TASK FORCE TIPS®
FIRE FIGHTING EQUIPMENT

SHO-GAUGE™

In-line Pressure Gauge with Bluetooth® Connectivity

INSTRUCTIONS FOR OPERATION AND MAINTENANCE

⚠WARNING

Understand manual before use. Operation of this device without understanding the manual and receiving proper training is a misuse of this equipment. Obtain safety information at tft.com/serial-number.

This equipment is intended for use by trained and qualified emergency services personnel for firefighting. All personnel using this equipment shall have completed a course of education approved by the Authority Having Jurisdiction (AHJ).

This instruction manual is intended to familiarize firefighters and maintenance personnel with the operation, servicing, and safety procedures associated with this product. This manual should be kept available to all operating and maintenance personnel.

1.5” STRAIGHT

2.5” STRAIGHT

2.5” PIVOTING

STAND-ALONE

TASK FORCE TIPS LLC
MADE IN USA · tft.com

3701 Innovation Way, Valparaiso, IN 46383-9327 USA
800-348-2686 · 219-462-6161 · Fax 219-464-7155

DANGER

PERSONAL RESPONSIBILITY CODE

The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. **Firefighting and Emergency Response are inherently dangerous activities requiring proper training in their hazards and the use of extreme caution at all times.**
2. **IT IS YOUR RESPONSIBILITY to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called on to use.**
3. **IT IS YOUR RESPONSIBILITY to know that you have been properly trained in Firefighting and/or Emergency Response and in the use, precautions, and care of any equipment you may be called upon to use.**
4. **IT IS YOUR RESPONSIBILITY to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.**
5. **IT IS YOUR RESPONSIBILITY to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.**
6. **Failure to follow these guidelines may result in death, burns or other severe injury.**

Fire and Emergency Manufacturers and Service Association, Inc.
PO Box 147, Lynnfield, MA 01940 • www.FEMSA.org

FEMSA

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1.0 MEANING OF SAFETY SIGNAL WORDS

A safety related message is identified by a safety alert symbol and a signal word to indicate the level of risk involved with a particular hazard. Per ANSI Z535.6, the definitions of the four signal words are as follows:

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 indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.**

NOTICE **NOTICE is used to address practices not related to physical injury.**

2.0 SAFETY

WARNING **This equipment is intended for use by trained personnel for firefighting. Use of this equipment for other purposes may involve hazards not addressed by this manual. Seek appropriate guidance and training to reduce risk of injury.**

WARNING **This device is not rated as ignition proof, explosion proof, or intrinsically safe. Use only in locations with adequate ventilation and no hazard of flammable vapor buildup.**

WARNING **Damage or injury could result from operating this equipment beyond the specified operating pressure. Do not operate the device at pressures higher than the maximum operating pressure stated in the specification section.**

WARNING **Equipment may be damaged if frozen while containing significant amounts of water. Such damage may be difficult to detect visually. Subsequent pressurization can lead to injury or death. Any time the equipment is subject to possible damage due to freezing, it must be tested and approved for use by qualified personnel before being considered safe for use.**

NOTICE **To prevent mechanical damage, do not drop or throw equipment.**

3.0 GENERAL INFORMATION

The Task Force Tips SHO-GAUGE is designed for use on standpipes, truck outlets, on the ground, or where having a pressure reading is advantageous. The In-line SHO-GAUGE incorporates an electronic pressure gauge into a solid aluminum body, with a polymer cap protecting the gauge from damage. A pitot pickup is built into the casting for an accurate reading of the total pressure in the waterway.

The 2.5” straight through configuration is available with a pivoting outlet joint that moves ±20° from center for controlling hose kinks on standpipes with horizontal or vertical discharge. Pivoting outlets reduce the weight of hi-rise packs by eliminating a separate elbow. Fully pivoting the discharge changes the gauge reading by less than 5 psi (0.3 bar) at 500 gpm (2000 l/min). Models with a rigid outlet (non-pivoting) are useful for straight in-line applications.

