GAGEMAKER

TH-3000 Series
External Thread Height Gage
OPERATION MANUAL

Contents

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.

Introduction

The TH-3000 series of gages inspect variations in external thread height of a variety of thread forms. All three gage models, TH-3001, TH-3002, and TH-3003 use a precision contact point which seats in the thread of the part during inspection. The gages are supplied with various base configurations to fit the particular thread form being inspected. It is important to select the proper thread height gage model for your particular application (refer to the TH-3000 External Gages Selection and Setup Chart in this manual).

Before inspecting parts, some of the TH-3000 gages require zeroing on a setting standard. Once zeroed, the anvil of the gage is positioned on the crests of the thread, while the contact point is located in the thread root. The gage is properly positioned by sweeping to obtain the shortest depth location reading. The gage's indicator reports actual variations from the nominal setting dimension. These gages are supplied with a balanced indicator dial, normally reading 0-25-0 or 0-50-0.

For those models that do not require a setting standard, the gage is preset on any flat surface and then applied to the product. The actual thread height displays on the gage's indicator. These gages are supplied with a continuous reading indicator dial, normally reading 0 -100.

The external thread height gages are primarily designed for inspection of external threads; however, on larger diameter products (4 ½" and larger), where the entire gage will fit inside the part, the external gage will also inspect internal threads (refer to the System Components, TH-3000 External Gages Selection and Setup Chart, and the TH-3000 Gage Bore Limitation Chart in this manual for more information).

Technical Support

Phone: 713-472-7360
Hours: Monday – Friday 8AM – 5PM (CST)

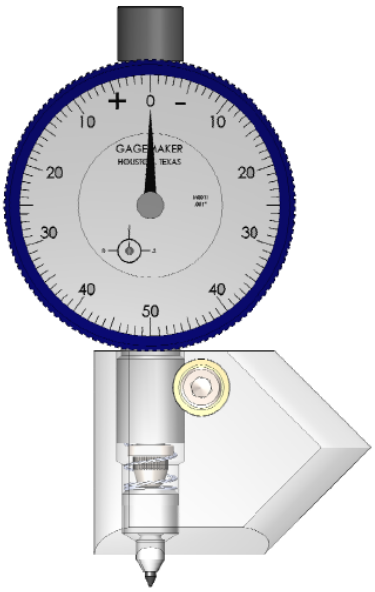
Product Information and Updates

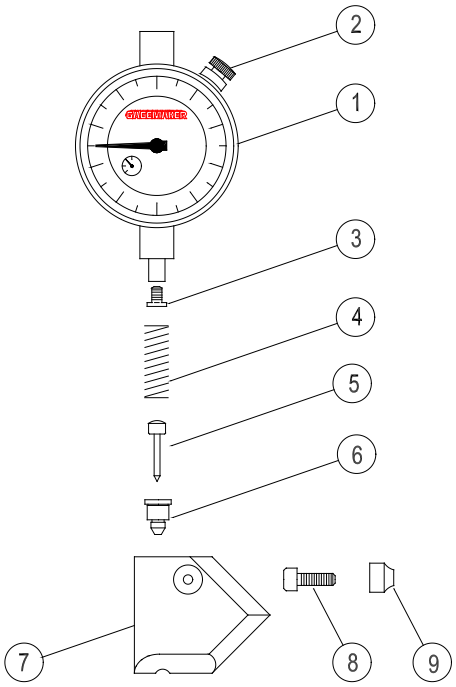
Visit our web site at: www.gagemaker.com

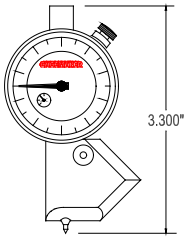
Parts List

Take some time to become familiar with all the parts that make up the TH-3000 gages by reviewing the labeled diagram below. The part names are important for understanding the operating instructions.

