of the winch capacity and weight of load at all times.

⚠ WARNING

- WINTECH products are not designed or suitable for lifting, lowering or moving persons. Never lift loads over people.
- Do not use power to drive the winch.
- Always maintain at least three full wraps of wire rope on the drum.

Handle Attachment

(ref. Dwg. MHTPC0128)

Align the box section of handle (18) and cotter pin hole with the square end of the pinion (15) or (29). Press the handle (18) onto the pinion so it is fully seated. Install cotter pin (7) through pinion and handle (18).

Operation

When lifting or pulling always engage dog (21) before moving the load.

⚠ WARNING

- A creeping load can cause death or injury. Do not rely on the hand brake to hold a suspended load.
- Do not overload winch.

For paying-out wire rope or lowering load, crank load up so that dog is free for release. If it is difficult to crank the load up to release the dog then the winch may be overloaded. Reduce the load before attempting to release the dog. Maintain a firm grip on the handle with one hand and disengage dog with the other. Pay-out wire rope or lower load slowly with two hands on the handle. For units with hand brake, after dog is disengaged, an alternate load release method is to drag brake with one hand and crank handle with the other.

Paying Out or Hauling In with Handle

When facing the gear and handle side of model AM winches:

Rotate the handle (18) clockwise to rotate the drum counterclockwise.

Rotate the handle (18) counterclockwise to rotate the drum clockwise.

When facing the gear and handle side of model BM winches:

Rotate the handle (18) counterclockwise to rotate the drum counterclockwise.

Rotate the handle (18) clockwise to rotate the drum clockwise.

To avoid "bird nesting" caused by slack wire rope, apply tension to the wire rope when spooling onto the drum.

To Let Out Unloaded Wire Rope

⚠ WARNING

• To avoid injury to personnel and damage to equipment due to a falling load, disconnect the load before disengaging the dog.

1. Make sure there is no load on the winch.
2. Remove cotter pin (7) and handle (18).
3. Disengage the drum by rotating the dog handle (20) until the dog (21) is disengaged from the drum gear.
4. Pull the end of the wire rope to desired location. Make sure at least 3 wraps of wire rope remain on the drum.
5. When sufficient wire rope has been pulled from the drum engage the dog (21) by releasing the spring loaded dog handle (20).

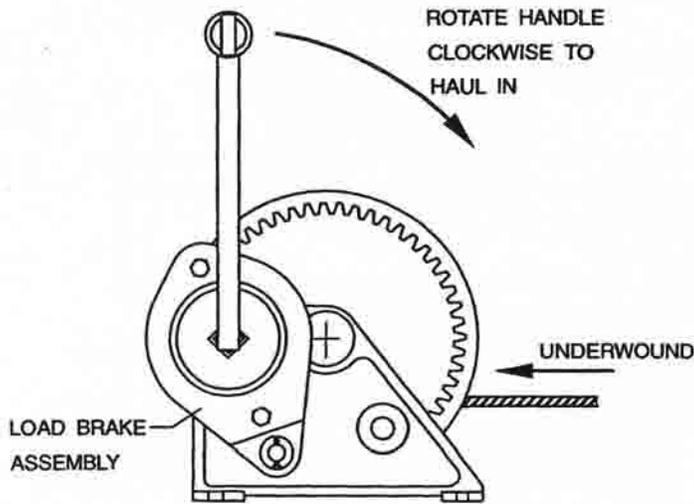
Load Disc Brake Assembly (optional)

(ref. Dwg. MHTPB0130)

1. The load disc brake assembly installs on pinion (15) on BM model winches or pinion (29) on AM model winches and attaches to the large frame (40). The standard winch handle assembly (18) attaches to the load disc brake assembly. When installed it will not permit the wire rope to be pulled from the winch by hand.
2. Install the anchor stud (41) in the large frame (40). Align the hole in the housing half (46) with the anchor stud (41) and install the load disc brake assembly on pinion (15) or (29).
3. For correct load disc brake operation wire rope must be installed on drum for correct direction of rotation. (ref. Dwgs. MHTPA0135 and MHTPA0136)
4. Once aligned and pressed fully into position install anchor stud washer (43) and cotter pin (42) on anchor stud (41). Install handle (18) and secure in position with cotter pin (7).

