

ODEDIT

ODEDIT is a plugin prototype that extends and simplifies the use of Object Data (OD) in Autodesk® AutoCAD® Civil 3D® and Map 3D®.

In ODEDIT the basic possibilities of using Object Data as an internal database of descriptive data of objects for AutoCAD Map/Civil 3D are simulated and practically tested.

The goal of ODEDIT – together with other supplements (ODCLASS, etc.) and existing Map 3D tools, is to provide the competitiveness of Map 3D as means of creating primary plans and maps, collecting descriptive data.

The solution path – ODEDIT provides the ability to work directly with Object Data straight in active dwg file, adds many required features deficient in Map 3D. ODEDIT significantly accelerates and simplifies work with Object Data, provides optimal viewing, input, editing and check of data in OD.

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ODEDIT Command Menu

ODEDIT menu is opened by **ODEDIT_CTL** command.

Running commands from ODEDIT menu – double click on the name of the required command.

You can run all ODEDIT commands from the Command Line.

Running ODEDIT commands from the Command Line – input of the necessary command's name.

All videos are available for viewing on YouTube; there are subtitles in Russian and English in all videos.

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OD table

About

OD management – group of commands for managing OD (video - [ODEDIT. Autocad Map 3D plugin. OD management](#), 1:51):

Copy definitions from file, OEDIT_COPY command – generation of OD definitions in the active file according to the sample of another dwg, dwt. Select the dwg, dwt with the definitions of the required OD. OD definitions that were not there in the active file are added. OD of the active file is not redefined.

Usage stats, OEDIT_STAT command – OD usage statistics in the active file. Data from the Object Data Statistics window can be copied Ctrl+C.

Rename columns, OEDIT_RENAME_COLUMNS command – renaming of the specified data fields in the specified OD. Select the required OD from the drop-down list. Edit the name of the field in the required field.

There is no such command in demo-version.

Reorder fields, OEDIT_FIELD_REORDER command – changing of the relative position of the specified fields of the specified OD. Select the required OD from the drop-down list. Select the required field and, with the left mouse button clamped, move the field to a new location.

There is no such command in demo-version.

Update definitions, OEDIT_UPDATE command – updating of OD definitions of the active file based on the definitions of the same OD from the sample dwg file. Select the dwg file with the required OD definitions. The OD definitions are adjusted to the OD of the sample file. OD with names, which were not there in the active file, is not added. The values of the OD fields are saved.

There is no such command in demo-version.

Batch update definitions, OEDIT_UPDATE_EXT command – batch, for many dwg files, update of OD definitions based on OD from the sample dwg file. In the top line-button select the folder with update dwg files. Select update dwg files in the list. In the bottom line-button select the dwg-sample with the required OD definitions. In all specified files the OD definitions are adjusted in accordance with the OD of the sample file. OD with names, which were not there in the update files, is not added. The values of OD fields are saved.

There is no such command in demo-version.

Translate, OEDIT_TRANSLATE command – replace OD names, OD fields names, values in OD fields in the active dwg. Select aliases files for the OD names, fields names, the values in the fields. You can select all three aliases files or two any or only one any. Replacements are made after pressing the buttons *Name-->Alias* or *Name<--Alias*. After *Name->Alias*, the names or values found in dwg are replaced with the second names or values from the aliases files. After *Name<- Alias*, the names or values found in dwg are replaced with the first values from the aliases files.

The command uses pre-created files for matching OD names, OD fields names, values in the fields with their second possible names and values. Aliases files are tab-delimited text files. The OD name aliases file specifies the name and, after any number of tab characters, the second name. In the aliases file field specifies the OD name (optional), the OD name field and through any number of tab characters, the second name field. The OD field values aliases file specifies the OD name (optional), the OD field name (optional), the value, and the second possible value. In aliases files comments are allowed after the # characters.

Remove unused, OEDIT_RMUNUSED command – deletion of the definitions of unused OD in the active file. At the top of the command window a list of used OD is displayed, a list of unused OD is displayed at the bottom of the command window. Specify the unused OD to be deleted with the mouse cursor and the *Select all* button – select/deselect all files.