TH-3001R, 3002R Model Gages



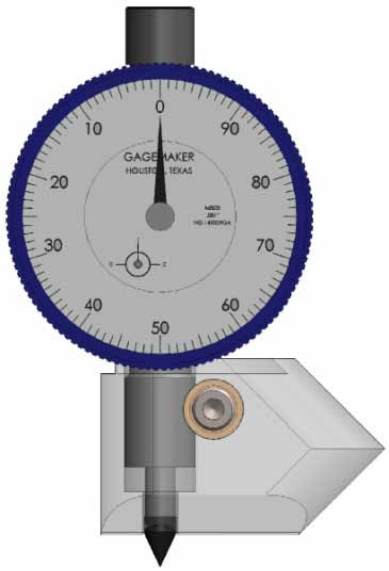


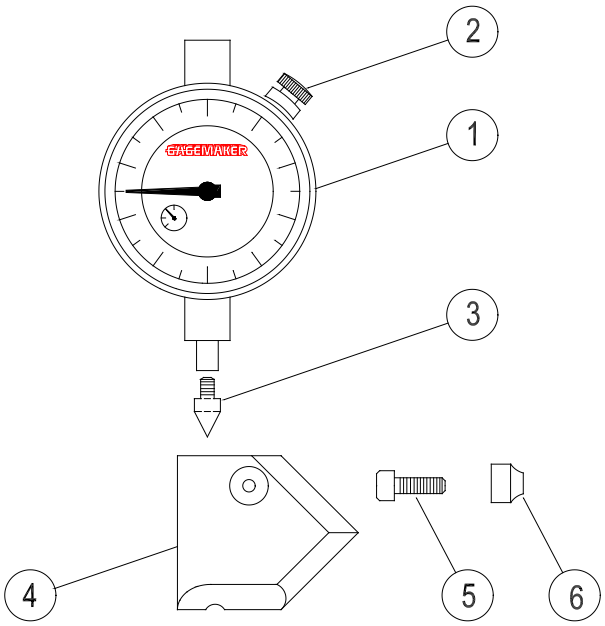


This model can also inspect internal diameters of parts 4 ½" and larger

Item	Description	Part Number	Qty	Item	Description	Part Number	Qty
1	Indicator TH-3001R (Continuous)	802i	1	5	Contact point	T501	1
1	Indicator TH-3002R (Balanced)	1512SRGA	1	6	Centering sleeve	T502	1
2	Indicator clamp	21RZA065	1	7	Anvil	4-2-803	1
3	Flat stem adapter	P500	1	8	Cap screw	#6-32 x .312	1
4	Spring	8-0-544	1	9	Binder nut	4-0-310	1

