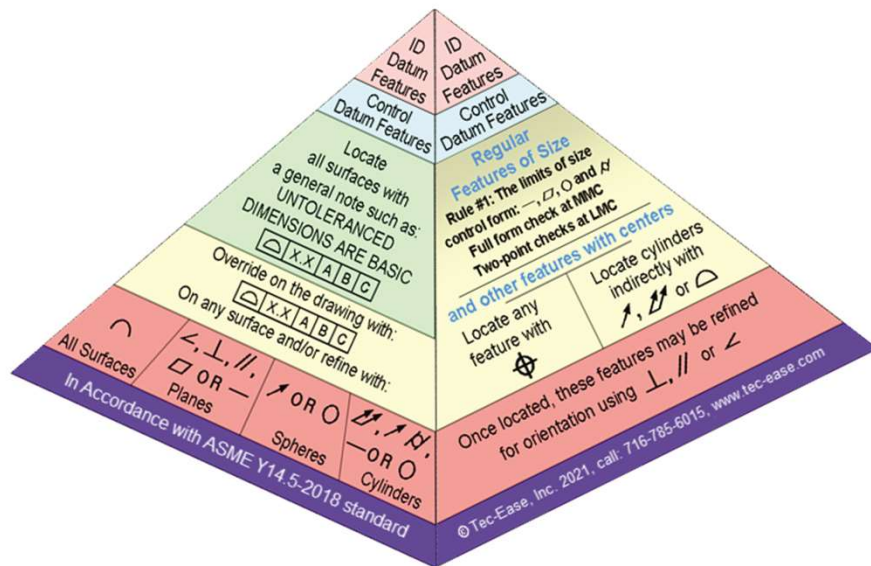


Home of the GD&T Hierarchy Pyramid

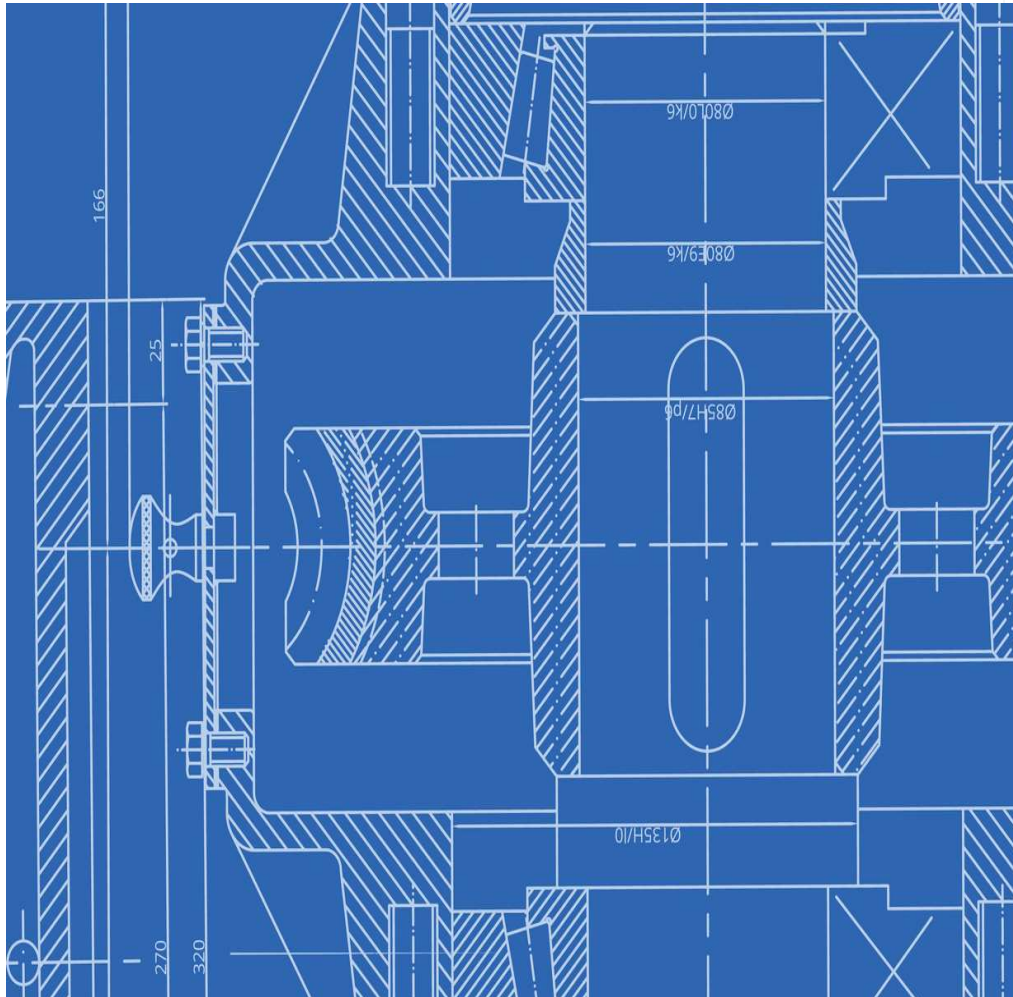


**Over Budget & Late To
Market?
*Not with GD&T!***



TEC-EASE, INC.





Selecting the Right GD&T Training



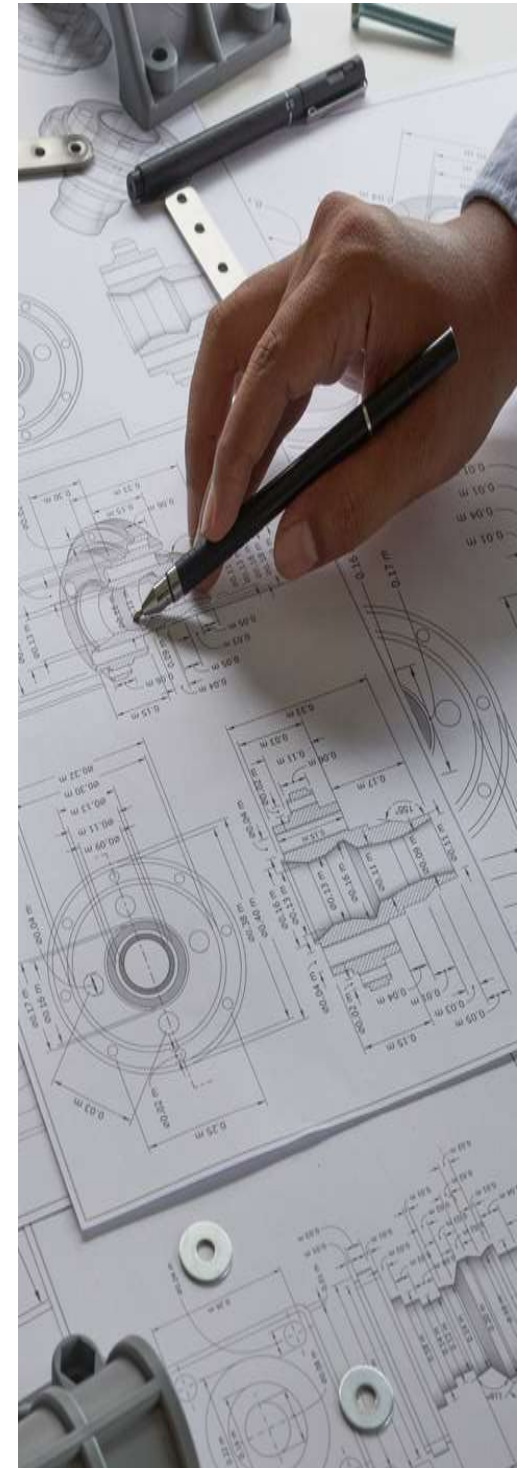
Our Founder
Don Day

Those of you that had the pleasure of knowing and working with Don know that he was passionate about GD&T and loved to teach. His knowledge, teaching style and humor helped students retain the concepts he taught.

Don was a Professor Emeritus from Monroe Community College in Rochester, NY, where he grew their Mechanical Technology Department. He was a member of several ASME committees including Y14.5, Y14.8, Y14.5.2 and Y14 main to name a few. He was well respected on the committees and helped write the standards that our training is in accordance with.

Don hand picked the members of our Tec-Ease team to ensure all of our Coaches have the same passion and commitment to sharing GD&T that he did.

The staff and trainers at Tec-Ease are continuing Don's legacy by providing GD&T training and materials in a way that would make him proud.





An Overview

Geometric Dimensioning and Tolerancing (GD&T) is a system of symbols, rules and definitions used to define the geometry of mechanical parts. GD&T is one of the most powerful tools available. It can improve quality, reduce cost and shorten delivery time.