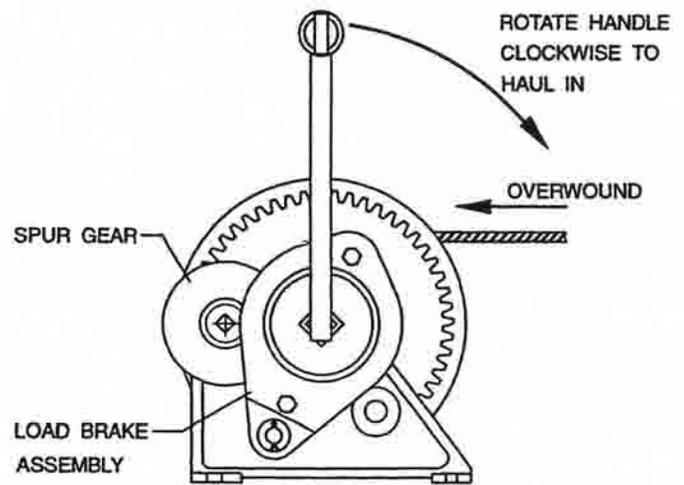
5. Check that the load disc brake assembly is securely held in place by pulling on load disc brake assembly.
6. To take-up wire rope rotate handle in a clockwise direction. This causes the flange nut (53) to clamp the friction discs (51) against the ratchet wheel (52). Continued turning of the handle will disengage the ratchet dog (49) and allow the ratchet wheel (52) to turn. An audible clicking will be noticed as each tooth on the ratchet wheel rotates past the ratchet dog and the spring (48) causes the dog to engage the next tooth.
7. To payout wire rope rotate handle in a counterclockwise direction. This will rotate the flange nut (53) to release the friction discs from the ratchet wheel which is held stationary by the ratchet dog. When handle rotation ceases tension on the wire rope will tighten the flange screw to clamp the friction discs and hold the load.

AM3/AM3B and AM6/AM6B



(Dwg. MHTPA0135)

BM3/BM3B and BM6/BM6B



(Dwg. MHTPA0136)

NOTICE

- The load disc brake assembly requires no adjustment.

There are two types of inspection, the frequent inspection performed by the operator and more thorough periodic inspections performed by qualified personnel. Careful inspection on a regular basis will reveal potentially dangerous conditions while still in the early stages, allowing corrective action to be taken before the condition becomes dangerous.

Any deficiency revealed through inspection must be reported to an appointed person. A determination must be made as to whether a deficiency constitutes a safety hazard before resuming operation of the winch.

Records and Reports

Some form of inspection record should be maintained for each winch, listing all points requiring periodic inspection. A written report should be made monthly on the condition of the critical parts of each winch. These reports should be dated, signed by the person who performed the inspection, and kept on file where they are readily available to authorized personnel.

Frequent Inspection

On winches in continuous service, frequent inspection should be made at the beginning of each shift. In addition, visual observations should be conducted during regular service for any damage or evidence of malfunction.

1. **OPERATION.** To make sure the drive mechanism operates properly, check for sticking or other signs of malfunction. Repair if necessary. Test brake operation by lifting a load 1 to 2 in. (25 to 50 mm) off the floor and check that the brake holds the load.
2. **LIMIT DEVICES.** If used, check that they operate properly.
3. **WIRE ROPE.** Lubricate if necessary. Replace the wire rope if damaged or excessively worn. Consult the wire rope manufacturer's inspection information or a recognized safety source, such as the latest edition of National Safety Council, Accident Prevention Manual for Industrial Operations or ANSI/ASME B30.7. The following list is a users guide to the accepted standards by which wire rope must be judged and is not presented as a substitute for an experienced inspector.
 - a. Damage, such as: bird cages, kinking, core protrusion, crushing, heat damage, and main strand displacement.
 - b. Corrosion, nicking and wear of crown wires.
 - c. Wear of crown wires. Replace at 1/3 wear of the original diameter of any crown wire.
 - d. Broken wires or strands, particularly at connections. Replacement is necessary if one wire is broken at a connection; six broken wires within one lay; three broken wires in one strand within one lay.
4. **WIRE ROPE REEVING.** Check reeving and ensure

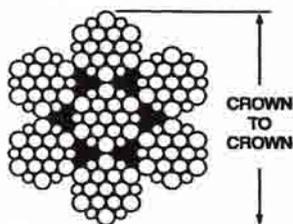
wire rope is properly secured to the drum.

Periodic Inspection

According to ANSI/ASME B30.7, frequency of periodic inspection depends on the severity of usage: **NORMAL**, yearly; **HEAVY**, semi-annually; **SEVERE**, quarterly. Disassembly may be required for **HEAVY** or **SEVERE** usage. Keep accumulative records of periodic inspections to provide a basis for continuing evaluation.

