That CAD Girl

2022 Virtual Workshop Registration Discount!

November 21, 2022

Although we've already completed 2 of our 6-days of workshops, we've continued to get calls and requests to register for the remaining days.

It's true that "the best is yet to come" but, in the spirit of Thanksgiving, Black Friday and end-of-year specials, we've decided to reduce the cost of the registration to $99 for the remaining sessions.

Coming up Tuesday Nov 29th, we are putting the sales, support and development teams from Carlson Software in the hot seat to answer your questions! You won't want to miss this!

That CAD Girl



Currently scheduled: Bruce Carlson, Leonid Entov, Scott Griffin, Butch Herter, Mark Long, Doug Aaberg, Sara Winter, Shan Lu, Lon Watson, John Gerber and more!

That CAD Girl

On the Agenda… Fast Track to CAD

November 21, 2022



I'm just finishing up the agenda for the first day of our 2022 Virtual Workshops – and I couldn't wait to share! On Tuesday 11/15 we'll have 6 hours together for an **Introduction**

to CAD. I guess I'm well on my way to developing a "series" of these *Fast Track to…* sessions.

Whether you're using AutoCAD or IntelliCAD, I think this is going to be a very helpful training session because it's scheduled with plenty of time to dig into some of the necessities for beginners. And, although this is a lead-in to **Introduction to Carlson Software** next week, this is SIMPLY CAD STUFF and will be perfect for beginners!

Here's a bullet list:

- Drawing Environment and Settings
- Basic Draw Commands
- Basic Edit Commands
- Layers, linetypes and lineweights
- Linetype Scales
- Blocks and External References
- Model and Paper Space
- Drawing Templates
- National CAD Standards

If you think this lesson plan would help you or co-workers out, there's still time to register… only $199 for 6 days of

training, and you can pick and choose which session(s) you'd like to attend!

Carlson Software 2023 has been released!

November 21, 2022



On November 1, 2022 Carlson Software released the 2023 version of their desktop products. With the 2023 release, Carlson is focusing more on performance and stability and a

little less on new bells and whistles… I'm guessing the next version will be heavy in the other direction!

Carlson 2023 products will ship with both a preview release of IntelliCAD 11.0 and 10.1 and can also run on top of your separately purchased license of AutoCAD 2018-2023.

Carlson Survey 2023 with embedded AutoCAD (OEM) is expected to be released within the next few weeks but it's unclear at this time whether there will be a 2023 release of Takeoff OEM.

Any user who has purchased Survey OEM 2022 after 10/1/2022 will receive a free upgrade to Survey OEM 2023. If this applies to you, please Email us and we'll make sure you get your free upgrade.

If you are currently running Carlson and have an active maintenance contract, **you are eligible for a free upgrade to Carlson Software 2023**. You will need your 2022 serial number and can use this Lookup screen to find your 2023 serial number.

If you're a past customer of That CAD Girl, you may be able

to find your Carlson Customer ID, serial numbers and maintenance reports on our new customer portal. You can access your portal by clicking here and entering your email address. If you haven't been granted Admin privileges by your company's primary point of contact, you may have limited access.

You can read more about the new features and find more information here on Carlson Software's 2023 product page.

Don't forget to subscribe to our YouTube channel where you can find our Picks and Clicks videos plus several "Product Overview" recordings that demonstrate features in different programs.

FAQ: What are the improvements to Carlson over previous versions? (a running thread)

And, don't forget…

That CAD Girl



Virtual Workshops! That CAD Girl & Carlson Software

November 21, 2022

Many of you have been to our end-of-year workshops where we have a full day of presentations, software specials and giveaways but, because of holidays and travel etc, attending

has not been an option for a lot of others who would like to attend.

So this is something new we're trying in May – humor us as we're going to try to replicate the workshops online! We won't be able to serve our excellent Carolina BBQ but, other than that, we're going to try to do everything else. Somehow.

Day One will be focused on Carlson Survey & GIS and Day Two on Civil & Hydrology – the details of each day's classes are below.

Each day's presentation will include 5 sessions and you will be able to attend any or all of them. Each session will vary in length and you will have an opportunity to ask questions and have them answered during the presentation.