A 1/4” NPT stand-alone gauge is also available for use in tapped existing plumbing, monitor outlets, or any 1/4” NPT tapped pressure port.

For 2.5” models, an optional drain valve can be purchased to also use the unit as a pressure or air bleed (A1621-KIT) when needed. A cap and tether can be purchased and added to protect the outlet threads when required.

The SHO-GAUGE is a fire ground electric pressure gauge that measures the pressure in a hose line and transmits data using a Bluetooth wireless connection. Data is received by a paired device and displayed using a smart phone app. The SHO-GAUGE does not have a display. Data is automatically transmitted whenever a connection is present, and stops when the user disconnects.

The SHO-GAUGE is intended for intermittent use with clean fire water, solutions of water and foam concentrate, including compressed air foam (CAF). It is not intended for use with pure foam concentrate, hydrocarbons, or other types of liquid. The SHO-GAUGE is not intended for continuous outdoor storage, use with heated fluids, in permanently piped installations, 24/7 wet conditions, or in extended service conditions (non-fire ground).

3.1 VARIOUS MODELS AND TERMS

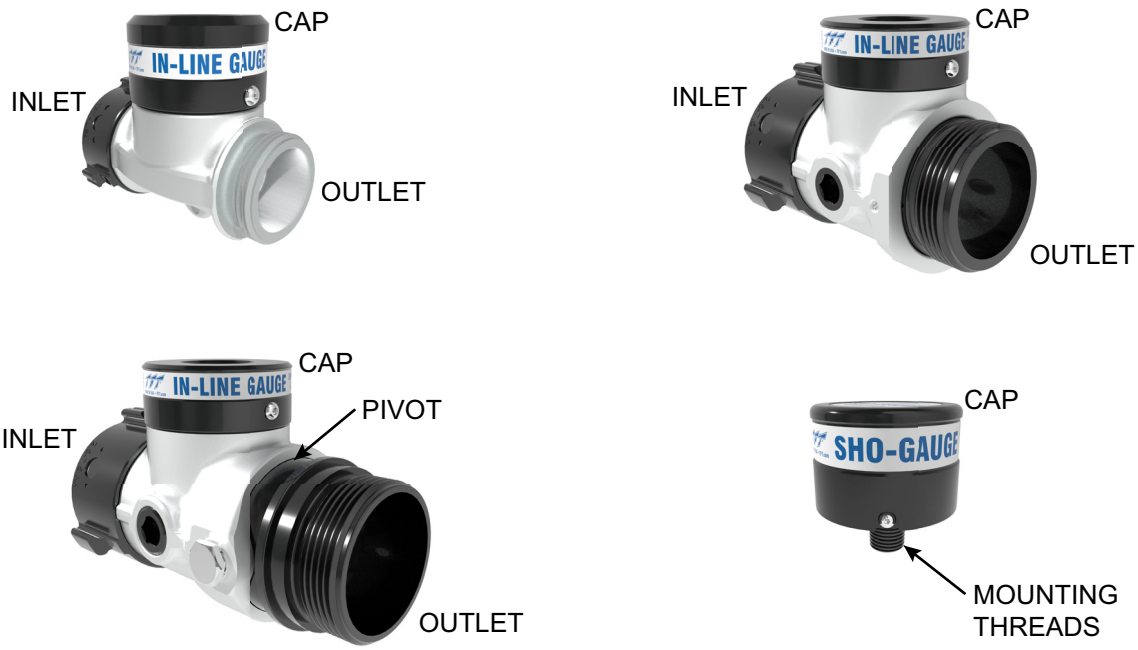


Figure 3.1

3.2 SPECIFICATIONS

3.2.1 DEVICE SPECIFICATIONS

MODEL	IN-LINE STRAIGHT	IN-LINE PIVOTING	IN-LINE STRAIGHT	STAND-ALONE
Size	2.5”	2.5”	1.5”	1/4” NPT
Weight lb (kg)	3.7 (1.7)	4.5 (2.0)	1.4 (0.7)	0.2 (0.1)
Length inches (mm)	6.4 (162)	8.0 (204)	4.1 (101.4)	2.1 (50.2)
Width inches (mm)	3.6 (100)	4.7 (120)	2.8 (67.6)	2.1 (50.2)
Height inches (mm)	5.5 (140)	5.5 (140)	4.2 (102.5)	2.2 (52.9)
Waterway Size inches (mm)	2.5 (65)		1.5 (38)	N/A
Maximum Operating Pressure psi (bar)	300 (20)			
Accuracy	2.5% Full Scale			
Standard Inlet Coupling inches (mm)	2.5 (65) Female Swivel		1.5 (38) Female Swivel	1/4” NPT
Standard Outlet inches (mm)	2.5 (65) Male Rigid	2.5 (65) Male Rigid Pivoting ±20°	1.5 (38) Male Rigid	N/A
Hydrostatic Test Pressure	900 PSI (62 bar)			
Operating Temperature - Electronics	-20-140°F (-30-60°C)			
IP Rating	IP65			
Battery	CR123A			
Operating Temperature Range of Fluid	-40° to 302°F (-40° to 150°C)			
Storage Temperature Range	-40° to 150°F (-40° to 65°C)			
Materials Used	Aluminum 6000 series hard anodized MIL8625 class 3 type 2, Acetal Plastic			

Table 3.2.1

3.2.2 APP SPECIFICATIONS

Wireless Communication	Bluetooth® Version 5.2
Display	SHO-GAUGE Smart Phone App
Pressure Units	PSI, BAR, kPa

Table 3.2.2

3.3 COUPLINGS