Inspect all items in "Frequent Inspection" also inspect the following:

1. **MEMBERS.** Check for deformed, cracked or corroded main components. Replace damaged parts if necessary.
2. **FASTENERS.** Check rivets, cotter pins, capscrews and nuts on winch, including mounting bolts. Replace if missing and tighten if loose.
3. **DRUM.** Check for cracks, wear or damage. Replace or repair if necessary.
4. **ALL COMPONENTS.** Inspect for wear, damage, distortion and cleanliness. If external evidence indicates the need, for example poor performance or excessive noise, disassemble and inspect. Check pins, gears, shafts, bearings, sheaves, covers, etc. Replace worn or damaged parts.
5. **BRAKE.** Check the thickness of the brake band lining. Replace the brake band if lining is less than .062 in. (2 mm) thick anywhere along its edge. Check adjustment of adjusting nut. (see Dwg. MHTPA0129).
6. **SUPPORTING STRUCTURE.** Check for distortion, wear and continued ability to support the winch and load.
7. **LABELS AND TAGS.** Check for presence and legibility. Replace if necessary.
8. **WIRE ROPE.** Besides the items in a frequent inspection, inspect the following:
 - a. Build up of dirt and corrosion. Clean or replace as required.
 - b. Loose or damaged end connection. Replace if loose or damaged.
 - c. Check wire rope anchor is secure.
 - d. Changes in the size of the wire rope diameter. Periodically measure the diameter of the wire rope from crown-to-crown throughout the life of the wire rope. The actual diameter should be recorded when the wire rope is under equivalent loading and in the same operating section. If the actual diameter of the wire rope has decreased more than 1/64 in. (0.4 mm) a through examination of the wire rope should be conducted by an experienced inspector to determine the suitability of the wire rope to remain in service. (see Dwg. MHTPA0056).



(Dwg. MHTPA0056)

⚠ WARNING

- **Never use a winch that inspection indicates is defective.**

Winches Not in Regular Use

A winch which has been idle for a period of one month or more, but less than six months, shall be given an inspection conforming with the requirements of "Frequent Inspection" before being placed into service.

A winch which has been idle for a period of over six months shall be given a complete inspection conforming with the requirements of "Periodic Inspection".

Standby winches shall be inspected at least semi-annually in accordance with the requirements of "Frequent Inspection". If abnormal operating conditions apply winches may require a more frequent inspection.

LUBRICATION

⚠ CAUTION

- **Lubricate the winch regularly using only the recommended grease.**

Gears

If winch is disassembled, clean all parts thoroughly and coat gears with clean grease. Use sufficient grease to provide a good protective coat. For temperatures -20° to 50° F (-29° to 10° C) use a multipurpose lithium-based EP 1 grease. For temperatures 30° to 120° F (-1° to 49° C) use a multipurpose lithium-based EP 2 grease.

Pivot Points

Lubricate monthly using SAE 30 oil. Rotate or pivot components slowly as oil is applied. Lubrication holes are provided in the drum hub and large frame. Clean lubrication holes if they are dirty or plugged.

Testing

Operational Tests

Prior to initial use, all new, altered or repaired winches shall be tested to ensure proper operation.

- a) Operate winch in both directions with no load.
- b) Check operation of brakes and pawls.
- c) Check operation of limit switches, and locking or safety devices when provided.
- d) Check all tie-downs are secure.
- e) Check all covers and guards are installed.

Rated Load Test

Prior to initial use, all new, extensively repaired, or altered winches shall be tested by or under the direction of a qualified person, and a written report furnished confirming the rating of the winch. Test loads shall not be more than 110% of the rated line pull.

Wire Rope

Follow the wire rope manufacturer's instructions. At a minimum, observe the following guidelines.

⚠ CAUTION

- **Do not use an acid-based solvent. Only use cleaning fluids specified by the wire rope manufacturer.**

1. If there is dirt, rock dust or other foreign material on the surface of the wire rope, clean with a brush or steam.
2. Apply a wire rope lubricant or SAE 30 W oil.
3. Brush, drip or spray lubricant weekly, or more frequently, depending on severity of service.

⚠ WARNING

- Never perform maintenance on the winch while it is supporting a load.
- Before performing maintenance, tag winch:
DANGER - DO NOT OPERATE - EQUIPMENT BEING REPAIRED.
- Only allow qualified service personnel to perform maintenance.
- After performing any maintenance on the winch, test winch to 110% of its rated capacity before returning to service.

Make sure that all parts are in place and operating correctly. Replace worn or missing parts with genuine WINTECH factory replacement parts.

