



MT-3000 MIC TRAC OPERATION MANUAL



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Congratulations! Your decision to purchase a Gagemaker product above all others on the market demonstrates your confidence in our quality and workmanship.

This precision measurement center will quickly become one of the most important pieces of equipment in your facility. The MIC TRAC has developed into what it is today due to response to the needs of industries just like yours. The MIC TRAC addresses gage setting and calibration issues that were never possible before. All it takes is a little imagination.

But, for those who don't have time to imagine, Gagemaker provides gages and fixtures to accompany the MIC TRAC to make your job easier and more precise.

To ensure the high performance and operation of our product, we urge you to use the included reference materials. They contain important information for proper set up and use of the equipment. Also, we recommend that you follow the care and maintenance tips in this manual to keep the equipment working in top condition.

If your questions have not been addressed in our reference materials, contact your local representative or a customer service representative at 713-472-7360.

Introduction

What is the MIC TRAC?

The MIC TRAC is an electronic, adjustable calibration and measurement center that will improve your ability to inspect parts, preset indicator style gages, and calibrate a variety of hand held inspection gages. The MT-3000 measurement system includes the base unit. The base unit houses the optical scale, which provides the MIC TRAC's precision measuring capability. The base unit may include an optional Force-Lok™ feature that provides a constant measurement force, which improves repeatability from operator to operator.

For gage calibration, the MIC TRAC measurement system can include the CAL-PAK, as an option. CAL-PAK is an assortment of fixtures that attach to the base unit for holding gages securely during the calibration process. Proper positioning of the gage improves the accuracy of the calibration and provides more consistent results. Refer to the MIC TRAC MT-3000 Calibration Reference Cards and the Gage Calibration Setup Poster for information about using the CAL-PAK fixtures.

Gagemaker's Philosophy of Accuracy

Over a decade of research and development of calibration and measuring equipment has provided us with many eye opening experiences into the realities of what accuracy means. Accuracy is subjective. Accuracy is controlled by many physical elements, all of which have their own variables. Temperature and humidity are just two factors that can affect accuracy.

It is critical to stabilize, monitor and adjust both temperature and humidity in order to maintain an accurate environment. 68°F (20°C) and 50% humidity have been established by NIST as the temperature at which measurements should be taken. Measurement or calibration in any other environment should be evaluated prior to certification.

All equipment manufactured by Gagemaker, Inc. is accurate when operated according to our instructions and under suitable environmental conditions. In many cases, to improve accuracy, you may need to improve environmental conditions.

Technical Support

Phone: 713-472-7360

Hours: Monday – Friday 8AM – 5PM (CST)

Product Information and Updates

Visit our web site at: www.gagemaker.com

Unpacking and Handling



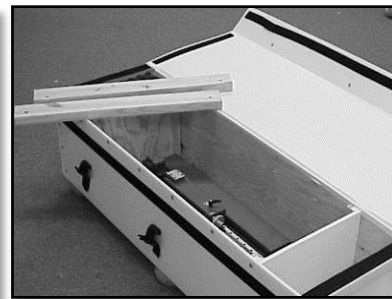
Before removing the unit, be sure you have a flat, secure surface to place it on. A granite or marble surface is ideal to reduce vibration, but a good solid wood top bench with sturdy legs is acceptable. Also, since the MIC TRAC requires an electrical power source, locate the unit within four feet of an electrical outlet.

1. After opening the cover of the shipping carton, check for signs of damage.

Note: If the unit appears damaged, contact Gagemaker immediately at 713-472-7360.



2. To release the unit from the shipping carton, loosen and remove the wing nuts and washers.
3. Remove the wood strips. The unit is ready to be lifted from the shipping carton.



4. For removing the unit, there are four lifting lugs attached to the sides of the MIC TRAC.



5. Secure two 36" X 3/4" durable lifting straps around the lifting lugs on each side.

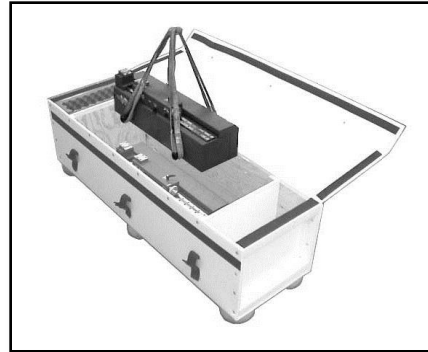


Unpacking and Handling (continued)

6. Since the MT-3000 weighs in excess of 100 pounds, use a crane or hoist to remove it from the shipping carton and place it on a secure surface. If this is not available, we recommend using two people to lift the unit out of the shipping carton.



Lift the unit from the shipping carton by picking up on the bottom only.



7. After unpacking the MIC TRAC **do not** destroy or discard the shipping carton or shipping materials. If for any reason you need to return the MIC TRAC to our factory, you'll need to use the original shipping carton.



If the unit is returned in any container other than the original shipping carton, there will be a charge for carton replacement when the gage is returned to you.

Gagemaker is not responsible for any damages incurred during return shipment due to poor packing.



Returning the MIC TRAC

1. Contact Gagemaker for a Return Authorization Number at 713-472-7360.



No shipments will be accepted without a Return Authorization Number.

