

# 3D "Newbie"

# SPACE: Above, not beyond!

Breaking the Lightwave learning barrier!

Tutorial 001

**‘Where does one start?’** That’s the question I asked myself when I started out to develop a series of beginners tutorials for Lightwave 3D. It was a tough question indeed - One that I was at first confused with, but then began to think back to what had first bought me to look at Lightwave as the 3D package of choice...



*“Babylon 5”*  
(TNT/Warner Bros.)  
Lightwave’s 3D power  
brings outer space to the  
small screen!

**Babylon 5.** It was an interesting TV show, not just for its fascinating 5 year story arc but for another very good reason - The fact that it contained amazing spaceships, action and effects, all computer generated by none other than Lightwave 3D!

I wanted to be able to create that kind of stuff too! The fact that a person could create movie-quality space effects in their own home was an exciting idea - with Lightwave, I could escape into my own homemade science fiction worlds!

## So, what’s the plan?

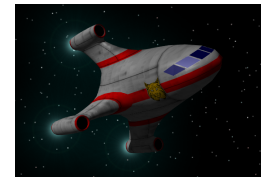
Over the next few months, I plan to present a series of project based tutorials to take the new Lightwave user through basic modeling techniques, to surfacing concepts, and finally animation! With science fiction and other fantasy subjects being a favourite of many Lightwave users, I figured I’d start the first series of tutorials off on a ‘space’ theme!

## What’s the first project then?

The goal of this first tutorial is to show you how to create a spaceship in Modeler. While this at first might not seem exciting, it will be followed in the next tutorial with making realistic surfaces and textures, and the third

tutorial with animation and lighting techniques to bring this model to life!

As we go through each tutorial, I hope you also will learn about how Lightwave works and pick up tips and tricks that you can



*fig 1.* Our project goal!

apply to your own projects later on. When we’ve finished, we’ll hopefully have something that looks a little like *fig 1.*

## Welcome to your first project!

Yes, welcome indeed! This is the first of my beginners tutorial, the aim of which is to present the newbie with a guide to using Lightwaves Modeler program to create a spaceship.

Now if you are already familiar with Modeler, you’re probably already envisaging cylinders, cones and many other bits and pieces being connected to create the final spaceship...

Actually, no, in fact all I’m going to use in this tutorial is a box (and about 2 or 3 of Modelers basic tools) to create a spaceship in under 20 minutes!

You’re probably aware that Lightwave has a great modeling tool called MetaNURBS - This is the tool that allows a box to become just about anything. In this case, we’ll be creating a spaceship!

## So, where do we start?

If there’s something I can’t say enough, it’s **‘Plan your project’** - You’d have no idea how many hours I’ve wasted in frustration trying to create something off the top of my head! You should start anything with a piece of paper, a pencil or pen and a mind of ideas!

The first thing I did when I started writing up this tutorial was sit down and sketch together some ideas (*fig 2*) - Just off the top of my head, I’d plaster a variety of designs down

on paper... I'd start with one design and then refine it.

When you design spacecraft, try to think about what and where items should go. If they look cool, put them in! If they are a functional item, even better!

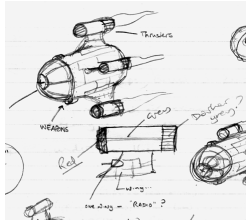


fig 2. Plan your project

Once I was finished, or my mind finally couldn't pump out any more ideas, it was time to sit down and start looking at how I would start building this model... Luckily for this tutorial, the spaceship I designed just happened to be perfect for a stroll down MetaNURBS Lane! ('How convenient' I hear you say!)

### Ready, Steady... oh, and...

Start up the Modeler program. At this point, I'm going to assume that you are at least basically familiar with this program. If you aren't, hopefully my instructions will be simple enough for you to follow (I'd suggest also taking a good read of chapter 18 of the Reference Manual included with your copy of Lightwave).

Throughout this tutorial, I will be asking you to press keys - indicated between two square brackets - Please note the case of this key, as upper and lower case actually do different things in Modeler. At this point, I suggest that you make sure that the CAPS LOCK light on your



fig 3. Click the Box button.

keyboard is off! Lets start with making our box. Click the BOX button (fig 3) on the left of the Modeler screen to activate the box create mode. Now press [n] (or click on the NUMERIC button) to open up the Numeric requester. We'll be using the Numeric requester for many of our tools, so get used to hitting the [n] key a lot during this tutorial!

