Drizzt4.0's Ship Creating Tutorial

Version 1.5- Changes made: Drastically reduced the number of pages by wrapping text around my pics, fixed the mod folder problem (I forgot to add the shiparch.ini to the folder list,) deleted some unnecessary comments, and introduced the Mat File Exporter created by Colin in the Mat file area of the tutorial. Also… Got rid of the stupid long name.
Version 1,4- Changes made: Have introduced a FAQ at the end of the tutorial and introduced LOD ranges
Version 1.3- Changes made: Dc_name typo corrected to Dt_name. This should take care of the WHITESHIP problem.
Version 1.2- Changes made: MAT file explained further.

Legalities and user agreement

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Also please note that any link found in this tutorial is a direct link to the tool's download. There may be sometimes when the download is not available or the link may become broken. If this happens, please do not email me. Try finding the tool yourself or ask for another link in one of the Freelancer editing forums.

Table of contents

About this tutorial

I got sick and tired of not being able to find tutorials on ship modeling and creating mods and everything else you have to learn how to do in order to make mods or change Freelancer in anyway so I decided to write this tutorial, and I really hope I did a good job of making everything somewhat understandable.

Anyone noticing errors or having suggestions should post them in the lancersreactor.com tutorial thread. This helps me from receiving a load of spam and having to email thanks and all the hustle bustle guys like me have to deal with. [*SIGH*]

I also must warn you that this tutorial is huge due to all of the illustrating pictures I use to help explain what I'm doing and the detail I tried my best to maintain.

Thanks go to:

God for making me smart enough to learn this stuff.
lancersreactor.com for being the coolest freelancer forum in the world.
Freelancer, SoundSpawn, Kendo_THM, Polish Renegade, Chips, and Gafanden for helping me learn the tricks and the programs.

And now without any more ado...

Creating your ship in Gmax and ms3d

We are going to attempt to make a jet-like spaceship for freelancer. While this is the longest part of the tutorial we aren't going to get too detailed in our ship model. We will have our cockpit, wings, fin, exhaust nozzles, and necessary hard-points.
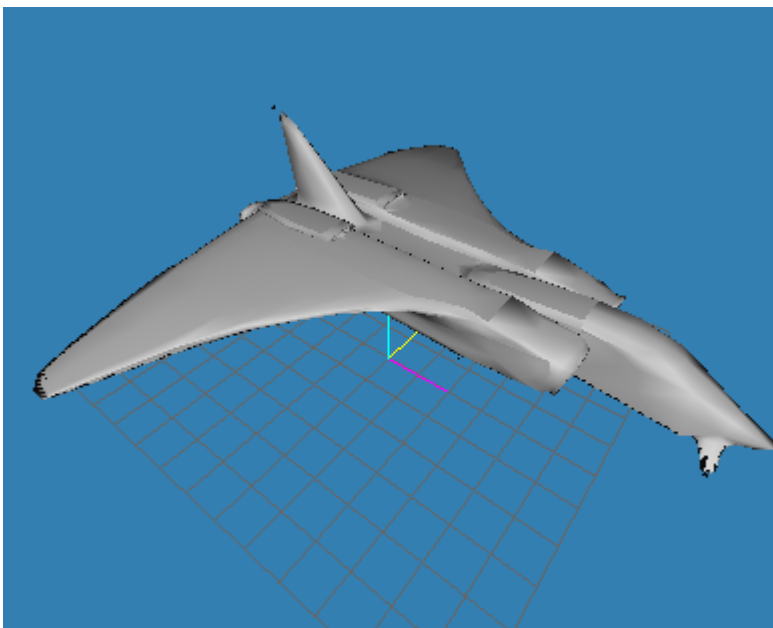
yours wont look exactly like this as I made it in 3dsmax originally, but yours will be close. 3dsmax has the ability to smooth objects considerably, but this increases faces and your polygon count.

Tools needed:
GMAX a more than excellent completely free 3dmodeling program.
.md3 gmax exporter   I use this to transfer my completed gmax ship to ms3d.

milkshape 3d (ms3d) an excellent 3d modeling program. (30 day evaluation.)
cmp exporter plug-in for ms3d Everyone uses this to export .cmp files for FL use.

I use gmax for any ship I start simply because I found it was easier to control what I was doing. When I'm done with the ship in gmax I export it as a quake 3 file (.md3) and import the quake 3 file into ms3d for my finishing touches.

Let me go over our tools in gmax first. Our pointer/selector pretty self explanatory, use this to select objects, faces or vertex's. Our mover, this is the button you have to press in order to move anything in gmax. Another great selection tool this one allows you to select entire groups by name.

Important menu buttons…

this is the create menu, where you will be using options to make boxes or spheres or other objects you can manipulate.

This is our modifier menu where we can change and morph our objects into a ship.

This is our OTHER menu where we have the option to SET OUR POLY COUNT!

In any ship I make I always start with a box or a sphere. This ship will be started as a box.
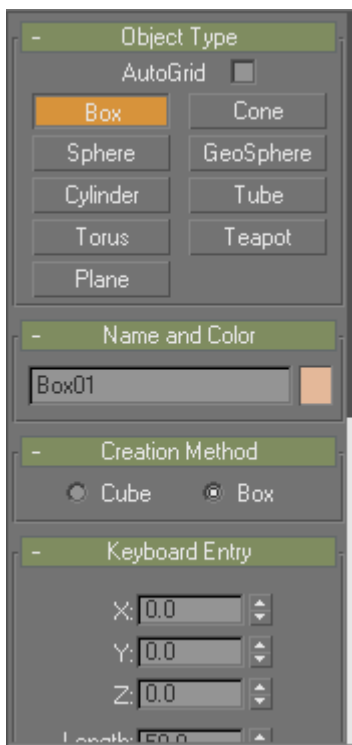
You should have a menu like this available. If you were to let your mouse hover over the areas where there wasn't a button you'd notice that sometimes your mouse turns into a hand. This allows you to scroll the menu as it is larger than it appears at first.

Click the box button. See the name and color? This sets the object's name and what color your box will appear in the perspective view.

Go ahead and drag the menu up a little.

Now you see the keyboard entry, or should. If you cant see the keyboard entry menu and the – sign you see in my pictures is a + then click that + and you'll see the menu just fine.
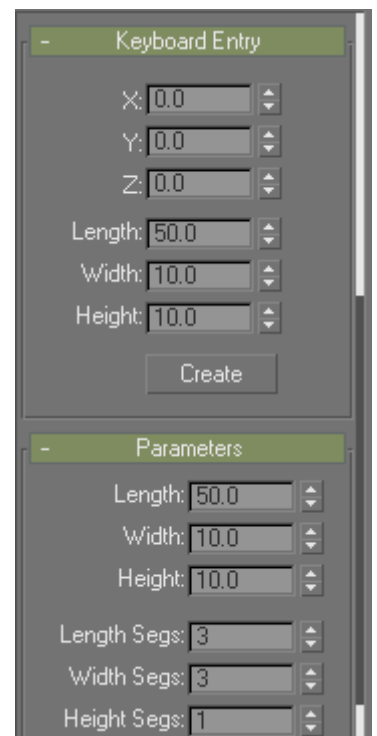
Leave the x, y, z, values at 0.0... that will center our box on the grid.
Enter 3 in the length segs and width segs boxes of the parameters, and in the keyboard entry area, give our box a length of 50, width of 30 and a height of 10. Then click the create button.

You should have this:
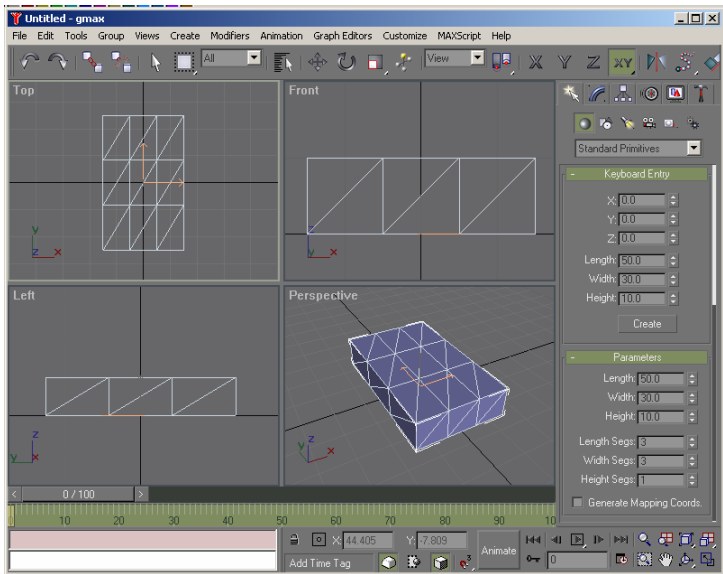
If you don't have the bordered faces... those white lines covering the entire box like mine... than left click perspective to activate that view and then hit your f4 key.

We are done in the creation menu.

Click the modifier tab

You should have this:
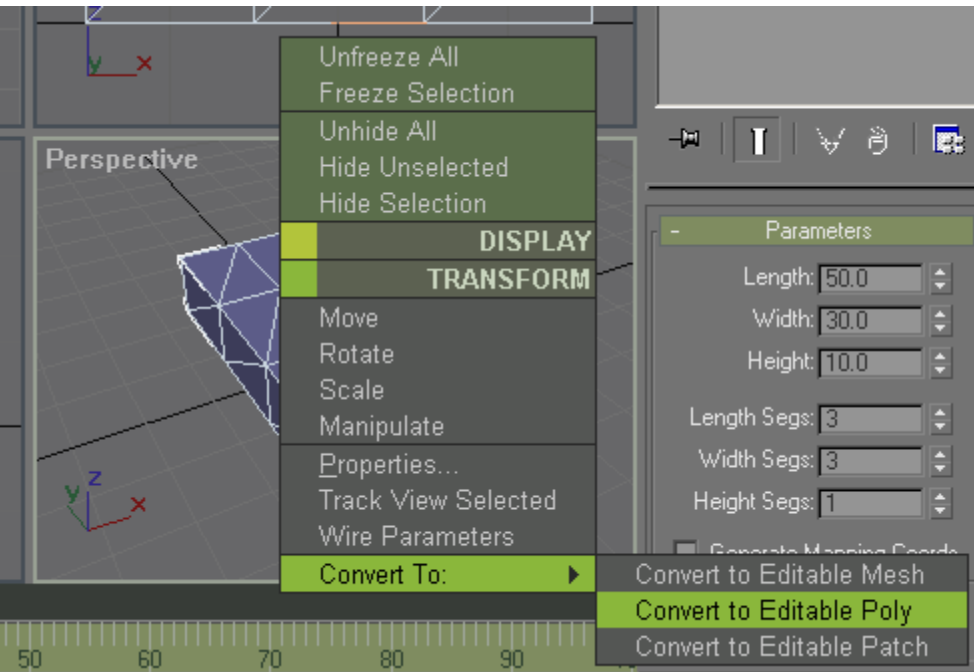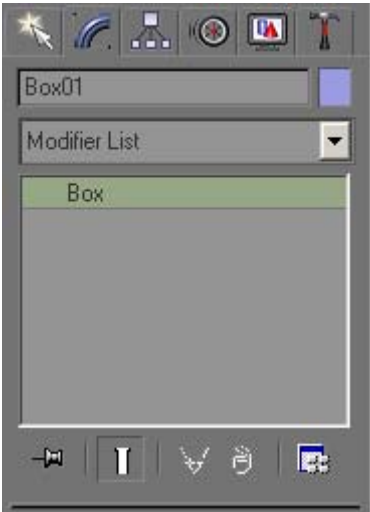
We want to right click the box in the perspective view,
So that we can click "convert to:
"-> "convert to editable poly."

Now we want to click the red box in our modify menu and select the front/middle face of our box:
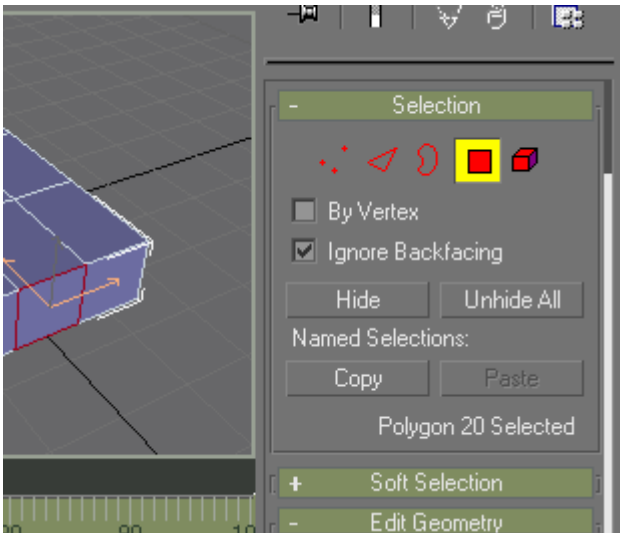
Make sure that you have the IGNORE BACKFACING checkbox checked. Things get annoying when you're selecting multiple faces and don't have that box checked.
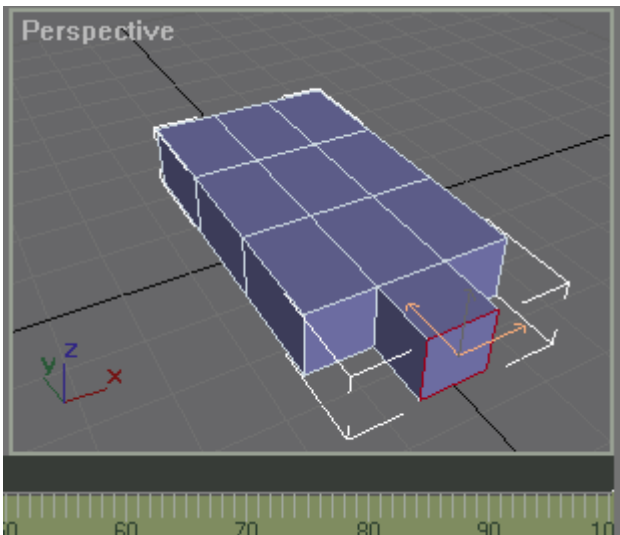
Now we pull up the mod menu and give extrusion a value of 10, click extrude and then do it again. Value of ten and extrude.
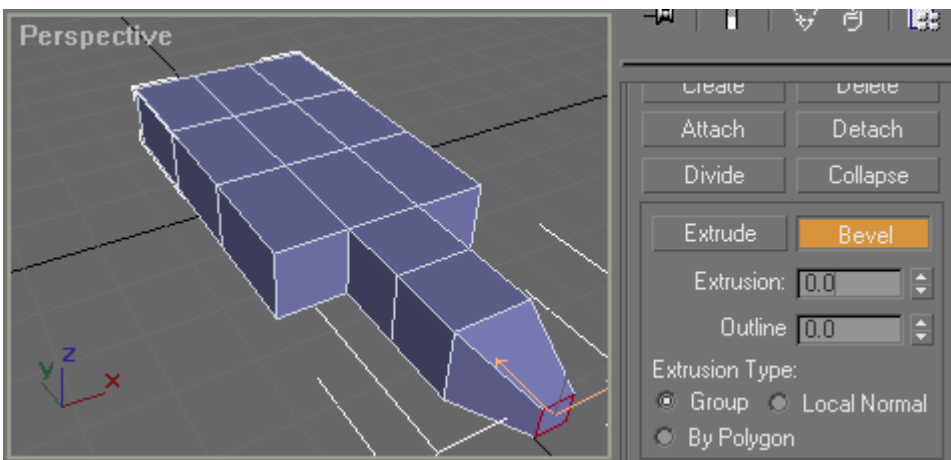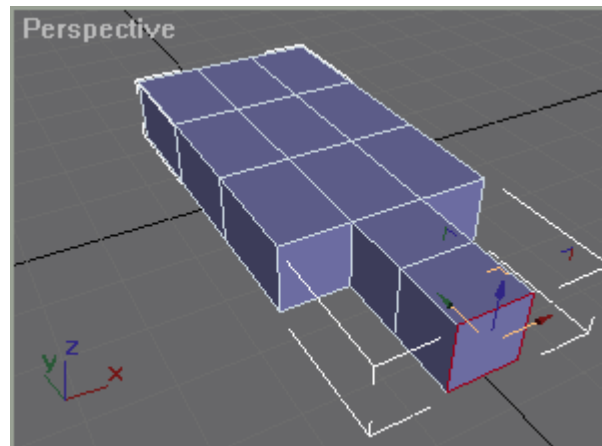
Now we can make the nose. This requires a "bevel" which is the button next to extrude.