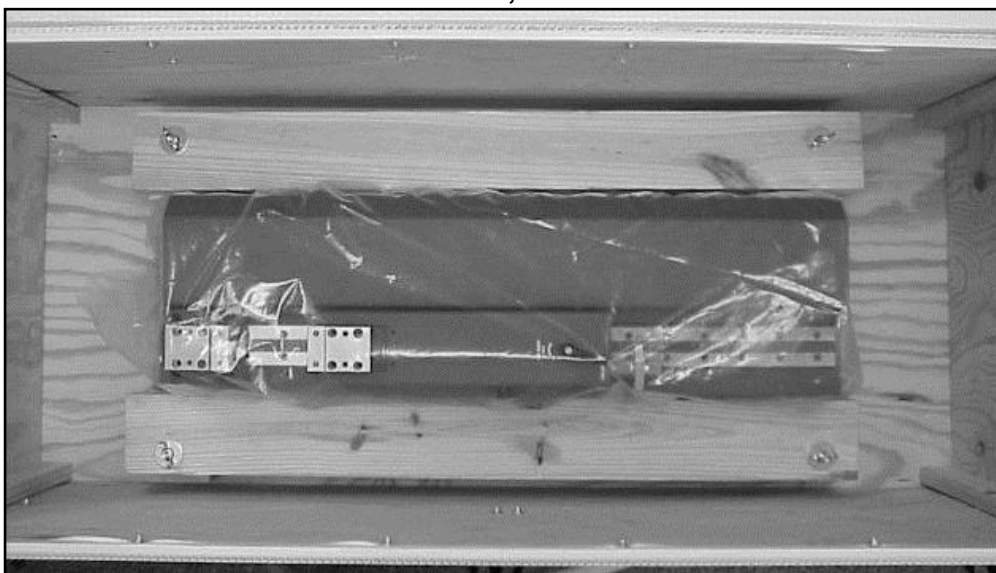
2. If you have removed the lifting lugs, reattach them before shipping the unit back to the factory.
3. Tighten the coarse adjust and fine adjust locks before packing the unit.
4. Place two 36" X ¾" durable lifting straps around the lifting lugs and place the unit in the **original** shipping carton. The lifting lugs will fit into the grooves in the bottom of the carton.



If the unit is returned in any container other than the original shipping carton, there will be a charge for carton replacement when the gage is returned to you. Gagemaker is not responsible for any damages incurred during return shipment due to poor packing.

5. Place the wood strips over the bolts in the shipping carton.
6. Place the washers and wing nuts over the boards and tighten.
7. Close the lid and secure the flap to the velcro on the side of the carton.
8. Secure the three strap latches on the outside of the shipping carton.
9. Secure the shipping carton to a pallet.
10. Display the Return Authorization Number clearly on the shipping carton.
11. Ship to the following address by motor freight **only**. UPS shipments **will not** be accepted.

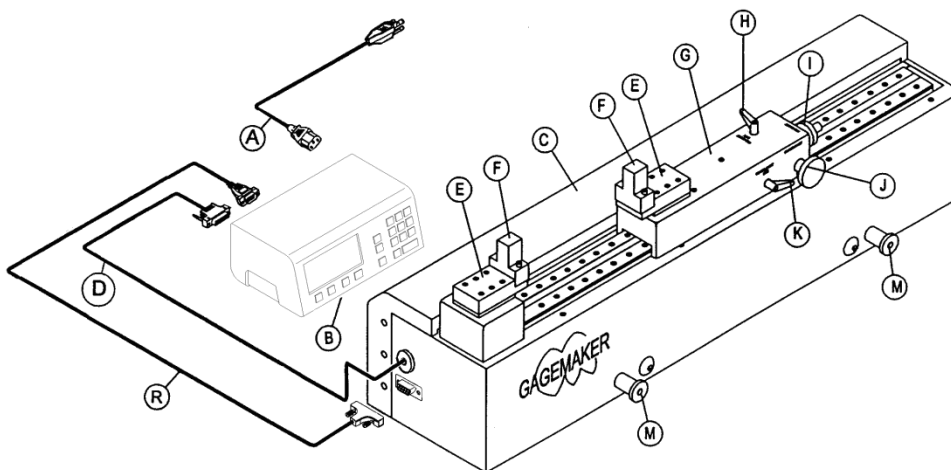
Gagemaker
712 East Southmore Ave.
Pasadena, Texas 77502



MIC TRAC Secured in Original Shipping Carton

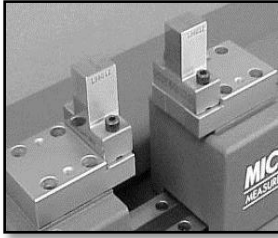
Parts List

Take some time to become familiar with all the parts that make up the MIC TRAC system by reviewing the labeled diagram and descriptions that follow. The part names are important to understand the assembly and operating instructions.



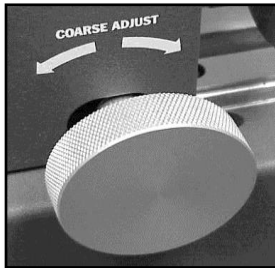
Item	Description	Quantity
A	DRO Power Cord	1
B	DRO (Digital Readout Box)	1
C	MIC TRAC Base Unit	1
D	DRO Cable	1
E	Receiver Pads	2
F	Flat Face Anvils (TF-1F Blocks)	2
G	Movable Carriage	1
H	Fine Adjust Lock	1
I	Fine Adjust Knob	1
J	Coarse Adjust Knob	1
K	Coarse Adjust Lock	1
M	Lifting Lugs	4
R	Force Cable (option with Force-Lok units only)	1

MIC TRAC Part Descriptions



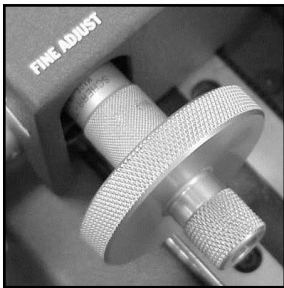
Receiver Pads

Located on the right and left carriages and are used to hold fixtures, such as the flat face anvils (TF-1F blocks). The receiver pads are ground in matched sets so the mounting surfaces are flat and parallel.