Search OD – *group of commands for selecting graphical elements by OD criteria* (video - [ODEDIT. Autocad Map 3D plugin. Search OD](#), 3:31):

Find entities with no OD, OEDIT_HAS_NO_OD command – search and selection of graphic elements without attached OD.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Find entities with OD, OEDIT_HAS_OD command – search and selection of graphic elements with attached OD.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Find entities with duplicate OD, OEDIT_HAS_DUPLICATE_OD command – search and selection of graphic elements with attached duplicated OD.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Find entities with multiple OD, OEDIT_HAS_MULTIPLE_OD command – search and selection of graphic elements with attached multiple OD.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Find entities with no specific OD, OEDIT_HAS_NO_SPECIFIC_OD command – search and selection of graphic elements, with no specified OD attached. Select the required OD in the list using the mouse cursor and the *Select all/nothing* button. The enabled *Simultaneous* option means the search of graphic elements, to which not all specified OD is simultaneously attached.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Find entities with specific OD, OEDIT_HAS_SPECIFIC_OD command – search and selection of graphic elements, to which the specified OD is attached. Select the required OD in the list using the mouse cursor and the *Select all/nothing* button. The enabled *Simultaneous* option means the search of graphic elements to which all the specified OD is attached simultaneously.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Find entities with specific OD values, OEDIT_EVAL_EXPR command – search and selection of graphical elements, the OD of which has values with the specified criteria. The list of used OD is displayed in the left part of the command window. The list of fields

of the specified OD is displayed in the right part of the window. Select the required OD in the list using the mouse cursor and the *Shift* and *Ctrl* buttons. The right part of the window displays the fields, which are simultaneously available in the descriptions of all the specified OD. Enter the comparison symbols (>, <, <>) in the required fields, and the required criteria-values with the possible use of masks (*). The disabled *Extended* option means the possibility of selection of any occurrence of the entered characters. In this case, the comparison symbols and masks are considered as symbols of values. The enabled *Extended* option means that the possibility of selection of the entries of the entered characters, taking into account the comparison symbols and masks. At the same time, you can specify the search criteria for multiple OD fields. The comparison marks symbols (>, <, <>) are applicable both for numeric and OD character fields.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Attach/Detach OD – group of commands for attaching and detaching OD (video - [ODEDIT. Autocad Map 3D plugin. Attach/detach OD](#), 2:33):

Attach/detach, OEDIT_ADEATTACHDATA command – attaching or detaching the specified OD of graphic elements. Select in the list in left part of the window the required OD and action *Attach* or *Detach*. When you select *Attach*, you can enter values for the fields of attached OD.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Detach all, OEDIT_RM_ALL command – detaching of all OD from graphic elements.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Detach specified, OEDIT_RM command – detaching of the specified OD from graphic elements. Select OD from the list using the mouse cursor and the *Select all* buttons – select/deselect all OD.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Detach duplicate, OEDIT_REMOVE_DUPLICATE_OD command – detaching of duplicate OD from graphic elements. At the command line type *f, F, First* to detach the first duplicate OD, or *l, L, Last* – for the last duplicate OD. After detaching, only one record of the corresponding OD remains for the graphic elements.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Copy OD – group of commands for attaching to the selected OD graphic elements of the specified sample objects, copying values of OD fields (video - [OEDIT. Autocad Map 3D plugin. Copy OD](#), 1:27):

Copy OD from reference, OEDIT_COPY_OD command – attaching OD to the specified graphic elements, attached to the sample object. Specify the *reference object*. The values of OD fields are not copied. If OD with the same name is already attached to the graphical elements, then duplicated OD will appear.

The command processes both the preliminary and subsequent selection of graphic elements for copying.

Copy OD/values from reference, OEDIT_COPY_OD_VALUE command – attaching OD to the specified graphic elements, attached to the sample object. Specify the *reference object*. Copying field values from the OD of the sample object. If OD with the same name is already attached to the graphical elements, then duplicated OD will appear.

The command processes both the preliminary and subsequent selection of graphic elements for copying.

Copy properties/OD from reference, OEDIT_COPY_ALL command – attaching OD to the specified graphic elements, attached to the sample object. Specify the *reference object*. Copying of graphic properties (color, layer, weight of lines, etc.) of the sample object. The values of OD fields are not copied. If OD with the same name is already attached to the graphical elements, then duplicated OD will appear.

The command processes both the preliminary and subsequent selection of graphic elements for copying.

