



Hand Held Digital Tachometer Operator/Service Manual



Hours of Operation

8:00AM to 4:30PM Mon. – Fri. Eastern Standard Time

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MINNICH MANUFACTURING CO. WARRANTY AND SERVICE AGREEMENT

Minnich Manufacturing Co. warrants to the original purchaser that, if any part of the product proves defective in material or workmanship within one year from purchase, and is returned to Minnich Manufacturing Co. within 90 days after the defect is discovered, Minnich Manufacturing Co. will at its option repair or replace said part. Product shipped to Minnich Manufacturing Co. freight prepaid will be returned freight prepaid. Product shipped to Minnich Manufacturing Co. freight collect will be returned freight collect.

LIMITATIONS:

Warranty does not apply to repairs that are required because of normal wear or tear, parts or products that are damaged as a result of misuse, neglect, accident or fire, or of lightning, flooding or other acts of God, or by improper installation or maintenance, of which Minnich Manufacturing Co. will be the sole judge. Warranty does not apply to parts or products that have been modified by an unauthorized party that has in Minnich Manufacturing Co.'s judgment affected their performance or reliability. Warranty does not apply if the part or product substantially fulfills the performance specifications.

Minnich Manufacturing Co. shall not in any event be liable for the cost of any special, indirect, or consequential damages as a result of this product.

SERVICE:


Out of warranty service is available through Minnich Manufacturing Co.

GENERAL SAFETY RULES

This manual contains **NOTES**, **CAUTIONS**, and **WARNINGS**. These **MUST** be followed to prevent the possibility of improper use, incorrect servicing, damaging the equipment, or personal injury. Read and comply with all **NOTES**, **CAUTIONS** and **WARNINGS** included in these instructions.

NOTE: Notes contain additional information important to the operation of the equipment.

CAUTION: Cautions provide important information to prevent mistakes that could result in damage to the equipment.

 **WARNING:** Warnings alert one to practices or conditions that could lead to personal injury or death!

 **WARNING**

Read and understand all instructions.
Failure to follow all instructions listed below may result in one or all of the following; electric shock, fire, and serious injury.

 **WARNING**
DO NOT USE TOOL IF IT IS IN NEED OF SERVICE!

SAVE THESE INSTRUCTIONS

- WORK AREA -

Keep your work area clean and well lit.

Cluttered and dark areas invite accidents.

DO NOT operate power tools in explosive atmospheres, such as, in the presence of flammable liquids, gases, or dust.

Power tools create sparks that may ignite the dust or fumes.

Keep bystanders, children, and visitors away while operating a power tool.

Distractions can cause you to lose control.

- ELECTRICAL SAFETY -

Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. DO NOT use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.

If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.

There is an increased risk of electric shock if your body is grounded.

DO NOT expose power tools to rain or wet conditions.

Water entering a power tool will increase the risk of electric shock.

DO NOT abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges, or moving parts. Replace damaged cords immediately.

Damaged cords increase the risk of electric shock.

When operating a power tool outside, use outdoor extension cords marked "W-A" or "W".

These cords are rated for outdoor use and reduce the risk of electric shock.

- PERSONAL SAFETY -

Stay alert, watch what you are doing and use common sense when operating a power tool. DO NOT use tool while tired or under influence of drugs, alcohol or medication.

A moment of inattention while operating power tools may result in serious personal injury.

Dress properly. DO NOT wear loose clothing, or jewelry. Tie up long hair. Keep your hair, clothing, and gloves away from moving parts.

Loose clothes, jewelry, or long hair can be caught in moving parts.

Avoid accidental starting. Be sure switch is off before plugging in.

Carrying tools with your finger on the switch or plugging in tools that have switches on invites accidents.

DO NOT overreach. Keep proper footing and balance at all times.

Proper footing and balance enables better control of the tool in unexpected situations.

Use safety equipment. Always wear eye protection.

Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

- TOOL USE AND CARE -

DO NOT force tool. Use the correct tool for your application.

The correct tool will do the job better and safer at the rate for which it is designed.

DO NOT use tool if switch does not turn it on or off.

Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.

Such preventive safety measures reduce the risk of starting the tool accidentally.

Store tools out of the reach of children and other untrained persons.

Tools are dangerous in the hands of untrained users.

Maintain tools with care. Keep tools clean.

Properly maintained tools are less likely to bind and are easier to control.

Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.

Many accidents are caused by poorly maintained tools.

Use only accessories that are recommended by the manufacturer for your model.

Accessories that may be suitable for one tool may become hazardous when used on another tool.

- SERVICE -

Tool service must be performed only by qualified repair personnel.

Service or maintenance performed by unqualified personnel could result in a risk of injury.

When servicing a tool, use only identical replacement parts. Follow instructions in the maintenance section of this manual.

Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.

1.0 Overview

The Hand Held Digital Tachometer is used to measure the rate of vibration in vibrations per minute (VPM) of a specific vibrator. This tachometer can be used on any vibrator by holding the sensor on the vibrator. It can also be used to read Minnich's autovibe sensor equipped vibrators (see set up).

This tachometer works on a 12V battery. The battery can be recharged by a 115 VAC wall charger for continuous and overnight charging or by a 12 VDC cigarette lighter charger. For convenience, there is an automatic shutoff that will turn the tachometer off after a minute and a half.

2.0 Getting Started

2.1 Set Up

1. There are two ways in which the tachometer can be used.
 - a. The first of which is to use the remote sensor by placing it on a vibrator. The sensor should be placed anywhere on the vibrator where adequate vibration is present for the sensor to pick it up. If you don't get a reading move the sensor to a point where there is greater vibration.
 - b. The second way is to first make sure that the unit is powered off. Then disconnect the remote sensor and connect the unit directly to the vibrator's internal Minnich Auto Vibe sensor if it is so equipped. Then when unit is powered back on it will read off the internal sensor.

2.2 Reading the Monitor

1. To turn on the tachometer, hold down the red button until the display turns on. There is an auto shut-off after a minute and thirty seconds.
2. When the tachometer is turned on the screen will say "Low Bat" to the left of the screen.
3. The "Low Bat" will then disappear and an "S" will scroll across the screen until a "0" appears.
4. When the "0" appears the tachometer is ready to be used.

2.3 Charging the Battery

1. The battery needs recharged whenever the "low bat" message appears in the upper left hand corner of the display. There is a 115 VAC wall charger for overnight and continuous charging. There is also a 12 VDC cigarette lighter charger. Either one is to be plugged into the recharging socket on the front panel of the display. The unit will scroll a "c" across the display while it is charging and will Display a "Done" when it is finished.

Note: If the Tachometer battery is ever completely drained of power and it is plugged in to be charged, within a few minutes it will say "DONE", which means that the battery is fully charged. This is, however, not the case. The charger needs to be disconnected and then plugged back into the tachometer. After this the battery will charge at its normal rate and it will be fully charged when the "DONE" appears on the screen.

3.0 Trouble Shooting

Unit will not power up.

- Check charge see section 2.3 charging the battery.
- Check to see the internal batteries are properly installed. (Remove (4) front panel screws and lift out display to examine batteries.

Display reads SErr

- Turn the unit off and make sure sensor is connected to four pin connector. Latch on connector should be seated around catch. Turn unit back on and try again.

Display reads "LOW BAT"

- Charge batteries. See section 2.3 charging the battery.

Unit will not read out

- Turn the unit off and make sure sensor is connected to four pin connector. Latch on connector should be seated around catch. Turn unit back on and try again.

4.0 Specifications

- Detachable impact resistant urethane coated 5g-50g vibrator sensor

Power Source

- (2) "AA" 800 mah nickel metal hydride battery