Coarse Adjust Knob

Moves the movable carriage and is used for quick positioning.



Fine Adjust Knob

Used for moving the right receiver pad in small increments and allows for close positioning.



Do not over-travel the Fine Adjust knob. The load cell will be damaged if the knob is turned after reaching the end of the travel.



Coarse Adjust Lock

Secures the movable carriage during measurement.



Do not attempt to turn the coarse adjust knob when the lock is secured.



Fine Adjust Lock

Secures the right receiver pad during measurement.



Do not attempt to turn the fine adjust knob when the lock is secured.

Digital Readout (DRO) Front Panel



The front panel consists of a digital readout and keypad.



Navigation Key

The Navigation key or button allows you to move through the three pages of selectable softkey functions. Press the corresponding softkey directly below each softkey label to execute the corresponding function.



Arrow Keys

The arrow keys move the selection field into the display, when applicable.



Keypad

The keypad is used to enter data and passcodes, when required.

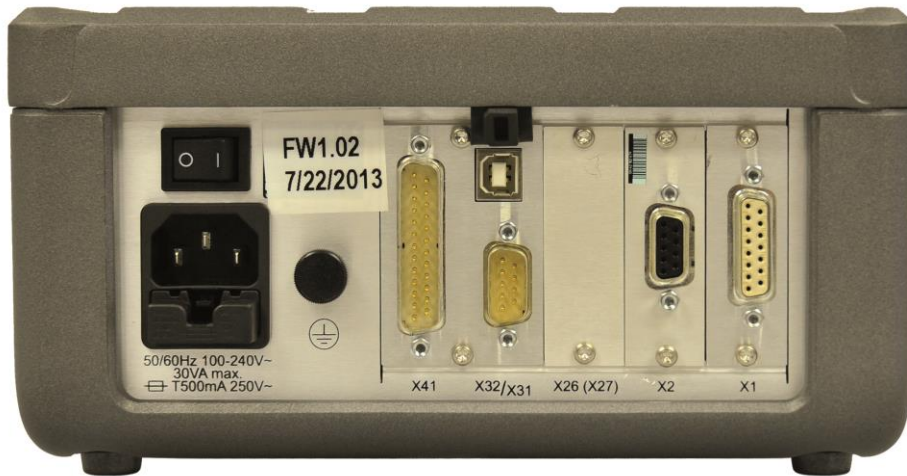


Softkeys

The softkeys allow you to select items that display on the screen directly above each button.

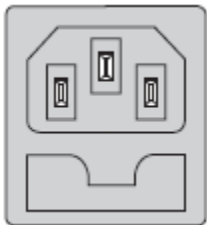
Digital Readout (DRO) Rear Panel

The rear panel contains receptacles for plugging in the various cords that come with the MIC TRAC.



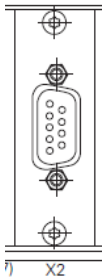
Power Switch

The power switch turns the DRO on. Flip the switch to power up the unit.



Power Connection with Fuse

The power connection accepts the power cord. The DRO requires 100-240VAC, 50/60Hz.

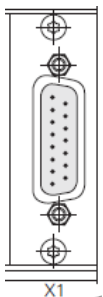


X2 – Load Cell Connector

This port is used to with the MIC TRAC models that have the Force-Lok option.

The 9-pin connector extending from the base unit connects to this port.

Plug the connector in and secure it in place with the screws.

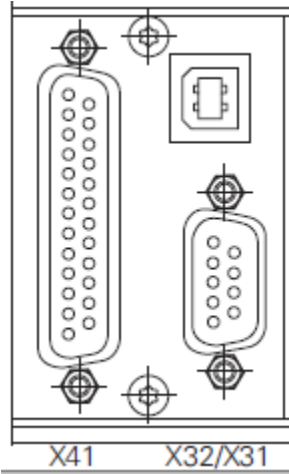


X1 – Scale Connector

The X1 port connects to the internal scale of the MIC TRAC.

Plug the 15-pin plug from the base unit into this port.

Digital Readout (DRO) Rear Panel (continued)



X32/X31

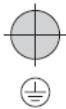
Two serial ports for data transfer:
 X31: RS-232-C/V.24
 X32: USB Type B (UART)

X41

Serial Port: Switching inputs and outputs at D-sub connection.

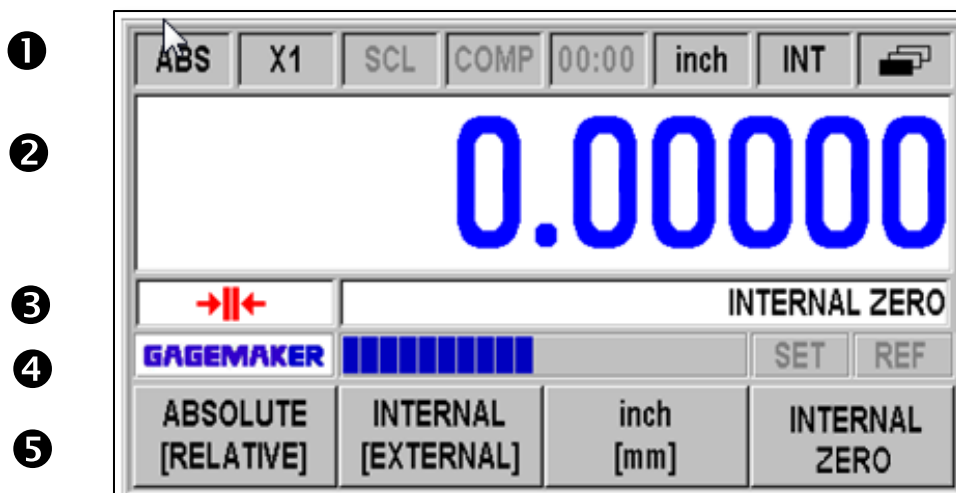
Ground Terminal

Protective earth ground terminal.