General Disassembly

The following instructions provide the necessary information to disassemble, inspect, repair, and assemble the winch. An exploded parts drawing of the winch is provided in the Parts Section to assist part identification. It is recommended that all maintenance work on the winch be performed on a sturdy work bench.

In the process of disassembling the winch, observe the following:

1. Never disassemble the winch any further than is necessary to accomplish the needed repair. A good part can be damaged during the course of disassembly.
2. Never use excessive force when removing parts. Tapping gently around the perimeter of a part with a soft hammer should be sufficient to loosen the part.
3. Do not heat a part with a flame to free it for removal, unless the part being heated is already worn or damaged beyond repair and no additional damage will occur to other parts.

In general, the winch is designed to permit easy disassembly and assembly. The use of heat or excessive force should not be required.

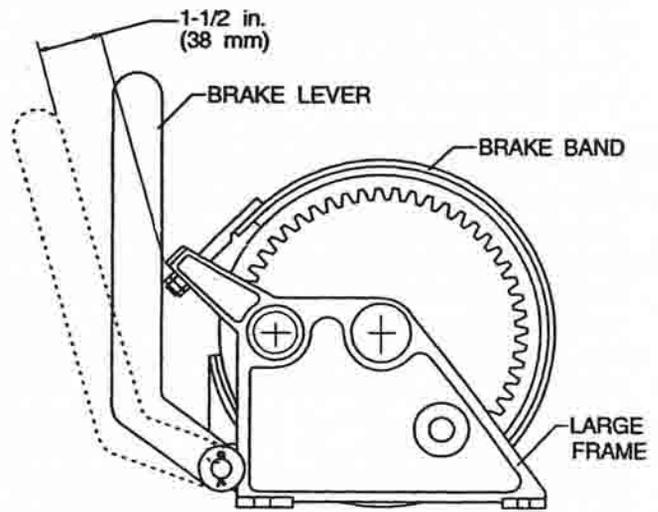
4. When grasping a part in a vise, always use leather-covered or copper-covered vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and shafts.
5. Do not remove any part which is press fit in or on a subassembly unless the removal of that part is necessary for repairs or replacement.

Drum Brake

(ref. Dwg. MHTPA0129)

Adjustment

1. Make sure there is no load on the wire rope.
2. Loosen outer jam nut (8).
3. Adjust brake band by rotating nut (8) nearest the large frame, clockwise to tighten brake band (9) and counterclockwise to loosen brake band.
4. When required adjustment has been achieved tighten outer jam nut (8).
5. Check brake adjustment. Brake is properly adjusted when brake band locks with brake lever (28) approximately 1-1/2 ins. (38 mm) away from stop and the drum turns freely with brake lever (28) against stop.



(Dwg. MHTPA0129)

Make sure there is no load on the wire rope then remove the wire rope from the drum before attempting any winch repairs. Remove the winch from its mounting and set in a clean work area on a sturdy work bench.

Brake Band Removal

1. Remove retainer washer (19) and brake lever (28).
2. Remove jam nuts (8) from brake band (9).
3. Slacken capscrew (12) to allow large frame to be partially removed.
4. Remove brake band (9). Do not stretch or expand brake band during removal.

⚠ CAUTION

- Brake band should be replaced if lining is less than .062 in. (2 mm) thick anywhere along its edge.

Brake Band Assembly

1. Install brake band (9) onto drum (5) brake diameter.
2. Slide large frame into position on the drum shaft (30) and secure with capscrew (12).
3. Insert the stud end of the brake band (9) into the hole in the large frame. Secure with nuts (8).
4. Adjust brake band per "Drum Brake Adjustment".

Brake Lever Replacement

1. Remove load from wire rope.
2. Pry off retainer washer (19).
3. Rotate brake lever (28) away from drum (5) and remove brake lever (28).
4. Repair or replace brake lever (28).
5. Install brake lever (28) so the tip of the brake lever locates under the lug on the brake band.
6. Secure brake lever (28) in position with a new push-on retainer washer (19). Select a short length of pipe or a socket which is larger than the brake lever (28) spigot, but smaller than the retainer washer (19). Teeth on retainer washer must face out. Tap lightly until retainer washer (19) is seated.

Dog Removal

1. Remove load and wire rope from the winch.
2. Remove pin (23).
3. Remove dog spring (22) from the dog handle (20).
4. Remove dog handle (20).
5. Slacken capscrew (12) to allow large frame to be partially removed.
6. Remove dog (21).