By default, the values should be **-500 mm** and **500 mm** on each axis. (If not, click the RESET button) Change the Z low value to **-800 mm** and the Z High value to **800 mm**, then click the OK button.

You should see a blue-ish box shape appear in Modeler. To create the box, hit [ENTER]

(or click the MAKE button. (Just above the NUMERIC button))

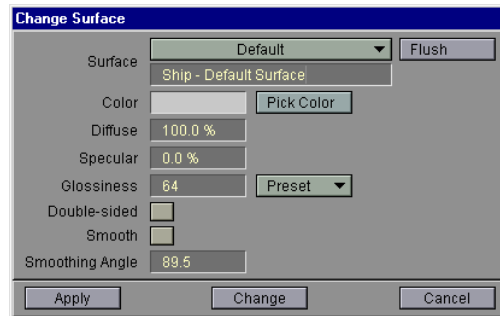


fig 4. The surface requester

Before we go any farther, let's start off this new model by naming the surfaces of the box. This will help us with the surfacing of the model in our next tutorial later on! So, press [q] to open up the Surface requester (fig 4), and type into the surface name the words 'Ship - Default Surface'. Click the APPLY button.

### Wow... It's an, eh, box?!

Well, we've made the first part of our spaceship model — a box! But take a look back at the sketches and you'll see there are tail wings with engines attached. How are we going to make these? Simple, we're going to grow them out of the box itself using the BEVEL tool...

The wings attach to the sides of the spaceship. To make sure that we only grow

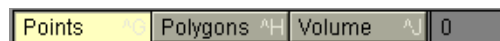


fig 5. The selector buttons at the bottom of the window.

the wings from the sides of the ship, we better make sure we select the sides then. How do we do this? Simple - click on the POLYGON selector button (fig 5) at the bottom of the screen.

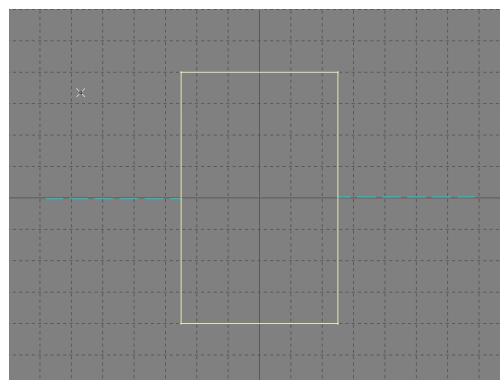


fig 6. Middle polygons only – Not the ends...

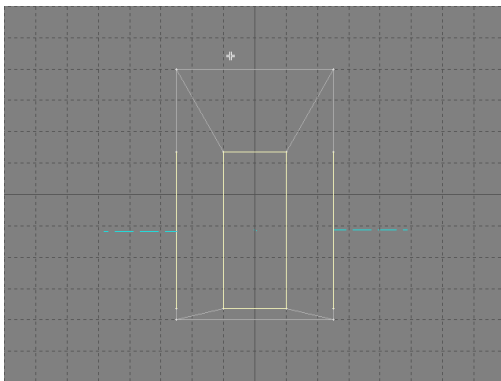
Move the mouse over the top view of the box, hold down the Left Mouse button (from now on referred to as *LMB* and *RMB* for Right mouse button) and drag the mouse over the polygons in the middle of the box (*fig 6*). DO NOT select the end polygons as these are not needed.

Press [b] to open the Bevel requester. The inset value tells Modeler how far inwards we want the polygon to 'bevel', and the shift value tells modeler how far to extrude it.

Type **300 mm** as the inset value, **0 m** for the shift value (ignore the other settings in the requester - They should all be **0** anyway be default) and click the OK button.

We've created the base of our ships wings. But you'll see that these are in the center of our box, and in my sketches, I had them at the back. We'll have to shift them towards the back, so press [t] (or you can click on the MODIFY tab at the top of the screen, then the MOVE button.)

Press [n] to open the numeric requester and enter the value **-230 mm** into the Z value.



*fig 7. Move them bevels!*

Make sure that the X & Y values are both **0** and then click the OK button. At this stage, your box should look a little like *fig 7*.

