

MechNEWS

November / December 2004

Welcome

Welcome to the November/December issue of MechNEWS™, a service provided by MechSigma Consulting, Inc.

This month, we digress from our usual article, and offer a crossword puzzle to keep your minds sharp during the holiday season. All of these answers come from the definitions in Y14.5. Several answers are more than one word. In these instances, leave the spaces out of the answer.

We hope you enjoy this issue of MechNEWS™ and continue to [tell your colleagues about it](#).

Across

2. The general term applied to a physical portion of a part, such as a surface, pin, tab, hole, or slot.
5. The dimensional value of the actual mating envelope.
8. A specified point, line, or area on a part used to establish a datum.
9. One cylindrical or spherical surface, or a set of two opposed elements or opposed parallel surfaces, associated with a size dimension.
10. A numerical value used to describe the theoretically exact size, profile, orientation, or location of a feature or datum target.
18. A worst case boundary generated by the smallest feature minus the stated geometric tolerance and any (applicable) additional geometric tolerance.
20. The designation used for purposes of general identification.
23. The total amount a specific dimension is permitted to vary.
24. An imperfect line that passes through the center points of all cross sections of the feature.
25. A surface of adequately precise form (such as a surface plate, a gage surface, or a mandrel) contacting the datum feature(s) and used to establish the simulated datum(s).
26. A point, axis, or plane established by processing or inspection equipment, such as the following simulators: a surface plate, a gage surface, or a mandrel.
27. For an external feature, a similar perfect feature counterpart of smallest size that can be circumscribed about the feature so that it just contacts the feature at the highest points.
28. A theoretically exact plane derived from the true geometric counterpart of the specified feature surface.

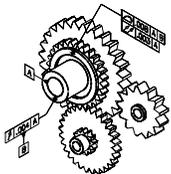
Down

1. The general term for the size of a produced feature.
3. The variable boundary generated by the collective effects of a size feature's specified MMC or LMC material condition, the geometric tolerance for that material condition, the size tolerance, and the additional geometric tolerance derived from the feature's departure from its specified material condition.
4. A theoretically exact point, axis, or plane derived from the true geometric counterpart of a specified datum feature.
6. The theoretically perfect boundary or best-fit plane of a specified datum feature.

Free Newsletter

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Holiday Greetings from MechSigma Consulting



We wish you peace, happiness, and safety this holiday season and throughout the coming year.

Engineering Services and On-site Training

Having problems with your designs?

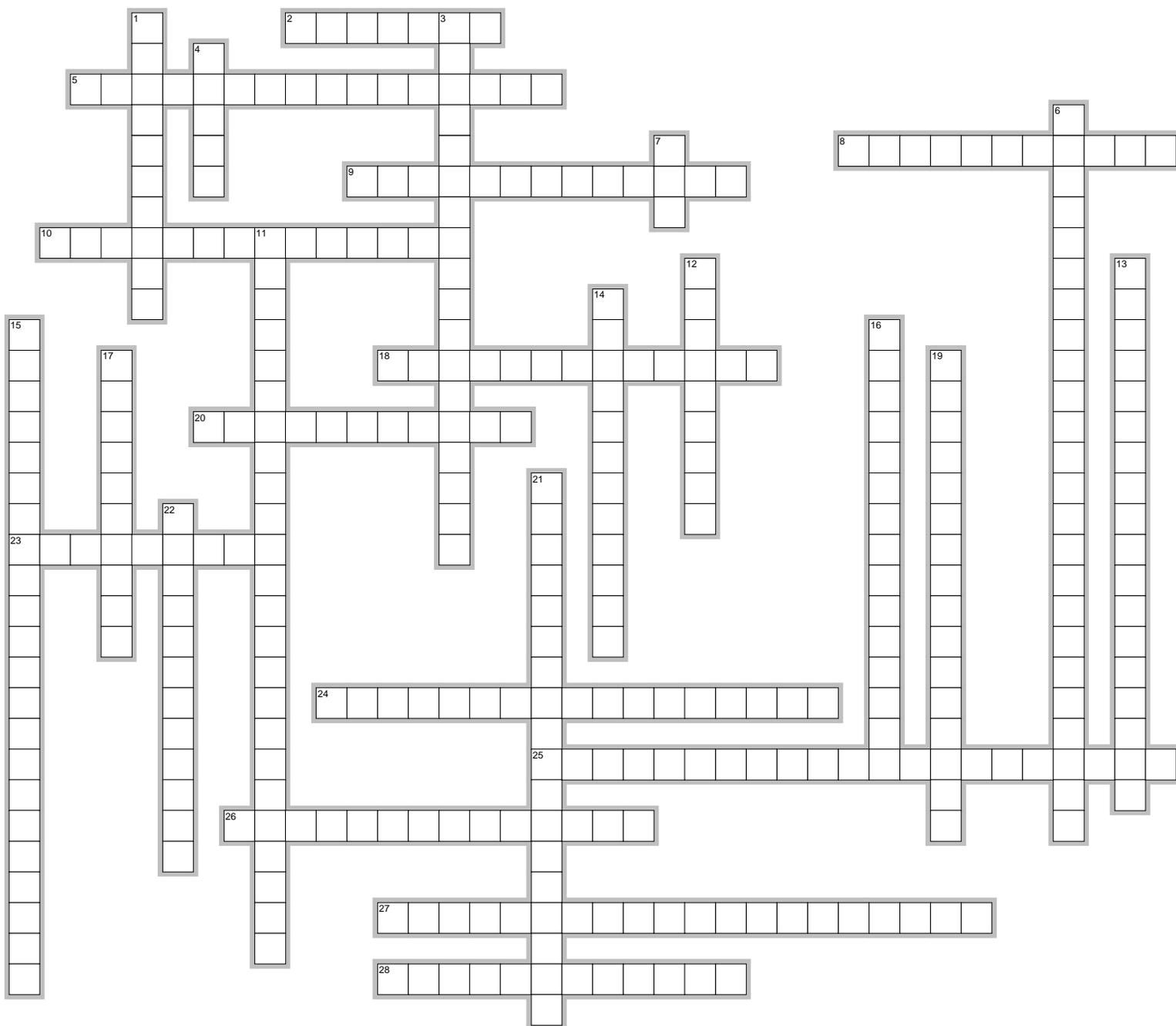
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Down (cont.)