Give the extrude a value of 10 click bevel then give the outline a value of -3 and click where you put the extrude value to seal the deal.

There are x, y, z, number entry boxes at the bottom of the screen... click your move button and click the bottom arrow to the right of the z box twice so it says 3 instead of 5.

You should see this in the front view.
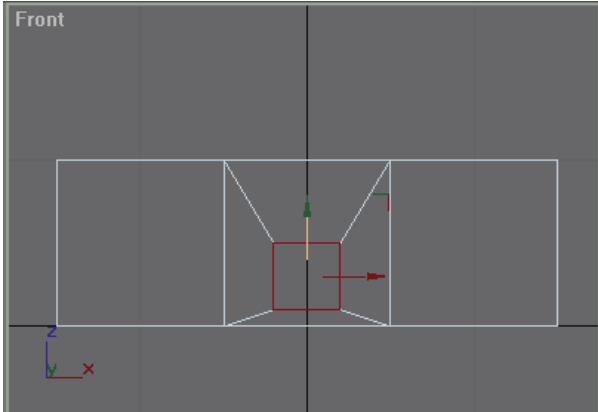
now move your mod menu back up to where you selected the red box and uncheck the ignore backfacing. In the top view, click and drag to select the bottom 2 most boxes like so:

and now we move them using the same method we used for the nose... we want to move these down 2.
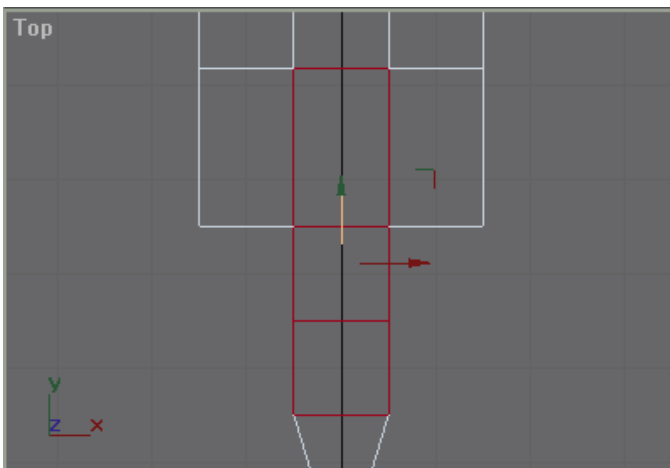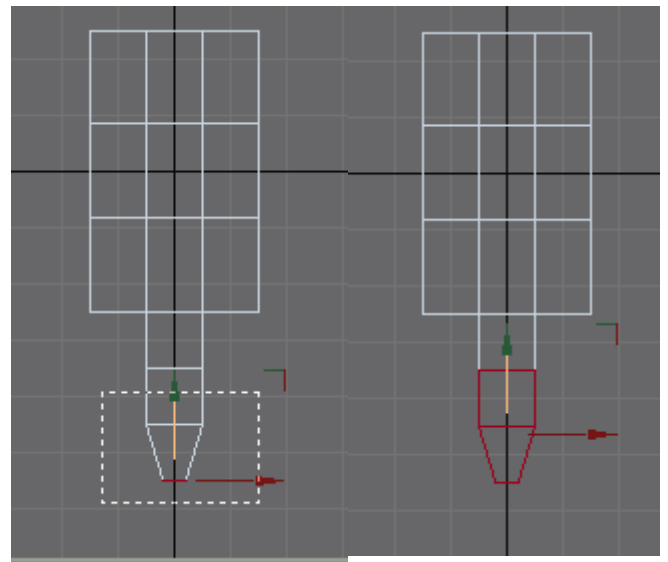
And now we select some of the center faces from the top view to make our cockpit. And we'll bevel/extrude these by 5 and outline by -3. Then we look a little further down the menu to find a button that will make these faces flat. It's called MAKE PLANAR.
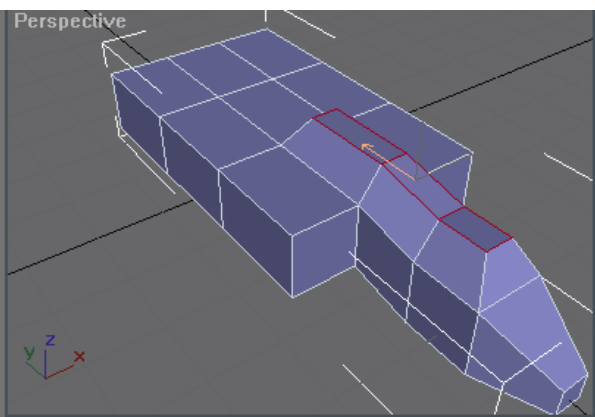
Go ahead and select the top/middle face of the cockpit and move it up 1 using the z button you used before.
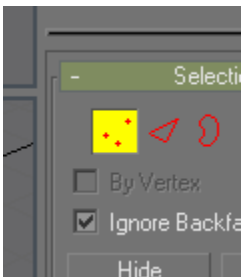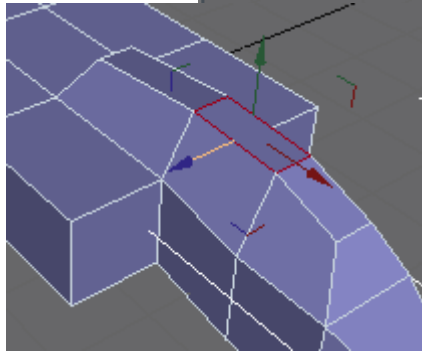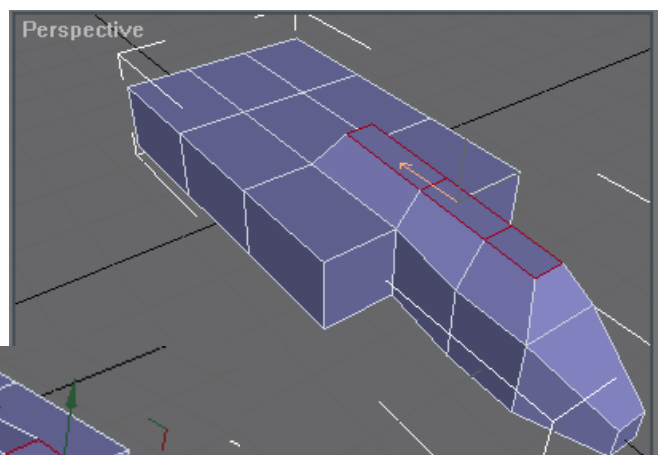
Then go back to the red box at the top of the mod menu and click the button with the 3 red dots... this allows us to edit vertex's.
you see the points? Points = VERTEX'S
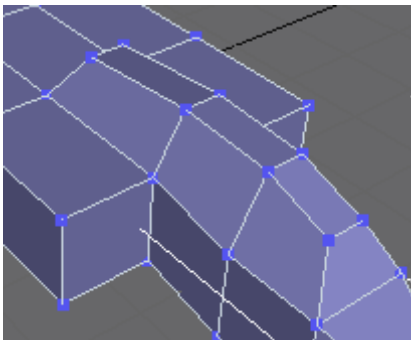
We want to select the vertex's on either end of the top of the cockpit... all of the top corner vertex's.

Move these down 1 y unit and down 2 z units using the bottom buttons you used before to move things.
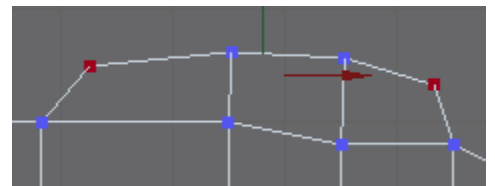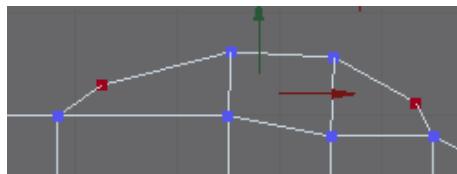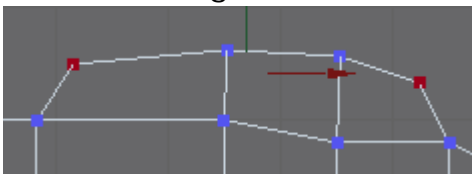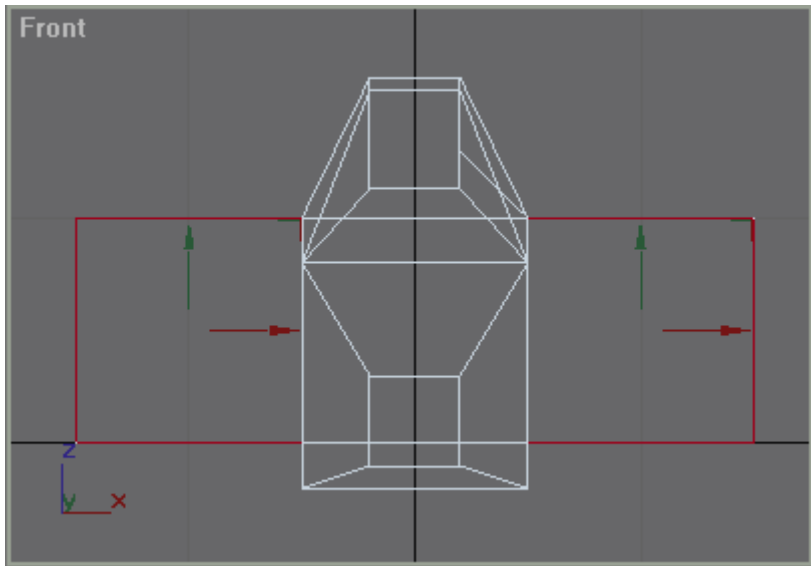
Ok now for vents. This is a little more complicated.
Switch back to the red box... A.K.A. poly select mode and select the front faces to either side of the nose.