Digital Readout (DRO) Screen Features

Main Screen Layout



1 Status Bar

- ABS** Current operating mode: Absolute or Relative.
- X1** Input from Port X1 is displayed.
- SCL** SCL highlighted: Scale factor is active.
- COMP** COMP highlighted: Error compensation is active.
- 00:00** Elapsed time of running stopwatch. Stopwatch is dimmed if not running.
- inch** Current active unit of measurement. MM or inch.
- INT** External or Internal measurement mode.
- Page** Indicates the softkey page you are currently on. 3 pages available.

2 Position Display

Length display: Current axis value after initial zeroing.

3 Message Line



Force Symbol: Lights up when the preset measuring force has been reached. Only displayed when Force-Lok is active.

The message line provides information about the required data input or procedures, which provide support with using the position display.

If errors or warnings occur, they display in red letters on the message line. Clear the message with the C key.

Digital Readout (DRO) Screen Features (continued)

Main Screen Layout (continued)

4 Status Display

Logo	Gagemaker (Fixed Logo).
Graph	Displays measuring force as it increases to the point of triggering.
Force	Displays the preset measuring force.
SET	If a new value is entered during a datum setting, the SET symbol will start flashing. This only functions in Relative measurement mode.
REF	No function associated at this time.

5 Softkeys



The Navigation key allows you to move through the three pages of selectable softkey functions.

Press the corresponding softkey directly below each softkey label to execute the softkey function.

Softkeys Page 1



ABSOLUTE [RELATIVE]	Switches the position display to Absolute or Relative measurement mode.
INTERNAL [EXTERNAL]	Changes the mode from internal to external depending on which sides of the flat face anvils are being used. For working with inside dimensions use the Internal setting and External when using external features and gages.
inch [mm]	Switches the position display to the displayed unit of measure. The selected unit of measure is shown in the status bar.
INTERNAL ZERO [EXTERNAL ZERO]	Zeroes the readout for external or internal measurements.

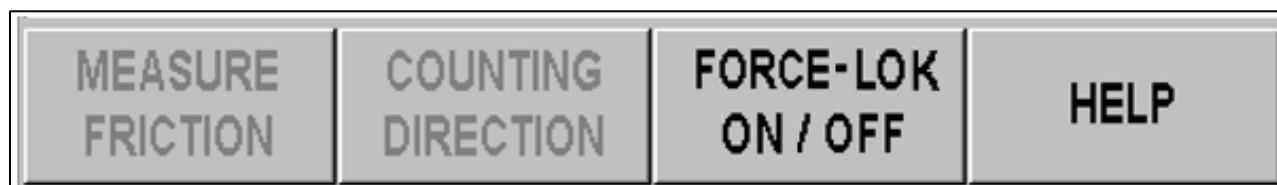
Digital Readout (DRO) Screen Features (continued)

Softkeys Page 2



SETUP	Opens the JOB SETUP menu and provides access to the INSTALATION SETUP soft key (Passcode required).
DIMENSION ANVILS	Opens the menu to enter the outside dimension of the standard flat face anvils (Default value: 1.5 in).
MEASURING FORCE	Opens the menu to enter the desired measuring force (Cycles in .5 lb. increments with a range of 1 – 5 lbs.)
PRINT	Transmits the current measured value to a connected printer or PC via the serial interface (Force symbol lights up).

Softkeys Page 3



MEASURE FRICTION	Opens the menu to measure friction of the track (correct passcode 1538 required).
COUNTING DIRECTION	Opens the menu to change counting direction of axis X1 (correct passcode 1538 required).
FORCE-LOK ON/OFF	Turns the measuring force option on and off.
HELP	Calls the integrated help system.

Setup Procedures

Removing Lifting Lugs (Optional)



The accuracy and repeatability of your MIC TRAC depends on the correct attachment of the components. If the components are not attached properly, the gage will perform incorrectly. Each of the procedures on the following pages will help you to setup your MT-3000 properly.

Materials Needed:

- MIC TRAC MT-3000 base unit
- 3/8" and 5/16" hex wrenches
- Button head cap screws (included with unit)

When the unit is in place, you may want to remove the (4) lifting lugs. However, if you do remove the lugs, keep the lugs and bolts handy. You will need to reattach them if the unit needs to be relocated or shipped back to the factory.