The 1.5” SHO-GAUGE is offered with standard 1.5” NH threaded connections. The 2.5” SHO-GAUGE is offered with standard hose threaded connections: 2.5” NH, 2.5” BSP, or 2.5” NPSH. Inlets are swivel female threaded couplings with a hose gasket seal. Do not use thread sealant. Outlet options are rigid or pivoting male threads. Maximum torque 20 ft-lb (27 Nm).

⚠CAUTION

Mismatched or damaged waterway connections may cause equipment to leak or uncouple under pressure. Failure could result in injury. Equipment must be mated to matched connections.

⚠CAUTION

Dissimilar metals coupled together can cause galvanic corrosion that can result in the inability to uncouple the connection, or complete loss of engagement over time. Failure could cause injury. Per NFPA 1930, if dissimilar metals are left coupled together, an anti-corrosive lubricant should be applied to the connection and the coupling should be disconnected and inspected at least quarterly.

3.4 USE WITH SALT WATER

Use with salt water is permissible provided the equipment is thoroughly cleaned with fresh water after each use. The service life of the equipment may be shortened due to the effects of corrosion, and is not covered under warranty.

4.0 INSTALLATION

Published accuracy is assured when the device is installed in conditions with minimal turbulence; between two lengths of hose with the same size couplings as the pressure gauge. Avoid locations where the pressure gauge or adjacent hose can be used as a step.

NOTICE

Turbulence can cause inaccurate readings. Installing the device adjacent to turbulence causing plumbing like elbows, partially gated valves, eductors, and flat adapters is not recommended. The best accuracy is assured when the device is paired between two sections of straight hose.

NOTICE

Wireless range can be greatly affected by installation orientation.
It is recommended to install the SHO-GAUGE with the plastic cap facing up.
For optimal range, install the SHO-GAUGE in a location that is raised off the ground.

5.0 OPERATION

5.1 APP INSTALLATION

A smartphone app is required to view the pressure of the SHO-GAUGE. Please download the app from either the Google Play Store or the Apple App Store before proceeding. Search SHO-GAUGE in either store.

SHO-GAUGE

1. If the app is not already open, find and press the SHO-GAUGE app icon from your list of apps, which will launch the app. (The TFT logo is displayed while opening and the app will bring you to the main Pressure Display screen.)
2. Allow app to use location if prompted. (This is required for use.)
3. If a Bluetooth connection has not already been set up, refer to section 5.5.
4. Once a connection is established, the pressure will be displayed on the Pressure Display screen.