Copy properties/OD/values from reference, OEDIT_COPY_ALL_VALUE command – attaching OD to the specified graphic elements, attached to the sample object. Specify the *reference object*. Copying graphic properties (color, layer, weight of lines, etc.) of the sample object. Copying field values from the OD of the sample object. If OD with the same name is already attached to the graphical elements, then duplicated OD will appear.

The command processes both the preliminary and subsequent selection of graphic elements for copying.

Copy values from reference, OEDIT_COPY_VALUE command – copying field values from the OD of the sample object in OD specified graphic elements. Specify the *reference object*.

The command processes both the preliminary and subsequent selection of graphic elements for copying.

Set/edit OD values – group of commands for the automated loading and editing of OD fields' values (video - [OEDIT. Autocad Map 3D plugin. Set/edit values OD, 4:42](#)):

Set from XYZ, OEDIT_SETXYZ command – loading of X, Y, Z values of graphic elements to the specified fields of the specified OD. The download options are selected: for X, Y – *First, Last, Center*, for Z – *Min, Max, Average*. *Precision* - the degree of rounding, the number of decimal places - is determined. *For the fields with the Point type, the command is not executed.*

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Set from geometric properties, OEDIT_SETPROP command – loading of values of lengths, areas and volumes of graphic elements to the specified fields of the specified OD. *Precision* - the degree of rounding, the number of decimal places - is determined. *For the fields of the Point type, the command is not executed.*

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Set from text, OEDIT_SETTEXT command – loading of the contents of single-line

texts or multiline texts to the specified fields of the specified OD. Select the required OD in the list in the left side of the command window. Select the required OD field in the list in the right side of the command window. In the lower part of the window specify tolerance - the distance between the insertion points of texts and graphic elements, in which to load the values. To load for closed contours, you do not need to specify the tolerance. To the specified OD field of the selected graphic elements, the content of the selected texts located next to these elements or within the contours of these elements will be loaded. *For the fields of the Point type, the command is not executed.* If one graphic element with the specified OD corresponds to more than one text element, then loading is not executed; such text elements are marked with blocks-circles in the "odedit_error" layer and with a radius equal to the specified tolerance.

The characters for line feed and carriage returns from multiline text are replaced with "\P" - as in the AutoCAD Properties window.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Set from attributes, OEDIT_LOAD_ATTRS command – loading of the contents of single-line or multiline attributes to the OD fields, described in the mapping (correspondence) file. Select the *block-attribute / OD-fields* mapping file. If the attribute value contains letters and characters other than a period, then the OD numeric fields do not load. The necessary ODs will be attached to the corresponding blocks if they were not previously attached, and if there are descriptions of the required OD in the active dwg.

The values of multi-line attributes are passed to OD fields in one line with the separation of text from the lines by spaces - as in the AutoCAD Properties window.

Block-attribute / OD-fields mapping files are simple tab-delimited text files. The number of delimiters is not limited. The text after the "#" is a comment.

Mapping file structure:

Block_name <tab> Attribute_Name <tab> Name_OD <tab> Field_Name.

The mapping file describes only those attributes whose values need to be loaded into OD fields or unloaded from OD fields.

To simplify the creation of match files, you can use the unload command lists of blocks and their attributes, OD and their fields - see below, *OEDIT_ATTR_TEMPLATE*.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Upload to attributes, OEDIT_STORE_ATTRS command – uploading OD field values

to single-line or multi-line attributes, described in the mapping (correspondence) file. Select the *block-attribute / OD-fields* mapping file.

See the description of the previous command about the block-attribute / OD-fields file.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

---, **OEDIT_ATTR_TEMPLATE** command – unloading of block names and their attributes, OD names and their fields into a text file to describe their correspondences. Select the path and name for the this template file.

Template files are simple text files with tab delimiters. The first part of the file displays the names of the blocks and the names of their attributes:

Block_name <tab> Attribute_Name <tab> #TableName <tab> #ColumnName.

The second part of the file displays the OD names and the names of their fields:

#BlockName <tab> #AttributeName <tab> # Name_OD <tab> Field_name <tab> # Data_field_type.

Template files are designed to simplify the creation of mapping files, and are not intended for loading by commands. Only attribute names are case sensitive.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

There is such command, but there is no in menu

Calculate, OEDIT_CALCULATE command – mathematical actions with values of OD fields. Available: addition, subtraction, multiplication, division, exponentiation, root extraction, rounding. Select OD, the OD field in which to perform calculations, select the desired action. Specify the number with which to calculate or specify the field OD, from which to take numbers for calculations.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

There is no such command in demo-version.