Afterward we will be sending out email "confirmations of attendance" for each session that lists the name, date and time of the session, the presenter and how long you were logged into the session according to the Go To Webinar report. **There is no guarantee** you will be able to get PDH or CEU credit for the training but, depending on your state's licensing board, the report we provide should be sufficient

documentation.

Also, note that you must have registered and logged in under your personal name to get “credit” for attending each session. I will send reports of attendance based strictly on the details of the Go To Webinar report.

In addition to offering “day of show” software specials, we will also be doing software giveaways each day. It’ll be tricky but we’ll figure out a way!

The cost is $199 for each day of training but, if you are already eligible for my webinars (i.e. you’ve purchased software from me in the last 12 months) you can register for each day for $99. Also, we are offering $20 off for early registration.

There are limited “seats” available and the early registration deadline is May 6 – so sign up today!

See below for details and registration links

That CAD Girl

Survey & GIS Virtual Workshop
Tuesday 5/17/2016 (registration deadline is Friday 5/13)

Register Here

All times Eastern

8:30 – 9:30 Jennifer DiBona – *Tips & Tricks in CAD & Carlson Software*

10:00 – 11:30 Jeremy Taylor PLS – *Traverse Adjustment in Carlson Software*

1:00 – 2:00 Jeremy Taylor PLS – *Tips & Tricks in SurvCE/SurvPC & the Carlson Cloud*

2:30 – 4:00 Scott Griffin, Director of Sales for Carlson Software – *Field to Finish in Carlson Software (including tree surveys)*

4:30 – 6:00 – Jennifer DiBona – *Making Models from a Mess: Carlson Tools to Elevate 2D Drawings to 3D for Staking & Surface Models*

Civil & Hydrology Virtual Workshop
Tuesday 5/24/2016 (registration deadline is Friday 5/20)

Register Here

All times Eastern

8:30 – 9:30 Jennifer DiBona – *Tips & Tricks in CAD & Carlson Software* (different material than 5/17)

10:00 – 11:30 Jennifer DiBona – *Overview of Surfaces & Grading*

1:00 – 2:30 Scott Griffin – *Subdivision Layout & Design*

3:00 – 4:30 Mark Long, Civil & Hydrology Support & Training for Carlson Software – *Road Design, Site Design, Pond Design & Hydrology, Part 1*

5:00 – 6:30 Mark Long – *Road Design, Site Design, Pond Design & Hydrology, Part 2*

They’re Back!! ESRI, I mean!

November 21, 2022

I got a nice surprise a few weeks ago – a call from Donny Sosa, a Survey Industry Specialist with ESRI. Donny was nice enough to come to North Carolina and present a session at my end-of-year workshops a few years ago.

Even though he gets it, I’m sure Donny groans when he hears the joke that *“GIS means Get It Surveyed”*… because he & I originally met after he and Brent Jones made their ***Why GIS Needs Surveyors*** presentation at a Carlson User Conference in 2009. Since then I’ve understood that he is committed to getting surveyors to provide survey-quality data to public and private GIS-systems so that the quality of the data we all rely on continues to improve.

Donny called because he remembered that a lot of my customers

were excited about, and took advantage of, the **free GIS Starter Kit** that ESRI offered to Carlson's IntelliCAD users after that presentation and wanted to let me know that the program is back in place.

Here are the details – effective… NOW!

> *Those currently using Carlson with IntelliCAD are eligible for a **FREE "GIS Starter Kit"** from ESRI.*
>
> *The Kit includes 3 books:*
>
> - *ArcGIS for Desktop Basic*
> - *A to Z GIS: An Illustrated Dictionary of Geographic Information Systems*
> - *Getting to Know ArcGIS for Desktop, Third Edition*
>
> *To take advantage of the offer, call **1-800-GIS-XPRT FREE (1-800-447-9778 FREE)** and request the **Carlson-IntelliCAD GIS Starter Kit** and please have your Carlson Serial Number available.*
>
> *You can learn more about ESRI's commitment to survey and*

*engineering by attending the [Esri AEC Summit] or by visiting **www.esri.com**.*

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You can learn more about ESRI's commitment to survey and engineering by attending the Esri AEC Summit or by visiting www.esri.com.

Carlson Tip: Using Carlson Software? Here's what to look for in a new computer

November 21, 2022
Problem: You're running Carlson Software and need a new computer… What do you need and how much do you need to spend?