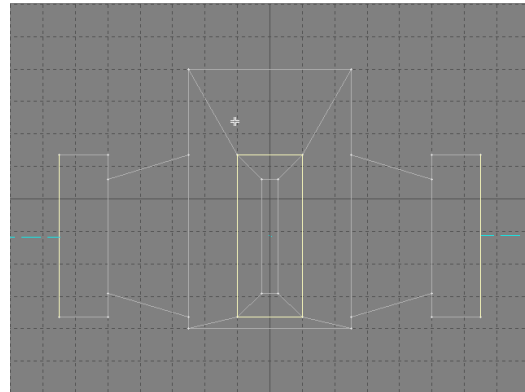
We're now ready to 'grow' our wings — press [b] to bring up the bevel requester yet again (Like the numeric requester, get used to the bevel one as well, it's going to be used a lot in this tutorial!). Enter an inset value of **150 mm** and a shift value of **500 mm** and click the OK button.

### ***Fly away home, or not?***

Now we have the wings, we won't be going very far unless we make some engines! This is pretty simple — just press [b], and enter **-150 mm** as the inset value and **0** as the shift value. Click the OK button. Note that the bevel operation works with negative numbers as well as positive ones! By using this negative number, we've created polygons

outwards from the top of the wings - these form the bases of our engines.

Flat engines aren't going to fly us anywhere so press [b] and enter **0** as the inset value and **350 mm** as the shift value, click OK and believe it or not, we're very close to



*fig 8. Nearly there!*

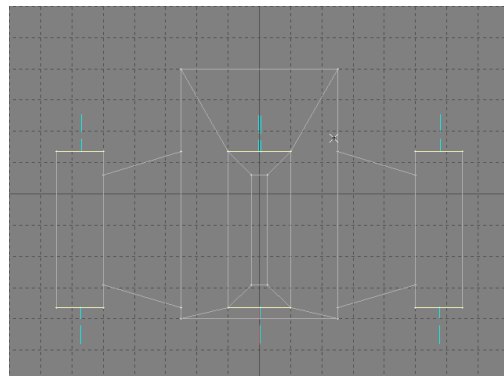
finishing our spaceship! (*fig 8*)

We're finished with the wings for now, So you can deselect the polygons - Either by holding the LMB and dragging the pointer over them, or by clicking inside the counter next to the VOLUME selector button at the bottom of the screen. By clicking in this box, anything selected (points, polygons) instantly get deselected!

But, hey, how do these engines work? Afterall, aren't engines supposed to be tubular - Where does all that high-energy come out to push the ship along! Well, we better add some 'holes' to our engines then, shouldn't we!

For this, we'll need to select the polygons on the ends of the engines - You can do this like we did for the wing by holding down the LMB and dragging the pointer over the polygons - At this point, don't worry if you select too many polygons because once you've finished, simply release the LMB, then hold it again and drag the pointer over the polygons that you want to deselect.

When you're finished, your Modeler screen



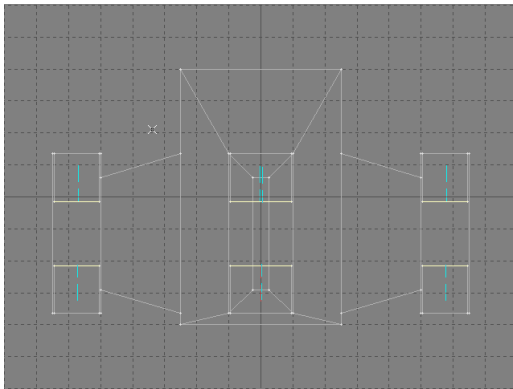
*fig 9. Just the ends!*

should look like *fig 9* with only the 8 polygons selected.

Press [b] again. Enter **50 mm** as the inset value and **0** as the shift value and click the OK button. Now, hold on for one minute...

Like I said previously, we need to name the surfaces of the polygons so that we can apply textures and the like in the next tutorial. And since the insides of the engines should be surfaced (usually black) then press [q] to bring up the surface requester and name the surface '**Ship - Engine (inner)**'. Set the colour of this surface to black. Other than that, you can leave all the other settings as they are.

Click the APPLY button. Now we need to make these into tubes. To make this so (as Captain Picard would say), press [b] and enter **0** as the inset value and **-300 mm** as the shift



*fig 10.* Bevel for creating inner parts of our engines.

value. Click OK.

We used a negative inset value to create polygons that stick outwards, and again by using a negative number in the shift value, we've created internal shafts in the model, ideal for our engines! (*fig 10*)

You can now deselect these polygons. Our basic spaceship is now complete.

### ***Tweak! Tweak! Tweak!***

After doing this, I noted that the whole object seemed to feel a little stubby or short to say the least. I decided to correct this by elongating the nose of the ship, or the front of the box to be more exact!

