TUTORIALS INTRODUCTION

Self Paced Learning

These Tutorials cover Deep Paint 3D.
At the beginning of each tutorial is an estimated time to complete the lesson and an explanation of exactly what you will learn. If you are new to Deep Paint 3D, the tutorials should be completed in the order they are presented. All material required is provided on the CD in the Tutorials sub directory. We also strongly suggest checking back at the Tutorials page on our web site at:

http://www.righthemisphere.com/gallery/tutorials.htm

Allow yourself at least 10-15 minutes after you complete each tutorial, to experiment with your new knowledge.

Don't rush. Refer to the reference section of the manual if you feel the need, and move on to the next exercise in each tutorial only when you feel comfortable you understand the current exercise.

And don't forget to take a break now and then. You will learn faster if you are not tired, and your eyes are not strained.

The first two tutorials are a "crash course" in all the basics. If you are familiar with Photoshop, you may find you complete them fairly quickly, but please take the time to test your knowledge and experiment. These tutorials will prepare you for advanced features presented in the tutorials that follow.

What You Will Learn

- The fundamentals of the Interface.
- The Tools Palette.
- Selections and masking techniques.
- How to create your own Brush and Paint Settings.
- How to create a Texture Paint Preset.
- How to use the Artistic Cloner.
- How to use Texture Paint.
- How to Use Projection Paint (Texture Weapons required.)

Conventions

As you read the tutorials you will notice two styles of text.

> *This is an instruction. Bold instructions are **commands**, **controls** or **options**. Read through the paragraph once, then do the things it asks you to do, step by step. An example could be; pick up a brush, dip it in some paint, and paint a stroke on the canvas.*

This is general information. This style of text is used for explanations and background information that you will find useful as you work to learn more about how Deep Paint 3D works, and how you can use it to best effect. The example instruction above gives you the steps involved in putting paint on the canvas, *but it doesn't tell you how to paint*. The distinction will become obvious as you proceed with the tutorials.

Important! Displays may be different depending on version

These tutorials concentrate on helping you learn how to use Deep Paint 3D to create images and bitmaps for your 3D objects. For specific information on using Deep Paint 3D with your 3D application, please refer to the appropriate section of this manual.

If you have not yet read Chapter 1: Interface Overview, please do so now. This tutorial assumes you have an understanding of the features described there and you may find it difficult to complete otherwise.

If you have Photoshop you may want to have it running while working on a tutorial. To send a canvas from Photoshop to Deep paint 3D, first create a 640 x 480 canvas in Photoshop, then follow the instructions in Appendix B: Photoshop. Be aware, however, that Photoshop consumes considerable system resources. If your machine is relatively slow, performance may improve if you do not run Photoshop and Deep Paint 3D concurrently.

Note: *Don't forget to read any troubleshooting documents that may be included with Deep Paint 3D, and check back regularly for updates and new tutorials via the internet at:*

http//www.righthemisphere.com

TUTORIAL 1: BASICS

This particular tutorial is split into two parts, 2½D and 3D, and will show you everything you need to know to get started. As with all the tutorials, the estimated time is only intended as a guide and you should try to spend some time at the end of each tutorial experimenting with the knowledge you have gained.

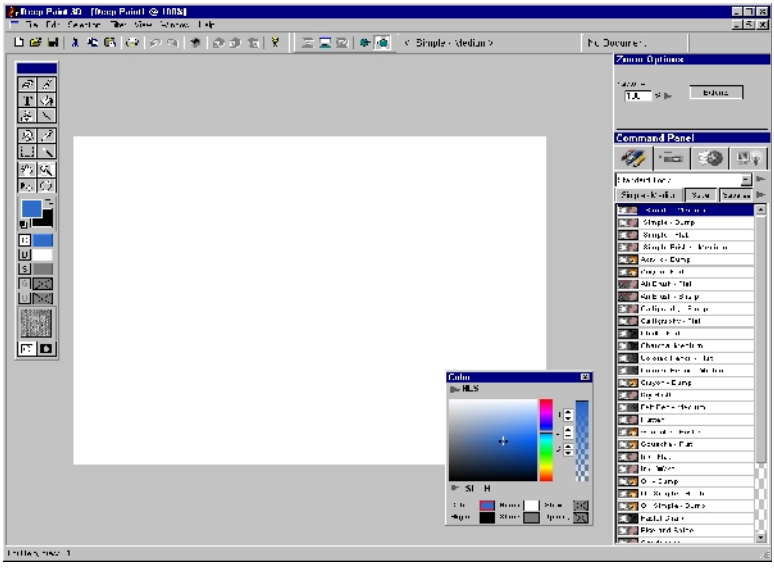
2½D BASICS

New, Open, Close, Save As, Save, Rotate, Pan, Zoom, Photoshop-Out, Freehand Tool, Layers, Eraser Tool, Undo, Redo, Text Tool, Line Tool, Eyedropper Tool.

Estimated time to complete: 45 min.

Phew! That seems like quite a list to get through in just 45 minutes, doesn't it? But as you'll see, Deep Paint 3D is quite simple and intuitive. Deep Paint 3D is easily learned, and with practice, you will master it.

That said, the first thing to do is to start Deep Paint 3D, either with the shortcut in the Deep Paint 3D group in the program menu or via the Windows Explorer. When the program has finished loading your screen should look similar to the image below.



Don't be concerned if your screen looks slightly different.

> *Select **File>New** to create a blank 640 x 480 canvas, if you haven't imported one from Photoshop.*

This is where you would set the size of your new image, by typing into the

X and Y text boxes. Of course, you can always re-scale the image later in Photoshop.

*For now, accept the default size and click **OK** or press the **Enter** key.*

A blank white canvas will appear in the center of your screen.

*Select the **Freehand Tool** , either from the **Tool Palette**, or by right clicking anywhere on the canvas, and selecting **Freehand** from the pop-up menu. If you don't see the **Tool Palette,** use **View>Tools**, or press the **Tab** key to display all palettes.*

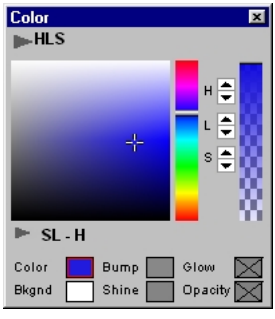
You are now ready to paint! Didn't we say it was easy? All you need to do is click and drag the mouse, or start drawing with your stylus. Whenever we say 'start painting', this action is what we are referring to.

Remember to put the cursor over the model, hold down <CTRL> and move the mouse/stylus up and down to change the brush size or left and right to change the brush strength. Use <SHIFT> and mouse/stylus up or down to rotate the brush and left or right for brush aspect. Hold down <SHIFT> + <CTRL> to drag the brush preview around. See Appendix A for keyboard shortcuts.

After you have experimented with painting, you might be feeling that painting in one color with just one kind of brush is a bit uninspiring. We'll cover the more advanced brush features in Tutorial 2, but for now let's proceed to changing the paint color. (If the **Color Palette** is not visible, press <F4> or select **View>Color>Color Palette** to display it.)

*Select **HLS** from the **Color Mode Selector**, if it isn't already selected. Then select **SL-H** from the **Mode Variations Selector**. Also, make sure the **Color Channel** is highlighted with a red border in the **Channel Selector**.*

If you have any trouble finding these controls, refer to Chapter 1: Interface Overview. Your **Color Palette** should now look similar to this:



*Move the **Hue Selector** up and down. Move it to the blue*

area of the bar. Watch what happens in the Color Picker.

When you release the Hue Selector over a color in the side-bar, the Color Picker changes to reflect your choice. Click and drag in the **Color Picker**.

You will see the color in the Color Channel Selector change to reflect your choice. The color you see here is the actual color of your paint. Prove this by selecting a nice shade of blue, somewhere toward the center of the Color Picker.

Now paint some more strokes anywhere on the canvas.

You will use this process whenever you want to select a color. Spend a few minutes practicing changing colors and painting before moving on. Make sure you are quite comfortable with being able to select any color you want. The last basic feature of color is the transparency of the paint.

*Change the color to red. Move the slider in the **Opacity Selector** until it is about the height of the mouse pointer from the bottom. Paint a stroke that starts on white canvas, but crosses over one or more of your existing strokes.*



When you painted before, your paint was opaque, and covered the canvas and any paint strokes completely. Now the paint allows the background to show through. If you decide to paint over your transparent strokes, the paint will 'build up' until it becomes opaque. Again, please experiment until you are satisfied you understand the concepts and controls involved.

At this point, it is worth taking some time to explain how the paint in Deep Paint 3D differs from other painting packages. You have covered two of the paint features, Color and Opacity. Deep Paint 3D can also paint Shininess and Bump. These features work using 256 levels of greyscale, and really bring your paint to life. Just like the real world, you can mix paint that actually appears to have height or depth. Your paint can also be glossy or matte. A full explanation of channels can be found under the heading Elements>Layers Sub Tab in Chapter 3: Palettes. You should take some time now to quickly review that section of the manual.

By now, the canvas may be getting pretty crowded, so we should clear some space using the Eraser Tool. The Eraser Tool 'rubs out' paint, allowing anything under the paint to show through. This will become more useful and apparent when we discuss layers later in this tutorial. For a full explanation of layers, see Layer in the Elements Palette section of Chapter 3: Palettes.

Select the  ***Eraser Tool****. Reset the* ***Opacity Selector*** *to the top. Paint over your work with the* ***Eraser Tool****.*

Just as you'd expect, you erase any paint you go over. Could you do the same thing using the Freehand Tool and white as your paint color? Yes and no. When you have only one layer it would work fine, but when we start to use multiple layers the white paint would hide any features on the layers below.

Layers work much the same as in Photoshop. Each layer is like a clear piece of glass in a stack. Anything painted on a layer at the top of the pile will hide anything painted on a layer beneath. This will become more obvious as we continue.

Let's change our point of view. We'll move the canvas about, zoom in and out, and rotate it. This is very useful to traditional artists who are accustomed to working at an angle to their canvas, but everyone should give it a try.

Experiment moving the canvas. Select the  ***Rotate Tool****. Rotate the canvas until you have a feel for the tool. Next, select the*  ***Zoom Tool****. Experiment with zooming by moving the mouse up or down while holding down the left button + <SHIFT>.*

Notice that tools work just the way they would in real life, if you were to move the canvas with your hand or on your drawing board or easel. The zoom tool may be disorienting, as it can be difficult to recognize an object when you get too close. Just zoom out again, or double click anywhere on the canvas to reset the view. The rotation can also be reset by selecting the Rotation tool and double clicking anywhere on the canvas.

Our current piece of 'art' has reached the end of the line.

Select ***File>Close****.*

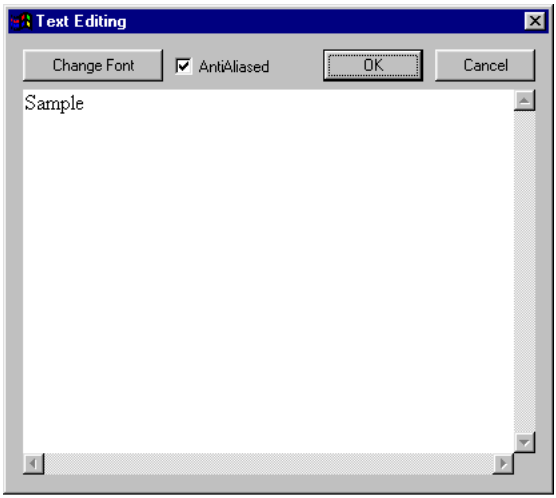
Deep Paint 3D will ask if you would like to save your image. Whenever you make a change and try to close an image or exit the program, Deep Paint 3D will remind you and give you the option to save. If you select the **Yes** button you will be able to save using the normal Windows save dialog. Deep Paint 3D uses standard Windows dialogs wherever possible. Open, Save and Save As behave exactly as they do in standard Windows applications.

*Select **No**. Press **<CTRL> + <N>**. Click **OK**.*

<CTRL> + <N> is a Shortcut. It is the same as selecting File>New. For a full list of the Shortcuts, see Appendix A: Shortcuts. We will remind you of each shortcut as we go, but it is up to you to practice them. They are guaranteed to speed up your work.

*Select the T **Text Tool**. Click toward the center of the canvas.*

This will bring up the Text Editing dialog. This is where you can type in text, and change your font, font style and font size.



*Click the **Change Font** button.*

This is the standard Windows font dialog. Feel free to experiment with the font, font style and size. A preview will appear under the heading Sample.

*Click **Cancel** or press the **ESC** key.*

The Enter key will usually be the equivalent of clicking the OK button, and the ESC key will usually Cancel.

In the Text Editing area of the dialog you should see some text. It probably says 'Sample', but in any case, we are going to delete the text and type in your name.

*Click in the **Text Editing** area. Delete any text. Type in your name.*

If you press the Enter key will the dialog close? Not in this case. It works like a word processor, and drops the cursor onto the next line. Try it.

*Click **OK**.*

Your name has appeared in the middle of the canvas. What color is it? Whenever you use the Text tool, it uses the current paint, including its color and opacity. But something has happened in the Tool Palette. The Text tool is no longer selected. The Move tool has been selected automatically, because you will usually want to place the text, and the text will not be 'set' until the next time you use one of the painting tools or save the image to disk.

Using the  ***Move Tool****, click and drag your name around the canvas. When you're happy with its position, re-select the*  ***Text tool****. Select a bright red color, and type 'Rocks!' into the* ***Text Editing*** *dialog.*

If you can't remember how, review the previous steps until you are satisfied with your understanding.

We've covered just about everything now, so hang in there. The selection tools will be explained in Tutorial 3: Working with Selections, the Clone tool is covered in Tutorial 5: The Clone tool, and Texture Paint is covered in Tutorial 6: Texture Paint.

The next tool is the Line tool. The name is slightly misleading, because this tool does far more than draw lines. It actually draws lines, joined lines, polygons, circles and ellipses.

Select the  ***Line Tool****. Select the*  ***Line option****. If you can't see the* ***Options Palette****, click on the* ***View>Tools Options*** *button. The options buttons pop up above the Command Panel when a tool is selected. Click a start point. Click and hold the mouse button while moving the mouse. A preview of your line will 'rubberband'. Release the button when you are happy with your choice.*

If you click the right mouse button before releasing the left mouse button, the line will be canceled. It is important to remember that any lines drawn with the line tool use the current paint and brush. Paints and Brushes are covered in depth in Tutorial 2: Basics 2.

Our next option is the  Polygon option. It allows you to draw a closed polygon with anywhere from three to thirty sides.

Change the ***Sides Spinner*** *to 5. Now click and drag on the canvas. When you are satisfied with the preview, release the button to start drawing.*

Be patient, as it could take a while, depending on the polygon's size.

The next option is the  Joined Line option. This works exactly like the Line option, but allows you to draw a new line from the end of the previous line. You build up your shape, section by section, finishing by either clicking on the end point twice for an open polygon or clicking once again on your start point to create a closed polygon.

> *Experiment with both open and closed polygons. Change colors and opacity as you paint, and use the **Eraser**, **File>Undo**, or **<CTRL> + <Z>** to remove each polygon before starting another.*

Next, experiment with the  Circle / Ellipse option. It works much like the Polygon option, but ignores the Sides Spinner. The Lock Aspect button in the Line Options Palette controls whether you draw circles or ellipses. Draw a few circles and ellipses before moving on.

The last two tools used in this tutorial are Fill and the Eyedropper.

With the Eyedropper tool selected, simply move the tip of the tool over the color you want to sample, and click. That color will now be selected as the current color for your painting tools. Try it!

> *Select the  **Eyedropper Tool**. Change your paint color by clicking on a different color on the canvas. Watch the **Color Picker** change.*

> *Choose white as your paint. Select the  **Fill Tool**. Enable the **Fill All** option. Click anywhere on the canvas.*

Notice a fairly drastic change? The Fill All option does just that, and is an excellent way to quickly change the color of your background. With Fill All turned off, the Fill tool can be more subtle. The Fill tool pours paint into an area until it finds a 'border' to stop it. The best way to understand this is to do it.

> *Draw a yellow 8-sided polygon. Select the **Fill Tool**. Turn off **Fill All**. Set the **Tolerance Spinner** to 128.*

The Tolerances setting tells the Fill Tool how to look for borders, or how much the paint will eat into and spill over into neighboring areas. With the Tolerance set to its maximum of 255, the fill tool works exactly as if the Fill All option where enabled, while a lower number will be more confined, and 'eat in' to the surrounding area to a lesser degree.

> *Click inside the polygon.*

If you followed the instructions, you should have filled in your polygon. Experiment with the tools you have learned until you are happy you have

a firm understanding of them, follow the instructions below, then take at least a 15 minute break before going on to the next tutorial. These are the foundation lessons for Deep Paint 3D, so please be patient.

When you have finished experimenting, please do the following:

*Select white as your paint. Select the **Fill Tool**. Select **Fill All**. Fill the canvas. Select **File>Save** or press **<CTRL> + <S>**. Save the file as White.jpg into the Tutorial folder.*

This will be used for your next tutorial. Meanwhile, have fun with what you have learned, and *experiment!*

Note: *If you started Deep Paint 3D from the Photoshop Plug-in Manager, try selecting **File>Export>Photoshop**. Your image is now in Photoshop, ready to edit. Try sending various images between the two programs, spending some time working on the image in each package before exporting it again. You already know how to send your image from Photoshop to Deep Paint 3D if you followed the instructions in Appendix B to create your blank canvas.*

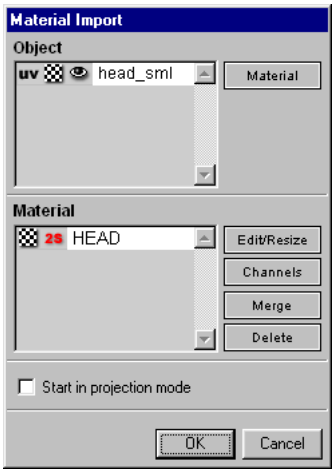
3D BASICS

This tutorial will get you loading and working on a 3D model. Close Photoshop and the Plug-in Manager if they are still open. This will free system resources and enhance performance.

*Select **File>Open.***

*Load the **Head_sml.3ds** file, from the Examples folder. (The complete path is Program Files\DeepPaint3D\Examples\Head.)*

After a brief pause the **Material Import** dialog will appear. Don't worry, we'll be covering this in detail later.