We are going to use bevel again. Click bevel and give extrusion a value of 2, outline a value of -1, and then again extrusion a value of -1 and outline a value of -0.5
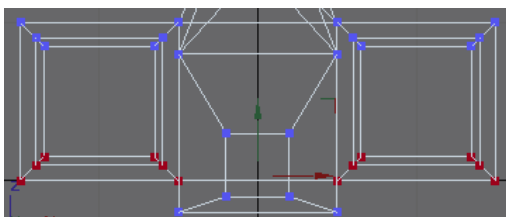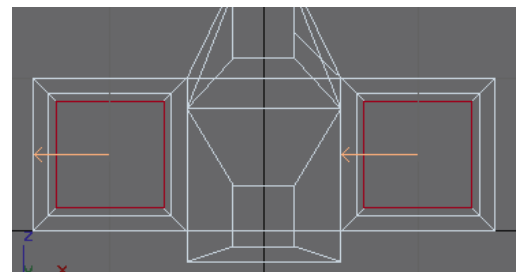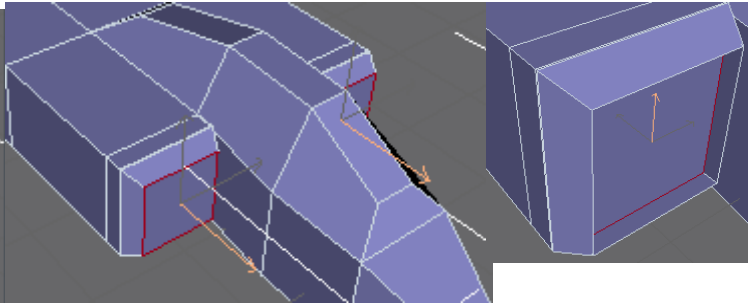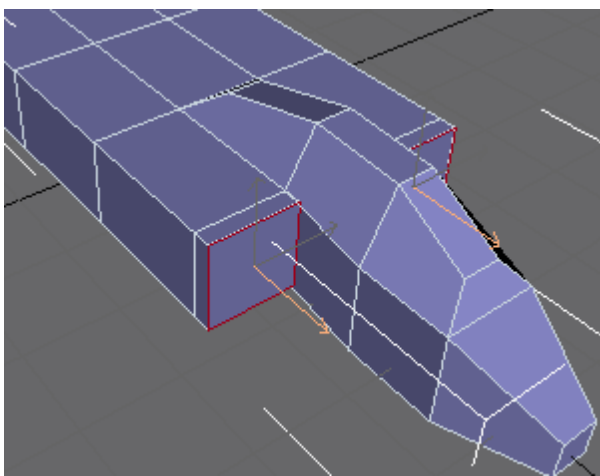
Then by using the vertex selection tool... the 3 red dots... select the following points and move them up 2 y units. Make sure the ignore back-facing is checked.
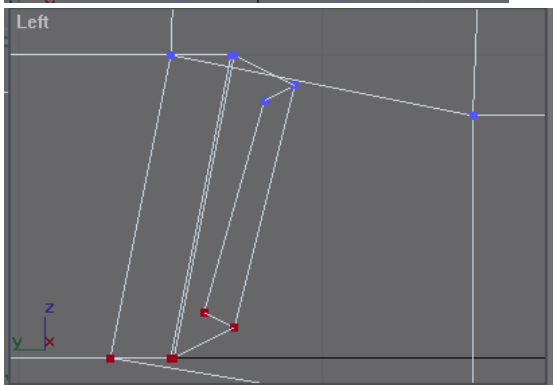
If you accidentally clicked extrude twice like I did back there... (See the two lines in the middle of this 2nd pic of the vent?) It's ok that won't kill our model.
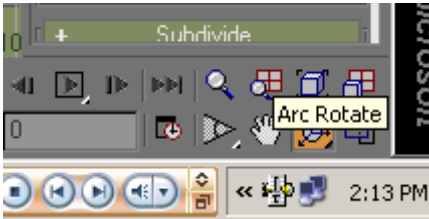
Click the arc rotate tool so you can rotate the perspective view until you see the back of our ship. Then select all of the back faces. We are now going to use the cut tool to slice these faces in half.
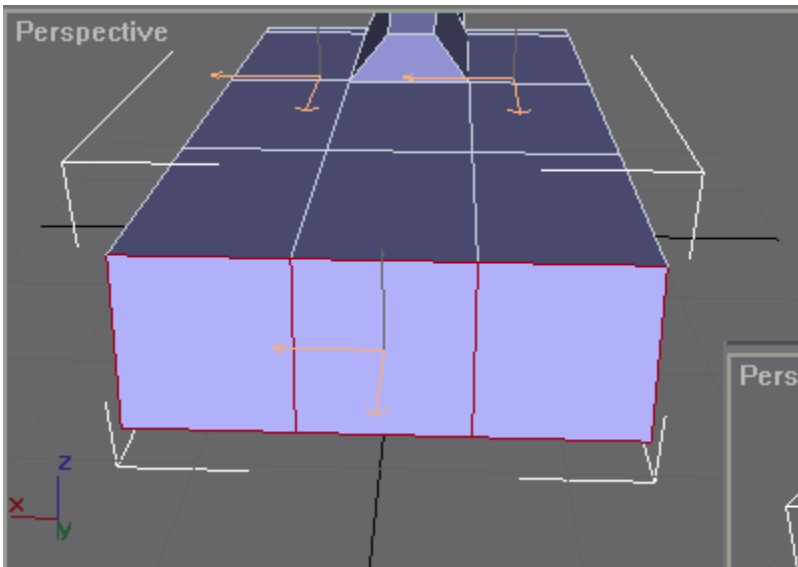
You can cut by clicking near the inside of the left side corner and clicking again on the right side, near the inside of the right side corner like you see the cut up there... Takes a couple tries to get it right.

Now for the engines... select the four outside faces. 2 on the left 2 on the right... and we are going to bevel them into the shape of 4 exhaust nozzles at the same time! We do this by clicking the "by polygon" option in the menu, and entering extrusion = 2, outline = -1.5; then ext = 1, outline = 1; then ext = 1, outline = -0.5; and finally ext = -0.75, outline = -0.5. You have your nozzles.
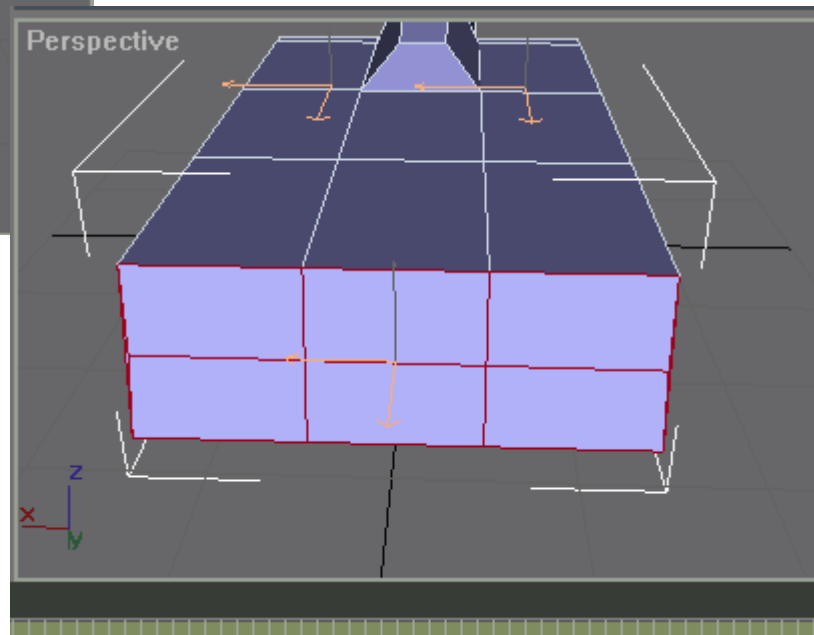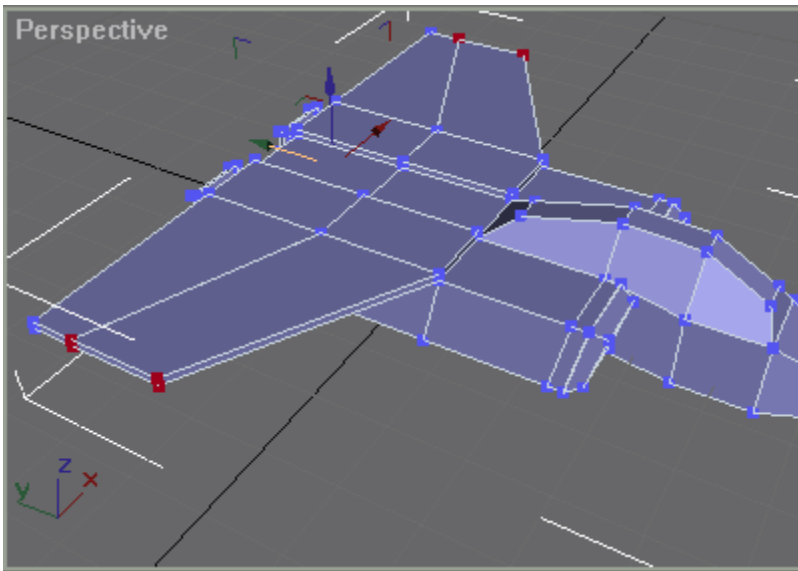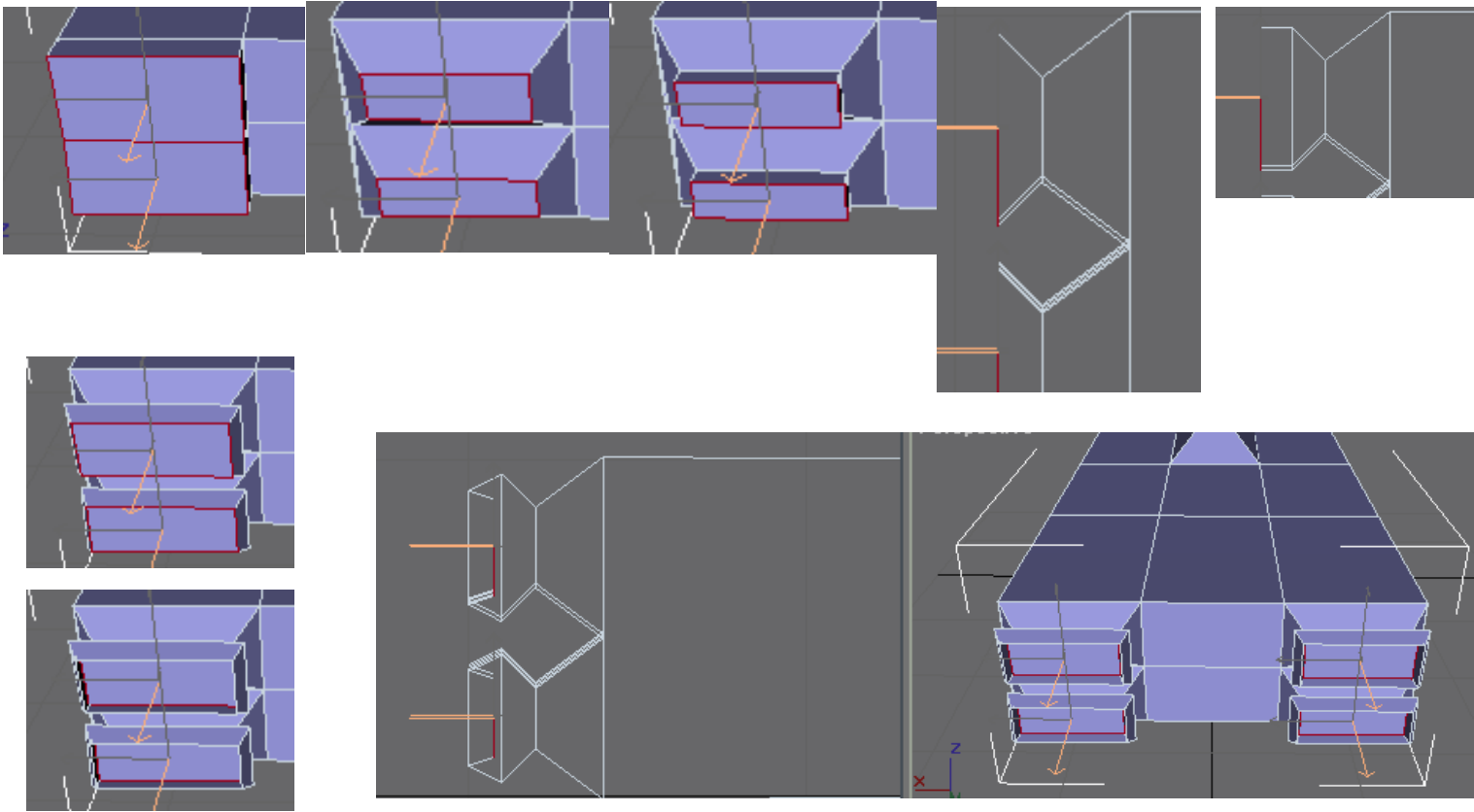
Wings are interesting in this model. Select the 4 top faces at each side of the rear of the ship. Extrude them by 1. select the sides of the now extruded wing connecting joints on both sides. And extrude them by 30 and use the vertex selection tool to pull the front of the wings back a little so they look fast.
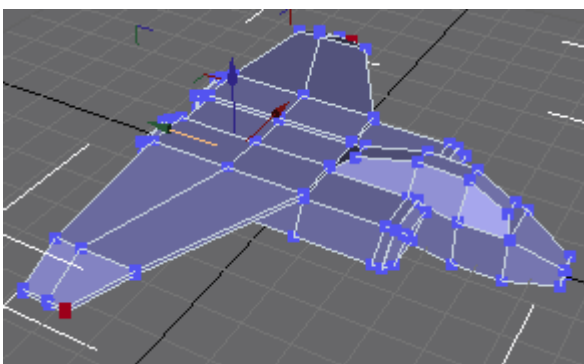
Select the tips of the wings faces again so that we may extrude the wings out by about 10. Then we are going to slant our wings down a little bit so they look curved.
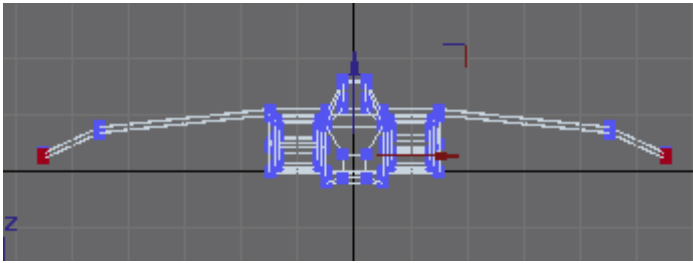
Now this is a pretty stocky looking ship so far so we want to make it longer. Select the entire front-end and using the coordinate buttons at the bottom… make the front longer. How long is your choice.

I think that looks better, maybe bring the wings up a little so they are closer to the front… your choice, you know enough now to finish the rest of the hull your self and make it the way you want it. But, I'll continue to the end so you don't get lost. (if you haven't already :P) what I also did up there was brought the back of the cockpit up a little at the top. If you look you'll see it.