To do this, we are going to select the POINTS selector at the bottom of the screen. Now, select all the points at the front of the box (ie. The end *farthest* from the wings). You can do this like you previously did with the polygons by holding down the LMB and dragging the pointer over the points...

### ***Yippee-kay-yeeeeeee!***

Or there is another way you can do this, and that is by lassoing them that pesky points!

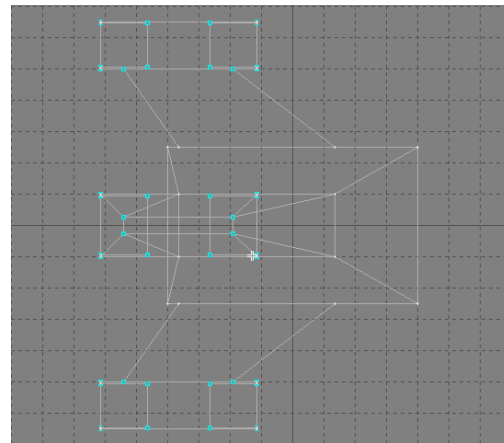
How? Simple... Just hold down the RMB and then draw a lasso around the points you want to select (You'll see a blue line appear as you move the pointer), then let the RMB go to select the points within this lasso'd area. Like the dragging technique, you can also use the Lasso technique to deselect items like points and polygons!

Now that we have the points selected, click the MOVE button (or press [t]) and then press [n]. Enter the value **500 mm** into the Z value, making sure that X and Y are both **0**. Click the OK button.

While we're on the tweaking side of things, let's also take a look at those engines... Hey, even though my sketch shows straight wings, I think by sweeping the wings back, our ship would get a sleeker look to it, so lets do that...

If you still have the box points selected, deselect them now. (Using one of the techniques we discussed during the tutorial – Dragging the pointer over the points, Clicking that count value or the New Lasso technique.)

To move the engines and wings into a sweep back position, we'll select their points and just move them backwards... To select the points easily, I suggest using the Lasso on the face view of the box. Start at the top engine and Lasso around entire engine - Let the RMB go and you should see all the points in the top



*fig 11.* Swept for speed!

engine selected.

Now select the bottom engine using the same technique...

Doesn't work, does it! If you release the mouse button, you need to hold the [SHIFT] key down to select more points (after the RMB or LMB is released, the pointer will be in deselect mode). Hold the [SHIFT] key and try again - Once you've selected the bottom

engine, move onto the left and right ones until you have all the engines selected.

Click on the MOVE button (or press [t]) and then press [n]. Enter **-500 mm** into the Z value and click the OK button. Yep, a little sweeping really makes this ship start to look faster! (fig 11)

### Great, it's a box with wings!

At this point, I suggest you save this model as **SHIPRAW.LWO**. This will keep a copy of our basic ship in case you feel you'd like to come back at a later date and do some playing around with new ideas!

You're now at the point to take a look at one of Lightwaves best kept secrets - *MetaNURBS*.

With this tool, you'll be able to see what our ship will finally look like quickly! First you'll need to deselect any selected points.

Once you've done that, press [TAB] and take a look! (fig 12) Suddenly our box becomes a smooth looking spaceship, much

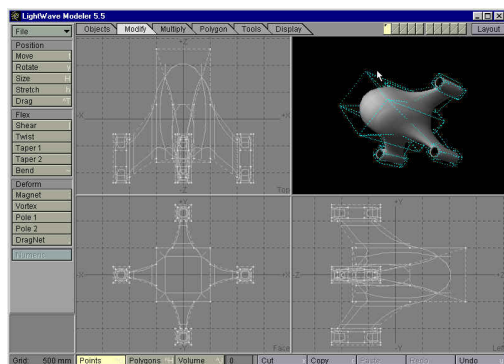


fig 12. From box to spaceship with MetaNURBS!

like I indicated in my original sketches! If you're using the OpenGL shaded preview (as seen in fig 12) you can click and hold the LMB in this window and swivel the ship around to take a good look at it! Nice huh!

What's great about MetaNURBS is that you can edit and manipulate this model while it's displayed in this new smooth mode. The box we originally created has now become like a cage surrounding our ship, and when you manipulate any points or bevel more polygons, the MetaNURBS ship will conform to this cage.

