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***MIC TRAC MT-3000  
TF-VB Bore Gage Fixture***

***CAL-PAK FIXTURE MANUAL***

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# ***Gagemaker Pivot Arm Gage***

***CAL-PAK Fixture Manual***

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***MIC TRAC MT-3000***

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# ***Gagemaker Pivot Arm Gage***

## ***CAL-PAK Fixture Manual***



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

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 setup 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.

### **Technical Support**

Phone: 713-472-7360

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

### **Product Information and Updates**

Visit our web site at: [www.gagemaker.com](http://www.gagemaker.com)



# ***Gagemaker Pivot Arm Gage***

## ***CAL-PAK Fixture Manual***



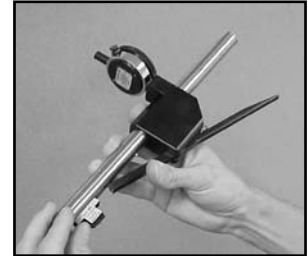
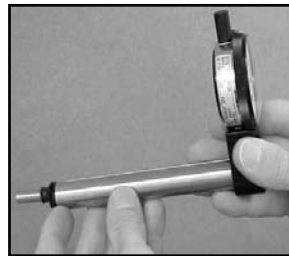
## ***Setup***

### **Materials Needed:**

- MIC TRAC™ MT-3000 base unit
- Gagemaker pivot arm gage
- Pivot arm fixture (TF-VB Block) and cap screws
- Contact point extension and contact point (certain gage styles)
- Flat face anvil (TF-1F Block) and cap screws
- 5/32" hex wrench
- 30 in/lb torque wrench
- Cloth
- ZEP I.D. Red cleaner

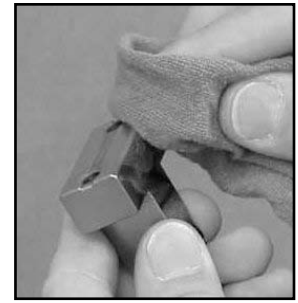
### 1. Inspect the gage visually as follows:

- Check for damage and excessive wear.
- Check for clear bezel, legible dial face.
- Inspect for proper function of the bezel adjustment and lock.
- Check for smoothness of travel by depressing the indicator shaft throughout the entire travel range. Any indicators with restricted movement must be repaired prior to calibration.



**Inspecting different styles of pivot arm gages**

### 2. Clean both of the receiver pads and mounting surfaces of the flat face anvil using the cloth and ZEP I.D. Red cleaner.



### 3. Place the shoulder side of the flat face anvil against the left receiver pad shoulder.





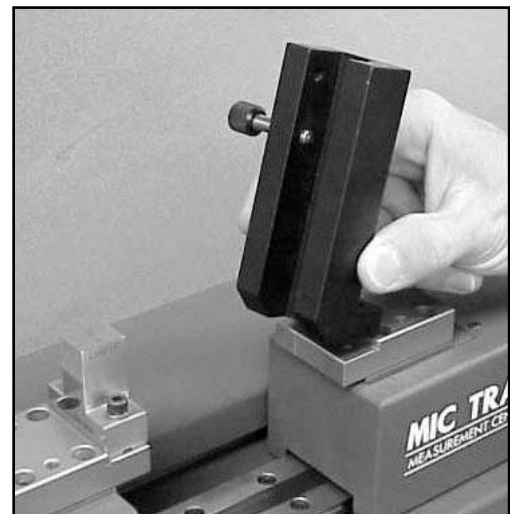
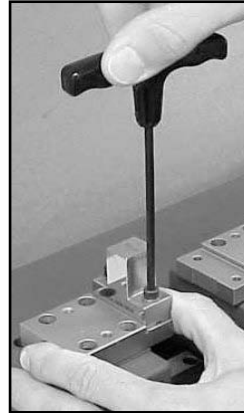
# **Gagemaker Pivot Arm Gage**

## **CAL-PAK Fixture Manual**



### **Setup**

4. While holding the anvil against the receiver pad shoulder, insert the two cap screws into the holes on either side of the anvil.
5. While applying pressure toward the receiver pad shoulder, use a 5/32" hex wrench to slightly tighten the screws.
6. Use a 30 in/lbs torque wrench to secure the cap screws.
7. Clean the mounting surfaces of the pivot arm fixture using the cloth and ZEP I.D. Red cleaner.
8. Place the pivot arm fixture against the right receiver pad shoulder.





# Gagemaker Pivot Arm Gage

## CAL-PAK Fixture Manual



### Setup

9. Insert the two cap screws into the holes on either side of the pivot arm fixture.
10. While applying pressure toward the receiver pad shoulder, use a 5/32" hex wrench to tighten the screws.

11. Make the necessary adjustments to the pivot arm gage for calibration.

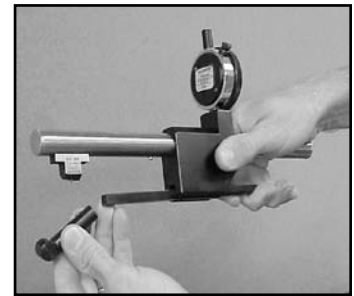
**For example:** Different styles of pivot arm gages may require alterations such as, inserting a contact point extension and contact point into the base of the pivot arm or removing the clamp extension from the clamp arm.