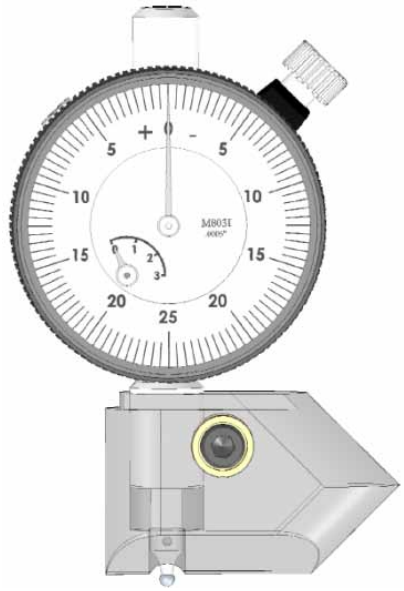
TH-3001V Model Gage

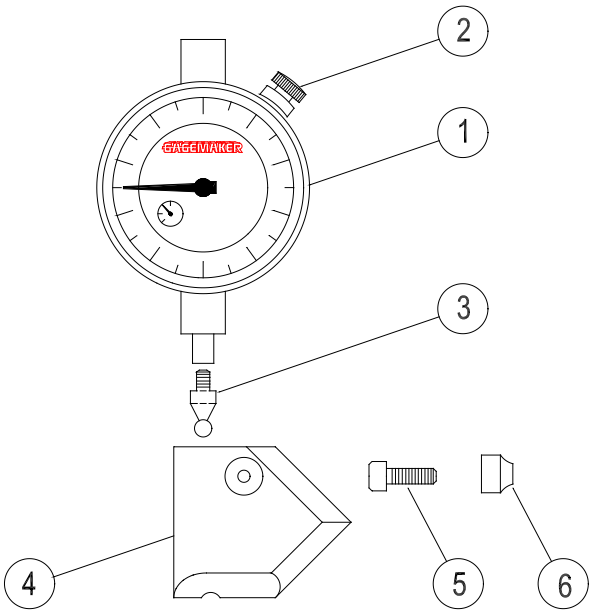




Item	Description	Part Number	Qty
1	Indicator (Model TH-3001R)	802i	1
	Indicator (Model TH-3001R)	801i	
2	Indicator clamp	21RZA065	1
3	Contact point	T500C	1
4	Anvil	T502	1
5	Cap screw	#6-32 x .312	1
6	Binder nut	4-0-310	1

TH-3002B, TH-3003B Model Gages





Item	Description	Part Number	Qty
1	Indicator	1513SRGA	1
2	Indicator clamp	21RZA065	1
3	Contact point	T072	1
4	Anvil (Model TH-3002B)	4-2-802	1
4	Anvil (Model TH-3003B)	4-2-849	1
5	Cap screw	#6-32 x .312	1
6	Binder nut	4-0-310	1

Set Up Procedures

TH-3000 External Gages Selection and Setup Chart

The chart below shows each API connector and the corresponding Thread Height Gage, Contact Point, and Setting Standard Model Numbers. Before beginning the setup, locate the type of thread you are measuring and determine the proper contact point and setting standard to use for your application.

Thread Type	Gage Model Number.	Contact Point Model Number	Setting Standard Model Number
API 8 & 10 Round	TH-3001R	T501	N/A
	TH-3002R	T501	1014
API 11½ V (Line Pipe)	TH-3001V	T500C	N/A
	TH-3002V	T500C	1015
API Buttress, ¾" TPF	TH-3002B*****	T072	1017
API Buttress, 1" TPF	TH-3003B*****	T072	1018
Drill Pipe, V-0.032, 2 TPF	TH-3000RSC	T034	10322-RS
Drill Pipe, V-0.038, 2 TPF	TH-3000RSC	T072	10382-RS
Drill Pipe, V-0.038, 3 TPF	TH-3000RSC	T072	10383-RS
Drill Pipe, V-0.040, 3 TPF	TH-3000RSC	T034	10403-RS
Drill Pipe, V-0.050, 2 TPF	TH-3000RSC	T044	10502-RS
Drill Pipe, V-0.050, 3 TPF	TH-3000RSC	T044	10503-RS
Drill Pipe, V-0.055, 1.5 TPF	TH-3000RSC	T072	10551.5-RS
Drill Pipe, V-0.076, 1.5 TPF	TH-3000RSC	T044	10761.5-RS
2" TPF H-90 (90-V-0.050)	TH-3000RSC	T072	10H90-2
3" TPF H-90 (90-V-0.050)	TH-3000RSC	T072	10H90-3
1¼" TPF H-90 (90-V-0.084)	TH-3000RSC	T072	SL-H90

*** These models are primarily external thread height gages; however, they can also function as internal thread height gages when used on large diameter parts measuring 4 1/2" and greater (see below).**

TH-3000 Gage Bore Limitation Chart

The chart below provides the minimum size requirements for the TH-3000 gages when used as internal gages to inspect larger diameter parts, where the entire gage will fit inside the part.

Gage Model Number	Minimum Bore Limits
TH-3002B, TH3003B	2.930"
TH-3001R, TH3002R	3.400"
TH-3001V, TH3002V	3.230"

Zeroing the External Thread Height Gage

Materials Needed:

- ¾ TH-3000 thread height gage
- ¾ Setting standard

External thread height gage models TH-3001R and TH-3002R are preset on any flat surface and then applied to the product. All other models with balanced dials require zeroing on a setting standard.