Now for the tail fin.
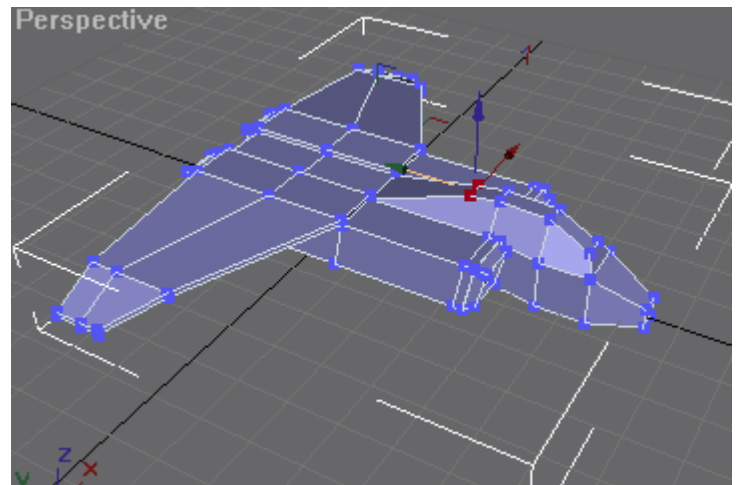
On the top of the ship at the rear, select the middle face… only one face. Bevel it at ext = 1, outline = -3; then bevel by ext = 10 or 15 its your choice and outline = -1.75.
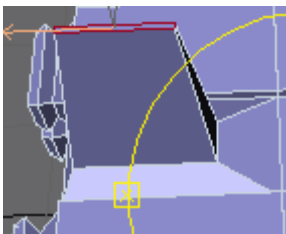
Now you take the front vertex's and pull them back so you have a nice tail fin. If you want after pulling the front back you can pull the whole top back a little to make it look fast.
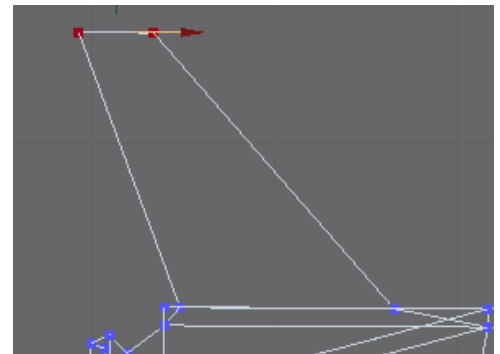
Congratulations. You are ready to export to ms3d. And I must inform you that I do NOT suggest trying to add hardpoints and names while in gmax as it is extremely annoying to have to retype everything… the names get cut off at only 5 or 6 characters.
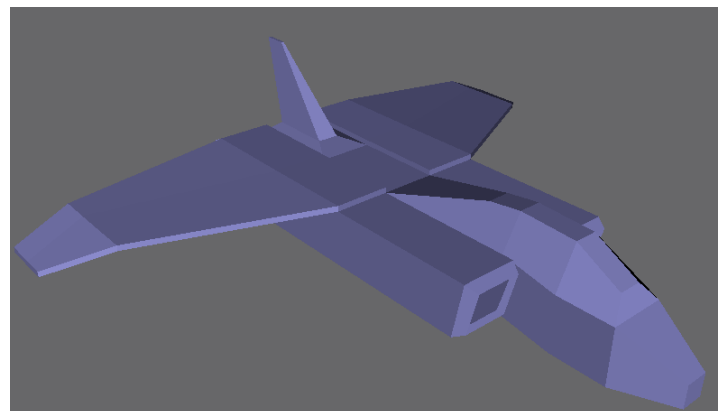
Exporting your ship to MS3D
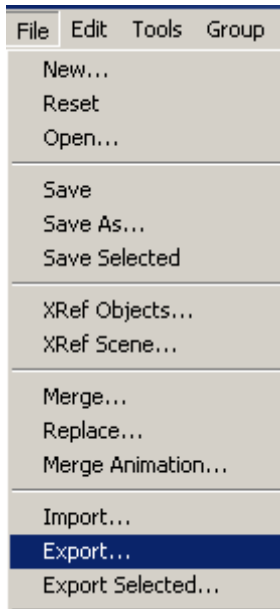
Now when you downloaded the exporter, you should have unzipped it into your gmax\stdplugs directory.
Select everything. Click modifiers->uv coordinates->uvw map... and in the editing area... click the button that says shrink wrap. Then save your design.

Now click file->export and export your ship as a quake 3 file. If you get a window that pops up stick a 0 (zero) in the frames box. And click ok... ignore any error complaining about textures cause we haven't added them yet.
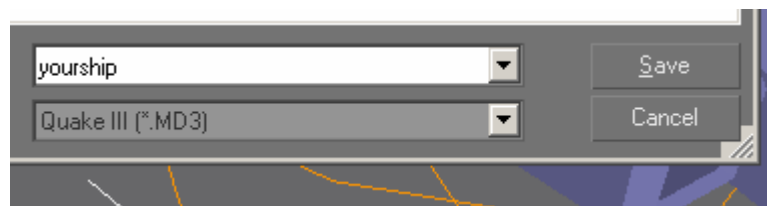
Open up ms3d and click file->import->quake3 .md3 and select your ship. Right click on the 3d view and select flat shading.
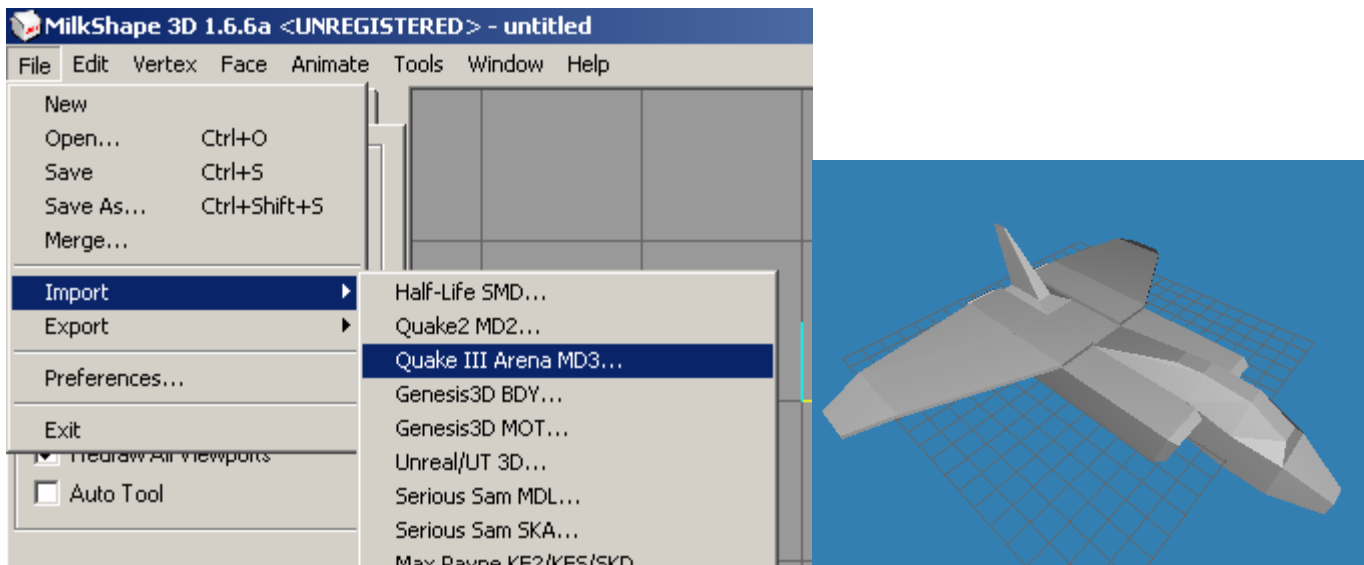
Adding your hardpoints, textures, and generally: finishing up in MS3d.

Now we want to add the hard-points. There are several of them. Here is the list of Hp types we are going to use. We will use all of them.

The different Hardpoints

Fixed hardpoints are those that don't move.

Hp|Fixed|HpEngine01
Hp|Fixed|HpEngine02
Hp|Fixed|HpEngine03
Hp|Fixed|HpEngine04
One engine hardpoint in each exhaust nozzle. Preferably a little bit away from the nozzle so it isn't right inside the thing.

Hp|Fixed|HpThruster01
Fixed to one sied of the tail

Hp|Fixed|HpTractor_Source
this can go anywhere inside the ship, you wont see it.

Hp|Fixed|HpShield01
preferably stuck to the bottom middle of the ship where its not so accessible to fire.

Hp|Fixed|HpMount
imagine this is the ground, cause this is the point your ship lands on... put it to far under though and youll be floating 10 feet above the floor.

Hp|Fixed|HpConTrail01
Hp|Fixed|HpConTrail02
Hp|Fixed|HpConTrail03
These are the points that create those lines coming off of the tips of your wings. One on each wing tip and one off of the tail.

Hp|Fixed|HpCM01
Your countermeasure. This will be on one side of the bottom rear of the ship.

Hp|Fixed|HpMine01
mine launcher other side of the bottom rear of the ship.

Hp|Fixed|HpRunningLight01
Hp|Fixed|HpRunningLight01
your running lights. These should go on the top of your ship near the front of the wings.

[Hp|Fixed|HpPilot]
In this tutorial we aren't going to worry about the pilot, as this is a beginner's ship we won't be messing with transparency. You can find out about this in forums and some other tutorials.

Hp|Fixed|HpScanner01
Anywhere inside the ship

Hp|Fixed|HpHeadLight
at the nose somewhere

Hp|Fixed|HpDockLight01
Hp|Fixed|HpDockLight01
Top of the tips of your wings… your docking lights

Revolute hardpoints are moving hardpoints.

Hp|Revolute|HpTorpedo01
Your torpedo launcher. This should go underneath the ship in the middle

Hp|Revolute|HpTurret01
We will attach your turret to the right side of your tail.

Hp|Revolute|HpWeapon01
Hp|Revolute|HpWeapon02
Hp|Revolute|HpWeapon03
Hp|Revolute|HpWeapon04
Hp|Revolute|HpWeapon05
Your weapons. These will be well placed. 1 on each wingtip, 1 on each wing in the middle of the wing and 1 on the bottom of your nose. All go on the underside of your ship.

Placing your hardpoints

Fixed Hardpoints

Lets place the fixed hardpoints first. select everything, and rotate your ship so you can see the front of it in the top left window.
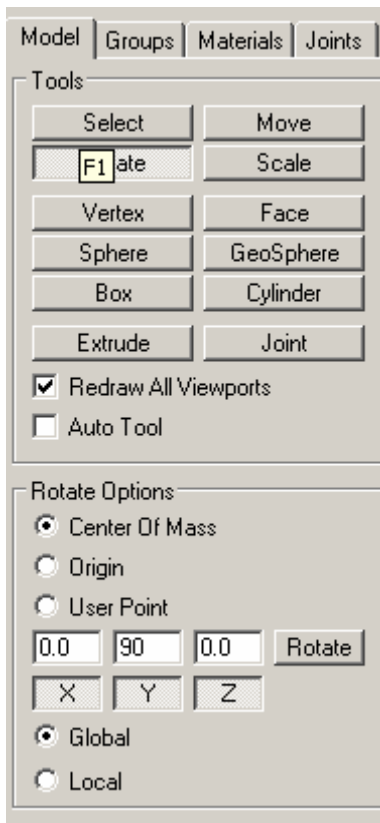
Use the x, y, z, controls... it's easier.

Select the rear right tailfin face using the select and face buttons and simply clicking the face you want. And then using the menu we will divide this face into 4 faces so we have smaller faces to deal with. Select the bottom most face only and click edit->duplicate selection or hit ctrl-d and go to the groups tab and rename the duplicat01 to the thruster hardpoint. Copy and past it from this tutorial if you want. But you have to have the whole thing. Hp|Fixed|HpThruster01... you have to rename all of the hardpoints this way. Tedious I know but its how you got to do it. You do the same thing with all the other fixed hardpoints following the placements I gave you up there for all the fixed hardpoints that don't get put inside the ship.
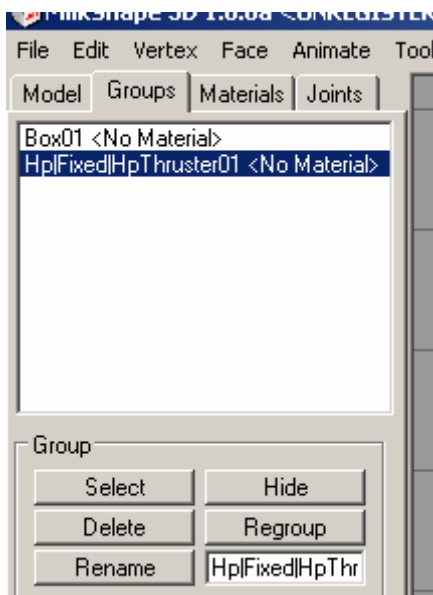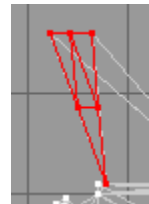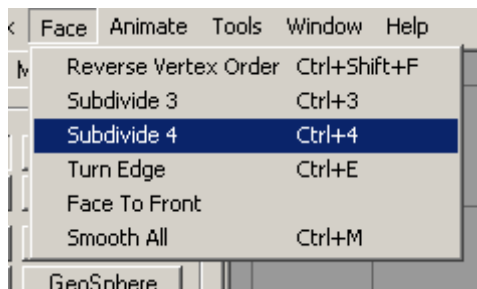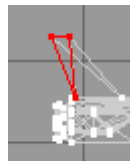
Interior hardpoints

These are made a bit differently and are very tedious. Thank God they don't have a billion of them.

For this you want to create a new plane. In gmax this is easy but in this program all you have to do is select a face already on your ship, duplicate it and move the duplicate out away from the ship. Then you can subdivide it by 4 or 3 or however many extra faces you want. Then you can select a smaller face and duplicate your heart away until you have all of your interior hp's made and named. Luckily you only need 2: Hp|Fixed|HpTractor_Source and Hp|Fixed|HpScanner01. Select 1 face, duplicate it and rename it to a hardpoint and then move the hp anywhere inside the ship you want. Do this again for the scanner.
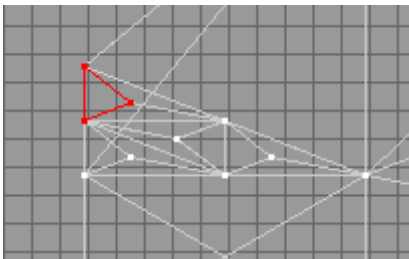
Revolute hardpoints

I am not going to show you haw to place all of these either. These are placed like your fixed hardpoints but somewhere where you think would be a good spot for a weapon or turret.

Ill show you how to place one weapon and your torpedo by now you should be able to place the rest on your own, its all duplication and renaming, while making sure your hardpoint faces are as small as possible.

Select one face on the tip of the wing, underneath the wing. Subdivide it till you think its small enough and select the closest small face to the front of the wing. (this is easier if you switch your top view to bottom.)

