

GEN-TECH[®]

INSPECTION CAMERA 2.4" LCD

Model 66550

SET UP AND OPERATING INSTRUCTIONS



Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

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For technical questions or replacement parts, please call 1-800-444-3353.

Revised Manual 09k

SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

General Power Tool Safety Warnings



WARNING Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

Work area safety

- a. **Keep work area clean and well lit.**
Cluttered or dark areas invite accidents.
 - b. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** *Power tools create sparks which may ignite the dust or fumes.*
 - c. **Keep children and bystanders away while operating a power tool.**
Distractions can cause you to lose control.
2. **Electrical safety**
- a. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*
 - b. **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.*

- c. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
3. **Personal safety**
 - a. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
 - b. **Use personal protective equipment. Always wear eye protection.** *Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.*
 - c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.**
 - d. **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
 - e. **Only use safety equipment that has been approved by an appropriate standards agency.** Unapproved safety equipment may not provide adequate protection. *Eye protection*
 4. **Power tool use and care**
 - a. **Do not force the power tool. Use the correct power tool for your application.** *The correct power tool will do the job better and safer at the rate for which it was designed.*
 - b. **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
 - c. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
 - d. **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
 - e. **Use the Camera and accessories in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of the Camera for operations different from those intended could result in a hazardous situation.*

5. **Battery tool use and care**
 - a. **Recharge only with the charger specified by the manufacturer.** *A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.*
 - b. **Use the Camera only with specifically designated battery packs.** *Use of any other battery packs may create a risk of injury and fire.*
 - c. **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
 - d. **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** *Liquid ejected from the battery may cause irritation or burns.*
6. **Service**
 - a. **Have your Camera serviced by a qualified repair person using only identical replacement parts.** *This will ensure that the safety of the power tool is maintained.*

Camera Safety Warnings

1. Do not use for medical purposes.
2. If inspecting gun, unload and engage safety before inspection.
3. If inspecting engine, turn off and disable before inspection.
4. Wear ANSI-approved safety goggles during use.
5. Position batteries in proper polarity and do not install batteries of different types, charge levels, or capacities together.
6. Maintain labels and nameplates on the Camera. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
7. Avoid unintentional starting. Prepare to begin work before turning on the Camera.
8. Do not leave the tool unattended when it is plugged into an electrical outlet. Turn off the tool, and unplug it from its electrical outlet before leaving.
9. This product is not a toy. Keep it out of reach of children.
10. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should:
 - Avoid operating alone.
 - Do not use with power switch locked on.
 - Properly maintain and inspect to avoid electrical shock.
 - Any power cord must be properly grounded. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.
11. Handling the cord on this product will expose you to lead, a chemical known to the State of California to

cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, *et seq.*)

12. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.
13. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



**SAVE THESE
INSTRUCTIONS.**

SPECIFICATIONS

| | |
|-----------------------|----------------------------------|
| CAMERA | |
| Total Pixels | 704x576 (PAL); 712x486 (NTSC) |
| Modulation Type | FM |
| Bandwidth | 18MHz |
| Power Supply | 4 AA batteries |
| MONITOR | |
| LCD Screen Type | 2.36" TFT-LCD |
| Effective Pixels | 480x240 |
| Electrical Input | 8-24 VDC / 450mA |
| Adapter Input | 120 V~ / 60 Hz |
| Operating Temperature | +14°F~+122°F |
| Operating Humidity | 15~85%RH |

UNPACKING

When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

INSTRUCTIONS FOR PUTTING INTO USE



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Functions

This mini water resistant camera with 3 ft. flexible tubing can be used to view hard to reach locations while displaying real-time video images on the 2.4" Monitor. May be used for a variety of applications

including HVAC inspection, automotive/boat/aircraft inspection, cable routing, etc.

CAUTION

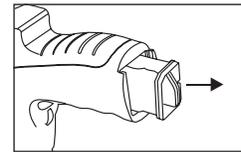
TO PREVENT INJURY FROM

ACCIDENTAL OPERATION:

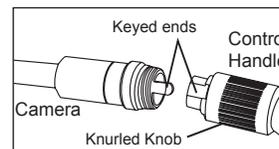
Turn the Power Switch on the Control Handle and Monitor to "OFF" position and unplug the Adaptor from its electrical outlet before performing any adjustments, inspection, maintenance, or cleaning procedures.

Note: For additional information regarding the parts listed in the following pages, refer to the Parts Diagram near the end of this manual.