*Click **OK**.*

After another pause, the head image will load, and will look something like this:



To prove we have a real 3D model, and not just a 2D image, we will rotate and pan the head.

*Select the  **Rotate Tool** or press and hold the **<R>** key, and click and drag the mouse.*

*With the  **Rotate Tool** still selected, double click to reset the rotation.*

*Select the  **Pan Tool** or press and hold the **Spacebar**, and click and drag the mouse.*

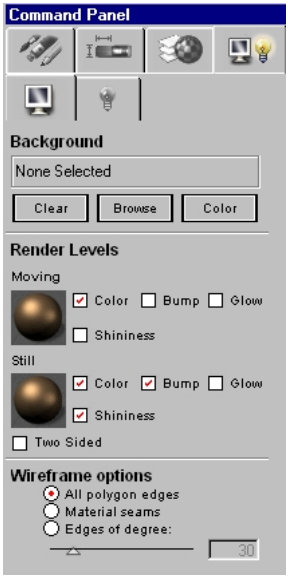
*With the  **Pan Tool** still selected, double click anywhere in the window to reset the image to its default position.*

Experiment until you are comfortable with your ability to move and rotate the model into any position you might require.

Depending on the speed of your machine, you may notice your object does not redraw completely in real-time.

*Select the **Settings Tab**.*

*Select the **Scene Sub-Tab**.*



*Click on the bronze sphere under the title **Still**.*

The sphere will change, as will the main 3D display. This is called a 'wireframe' display. It redraws very quickly, even on slower machines.

*Click on the **Still** sphere again.*

The sphere and main 3D display will change again. This is a 'shaded' display, and also updates quite quickly.

*Click on the **Still** sphere to return to the default settings.*

You will probably find the default mode perfect for most uses. It shows all the **active** channels.

The sphere under the heading **Moving** controls the level of detail shown when you rotate or move your object. Of the two settings, **Still** and **Moving**, **Moving** is the one you are most likely to change.

*Click on the bronze sphere under the title **Moving**.*

Nothing happened! Or did it?

Select the  ***Rotate Tool*** *or press and hold the* ***<R'>*** *key, and click and drag the mouse.*

The difference should be quite noticeable. If your display did not change to a wireframe when the head was rotating, check that you have clicked on the sphere next to **Moving**, and not **Still**.

Click on the ***Still*** *sphere again.*

Rotate the head again.

With the  ***Rotate Tool*** *still selected, double click to reset the rotation.*

Click on the ***Moving*** *sphere to return to the default settings.*

You can use these settings to speed up the redraw as you work. This is particularly useful if your machine is slow or you are working on particularly large objects or maps.

You can further customize your display by using the individual check boxes.

As always, feel free to experiment, but try to return everything to the default setting before moving on to the next section.

Select the  ***Freehand Tool****.*

Press ***<F5>*** *to display the Presets Tab.*

Select the ***Ivy*** *preset from the* ***Natural and Landscape*** *category.*

Paint on the head.



Now we'll quickly run through all the tools you used in the first part of this tutorial, using the 3D mode.

Select the  ***Zoom Tool***. *Zoom in on the right eye.*

Select the  ***Eraser Tool***, *and erase the eye. Don't worry about being too accurate.*

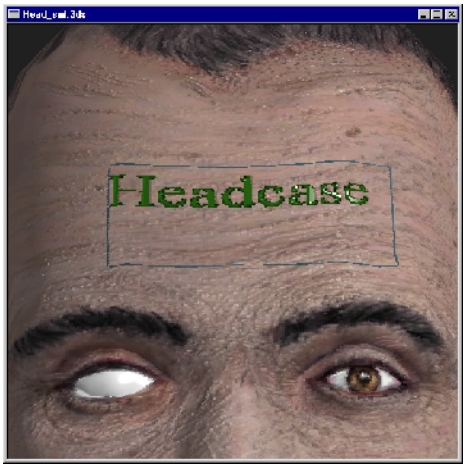




Reset the zoom by selecting the  ***Zoom Tool*** *and double clicking. Rotate the head until the forehead is facing you, or select the*  ***Rotate Tool*** *and double click.*

Select a shade of green. Select the  ***Text Tool***. *Click anywhere on the forehead. Type in the word 'Headcase'.*

The  ***Move Tool*** *will automatically select itself. Move the text until it appears approximately in the middle of the forehead.*



Select the  ***Fill Tool****, and change the fill options to match the following illustration.*

Fill the eye you erased earlier with bright red paint, by selecting the ***Simple - Medium*** *preset from the* ***Standard*** *category, choosing a red from the* ***Color Picker****, and clicking on the eye.*

Select the  ***Eyedropper Tool****. Click and drag the eyedropper over the forehead, and watch the* ***Color****,* ***Bump*** *and* ***Shine*** *change as you move.*

When you are finished with this session, and wish to close Deep Paint 3D, don't forget to say 'No' when you are asked if you want to save your changes. (If you do save the head object after you have altered it, you can always reinstall it from the Deep Paint 3D CD-ROM.)

This brings us to the end of the first Deep Paint 3D tutorial. Don't forget to play with the features you have just learned about. We know many of you will want to dive straight in to the next tutorial, but take some time to have a break before continuing. Above all, experiment, and have fun!

TUTORIAL 2: BASICS PART 2

Advanced Brush Options

Estimated time to complete: 25 min.

This tutorial is the second part of your foundation course in Deep Paint 3D. It is important you are rested, and ready to go, and we strongly recommend you take 15-20 minutes break between Tutorials 1 and 2. These basics are the key to understanding the more advanced features in later tutorials.

This tutorial will get you started with the advanced brush controls. Creating and saving your own custom brushes is covered in Tutorial 4: Presets. Don't forget, the estimated time is just a guide. If your times vary, don't worry, and don't forget to put aside time to experiment with the skills you are developing.

If you have not read Chapter 1: Interface Overview, and completed Tutorial 1: Basics Part 1, please do so now. This tutorial assumes you have an understanding of the features described there, and you will find it difficult to complete otherwise. All of the features covered in this tutorial apply equally to both 2½D and 3D modes.

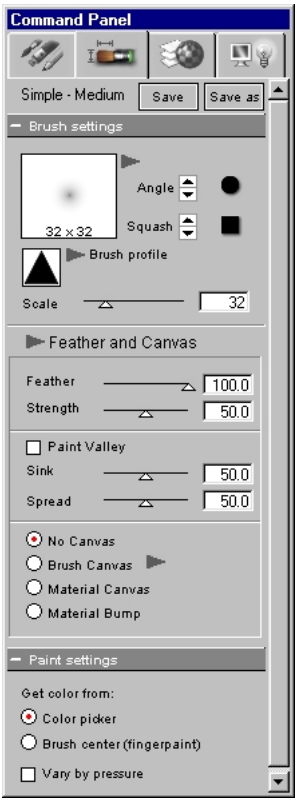
Now restart Deep Paint 3D, and begin the tutorial.

In Basics Part 1, you used the simple brush with its default settings. This tutorial will show you just how versatile the brushes in Deep Paint 3D are.

> *Start Deep Paint 3D and **Open** the White.jpg file you created in the first tutorial. Select **File > Open** or **<CTRL> + <O>** to bring up the standard Windows file browser. (Navigate to the White.jpg in the Tutorials folder, and open it.)*

> *Select the*  ***Freehand Tool*** *and the **Simple - Medium** preset from the **Standard Tools** category. Draw a simple stroke in any color, from left to right at the top of the canvas.*

Just what you would expect, right?



*Select the **Brush & Paint Settings Tab**. Move the **Scale Slider** all the way right. Now paint under your first stroke. Move the **Scale Slider** fully left. Paint just below your second stroke.*

*Move the **Scale Slider** until the size in pixels displayed in the **Brush Preview** box is about 24 x 24.*

The Scale Slider is pretty self-explanatory, but there is one point that isn't immediately obvious. Using the Scale Slider the maximum brush size is 80 x 80, but by holding down the <CTRL> key while moving the mouse up and down, you can reach a much larger maximum. Exactly how big? Try it and see, but remember to reset the brush to about 24 x 24 when you have finished.

*Next, try the **Feather Slider**. Its probably toward the right by default, so move it as far left as you can. Paint a stroke or two.*

Notice how hard and harsh the edges are when you paint now? The higher the feather setting, the softer the edge of your brush.

*Move the **Feather** setting back to the right again. Now*

*move the **Strength Slider** fully left. Paint a stroke or two.*

Notice anything when you paint now? You shouldn't notice anything, because the brush is now invisible! You can combine the brush strength and paint opacity to get extremely subtle effects. When you have finished experimenting with the setting, return the sliders to their default positions.

Another useful feature of the Artist Brush is Squash. Simply put, this lets you 'squash' the brush to make a flat or chisel tip.

*Using the **Squash Spinner**, click on the up and down arrows next to the word **Squash**, and while still holding the mouse button, slowly move the mouse down the screen. The **Brush Preview** will be getting thinner and thinner. Stop at about 13 x 30.*

*Above **Squash** is **Angle**. Use this spinner to rotate the brush until it is has moved roughly 45 degrees clockwise. Again, move the mouse down the screen, and watch the **Preview Box** as you go. Don't worry about being too precise, after all, this is art.*

The last basic control is the brush shape. To the top right of the palette are a round block button and a square block button. These set the basic cross-section of the brush as either round or square.

*Try changing the brush by clicking on the **Square Cross-section** button, and painting a few strokes. Change it back to the **Round Cross-section** before moving on.*

Have you really finished experimenting? If so, clear the canvas.

*To clear the canvas go to the **Elements Tab** and right-click on the base layer to display the **Layer Menu**. Click on **Clear Layer**. Respond **Yes** when prompted.*

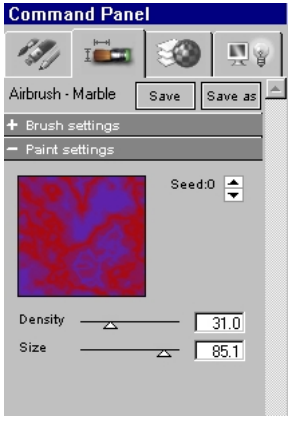
Note: *You can use any of the methods shown so far to clear the canvas. If you can't remember any, review Tutorial 1. Its important you master these basics before you move on to the more exciting and challenging features of Deep Paint 3D.*

Paint Settings

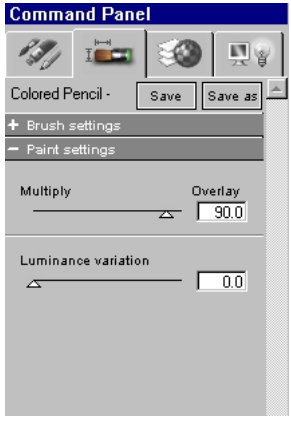
In addition to the Brush Settings, which are unique for each type of brush, the Brushes and Paints tab contains the controls for the currently selected paint.

Although we've already looked at the Paint Settings for texture paint,

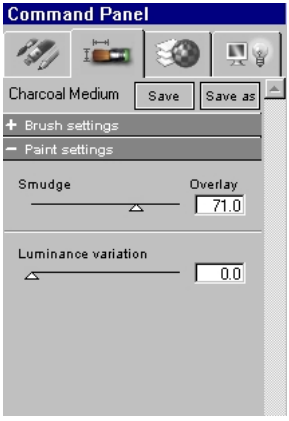
there's much more to explore. Below are shots of the Paint Settings available for Marble Paint (a procedural paint), Oil Paint, Pen and Pencil, and Chalk and Charcoal.



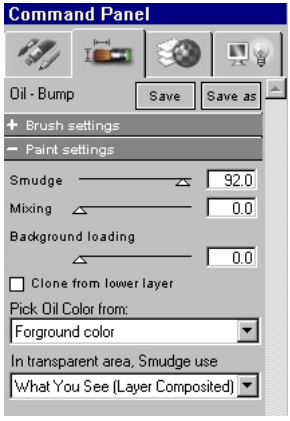
Marble Paint



Colored Pencil



Chalk and Charcoal



Oil Paint

TUTORIAL 3: SELECTIONS

Marquee, Magic Wand, Masking Tool,

This tutorial will introduce you to using Deep Paint 3D's selection tools. This tutorial is particularly short, but the features discussed represent a significant advantage to the way you work.

An understanding of selection methods and techniques can contribute significantly to your productivity.

Estimated time to complete: 20 min.

If you have not read Chapter 1: Interface Overview, and completed the first two tutorials, please do so now. This tutorial assumes you have an understanding of the features described there, and you will find it difficult to complete otherwise.

Start Deep Paint 3D and begin the tutorial when you are ready.

Note: *You will find explanations, tips and examples in Chapter 5: Palettes, under the subheadings of Marquee, Magic Wand and Masking Tool.*

All the selection tools work in a similar manner. Selected areas can be manipulated, while any areas outside of the selection set remain unaffected. You can quickly invert your selection with **Selection > Select Inverse**, or by pressing **<CTRL> + <SHIFT> + <I>**.

*Press **<CTRL> + <N>** to start a new canvas.*

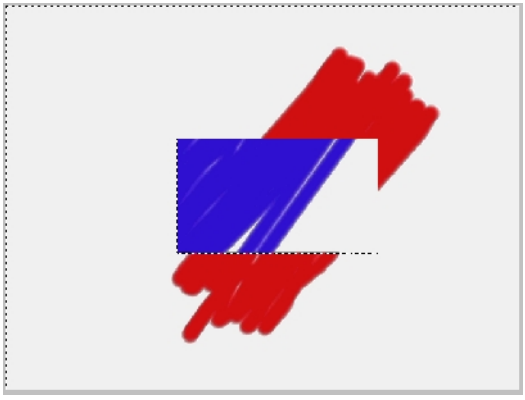
Choose the ***Marquee Option*** *of the* ***Marquee Tool****. Click and drag to create a rectangle as shown below. Change to the* ***Freehand Tool****, select a blue color, and paint across the canvas.*



Notice that your stokes only appear inside the rectangle.

*Now invert your selection with **<CTRL> + <SHIFT> + <I>**. Change your paint color to red, and paint some more*

strokes across the canvas.



*Now cancel the selection by using **Selection > Deselect All** or by pressing **<CTRL> + <D>**.*

Use this method whenever you want to regain access to the entire canvas after using one of the selection tools. If you are trying to paint, but nothing is happening, you may still have an area selected.

Now we'll work in 3D mode.

Open the Head object from the first tutorial.

If you cannot remember how, refer back to Tutorial 1: Part 2.

*Choose the **Polygon Option** of the **Marquee (Selection) Tool**.*

This option only works in 3D mode. It allows you to select polygons, rather than an area of a bitmap.

Click and drag across the forehead.

The area selected will consist of complete polygons.

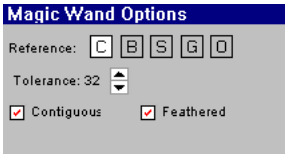
*Paint some strokes on the head, just as you did on the 2½D canvas. Invert selection and paint again. Try **Pan** and **Rotate**.*

*Close the 3D window. Select the **Magic Wand Tool**.*

The **Magic Wand Tool** enables selection based on areas. It lets you quickly select all the areas in your image that share the same **Color**, **Bump**, **Shine**, **Glow** or **Opacity**, or any contiguous area in your image.

__File > Close__ the 3D window, and answer No if asked to save. You should now be looking at the blue and red 2D image from the beginning of the tutorial.

Pick the __Magic Wand Tool__. Make sure the __Options Palette__ looks like the following illustration.



Click on either red area.

Notice the entire red area is selected after one mouse click.

__Deselect All__. Remove the check mark from __Contiguous__ in the __Options Palette__. Click on either red area.

Notice the difference? All the red areas are now selected.

Clear the canvas again.

The final selection method is the **Masking Tool**.

Select __Paint Mask__ button. Use the __Freehand Tool__ to paint an area anywhere on the canvas. Click on the __Mask to Selection__ button.

Your mask is now a selection! Although the selection tools are capable of much more, you now know enough to move on.

Remember, you can use the **Magic Wand Tool** to make a selection based on **Shine**, **Bump**, **Glow** or **Opacity**, not just **Color**.

The **Marquee** or **Selection Tool** also has **Circular/Elliptical** and **Joined Line** options. In addition, masks can be both saved and loaded. Refer to Chapter 4 for more information.

TUTORIAL 4: PRESETS

Creating, Loading, Saving and Using Presets.

This tutorial will teach you how to use, create, save and load presets.

Presets allow you to store combinations of Brushes & Paint Settings for later use, and let you organize your presets into categories. Creating and saving your own custom brushes is one of the most constructive and rewarding features of Deep Paint 3D.

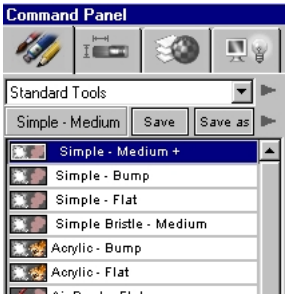
Estimated time to complete: 15 min.

Deep Paint 3D provides a system for creating and saving unique Brush and Paint Settings as presets. Each preset includes both a brush type and paint type. Presets can be saved, edited and shared between users. The system is designed to put you in control of your tools, allowing you to create your own categories of custom tools.

Restart Deep Paint 3D if necessary, and begin the tutorial.

Creating Custom Presets

__Open__ the White.jpg file that you created in Tutorial 1.



We are going to start by creating our own unique preset and then creating a different version of it. Near the top of the **Brush & Paint Settings Tab** you will see the **Category** Selector and two buttons labeled **Save** and **Save As**. Also in the top right corner are two small triangles. When clicked on they reveal the **Category Menu** and **Preset Menu** respectively.

Select __Add Category__ from the upper of the two right facing triangles, the __Category Menu__. Give your new category a name. Click __OK__.



Your new category will open up with nothing in it. Now we are going to add our first new preset.