The shortest answer is to follow this link to Carlson's website: Carlson Software System Requirements

The short answer, if you're running one of Carlson Software's programs with embedded AutoCAD/OEM or on top of a full AutoCAD, is to follow Autodesk's system recommendations/requirements for the platform. The Carlson part that runs on top has a relatively light footprint compared to the AutoCAD underneath, so you'll need to make sure your new computer can run the AutoCAD-engine and the rest will be fine.

Carlson running on top of IntelliCAD also has a pretty light footprint compared to anything developed by Autodesk. Unless your drawings are loaded with a lot of layout tabs and viewports, there's a very good chance an off-the-shelf computer from Best Buy or Wal-Mart will be sufficient.

Since I'm a self-described hardware "dummy" and that's not the most technical answer, I asked Leonid Entov, the Assistant Director of Office Software Development at Carlson Software, for a better, layman's-terms answer:

> *In one sentence, I would summarize recommended computer as i7 processor, discrete graphics (not integrated), preferably Nvidia chip since we seen more of driver issues with ATI/AMD and 8 gb of RAM (Windows tends to eat too much*

> *of 4gb these days). You do not have to go to gaming computers, something like this would be possible to find in $700+ range in laptops.*
>
> *Since there are too many CPUs on the market, this site helps to compare individual CPUs : http://www.cpubenchmark.net/cpu_list.php*

Thanks Leonid!

And I can't post this without reminding everyone that Carlson's tech support team is great and will be happy to answer any specific questions you have. Their tech support is free, all the time, whether you're using a 30-day trial or if you've already purchased and whether you're using the most current version of the software or one that's 10 years old.

Click here to request a 30-day trial of Carlson Software

2014 That CAD Girl Workshop – Time to Register!

November 21, 2022

It's workshop and PDH time again!

We're mostly following the same calendar as last year with a 1/2 day in Asheville and 2 full days in Statesville and Raleigh. Each event includes drinks, snacks, lunch, door prizes/giveaways and "day-of-show" pricing for Carlson Software including new seats and maintenance renewals.

Register for the Statesville events by Sept 30th or for the Raleigh events by Oct 31st for early registration discounts. Late fees will be applied to registrations within one week of each event.

Carlson Software Workshop in Asheville NC, Monday Nov 17th

View Announcement – ***Register Now!***

Statesville Workshop for Surveyors and Contractors, Tuesday Nov 18th
View Announcement – ***Register Now!***

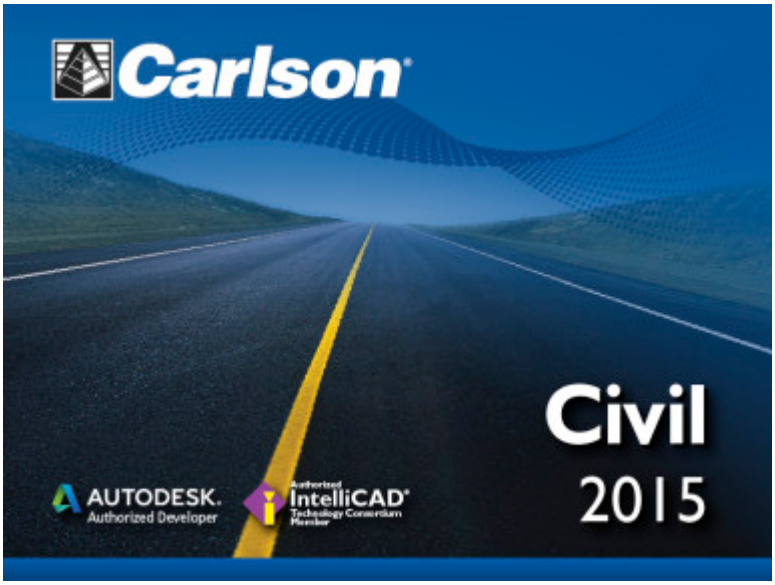
Statesville Workshop for Engineers and Designers, Wednesday Nov 19th
View Announcement – ***Register Now!***

Raleigh Workshop for Surveyors and Contractors, Tuesday Dec 9th
View Announcement – ***Register Now!***

Raleigh Workshop for Engineers and Designers, Wednesday Dec 10th
View Announcement – ***Register Now!***

That CAD Girl





That CAD Girl





That CAD Girl





Carlson Tip of the Day… Virtually “printing” to PDF, DWF, JPG and PNG files

November 21, 2022



If you’ve recently switched from an AutoCAD-based program to Carlson with IntelliCAD, one thing you may miss is having the ability to virtually “plot” your drawings to PDF, DWF, JPG and PNG files instead of to paper. This functionality is not included in IntelliCAD and, from what I understand, including it would have significantly increased the price of each license so the developers decided to leave it out and allow users to purchase add-on programs if needed the functionality.