Inspection Camera Set Up

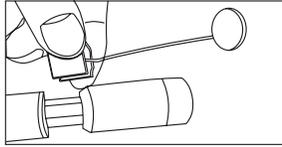


1. To install Batteries:
 - a. Remove screw and cover on bottom of Control Handle (1).
 - b. Slide Battery Compartment out of Control Handle (1) and insert four AA batteries.
 - c. Reinstall battery compartment and cover. Secure with screw.

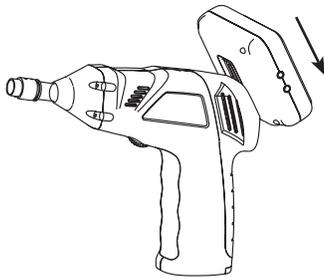


2. To attach Camera (2) to Control Handle (1):
 - a. Align keyed ends of Control Handle with cable end of Camera.

- b. Slide knurled knob on Control Handle up to threaded section on Camera cable and finger tighten to secure Camera cable in place.



3. To attach Hook (4), Magnet (5), or Mirror (6) to Camera (2), open hinged sleeve on accessory and clip in place over indented section near camera.
4. The Monitor can be used while attached to the Control Handle or unattached, in close proximity.



5. To attach Monitor (3) to Control Handle (1):
 - a. Carefully align flanges on back of Control Handle with section on back of Monitor.
 - b. When the flanges are carefully aligned, slide Monitor downward to lock it in place on the Control Handle.

OPERATING INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Work Piece and Work Area Set Up

1. Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent injury and distraction.
2. When recharging the Monitor, keep the Monitor close to the Adaptor so that the cord does not present a tripping hazard.

General Operating Instructions

⚠ CAUTION

Only the 3 ft. Camera cable is water resistant, and **ONLY** when the unit is fully assembled. **DO NOT** immerse Control Handle or Monitor. **DO NOT** use if condensation forms on lens. Let water evaporate before using.

Note: The Monitor needs to be charged before using on the Control Handle. However, it can function while unit is charging.

1. Assemble components as shown in Set Up section, using desired accessory attachment as needed.



2. Turn ON/OFF dial on Control Handle (1) backwards to turn on power to camera. Two LEDs near Camera and

power light on top of Control Handle will be lit. Use this dial to adjust the brightness of LEDs near Camera.

3. Slide ON/OFF switch on right side of Monitor (3) to "ON" position. Press the POWER button on Monitor. Power Light on Monitor will be green and Monitor will display live camera image.



Monitor

4. Use buttons on Monitor to adjust brightness, contrast and orientation.
5. Bend Camera cable as needed to adjust access to different locations.
6. Use accessories as needed to see or retrieve small items.
7. To prevent accidents, turn off all power to components after use. Clean, then store the tool indoors out of children's reach.

To Use With T.V. or Monitor

The Inspection Camera may be used with a T.V. or Monitor by connecting the mini plug of the Extension Cable (9) to the video "OUT" jack. Next connect the RCA plug to the video "IN" jack on your T.V. or Monitor.

In this mode the Monitor (3) must be removed from the camera. Turn the Monitor (3) "ON" and turn the camera "ON" and the picture will be transferred to the T.V./Monitor remotely.

MAINTENANCE AND SERVICING



Procedures not specifically explained in this manual must be performed only by a qualified technician.

CAUTION

TO PREVENT INJURY FROM

ACCIDENTAL OPERATION:
Turn the Power Switch of the Monitor to its “OFF” position and unplug the adaptor from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

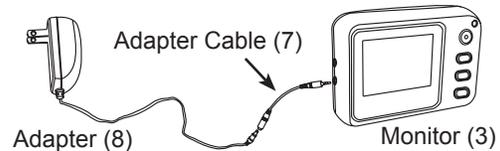
TO PREVENT INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

1. **BEFORE EACH USE**, inspect the general condition of the tool. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation.

2. **AFTER USE**, clean external surfaces of the tool with clean cloth.
3. **WARNING!** If the supply cord of the adaptor is damaged, it must be replaced only by a qualified service technician.

Charging Monitor



1. Plug male end of Adapter Cable (7) into Monitor (3) and female end onto Adapter (8) plug. Plug adapter (8) into wall socket.
2. Power light will be red, indicating unit is charging. With the monitor attached to the control handle, unit can still be used while monitor is charging, but only when attached to the handle.
3. When unit is fully charged, red light will turn off.
4. Fully charged monitor will work continuously for approximately 5 hours.