GD&T on the drawing must first and foremost capture design intent.

However, the best design in the world is worthless if it cannot be produced. That is why it is necessary for engineering, production, quality and supplier to speak the same language. When the whole team understands and has input the result is a robust design that is producible on time and on or under budget.

Why Use GD&T?

There is no other standardized way to control the geometry of parts. Many people thought they knew what the old method meant, but because the old methods were never standardized, people interpreted drawing differently. GD&T is standardized and mathematized which means that anyone who knows the Standard, knows what the drawing means. Anyone who creates, approves or uses the drawing should know how to read the drawing.

Reasons You Need GD&T Training

New Team Members have little to no knowledge of GD&T

Vendor or customer is requiring the use of GD&T on drawings

Cost-Cutting initiatives – reducing scrap and improving product quality

Failing quality inspections

External disputes, which could lead to legal action

Eliminate miscommunication between departments

Increase production time by eliminating time needed to rework a design.





Design Previews *A Case Study*

Under Budget and Ahead of Schedule

We were working with a medical device company that had 2 new projects they were starting. We had trained a lot of the employees and one group decided to implement our method of design previews and the use of GD&T throughout the project. The other group decided not to.

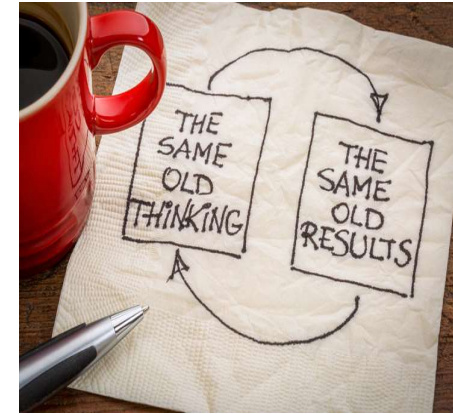
One of our coaches went to the facility and ran the design preview. The company continued to connect with our coach throughout the process, training individuals that needed it and asking questions.

The Results...

The group that did the design review with Tec-Ease and used GD&T was under budget by over \$100,000 and ahead of schedule by 3 months.

The group that didn't use GD&T or a design preview were over budget (they didn't tell us how much), over the timeline and had to rework many parts to get them to work.

Why? Because GD&T and design previews allow everyone to have input on the process and speak the same language.



“GD&T training helped us to eliminate misinterpretation by closing loopholes associated with linear dimensioning. With some forethought, it can be applied to any assembly or component. It's a great tool when used correctly.”

Rolling Out GD&T

Steps to a successful GD&T training program

Thinking about your current drawings and procedures, how is the communication between departments? Are there arguments? What about failed inspections?

Now consider if everyone from design to inspection to production was reading and understanding drawings the same way. ***Is that an environment that would benefit your company?***

Step One

Train a core group of people who will be the "go to" team. This team should be composed of key people from Engineering, Design, Manufacturing and Quality. Typically, the group will work with management to ensure training and compliance.

Step Two

Train your engineers and designers so they know how to apply GD&T to the designs they are creating.

Step Three

Gather your core GD&T team together, along with suppliers, who are working on the project, and do a design pre-view. Tec-Ease can teach your key people how to lead a design pre-view.

Step Four

The pre-view guides the placement of GD&T on the drawings. ***This is where many companies do not follow through.*** The drawing drives the entire process. Everyone downstream must know how to read the drawings and understand the GD&T callouts.

Step Five

Begin the process of training your manufacturing and quality teams, along with suppliers.

Step Six

Continue design previews and training new hires. Refresh training at needed.