Create IDs, OEDIT_SETID command – creation of identifiers in the specified field of the specified OD. Select the required OD in the list. Select the required OD field from the drop-down list. Enter, if necessary, *Prefix, Suffix*. Determine the initial value of the

numeric part of the identifiers. IDs are created, consisting of prefix, non-repeating number, and suffix. *For the fields of the Point type, the command is not executed.*

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Replace, OEDIT_REPLACE command – replacing values or parts of values with a given character set in the specified OD fields. Select the required OD in the list in the left side of the command window. You can select several OD at once. Select the required fields in the list of OD fields in the right part of the window. You can select several fields at once. In the left field at the bottom of the command window, enter the value to be replaced. In the right field at the bottom of the command window, enter the new value. To determine the replaceable value, masks are allowed – "*". *For the fields of the Point type, the command is not executed.*

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Add from field in field, OEDIT_ADDVAL command – adding values from one OD field to another. Select the required OD in the list at the top of the command window. Select the field to which you want to add values in the drop-down menu below the list. Select the field in the bottom drop-down menu from which the values are taken. Numerical values in the target field are summarized, text values are added. *For the fields of the Point type, the command is not executed.*

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Add values from OD to OD, OEDIT_ADDVAL_OD2OD command – adding values from one OD field to the field of another OD. The command is executed for graphic elements to which different ODs are simultaneously attached. Select the required OD in the list at the top of the command window from which the values are taken. Select the field in the drop-down menu below the list from which the values are taken. Select OD in the list at the bottom of the window to which you want to add values. Select the field to which you want to add values in the drop-down menu below the list. Numerical values in the target field are summarized, text values are added. *For the fields of the Point type, the command is not executed.*

This command is the only one in which the ODs created by Map 3D (CNTR_..., TPMCNTR_..., etc.) are displayed in the OD source lists.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects". Only graphic elements from visible and unfrozen or unlocked layers are processed.

Modify entities – group of commands for converting graphic elements with OD:

Convert to 2D polylines, OEDIT_2POLY command – conversion of 3D polylines, lines, circles, arcs, ellipses, elliptical arcs, splines in 2-d polylines with saving OD and values of their fields. At the command line, determine the degree of approximation of curvilinear elements by a polyline with a number from 1 to 99 "*Precision [1-99] <10>:*".

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects".

Convert to 3D polylines, OEDIT_23DPOLY command – conversion of polylines, lines, circles, arcs, ellipses, elliptical arcs, splines in 3D polylines with saving OD and values of their fields. At the command line, determine the degree of approximation of curvilinear elements by a 3D polyline with a number from 1 to 99 "(Precision [0-99]<0> (> 0 - enable conversion)):". By "0" value curvilinear elements are not converted.

The command processes both the preliminary and subsequent selection of graphic elements. By subsequent selection *Enter* means "all objects".

Break, OEDIT_BREAK command – breaking of graphic elements in the specified points with saving OD and values of their fields.

Export/import – group of commands for exporting/importing vector and OD data into other formats (video - [OEDIT. Autocad Map 3D plugin. Import/Export OD, 2:32](#)):

Export to mif/mid, OEDIT_QEXPORT_MIF command – export of mif/mid data about objects described with OD from active file to MapInfo format. In the top line-button select the folder for the exported data. Select the required OD from the list using the mouse cursor and the *Select all* buttons – select/deselect all OD. With the *Close polylines as polygons* option enabled, closed polylines are transferred to mif/mid as REGION. With the option disabled are transferred as PLINE. Grouped closed polylines

are transferred as complex polygons with corresponding holes and the like. When the *Overwrite* option is enabled, mif/mid of the same name are overwritten.

Only graphic elements with attached OD are processed.

Only graphic elements from visible and unfrozen or unlocked layers are processed.

In the specified folder a new folder with the name of the active file is created, in which the mif/mid files with the names of the exported OD are created.

There is no such command in demo-version.