You can think of MetaNURBS as being like a blob of rubber inside a box. As you move the points of the box, the rubber expands and flows into the shape of the box... It's an interesting technology, and I could burble on for hours about the way it works, but enough for now... Let's continue...

### Artistic freedom is great!

Hey, after taking a closer look, this ship does look a little *blobby* - We could do something with this and make it a little sleeker again (Much like sweeping the wings). The front of the ship, now it's rounded like the original sketch, but the original sketch was just an idea, and once we get things on screen, we start to see other possibilities...

Lets make the body of the ship a bit more shark-like by giving it some streamlining. Since we can see and edit the new smooth model by dragging and moving points, lets do that... I played a little by clicking the MODIFY tab, then the DRAG button. By holding down the LMB after the pointer was over the lower nose points, and then dragging them in the 'Side' view forward and up, I got a shape I liked. This DRAG button allows us to move points about without having to first select them.

If you'd rather just get what I already found without experimentation (fig 13), just select the lower nose points and press [t] (or click the

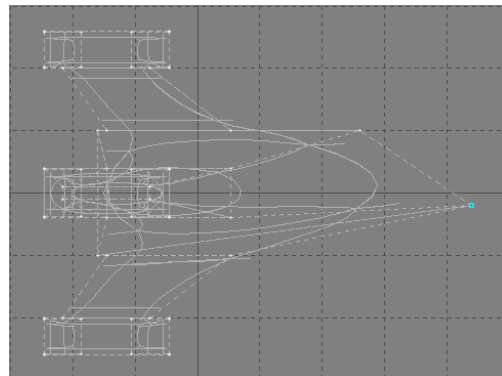


fig 13. Streamlining the ships nose.

MOVE button.) Press [n] and enter **0 m** in the X value, **400 mm** in the Y value and **900 mm** in the Z value. Click the OK button.

This is about where I felt this ship looked good and was ready for the next stage. Unfortunately the MetaNURBS is only a tool in Modeler, and this MetaNURBed model won't work in the Layout rendering program in this format. We need to convert the model into polygons that the Lightwave Renderer will be able to process!

First, press [o] (or click on the OBJECTS tab and then click on the OPTIONS button). This will display the Options requester which shows us the default settings for the Modeler, but for now the setting we are looking for is Patch Division. This value tells Modeler how complex to make the MetaNURBed mesh when we convert it to polygons. The higher the number, the more polygons it will create.



For the sake of this tutorial, set it to **4** (if it isn't already) then click OK.

Now we can convert our MetaNURBS to polygons - This process is called 'Freezing' the model.

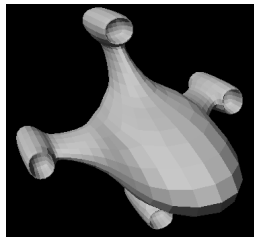


fig 14. After Freezing

Press [f] (or click on the TOOLS tab and then select the FREEZE Button) to convert our model to polygons. The MetaNURBS should now disappear and the model become a rougher copy of what we saw in the MetaNURBS view (fig 14).

### Oops! I didn't see you there!

This is pretty much most of the model completed already! But hold on... How will our pilot and crew see where they are going!? I mean, they could use some kind of telepathy or see through the hull with X-ray goggles, but that never seems as convincing as actual windows!

This, like the modeling so far, is a very simple exercise. We can select a row of polygons on the front of the ship that appear to

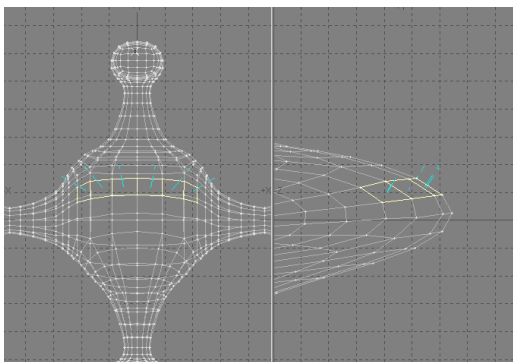


fig 15. Windows for seeing through!

be perfectly right for a set of windows!

Select the POLYGON button at the bottom of the screen, then carefully select the polygons as shown in fig 15. Now, windows usually have frames about them, so press [b] and type **10 mm** into the inset value and **0** into the shift value. Click OK and you'll see that the windows now have small frames about them. Press [b] again and type **0 mm** in the inset value and **-10 mm** into the shift value. Click OK to sink the windows inwards a little. After all, windows usually never lay flush with the ship surface.