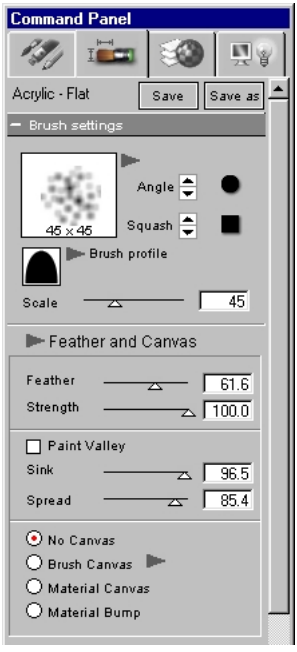
*Click on the **New** from the **Presets Menu**. A dialog box called the **Brush & Paint preset editor** will appear. Give your preset the name 'My First Preset'.*

The **Brush & Paint preset editor** is divided into two sides, on the left side is the brush setup and on the right is the paint setup. Lets look first at setting up the Brush.

Under Brush type is a list of all the currently available Brush types. These are pre-built brush types, with each brush type offering different settings and controls.

*Choose the **Artist Brush**.*

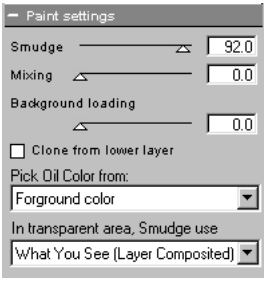
The **Artist Brush** options that would appear in the **Brush &Paint Settings Palette** are shown below.



Now we'll select the paint type for your preset. Your choice of paint type affects the Paint Settings that will be available to your preset.

*Select the **Oil Paint** from the Paint type column. You may need to scroll down the list to see it. Click OK.*

The **Oil Paint** options that would appear in the **Brush & Paint Settings Palette** are shown below.



Now we are ready to start painting and changing our brush settings.

*Make sure you have the **Freehand Tool** selected. Start painting on the canvas and experimenting with the **Artist Brush** and **Oil Paint** settings under the **Brush & Paint Settings Tab**.*

*When you have the settings for the **Brush** and **Paint** the way you like them, go back to the **Presets Tab** and click the **Save** button. You now have a new preset you can choose whenever you please.*

Lets make a variation of your new preset.

*Try adjusting your settings to make a new preset. Don't be afraid to try anything, just use the canvas or a new layer as a 'scratchpad'. Select the **New** button from the **Presets Menu,** or choose **Save As,** and give your preset a new name.*

Try using different paints such as **Chalk and Charcoal**, **Pen and Pencil**, and even the **Basic Paint**.

Creating **Presets** in Deep Paint 3D is a good way to expand your tool set. Let us know what you come up with. We are going to add a Preset library to our web site to facilitate sharing of presets within the Deep Paint 3D community.

Don't forget to spend some time playing with these settings. Have fun!

TUTORIAL 5: CLONING

What is cloning? Cloning is copying an image or part of an image to another layer. You can decide whether you want a photographic clone, which clones without altering the image, or an artistic clone which lets you specify the type of paint and brush to clone with.

In this tutorial you will learn to use the Clone Tool. The Clone Tool enables you to quickly create new content from existing imagery.

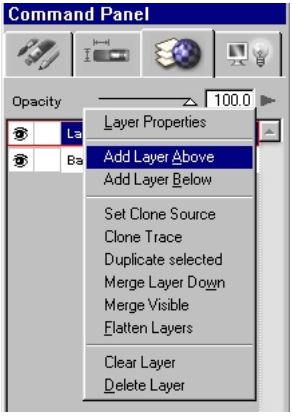
Estimated time to complete: 45 min.

Photographic Cloning

*Open the image Road.jpg found in the **Deep Paint 3D\Resource\Images** folder installed with Deep Paint 3D. If you prefer, you can open the image in Photoshop and transfer it to Deep Paint 3D using the Plug-in Manager.*

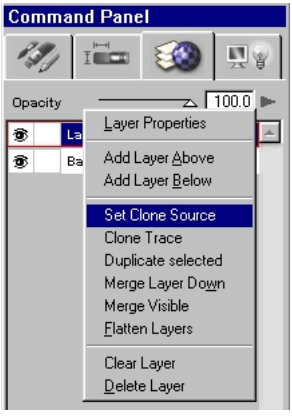


*Go to the **Elements Tab,** and add a layer above the base layer, either by right-clicking the base layer and selecting **Add Layer Above** from the pop up menu, or by double clicking in the empty area below the base layer.*

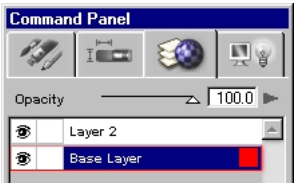


The new layer we just added is the layer we are going to clone into.

Re-select the bottom (original) layer by clicking on it. The selected layer will have a thin red border. ***Set Clone Source*** *by clicking on the small gray arrow to the right of the* ***Opacity Slider****, and choosing the option from the menu that appears.*

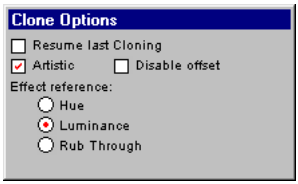


A square red **Clone Source Indicator** will appear on the layer you have selected to clone from.



Use the ***Opacity Slider*** *to turn down the* ***Transparency*** *of the base layer to about 10 - 20%.*

This will help you see what is happening as you clone. In the future, you will probably want to experiment with this setting, until you find a level that is comfortable for you. You may find that it varies from project to project, but the value used here is a good starting point.

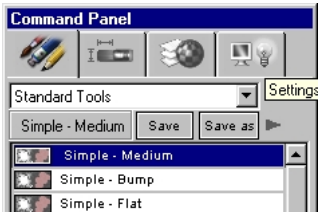


*Select the **Clone Tool**  from the **Tool Palette**.*

*Disable **Artistic Cloning** and offset in the **Tool Options Palette**.*

Now select the top layer. It should be bounded by a red outline.

*Choose the **Simple - Medium** brush from the **Standard Tools** category in the **Presets Tab**.*



Paint a small area on the top layer.



*Navigate back to the **Elements Tab** or click **<F7>***

Turn of the base layer by clicking on the small eye icon to the left of the Layer name. Toggle the layer on and off a few times.



When the base layer's visibility is turned off, you can see how the contents of your new layer have been copied faithfully from the layer below. Now that you have cloned this new layer, you can do anything you like to it without risking alterations to the original layer.

Artistic Cloning

Now we'll use **Artistic Cloning** to reproduce our image in two different media, Paints and Colored Pencils. (Artistic cloning operates only in 2½D mode.)



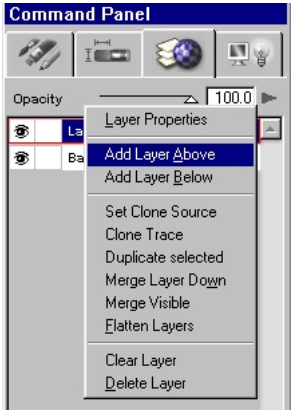
Dry Bristle 2 preset

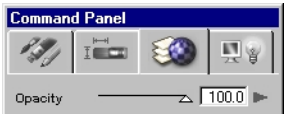


Pencil Colored preset

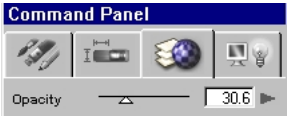
We will start with Painting, and then move on to the Colored Pencils.

> ***Close** any images you may have open, but don't save any changes to 'Road.jpg'. Then enable **Artistic Cloning** in the **Tool Options Palette**.*
>
> ***Open** Road.jpg again, and select **Add Layer Above** from the **Layers Menu**, (accessed with the small grey arrow to the right of the **Opacity Slider** in the **Elements Palette**).*





*Adjust the transparency of the clone source by moving the **Opacity Slider**.*



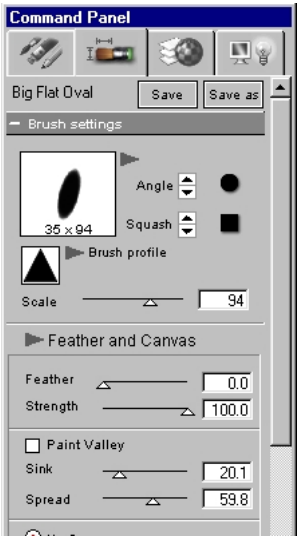
Select the  ***Clone Tool from** the **Tool Palette.***

Note: *The **Cloners** category contains brushes and paints, optimized for cloning but any brush can be used.*

*Select the **Cloners** Category in the **Presets Tab.***

*Select the **'Big Flat Oval Cloner'**.*

Make sure Layer 2 is selected. Set the brush as follows:



Paint some rough strokes to block in the image.



Reduce the Brush Scale to about 15 x 40.

Pick out the cars and grass in the foreground. Change the Brush size again, this time by holding the ***<CTRL>*** *key while moving the mouse up and down. Stop when the brush preview shows approximately 3 x 9. Pick out some fine details like the tires.*



Add Layer Above *again and select the 'Rain Oil Cloner'. Select your new layer, and paint in some texture, changing*

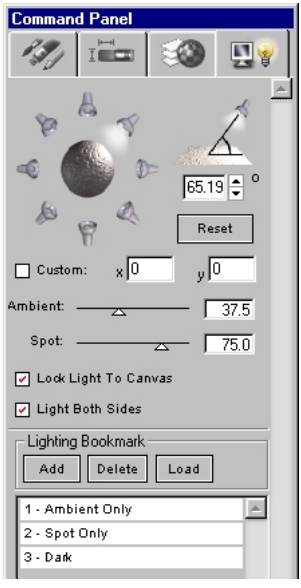
the transparency of the layer according to your needs.

Select the 'Big Rough Square Cloner'. Add more texture, both to the foreground and background.



In order to see how Lighting affects the image.

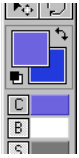
*Select the **Settings Tab**. Change the lighting direction by selecting from the lights around the sphere.*



To see how any preset can be used for cloning, not just those found in the **Cloners** category (although **Cloners** are specifically designed for the job).

*Select the **Standard Tools** Category in the **Preset Tab**. Make sure the **Cloner Tool** is still selected Select the 'Oil Simple - Bristle. Paint several strokes.*

*Now, select the Simple - Flat preset. Turn off the **Color** channel by clicking on the channel indicator, the small button with the **C** in the middle shown below. It will 'grey-out' when inactive.*



*Make sure your **Bump** is set to pure white. Now paint a stroke. Experiment with lighting, varying the ambient and spot settings, to best show the raised bump you just created.*

*Change the **Bump** color to black by clicking on the **Bump Height Indicator**, the small rectangle immediately to the right of the **B** button, and then selecting black in the **Color Picker**.*

*Paint a stroke across the existing stoke, to lower the height of the paint. **Shine, Glow** and **Opacity** are changed in the same way. Experiment with various settings. A useful thing to try is to set the cone tool options to Luminance or rub through to bring through edge detail.*

*Turn on **Color** by clicking on the **Color Indicator**. If you sent your image to Deep Paint 3D from Photoshop via the Plug-in Manager, you can return it by clicking the **PS export** button on the **File** tool bar or by selecting **File > Export**.*

*Choose **Save As** to save your new painted image.*

After saving your image we will move on to the next style, Colored Pencils.

Note: *Because you can potentially create thousands of presets, there are an almost limitless number of styles you can clone with.*

Now let's try cloning with Colored Pencils. If you still have the last painting open, delete any upper layers so that you are left with just the Base Layer with the road image on it. Otherwise, reload 'Road.jpg' as you did at the beginning of this tutorial.

*From the Layers menu select **Add Layer Above** to add a layer above the base layer.*

*Set the base layer as the **Clone Source** and select the **Clone Tool**. Alter the base layer transparency to about 10 - 20%.*

*Select a top layer. Select the **Color Pencil Flat** preset in the Standard Tools Category. You can use a shortcut to do these two steps by using the **Clone Trace** command. Adjust the **Brush Size** until you are happy.*

Start drawing as you would if using a real color pencil, turning off the Base layer from time to time to check your progress.

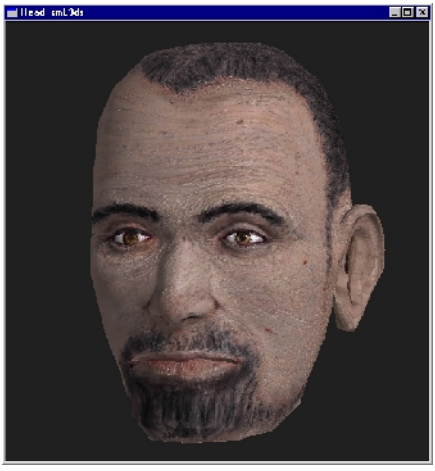


Carry on until you have finished the drawing to your satisfaction.



Next we'll discuss cloning in 3D mode, where cloning functions in a slightly different manner.

__Close__ any 2D images that you have open, and __Open__ Head_sml.3ds from __Deep Paint3D\Examples\Head__.



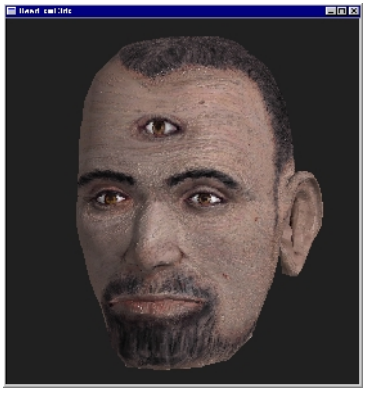
Select the __Clone Tool__ and the __Simple - Medium__ preset. Hold down the __<ALT>__ key while clicking once on the right eye.

<ALT> Click sets the **Clone Source** point.

Now paint a third eye in the middle of the forehead!

As you paint in the center of the head, Deep Paint 3D

*regards the point you where you made your <ALT> Click as the **Clone Source**.*



Other things to try....

Add the eyebrow above the third eye. See what happens when using a brush with lots of **Bump** if you change the **Effect reference** in the clone options. The Getting Started section contains information on all three **Effect reference** options.

This brings us to the end of Tutorial 5.

TUTORIAL 6: TEXTURE PAINT

This tutorial will teach you how to use and create your own Texture Paint. Texture Paint allows you to use images as your paint, and has a huge number of options available. Many features of the Texture Paint's output can be modified e.g. hue, opacity, or rotation, and the degree of modification can be adjusted as you apply the stroke. These settings are very flexible, and have hundreds of uses. We suggest you experiment with the settings and see what results you get. The scope of Texture Paint is vast, and the number of possible combinations enables an infinite variety of effects.

We'll start by looking at what **Texture Paint** is and then assemble our own **Texture Paint** preset.

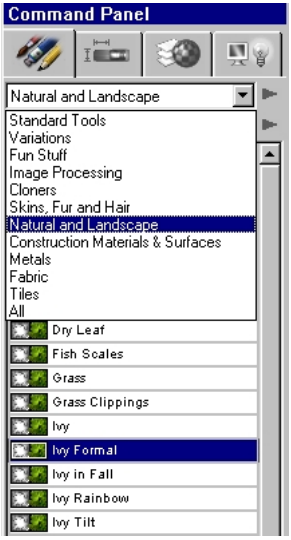
Estimated time to complete: 20 min.

Using Texture Paint Presets

To see how Texture Paint works at its simplest level, we'll work on a blank canvas in 2½D mode. Texture paints work in a similar fashion in 3D mode and we'll look at that next.

Restart Deep Paint 3D and begin the tutorial.

> *Within Deep Paint 3D, press **<CTRL> + <N>** and select **OK** to accept the default canvas size. Right click anywhere on the canvas in Deep Paint 3D. Select **Freehand'** from the pop-up. Select the **Natural & Landscape** Category in the **Presets Tab.***



*Select the **Ivy Formal** preset.*

Paint several strokes, layering the images. Note how three dimensional the effect is.

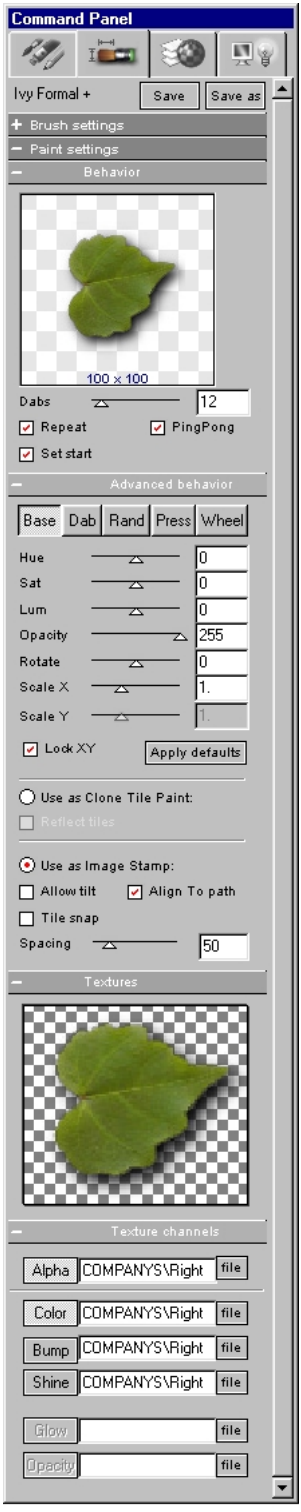


Make sure all the options are visible in the **Brush & Paint Settings Tab**. Click on the expandable bars until you have access to everything. You may have to scroll to see it all.

*Click on the **Behavior** button to reveal the Behavior settings.*

***Note**: This style of button is common in the **Brush & Paint Settings Palette**. It allows you to expand and collapse these sections as you require. You may find it useful to take some time to examine the various options available to this texture.*

*Use the **Advanced Behavior** button to display the **Advanced Behavior** drop-down.*



*Select the **Rand** button. Move the **Hue Slider** fully right,*

*to maximize hue variation. Paint several strokes. Return the **Hue Slider** to the center.*

Adding Channels for Painting in 3D Mode

Texture Paint works in a similar way in 2½D and 3D modes but there are a few key differences. In 3D you operate on multiple channels. The three modes of Deep Paint (2D, 2½D, 3D) are described in the Introduction to this manual.

Open the ball.3ds or Ball.obj object provided with this tutorial in Examples\Ball folder.

*Once in Deep Paint 3D, the **Material Import** dialog box will pop up. Everything should be set up correctly for what we are going to do, so just click on **OK** to accept the settings.*

Look at the **Elements Tab**. You will see that you need to add some channels to your base layer. For this example we are going to use color, bump and shine.