Step Seven

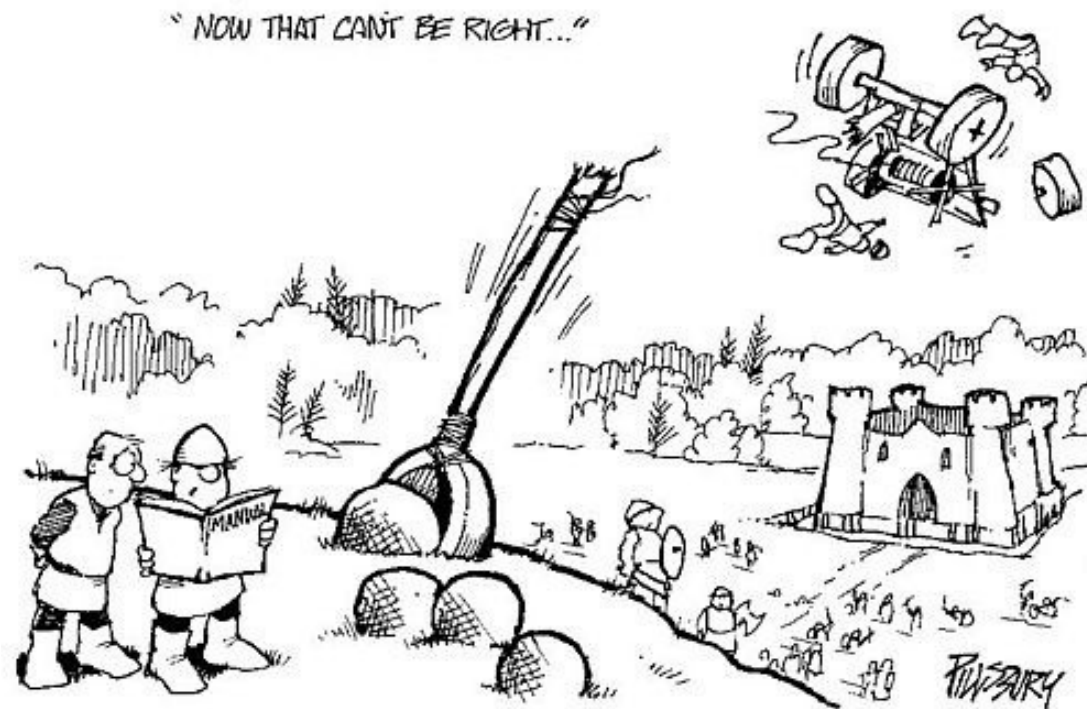
Commit to the training, in both time and budget. Tec-Ease offers flexible training schedules, Webinars and Computer Based Training options to help with both the bottom line and personal scheduling.

Let's Get Started!

*Call 716-785-6015
or visit
Tec-Ease.com*

"We began working with Tec-Ease for our GD&T training needs many years ago to re-train or upgrade our entire staff. We were immediately impressed with the quality of the course and the knowledge of the instructors, and dealing with Tec-Ease is a pleasure."

Our drawing quality has drastically improved, resulting in more efficient downstream work and better part quality. I absolutely recommend Tec-Ease as a training partner, and we continue to bring them in for re-currency or new-hires."



Who Should Take Which Training?



Position	Print Reading	Fundamentals of GD&T	Applications of GD&T	Inspecting Geometric Tolerances	Tolerance Stack Up	Management Overview
Mechanical Engineer	✓	✓	✓		✓	
Design Engineer	✓	✓	✓		✓	
Quality Engineer	✓	✓	✓	✓		
Designer	✓	✓	✓		✓	
Quality Technician	✓	✓		✓		
Machinist	✓	✓		✓		
Departmental Key Personnel	✓	✓	✓	✓	✓	
Management						✓

"I must say that I think you are the best GD&T trainer/vendor of the many available. I have purchased your GD&T charts, aids and "The GD&T Hierarchy" and found them all to be clear and well illustrated. "





On-Site Training

Having a trainer in the room to guide you through the intricacies of the GD&T system is one of the best ways to learn.

Tec-Ease has the finest and most knowledgeable senior level trainers found in the industry. When you invest in an on-site training program from Tec-Ease you can be assured that you are getting the best GD&T training available.

Pros

- Up to 25 per session
- Interactive
- Flexible Scheduling
- Certificate of Completion
- In Accordance with ASME Y14.5 Standard
- Course Material Provided
- Ability to Ask Questions
- Pre/Post Tests Available
- Customization Available
- Group Discussions
- Improved Accountability
- Add Additional Time to Discuss Your Prints

Cons

- Not Self-Paced
- Travel Costs
- Lost Production

On-Site Classes

- Print Reading for Today
- GD&T Fundamentals (2009)
- GD&T Fundamentals (2018)
- GD&T Update to ASME Y14.5-2009
- GD&T Update to ASME Y14.5-2018
- Applications of GD&T
- Tolerance Stack-Ups
- Inspecting Geometric Tolerances

... thank you for going above and beyond more than just teaching us this difficult language.

