

PRODUCT IDENTIFICATION: In order to assist in understanding the installation and use of the product, the following identifies the part being described in the manual.

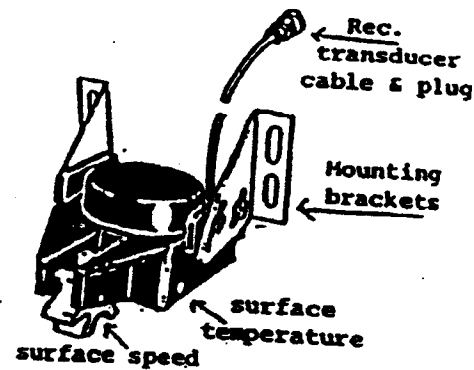
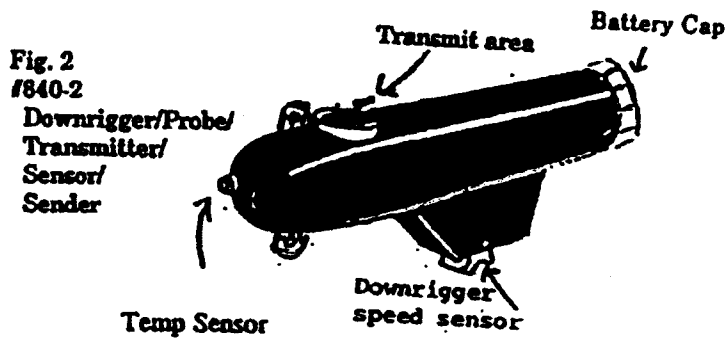
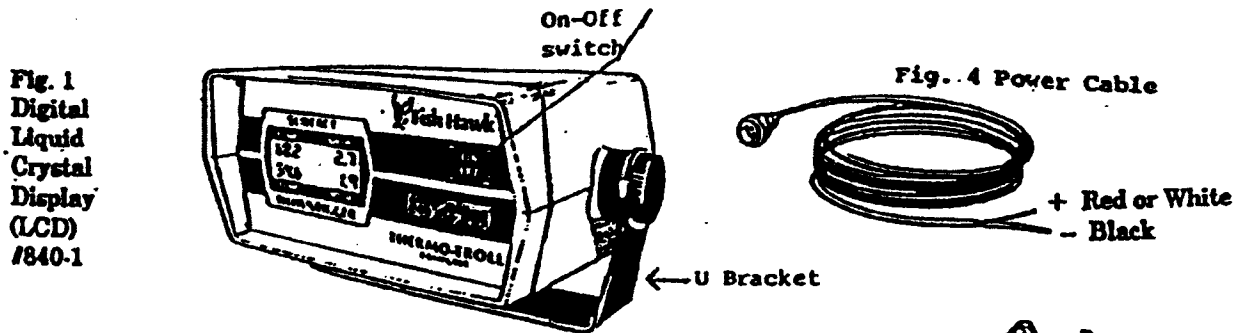


Fig. 3 Transducer #840-3 Receiving transducer with surface speed sensor and surface temperature

FISH HAWK THERMO-TROLL #840 – QUESTIONS AND ANSWERS

How does the downrigger portion work?

An electronic sensor/sender (fig. 2) is easily fastened to the downrigger line near the weight. The temperature and speed through the water at the depth of the weight is constantly monitored and the information is translated into pulses that are emitted from the transducer which is also housed with the sensors. This portion is powered by a 9V radio type battery. The pulses travel through the water in a very broad pattern much the same way as the typical fish flasher, depth finder, or graph recorder operates. These signals or pulses are received by a transducer (fig. 3) affixed to the rear of the craft. The receiver/display (fig. 1) unit translates the pulses and displays the information on the digital readout. As the water temperature or speed changes, the pulse change, and the digital readout changes to reflect the new information. The unit operates to 200 feet of depth while stopped or trolling. The advanced custom LCD (liquid crystal display) indicates the appropriate digital information from all of the attached sensors simultaneously.

What is the replacement cost if I lose the sensor/sender?

About \$230. Properly installed, sensor loss is minimized by using a breakaway connection to the ball.

How about increased drag on the line?

It adds some drag to the line. Fortunately it is affixed near the weight so the effect is minimized. If the user considers the drag (sway in the line) to be excessive, a heavier weight can be used to off-set the drag. In test at 100' of depth and a slow controlled troll an increase in weight from 8 to 10 pounds made it the same as a non-equipped line. For below 100' more weight may be required. We suggest starting with a 10 lb. Ball and increasing if necessary.

How long with 9V battery last?

It is difficult to give an easy answer, as the life of the battery is dependent on the temperature of the water and the distance the measurement or test is conducted. The colder the water, the longer the life and as the power is depleted the transmitted distance becomes shorter. As such, in 55°F water with 100' range the battery (alkaline type) should last for several full days of usage.