1. Remove the four lugs with a 3/8" hex wrench.



2. Replace each lug bolt with one of four button head cap screws, using a 5/16" hex wrench.



Attaching Cables to the Digital Readout

Materials Needed:

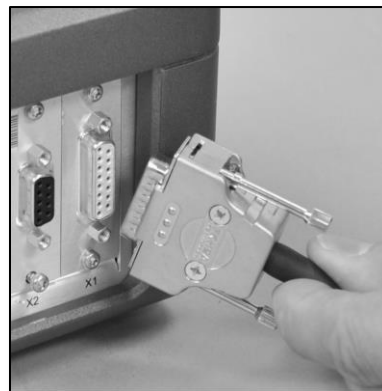
- MIC TRAC MT-3000 base unit
- Digital Readout (DRO)
- Scale cable (attached to base unit)
- Force-Lok cable (only with 3000F models)
- Power cord

1. Ensure that the ON/OFF switch located on the rear panel of the DRO is in the OFF position.

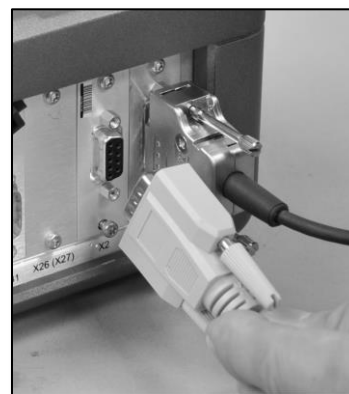


2. Plug the scale cable into the port on the rear panel of the DRO labeled X1. Secure all connectors to the panel using the connector screws.

Note: Do not force any electrical connections together. Always check alignment prior to joining any connection.



3. **For the 3000F Models Only**, plug the Force-Lok cable into the X2 port on the rear panel of the DRO.



Attaching Cables to the Digital Readout (continued)

4. Plug the female end of the power cord into the AC power receptacle on the rear panel of the DRO.
5. Plug the opposite end of the power cord into an 110V AC current outlet.

Note: The DRO contains an automatic switching power supply that operates on 100-240V, 60Hz or 50 Hz. It will automatically switch to use either 110V or 240V. A cord adapter may be required for 240V operation.

6. Turn the DRO on using the ON/OFF switch. The display on the front panel should be illuminated. If the display does not respond, refer to the Troubleshooting Guide in this manual.



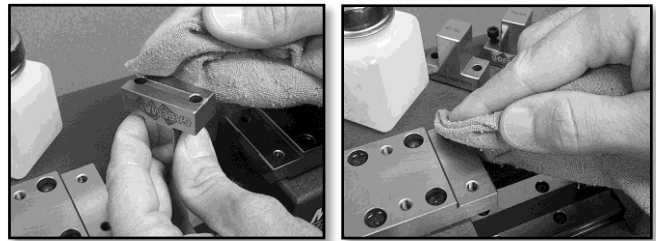
Mounting the Flat Face Anvils (TF-1F Blocks)

Materials Needed:

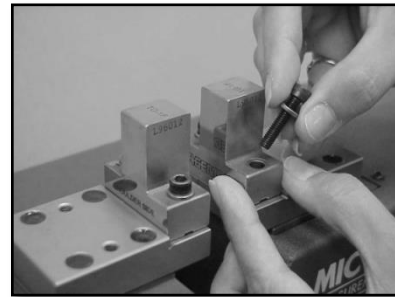
- MIC TRAC MT-3000 base unit
- Flat face anvils (TF-1F Blocks)
- 5/32" hex wrench
- 4 ea #10-32 socket head cap screws w/ washers
- 50 in/lb torque wrench
- ZEP I.D. Red Cleaner
- Lint-free cloth

The flat face anvils are mounted on the receiver pads of the MT-3000 to provide a measuring surface. To ensure a precise surface for measuring, the anvil ends are lapped parallel.

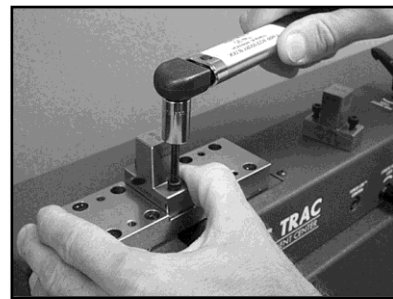
1. Clean both of the receiver pads and the mounting surfaces of the flat face anvils using the lint free cloth and ZEP I.D. Red cleaner.



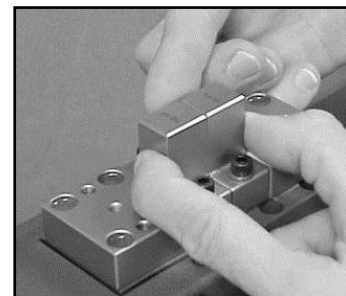
2. Place the shoulder side of the left anvil against the receiver pad shoulder and insert the cap screws. "Wring In" the anvil by sliding it back and forth with pressure towards the shoulder.



3. Hold the anvil against the receiver pad shoulder and use a 5/32" hex wrench to tighten the screws.
4. Use a 50 in/lb torque wrench to secure the cap screws.



5. Repeat the same process with the right flat face anvil.
6. Alignment and parallelism may be verified by measuring a precision contact ball at various locations about the face of the anvil.



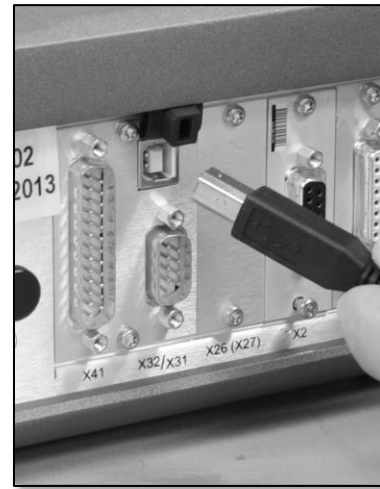
Connecting an Optional Printer

Materials Needed:

- MIC TRAC MT-3000 base unit
- Printer
- Printer power cord
- Printer cord

Note: The MIC TRAC DRO has several ports that support printing functions. For connection of a printer, refer to printer manufacturer's instructions.