Press [q] and enter the surface name '**Ship - Bridge Windows**'. Make this surface colour dark blue. Set the Specularity to **100%** - Glass

reflects light - Specularity adds this effect to our surface.

(Note: Specularity and other surface items will be covered in the next tutorial on surfacing and texturing, so for now just click OK.)

### Don't judge a book by its cover.

If you haven't already, you'll have noted that his frozen model looks a little 'polygon-ish' (to say the least), and nothing like our MetaNURB version with its smooth edges. The solution to this is to simply modify our surface 'Ship - Default Surface' which is the surface name we gave our box at the beginning of this tutorial (You did do this, right?). Press [q] to open the surface requester and select the surface '**Ship - Default Surface**' from the drop-down list. (Select it, don't re-type it!)

Click the button SMOOTH so that it gets ticked. Now, click on the CHANGE button (DO NOT click on the APPLY button or you will resurface the entire ship, including the inside of the engines and the screen windows!). There you go, instant smoothness!

The last thing we are going to do with this model is break the surfacing down into 'parts' that can be easily surfaced in our next tutorial - This allows us to apply decent textures to make the most out of our model later on, so its important that you do this if you want to make a great looking model!

Many newbies ignore this step and simply plaster some repeating 'tile' pattern they dug up from some web site, or even worse, use some kind of plain colour or procedural texture on their spaceships making them look very amateur! This is not how we plan to surface our spaceship!

The first thing that we will do is temporarily remove the parts of the ship that are already surfaced - That's the '*Bridge Windows*' (at this point they should still be selected) and the Inside of the engines. Modeler has a great little selection requester

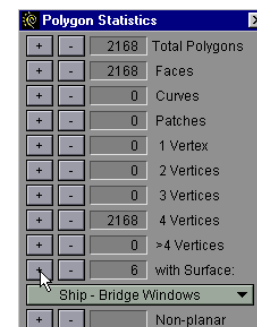



fig 16. Statistics Requester


for selecting specific points or polygons, so there's no need to fluster around trying to click on the right things!


This is done by clicking on the DISPLAY tab then the STATISTICS button (or simply

press [w]). This will display our statistics requester (fig 16).

Make sure that the POLYGON button is highlighted at the bottom of the screen. Now, select the surface name 'Ship - Engine (Inner)' from the drop-down box.

On the left of the 'with surface' value, you will see two buttons — click the  button to select all the polygons that are named 'Ship - Engine (Inner)'. You should see the polygons become selected.

(Note: If nothing happens, simply click on the drop-down box again, select a different surface name (i.e.. Like 'Ship - default' for instance), then click the drop-down box again and reselect the 'Ship - Engine (inner)' surface. Click the  and all should be OK.)

You can now close the Statistics window by clicking the  in the title bar. Note that you can also leave this requester open and 'floating' on top of the Modeler window. If you are running your computer with high resolutions like 1024x768 upwards, you could simply 'drag' the window to an empty corner of the screen instead - We might be using this again, so its up to you.

Once selected, we can temporarily remove these selected polygons from view by pressing [-]. Note that this simply 'hides' the polygons from view, it does not delete them! Very handy when working with complex 3D models!

With these polygons 'hidden', we can now move on to finishing up our surface naming!

### **Time to get picky!**

This part of the tutorial will be a good test to see how your polygon 'selection' skills are! Basically, the plan is to split the body of the ship in 'half' and the side wings in half, and finally select the back of the ship as a separate surface. When we finish, we should have 5 new surfaces.

Now, for a small tip...

As you select and name the surfaces of the ship, use a different colour. Why? Because this way you will be able too visually check what surfaces are what. If you accidentally miss a polygon here or there, it will be visually obvious!

OK, lets make a start and get this baby completed and ready for our next tutorial.

### **Doing things by half (Part 1)**

The first thing we'll do is maximise the 'front' view in Modeler to make this easier. You can do this by pressing [7] on the Numeric Keypad. Note that's the keypad on your keyboard and not the number 7 on the top row of keys. If nothing happens, you may need to press the [Num. Lock] key.

You can maximise the ship in this view by pressing [a]. This should fit the ship to the whole window...

Press [q] to bring up the surface requester. Type in the surface name 'Ship - Body left' and select a bright colour for this surface (green, yellow, etc.).

Make sure that the SMOOTH setting is selected and click the APPLY button.