Dog Replacement

1. Insert the square end of the dog (21) through the large frame.
2. Install the dog handle (20) over the square end of the dog (21). Position the dog handle (20) so the teeth on the dog (21) point in the same direction as the handle part of the brake lever (28).
3. Secure dog handle (20) to the dog (21) with pin (23).

When the dog handle and dog are correctly installed pin will be perpendicular to the dog lever.

4. Slide the large frame back into position and secure with capscrew (12).
5. Rotate the dog handle (20) until the spring mounting hole in the dog handle is directly above the spring mounting hole in the large frame.
6. Attach the free end of the dog spring (22) to the dog handle (20).

Winch Disassembly

1. Remove load and wire rope from the winch.
2. Remove pin (3) securing small frame (4) to drum shaft (30).
3. Pull or pry small frame (4) off drum shaft (30). Slide drum (5) off drum shaft (30).

4. If attached, remove handle (18) from pinion and remove pinion from large frame. On BM Models remove retainer ring (17) and spur gear (16) before removing pinion (15).
5. Remove capscrew (12) and lockwasher (13) then pull drum shaft (30) from large frame.
6. Remove brake and dog components as previously described.

Cleaning, Inspection and Repair

Use the following procedures to clean, inspect, and repair the components of the winch.

Cleaning

Clean all winch component parts in solvent (except for the brake band (9) and wire rope). The use of a stiff bristle brush will facilitate the removal of accumulated dirt and sediments on the gears, frames and drum. Dry each part using low pressure, filtered compressed air. Clean the brake band (9) using a wire brush or emery cloth. Do not wash the brake band in liquid. If the brake band is oil soaked, it must be replaced.

Inspection

All disassembled parts should be inspected to determine their fitness for continued use. Pay particular attention to the following:

1. Inspect all gears for worn, cracked, or broken teeth.
2. Inspect shafts for ridges caused by wear. If ridges caused by wear are apparent on shafts, replace the shaft.
3. Inspect all threaded items and replace those having damaged threads.
4. Inspect the brake band lining for oil. If the brake band lining is oil-soaked, replace the brake band. If the brake band is glazed, sand it lightly using fine emery cloth.

Measure the thickness of the brake band lining. If the brake lining is less than .062 in. (2 mm) anywhere along its edge replace the brake band (9).

Repair

Actual repairs are limited to the removal of small burrs and other minor surface imperfections from gears and shafts. Use a fine stone or emery cloth for this work.

1. Inspect all parts for evidence of damage. Worn or damaged parts must be replaced. Refer to the applicable Parts Listing for specific replacement parts information. The cost of the part is often minor in comparison with the cost of redoing the job.
2. Smooth out all minor nicks, burrs, or galled spots on shafts, bores or pins.
3. Examine all gear teeth carefully, and remove minor nicks and burrs.

4. Polish the edges of all shaft shoulders to remove small nicks which may have been caused during handling.
5. Remove all nicks and burrs caused by lockwashers.

8. Install gear guards or other safety devices if used.

Test Check

Upon completion of all winch maintenance and repairs check winch operation following procedures in the "INSTALLATION" and "INSPECTION" sections.

Winch Assembly

1. Install drum shaft (30) in small frame and secure with pin (3).
2. Install drum (5) on drum shaft (30).
3. Assemble brake band and dog components as described in previous sections.
4. Install pinion (29) in large frame.
5. Ensure large frame is positioned correctly on the drum shaft (30) and secure in position with capscrew (12) and lockwasher (13).
6. On BM Models install spur gear (16), pinion (15) and retainer ring (17). Ensure retainer ring (17) is fully seated in groove on pinion (29).
7. Install handle (18) and secure with pin (7).

PARTS ORDERING INFORMATION

The use of replacement parts other than **WİNTECH** will invalidate the Company's warranty. For prompt service and genuine **WİNTECH** parts, provide your nearest Distributor with the following:

1. Complete model number: AM3/AM3B, AM6/AM6B, BM3/BM3B, BM6/BM6B.
2. Part number and part description as shown in this manual.
3. Quantity required.

The winch name and model number plate is attached to the small frame on the end opposite the handle.

When the life of the winch has expired, it is recommended that the winch be disassembled, degreased and parts separated as to materials so that they may be recycled.