Accuracy of readings:

We factory pre-set the Thermo-Troll at $\pm 1^\circ\text{F}$. Experience in the field indicates $\pm 2^\circ\text{F}$ is typical. This is well within the accuracy needed. The unit will record 1° changes as they occur. Temperature and speed at both surface and downrigger are user settable and are dependent on the installation and conditions.

Effect of transmitted pulse on dept finder or vice versa:

The frequency of the unit is in area of 70Khz. Most graphs operate at 50Khz and most flashers 200Khz. As such, most of the time there would be no interference. In any case the Thermo Troll should not interfere with the graph or flasher. There can-be occasions when the very high gain setting on a graph of 50Khz and a close proximity in the placement of the transducers might create a condition wherein the graph signal makes it more difficult for the Thermo Troll to receive pulses. Usually this can be adjusted out by proper gain setting on both the products and greater separation between the transducers. Graphs with adjustable (user settable) pulse widths can be set to less than 800 microseconds IF they cause interference.

840-2 Sensor/Sender – Installation of Battery

The temperature sensor/sender (fig.2) that part which is affixed on the downrigger cable near the weight, is operated by a 9V NEDA snap top battery (same as those to power portable radios) see list below. To install the battery unscrew the cap on the end of the sensor; carefully pull out the battery connector snaps and wire from the inside of the tube; snap the connector on the battery matching the appropriate \pm terminals. After snapping on the connector, look into the open end of the tube and confirm the circuit is working by the flashing red light. (Note: on some models the red light is inside the tube, some are on the nose on the exterior of the product). Carefully push the wires and battery (connector first) back into the foam sleeve in the tube. Battery bottom should not extend or stick out of the tube. Be sure the connector wires are within the foam sleeve and not against the latching area of the cap. Replace the cap and hand tighten firmly. The cap has a rubber "O" ring seal, care should be taken to keep this cap and O-ring clean.

After use (at the end of the day) remove assembly by unclipping it from the downrigger assembly. Store it upside-down (see diagram fig.2) and sender will turn off. In use, with black end of the transmitting transducer facing up, (fig.2) sender will automatically turn on and remain on until turned upside-down, or until the battery is removed. If the sender is not to be used for a few days or longer, remove cap and disconnect battery. As the difference between air temperature and water temperature may cause condensation to form inside the tube, please leave the cap off and store the sender in a dry place to allow any condensation which may have formed to dry out. Reinstall battery when sensor is to be used.

840-2 Sensor/Sender – Installation of Battery (continued)

As battery energy is depleted below that required to operate the sender, the unit will become erratic and not send from greater depths.

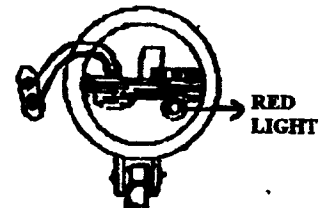
Please unsnap the battery by placing small screwdriver under the snap and between the battery terminals and pry up. This is to avoid damage to the snap assembly. Do not allow screwdriver metal blade to come in contact with battery terminals.

To see if sensor/sender is working watch for blinking red light inside the battery holding area or hold it with black transmitting transducer (fig.2) end up (in the "on" position) and press black end on your chin bone or cheek bone (teeth clinched). A periodic click can be felt in the inner ear. The sound is not audible, it is more felt than heard every one or two seconds. This will confirm the sensor is sending. Not everyone can feel the click. Sensing accuracy is dependent on battery voltage. Alkaline 9V batteries start a 9V and maintain this voltage longer than any other type. For most accurate temperature readings and longest battery life use:

Alkaline batteries NEDA 1604A
Eveready Alkaline 522
Duracell Alkaline MN1604



CAUTION: Should the electronic assembly inside the transmitter tube accidentally be pulled out of the transmitter tube while pulling out the 9V battery snap connector please return it into the tube by tucking the wires along the bottom of the assembly and be sure proper side faces up so when the tube is held in "on" position with the battery attached the red light should blink faintly about every 1-2 seconds. If the internal assembly is put in up-side-down it will activate the blinking light when up-side-down. When the electronics circuit board is properly located inside the probe the red blinking light inside the tube as viewed from the cap end should blink located at 4 o'clock (as if on clock face). The speed wheel should be facing down (probe on).