12. Insert the pivot arm into the slot of the pivot arm fixture and tighten the cap screws on the side of the fixture to secure.

**Note:** MRP-1000 Upper Arm point must contact the lower portion of TF-1F block as shown at right.



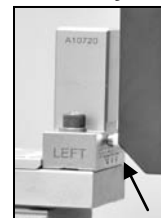
Inserting a contact point extension



Removing a clamp extension



Mounting different styles of pivot arm gages



MRP-1000 Upper Arm Touching TF-1F



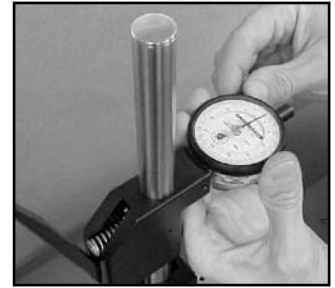
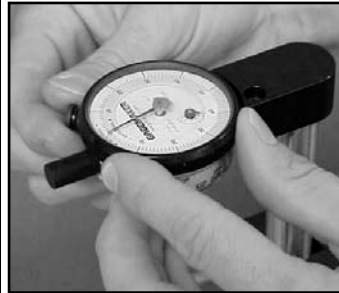
# Gagemaker Pivot Arm Gage

## CAL-PAK Fixture Manual



### Setup

13. Align the .0005" resolution indicator dial with zero.



Aligning the indicator dial on different styles of pivot arm gages

14. Turn the coarse adjust knob counterclockwise until the contact point on the pivot arm touches the flat face anvil.



15. Lock the coarse adjust lock.





# Gagemaker Pivot Arm Gage

**CAL-PAK Fixture Manual**



## Calibration

### Materials Needed:

- MIC TRAC™ MT-3000 base unit and CPU readout
- Seiko printer (optional)
- Gagemaker pivot arm or thread height gage
- 5/32" hex wrench
- It is recommended to use a .0005" resolution indicator.
- 1/16" hex wrench
- 5/64" hex wrench
- Lightweight gage oil
- Gage Calibration Record

1. On the front panel of the CPU, press the INT (internal measurement) pad.



2. Press the ZERO pad on the CPU panel twice. The readout displays 0.00000.



3. Turn the fine adjust knob clockwise until the indicator reads the first calibration value.

**Note:** If you pass the calibration value, turn the needle back and approach the value again, from the same direction. This practice will increase the accuracy of the calibration.



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# Gagemaker Pivot Arm Gage

## CAL-PAK Fixture Manual



## Calibration

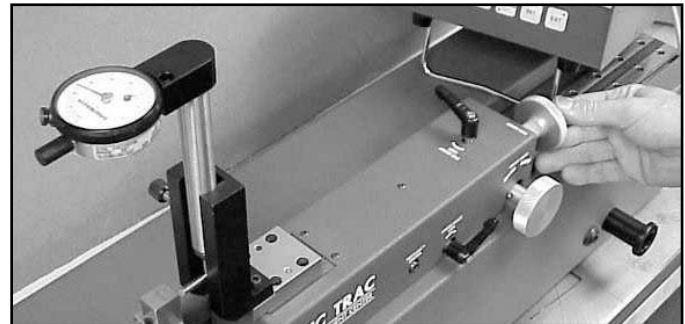
- If the indicator is not reading accurately, use a hex wrench to loosen the set screws in the indicator holder.
- Slide the indicator holder up and down on the shaft until the indicator and the CPU reading are the same.
- Make sure the indicator (stem) and the point extension stay aligned to each other.
- Turn the fine adjust knob clockwise until the indicator reads the first calibration value.
- If you have a Seiko Printer attached to your MIC TRAC for printing a permanent record of calibration measurements, press the PRINT pad on the CPU panel.
- Record any deviations on the Gage Calibration Record or in-house calibration report. Continue with remaining measurements at every .025" for the full travel of the indicator.
- Accuracy = +/- .0005" on the dial indicator.



Using a 1/16" hex wrench to align the gage



Using a 5/64" hex wrench to align the gage





# ***Gagemaker Pivot Arm Gage***

## ***CAL-PAK Fixture Manual***



### ***Calibration***

11. After completing all measurements, remove the gage from the MT-3000 and continue with the same calibration process for the next gage.



12. After calibrating all gages, be sure to remove the flat face anvil and the pivot arm fixture from the MT-3000. Oil the fixtures and return them to the storage case.





# ***Gagemaker Pivot Arm Gage***

## ***CAL-PAK Fixture Manual***



### **Maintenance Tips**

- Keep all unprotected metal surfaces coated with light oil.
- Avoid dropping the gage or subjecting it to any vibration or impact.
- Keep the gage dry and away from any machine coolant spray.
- Do not force the movement of any of the mechanical parts. The mechanics are designed to move freely.
- Keep the indicator face clean.

### **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.

### **Return products for repair or calibration to:**

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

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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  
Web site: [www.gagemaker.com](http://www.gagemaker.com)