7. The total movement of an indicator where appropriately applied to a surface to measure its variations.
11. The condition in which a feature of size contains the maximum amount of material within the stated limits of size.
12. A tolerance in which variation is permitted in both directions from the specified dimension.
13. A dimension used for information purposes only.
14. The theoretically exact location of a feature established by basic dimensions.
15. The condition in which a feature of size contains the least amount of material within the stated limits of size.
16. The value of any individual distance at any cross section of a feature.
17. A tolerance in which variation is permitted in one direction from the specified dimension.
19. A constant boundary generated by the collective effects of a size feature's specified MMC or LMC material condition and the geometric tolerance for that material condition.
21. An imperfect plane that passes through the center points of all line segments bounded by the feature.
22. An actual feature of a part that is used to establish a datum.



Created with EclipseCrossword — www.eclipsecrossword.com



Public Seminars

We want to thank those who responded to our request for places to offer public classes in 2005. The schedule for our three-day [GD&T](#) course or our two-day [Mechanical Tolerancing for Six Sigma \(MTSS\)](#) course for the first half of next year follows:

Geometric Dimensioning and Tolerancing

- Dallas, TX: Mar. 28-30
- Denver, CO: Apr. 25-27
- Houston, TX: May. 23-25
- LasVegas, NV: June 6-8

Mechanical Tolerancing for Six Sigma

- Dallas, TX: Mar. 31-Apr. 1
- Denver, CO: Apr. 28-29
- Houston, TX: May 26-27
- LasVegas, NV: June 9-10

If you are interested in signing up for a public offering, please call or [email](#) us.

Joke of the Bi-Month

A husband walks into Frederick's of Hollywood to purchase some sheer lingerie for his wife. He is shown several possibilities that range from \$250 to \$500 in price, the more sheer, the higher the price. He opts for the most sheer item, pays the \$500 and takes the lingerie home. He presents it to his wife and asks her to go upstairs, put it on and model it for him.



Upstairs, the wife thinks, "I have an idea. It's so sheer that it might as well be nothing. I won't put it on, do the modeling naked, return it tomorrow and keep the \$500 refund for myself." So she appears naked on the balcony and strikes a pose.

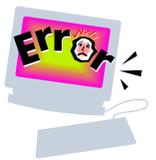
The husband says, "Good Lord! You'd think that for \$500, they'd at least iron it!" He never heard the shot; Funeral services are pending.....

Events:

The next GD&T committee meeting is scheduled for May 2-5, 2005 in Minneapolis, MN.

These meetings are open to the public. We'll have more details in future newsletters.

Whoops



Gilles Fournier from Pratt & Whitney Canada sent in several good comments on our [last newsletter](#).

Most notable was his question asking why we had different datum reference frames for the $\varnothing.641\pm.015$ and $\varnothing.827\pm.015$ features. This was simply an oversight on our part. We changed the datum reference frame at the last minute and didn't change both of them.

Although there is nothing technically wrong with what we did, Gilles pointed out (as we do in our classes) that it is better design practice to make them the same.

Thanks, Gilles.