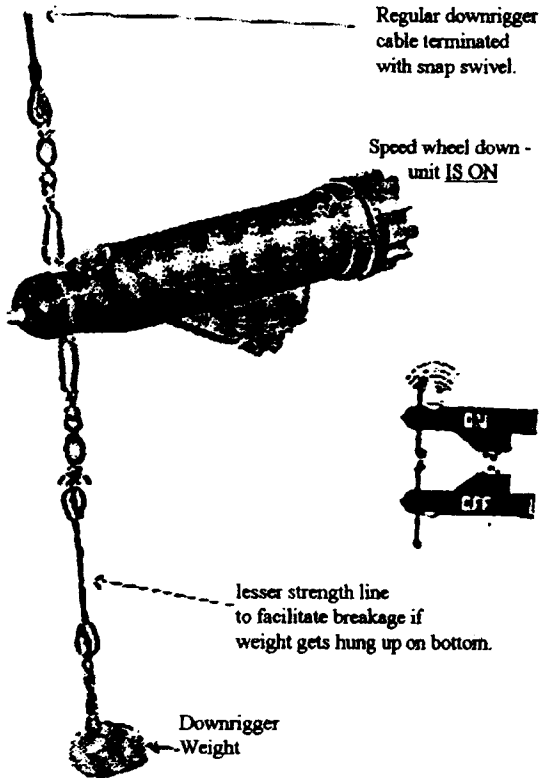
Installation and Instruction – Sensor/Sender

Inspect downrigger wire for kinks or fraying condition as sensor is an integral part of the system and care should be taken to protect its loss. When several downriggers are to be run at the same time, we suggest running the Thermo Troll equipped downrigger at less depth than the deepest one to avoid getting hung up on the bottom. Most downrigger line is 150 lb. Test. Beyond the Thermo Troll (between the sensor and the ball) we suggest using a length of 60 lb. To 80 lb. cable to the weights so should an obstruction be encountered, the ball may be lost and not the sensor. Use appropriate quality cable and hardware such as swivels, crimps, and terminations. If desired, to off-set slightly increased drag of sensor, it may be desirable to increase the downrigger ball weight. The face, or sending surface, of all types transducers require some time when placed in water to "wet". ?

Thermo Troll Sensors

When changing or replacing 800-2 or 840-2 downrigger sensors, small gain may be necessary to match the output of the unit. ?

Fig. 5



The wire lead assembly for connecting the sensor/sender (840-2) to the downrigger ball is provided for your convenience. It is a 60 lb. test cable with 225 lbs. Snap connectors. Its purpose is to provide a length of lesser strength cable so if the ball (weight) gets hung up on an obstruction, the cable has a chance to break below the sensor. The break will sacrifice the weight but potentially protect the loss of a sensor/sender.

Because of the many types and conditions of equipment and the many other variables applicable to employing this type of lead assembly, Fish Hawk cannot guarantee its fitness for any use and we urge you to evaluate your own rigging and use conditions and make up an applicable lead assembly.

Downrigger speed range is 0 to 6 MPH.

Installation - Receiver/Display

Place the receiver in an easily visible area for the user to observe the digital display. In some cases it is desirable to have the receiver at the helm and in others it may be preferred back by the downriggers. The U shaped mounting bracket should be firmly affixed. The bracket is slotted for easy in removal of display when not in use. Protect unit from rain and spray.

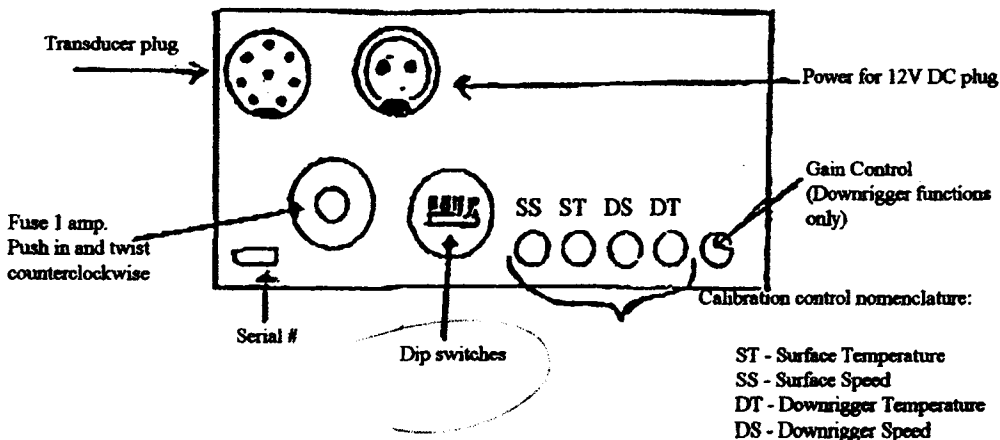
Connect The Power Cable Directly To 12V DC Battery As Power Source

IMPORTANT NOTE:

More power cable can be added to increase overall length (Fig.4 of diagram). Be sure not to mix positive (+) and minus (-) leads. **AS WITH MOST SONAR AND RADIO DEVICES, IT IS RECOMMENDED THAT 12V POWER IS ACHIEVED BY WIRING THE PRODUCT DIRECTLY TO THE BATTERY.**

You can try connection to fuse block but if the unit does not function properly, it is usually because of unwanted noise being generated into the power cables.

Fig. 6



*8-4 o'clock
270°*

Rear panel connections and calibration.

Back of receiver/display – turn transducer and power plugs to proper location slots, push straight in and secure with twist cap.