For additional information contact:

WİNTECH

5319 Shreveport/Blanchard Hwy.
Shreveport, La. 71107

Phone: (318) 929-1242

1-888-946-8325

Fax: (318) 929-1245

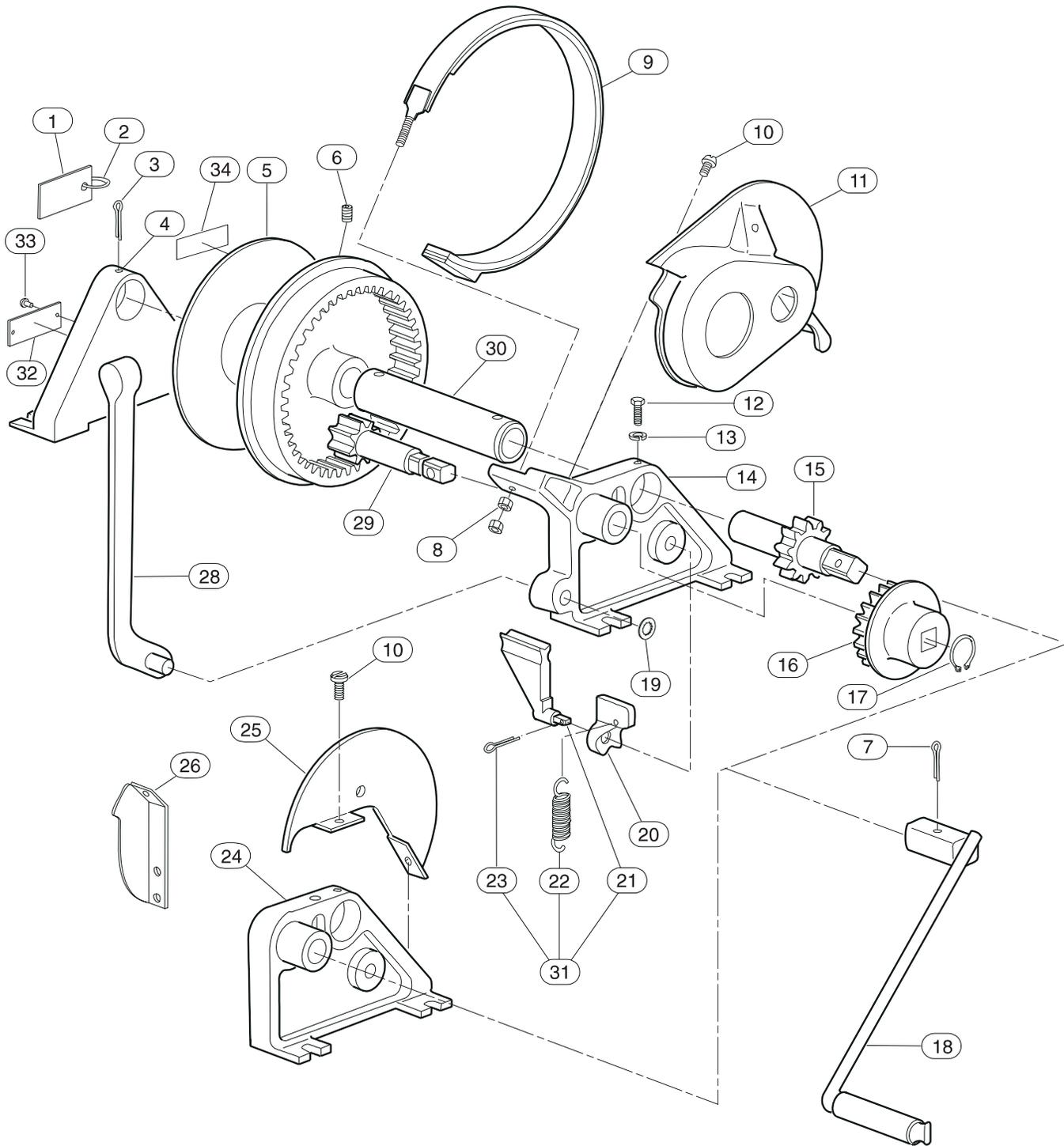
NOTICE

- Continuing improvement and advancement of design may cause changes to this hoist which are not included in this manual. Manuals are periodically revised to incorporate changes. Always check the manual edition number on the front cover for the latest issue.

Return Goods Policy:

WİNTECH will not accept any returned goods for warranty or service unless prior arrangements have been made and written authorization has been provided from the location the goods were purchased.