So, if you need to print to one of these formats, how can you do it?

If you primarily need to create PDF files and don't mind spending some kinda-big bucks, you can purchase a program such as **Adobe Acrobat**. Acrobat is a standalone program but it also installs as a virtual printer into Windows-based programs like Carlson, AutoCAD and even Microsoft Windows and Outlook.

If you need to print to PDF, you could save some money and consider other after-market programs such as **CutePDF** or **PDF995** (or many others) that essentially serve the same purpose – installing as a PDF printer into Windows-based programs. Most of these programs have a free version but there's usually a catch such as a watermark on each PDF that says something like, "This document printed with …". If you purchase one of their other products, the watermark goes away. I currently use **Adobe Acrobat** but used **Win2PDF** for years.

If you need to print to PDF but also to other formats such as PNG, JPG and TIF, you may want to take a look at **PDF Creator from SourceForge**. I know this is the utility recommended by

several of the tech support team at Carlson but I haven't used it myself.

I am not sure if the other programs that I listed above (PDF995, CutePDF and Win2PDF) allow you to "print" to formats other than PDF and I can't tell from their websites but, if anyone knows and wouldn't mind passing that information along to me, I'll update this post with the additional information.

As mentioned above, having these PDF-creating programs installed like a printer directly in your Carlson programs makes them very convenient and handy – but there is most likely a cost associated with them all.

My final recommendation is free, but a little less convenient – it's **Autodesk's DWG TrueView** (this link changes all the time – apologies in advance). It's free, but it allows you to use all the virtual printers included in AutoCAD such as DWGtoPDF, DWGtoJPG, DWGtoPNG and DWF ePlot. In addition, TrueView also includes the oh-so-cool DWG TrueConvert program that enables you to convert one or more DWG files from any version to pretty much any other version. The downside to using this program is that it's a standalone program so you must save your drawing and then open again in TrueView in

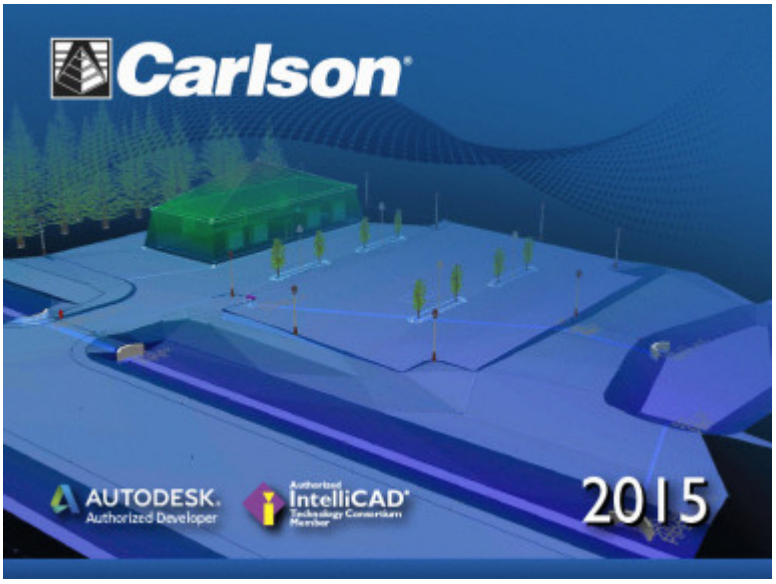
order to plot.

Happy Plotting!