1. Plug the printer cable into the proper port on the rear of the DRO. Refer to the printer manufacturer's instructions for communication details.
2. Ports available for communication:
 - RS-232-C/V.24
 - USB Type B (UART)
 - Serial

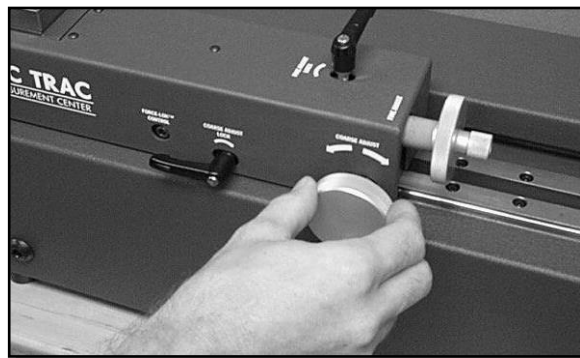



Zeroing the MIC TRAC (Without Force-Lok)

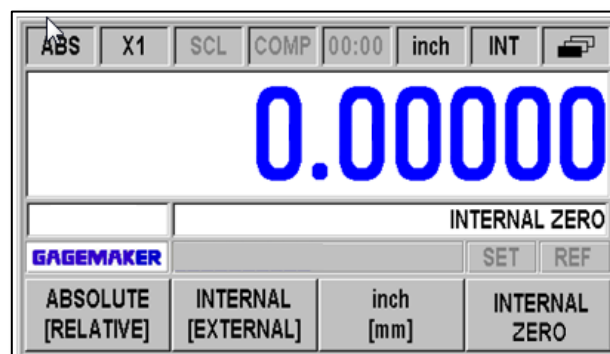
Materials Needed:

- MIC TRAC MT-3000 base unit
- Flat face anvils mounted (TF-1F Blocks)
- Digital readout

1. With the DRO powered on, press any key on the face of the DRO to continue.
2. Turn the Coarse Adjust knob on the MIC TRAC until the anvil faces come together.



3. Press  to locate the Internal Zero key on page 1 of the display.
4. With the anvils together, press the softkey below the Internal Zero key. The display will read 0.00000.
5. Adjust the MIC TRAC to the desired location.

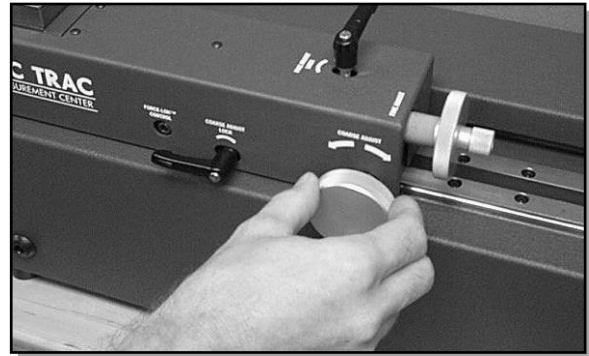


Zeroing the MIC TRAC (With Force-Lok)

Materials Needed:

- MIC TRAC MT-3000 base unit
- Digital readout
- Flat face anvils mounted (TF-1F Blocks)

1. Turn the Coarse Adjust knob until the anvil faces come within .050 - 100" of each other. Tighten the Coarse Adjust Lock.




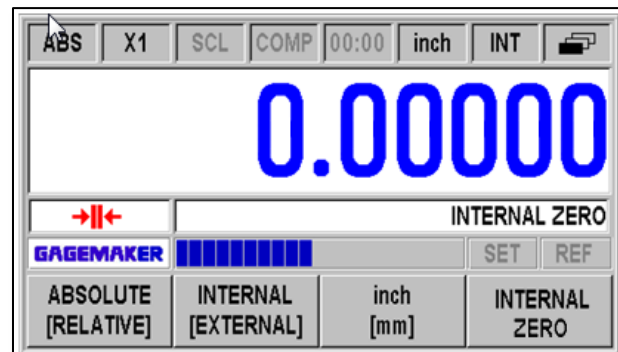
2. Use the Fine Adjust Knob to slowly close the anvils until the **→||←** displays. The display will read 0.00000 and the gauging force will be preset to 2.0 lbs of force.

The MIC TRAC is ready to measure using the internal sides of the anvils.



Operators should familiarize themselves with the travel range of the Fine Adjust Knob to help prevent over-traveling the range and binding the Load Cell.


Note: You may re-zero the unit at any time by pressing  to locate the Internal [External] Zero key on page 1 of the display. Press the softkey below Internal Zero and when the display reads 0.00000, bring the anvils together again.




Changing the MIC TRAC with Force-Lok Measuring Force

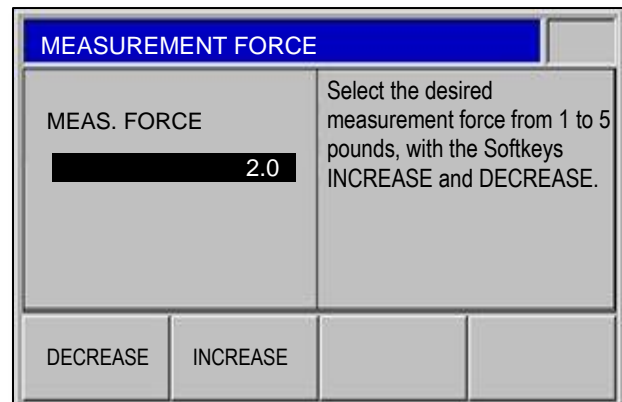
Materials Needed:


- MIC TRAC MT-3000 base unit
- Flat face anvils mounted (TF-1F Blocks)
- Digital readout

1. To change the measuring force press  to locate Measuring Force key on page 2 of the display.



2. Press the softkey below Measuring Force to display the Measurement Force screen. Use the Increase or Decrease softkeys to increase or decrease the measurement force. Force is adjustable in .5 lb. increments with a range of 1.0 to 5.0 lbs.
3. Press  to complete the operation and save the selected value.