Bring in your Prints

Let's Get Started!

Call 716-785-6015

or visit

Tec-Ease.com



Train Multiple Locations at Once

Corporate Webinar

Corporate Webinars

Corporate Webinars utilize technology to provide your team the GD&T training they need, with no travel. A live trainer with industry experience who is senior level certified, will present the class. A moderator will ensure the webinar runs smoothly.

Students are encouraged to ask questions and participate in discussions. Our materials are easy to understand and incorporate humor whenever possible.

Pros

- Up to 25 per session
- Interactive
- Minimize Lost Production with ½ day sessions
- Include People from Several Locations
- No travel
- Certificate of Completion
- In accordance with ASME Y14.5 Standard
- Course Material Provided
- Ability to ask questions
- Pre/Post Tests Available
- Customization Available
- Add Additional Time to Discuss Your Prints

Cons

- Not Self-Paced
- Less Accountability
- Less Student Engagement

- Print Reading for Today
- GD&T Fundamentals (2009)
- GD&T Fundamentals (2018)
- GD&T Update to ASME Y14.5-2009
- GD&T Update to ASME Y14.5-2018
- Applications of GD&T
- Tolerance Stack-Ups
- Inspecting Geometric Tolerances
- Management Overview of GD&T

"... none of this would be possible without the Hierarchy and that crazy little paper pyramid."

Let's Get Started!

Call 716-785-6015

Computer Based Training

Tec-Ease understands the need to train your employees in a cost-effective way. This is why we created our computer based training.

This training allows employees to train at their desk or from home, as they have time. No need to travel or be away from the office. We have options for individuals, educational institutions and corporations.

Pros

- Flexible Schedule
- Self-Paced
- Train People from Anywhere
- Quizzes and a Final Exam
- Certificate of Completion
- In Accordance with ASME Y14.5 Standard
- Course Material Provided
- Ability to Ask Questions, via email
- Ability to Track Progress

Cons

- No Customization
- No Live Discussions

Computer Based Training Available

- Print Reading for Today
- GD&T Fundamentals (2009)
- GD&T Fundamentals (2018)
- GD&T Update to ASME Y14.5-2009
- GD&T Update to ASME Y14.5-2018

"I've learned more in just a few hours with the Tec-Ease GD&T Hierarchy Coach than in 12 weeks taking a similar on-line program."

Train at Your Own Pace



Live Training for Individuals

Public Webinars

Public Webinars are another way Tec-Ease utilizes technology to provide GD&T training. One of our industry experienced and senior level certified trainers will conduct this live webinar. Participate in the training from anywhere. Students are actively engaged in the topic by being encouraged to ask questions and participate in discussions. Our materials are easy to understand and incorporate humor whenever possible.

Available Classes:

- Print Reading for Today
- GD&T Fundamentals (2009)
- GD&T Fundamentals (2018)
- Applications of GD&T
- Tolerance Stack-Up (TSU)

Pros

- Cost-Effective for Training 5 or Less Employees
- Train From Anywhere
- Certificate of Completion
- In Accordance with ASME Y14.5 Standard
- Course Material Provided
- Ability to Ask Questions
- Ability to Join in Discussions
- Evaluate Tec-Ease Training & Materials

Cons

- No Customization
- No Flexible Scheduling
- Low Accountability

*Visit Tec-Ease.com
for Current
Schedule*



Instructor Kits

For those who want to conduct GD&T training themselves, while using Tec-Ease training materials, we offer Instructor Kits. These kits include PowerPoint™ slides, models, books and even computer-based lectures, that you facilitate.

- PowerPoint™ Slides (You're the Professor)
- Instructor Kits (You're the Professor with Hands-on Models)
- Computer Based Lectures (Let us be the Professor and you Facilitate)

Pros

- Customized Training
- Flexible Schedule
- In Accordance with ASME Y14.5 Standard

Cons

- No Certificate of Completion
- Possible Limited Industry Experience

Available DIY Classes

- Print Reading for Today
- GD&T Fundamentals (1994)
- GD&T Fundamentals (2009)
- GD&T Fundamentals (2018)
- Applications of GD&T
- The GD&T Hierarchy Pocket Guide

"Last semester I held our first GD&T class with 18 students. All of whom rated the class as one of the best they had taken. I used your PowerPoint along with the videos and I enjoyed one of the best classes in 25 years of teaching. Congratulations to Tec-Ease for making the subject of GD&T interesting and fun. "



"DIY" Training

The GD&T Premium Reference Center

Whether you have been working with GD&T for years or are new to GD&T, questions and confusion can arise. Getting answers can be difficult and time consuming. The GD&T Reference Center provides a single location to finding answers related to GD&T and the ASME Y14.5 Standards.