Calibration control nomenclature:

- ST – Surface Temperature
- SS – Surface Speed
- DT – Downrigger Temperature
- DS – Downrigger Speed

Adjustment range:

- +/- 2.5 °F (C)
- +/- 25% MPH (KPH)
- +/- 2.5 °F (C)
- +/- 2.5 MPH (KPH)

Holes marked ST, SS, DT, DS and the programming dip switches are covered with small inserts to help protect from moisture. To remove, simply pry out with knife edge or small blade screwdriver. Unit reads speeds in tenths of MPH(KPH). Calibration can be accomplished against a measured mile, Loran C, or relative to the downrigger sensor. Use small screwdriver to alter setting and make small adjustment and allow 30 seconds between each minute adjustment for result to stabilize.

Important

These controls only rotate 280° (see illustration):

LIMITS

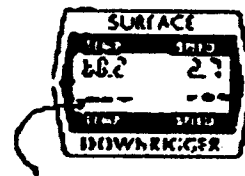


When the screw driver slot is vertical it is mid range and very near the original factory settings. Do not force screw beyond end limits. Use correct screw driver blade and do not push hard against screw driver slot.

This product is factory calibrated. Variances in installations and particularly the way the speed sending paddle wheels travel through the water, may make some field adjustment necessary. Clockwise rotation of these controls increases the numbers on the LCD and counterclockwise decreases the numbers.

Gain control:

Located on the back panel, the gain control is a 20 turn pot control with no end stops. Gain control is only effective in reception of the downrigger Speed and downrigger temperature functions and is **NOT** connected to surface Temperature or speed circuits. If the downrigger functions are both constantly displayed as dashes, with the sensor properly affixed to the Downrigger cable and lowered in the water, more gain may be required.



DASHES

Turn the gain ½ turn at a time clockwise to increase the gain allowing 30 seconds between each change in gain setting for the circuit to stabilize. Increase the gain setting no more than 2 full turns clockwise from the factory setting in ½ turn increments. Stop when stable readings are received and displayed. If the downrigger readings are very erratic (sometimes the reading are there and sometimes there are only dashes) with the numbers being unbelievable, then more or less gain may be needed. Reduce gain by turning the gain control ¼ turn counterclockwise allowing 30 seconds for stabilization between each turn to see if stability of readings can be achieved. There are some conditions where erratic readings could also require increases in gain si if constant stable readings are not achieved in one direction remember the amount of turns made, go back to neutral, and repeat the process going the other way. Factory calibration and any adjustment there-of usually do not require more than one full turn in either direction done in ¼ turn increments. We suggest trying a gain increase first per the above instructions.

** FACTORY*
If you feel you have lost touch with the original factory gain setting, turn gain control about 20 full rotations counterclockwise and then 6 turns clockwise. This setting approximates the original factory gain setting.

Function And Controls Of Display Programming

Thermo Troll display data in your choice of degrees C or F and speed in mph or knots.

Dip switches look like miniature light switches.

All 4 dip switches are located behind the largest hole cover on rear panel.

From Left to Right:

- switch 1: DOWN is display surface function, UP is omit surface function
- switch 2: DOWN is display downrigger functions, UP is omit downrigger functions.
when a function is omitted, the readout on the front panel will read "OFF" in the area where the information would have been displayed.
- switch 3: DOWN is MPH. UP is KPH.
- switch 4: DOWN is °F. UP is °C.

Operation

After properly affixing sensor to the downrigger cable; the receiving transducer to the transom; and the power cable to the 12V source; then plug all connectors into display box and lower on a downrigger into the water about 20 feet.

NOTE: Be sure you have installed battery in sensor and properly tightened cap to prevent water leakage. After displaying a set of erroneous downrigger numbers the unit will lock on the signal and correct the headings and will update about once every second to second and a half.

Unusual readings

All decimal points flash about once per second to indicate console is operating properly. If the LCD readout shows an unusual mixed combination of facts turn the unit off by touching the on-off dial fact and then turn unit back on. This can happen if the voltage to the unit drops below 10V DC or sometimes keying the VHF FM microphone will cause such a condition.

Downrigger Readings

In the downrigger modes if the display indicates 3 dashes (fig.10), this shows the loss of signal which can be the result of:

1. Check downrigger sensor/sender for water inside and confirm it is transmitting.
2. Check transom mounted triducer to be sure it is facing down (not tilted back).
- X 3. Gain of the receiver display being set too low or high (increase gain counter clockwise ½ turn at a time for 2 complete turns and if no change occurs, return gain control to original position and repeat the process counterclockwise to reduce gain).
4. Be sure receiving transducer is affixed to the boat transom in a location to receive signal without hyper-ventilated water passing between it and the signal. Also see the "all stop" test description.