Make sure that the POLYGON button is

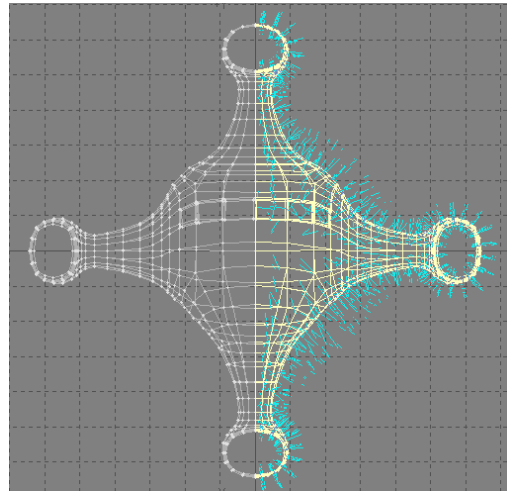


fig 17. Half the ship is selected.

highlighted at the bottom of the screen, then using your newfound polygon selecting skills (Lasso or clicking), select all the polygons from the *middle of the ship to the right hand side...* This is where you should make sure that you make a perfect selection. You should have no left side polygons selected at all. (fig 17)

Once you've made sure that only the polygons on the right side have been selected, press [q] and name this surface 'Ship - Body right'. Select a new colour for this surface as I mentioned earlier then click the APPLY button to continue.

### **Doing things by half (Part 2)**

With the body of the ship finished, our next mission are the two wings that appear on the sides of the ship. Before you say it, yes there are four wings in total, but for reasons I'll show you later, the upper and lower engines can remain as-is.

Our next step is to select the side wings. In this case, make sure that you select both sides evenly, and select all polygons up to where the wings appear to connect to the body. If you are having problems, refer to *fig 18* for help.

Once you've selected these wings, press [q] and call these polygons 'Ship - Wings lower'. Select a wizzy looking colour and click the APPLY button.

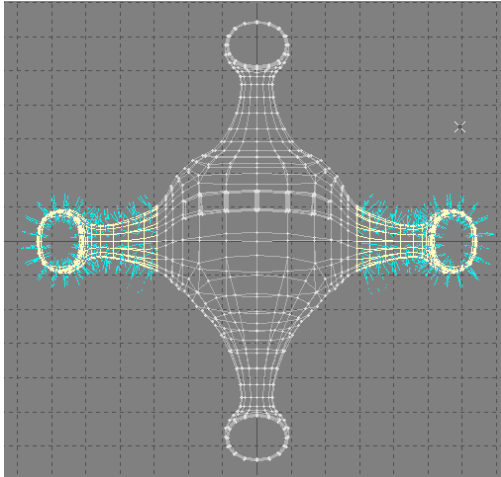


fig 18. Selecting just the wings.

Now, I mentioned earlier that you could 'hide' selected polygons from view using the [-] key, remember? In this case, lets do the opposite and hide the *unselected polygons* of the body of the spaceship only, keeping just the selected wings on screen - to do this, just press [=]. Viola! The body of the spaceship is gone, leaving us with just the wings!

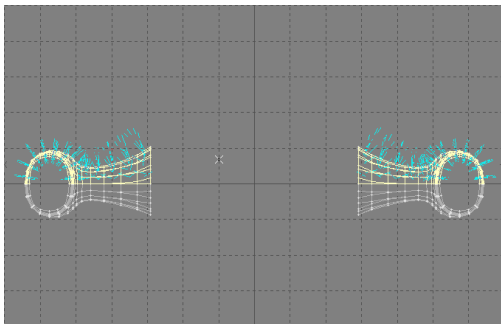


fig 19. Careful selection of the top of the wings.

OK, with the body out of the way, lets finish these wings off. Like we previously did for the body halves, this time deselect the lower half of both wings. Make sure that you do this so that exactly half the wings are deselected (fig 19), the press [q] and name the remaining polygons '**Ship - Wing upper**', pick a new colour and click the APPLY button to finish things up.

I mentioned before we started that we were going to create 5 new surfaces. So far we have 4, with one to go... But it looks like we've hit a snag - Most of our spaceship is no longer on screen! Simple - Just press [v] and all will be revealed. Our entire ship should reappear.

If you are still in the 'front' view of Modeler, you can now switch back to the normal 4-window view by pressing the [5] on your Numeric Keypad.

## Oh bumper!

Not so much a bumper, but more our last surface on the back of our spaceship. This one should be simple - We are simply going to select a nice 'symmetrical' cross shape of polygons that will become our 'rear' of the spaceship!