The GD&T Premium Reference Center is constantly being expanding with updated Tips and graphics.

Inside the Reference Center You Will Find:

- Over 275 GD&T Tips with PDFs, 88 include videos
- An additional 160 videos that further explain GD&T concepts or rules
- 1994, 2009 & 2018 Version of our GD&T Hierarchy Pocket Guides
- Pages for the Y14.5 symbols
- Easy to use search
- Y14.5 Standard References
- Case studies with videos

Visit [GDTRules.com](https://gdtrules.com) for a free 15-Day Trial.

Free 15-Day Trial at
[GDTRules.com](https://gdtrules.com)

The screenshot displays the 'The GD&T Reference Center' website by Tec-Ease, Inc. The page title is 'Total Runout' with a sub-header 'Y14.5M-1994 [6.7], Y14.5-2009 [9.2], Y14.5-2018 [12.2]'. The main content area explains that total runout on a cylinder controls circularity, cylindricity, and form except size, and is tighter than size tolerance. It also notes that total runout limits changes in size where the total runout tolerance is smaller than the size tolerance. A diagram shows a cylindrical feature with a datum axis and a datum simulator, with a note that the FIM over the entire surface cannot be greater than 0.15. A sidebar on the right contains 'Related Tips' (e.g., 'Don't give runout more credit than it deserves'), 'Related Videos' (e.g., 'Total Runout'), and 'Related Links' (e.g., 'Runout'). The access expiration date is 28-04-2022.



Visit the Store Today!
Tec-Ease.com/store

On-Line GD&T Store

Whether you are looking for training material, reference material or fun GD&T stuff, the Tec-Ease GD&T Store has it all!

Free Shipping on orders of \$100 or more!

Training Materials

- Textbooks
- Workbooks
- Solutions Sets
- Instructor Kits
- 3-D Models

Reference Materials

- Wall Charts
- Pocket Guides
- ASME Standards

Fun GD&T Stuff

- Coffee Mugs
- T-Shirts
- Golf Shirts
- Hats
- GD&T Stress Pyramid

FEATURED PRODUCTS



The GD&T Hierarchy
Y14.5-2018 Collection

\$180.00

★★★★★ (0.0 on 0)

Add To Cart



ASME Y14.5-2009 to
2018 Update Bundle

\$75.00

★★★★★ (0.0 on 0)

Add To Cart



Designing With GD&T
(Applications)

\$85.00

★★★★★ (0.0 on 0)

Add To Cart



The GD&T Hierarchy
Coach (2009) -
Software

\$995.00

★★★★★ (0.0 on 0)

Add To Cart



Basic GD&T Model Kit

\$595.00

★★★★★ (0.0 on 0)

Add To Cart



ASME Y14.5 - 2018
GD&T Wallchart

\$37.50

★★★★★ (0.0 on 0)

Add To Cart



2018 The GD&T
Hierarchy Pocket
Guide (Y14.5-2018)

\$19.75

★★★★★ (0.0 on 0)

Add To Cart



GD&T Stress Pyramid

\$12.50

★★★★★ (0.0 on 0)

Add To Cart

Let's Get Started!

You should now have a better understanding of what GD&T is and why it is important. You also know what training options are available.

What's Next?


Contact Tec-Ease of course! One of our customer relations team members will work with you to create a training plan.

If you are unsure which class(es) your team needs, we offer pre-assessment testing.

Contact Tec-Ease Today!
716-785-6015
info@tec-ease.com
www.tec-ease.com

PO Box 28
Fredonia, NY 14063

"Just wanted to take a minute to say THANK YOU. The animation slides showing the Unrelated and Related Mating Envelopes turned on the "Light Bulb" for a couple of guys I have been trying to explain the concept to for quite some time now. The color and animation worked PERFECT. Thanks again for all you and your team at TEC-EASE do to promote and educate the world in GD&T."



Support even after
your training.