And for the torpedo, move the view so you can see the underside of the nose... middle mouse button usually does it. If you don't have a middle mouse button I'm not sure how it's done. Select a face near the middle if not the actual middle of the underside of the nose. Subdivide it as well, and select a small face, duplicate it and rename it the torpedo hardpoint.
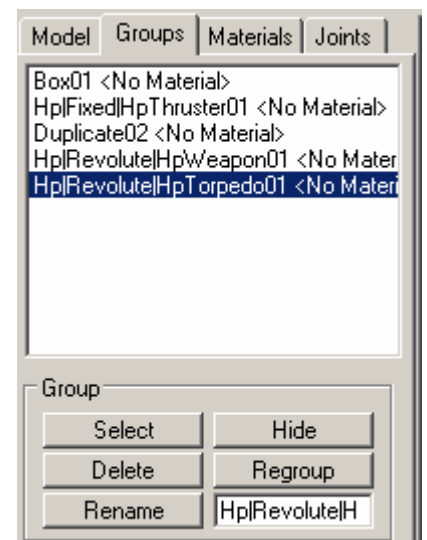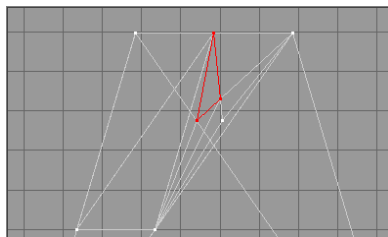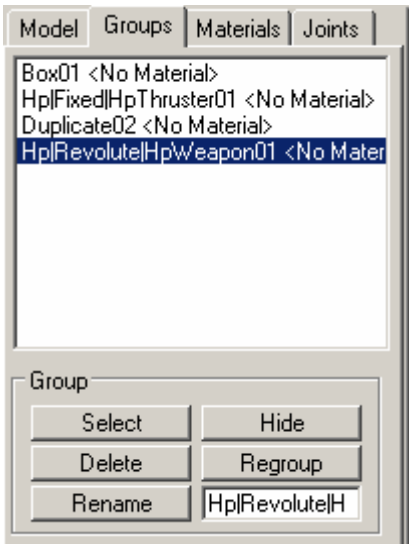
Placing your textures

Tools needed:
[pic2pic pic converter](#) an excellent free utility that allows you to convert any type of picture file to any format. Like .jpg to .tga

Textures in ms3d are called materials. That's the third tab menu.

You create a material by clicking new in the lower menu and renaming it to the picture you want to use. Then click the top <none> button and hunt down the texture you want to use.

You have to use .TGA files however so you want to have a pic2pic converter like PIC2PIC! Also, any texture you use will have to be converted again and flipped vertically so that you can use it in the .mat file. For some reason if you don't flip the texture upside down (vertically,) freelancer will not show the textures. You want these flipped textures in a different location than the ones you're using in ms3d. Do this with all the textures you want to use…

Once you have all your textures loaded and all the areas you want to texture divided by group (i.e.: glass or cockpit, hull, nozzle, and exhaust), you can start texturing your ship. Select your cockpit group and assign the glass texture to it. Select your hull group and assign the hull texture. Then select your nozzle group and assign the nozzle texture to those. Finally select the exhaust group and assign the red texture to them. (the pic I used was red, yours might not be) once you do that click the 3d view and right click to select the textured view.
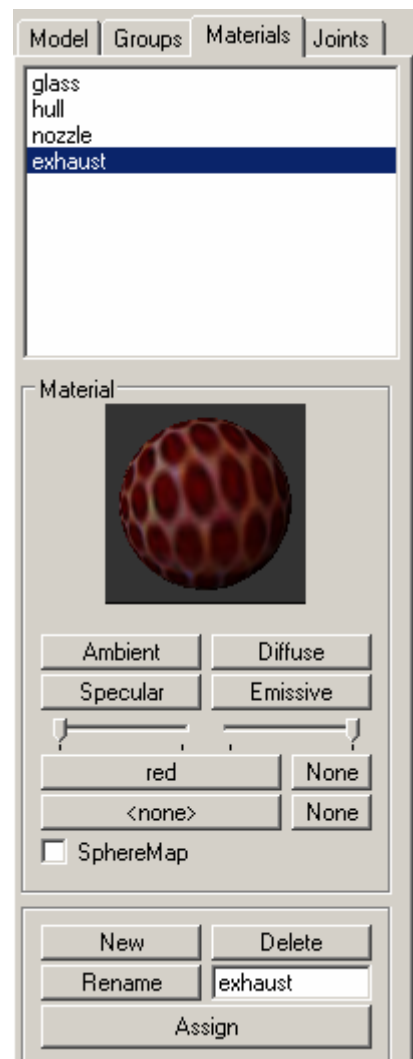
The texturing and hardpoint creation sections of this tutorial were kept down in size to try to maintain the size limit I set for myself, however this tutorial is still huge… =P

Exporting the .cmp file

Before you export your ship select everything and click scale. Enter a value of 2 in all of the x, y, z boxes and click scale to increase your ships size. Increasing the ships size is best done by feel, however a general rule is if you are zoomed all the way out in the front view and the cockpit is practically IN YOUR FACE then your ship is about the size of the defender.

This is another rather simple section of the tutorial. You should have unzipped the cmp exporter I gave you the link for into the ms3d directory.

Save your work. (Good Job by the way if everything worked without a hitch.) Click file->export->freelancer cmp file
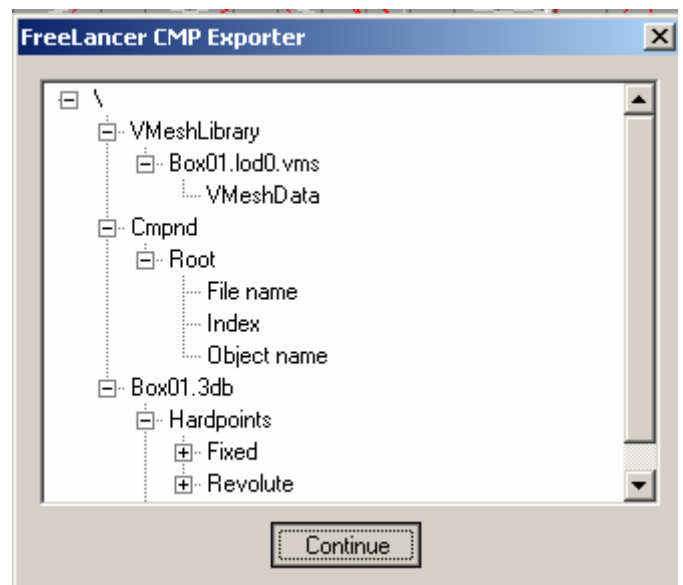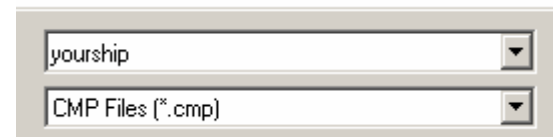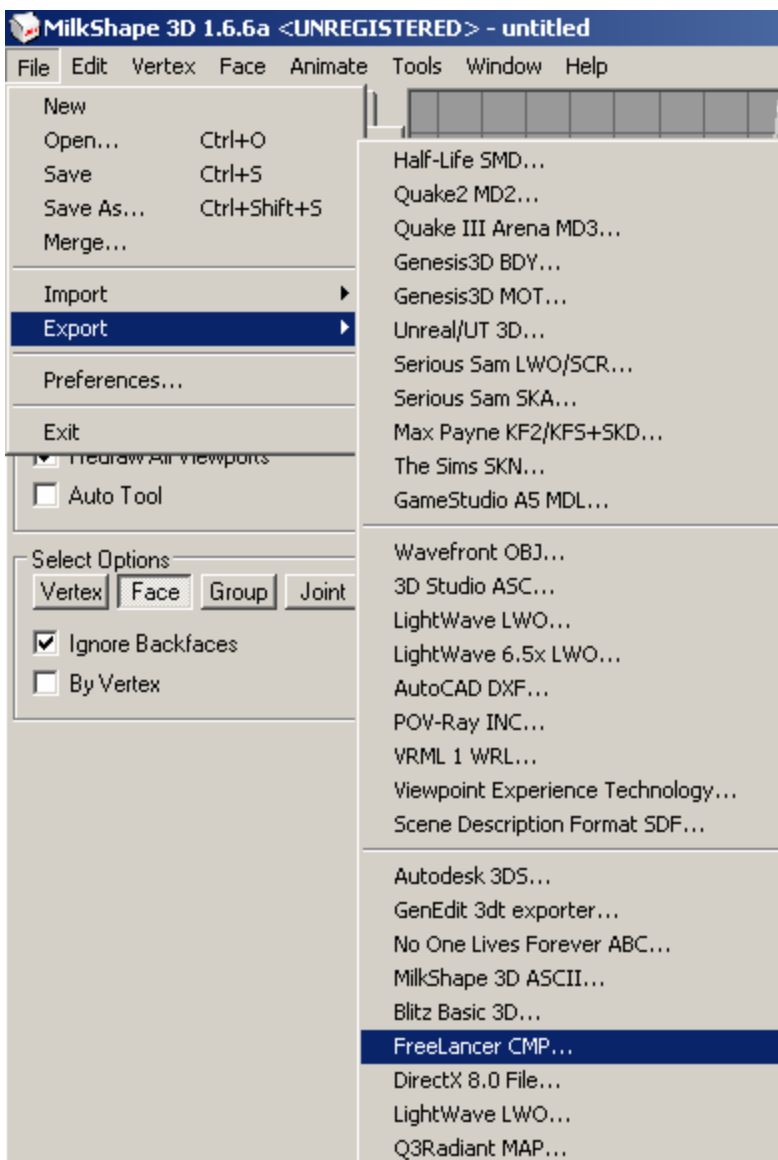
Congratulations you now have a cmp file you can place in your game.

THE MAT FILE-using the automated mat converter or the traditional way.

Out of shear courtesy, I must dedicate this section as Polish Renegade's. Without him I never would have got my first working .mat file.

Tools needed:
[The Mat exporter by Colin Sanby](#): This will be replacing our cmp exporter because it does the job for us!
[a utf editor](#) this is the freelancer utf editor, you use this to create the mat file. I have been notified that this particular UTF editor isn't very stable... you might want to try finding a second UTF editor or saving and reopening the mat when we are done here to make sure that it worked.

First I'll show you how to use the Mat exporter.

This utility is so cool... it does so much for you, like getting rid of TYPING!

Ok, so you have your materials and everything and your ship is looking cool... and you think you're ready to export your mat file... so go ahead!

Find the file menu->export->freelancer mat v0.1   an option will come up asking if you want to create a new mat file or update an existing mat, cmp, or 3db... choose the new mat file.

Then choose where you want to export the mat to... it's good practice to keep this in your mod folder along with your materials.

If you have all your textures in the same folder as your ship you won't have to do much browsing, but if not then it will ask you to find all the files it cant find on its own one by one. The file you want to find each time will be shown on the title of the dialogue.

When you have found all of your materials it will pull up the dialogue where you can look at the results. Click continue and the mat has been exported.
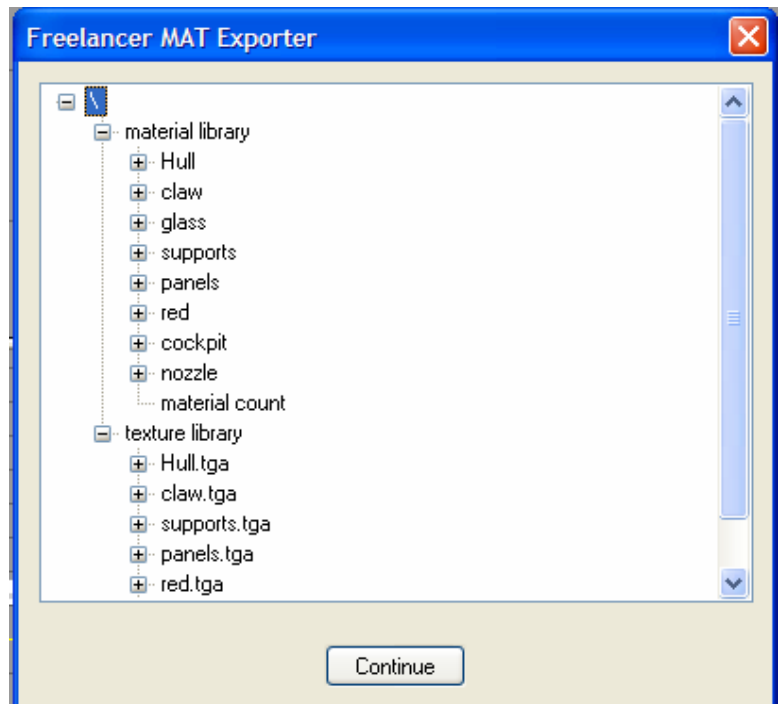
Making the Mat file the classic way…

The MAT and CMP files used in Freelancer use a tree/leaf hierarchy. That means that you can separate data into categories and further organize such data. For example, I have a file cabinet and in that cabinet are files but in utf the cabinet is called ROOT or "/". Every tree starts like that. Obviously File cabinets have files so we categorize them. I have two files so UTF does it like this.

-/
       Drawer01
       Drawer02

Each file has to be defined, or described; with a name tag which is further described by Name STRING and type STRING. This helps Freelancer understand what it is looking at.

-/
    Drawer01
       File
          Dt_name (Name Tag)
          Type
       File
          Dt_name (Name Tag)
          Type
    Drawer02
       File
          MIP0 (actual document)
       File
          MIP0 (actual document)

Notice that Drawer02 has something different in it. While file01 only holds the names of my documents… this Drawer holds the documents themselves. In the MAT File Freelancer uses the first Drawer (Material Library) as an index card where it can look up the information it needs to pull up the textures from the second Drawer.

So we now have to create a MAT File. To prepare make sure to flip all of the textures you used in ms3d vertically so they are upside down… and they must be .tga files.