Because the data for many of the readings is averaged in the computer. The display takes a short period of time to gather sufficient data to average. When sensor are stop to averaging of zeros takes a short time to bring the display back to zero when not moving. The averaging is the best way to give you usable data and reduce the amount of digit fluctuation. If the unit displays downrigger readings when underway and without the downrigger in the water, these readings are only the result of water impact on the transducer face and should be ignored.

Installation – Receiver/Transducer

Transducer location should be away from other transducers and in a location not affected by bubbles from hull or drive system. Place it in an area that will remain under water while trolling. Transducer may be on the surface of the water when running at high speeds. A little experimentation will produce the proper location for almost all conditions. User also may find that attaching the sensor/sender on downriggers deployed off the side of the boat on the side where the transducer is affixed to the transom may permit easier reading than those affixed to downrigger on the rear of the boat. In most cases all downrigger locations will work.

The transducers, both sending and receiving are designed to work most efficiently in the water. They will work in the air when placed in close proximity to each other (transmitter transducer directly below transom receiving (transducer) at about 1" apart. In water they will send and received at distance of up to 200'. Each transducer has a cone of area it operates in. If the receiving transducer is mounted on the far side of the boat from the downrigger to which the sensor/sender is affixed, then the sensor/sender may have to be lowered further below the surface before the cones come in contact with each other. A bit of experimentation on placement and angle of the two transducers will provide optimum easy use with no further adjustment being required.

Transducer Installation On Transom Of Boat (Supersedes instructions packed with bracket assembly)

(Also see mounting bracket assembly instructions packed with some models of transducers)

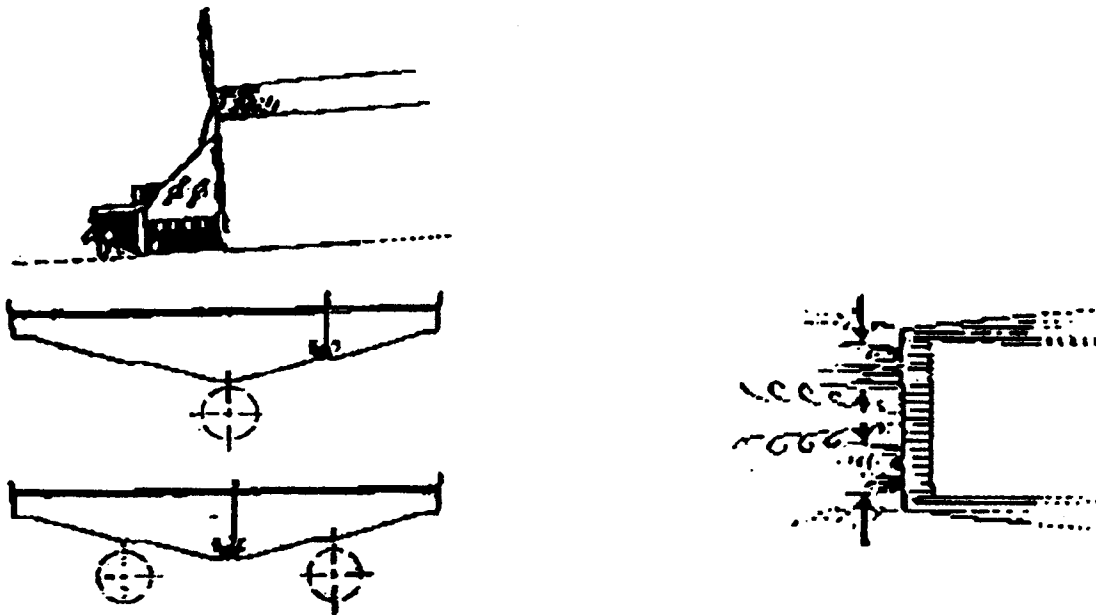
Today's modern planning hulls use a transom mounted transducer to retain contact between the operating surface of the transducer and the water. Properly located the transducer will always be immersed in the water when boat is operated at slow speeds and it will ride nearly flush against the surface of the water (like a planning water ski) at planning speeds.

To locate a place on the transom where the transducer should be installed, observe the water flow out from under the hull while mowing slowly and at planning speed. Look for an area that, at slow speeds, exhibits the least amount of prop wash, back wash, or eddies formed as the hull moves through the water. At high speed look for an area closest to the center of the hull where is flowing clearly from the hull with the least amount of bubbles and aeration. Also keep in mind the following tips:

- A) Most often the Thermo-Troll transducer should be mount using the same criteria as for graph recorders or other sonar instruments. This is usually at the base of the transom where the transom and bottom meet. Leading edge or lip of transducer should be in contact with hull so water flow is directed across bottom face of transducer.
- B) If possible locate the Thermo troll transducer away from other transducers preferably on the other side of the transom.
- C) The plugs (connectors) on the transducer and power cable are NOT REMOVABLE. Care should be taken to not cut the transducer wire. If too long, simply coil excess out of the way. If too short, extension cables are available for purchase.