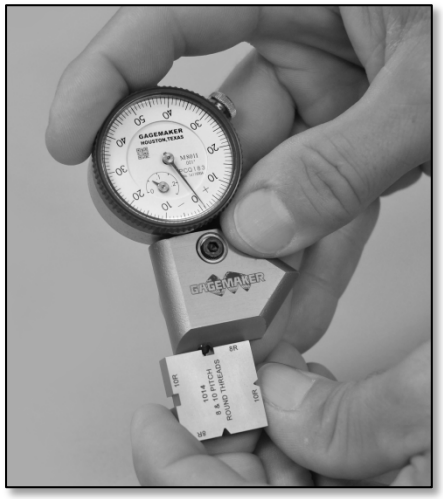
1. **For Models TH-3001R and TH-3002R:** place the gage on a flat surface.

   For all other models with balanced dials: place the contact point into the square notch of the setting standard.

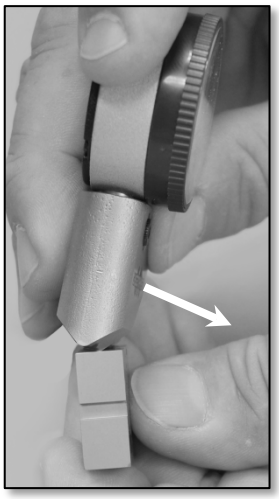
2. Rock the gage back and forth to locate the shortest depth location.

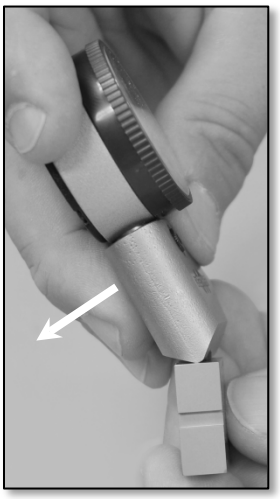
Zeroing the External Thread Height Gage (continued)

3. Align indicator needle with zero.



4. Place the contact point back into the square notch and rock the gage back and forth to verify zero.





5. Place the contact point in the V notch and rock the gage back and forth to re-verify zero.

Zeroing the External Thread Height Gage (continued)

6. Tighten the indicator clamp.

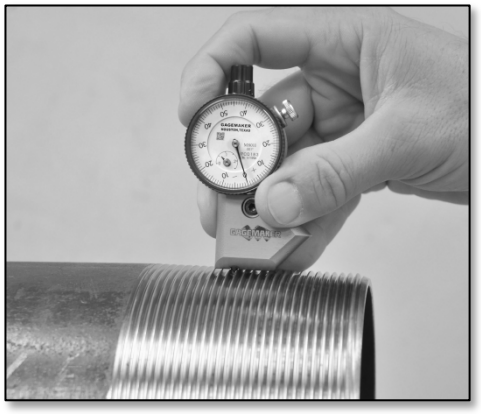
Operating Procedures

Inspecting Parts

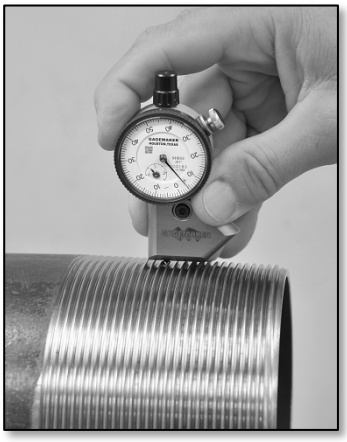
Materials Needed:

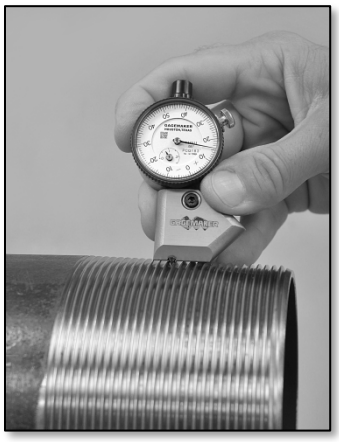
- ¾ TH-3000 thread height gage
- ¾ Part
- ¾ Inspection report

1. Place the contact point into the thread and push down on the gage until the body rests on the crests of the thread.



2. Rock the gage back and forth to locate the shortest depth location. Repeat in two other locations on the part.
3. Record findings on the inspection report.
4. Verify repeatability by periodically placing the gage on the standard.