Note: The unit must be “re-zeroed” by bringing the anvils together and applying slight pressure until the  lights up. The display will read 0.00000 and the gaging force will be set to the new pressure.

This new pressure setting will remain the default setting until it is changed, even if the power is turned off.

Changing from Internal to External Measurement Mode

Materials Needed:

- MIC TRAC MT-3000 base unit
- Digital readout
- Flat face anvils mounted (TF-1F Blocks)

1. After zeroing the MT-3000 and with the flat face anvils touching, press  until the Internal [External] page displays.

2. Press the softkey below Internal [External] to change from Internal to External mode. The display will change from 1.5000 in external mode to 0.0000 in internal mode. The default value of 1.5000 for External mode is the outside dimension of the standard flat face anvils.

ABSOLUTE [RELATIVE]	INTERNAL [EXTERNAL]	inch [mm]	INTERNAL ZERO
------------------------	------------------------	--------------	------------------


Changing the Zero Setting

Materials Needed:

- MIC TRAC MT-3000 base unit
- Flat face anvils mounted (TF-1F Blocks)
- Digital readout




The MIC TRAC DRO ships standard with a preset external zero setting of 1.5000. The 1.5000 reflects the outside dimension of a set of standard flat face anvils or TF-1F blocks. If necessary, this preset number may be changed by following the steps below. **However, when using standard TF-1F blocks, the preset external zero setting should be reset to 1.5000.**

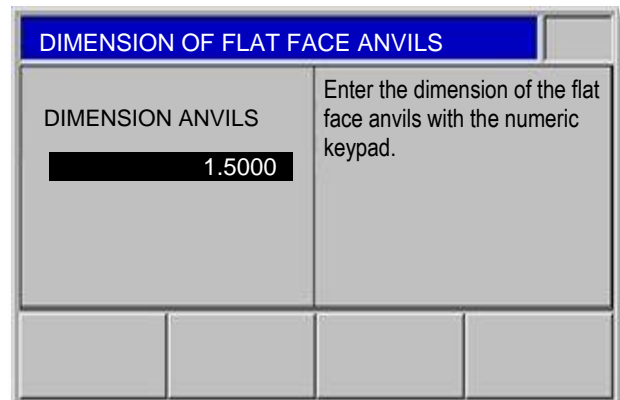
1. To change the external zero setting, press  to locate the Dimension Anvils key on page 2 of the display.



2. Press the softkey below Dimension Anvils.

2. Type the new external zero value and press .
3. Re-zero the MIC TRAC using the procedures in the Zeroing the MIC TRAC section of this manual.

Note: This new external zero setting will remain the default setting until it is changed, even if the power is turned off.



Operating Procedures

Measuring Parts with Force-Lok

Materials Needed:

- MIC TRAC MT-3000 base unit
- Digital readout
- Flat face anvils mounted (TF-1F Blocks)
- Serinter Model DPU-411 (optional)

1. Hold the part to be measured between the flat face anvils and against the fixed block.



2. While continuing to hold the part, turn the coarse adjust knob slowly to bring the right flat face anvil within 1/16" of the part. Tighten the coarse adjust lock.

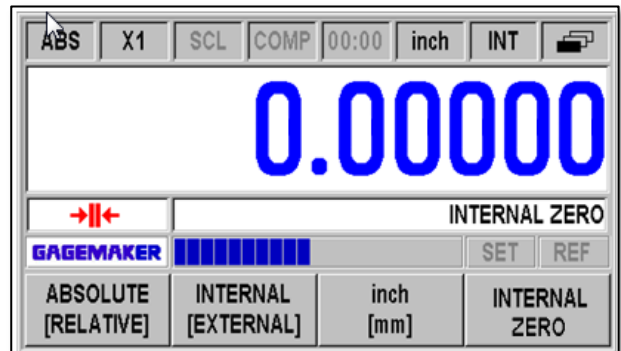


3. Still holding the part, turn the fine adjust knob until the right flat face anvil makes contact with the part and the light on the DRO turns on.



Measuring Parts with Force-Lok (continued)

4. When the **→||←** is illuminated, the readout freezes on the measured value. If a printer is attached, the DRO automatically sends the measurement data to the printer.



Troubleshooting Guide

Problem	Possible Cause	Action
DRO display is not illuminated.	Power supply is turned off. Power cord not plugged in. Blown fuse.	Turn on power switch. Check both ends of power cord. Replace fuse.
DRO will not zero.	Cables damaged or not properly connected.	Check cables.
DRO display does not change when adjustment knobs are turned.	Locks are engaged. Cables damaged or not properly connected. At end of travel. Force-Lok units must have anvils brought together to reset DRO.	Loosen locking knob Check cables. Traverse movable block. See Zeroing the MIC TRAC, Page 20.
Gage does not repeat accurately.	Debris under or between setting blocks. Loose setting blocks. Movable blocks being moved too fast.	Remove, clean and reinstall blocks. Tighten hold down bolts. Adjust movable block at a slower rate.
Setting blocks do not make contact.	Debris between setting blocks.	Remove, clean and reinstall blocks.
The movable block does not move when the handle is turned.	Locking knob is engaged	Loosen locking knob.
Printer does not function.	Cables damaged or not properly connected. Printer power switch is off.	Check cables. Turn switch on. Refer to printer instruction Manual.
Gage does not appear to calibrate accurately.	A temperature compensation may be required if the gage and part are at different temperatures.	Measure temperature of gage and part and make compensation.
DRO display reads "CALIBRATION ERROR" when powered on.	Loose or missing Force cable. Brake may be locked with a load applied to moving anvil.	Check for cable and connections. Unlock brake and verify moving anvil is moving freely and is in a neutral position.
DRO continues to display "CALIBRATION ERROR"	The unit may have failed a self-diagnostic check at power up.	Contact Gagemaker for help.