Transducer Installation On Transom Of Boat (continued)

- D) Suggested locations. Fig.8 For non-wedge shape transducer see below. For Wedge type transducer see instructions packed with transducer mounting kit.



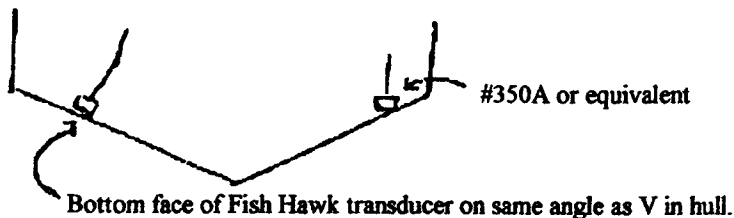
- E) **Important:** For long distance trailering it is recommended that when the hull is on the trailer a rubber band be affixed around the transducer rear portion that holds the surface speed wheel so that the speed wheel no longer can spin. Remove before launching boat.

NOTE:

The receiving transducer internal element is cocked inside the house 15° aft to aid in picking up signals while trolling. Periodically clean speed wheel and face of transducer for consistent readings.
 Surface speed range: 0 to 7 MPH.

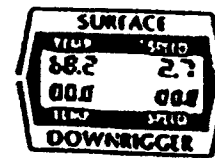
- F) **New 1999-2004 Triducer Installation Suggestion:**
 When the Fish Hawk #840 is going to be used with the newer high output (2000 Watts and up) sonar fish finders such as the Lowerance #350, #X15, #X16, etc. a very successful way to reduce or eliminate electrical interference is to mount the #840 triducer on the opposite side of the transom from the fish finder transducer. Place the face, the bottom or receiving area of the #840 triducer following the slant of the V of the hull (see Fig.9 sketch). This will face the receiving area away from the fish finder transducer and you will still be able to receive the signals from the Fish Hawk probe of sensor/sender used on all downriggers.

Fig 9



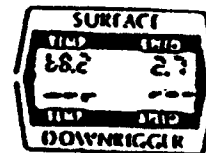
Trouble Shooting of Transmitter to Receiving Transducer

Fig. 9



Condition: Read display zeros (Fig.9) in downrigger modes and does not change whether moving or standing still. Be sure downrigger sensor has a fresh battery and that red light in end of transmitter/sender is flashing rhythmically. Check transmitter for water inside.

If, in the downrigger modes, the read out register dashes in the LCD readout (Fig. 10) where the numbers normally appear, the signal is not being received. If it is a temporary loss of signal, the unit will correct itself when signals are received, If condition continues check gain setting per this instruction manual. Check to see that transom receiving transducer is located in a place that allows it to receive the signal without (air) bubbles or prop wash interference and is facing down.



Interference:

There are basically two types of interference; Electrical and Sonar.

Electrical interference can be caused by any electrically operated equipment on the boat such as radio equipment, sonar equipment, etc. The engine can also create electrical interference. Electrical interference is generally coupled into the system via the electrical wire of the boat, but can also be radiated through the air.

Sonar interference is usually caused by acoustic coupling of multiple sonar transducers in the water on the boat.

The two types of interference can be difficult to distinguish. Generally, a systematic process of elimination is required to pin point the source of interference, I.E., start with everything off, turn on one thing at a time until unit begins to malfunction.

As this is essentially a sonar product (as are graphs and flashers), its operation can be interrupted by electrical interference in the power lines of a boat. If the readings (in) unsteady and does not settle down with proper gain adjustment then be sure the power for the unit is directly from the battery and not a fuse block or wire running power to any other item.

Also, there can be water coupling between transducers. If turning off other sonar instruments in the boat permits stable readings than either the interruption of the Thermo Troll reading is coming through the electrical connection above or the transducers are feeding into each other. If this is the case, it will be helpful to mount the Thermo Troll transducer on the opposite side of the transom. In most cases a 200KHz will not affect it whereas a 50KHz transducer, if right next to the Thermo Troll transducer, may interfere with its receiving the signal. See transducers installation notes earlier in this manual.

Transducer: It is helpful to have other transducers, such as graphs recording sonar type, with a logical separation between it and the Thermo Troll receiving transducer. Separation helps reduce the potential of water or acoustic coupling between transducers. It is also very important that the engine propellers or hull design not to pass hyper-ventilated (bubbly) water across the face of the Thermo Troll transducer when in neutral or while trolling. The air-water mixture destroys the ability of the receiving transducer to receive the signal. We have never found a hull that it wouldn't work but some have required relocation of the transducer. If it is just the downrigger readings that aren't coming in, then check as follows:

If the Fish Hawk 840 displays unstable readings with everything else on the boat turned off, then something is wrong with the Fish hawk. If it displays stable readings with everything turned off, then something else is affecting it.