Carlson Tip of the Day… List of improvements in Carlson 2015 programs

November 21, 2022

That CAD Girl



General

- AutoCAD 2015 – Added support for this new version.
- IntelliCAD 8.0 – Direct support for 2013 DWG file format. Added 64-bit version. New features including support for dynamic entity reactors, layer states and improved ddvpoint interface.
- Google Earth – Added support for exporting 3D Faces.
- Import 3D View Model File – New command to create drawing entities from a 3D model file.

- Export 3D View Model File – New command to create a 3D model file from selected drawing entities.
- 3D Model Library – New command to prepare the 3D models to use in the 3D Viewer commands.
- Toolbar Manager – New command to save status of toolbars and allow migrating toolbar settings between versions.
- File Selection – Added list of subfolders within current folder and button to move up a folder level. Added option for warning when selecting a data file that is not within the current project folders.
- Textures – Added 40 new textures for 3D viewing.
- Settings File Manager – Added function to compare two settings files and report differences.
- Leader With Text – Added option for horizontal tick and option to create with Mtext.
- Join Nearest – Added filters for common colors and linetypes.
- Join Polyline By Trace – New command to join linework into a polyline with prompts at intersections

Survey Commands

- Field To Finish – Added special pipe feature coding with ability to create pipe network (.sew) file. For tree feature coding, added option for drip as diameter instead of radius, added option for solid circle for trunk and option for relative tree size for the symbols. Added control for separate layers for the point attribute block and point node. Added new AFIT special code for making a curve tangent through a series of three curve points. Added method for dynamic templates with variable horizontal and vertical offsets by using the OH and OV special codes. Added settings file default distinct point layer prefix/suffix. Added separate text size settings for attribute text labels and point block attributes.
- SurvNET – Added error report for individiaul observations to track down blunders. Added import for TDS GPS vectors.
- Edit Process Level Data – Added support for processing with zero horizontal distances.
- Carlson Cloud – New command for communicating with SurvCE for sending messages, data files and crew

locations.

- Report Distance Scale – Added methods for grid/ground factors on-the-fly in addition to a fixed factor.
- 3D Transformations – Added 3D coordinate transformations.
- Point Group Manager – Added method to create point group by offset distance from alignment polyline.
- Move Point Attributes With Leader – Added controls for attribute order and ability for curved leaders.
- Import Text/ASCII File – Added method import from text with fixed widths and method to use inclusion/exclusion perimeters.
- Legal Description – Added method to report station/offset using a reference centerline. Added method for reporting with geodetic mean angle and geodetic distances.
- Cut Sheet – Added method to get station/offset from the point description coding. Added field for design point description.
- Offset Points By Interval – New command to create offset points along an alignment.
- Label Coordinates – Added options to include a description, to use Mtext, to draw the labels at an

angle and option for mleader.

- Draw Legend – Added method to put each symbol or a specific layer.

Civil Commands

- Draw Profile – For paper space profiles, added method to use an existing layout as a reference template for the new layout. For the horizontal label box, added option for horizontal text in addition to vertical. For pipe profiles, added settings to label inverts by left/right order, added option to draw cutoff style pipe extensions, added option to create labels as MText, added option for flow arrow in middle of pipe, new option for labels above the pipes, added justification settings per label, added setting for separate layer for pipe thickness than pipe profile and option to connect rims with a polyline for a simple surface profile. For Label Line/Point crossings, added option to label elevations at crossings, added method for labeling GIS attributes, added method to label points of selected descriptions within offset

tolerance, added option to label CL deflections and added option to avoid label overlaps. Added special CL stations for break point station/elevation labels plus new prefix/suffix settings. For EOP profiles, added new break point and EOP leader style to the start of the labels, added option to label ground profile on road EOP profiles and added controls to select which profiles are EOP, road and ground. For the manhole name within circle option, added setting to put the name and number on separate lines and added the option to auto shift the labels to avoid overlaps.

- Draw Sections – Added option to label cut/fill volumes per station. Added separate settings for pipe crossing layers for decimals on pipe size, offset and elevation.
- Draw Plan View Sheets – Added option to set station range to draw.
- Input-Edit Centerline – Added Fit Curve method to apply speed table to all PIs in centerline.
- Input-Edit Profile – Added method to apply speed table for vertical curve lengths to all PIs in profile.
- Label Station/Offset – Added method to use a TIN or grid surface for the elevation reference.
- Draw Lot Setback – Added method for separate corner

side setback amount.