*Click in the **Color Channel** box to add the first channel. The **Add New Channel** dialog box will pop up. Click on the button labeled **Nothing**. A blank transparent canvas will be assigned. The **Set Material Size** dialog box will pop up. Set the size to 1000 x 1000, then click **OK**.*

A red dot will appear in the color channel indicating that a channel has been added. Now let's add the other channels we will need. To add other channels simply click in their respective boxes and then click the Nothing button.

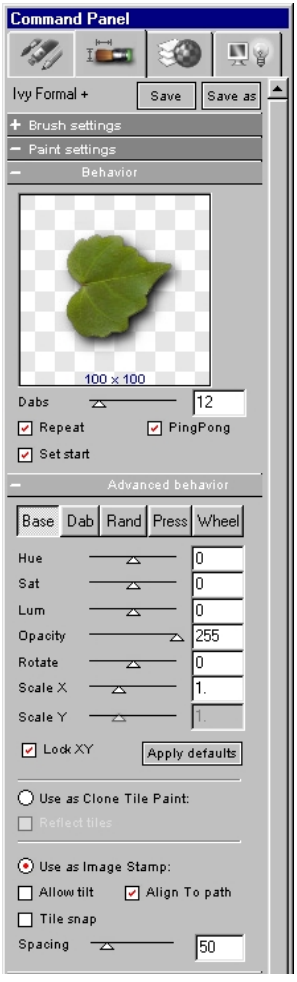
*Do this for the **Bump** and **Shine** channels now.*

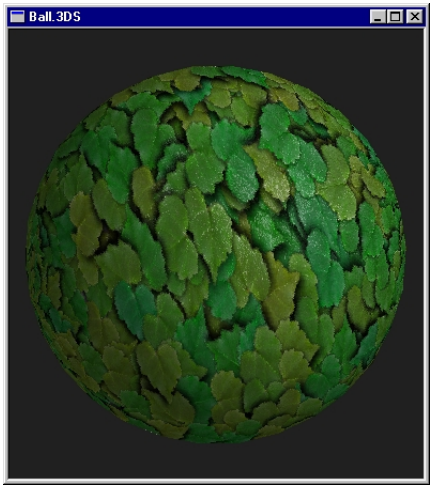
You don't need to set the size again because you have only one size for the whole Material.

Texture Painting in 3D Mode

With three channels now added, let's try the Ivy preset again, and look at the controls.

*In the **Brush & Paint Settings Tab** choose the Ivy preset from the **Texture Paints** or **Natural** category. Make sure you have the **Freehand Tool** selected. Paint on the ball to test what the default Ivy looks like.*





*Using the **Advanced Behavior** settings, paint on the 3D canvas to achieve various effects.*

*Select the **Rand** button. Move the **Hue Slider** fully right, to maximize hue variation. Paint several strokes.*

*Return the **Hue Slider** to the center. Since you have 2D and 3D images open, use **Tile Vert** from the Window menu to display them side-by-side. Switch between the two and see the effects of these controls.*

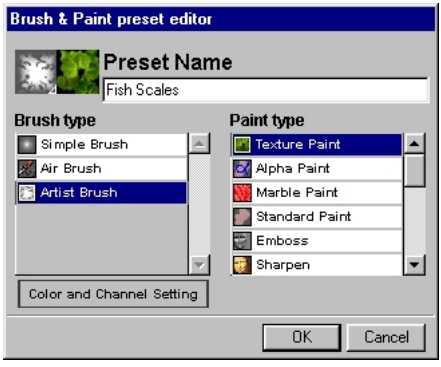
Assembling Your Own Texture Paint Preset

After reading through the previous section introducing the **Texture Paint** controls and consulting Chapter 6, you should have a good understanding of what the settings can do. If you are not confident, experiment with the

settings and examine the results you get.

Now, move on to creating your own **Texture Paint** preset. This tutorial presumes you have completed Tutorial 5: Presets.

*Now Select the Ivy Formal preset **Texture Paint** and click on the **New** button in the **Presets Menu**, which is accessed by clicking the triangle to the right of **Save As** on the **Presets Tab**. Name this preset Fish Scales, making sure the **Brush Type** is the **Artist Brush** and the **Paint Type** is **Texture Paint**. Press **Enter** or click **OK**.*



*Go to the **Brush & Paint Settings Tab**. Expand the various sections, and take some time to examine the options. You will have to scroll down to reveal all the options.*

Don't worry about trying to remember or understand the settings. If you want a complete guide to these options, refer to Chapter 6: Texture Paint, but in the meantime, we just want you to be aware of the amount of customizing you can do should you choose to.

To assemble this preset you are actually going to load three bitmaps. Let's start by loading the **Color Bitmap**.

*Click on the **File** button next to the **Color** channel in the **Texture Channels** section of the palette. You may need to scroll down to see it.*

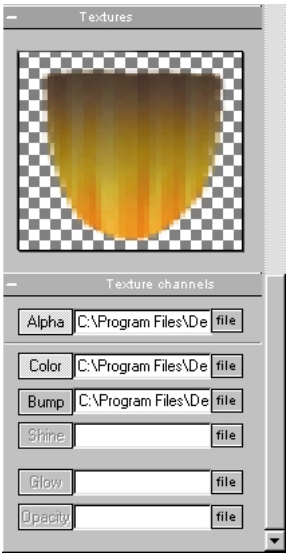
Locate the file 'fish color.jpg'. The path should look something like the one below, depending on where you installed Deep Paint 3D.

C:\Program Files\Deep Paint 3D\Examples\Fish\Fish Color.jpg

Load bitmaps for **Bump** and **Alpha**.

C:\Program Files\Deep Paint 3D\Examples\Fish\Fish Bump.jpg

C:\Program Files\Deep Paint 3D\Examples\Fish\Fish Alpha.jpg



*Go back to the **Presets Menu** and click **Save**.*

TUTORIAL 7: WORKING ON A 3D OBJECT

By the end of this tutorial you will be ready to start using Deep Paint 3D along with your modeling software (3D Studio MAX, Lightwave, Softimage, etc.) to create stunningly rendered objects. You should also have some fun along the way. Refer to the appropriate appendix for application-specific information.

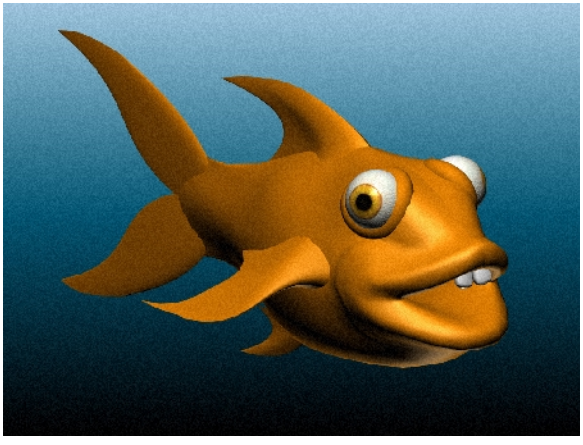
Close your 2D and 3D views to close your current project.

If you used 3D Studio MAX to send Ball.max into Deep Paint 3D, you can send it back to 3D Studio MAX using the procedure outlined in Appendix C.

Now let's see how the texture paint preset we assembled in Tutorial Six can be applied to a more complex object.

Open Fish.dp3 found in the Examples\Fish folder.

Note: *You can save your project at any stage in Deep Paint 3D as a .dp3 file. This file format stores all the objects and textures you have open in Deep Paint 3D at the time of saving. When you save as a .dp3 file, Deep Paint 3D creates a new folder with all the objects and textures in it. All the objects are saved in one .dp3 file but the textures are stored separately as either JPEG or PNG (PNG is a loss-less format) in the same folder. This is a great format for keeping everything together when sharing a project with other Deep Paint 3D artists. All you need to give them is this one folder.*



*Use the **Move**, **Rotate** and **Zoom** tools to move the fish to give you a good view of the its side.*

*Open the **Objects Sub-Tab** from the **Elements Tab**.*

Hide all the things we are not going to paint by clicking on the small eyes next to the names Eye L, Eye R and Teeth.



Now we'll add channels to all the objects we want to paint. If you find you are painting, but nothing is happening, always check that you actually have a channel to paint on!

*Open the **Layers Sub-Tab** from the **Elements Tab**. Expand the drop-down **Material** list.*



*Select Fish Body from the list and set the Material size to 1000 x 1000 for the **Color**, **Bump** and **Shine** channels. Do the same for the Side Fins and Tail, Top & Both areas.*

*Select the **Freehand Tool**. Select the Sacking preset from the **Texture Paints** category.*

*Click on **Edit Paint** in the **Brush & Paint Settings Tab**.*

*With **Base** selected change the **Hue**, **Sat** and **Lum** to the general color you want the fish to be.*

Paint the fish (except for the eyes and teeth) with the 'Sacking', to create a nice base layer on which to develop your paint.

Note: A faster way of putting the texture on the whole object is to use the fill tool. In this case though, it's good to get a feel for the brush by painting.

Now that we have our base all painted we are going to start adding more color and detail. Let's start by hiding all objects except the Fish Body.

With the 'Fish Body' material selected, add a layer above

*the Base Layer. To do so, right click on the Base Layer and select **Add Layer Above**.*

*Add a **Color Channel** on this new layer. Make it **Nothing**.*

*Right click on the new layer to display the Layers Menu. Select **Layer Properties**.*

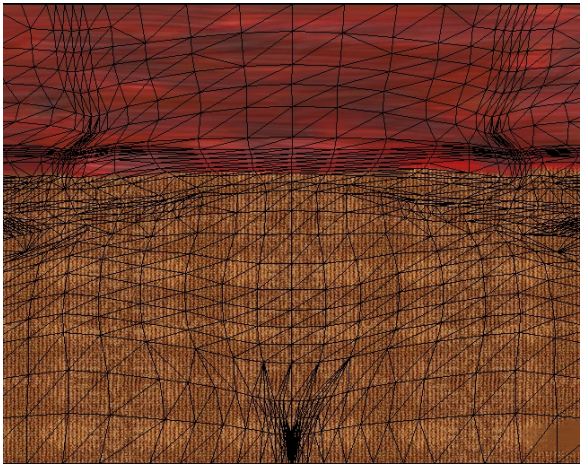
*In the **Layer Properties** dialog box, change the name of the layer to Mouth. Click **OK**.*

Now select the **Simple Medium Preset** in the **Brush & Paint Settings Tab** and paint the lips a nice bright red.

***Note:** You will need to rotate the object to get a better view when painting.*

Now we are going to take a look at the 2D view, so that we can paint inside the fish's mouth. This is essentially a "flattened out" image of the surface.

*Double click on the new **Color Channel** to open the channel in 2D view.*



*Resize the window to fit well on your screen and with the **Zoom Tool** selected click **Zoom Extents**.*

*Select **File > Image > Display Wireframe**.*

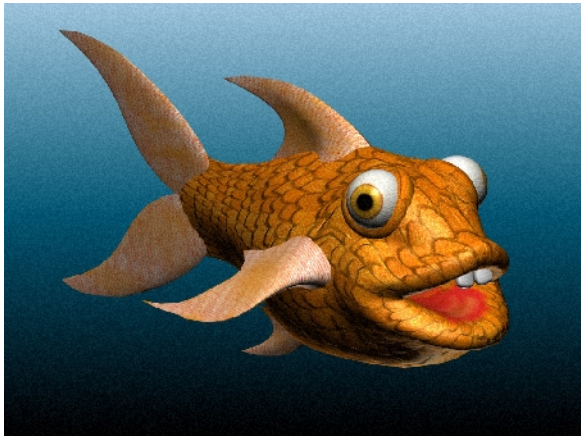
Paint above the red line you painted for the lips using the Oil Simple preset.

***Note:** You can have both views showing at the same time so that you can watch the live updates as you paint. Warning: Do not to close the 3D view as this will close your whole project.*

Now add a new layer called Scales above the other layers. Add color and bump channels to the new layer. Select your texture paint called Fish Scales.

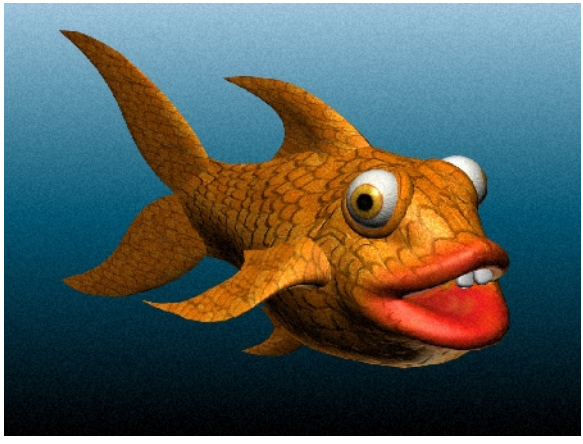
On the 2D view paint the whole fish, starting at the tail and working forward.

Next we are going to erase the scales in some areas to reveal the lips and the base skin layer we painted.



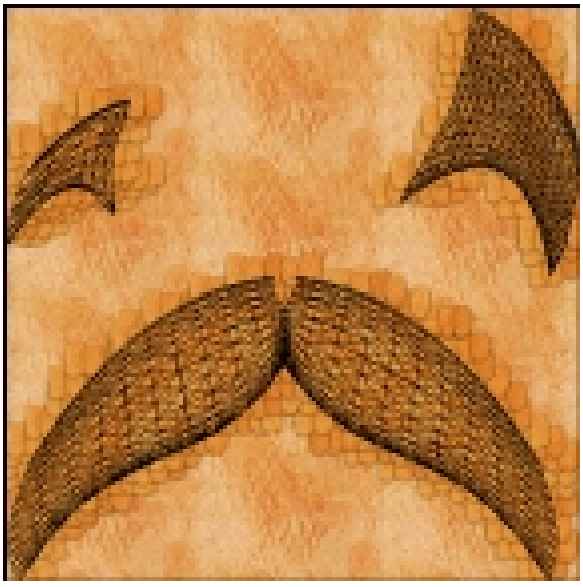
*Select the Simple Brush preset. Select the **Eraser Tool**. Set the brush size.*

Note: *To set a brush size greater than you can set on the slider, hold down the <CTRL> key and draw up or down in the 3D view, or type the new value into the text box. You may also note that while holding down the <CTRL> key you can alter the transparency by moving your stylus left or right in the 3D view.*



Note: *The **Eraser Tool** uses the brush size from the currently selected preset.*

When you have finished blending in the lips with the scales go ahead and paint the fin objects, remembering to start at the tail and work your way forward. Try painting on the fins' **Opacity** channels.



Note: *Opacity does not show in the Deep Paint 3D window. In order to see this you need to render your object. The best way to paint the opacity is on the 2D view with the Display Wireframe showing.*

Don't forget to save your .dp3 project before you close Deep Paint 3D!

Note: *For information on exporting the finished .dp3 object to your modeling software, please refer to the appropriate appendix.*

This brings us to the end of Tutorial 7.

Try creating other Texture Paints on your own to make the fish amazingly colorful. We encourage you to experiment as much as you like in all the areas covered and hope you have fun. If you've completed all the tutorials in sequence, you now have a fairly complete understanding of Deep Paint 3D.

If at any stage you think you have created something really special using Deep Paint 3D, we would love to see it! Please send finished images to:

gallery@righthemisphere.com.

TUTORIAL 10. COMBINING PROJECTION AND ON-SURFACE PAINTING

This third tutorial covers both projection painting and on-surface painting. We will also cover the use of cloning and image floaters.

Estimated time to complete: 1 hour

We will begin by loading the Deep Paintman.obj model. This is a model that was UV mapped in Tutorial 8. We have also supplied some images taken of an orange jump suit as worn by Right Hemisphere staff at Siggraph 2000 (we were there to be noticed!). We will use these images to paste a front and back on the model.

Notes: *These images have been pre-warped to lift the arms up. The process of warping can be done at the time of the projection using any Photoshop compatible image warping plug-in that works with Deep Paint 3D. You can also take any Projection Paint view directly through to Photoshop to use warping plug-ins there. Adobe has in fact added some very good warping tools into Photoshop 6.0 which are ideal.*
Also important to note is that where we suggest scales in the Projection Paint mode the best value may vary depending on your screen resolution (the scale % values given in this tutorial are based on a screen resolution of 1280 X 1024). This is because Projection Paint operates at the current screen resolution. This does not affect any existing image resolutions for areas that are unchanged by projection painting mode. If you are working with textures larger than your screen size you may want to zoom in to work while in Projection Paint mode to ensure maximum quality but the difference is generally minimal.
Also of note *is that any when switching back from Projection Paint mode that projection will be to the uppermost layers in On-Surface mode. This is to provide a WYSIWYG approach to Projection Paint. If you which to project to layers below the uppermost layer simply hide the layers above before entering Projection Paint mode.*

Additionally, we have supplied some images of Brian our demonstrator at Siggraph. (Not without some protests). We will use the front, back and side shots to apply a realistic head texture to this low resolution mesh.

Using File>Load, load the Deep Paintman.obj found in the .../Deeppaint3D/Tutorials/Tutorial10 directory of your Deep Paint 3D installation. Select OK to load.

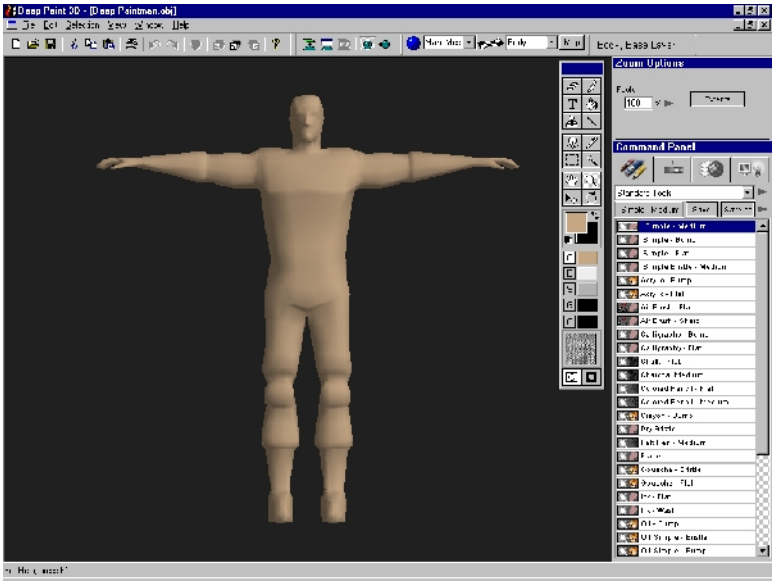


Fig.1.