HOW TO CHECK FOR PROBLEMS - ALL STOPS TEST

With the sensor in about 40' of depth in open water, stop the boat...turn EVERYTHING OFF...engines off...radio off...graph off...EVERYTHING EXCEPT THE POWER TO THE Thermo Troll.

If, under these conditions, the unit can be set to received and display as described, then first start the engine and see if the unit still receives in neutral. If so, then try a troll speed while you still have EVERYTHING ELSE OFF.

Sometimes just starting the engine or turning something on will produce an electrical interruption but right after that the Thermo Troll, which should be left in the setting that was working with everything else off, should again home-in and hold the downrigger temperature reading. Even when going from neutral to troll speed, the first batch of water may interrupt the signal but once underwater the unit should again function properly. It should also be mentioned that in 95% of the applications these types of problems are NOT ENCOUNTERED at all but here we are trying to deal with the exceptions to the rule.

Systematically turn on each additional piece of electrical equipment on the boat and observe the Thermo Troll for reaction...not just initial reaction, but one that affects its operation on an ongoing basis. Once it is discovered what affects it then it must be analyzed to see if there is anything that can be done to compensate for the interference, or if the two products can be operated non-simultaneously.

EXAMPLES OF CURES

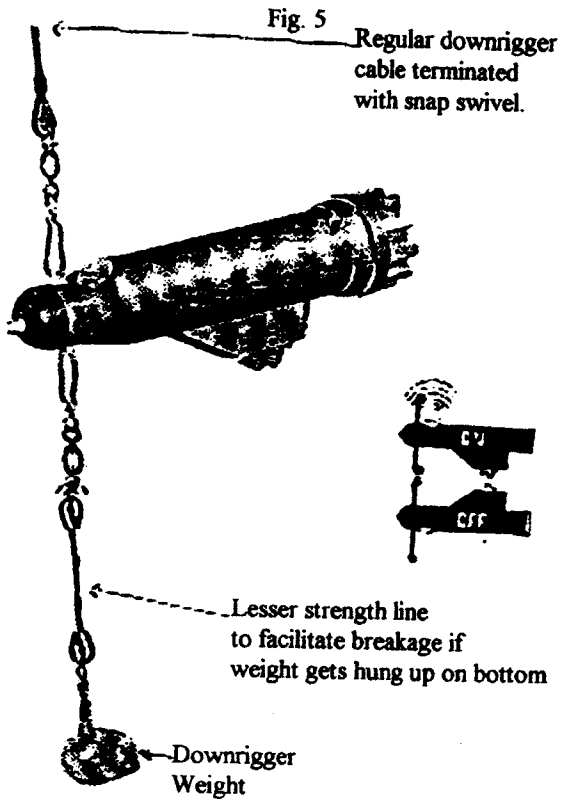
- A. Prop wash - unit worked fine until boat placed in gear then continuous bubbles block receiving
- B. Graph interference - graph continuously makes unit operate erratically.
Cure - be sure power connections are separate from each other and direct to battery. Also try placing transducer elsewhere on transom, preferably on other side of transom away from graph transducer. Note: The pulse from graph recorder is powerful and can have a trailing edge that crosses over into the Thermo troll frequency zone. If the 12V power is clean and transducers are as separated as possible, gain properly set, and the problem still exists, the two might just be incompatible with no permanent cure available. If this seems to be the case, we want you to know about it and as such, we will continue to pursue a method of overcoming the situation.
- C. Erratic reading - check - prop wash, other electrical interference from graph etc., incorrect electrical power source, and try the "all stop" tests described above. Check sensor for internal moisture.
- D. Heat - there is a light bulb in the LCD of the receiver. This lights the display for night use.
- E. Cone angle - the cone angle of transmission from the sensor/sender is 77° or greater. This extremely wide angle permits it to be received even from fairly near the surface and allows the sensor to operate from any of the downriggers on the boat. Ten feet of depth or greater is its usual range but often it can be received much shallower. With a wide cone angle the deeper it goes, the broader the cone, thus improving reception.

What we are doing is logically breaking down the problem into its elements and once we find the area affecting us then we can home-in solutions. Call us if you can isolate the element and we will go to work with you to find an acceptable solution. ?

NOTE: Please be sure to lubricate the sensor/sender 'O' ring often to insure waterproof sealing of the battery cap. Release cap for storage and at the end of each day usage.

FISH HAWK ELECTRONICS CORP.

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Fish Hawk
THERMO-TROLL

ON OPERATE THIS UNIT WITH THE SPEED WHEEL FACING DOWN TO TURN UNIT ON. FACE SPEED WHEEL UP TO TURN UNIT OFF.

OFF KEEP CAP SEALING AREA AND TUBING CLEAN AND TIGHT IN USE. RELEASE CAP FOR STORAGE AND AT END OF EACH DAY'S USAGE.

When the electronics circuit board is properly located inside the probe the red blinking light inside the tube as viewed from the cap end should blink located at 4 o'clock (as if on clock face). The speed wheel should be facing down (probe on).