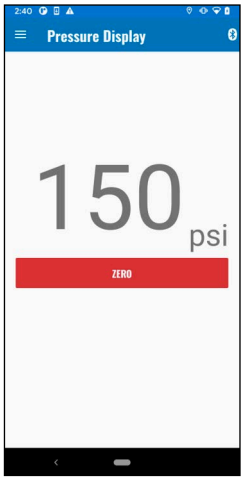


Figure 5.1

5.2 PRESSURE DISPLAY

The Pressure Display screen is used to notify the user of the current pressure in the system in real time when a SHO-GAUGE is connected. Whenever the app is opened, this screen will open as default.

5.3 DEVICE CONNECTION

The Device Connection screen is used to connect to a SHO-GAUGE. The app will remember the device it was connected to last and attempt to connect to that unit. (App will only connect to one SHO-GAUGE at a time).

If you wish to connect to a different SHO-GAUGE, press the UNPAIR button and find the device you wish to connect to in the device list.

The Bluetooth connection can be released for another user to connect to the SHO-GAUGE by one of the following methods:

- Press the UNPAIR button on the Wireless Connection page
- Completely close the app

1. Press the SHO-GAUGE icon on the Pressure Display Screen, or press the MENU button.

2. Then, press the DEVICE CONNECTION button.

5.4 ESTABLISHING A BLUETOOTH CONNECTION

1. Once arriving on the DEVICE CONNECTION page, the app will begin scanning for available devices.

2. Press button with the matching device name to connect. The name on the SHO-GAUGE label will match the listed device name on the screen.

Product Label

Figure 5.3 (2)

3. Once communication has been checked for proper data transfer:

   - Top bar will display the Bluetooth Icon.
   - CONNECTED DEVICES will update to the connected device name.

NOTE: The app will remember this device name. When the app is disconnected, it will automatically search and connect to this device if it is available. If too much time has passed, a popup will display holding the SHO-GAUGE information until it is dismissed. Press CONTINUE to resume session or CANCEL to disconnect.

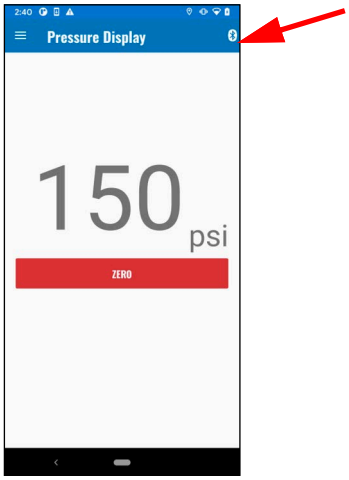


Figure 5.3 (3)

5.5 SETTINGS

The Settings screen is used to configure the app display using the desired units and other configuration values.

1. To return to this screen, press the MENU button.
2. Then, press the SETTINGS button.

5.6 CALIBRATION

To set the SHO-GAUGE to ZERO, press the ZERO button on the PRESSURE DISPLAY screen or the CALIBRATION screen.

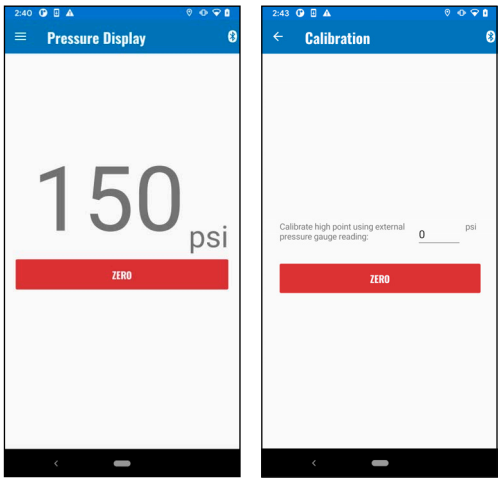


Figure 5.6

5.7 SOFTWARE UPDATE (FOR PRODUCT IMPROVEMENTS AND FEATURE UPGRADES)

Software updates may be available. The SHO-GAUGE is capable of performing wireless software updates using the active Bluetooth connection.