Load the Jump Suit Front.jpg image as also supplied with this tutorial. Use <CTRL> + <A> to select all and <CTRL> + <C> to copy (Fig.2.).

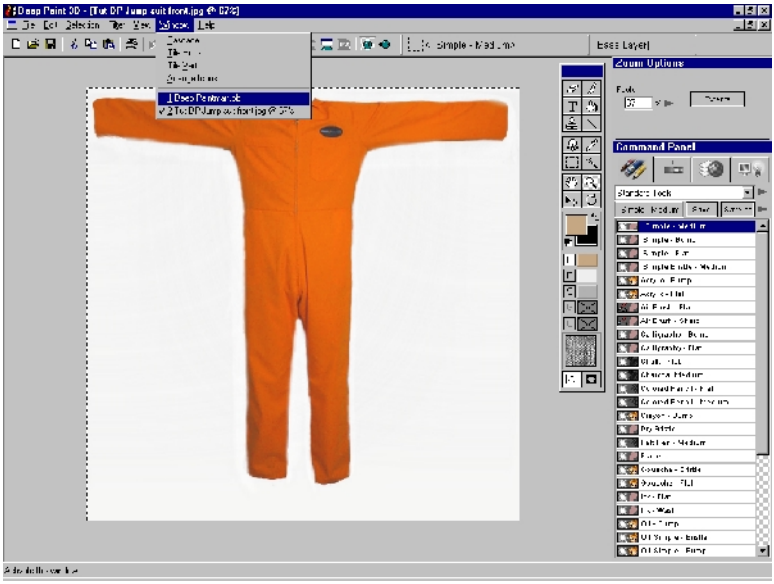


Fig.2.

Switch to the 3D window and enter Projection Paint mode using the Projection Paint icon. Ensure that Paint Hidden Pixels Also is set as indicated with the green arrow in Fig.3b. Paste the image floater using <CTRL> + <V>.

Select the small padlock icon to lock the X and Y size and set the scale to around 60% in the right hand Move Options dialog (Fig.3a).

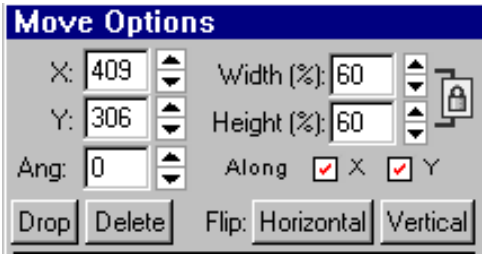


Fig.3a.

Then move the floater into position using the neckline alignment as a guide (Fig.3b.).

Don't worry if there are some white areas left.

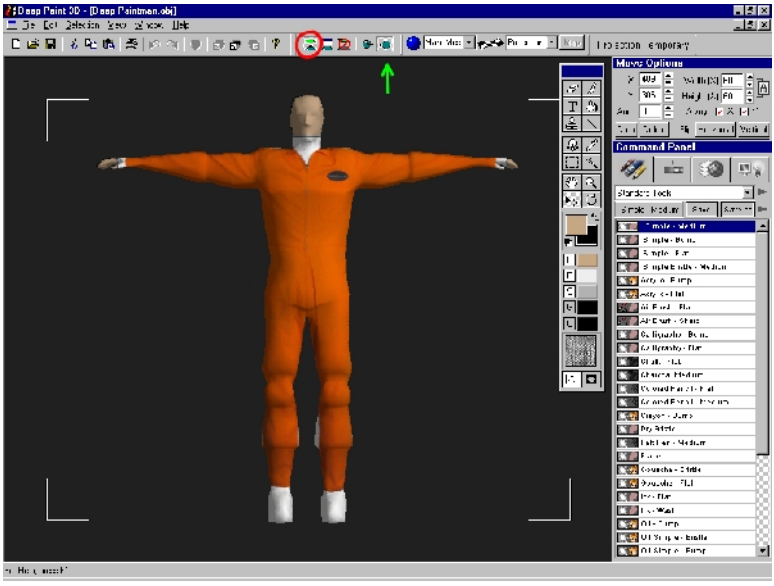


Fig.3b.

Drop the floater using the Drop button.

This will then paste the image onto the front and back and ensure as much of the mesh gets some orange overalls as possible. We will work on touching up the rest of the mesh textures in the following sections of this tutorial.

Load the Jump Suit Back.jpg image as also supplied with this Tutorial. Select and copy the whole image as before (Fig.4.) and switch to the 3D Projection Paint view (Fig.5.).

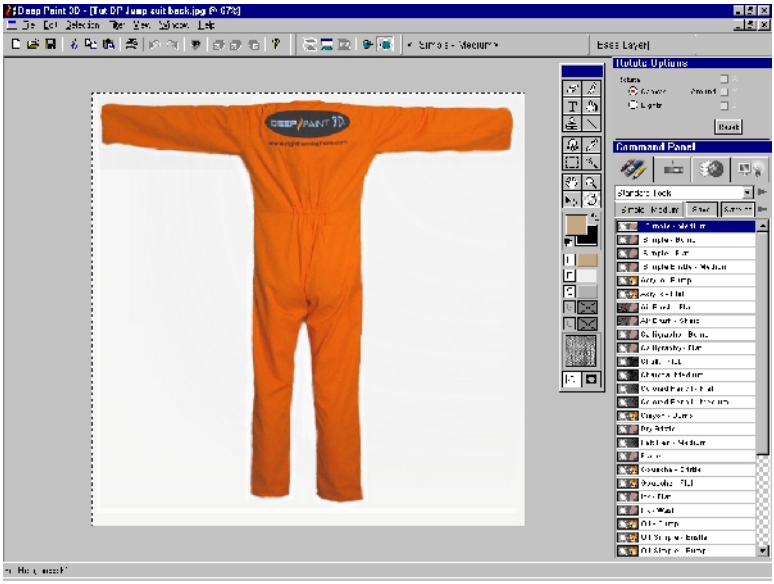


Fig.4.

Align the view to the back. You should notice the back has the same image as the front. ***Important:*** *Set the projection mode back to* ***Paint Visible Pixels Only*** *as indicated with the green arrow. Paste the floater and set the scale to around 60% in the Move Options dialog (Fig.5.).*

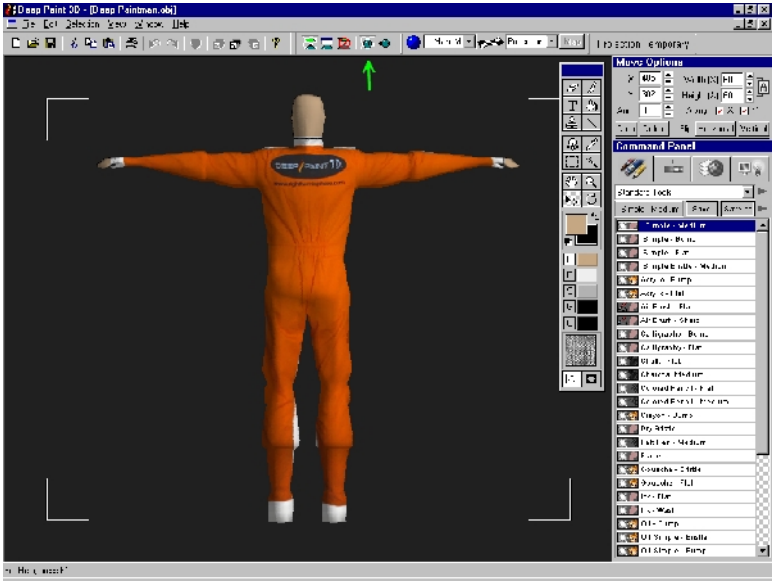


Fig.5.

Exit Projection Paint mode and rotate the view as shown

in Fig.6. Go to the Lighting Tab and set the lighting to the front by clicking on the center of the lighting sphere.

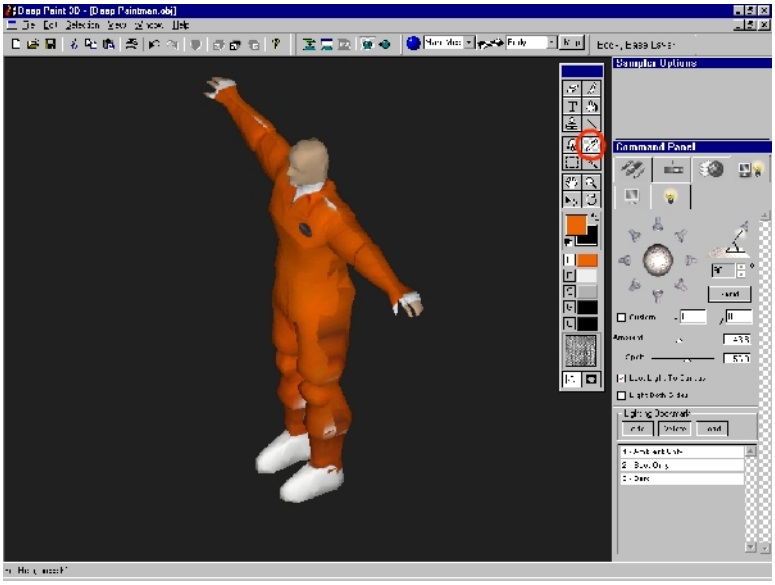


Fig.6.

Use the Eyedropper tool (Fig.6.) to select a mid tone orange from a point on the Jumpsuit. Select the paint tool with the Simple- Medium preset selected. Set the brush size and strength using the <CTRL> cursor up/down and left/right (Fig.7.).

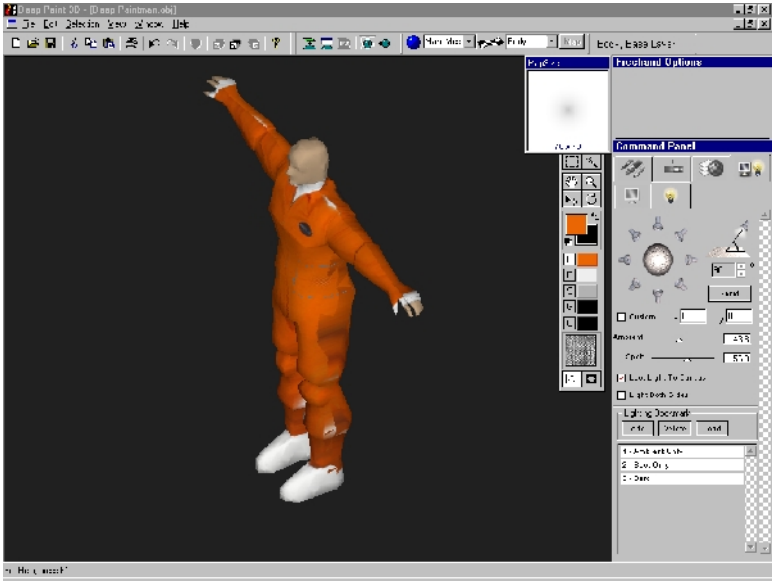


Fig.7.

Use this low strength brush to paint over the areas of discontinuous texture as required to smooth the look of the texture (Fig.8.). Rotate the object around touching up just the main areas that are easy to get to for now.

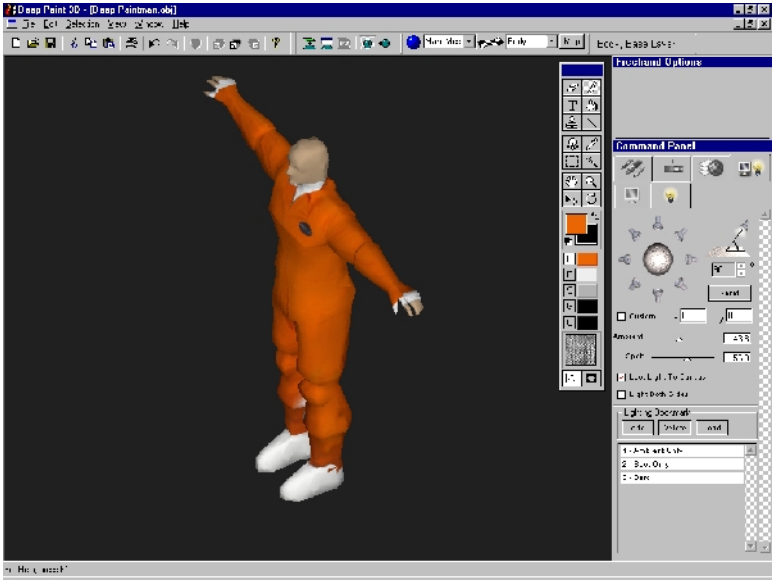


Fig.8.

Now to deal with those difficult to get at places.

Use the Selection tool with the Irregular line option, set to Both Sides Always, and select the left leg (Fig.9.).

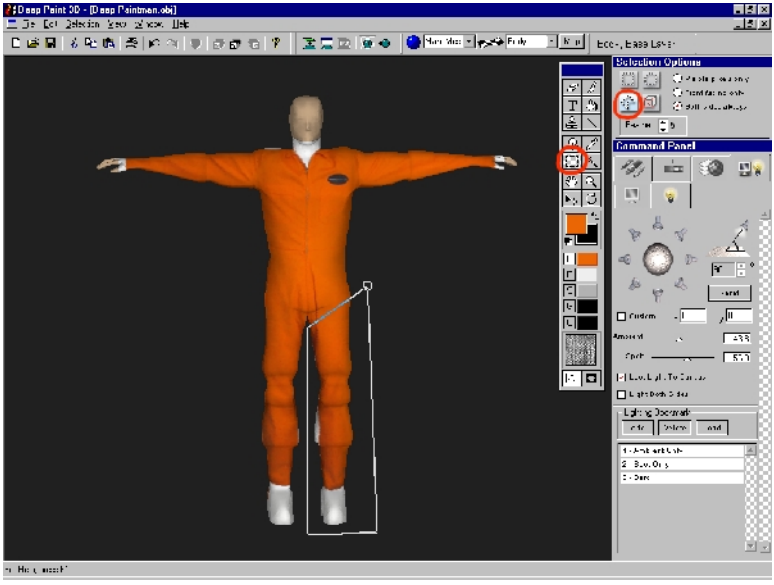


Fig.9.

Right Click with the cursor over the model and select Show only Selected Faces (Fig.10.).

This tool can be used to great effect when used in both Select Texture mode and Select Faces mode and adding and subtracting to a selection with <SHIFT> and <ALT>, (see the Main manual for more detail on these options).

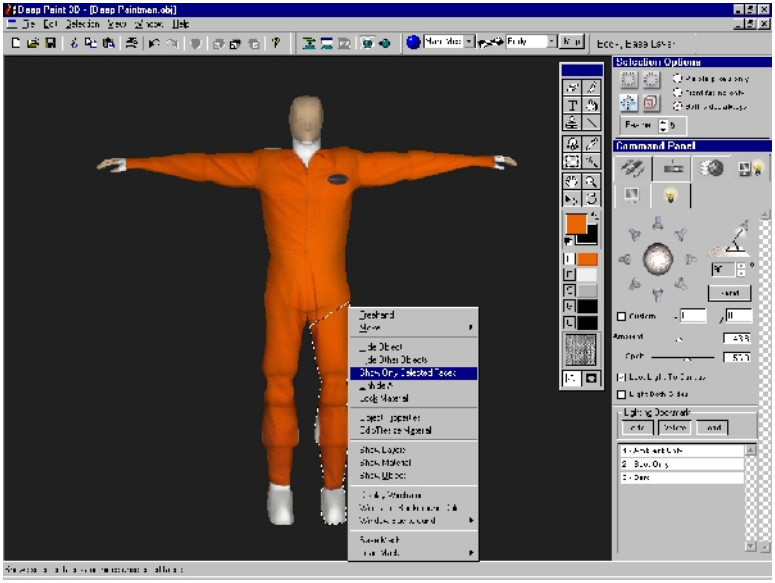


Fig.10.

Rotate the leg to the approximate position as in Fig.11.

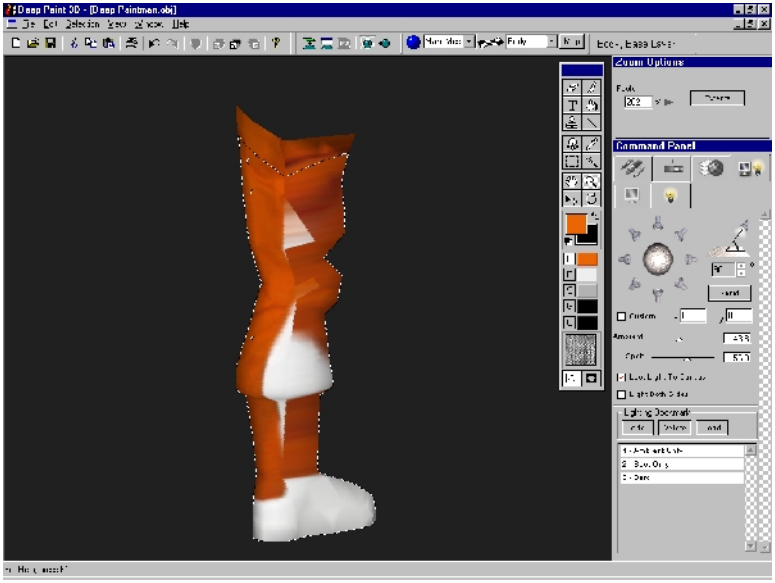


Fig.11.

Use the Paint tool as before to deal with the obvious areas.

We will deal with the boots later in this tutorial.

Right Click over the leg and select Unhide All (Fig.12.).