If the Fish Hawk 840 displays unstable readings with everything else on the boat turned off, then something is wrong with the Fish Hawk. If it displays stable readings with everything turned off, then something else is affecting it.

Help us to help you. If you experience a problem it is helpful to borrow from, or loan your Display and probe to others to determine if it is a Display, Probe, or Triducer problem. This can usually be done at dockside in 15 minutes or less.

Tips and Experiences beyond the #840 Owners manual:

Interference:

Mid 1996 a few instance of cross talk/interference between the Lowrance Model #350A; #X15; #X16, etc. and the Fish Hawk #840 were reported. The condition was that the downrigger numbers on the Fish Hawk 840 would read-out while stopped, with or without the Sensor/Probe being in the water and the numbers displayed would be erroneous and jumping wildly up and down in value. It is east to tell if there is interference between the two products. Turn off the #350A when the #840 is displaying ever changing numbers and if the #840 settles down and reads consistently then the #350A was having an effect. There are several cures. The first is to locate the #840 triducer on the other side of the transom from that of the #350A and run the triducer cable completely away from the #350A cable. Also be sure the 12V DC power (power cable) is run all the way back to the battery and not to a distribution center. Operate the sonar fish finder in their 200 KHZ mode to help avoid Interference with the Fish Hawk #840.

Tips:

Keep the 'O' Ring that the Probe/Sensor cap seats against clean and if you put any grease on it use it sparingly/lightly. The O rings are lubrication impregnated and as such can function for years without care other than needing a clean surface to seat against.

Release cap for storage and at the end of each day usage.

Help us to help you. If you experience a problem it is helpful to borrow from, or loan your Display and probe to others to determine if it is a Display, Probe, or Triducer problem. This can usually be done at dockside in 15 minutes or less.

Calibration:

The #840 speed reading system is set up for trolling speed repeatability. The Downrigger speed and surface speed are set to be electro-mechanically correct but in installation and use variances are often created. It is not to important that they match, but it is very important that you as a user can get back to a productive, reproducible downrigger speed. This is a trolling instrument and high speed readings are sacrificed for the product to work best in the trolling speed range.

Gain Setting:

The gain control adjust the sensitivity, "the ears", of the electronics to receive the downrigger signal. Too little gain and no signal is received and too much overloads the system. Most of the time no adjustment is necessary or at the most one or two turns up or down with no additional adjustment beyond this point. It is important to note that the gain control only has an effect on downrigger functions and is not connected to the to surface functions. (Gain control clockwise increase gain).

Final note:

In the vast majority of cases the above information is not needed. We include this for the exceptions. Page 12 of the owners manual tells you how to cull out a problem if and when one exists with the "all stops test".



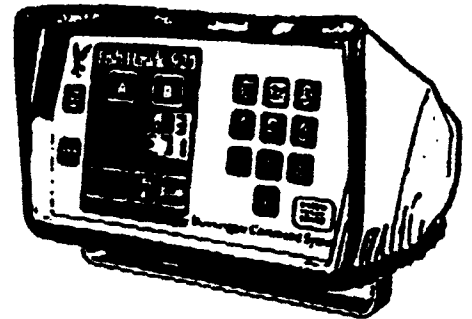
Fish Hawk Accessories

for Models 800 • 840 • 880 • 920

Enjoy fishing at its finest by protecting your valuable equipment investment!

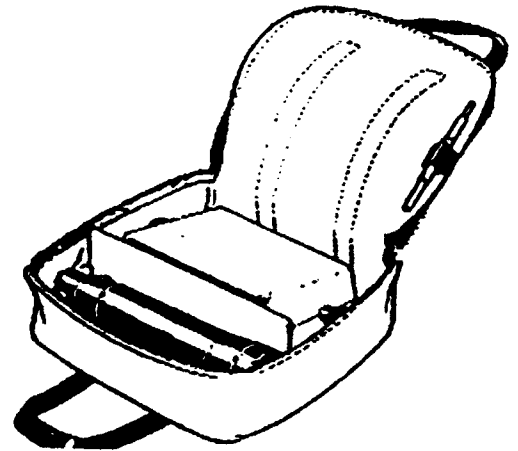
FOUL WEATHER COVER

When it's nasty outside you wear foul weather gear. Your Fish Hawk Models 800 through 920 deserve to be cared for so they can provide you with all the fishing information you need. This strong, water resistant, heavy-duty nylon cover has a clear, flexible face that permits viewing the readouts during inclement weather.



PROTECTIVE CASE

Transport and store your Fish Hawk Models 800 through 920 between uses. Individual padded pockets cushion the display and the probe. There is room for the owner's manual plus, the case contains a special adjustment screwdriver in the cover loop. The case is made of water resistant, padded, extra strong nylon and has tough nylon web carrying straps. A full no-rust zipper seals the case.



CUT OUT THIS HANDY ORDER FORM
