

ArchiCAD Computer Tips & Techniques: CARS

by The Drawing Studio

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THE DRAWING STUDIO

ARCHICAD - 3 a - SIMPLE CAR , ©1994-2004



This file is titled: The Drawing Studio(TDS)-3aSimpleCar.text and is grouped with the picture file titled: TDS-3bSimpleCar.JPG.

The following is The Drawing Studio's favorite easy-to-create entourage was tested and compiled with the help of Doug Allgood of Philip Johnson, Ritchie & Fiore Architects. It is outlined in a step-by-step process so that even a beginner can manage these techniques.

The following examples allow the user to create simple cars for large master-plan type projects without making hundreds of library parts that eat up processing power during shading or photorendering operations.

Beginners note: to find toolbox, go to "Menu: Window: Floating Palettes...: Show Toolbox".

SIMPLE ARCHICAD CAR:

To create a very simple car using the Hip Roof tool to illustrate the technique: Note, step 7 provides insight to a clever trick:

1 Geometry: With the Line tool draw a rectangle 7'x16'; Select all lines of your car; go to "Menu: Edit: Fillet/Chamfer Settings...:" set at 8"; go to "Menu: Edit: Line Extras: Chamfer"; Draw a 5'-6" x 8' rectangle and a 5' x 5'-9" rectangle oriented in the same direction of the car body and center both with the car body; Drag the large rectangle (cab bottom) 1'-1" towards the back of the car and the small rectangle (cab top) 1'-5" towards the back of the car (this will represent the car top and windows); Select the entire cab (top and bottom) and go to "Menu: Edit: Fillet/Chamfer Settings...:" set at 3"; then, go to "Menu: Edit: Line Extras: Chamfer"; make sure all corners have a Chamfer;

2 Double click on the Hip Roof tool; Set to 4 levels, 3", 6", 1'-1", 7" and 1'-8" (from bottom to top in the settings boxes), and set to 8" off ground; Set material and, a line color that is lighter than the material; click OK;

3 Select all the perimeter lines and then select the Hip Roof tool; SPACE-BAR CLICK on the selected

lines to transfer the hip roof settings to the plan; before clicking again, Command-D and drag the perimeter lines out of the way;

4 Select the roof and then select the Hip Roof tool;

5 Drag the inner 2 sets of lines to the cab top and cab bottom; here you have a basic car outline as shown in TDS-3bSimpleCar.JPG (Step-1);

6 Select all, then deselect the 'Hip Roof' car leaving only the lines selected; Drag the remaining geometry lines and group them with the perimeter lines; Command-Y to rebuild;

7 One by one, select the lines of the 'Hip Roof' that represent the bottom of the front, back and side windshields and delete them to open these panels up, see perspective view to note the results;

8 CAB INTERIOR: With the Slab tool set at 2' thick and 3' above 0'-0", draw a rectangle that is as large as the cab bottom; Select this slab, then press Option-Click (on the slab) and draw another rectangle inside the first slab and as big as the cab top; add seat backs at an appropriate elevation and a 2" floor at elevation 1'-0"; Select a neutral material for the interior;

9 CAR SIDES: Drag the 4 nodes which make up the 2 lines of the sides (and bottom of car) towards the center 0'-4"; This is accomplished by selecting the pitched roof and the Pitched Roof tool, then point the cursor to the node (cursor becomes an upside down Y), click and hold, type 'R' while still holding the mouse click down, and then typing 0-4 "enter";

10 CAR BUMPER: First, drag the 4 nodes which make up the 2 lines of the front and back towards the outside-most-point of the car; then, extend the front bumper 4" and the back bumper 2"; See TDS-3bSimpleCar.JPG (Step-2);

11 CAR WINDSHIELD: Front: Set Pitched Roof tool to glass material (change opacity to allow it to show up in photorendering mode) with the edges Stainless Steel, to 49.75 degrees and a 1" thick; set at 3'-0" off ground and click OK; draw Pitched Roof line at bottom of windshield-move eye towards cab and click-continue by drawing outline of pitched roof around 4 sides of windshield; draw the rear window at 65 degrees, 1" thick at 2'-10" off the ground; and, the side windows at 81 degrees, 1/2" thick at 2'-10" off the ground; add thickness to the window frames using the side window as a template and changing the materials; use the Slab tool to give the cab top some thickness-set at elevation 4'-8" and 1" thick, check materials and make compatible with your car color and include the chamfers when you draw the slab outline;

12 CAR TIRES: Using the Line tool, draw a rectangle 2'-3" x 9"; chamfer the outside by 2"; Open the Hip Roof tool box and set Levels to 3, material to Asphalt (or darker), 0", 7", 7", 7" (bottom to top) and elevation 0'-0", click OK; Draw Hip around tire geometry; select Hip and move outer and inner nodes towards center 8" (exception: move the nodes that represent the outside face of the tire closer to the center of the tire, leaving about 2" to 3" between each node); drag into position at car body; See TDS-3bSimpleCar.JPG (Step-3); It is obvious that these tires are clumsy close-up but from a distance they're convincing enough;

13 CAR LIGHTS: First, go to "Menu: Options: Materials...: Paint Gloss, then-Duplicate" rename to

Glass Light Red, click OK; before closing the window, go to TYPE and change from Special to Glowing then click OK; For the front lights select Whitewash and follow the same procedure (change Emission color to white under Expert by double clicking on the paint color box); Make your lights using the Wall tool set on 4" high at elevation 1'-10" high with, of course, the correct material selected; add a black grill and a rear license plate;

15 You can save this car as a library part but that would defeat the purpose of building a simple model that can be repeated hundreds of times in a complex master-plan type model; You should also make several copies of your car and change the primary color to add variety. See TDS-3bSimpleCar.JPG for final results; experiment and always have fun. END.