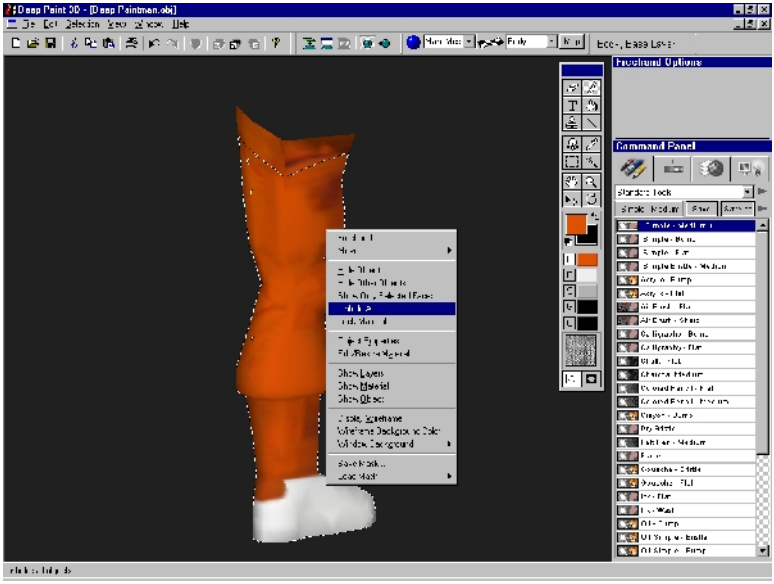


Fig.12.

Set the view to the top and enter Projection Paint mode. Set to Paint Hidden Pixels mode (this effectively paints both sides of the object but also gets into folds that may not be visible from the front view). Select the Human Skin preset from the Skins, Fur and Hair presets category and paint over the hands (Fig.13.).

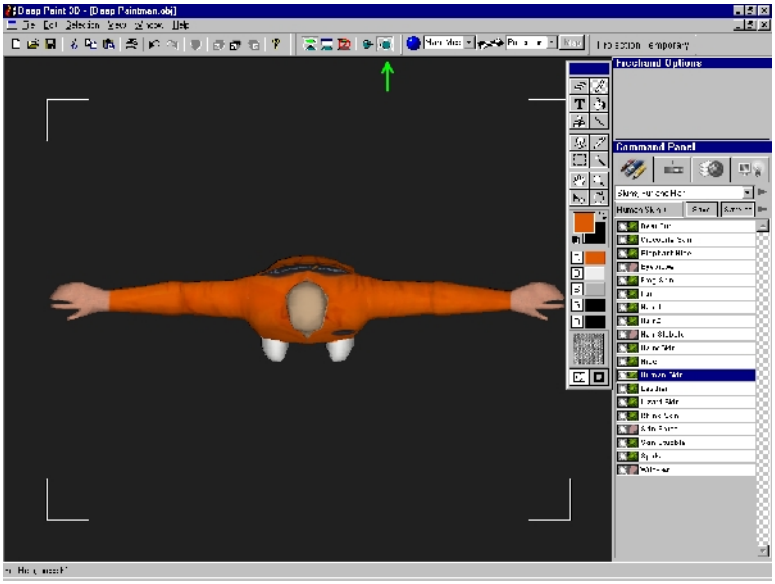


Fig.13.

We will now use the smudge preset to create more realistic variations in the texture. Smudge is very useful in Projection Paint mode. Since the Projection Paint mode has one layer that encompasses all materials and objects, it is possible to smudge and blend across many materials and seams. This is a powerful feature for creating realistic textures for weathered looks or seamless colors across complex organic and non-organic models with multiple seams and materials.

Note: *Using paint presets that reference a layer below or pixels outside the area of the cursor may not behave as expected. As Projection Paint uses one layer for all materials it can be considered like adding a transparent sheet of glass over the model and painting on that. So any presets based on the oil paint, such as smudge, must be set to reference layers below to work correctly (see Fig.14.) before they can be used effectively. It is for this reason that cloning from one place to another is not currently supported in Projection Paint mode. Some of the image processing presets may also not function as expected.*

Set to Paint Visible Pixels Only and set the view to the side (Fig.14.). Select the Smudge preset from the Standard presets category and then go to the Brush and Paint Settings Tab. Set the Oil Paint settings to What you See (Layer Composited) (Fig.14.). Use the Smudge to drag in different levels of orange to blend into fabric wrinkles.

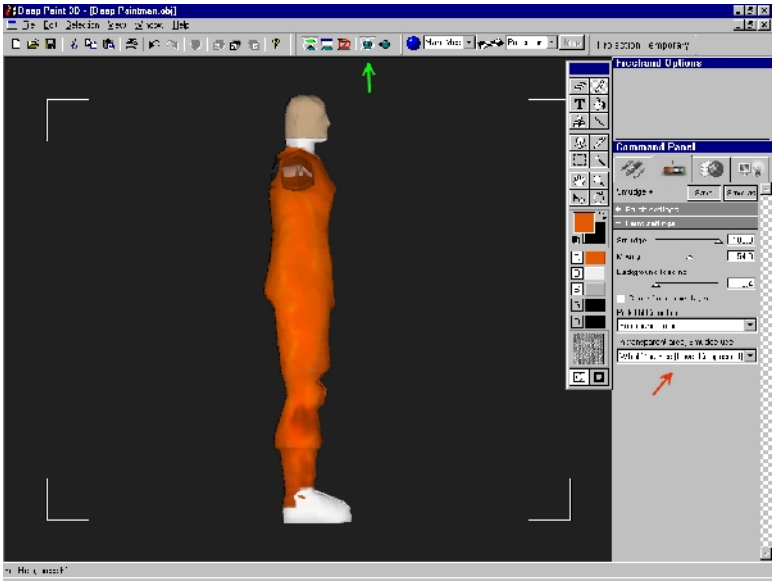


Fig.14.

Exit Projection Paint mode and select the Clone tool from the floating tool bar (Fig.15.). Set the preset to Simple-Medium (the Clone and Eraser tools still respect the current preset brush settings). Use <alt> click to set a clone source. Set the brush strength to very low to get smooth blends. Continue around the model (Leaving out the boots, neck and head) using all of the previous tools and techniques until you are satisfied with the result.

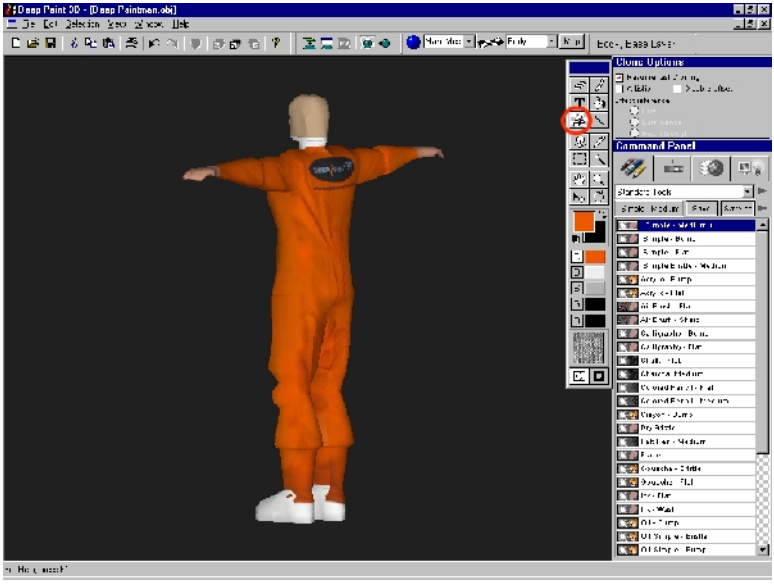


Fig.15.

*Ensure you are **not** in Projection Paint Mode and set the view to left (Fig.16.). Use the Selection tool to select a rectangular region around the boots (Fig.16.). Ensure the selection mode is set to Both Sides Always.*

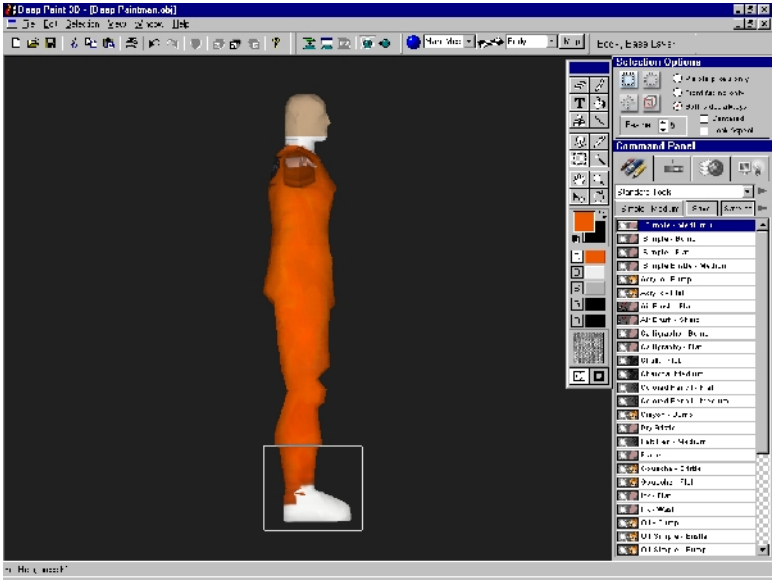


Fig.16.

Rotate the model to the View as seen in Fig.17.

Notice how the Selection set is a true 3D selection set. This may be saved and reloaded for later use.

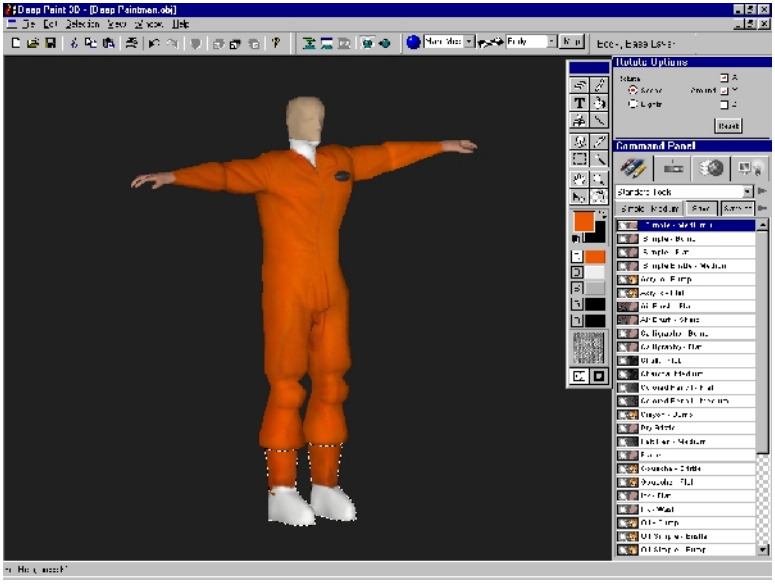


Fig.17.

Use the Fill tool to fill the boots with black or use another color or material preference if you wish. (Fig.18.).

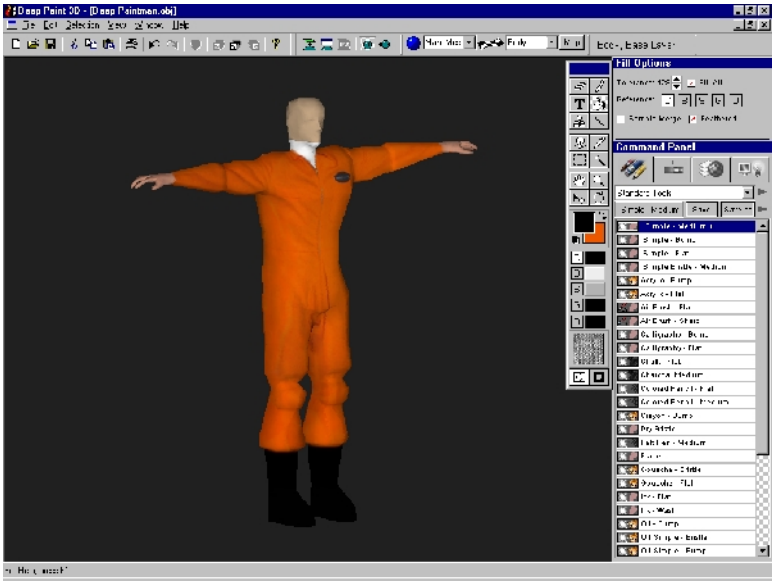


Fig.18.

Use <CTRL> + <D> to deselect and then set to view to the front.

We are now going to set up two new layers on which to past the front and back and side views of the head. By using these layers and the Transparency - Alpha Paint preset we can then subtly blend between multiple projected views. First we will just set up a layer for the front and back.

Go to the layers Tab and add a new layer above the base layer (click on the small grey arrow at the top right of the Layers dialog or Right Click with the cursor over the layer name to get the layers menu). Name it Front+Back using the Layer Properties menu. Add a color channel by clicking in the blank color channel square. Set to Nothing (transparent) as shown in Fig.19.

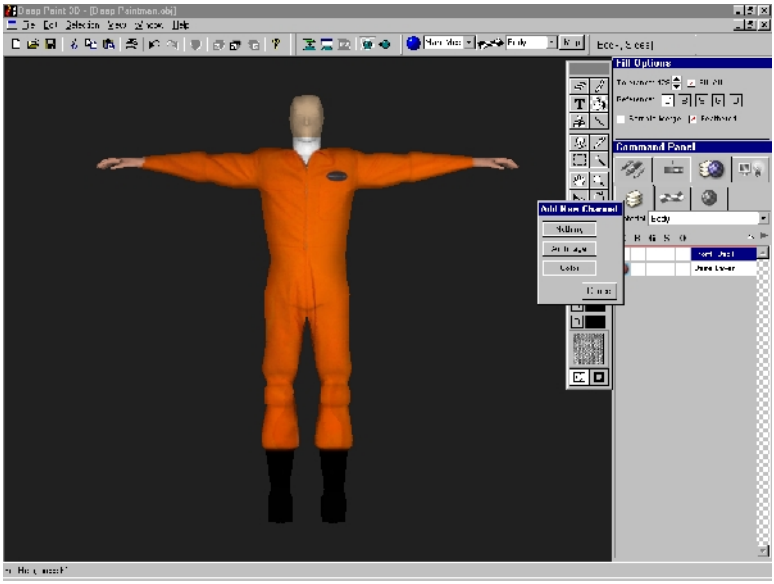


Fig.19.

Use the Irregular Selection tool to select the head and shoulders area (Fig.20.).

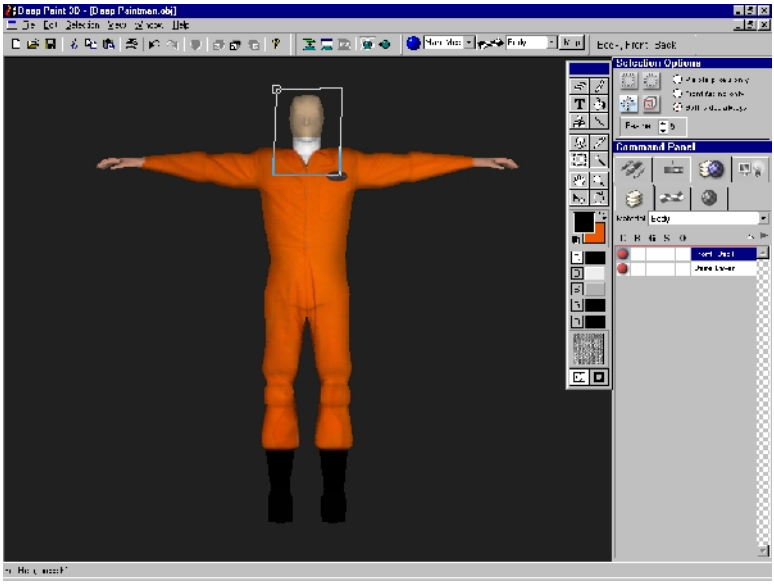


Fig.20.

With this area selected bring up the main window Context Menu by Right Clicking while the cursor is over the model. Select Show Only Selected Faces (Fig.21.).

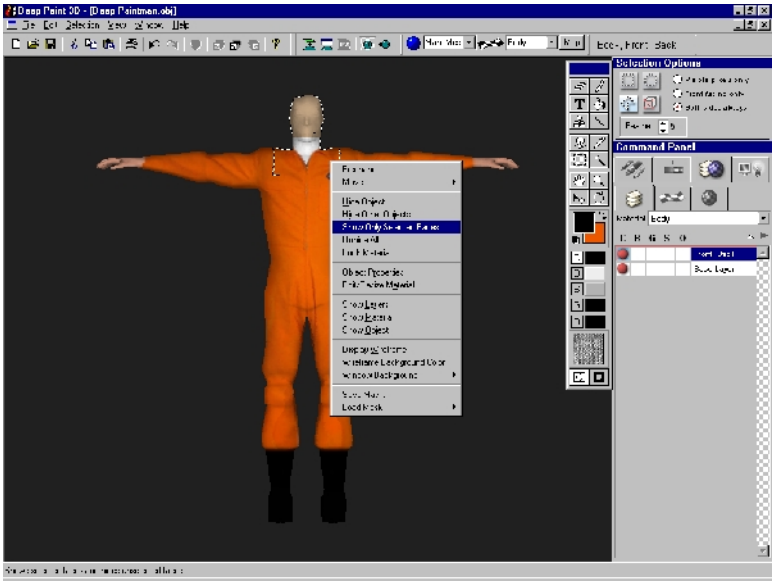


Fig.21.

Zoom into the head and shoulders area (Fig.22.).

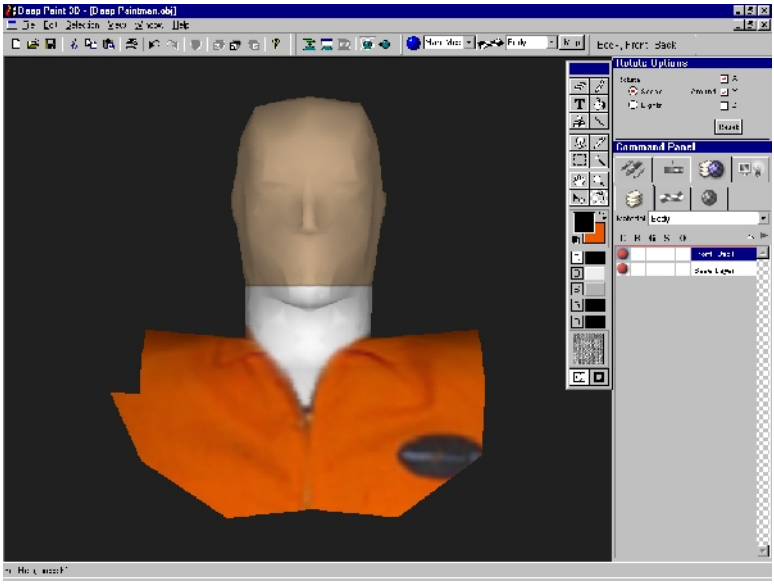


Fig.22.