Batch export to mif/mid, OEDIT_QEXPORT_MIF_EXT command – batch, consisting of many dwg files export of data about objects described with OD from active file to MapInfo format mif/mid. Select the folder with the exported dwg files in the top line-button. Select the required dwg from the list. Select the folder for the created mif/mid files in the line-button below the list. With the *Close polylines as polygons* option enabled, closed polylines are transferred to mif/mid as REGION. With the option disabled as PLINE. Grouped closed polylines are transferred as complex polygons with corresponding holes and the like. When the *Overwrite* option is enabled, mif/mid of the same name are overwritten.

Only graphic elements with attached OD are processed.

Only graphic elements from visible and unfrozen or unlocked layers are processed.

In the specified folder, new folders with the names of the exported dwg files are created, in which mif/mid files with the names of the exported OD are created.

There is no such command in demo-version.

Export to csv, OEDIT_CSV_EXPORT command – export to csv format of data about objects described with OD. Select the required OD from the list. Select the folder for the created csv files in the line-button below the list.

Only graphic elements with attached OD are processed.

Only graphic elements from visible and unfrozen or unlocked layers are processed.

In the specified folder, csv files with the names of exported OD are created. The top line of the csv files lists the OD field names. The data separator is the ";" character. Fields' values of the type *Character* are enclosed in quotation marks. One OD entry corresponds to one csv line. The first values in csv lines – Handle of the corresponding graphic elements.

There is no such command in demo-version.

Import from csv, OEDIT_CSV_IMPORT command – import into an active dwg of object data, described in csv. Select the folder with the required csv files in the top line-button of the command window. Select the names of the required csv (OD) in the list.

The enabled *Replace* option means that the values of OD fields will be replaced with values from csv.

There is no such command in demo-version.

Explication, **OEDIT_EXPL** command - creating a report with calculations in csv format. Select the desired objects in the graphics window. Select the required ODs from the list using the mouse cursor, *Ctrl* and *Shift* keys. Enable the *Object type field* option if the key information for the report is not OD names. Select a field with key information for the report in the button below the list. Specify in the lower input field a separator for the data in the csv file. After clicking *OK* in the *Save as* window, specify the save location and the name of the created csv file.

The csv file contains the *handle* of the specified graphic elements, the names of their OD and the values in the fields of these OD. If an OD field with key information is selected, it is given after the OD names. After the lines with the same OD names or the same values in the key field, the *Sum* string is given. *Sum* lines contain the number of such lines and the amounts in the numeric fields in such lines.

The penultimate *SumSum* line in csv contains the total number of lines with values and the totals of the numeric fields.

The last *Unique* line in csv contains the number of unique values in the lines.

OD table – command for working with OD in tabular form (video - [OEDIT. Autocad Map 3D plugin. OD table](#), 4:14).

OD table, **OEDIT_TABLE** command – work with OD in a tabular form. The ability to view and edit the contents of the specified OD as a table. The ability to save data from the table to txt, csv. The ability to copy and paste data from table to table using *Ctrl+C*, *Ctrl+V*. The ability to view graphic elements linked with records (table rows) OD. The ability to view in the table the OD records linked with the selected graphic elements. The ability to run other OEDIT commands.

You cannot save data to txt and csv formats in demo-version.

About – command of displaying information about OEDIT.

About, **OEDIT_ABOUT** command – displaying OEDIT About.

Data from the *About* window can be copied using *Ctrl+C*.

About OEDIT commands

All actions from OEDIT menu correspond to their own commands, which you can run from the command line.

All OD lists in OEDIT windows display only user's OD, *only used OD* and from them OD, attached to selected graphic elements. OD created by Map 3D (CNTR_..., TPMCNTR_..., etc.) are ignored.

The selection of *only used OD* demands a long period of time by larger number of graphic elements. To accelerate the work this selection is automatically disabled when the number of elements tops 32768.

Some uniform actions in different OEDIT commands and similar elements of the service are embodied in different ways to select the optimal solutions.

The OEDIT commands enclose already noticed imperfections, and may enclose imperfections that have not yet been noticed. You can report about the imperfections as well as your recommendations to the indicated e-mail address, to the location of the program or to the correspondent topics at forums about OEDIT.

After AutoCAD closing may appear AutoCAD warnings messages. These are the possible consequences of programming with incomplete documentation about AutoCAD Map 3D. Similar messages may appear only after AutoCAD is closed, and do not lead to problems in the AutoCAD work.

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