Troubleshooting

| Problem | Possible Causes | Likely Solutions |
|--------------------------|--|--|
| Tool will not start. | <ol style="list-style-type: none"> 1. Monitor not charged. 2. Batteries need changing. | <ol style="list-style-type: none"> 1. Charge Monitor. 2. Replace batteries in Control Handle. |
| Monitor will not charge. | <ol style="list-style-type: none"> 1. Cable not attached properly. 2. Adapter not connected to power. | <ol style="list-style-type: none"> 1. Make sure Adapter Cable is connected between Monitor and Adapter. 2. Make sure Adapter is securely plugged into wall socket. |
| Image too dark or light. | <ol style="list-style-type: none"> 1. LEDs near camera need adjustment. 2. Monitor display needs adjustment. | <ol style="list-style-type: none"> 1. Use dial on Control Handle to adjust brightness of LEDs. 2. Use Contrast and Brightness buttons on Monitor to adjust image. |



Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply before service.

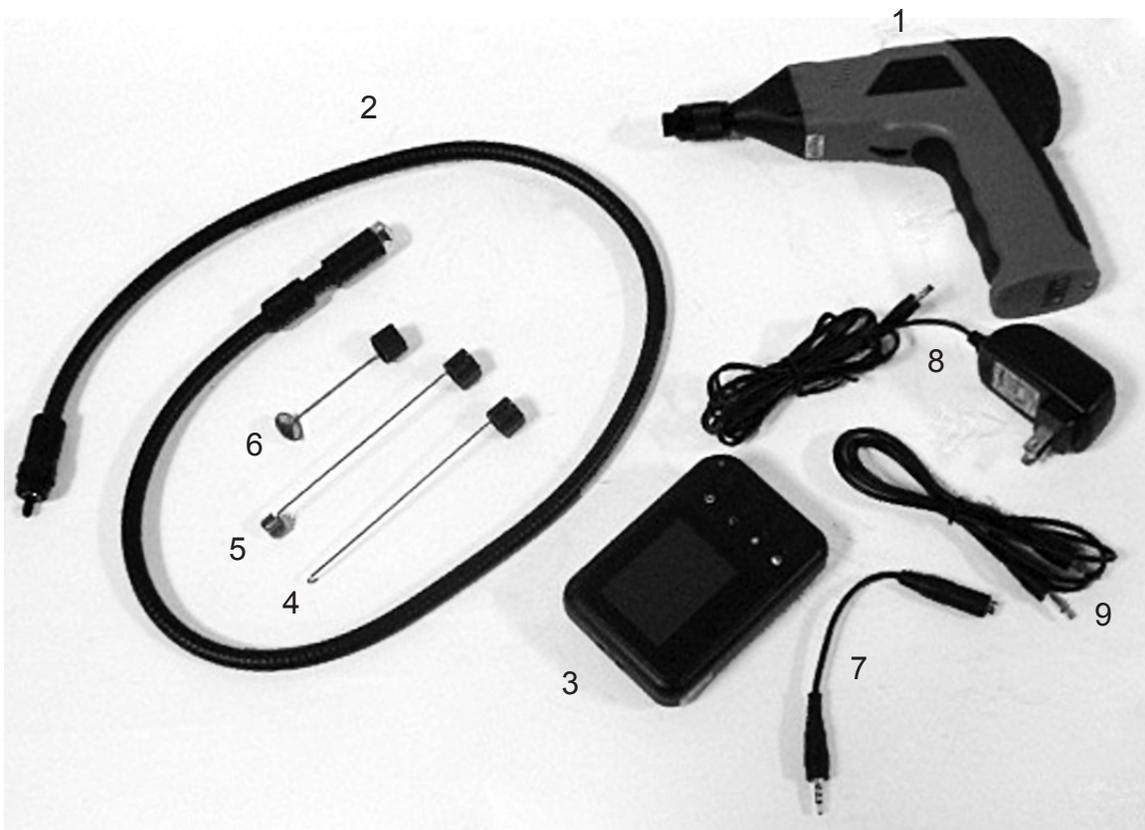
PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

PARTS LIST

| Part | Description | Qty. |
|------|------------------------|------|
| 1 | Control Handle | 1 |
| 2 | Mini Camera with Cable | 1 |
| 3 | Monitor | 1 |
| 4 | Hook | 1 |
| 5 | Magnet | 1 |
| 6 | Mirror | 1 |
| 7 | Adapter Cable | 1 |
| 8 | Adapter | 1 |
| 9 | Extension Cable | 1 |

ASSEMBLY DIAGRAM



Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. 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 product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

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

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