Open the utf editor.
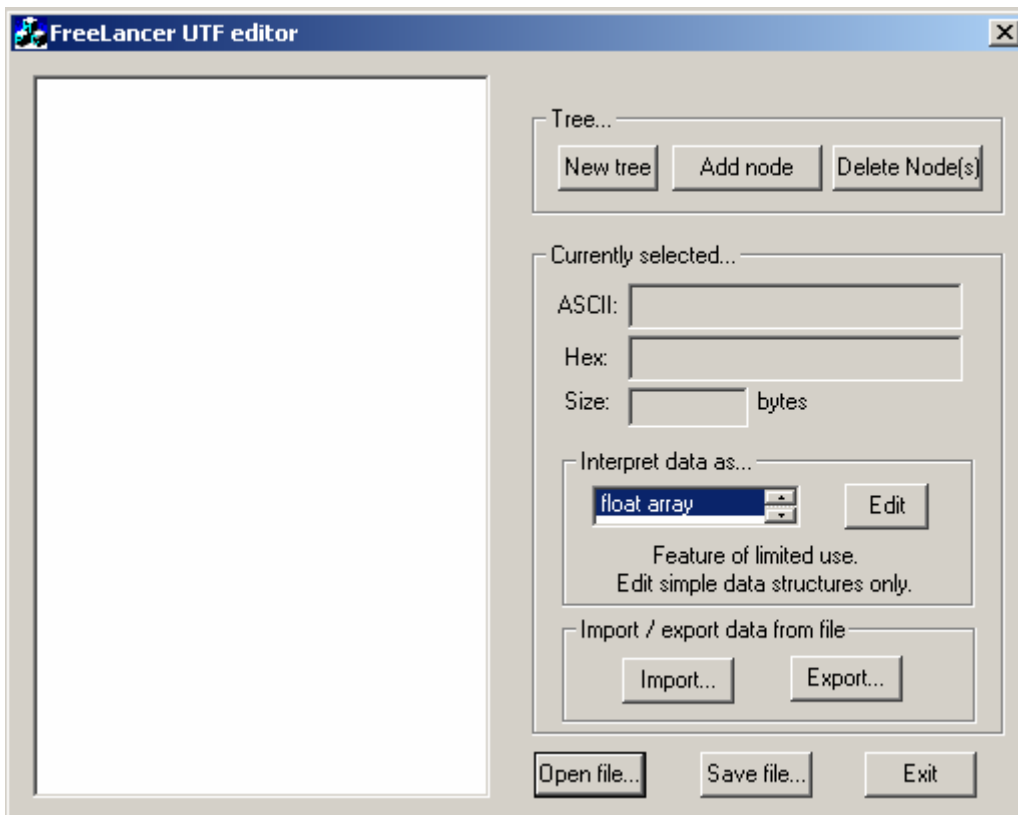
Create a new tree (Drawer), and add 2 new nodes (files.) Rename the one node material library and the other texture library. In each of those nodes (Files) create as many nodes (Files) as you have textures. (If you had 4 texture files mat lib gets 4 new nodes and texture lib gets 4 new nodes.)
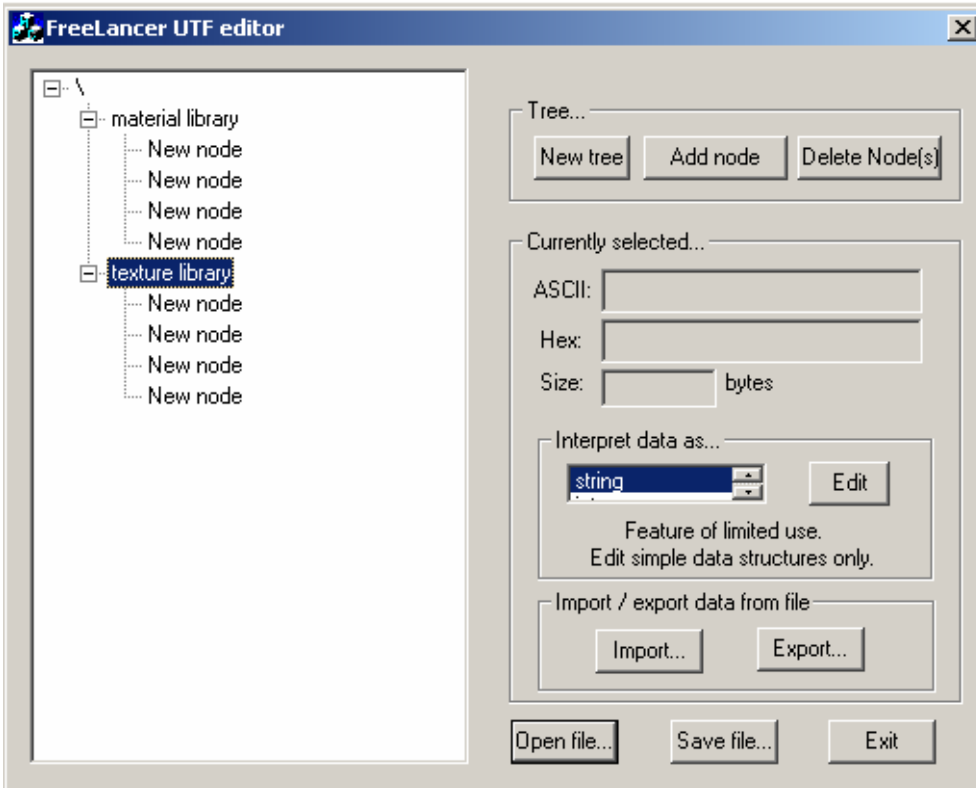
Now name all the nodes (Files) in the material library (first drawer) the same as your texture files but without the extension. So if you had a texture named texture01.tga you would rename that texture01... (if you highlight the node [File] you want wait half a second and click it again... you should be able to rename that node [File].) Name all the nodes under texture library the actual filenames including the extension... texture01.tga is exactly that: texture01.tga.
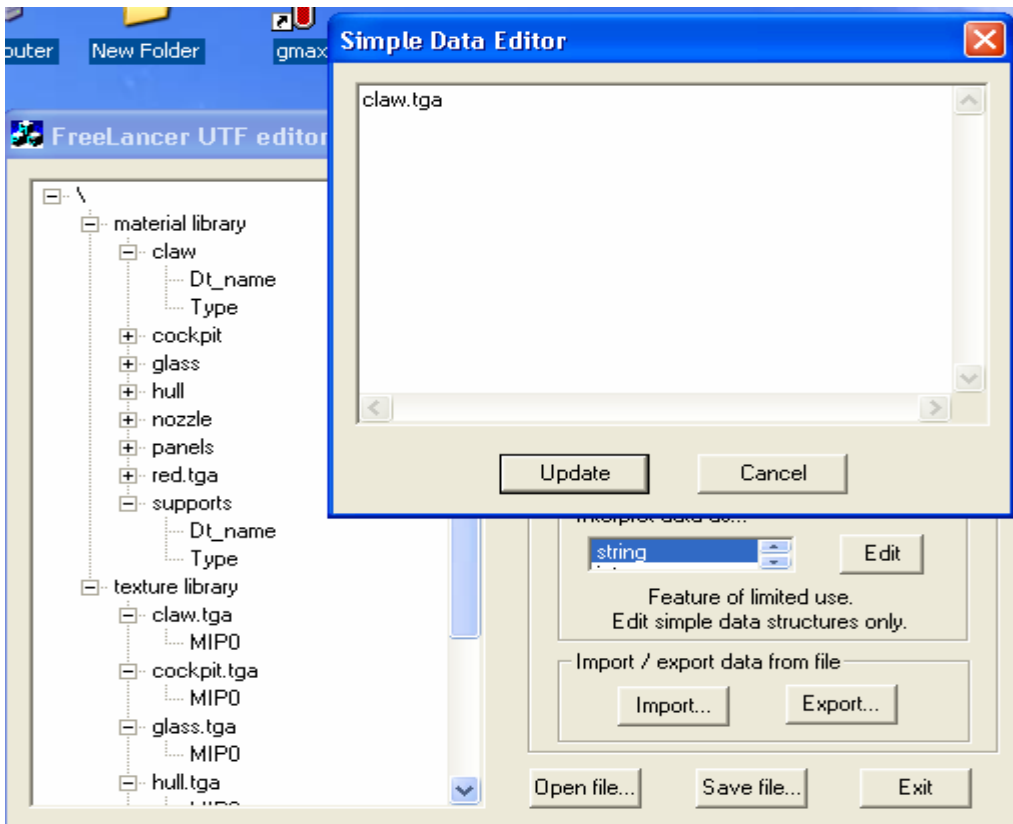
Finish the list of textures and in the material library drawer you need to give each texture node a defining name tag (Dt_name) and a defining data type (Type)

```
-/
        material library
                texture01
                        Dt_name
                        Type
```

once you are done with that you can start putting in the real info. Switch where it says "interpret data as…" to string. All Dt_name selections get a string that describes the texture used… in other words you get to retype texture file names AGAIN. Then you get to type "DcDt" in every single Type area you have… Finally where you have the MIP0 you highlight a MIP0 and click import to import your texture file into the .mat file. Remember that the textures you import to the .mat have to be flipped vertically to work in freelancer otherwise you get a white ship, and on a side note: if you notice that your ship is invisible at any point… this isn't a texture problem but a LOD (level of detail) issue. This is covered more in the .ini file section of this tutorial.

Once you are done importing the textures to the .mat file, click save file and save as *yourship.mat*

Thanks again Polish Renegade!!!

INI EDITING YOUR NEW SHIP
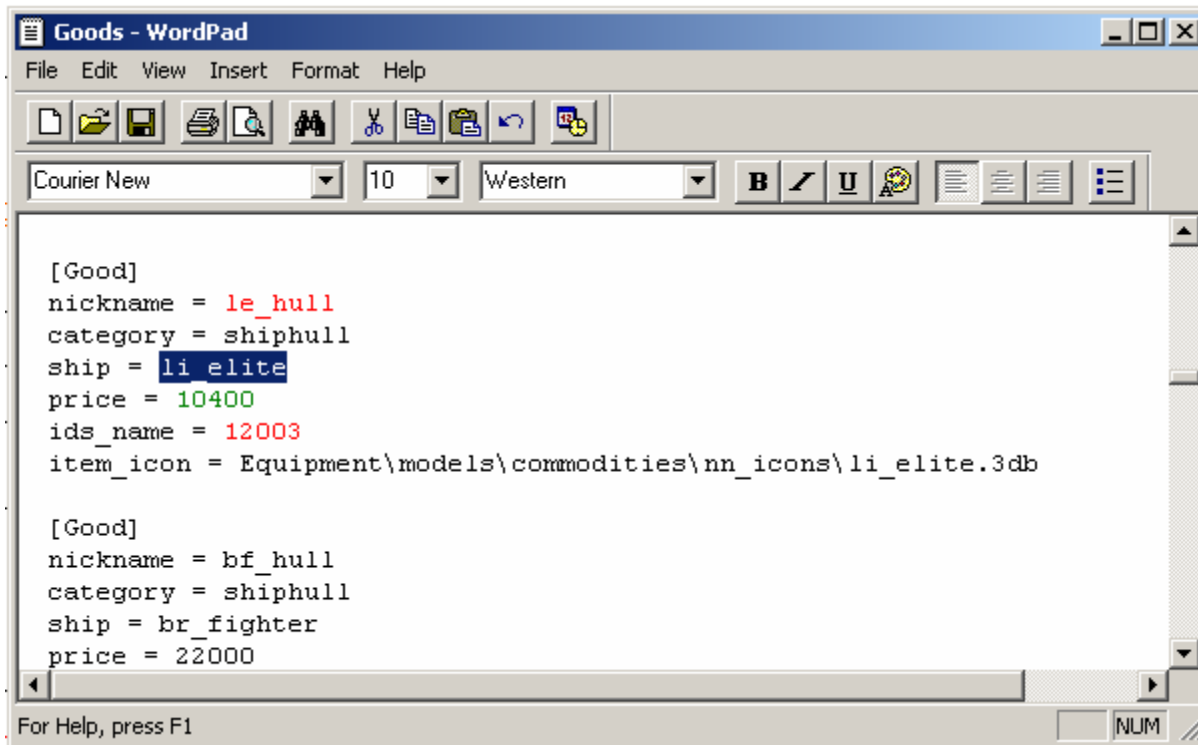
Tools used:
freelancer SDK v3.0 a complete collection of decompressed .ini files. Download this and install it into your freelancer directory. Create a folder named FL INI BACKUPS on your desktop and install it there as well. Now that our backups are made we can get started.

Now we are going to add your new ship to the .ini files using the DEFENDER as a guide.

Open up data\equipment\goods.ini

Do a search (ctrl + F) for li_elite. Li_elite is the defender. The best of the best.