- Move Spot Elevations – New command to move spot labels and update elevation to new position on reference surface.
- Line Of Sight Viewshed – New command to calculate line-of-sight from a point and eye height on a surface.
- Draw Spot Elevations – Added option for label only and option to pick an entity instead of a point.
- Cut/Fill Labels – For points method, added more options like separate layers for existing and design. For the TIN method, added options for deep cut/fill labels and option for marker symbol.
- Smooth Polylines – Added method to smooth polyline between selected points.
- Triangulation File Utilities – Added function to color TIN within inclusion perimeter.
- Road Stripe Library – New command to setup named sets of road stripes with offsets, colors and styles.
- Draw Road Stripes – New command to draw linework for road stripes.
- Linear 3D Object Polylines – New set of commands to manage alignment polylines for 3D Viewer commands for linear 3D features such as fences or guard rails.

- Label Profile On Centerline – Added label position by left/right in addition to above/below. Added prefix/suffix and station interval settings.
- Offset 3D Polyline By Grade Table – New command to offset a 3D polyline using the distances and slopes from a template grade table.
- Road Network – Added settings for station range to process for each road.
- Mass Haul Analysis – For borrow pits, added offset from road to account for offset travel time.
- Sections From 3D Polylines – New command to create cross sections from 3D polylines.
- Surface 3D Viewer – Added option to show contours. Added functions to edit triangulation by swapping edges, adding breaklines, removing points, removing triangles or editing point elevations.
- Surface 3D Flyover – Surface model is kept in sync with any edits in CAD so that the 3D view is automatically updated. Added method to add models to the scene by screen picking plus the ability to pick models in the scene to edit properties (location, rotation, scale). Added function to record a movie. Added method to map textures by color and method to scale textures. Added

run view mode for detached from moving vehicle. Added option to show contours. In pick mode, display real-time coordinate and elevation for mouse position on surface.

- Motion 3D Viewer – New command to assign path polylines with speeds to 3D models and the camera.

Hydrology Commands

- Design Detention Pond – New command with all steps for detention pond design plus support for multiple rain events.
- Pipe Culvert Design – Added method for tailwater by channel or discharge rating and added overtopping analysis.
- SCS Rainfall Library – New command to define an SCS data reference library for rain events.
- Rational Rainfall Library – Added import of IDF tables from comma separated text files.
- Collision Conflict Check – Added support for checking unlimited pipe networks and using the report formatter.
- Sewer Network Design – Added option for junction loss

for pipe connections including laterals. Added method for tailwater at each outlet. New method to set symbol rotation by screen pick. Added graphic preview during .sew file selection.

- Lateral Design – Allow for multiple lateral connections at manholes.
- Identify Pipe Polylines – New command to ID or list pipe data assigned to 3D polylines.
- Import Network From 3D Polylines – Added method to control order of names by design order, elevation or polyline direction. Added method to set rim elevation by depth.

GIS Commands

- Label GIS Point Data – New command to create text labels or block with attributes for selected GIS attributes.

Field Commands

- Drivers: Upgraded many drivers from the SurvCE updates.

Geology Commands

- Define Mining Model – Added Mine Model collection of surfaces for modeling only mineable strata already adjusted for recovery, roof/floor gain/loss and minimum parting. Renamed “Pre-Calc Model” to “Geologic Model”.
- Geologic To Mining Model – New command to adjust a Geologic Model to make a Mining Model.
- Drillhole Database – Added support for MS Access .accdb format.
- DHDB – Added drillhole database import/export to DHDB format.
- Import From Coal Section – New command to create pit/channel samples from coal sections.
- Configure Section Info – Added method to set folder for section drawing to allow storing the section info on a server.
- Import/Export Coal Sections From Text File – New commands to import/export coal sections from/to text files.

- Grid Files – Added option to store .grd files as binary to improve read/write speed.
- Grid File Utilities – Added method to call other GFU macros and pass parameters from another macro. Added sin() and cos() functions for grid math. New dialog interface including dialog for creating IF statements. Added 3D window to show grid while modified.
- Draw Geologic Column – Added method to draw in 3D with strata sections sized based on grade parameters. Also added 3D draw method as 3D lines. Added method to label grade names and added separate layer settings for attribute labels. For labels in 3D, added options for rotate labels vertical and draw label leaders. 3D Viewer Window now shows 3D text generated by Geologic Column.
- Drillhole Report – Added method to report grades for each strata.
- Drillhole Core Images – Added method to draw the report to the drawing and added option for labeling depth or elevation.
- Draw eLog – New command to draw graph of selected attributes from an eLog LAS file.
- Create Drillhole from eLog – New command to create

drillholes with strata classification using the eLog paramters.