Before you start attempting this, I'd suggest using the Lasso technique to select as much of the spaceship like the wings and nose, then press [-] to hide it. It makes life a little easier for this particular task if you can get rid of any excess polygons that may just confuse things. Remember that you can also use the Statistics requester (But don't remove the 'Body' polygons cause these are the ones we'll be selecting from!)

Once you've got those excessive polygons hidden away, select the polygons for the back

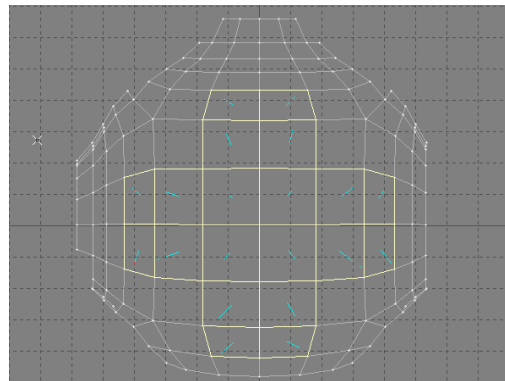


fig 20. The back view - Select a '+' shape.

of the ship by starting in the center and selecting 2 up/down and 2 left/right to form a simple + shape. (fig 20) Once selected, press [q] and enter '**Ship - Back**' as the surface name. If you haven't already, get yet another colour that you like and then click the APPLY button to continue.

## Congratulations!

You've just completed the modeling part of our first tutorial project - you've created a basic spaceship, ready for our next tutorial where I will show you how to texture it and make it look less like a lollipop (providing you used a lot of colours when surfacing that is!) and more like the real thing!

## Did you learn anything?

Lets take a quick glance back at some of the things we covered during this tutorial:

- **Plan your project.** The first rule we covered in any 3D project is to plan it on



paper first. It saves us a lot of time and frustration in the long run!

- **Creating a box in Modeler.** We used the numeric tool to accurately set up the diameters of our box. When we started, we also took a look at the Surface requester. This allowed us to name the polygons for surfacing later on.
- **Selecting the side polygons.** We took a look at how we had to click the POLYGON selector button on the bottom of the Modeler window to let us select polygons. We did some basic polygon selection.
- **Beveling the wings.** We used the bevel tool several times to produce wings and engines for our spaceship. We learnt that we could use both positive and negative numbers in the Bevel settings to create inner and outer parts of our spaceship! We also took another look at the Surface Requester by naming the insides of our engines.
- **Selecting points.** We saw how we could also select points as well as polygons by simply selecting the POINTS button at the bottom of the Modeler window rather than the POLYGONS one. We also saw how we could also use the RMB to Lasso items rather than just clicking on them!
- **Moving the engines and nose.** After selecting points, we used the Move tool to adjust the positions of the points on the model. The Move tool was on another menu, the Modify menu selected by clicking on the MODIFY tab at the top of the screen.
- **MetaNURBS.** We turned our box with wings into something that resembled a spaceship (finally!). It was probably a big surprise to those of you who'd never used MetaNURBS before!

I showed you how you could move the nose of the ship even when in MetaNURBS mode. This MetaNURBS is one powerful tool, and one that can be used for hundreds of modeling projects!

- **Freezing MetaNURBS.** We froze the model to create our final 'Polygon-based' version that would work in the Lightwave Renderer (Covered in the next tutorial). After freezing, we made use of these polygons to create windows for the Bridge of the spaceship.
- **Surface Adjustments.** The Polygons looked, well, polygon-y! I showed you how to adjust the smoothness of a surface by clicking the CHANGE button rather than the APPLY button on the Surface requester.

- **The Statistics requester.** We learnt that we could also select and deselect polygons using names rather than by using the mouse and pointer. We also covered hiding polygons to 'tidy up' a little while we work!
- **Surfacing the model.** Plenty of practise in selecting, hiding and naming surfaces and polygons took place in the last part of the tutorial. By now you should be pretty familiar with these tools!

## ***Where to from here?***

As I mentioned in the introduction to this tutorial, this tutorial series will be built on a project basis. I will be splitting this particular project into three tutorials. This first one covered the modeling basics...

The next tutorial will cover texturing basics, and also some design guides to developing image maps for interstellar flight! In this next tutorial, I will also be looking at Photoshop as our main image tool. If you don't have this application, don't worry!

You'll be able to apply some of the tips and tricks to other graphics applications as well! So stay tuned...

Cheers

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