To perform a wireless software update:

1. Ensure the app has an internet connection.
2. Press the MENU button.
3. Press the SOFTWARE UPDATE button. If an update is available, the device name will appear in the Software Update field.
4. Press the button matching the device name to begin the update.
5. Do not shut off the smart phone or SHO-GUAGE until the update is complete.

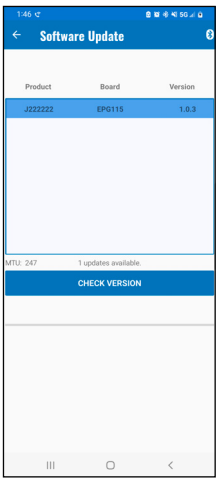


Figure 5.7

6.0 WARRANTY

Go to tft.com for warranty information.

7.0 MAINTENANCE

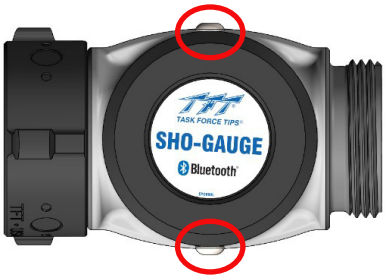
No maintenance is required. Calibration is not required under normal circumstances. If needed, see section 5.5. If unit becomes damaged and does not display correct data, obtain an RGA to send it back to the factory for service.

⚠CAUTION **Any alterations to the product or its markings could diminish safety and constitutes a misuse of this product.**

NOTICE **All replacement parts must be obtained from the manufacturer to assure proper performance and operation of the device.**

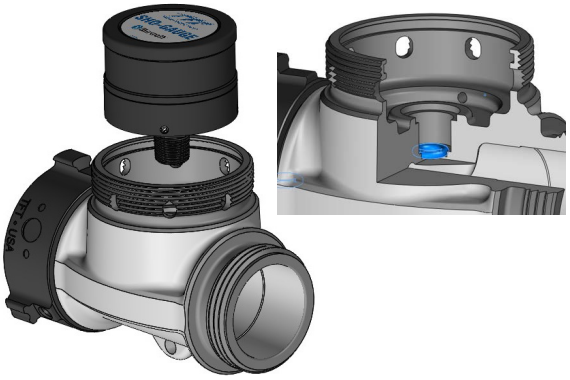
7.1 CHANGING THE BATTERY

1. Remove (2) button head screws from the side of the Gauge Cover.



2. Unscrew and remove the Gauge Cover.

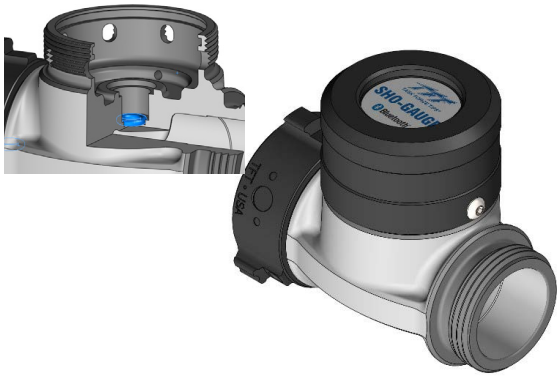
3. Lift the SHO-GAUGE from the Body. Be careful not to pull out or lose the O-ring at the bottom of this cavity.