Set the main window to be floating rather than maximized (Fig.23a.).

This will allow us to open new graphics also in a new window above our main view for convenience.

Open the Frontpicsm.jpg as supplied with this tutorial or

available in the .../Deeppaint3D/Tutorials/Tutorial10 directory of the Deep Paint 3D installation. Select All and copy the image (Fig.23a.). Switch to the 3D window select the Paint tool and enter Projection Paint mode with Paint Hidden Pixels Also set (Fig.24.).

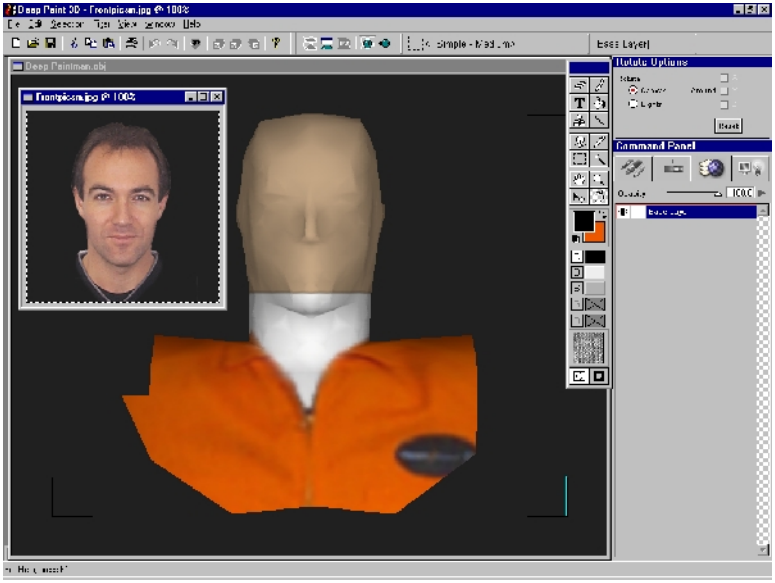


Fig.23a.

Add a layer and color channel above in Projection Paint mode (Fig.24.).

We will use this temporary layer to erase portions of the pasted image before flattening and returning to On-Surface Paint mode.

Paste the image setting the scale to approximately 165% for X and Y.

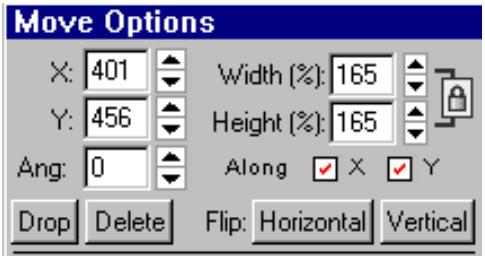


Fig.23b.

Move the image into position using the nose geometry for reference (Fig.24.). Select Wireframe view if necessary.

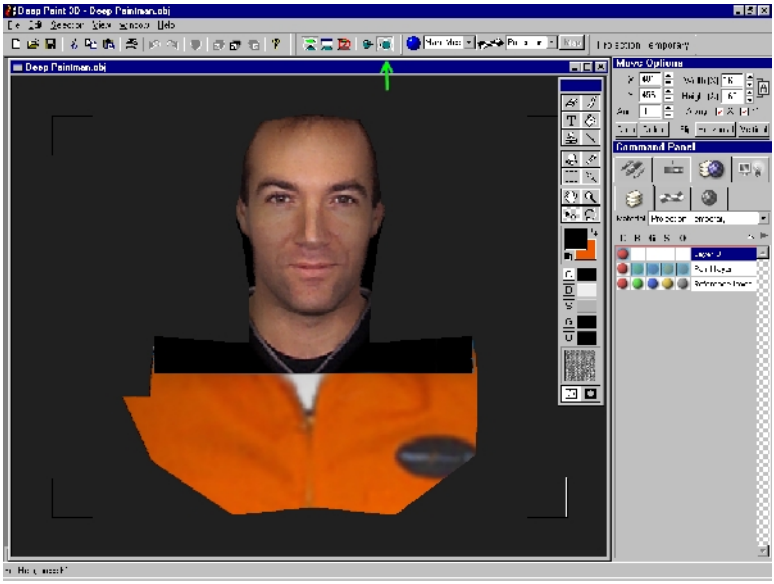


Fig.24.

Use the Eraser tool with a low strength to erase away the areas of the top layer we do not require as shown in Fig.25.

It is worth noting that we could also go to Photoshop if required at this stage.

Now flatten the image (Fig.25.).

Note: *Flattening will not affect the Reference layer, only the layer above it.*

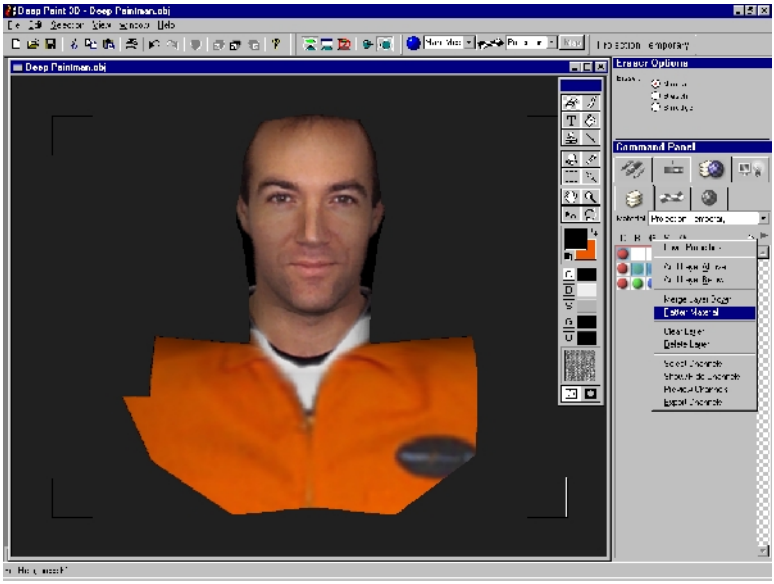


Fig.25.

Rotate the view to the back and load the supplied Backpicsm.jpg file. Select All and copy. You should see the face at the back of the head as well as you pasted with Paint Hidden Pixels Also set (Fig.26.).

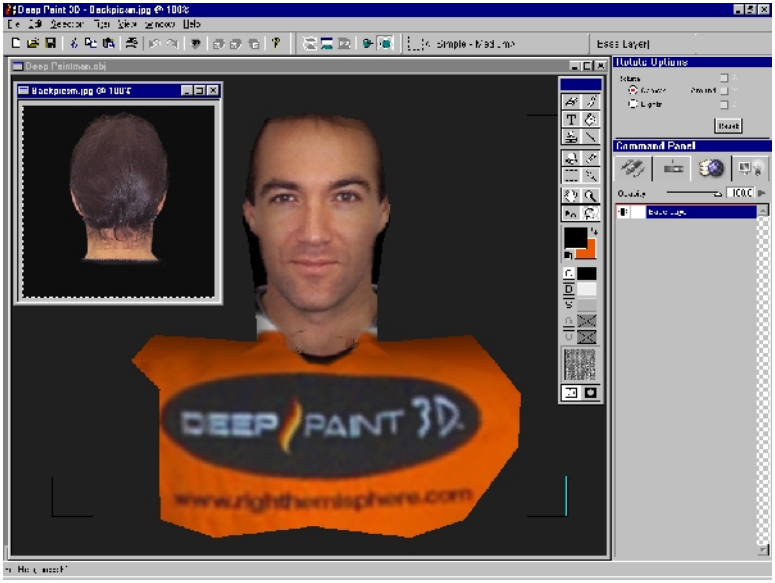


Fig.26.

Switch to the 3D view. Ensuring you are in Projection Paint mode, add a layer above with a color channel only as we did for the front. ***Important:*** *Set to Paint Visible Pixels Only and paste the image (Fig.27.). Use the same scale setting you used on the front.*

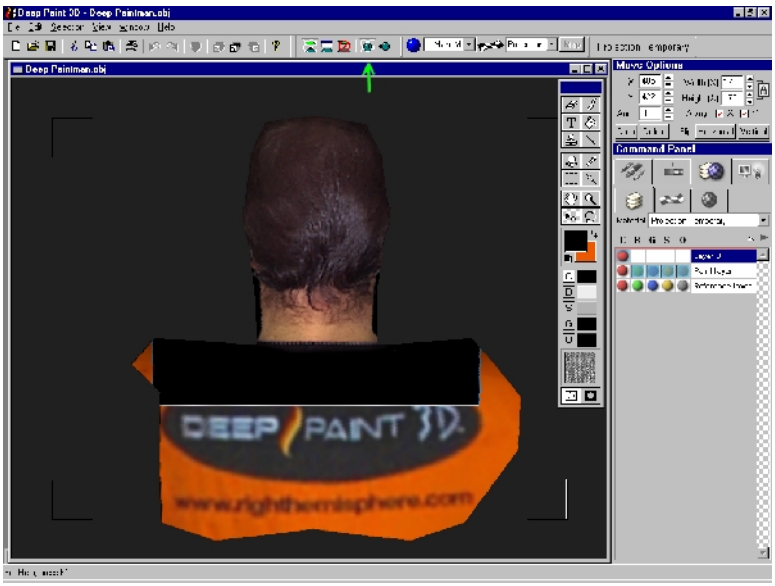


Fig.27.

Erase the areas not required (Fig.28.). Flatten the Material.

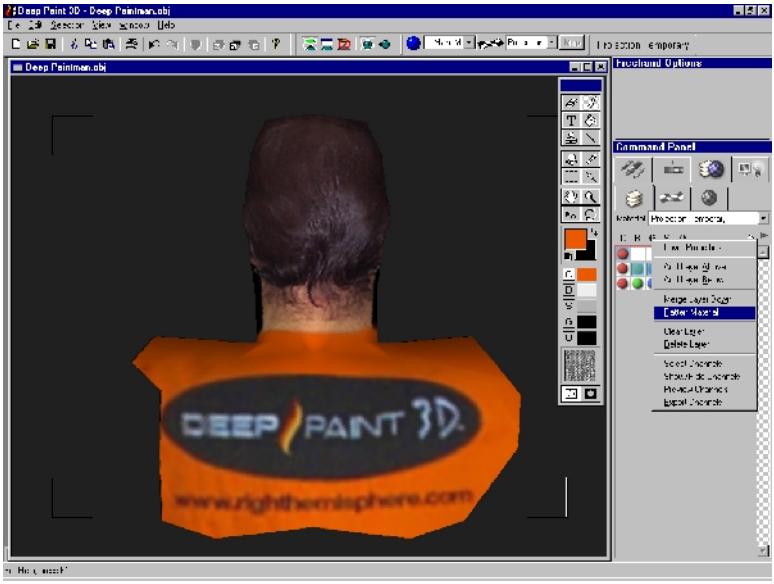


Fig.28.

Select the Rotate icon and then Right Click on the Rotate icon to set to the left view (Fig.29).

Notice that whilst you are still in Projection Paint mode, you can now see the regular On-Surface layer representations. This "halfway" mode allows zoom rotate and pan navigation as well as On-Surface layer manipulation without the need for a full Projection Paint preparation calculations.

Use <SHIFT> and click on the layer to view it or use the layer menu. You should see something similar to Fig.29.

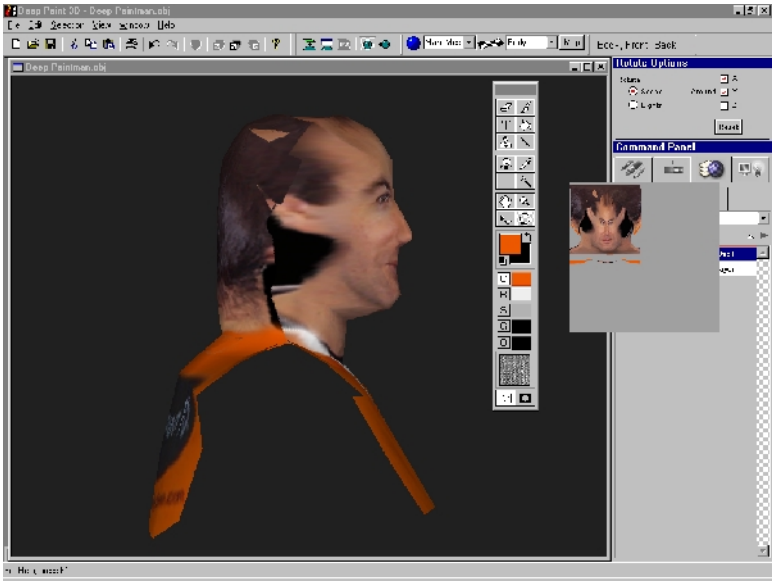


Fig.29.

Set to the right view, ensure you are in Projection Paint mode and add a layer above the Front+Back layer. Name it Sides. Add a color channel (Fig.30.).

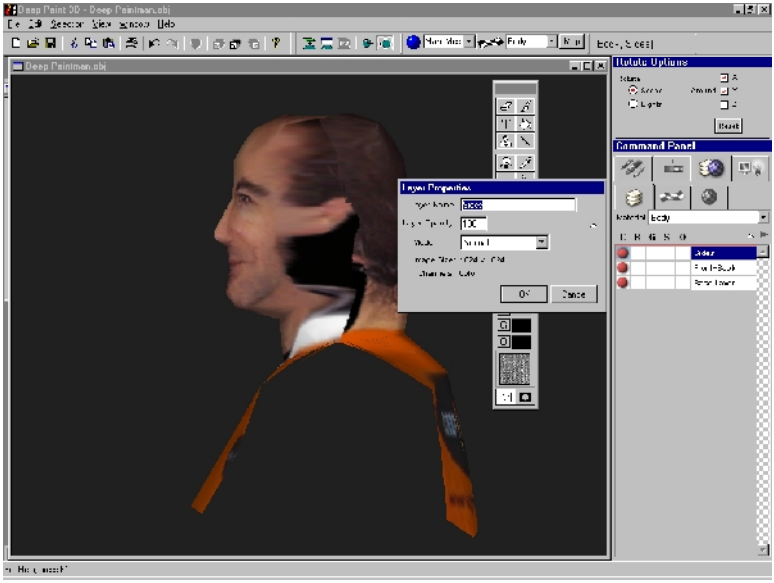


Fig.30.

Open the supplied Leftpicsm.jpg, Select all and copy this image (Fig.31.).

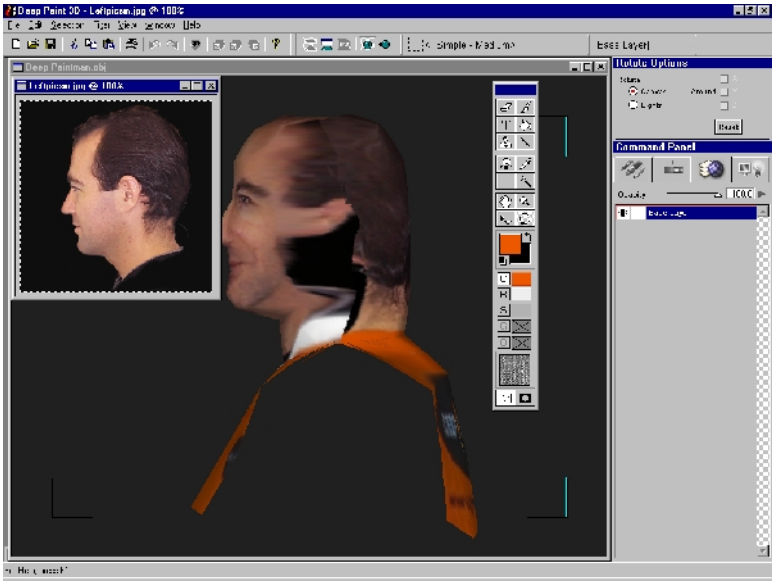


Fig.31.

Switch to the 3D view and set to Paint Hidden Pixels Also Add a layer above and paste the image (Fig.32a.). Set the scale and rotation values as in Fig.32b.

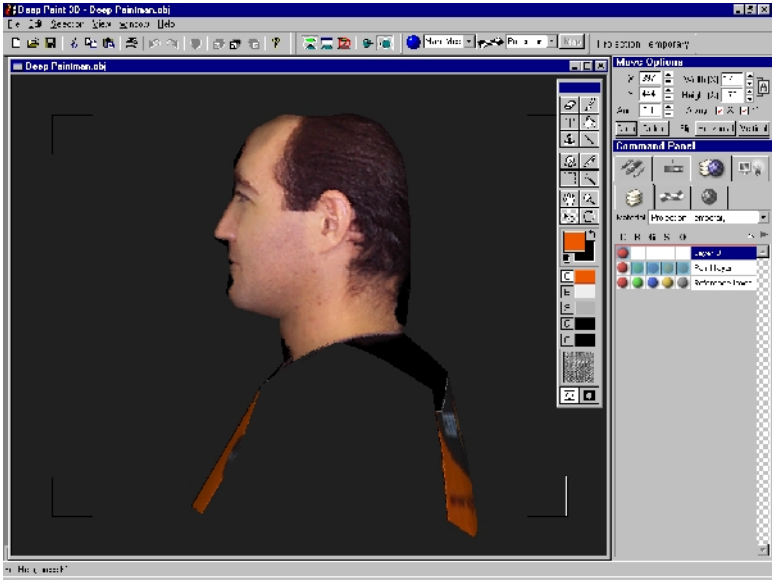


Fig.32a.

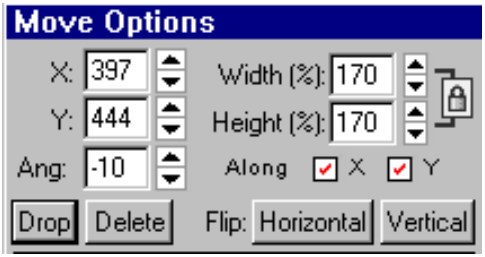


Fig.32b.

Erase the layer so only the neck and head are showing then flatten the material as before (Fig.33.).