You should see this: (note: im using wordpad so I can use colors to youwhat you should notice and make it easier to see. You should be using notepad. Notepad doesn't change format's like wordpad so your less likely to get a crash.)
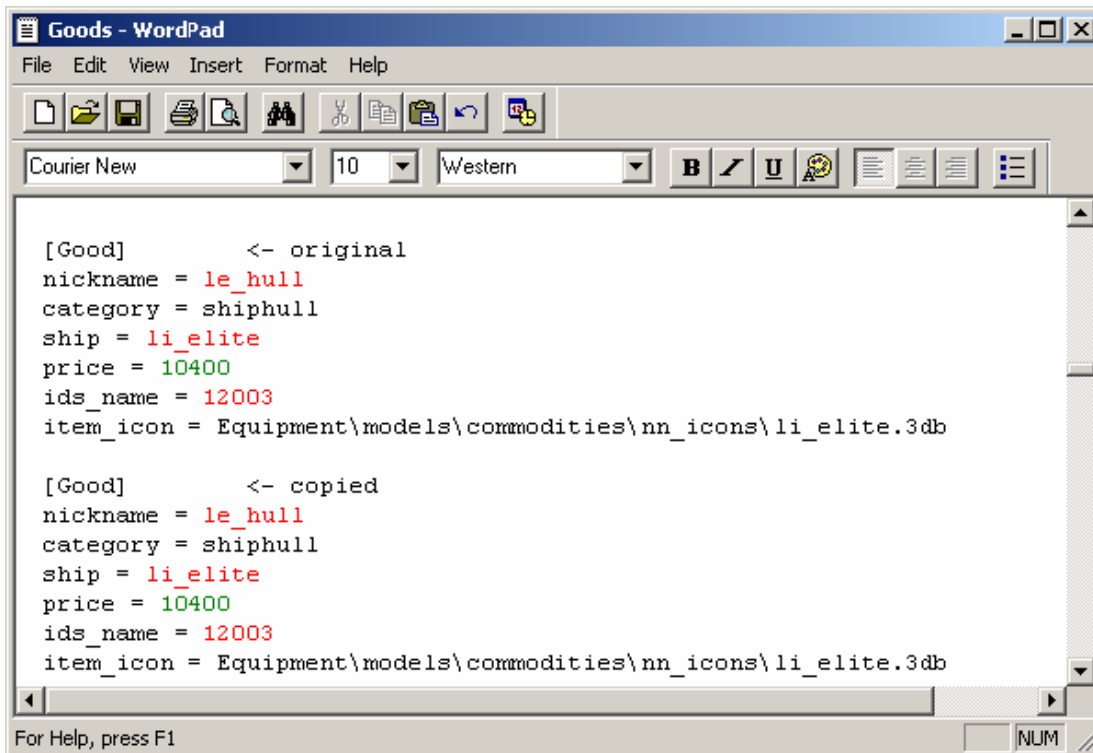
```
[Good]
nickname = le_hull
category = shiphull
ship = li_elite
price = 10400
ids_name = 12003
item_icon = Equipment\models\commodities\nn_icons\li_elite.3db

[Good]
nickname = bf_hull
category = shiphull
ship = br_fighter
price = 22000
```

[Good]
nickname le_hull   the hull
category shiphull   redundant but what the heck…
ship li_elite   the package
price 10400   what else… the cost of the ship.
ids_name 12003   this is important but will be explained later.
item_icon Equipment\models\commodities\nn_icons\li_elite.3db icon file

In the goods.ini file your ship is broken up into two pieces, the "hull" and the "package"… The hull is the ship and its price, the package is what comes with it.
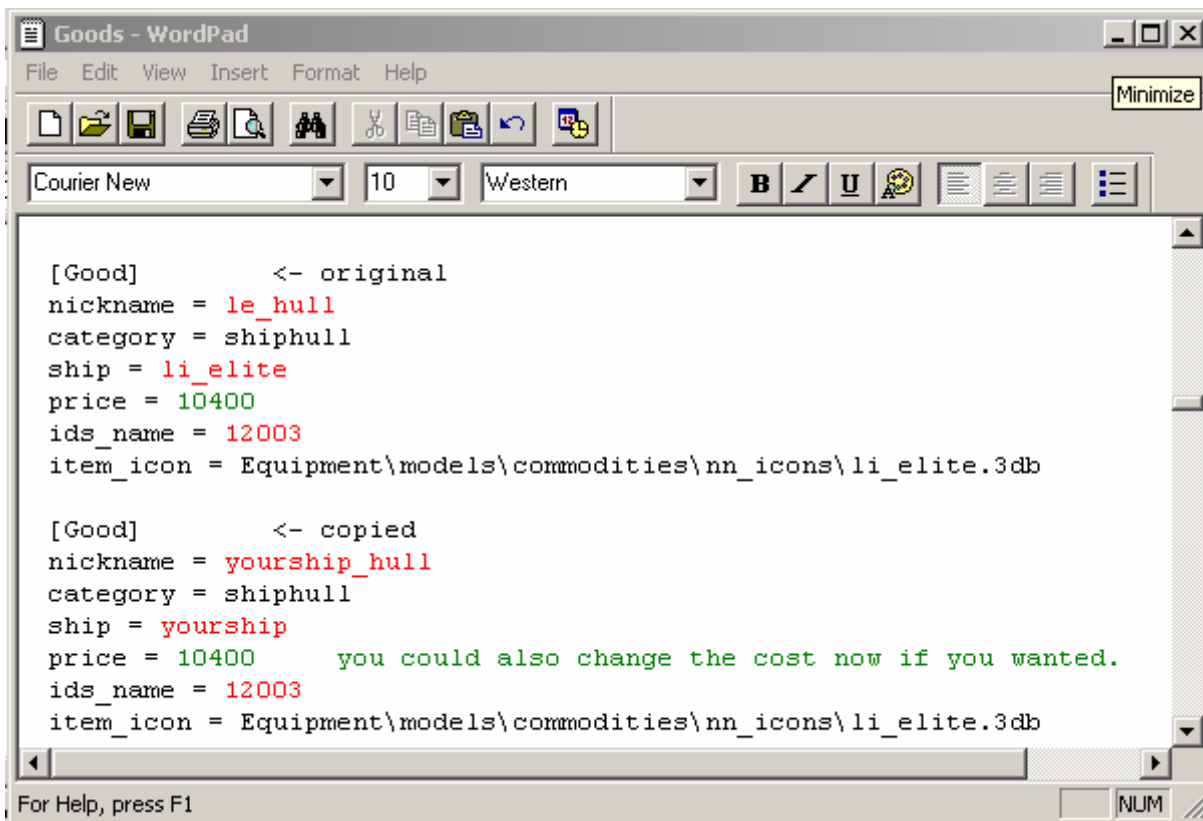
Copy the le_elite goods entry and put it underneath, so you should have this:

Now in the copied good, rename the hull to *yourship_hull.* and the ship to *yourship.* So you have this:

```
[Good]          <- original
nickname = le_hull
category = shiphull
ship = li_elite
price = 10400
ids_name = 12003
item_icon = Equipment\models\commodities\nn_icons\li_elite.3db

[Good]          <- copied
nickname = le_hull
category = shiphull
ship = li_elite
price = 10400
ids_name = 12003
item_icon = Equipment\models\commodities\nn_icons\li_elite.3db
```

For Help, press F1   NUM

Copy the nickname of the original hull, and search for it (le_hull). This will pull up the original package.

```
[Good]          <- original
nickname = le_hull
category = shiphull
ship = li_elite
price = 10400
ids_name = 12003
item_icon = Equipment\models\commodities\nn_icons\li_elite.3db

[Good]          <- copied
nickname = yourship_hull
category = shiphull
ship = yourship
price = 10400     you could also change the cost now if you wanted.
ids_name = 12003
item_icon = Equipment\models\commodities\nn_icons\li_elite.3db
```

For Help, press F1   NUM

```
[Good]
nickname = le_package
category = ship
hull = le_hull
addon = ge_le_engine_01, internal, 1          <- your engine
addon = li_elite_power01, internal, 1         <- your powerplant
addon = ge_s_scanner_01, internal, 1          <- the scanner
addon = ge_s_tractor_01, internal, 1          <- the tractor beam
addon = shield01_mark02_hf, HpShield01, 1     <- the default sheild
addon = LargeWhiteSpecial, HpHeadlight, 1     <- lights
addon = SlowSmallBlue, HpRunningLight01, 1              |
addon = SlowSmallBlue, HpRunningLight02, 1              |
addon = SlowSmallBlue, HpRunningLight03, 1              |
addon = SlowSmallBlue, HpRunningLight04, 1              V
addon = contrail01, HpContrail01, 1           <- the wind effect coming
addon = contrail01, HpContrail02, 1           <- off your wings.
addon = DockingLightRedSmall, HpDockLight01, 1  <- more lights.
addon = DockingLightRedSmall, HpDockLight02, 1
```

There are two things you should look at in the package: the engine and the power plant.

We are going to be editing both of these so that your ship has a "one of a kind" engine and power plant

Copy this section and add it as a new good underneath this one. Rename the package to *yourship_package*, and rename the hull *yourship_hull*. You want to rename the new good's engine and powerplant as well. *Yourship_engine_01 & yourship_power01*

```
📄 Goods - WordPad                                                    _ □ ×
File  Edit  View  Insert  Format  Help

  [Good]                             <-original
  nickname = le_package
  category = ship
  hull = le_hull
  addon = ge_le_engine_01, internal, 1              <- your engine
  addon = li_elite_power01, internal, 1             <- your powerplant
  addon = ge_s_scanner_01, internal, 1              <- the scanner
  addon = ge_s_tractor_01, internal, 1              <- the tractor beam
  addon = shield01_mark02_hf, HpShield01, 1         <- the default sheild
  addon = LargeWhiteSpecial, HpHeadlight, 1         <- lights
  addon = SlowSmallBlue, HpRunningLight01, 1            |
  addon = SlowSmallBlue, HpRunningLight02, 1            |
  addon = SlowSmallBlue, HpRunningLight03, 1            |
  addon = SlowSmallBlue, HpRunningLight04, 1           V
  addon = contrail01, HpContrail01, 1               <- the wind effect coming
  addon = contrail01, HpContrail02, 1               <- off your wings.
  addon = DockingLightRedSmall, HpDockLight01, 1  <- more lights.
  addon = DockingLightRedSmall, HpDockLight02, 1

  [Good]                             <-copy
  nickname = yourship_package
  category = ship
  hull = yourship_hull
  addon = yourship_engine_01, internal, 1           <- your engine
  addon = yourship_power01, internal, 1             <- your powerplant
  addon = ge_s_scanner_01, internal, 1              <- the scanner
  addon = ge_s_tractor_01, internal, 1              <- the tractor beam
  addon = shield01_mark02_hf, HpShield01, 1         <- the default sheild
  addon = LargeWhiteSpecial, HpHeadlight, 1         <- lights
  addon = SlowSmallBlue, HpRunningLight01, 1            |
  addon = SlowSmallBlue, HpRunningLight02, 1            |
  addon = SlowSmallBlue, HpRunningLight03, 1            |
  addon = SlowSmallBlue, HpRunningLight04, 1           V
  addon = contrail01, HpContrail01, 1               <- the wind effect coming
  addon = contrail01, HpContrail02, 1               <- off your wings.
  addon = DockingLightRedSmall, HpDockLight01, 1  <- more lights.
  addon = DockingLightRedSmall, HpDockLight02, 1
```

Save your progress. Goods.ini, highlight and copy ge_le_engine_01 from the package.

Engine:

There are only three things you would want to edit in ENGINE, the "max_force", "reverse_fraction", and "cruise_charge_time". If you want to change any of these open up data\equipment\engine_equip.ini and leave it open for now (you should still have 2 editors open now if you don't get the goods.ini back open again.) Search for the ge_le_engine_01 entry, and you'll see these stats here:

```
[Good]
nickname = le_package
category = ship
hull = le_hull
addon = ge_le_engine_01,
addon = li_elite_power01,
addon = ge_s_scanner_01,
addon = ge_s_tractor_01,
addon = shield01_mark02_H
addon = LargeWhiteSpecia:
addon = SlowSmallBlue, Hp
addon = SlowSmallBlue, Hp
addon = SlowSmallBlue, Hp
addon = SlowSmallBlue, Hp
addon = contrail01, HpCol
addon = contrail01, HpCol
addon = DockingLightRedSn
addon = DockingLightRedSn

[Good]
nickname = yourship_packa
category = ship
hull = yourship_hull
addon = yourship_engine_(
addon = yourship_power01,
addon = ge_s_scanner_01,
addon = ge_s_tractor_01,
```

Find

Find what: `ge_le_engine_01`

Find Next | Cancel

☐ Match whole word only
☐ Match case

engine_equip – WordPad

Courier New

```
inside_sound_cone = 60
outside_sound_cone = 180

[Engine]
nickname = ge_le_engine_01
ids_name = 263688
ids_info = 264688
volume = 0.000000
mass = 10
max_force = 48000
linear_drag = 599
power_usage = 0
reverse_fraction = 0.200000
flame_effect = gf_li_smallengine02_fire
trail_effect = gf_li_smallengine02_trail
cruise_disrupt_effect = gf_li_cruisedisruption
trail_effect_player = gf_li_smallengine02_playtrail
cruise_charge_time = 5
cruise_power_usage = 20
character_start_sound = engine_li_fighter_start
character_loop_sound = engine_li_fighter_loop
character_pitch_range = -50, 25
rumble_sound = rumble_h_fighter
```

For Help, press F1   NUM

MAX_FORCE is your top speed multiplied by 600. REVERSE_FRACTION is your speed in reverse.

For example, all stock ships have a max_force of 48000 (80mps), and can go 16mps in reverse (80 x 0.2). The cruise_charge_time is exactly that, how long it takes to warm up your cruise engine. If you were to make it zero you'd be gone as soon as you hit your cruise control.

Now you want to copy this engine entry and put it just below the original and rename the engine name. Once again the renamed engine should be *yourship_engine_01*. Save engine_equip.ini.

To MOD the power plant:
Highlite and copy the goods.ini li_elite_power01 entry in the package just below the engine, and open up data\equipment\misc_equip.ini. (just open it in the window you opened engine_equip.ini)
Search for the nickname you copied, and you'll see four things you can tamper with... capacity, charge_rate, thrust_capacity, and thrust_charge_rate.

```
Goods edited for toot - WordPad
File  Edit  View  Insert  Format  Help

[Good]
nickname = le_package
category = ship
hull = le_hull
addon = ge_le_engine_(
addon = li_elite_power
addon = ge_s_scanner_(
addon = ge_s_tractor_(
addon = shield01_mark0
addon = LargeWhiteSpec
addon = SlowSmallBlue.
addon = SlowSmallBlue.
addon = SlowSmallBlue.
addon = SlowSmallBlue.
addon = contrail01, H]
addon = contrail01, H]
addon = DockingLightR(
addon = DockingLightR(

[Good]
nickname = yourship_pa
category = ship
hull = yourship_hull
addon = yourship_engi
addon = yourship_powe
addon = ge_s_scanner_(
addon = ge_s_tractor_(
```

```
misc_equip - WordPad
File  Edit  View  Insert  Format  Help

[Power]                      <-original
nickname = li_elite_power01
ids_name = 263721
ids_info = 264721
volume = 0.000000
mass = 10
DA_archetype = equipment\models\hardware\li_fusion_reactor.3db
material_library = equipment\models\hardware.mat
capacity = 1500
charge_rate = 157
thrust_capacity = 1000
thrust_charge_rate = 100
lootable = false

[Power]                      <-copy
nickname = yourship_power01
ids_name = 263721
ids_info = 264721
volume = 0.000000
mass = 10
DA_archetype = equipment\models\hardware\li_fusion_reactor.3db
material_library = equipment\models\hardware.mat
capacity = 100000        <- changed to allow for powerful guns
charge_rate = 1500       <- changed for better (but not crazy) recharge
thrust_capacity = 1000
thrust_charge_rate = 100
lootable = false
```

Capacity is how much juice your ship holds Charge rate is how fast it replenishes The other two are the same, but for the thruster.

If you want to make an unstoppable ship, just make the charge_rate equal or more than the capacity, that should do it.