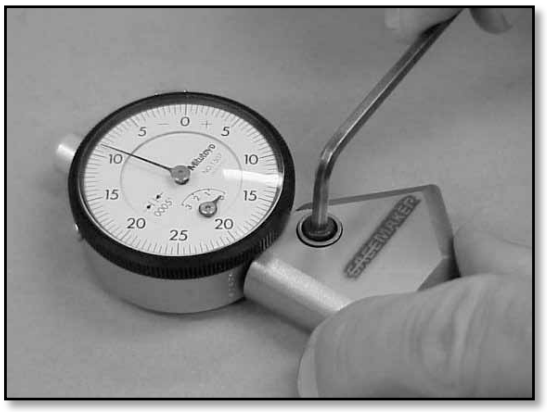
Care and Maintenance

Replacing the Indicator

Materials Needed:

- ¾ TH-3000 thread height gage
- ¾ Indicator
- ¾ 7/64” hex wrench

1. Using a 7/64” hex wrench, loosen the cap screw on the TH-3000 gage.



2. Remove the indicator from the gage.

3. Remove the flat stem adapter from the old indicator.

4. Insert the flat stem adapter into the new indicator.

Replacing the Indicator (continued)

5. Insert the indicator into the TH-3000 gage body and tighten the cap screw.

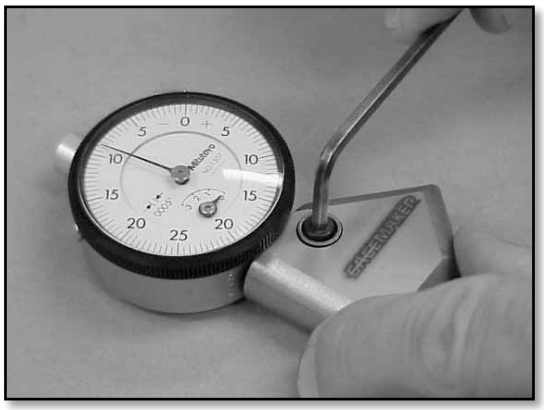
6. Turn the indicator dial to until the needle aligns with zero.

Replacing the Contact Point

Materials Needed:

- ¾ TH-3000 thread height gage
- ¾ Contact point (T501 and/or T502)
- ¾ 7/64” hex wrench

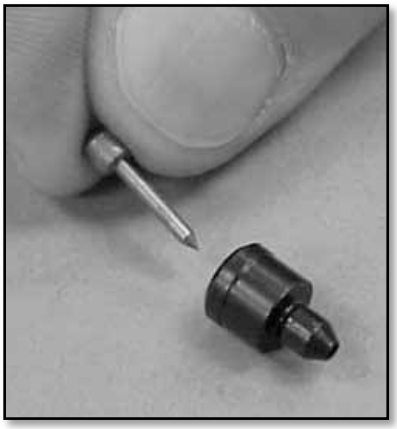
1. Using a 7/64” hex wrench, loosen the cap screw on the TH-3000 gage.



2. Remove the indicator from the gage.

3. Remove the spring, contact point, and centering sleeve from the TH-3000 gage body.

4. Insert the new contact point into the centering sleeve and assemble the gage.



Replacing the Contact Point (continued)

5. Insert the indicator into the TH-3000 gage body and tighten the cap screw.

6. Turn the indicator dial to until the needle aligns with zero.

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.

Products Requiring Repair or Calibration Return Process

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

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