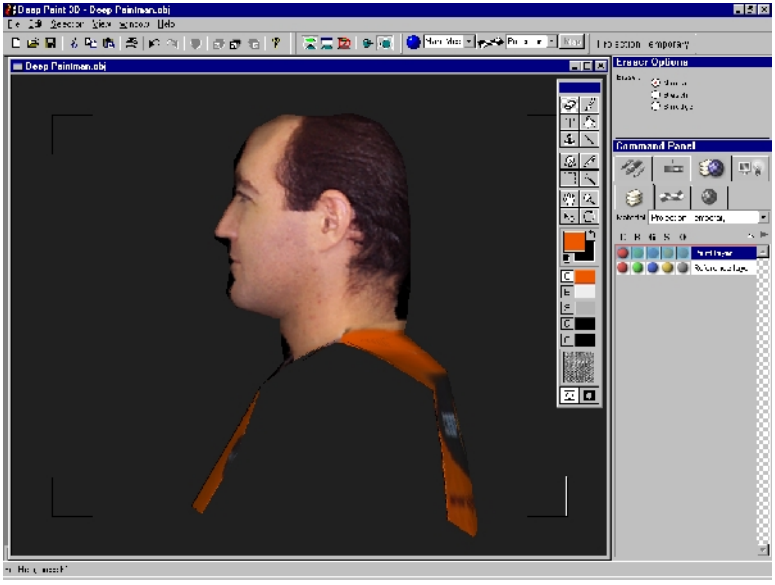


Fig.33.

Exit Projection Paint mode and rotate to a viewpoint as shown in Fig.34. Don't worry if you missed erasing any parts of the previous projection. Click on the Sides layer text to select, and drag the Sides layer to be between the Base layer and the Front+Back layer (Fig.34. & 35.).

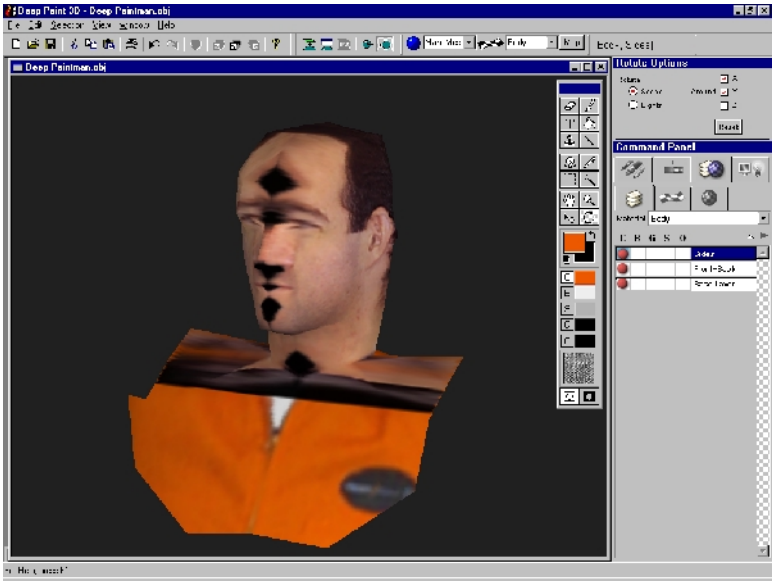


Fig.34.

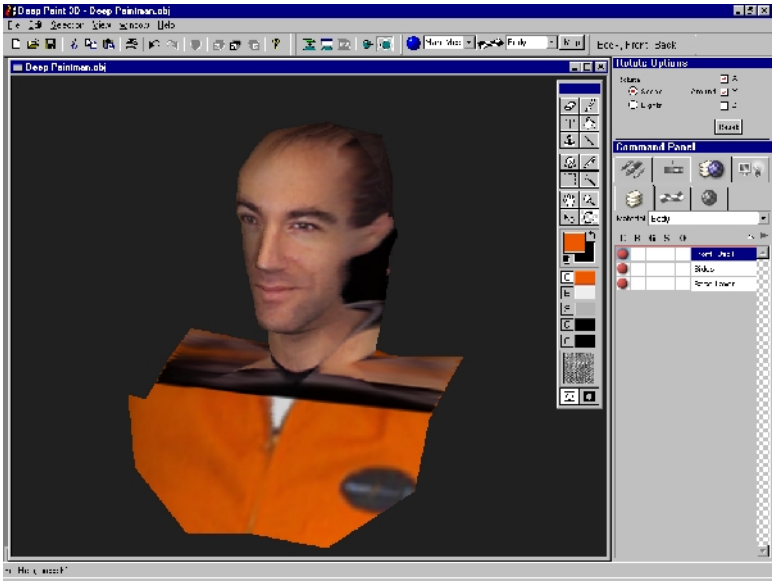


Fig.35.

We are now going to use the Transparency - Alpha Paint preset to softly paint a mask for the front layer to reveal the side projections. We could use the erase tool but the Transparency - Alpha Paint preset will allow us to paint the mask in and out whereas any erasing work would be permanent.

Select the Transparency - Alpha Paint preset from the Image Processing preset category. Open the Color Picker dialog by clicking on the Color swatch in the floating tool

bar. Slide the transperency slider to zero (Fig.36.).

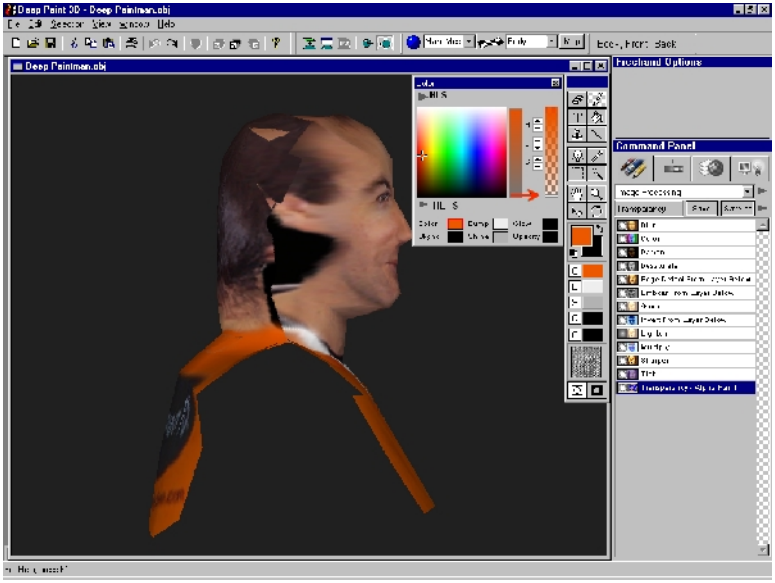


Fig.36.

Use <CTRL> cursor up/down and left/right to set a medium size brush with a low transparency to paint the zero alpha mask with subtlety (Fig.37.).

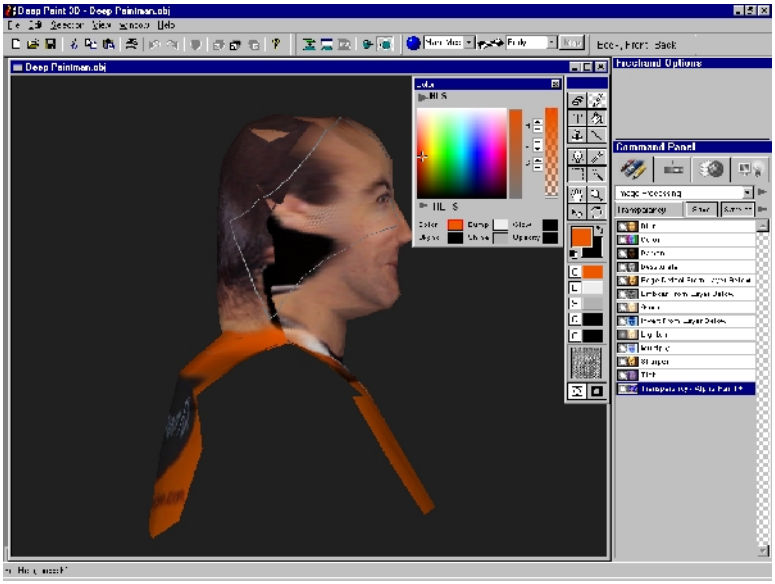


Fig.37.

Paint out the area at the side of the head as shown. If you want to bring areas back, simply set the transparency slider to 100% or levels in between (Fig.38.).

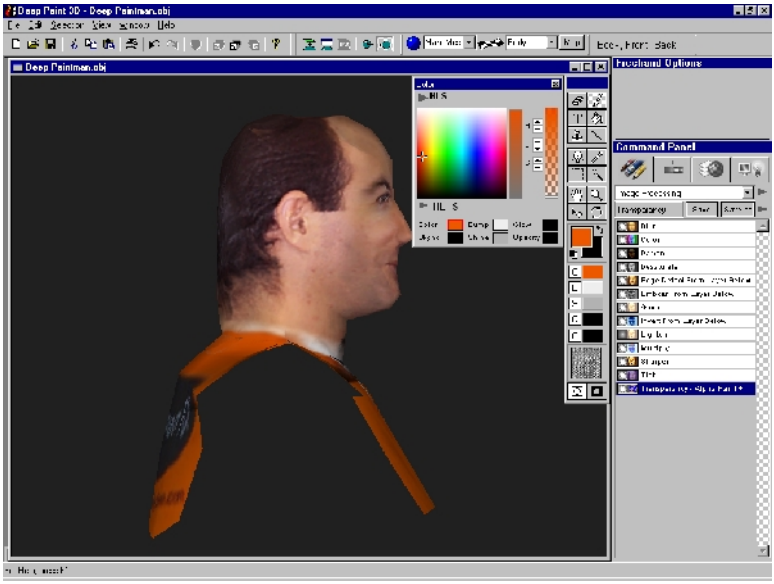


Fig.38.

Move around the head and shoulders removing and adding the layer masks with the Transparency - Alpha Paint preset to get results you are happy with (Fig.39.).

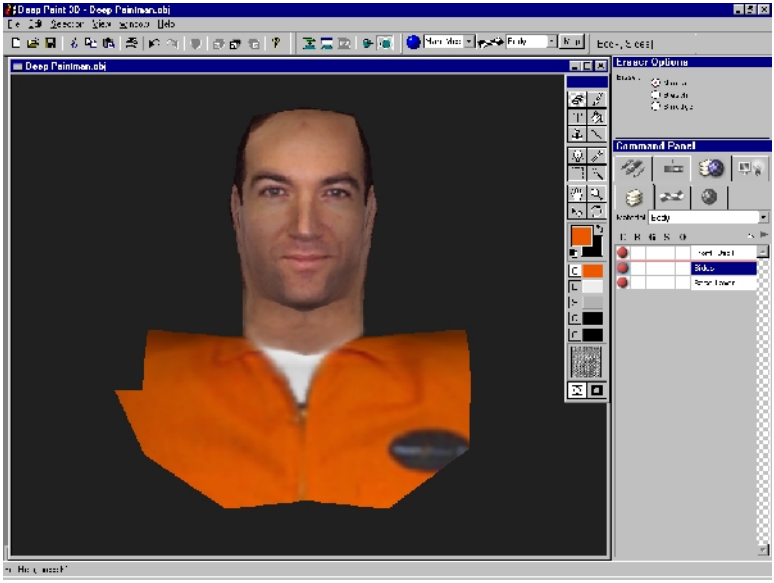


Fig.39.

Lastly we will deal with the unpainted upper chest area.

Align the view to the front and enter Projection Paint mode. Remember to ensure that you are set to Paint Visible Pixels Only. Set a small brush size and use paint

and smudge tools to fill in the upper chest area. (Fig.40.).

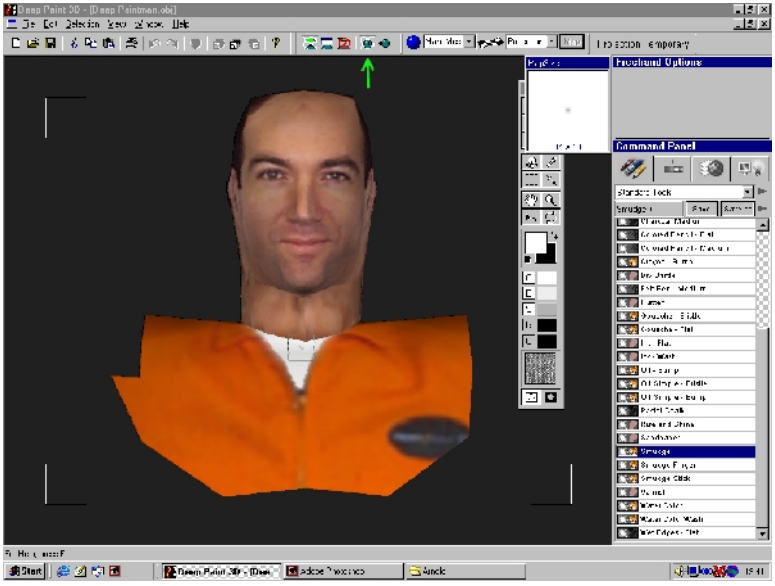


Fig.40.

Use the techniques you have learned in this tutorial to get the results as shown in Fig.41. You may wish to use On-Surface mode for cloning or even paint on the 2D un-wrapped view (not shown in this tutorial). Use the Clone tool to even up the hair line.

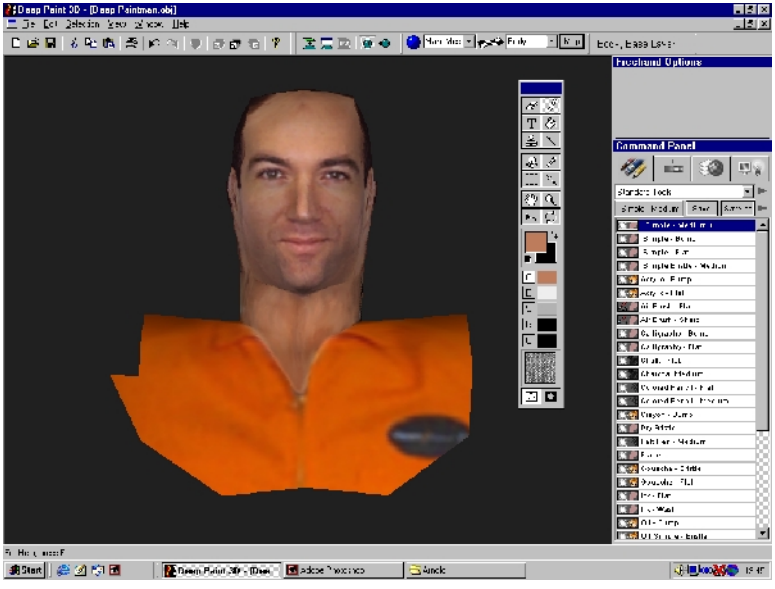


Fig.41.

When you are satisfied with your work Right Click with the

cursor over the 3D object and Unhide All (Fig.42. & 43.).

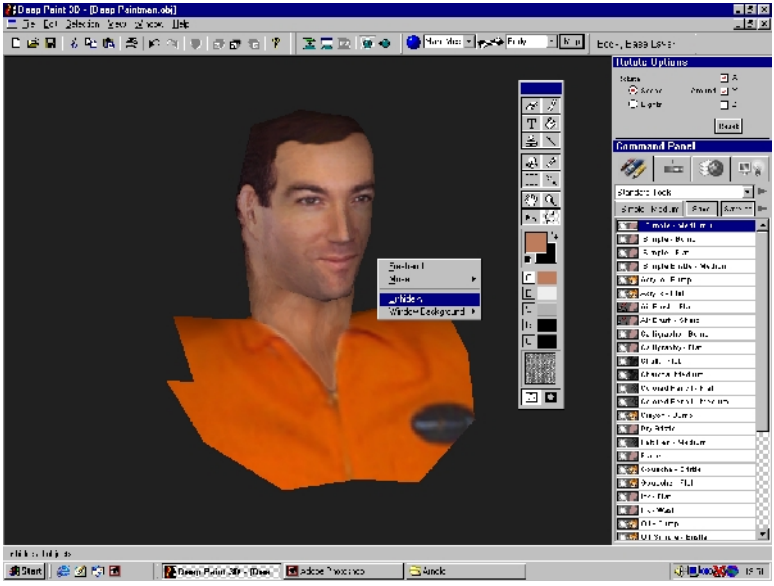


Fig.42.

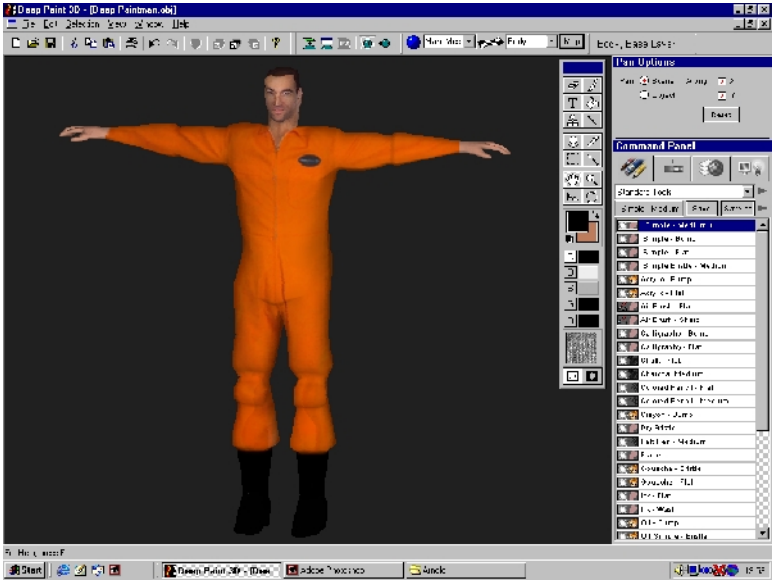


Fig.43.

It is worth noting that we have used a texture of 1024 X 768 size. We recommend using larger textures and re-sizing down to the required size at the end of you work. You can confirm this by flattening all the layers and re-sizing the image to 512 X 512 or even 256 X 256 (Right Click over the model and select Edit / Resize Material). You will be surprised at the results. In summary we have shown how we can use a variety of painting and image processing techniques to texture an object. We encourage you to experiment with these ideas on this and other models. That concludes this tutorial.