Care and Maintenance

Maintenance Tips

- Keep all unprotected metal surfaces coated with light oil.
- Always use the gage on a sturdy, level surface.
- Avoid dropping the gage or subjecting it to any vibration or impact.
- Use only in a static free environment.
- Keep the unit dry and away from any machine coolant spray.
- Do not place the unit in direct line of flying chips.
- Keep the unit covered when not in use.
- Do not use the unit while standing on a wet surface
- Do not force the movement of any of the mechanical parts. The mechanics are designed to move freely.

Maintenance Note

There are no user serviceable parts inside the DRO or inside the MIC TRAC base unit. Any disassembly of either piece of equipment will void the warranty. When used properly, by trained personnel, the MIC TRAC requires no internal maintenance. We suggest you return your unit to Gagemaker on a regular basis for re-calibration and certification. When shipping your MIC TRAC, for whatever reason, use the shipping carton and packing material that came with the unit to minimize the risk of damage. Gagemaker will assume no responsibility for goods damaged during return shipment due to improper packaging.

Safety Tips

The MIC TRAC can be used in virtually any safe working environment. However, certain precautions should be taken for safety as follows:

- All cables from the DRO and printer should be kept out of the way of any rotating equipment.
- To avoid electrical shock, DO NOT use the unit while standing on any wet surface.
- Use the correct lifting procedures when transporting the unit.

Warranty Information

Gagemaker warrants its products to be free from defects in material and workmanship under normal operating conditions for 12 months from the date of shipment. This warranty is limited to repairing, or at Gagemaker's option, replacing any product which is proven to have been defective at the time it was shipped and/or suffered damage during shipping; provided buyer has given Gagemaker written notice of any such claimed defect within 15 days of receipt. Any defective product must be properly packed and shipped to the Gagemaker factory in Pasadena, Texas USA. This warranty applies to all products when used in a normal industrial environment. Any unauthorized tampering, misuse or neglect will make this warranty null and void. Under no circumstances will Gagemaker or any affiliate have any liabilities for loss or for any indirect or consequential damages. The foregoing warranties are in lieu of all other warranties expressed or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Products Requiring Repair or Calibration Return Process

The MIC TRAC MT-3000 is precision calibrated at the factory traceable to NIST. To ensure that the MIC TRAC is providing accurate measurements, the unit should be calibrated annually, based on frequency of use and operating conditions.

1. Prior to sending any products to Gagemaker, please call 713-472-7360 and request a Returned Material Authorization (RMA) number from Sales.
2. Include a Purchase Order or work instructions with the returned product.
3. Place the MT-3000 measurement center in the original shipping carton (refer to the procedure for Returning the MIC TRAC in this manual) and return to:

Gagemaker LP
712 East Southmore Ave.
Pasadena, TX 77502-110

Technical Information

Operating temperature:	0 to 45 °C
Storage temperature:	-20 °C to +70°C
Main power supply (automatic switching):	115V +-20% or 230V +-20% (48-62 Hz)

Printer Settings

Baud Rate	9600
Data Bits	8
Parity	Odd

Specifications

Overall Dimensions

MT-3012 Base Unit	28.5" x 9.00" x 11.25" (723.9mm x 228.6mm x 285.75mm)
MT-3024 Base Unit	40.0" x 9.00" x 11.25" (1016.0mm x 228.6mm x 285.75mm)
MT-3036 Base Unit	52.5" x 9.00" x 11.25" (1333.5mm x 228.6mm x 285.75mm)
MT-3048 Base Unit	63.5" x 9.00" x 11.25" (1612.9mm x 228.6mm x 285.75mm)
DRO	See page 30

Weights

MT-3012 Base Unit	98.0lbs. (44.5 kg)
MT-3024 Base Unit	126.0lbs. (51.3 kg)
MT-3036 Base Unit	158.0lbs. (71.8 kg)
MT-3048 Base Unit	188.0lbs. (85.5 kg)
DRO (with cables)	5.5lbs. (2.5 kg)
TF-1F Blocks (one set)	1.0lbs. (0.05kg)

Voltage Requirements (all models)

DRO	100 - 240 volts AC, 50-60 HZ.
Fuse	500mA, 250V

Gage Accuracy (at 68 F / 20 C)

MT-3012-50	±.0001" (±.0025 mm)
MT-3024-50	±.0002" (±.005 mm)
MT-3036-50	±.0003" (±.0076 mm)
MT-3048-50	±.0004" (±.010 mm)
TF-1F Blocks	±.0001" (±.0025 mm)

Repeatability of assembled MIC TRAC	±.00005" (±.0013 mm)
Resolution of MIC TRAC DRO	±.00005" (±.0025 mm)

Service Temperature Range	32° to 100° F (0° to 40° C)
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The recommended temperature for any precision metrology, if a high degree of accuracy is required, is 68 F. All certifications should be made at 68 F.



Gagemaker, LP, P.O. Box 87709, Houston, Texas 77287-7709
712 East Southmore Ave., Pasadena, Texas 77502
Phone: 713-472-7360
Fax: 713-472-7241
Email: gagemaker@gagemaker.com
Web site: www.gagemaker.com