AM AND BM WINCH ASSEMBLY DRAWING



(Dwg. MHTPA0128)

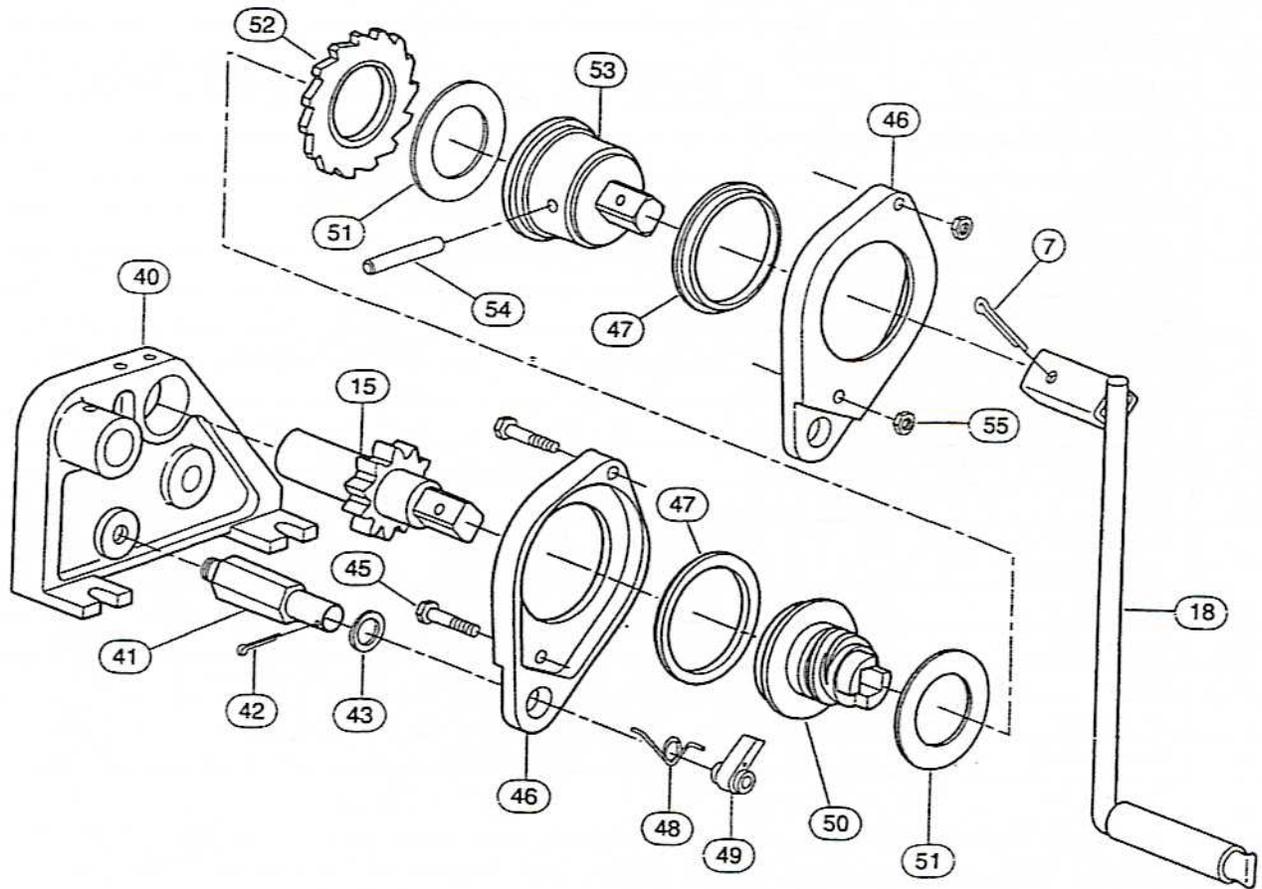
AM AND BM WINCH ASSEMBLY PARTS LIST

ITEM NO.	DESCRIPTION OF PART	TOTAL QTY	PART NO.			
			AM3/AM6	BM3/BM6	AM3B/AM6B	BM3B/BM6B
1	Warning Tag	1	71056410			
2	Tag Tie	1	50040			
3	Cotter Pin	See ()	54162 (1)	54162 (1)	54162 (1)	54162 (1)
4	Small Frame	1	75-A			
5	Drum (3 in. long)	1	400-3			
	Drum (6 in. long)	1	400-6			
6	Setscrew	1	71063358			
7	Cotter Pin	1	54165			
8	Nut	2	---		50176	
9	Brake Band	1	---		32	
10	Screw	*	71007009			
11	Gear Guard (incls. item 10)	1	---	6190	---	6190
12	Capscrew	1	---	52264	---	52264
13	Lockwasher	1	---	52266	---	52266
14	Large Frame (with brake)	1	Not Sold Separately			
15	Pinion	1	---	240	---	240
16	Spur Gear	1	---	168	---	168
17	Retainer Ring	1	---	54163	---	54163
18	Handle Assy (incls. item 7)	1	863-3			
19	Retainer Washer	1	---		71063341	
20	Dog Handle	1	78			
21	Dog	1	Order Item No. 31			
22	Dog Spring	1	79			
23	Cotter Pin	1	51937			
24	Large Frame (without brake)	1	Not Sold Separately			
25	Gear Guard (incls. item 10)	1	6189	---	6189	---
26	Gear Guard (incls. item 10)	1	---	6190	---	
28	Brake Lever	1	---		268	
29	Pinion	1	81			
30	Drum Shaft (3 in. long)	1	271-1	273-1	271-1	273-1
	Drum Shaft (6 in. long)		271-2	273-2	271-2	273-2
31	Dog Assembly (incls. items 21, 22 and 23)	1	77-A			
32	Nameplate	1	71064208			
33	Drive Screw	4	50915			