4. Unscrew the Battery Cover.

5. Remove and replace the battery with the polarity as marked on the battery holder.
Use battery type CR123A only.

6. Reassemble in reverse order ensuring the small O-ring at the bottom of the gauge cavity stays in place.



8.0 TROUBLESHOOTING

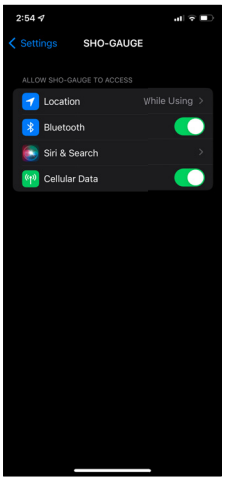
Bluetooth Connection
SHO-GAUGE:

In a case that the SHO-GAUGE device is not discoverable by the App, it may be necessary to remove or replace the battery. When removing or replacing the battery for this purpose, leave the battery disconnected for at least 1 minute to allow the SHO-GAUGE to power down fully. After the battery is replaced, connect to the SHO-GAUGE. If this does not solve your issues, ensure that you are within operating range for the SHO-GAUGE model.

App:

The SHO-GAUGE App requires the user to allow the App to use the device's location and Bluetooth services. If you deny the usage of either of these services, the App may not function as intended. Depending on operating system, you can verify these services are enabled.

IOS: Settings > SHO-GAUGE



Android: Settings > Apps > SHO-GAUGE > Permissions
Also, Settings > Locations

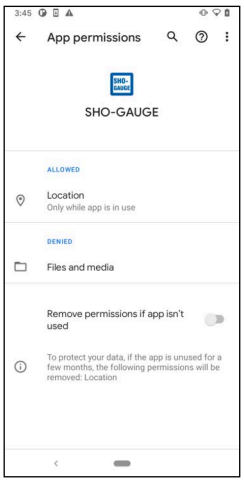


Figure 8.0

8.1 SERVICE TESTING

In accordance with NFPA 1930, equipment must be tested a minimum of annually. Units failing any part of this test must be removed from service, repaired and retested upon completion of the repair.

8.2 REPAIR

Factory service is available. Factory serviced equipment is repaired by experienced technicians, wet tested to original specifications, and promptly returned. Call TFT service department at 1-800-348-2686 to troubleshoot and, if needed, directions for return. A return for service form can also be obtained at tft.com/Support/Returning-an-Item-for-Service.

Repair parts and service procedures are available for those wishing to perform their own repairs. Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service. Contact the factory or visit the web site at tft.com for parts lists, exploded views, test procedures and troubleshooting guides.

Performance tests shall be conducted on the equipment after a repair, or anytime a problem is reported to verify operation in accordance with TFT test procedures. Consult factory for the procedure that corresponds to the model and serial number of the equipment. Any equipment which fails the related test criteria should be removed from service immediately. Troubleshooting guides are available with each test procedure or equipment can be returned to the factory for service and testing.

⚠WARNING **It is the responsibility of service technicians to ensure the use of appropriate protective clothing and equipment. The chosen protective clothing and equipment must provide protection from potential hazards users may encounter while servicing equipment. Requirements for protective clothing and equipment are determined by the Authority Having Jurisdiction (AHJ).**

⚠CAUTION **Any alterations to the product or its markings could diminish safety and constitutes a misuse of this product.**

NOTICE **All replacement parts must be obtained from the manufacturer to assure proper performance and operation of the device.**

9.0 EXPLODED VIEWS AND PARTS LISTS

Exploded views and part lists are available at tft.com/serial-number.

10.0 OPERATION AND INSPECTION CHECKLIST

BEFORE EACH USE, the device must be inspected to this checklist:

1. There is no obvious damage such as missing, broken or loose parts, damaged labels, etc.
2. The waterway is clear of obstructions and the turbine is free of debris.
3. Coupling is tight and leak free.

BEFORE BEING PLACED BACK IN SERVICE, the device must be inspected to this check list:

1. There are no broken or missing parts.
2. There is no obvious damage to the device that could impair operation (e.g. dents, cracks, corrosion, or other defects).
3. The thread and gasket are in good condition.
4. The waterway is clear of obstructions and internal turbine is free of debris.
5. Device is clean and markings are legible.
6. Coupling is retightened properly.

⚠WARNING **Equipment failing any part of the checklist is unsafe for use and must have the problem corrected before use or being placed back into service. Operating equipment that has failed the checklist is a misuse of this equipment.**

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