- Trim Isopach Within Fault Zone – New command to isopach elevations and break contours at fault zones.
- Draw Fault Labels – New command to label fault deltas.
- Draw Fault Symbols – New command to draw +/- symbols for faults.
- Apply Faults To Grid – Added method to handle thrust faults. Added method for processing multiple grids at a time.
- Surface Mine Reserves – Added Adjust Pits Manager for adjusting pit perimeters with real-time quantity updates.
- Draw Grade Boundary – New command to draw boundary polylines around area with specified grade.
- Block Model Statistics – Added min/max/average elevation and depth to the report. Added level # to report name.

Surface/Underground Mining Commands

- Ribbon – Added a mining ribbon for running with AutoCAD 2012 and higher.
- Import Pit Points – Added method for user-defined input

file formats.

- Import Polyline File – Added method to draw 3D polylines from sequence of top/bottom points for blast holes.
- Label Property Lines – Added option to label owner or id labels and added setting for label layer.
- Surface Equipment Timing – Improved calculation speed by 25%. Added method to use table of production targets with variable equipment usage to adjust to meet the targets.
- Underground Timing – Added option for transparent hatching and for buffer hatching.
- Dozer Push – Added support for push cut area by closed polyline. Added method for reporting single, average push. Added option to keep existing polylines, to draw centroid symbol and to label total push distance. Added settings for label text size, layer, style, decimals and prefixes.
- Regrade Backfill – Added bench option to cross section regrade design.
- Range Diagram – Added dimensions for all angles and distances. Added options to output final profile and to output parameters to sequence file.

- Design Ramp Profile – New command to create a ramp profile between two surfaces.
- Ramp Bench Polyline Generator – New command to design bench pits using polylines.
- Edit Dragline Sequence – New command to edit the steps for pit cuts.
- Make Solid From Points – New command to create a solid model from a cloud of points.
- View Solid – New command to view a solid model in the 3D viewer.
- Draw 3D Mine Model – Added method to make model from coal sections and pillar/perimeter polylines.
- View 3D Surface History – Added support for displaying TINs.

Construction Commands

- Define Layer Target/Material/Subgrade – Added support for up to 7 subgrades.
- Color TIN By Layer – New command to color the surface TIN using the color assignments in Define Layer Target.
- 3D Drive Simulation – Added method to apply textures to

design layers in addition to colors for viewing in 3D.
- Tag Segments To Skip Linear – New command to tag polyline segments to skip for material linear quantities.

CADNet Commands

- Merge Raster Files – Added method to automatically select control points.
- Import SketchUp File To Drawing – New command to create drawing entities from a SketchUp file.
- Import PDF File – New import engine with ability to use layers for PDFs with layers.
- Drawing to 3D PDF – New command to create a 3D PDF from selected drawing entities.
- 3D Viewer to 3D PDF – New command to create a 3D PDF from a 3DX file from the 3D Viewers.

Point Cloud Commands

- Faro – Added direct import method uses Faro toolkit.

- E57 – Added support for importing industry standard e57 format.
- PLY – Added import for PLY format.
- LAS – Added method to use LAS classification for coloring and selection.

Data Conversions

- 12D – Added import and export for pipe networks plus support for some more entity types.
- Canada – Added support for NTv2-NAD27-83
- Geoids – Added support for Canada CGG2010 and CGG2013n83, Sweden 08_rh2000, Sweden 08_rh70, Poland 2011 and Georgia 2012
- Iowa – Added projections for Iowa Regional Coordinate System
- Ireland – Added national grid projection.
- KOF – Added function to draw linework from KOF files.
- MDL – Added support for binary data within FSC file.
- Norway – Added support for N2000 format.
- SketchUp – Added import for SketchUp models in Surface 3D FlyOver

- SurvCE – Added import for points with photos in Google KML format as created by SurvCE