Recommended Spare

* Qty. 2 required with item 25. Qty. 3 required with item 26. Qty. 4 required with item 11.

AM AND BM WINCH ASSEMBLY PARTS LIST



ITEM NO.	DESCRIPTION OF PART	TOTAL QTY	PART NO.
40	Large Frame (for Load Disc Brake)	1	Not Sold Separately
41	Anchor Stud	1	3905
42	Anchor Stud Cotter Pin	1	51937
43	Anchor Stud Washer	1	50165
45	Capscrew	2	52830
46	Housing Half	2	Not Sold Separately
47	Housing Bearing	2	Not Sold Separately
48	Ratchet Dog Spring	1	3900
49	Ratchet Dog	1	3899
50	Flange Screw	1	3896
51	Friction Disc (Recommended Spare)	2	8102
52	Ratchet Wheel	1	3898
53	Flange Nut	1	3895
54	Flange Nut Lock Pin	1	52727
55	Nut	2	54171

See Winch Assembly Parts List for items 7, 15, and 18

HOIST AND WINCH LIMITED WARRANTY

WINTECH warrants to the original user its Hoists and Winches (Products) to be free of defects in material and workmanship for a period of one year from the date of purchase.

WINTECH will repair, without cost, any Product found to be defective, including parts and labor charges, or at its option, will replace such Products or refund the purchase price less a reasonable allowance for depreciation, in exchange for the Product. Repairs or replacements are warranted for the remainder of the original warranty period.

If any Product proves defective within its original one year warranty period, it should be returned to any Authorized Hoist and Winch Service Distributor, transportation prepaid with proof of purchase or warranty card.

This warranty does not apply to Products which **WINTECH** has determined to have been misused or abused, improperly maintained by the user, or where the malfunction or defect can be attributed to the use of non-genuine **WINTECH** parts.

WINTECH makes no other warranty, and all implied warranties including any warranty of merchantability or fitness for a particular purpose are limited to the duration of the expressed warranty period as set forth above. WINTECH maximum liability is limited to the purchase price of the Product and in no event shall WINTECH be liable for any consequential, indirect, incidental, or special damages of any nature rising from the sale or use of the Product, whether based on contract, tort, or otherwise.

Note: Some states do not allow limitations on incidental or consequential damages or how long an implied warranty lasts so that the above limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

IMPORTANT NOTICE

It is our policy to promote safe delivery of all orders.

This shipment has been thoroughly checked, packed and inspected before leaving our plant and receipt for it in good condition has been received from the carrier. Any loss or damage which occurs to this shipment while enroute is not due to any action or conduct of the manufacturer.

VISIBLE LOSS OR DAMAGE

If any of the goods called for on the bill of lading or express receipt are damaged or the quantity is short, do not accept them until the freight or express agent makes an appropriate notation on your freight bill or express receipt.

CONCEALED LOSS OR DAMAGE

When a shipment has been delivered to you in apparent good condition, but upon opening the

crate or container, loss or damage has taken place while in transit, notify the carrier's agent immediately.

DAMAGE CLAIMS

You must file claims for damage with the carrier. It is the transportation company's responsibility to reimburse you for repair or replacement of goods damaged in shipment. Claims for loss or damage in shipment must not be deducted from the **WINTECH** invoice, nor should payment of **WINTECH** invoice be withheld awaiting adjustment of such claims as the carrier guarantees safe delivery.

You may return products damaged in shipment to us for repair, which services will be for your account and form your basis for claim against the carrier.

United States Office Location

**For Order Entry, Order Status, and
Technical Support:**

**Wintech International, L.L.C.
5301 Shreveport/Blanchard Hwy.
Shreveport, LA. 71107**

**Phone: (318) 929-1242
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www.wintech-winch.com**