SUMMARY:

I'll provide an example here for you where you modify the original defender…

You want to double the top speed and charge rate of the defender… in case you didn't know… You pull up data\equipment\goods.ini and search for "li_elite". It pulls up a thing called a ship hull, so you grab the nickname which is "le_hull" (liberty elite hull). You search for "le_hull" and find the package entry, which is called "le_package". Inside le_package, the first two lines that say add-on are "ge_le_engine_01" (engine), and "li_elite_power01" (power plant). You copy "ge_le_engine_01" and open up data\equipment\engine_equip.ini. You search for it, and change the 48000 to 96000 (when divided by 600 will be 160). You then close this file, and copy "li_elite_power01". You then open up data\equipment\misc_equip.ini, search for your power plant, and

there it is. Now you double the capacity, and to keep it balanced, you lower the charge rate a little. Save, and you're done with the engine and power plant modifications.

Now, that example was without copying and renaming all of the essential components. If you want your changes to leave the other ships using their original components and your ship to use these brand new components, follow the steps above where you copied and renamed all of the essentials.

Make your ship buy-able at a base.

Tools used:
Notepad

This is a little tedious, but you must do it.
Open up your data\equipment\market_ships.ini
You should see something that looks like this

[BaseGood]
base = Br01_01_base
Marketgood = gf1_package, 0, -1, 0, 0, 1, 1, 1
Marketgood = gf2_package, 4, -1, 0, 0, 1, 1, 1
And so on down the list.

FYI...
The 2nd number:
30, -1, 0, 0, 1, 1, 1
Is your rep requirement to buy a ship. Don't mess with this unless ABSOLUTELY necessary.

Let's take a look at these entries.
You have the marketgood identifier, the nickname of the package, the level you have to be to buy a particular ship and finally the last set of numbers.

Identifier and package	Level to buy	To sell or not to sell
Marketgood = gf1_package,	0,	-1, 1, 1, 0, 1, 1
Marketgood = gf2_package,	4,	-1, 0, 0, 1, 1, 1

A ship that is for sale looks like this. Pay attention to the numbers they are important.
Marketgood = gf1_package, 1, -1, 1, 1, 0, 1, 1
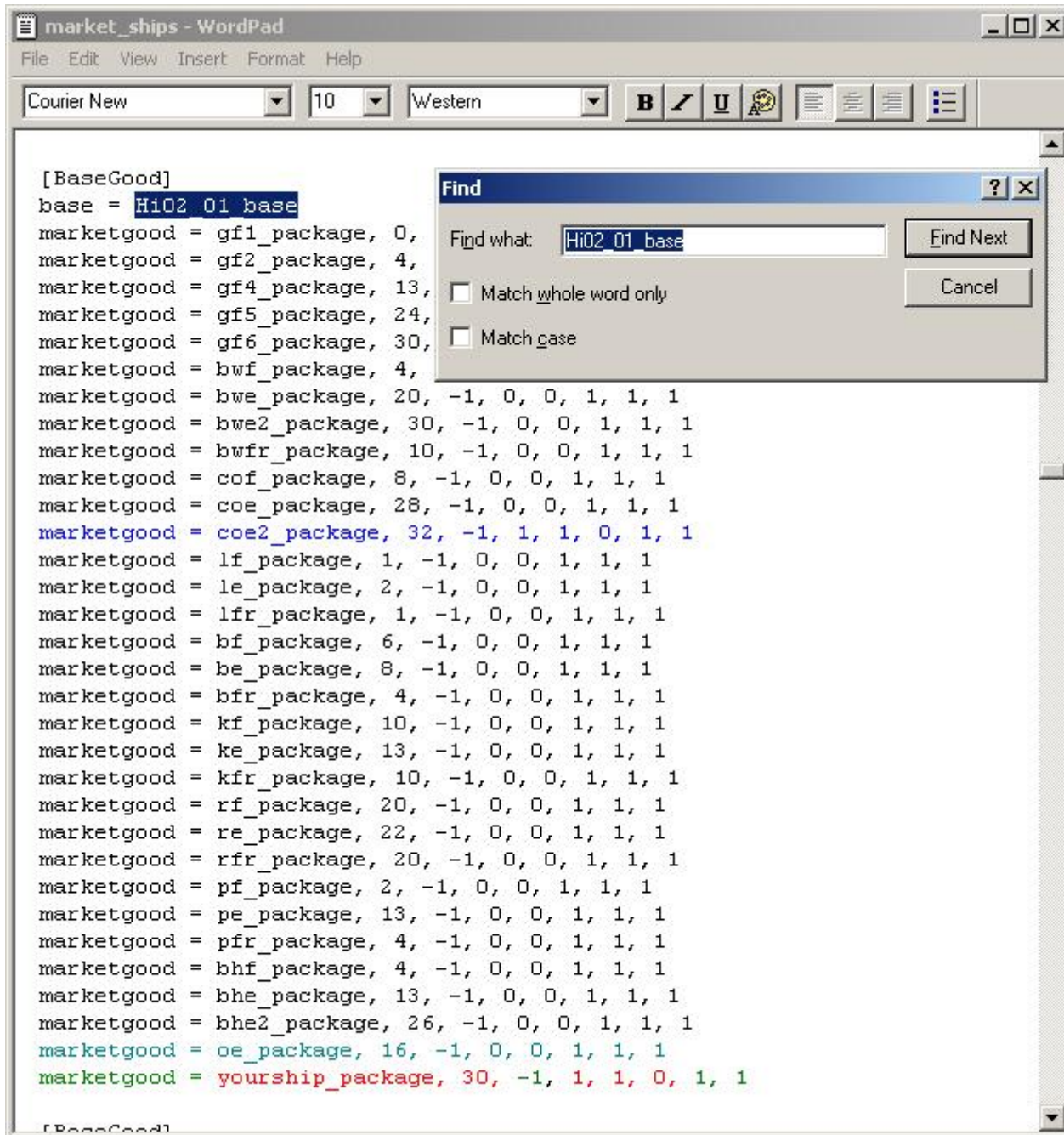
A ship that is NOT for sale looks like this.
Marketgood = gf1_package, 1, -1, 0, 0, 1, 1, 1

Did you notice the change? The 1's and 0's after the -1 are significant.
➢ 1, 1, 0 = a buyable ship
➢ 0, 0, 1, = a ship not for sale at that station.

By changing those 3 numbers you can enable or disable a ship.

NOTE: Each base can only sell 3 ships. Bases that already sell 3 ships must have 1 of the existing enabled ships disabled so you can add your ship to the dealer, otherwise you will most likely end up with a crash.

```
market_ships - WordPad                                          _ □ X
File   Edit   View   Insert   Format   Help

Courier New          ▼   10  ▼  Western          ▼   B / U 🖉  ≣ ≣ ≣  ☰

[BaseGood]
base = Hi02_01_base                  Find                                    ? X
marketgood = gf1_package, 0,
marketgood = gf2_package, 4,         Find what:    Hi02_01_base           Find Next
marketgood = gf4_package, 13,
marketgood = gf5_package, 24,        ☐ Match whole word only              Cancel
marketgood = gf6_package, 30,        ☐ Match case
marketgood = bwf_package, 4,
marketgood = bwe_package, 20, -1, 0, 0, 1, 1, 1
marketgood = bwe2_package, 30, -1, 0, 0, 1, 1, 1
marketgood = bwfr_package, 10, -1, 0, 0, 1, 1, 1
marketgood = cof_package, 8, -1, 0, 0, 1, 1, 1
marketgood = coe_package, 28, -1, 0, 0, 1, 1, 1
marketgood = coe2_package, 32, -1, 1, 1, 0, 1, 1
marketgood = lf_package, 1, -1, 0, 0, 1, 1, 1
marketgood = le_package, 2, -1, 0, 0, 1, 1, 1
marketgood = lfr_package, 1, -1, 0, 0, 1, 1, 1
marketgood = bf_package, 6, -1, 0, 0, 1, 1, 1
marketgood = be_package, 8, -1, 0, 0, 1, 1, 1
marketgood = bfr_package, 4, -1, 0, 0, 1, 1, 1
marketgood = kf_package, 10, -1, 0, 0, 1, 1, 1
marketgood = ke_package, 13, -1, 0, 0, 1, 1, 1
marketgood = kfr_package, 10, -1, 0, 0, 1, 1, 1
marketgood = rf_package, 20, -1, 0, 0, 1, 1, 1
marketgood = re_package, 22, -1, 0, 0, 1, 1, 1
marketgood = rfr_package, 20, -1, 0, 0, 1, 1, 1
marketgood = pf_package, 2, -1, 0, 0, 1, 1, 1
marketgood = pe_package, 13, -1, 0, 0, 1, 1, 1
marketgood = pfr_package, 4, -1, 0, 0, 1, 1, 1
marketgood = bhf_package, 4, -1, 0, 0, 1, 1, 1
marketgood = bhe_package, 13, -1, 0, 0, 1, 1, 1
marketgood = bhe2_package, 26, -1, 0, 0, 1, 1, 1
marketgood = oe_package, 16, -1, 0, 0, 1, 1, 1
marketgood = yourship_package, 30, -1, 1, 1, 0, 1, 1

[BaseGood]
```

Once you have found the station where you want to make your ship buyable, copy the last entry line of that station and place it at the end, rename it to the nickname of your ship's package. The next step is to make one of the buyable ships disabled and then you can change your ships buyable code to buyable. (that is change the -1, 0, 0, 1, 1, 1 to -1, 1, 1, 0, 1, 1.)

EXAMPLE:

Here I searched for Planet Crete and since it only has one ship for sale (coe2_package A.K.A. Titan) all I had to do was copy the last entry and rename it to my ship with the "for sale" code. I elected to make the ship non-purchasable until level 30.

Congratulations you now have a buyable ship. However you still need to create the infocards for the ship so that you can see what its stats are like.
Save your work and get ready.

How to create your infocards and insert the ship into the game (finally.)

Tools:
FLEd_ids I used this to find the empty infocards and create my new infocards.
Notepad

Let's do it.

This was by far the hardest research job I had in writing this tutorial. And even after it's all done I doubt I'll be able to write this in a way that is completely understandable. If you don't understand what I'm trying to say in this section of the tutorials, I'm sorry, I tried, I will work on an update to this part of the tutorial as soon as I myself have a better understanding of creating infocards.

Don't let this intimidate you though. We will try to get through this.
Here we go.

OK. Info cards are one of your ways of letting people know the stats of your ship. They can see this on their screen whenever they are buying this ship or scanning someone who has this ship. So it's kind of important to have a good, creative, and well thought out infocard.

Open up data\ships\shiparch.ini again. This file is VERY important to us now. You need this file to make your ship flyable.

```
shiparch - WordPad
File  Edit  View  Insert  Format  Help

[Ship]
ids_name = 237033
ids_info = 66567
ids_info1 = 66568
ids_info2 = 66608
ids_info3 = 66569
ship_class = 1
nickname = li_elite
msg_id_prefix = gcs_refer_shiparch_Libhf
mission_property = can_use_berths
LODranges = 0, 75, 150, 1300
type = FIGHTER
DA_archetype = ships\liberty\li_elite\li_elite.cmp
material_library = ships\liberty\li_playerships.mat
material_library = fx\envmapbasic.mat
envmap_material = envmapbasic
cockpit = cockpits\liberty\l_elite.ini
pilot_mesh = generic_pilot
nanobot_limit = 14
shield_battery_limit = 14
mass = 150.000000
hold_size = 30
linear_drag = 1.000000
fuse = intermed_damage_smallship01, 0.000000, 400
fuse = intermed_damage_smallship02, 0.000000, 200
fuse = intermed_damage_smallship03, 0.000000, 133
max_bank_angle = 30
camera_offset = 8, 34
camera_angular_acceleration = 0.050000
camera_horizontal_turn_angle = 17
camera_vertical_turn_up_angle = 5
camera_vertical_turn_down_angle = 25
camera_turn_look_ahead_slerp_amount = 1.000000
hit_pts = 1600
explosion_arch = explosion_li_elite
surface_hit_effects = 0, small_hull_hit_light01, small_hull_hit_light02, sm
surface_hit_effects = 150, small_hull_hit_medium01, small_hull_hit_medium02
surface_hit_effects = 300, small_hull_hit_heavy01, small_hull_hit_heavy02,
steering_torque = 50000.000000, 50000.000000, 230000.000000
angular_drag = 40000.000000, 40000.000000, 141000.000000
rotation_inertia = 8400.000000, 8400.000000, 8400.000000
nudge_force = 30000.000000
strafe_force = 20000
strafe_power_usage = 2
bay_door_anim = Sc_open baydoor
bay_doors_open_snd = cargo_doors_open
bay_doors_close_snd = cargo_doors_close

HP_bay_surface = HpBayDoor01
HP_bay_external = HpBayDoor02
HP_tractor_source = HpTractor_Source
num_exhaust_nozzles = 2
shield_link = l_elite_shield01, HpMount, HpShield01
hp_type = hp_gun_special_4, HpWeapon01, HpWeapon02
hp_type = hp_gun_special_3, HpWeapon01, HpWeapon02, HpWeapon03, HpWeapon04,
HpWeapon05
hp_type = hp_gun_special_2, HpWeapon01, HpWeapon02, HpWeapon03, HpWeapon04,
HpWeapon05
hp_type = hp_gun_special_1, HpWeapon01, HpWeapon02, HpWeapon03, HpWeapon04,
HpWeapon05
hp_type = hp_elite_shield_special_4, HpShield01
hp_type = hp_elite_shield_special_3, HpShield01
hp_type = hp_elite_shield_special_2, HpShield01
hp_type = hp_elite_shield_special_1, HpShield01
hp_type = hp_thruster, HpThruster01
hp_type = hp_mine_dropper, HpMine01
hp_type = hp_countermeasure_dropper, HpCM01
hp_type = hp_turret_special_4, HpTurret01
hp_type = hp_turret_special_3, HpTurret01
hp_type = hp_turret_special_2, HpTurret01
hp_type = hp_turret_special_1, HpTurret01
hp_type = hp_torpedo_special_1, HpTorpedo01
hp_type = hp_torpedo_special_2, HpTorpedo01

[CollisionGroup]
obj = Li_star_wing_lod1

For Help, press F1                                          NUM
```

Ids_name = 237033
Ids_info = 66567
Ids_info1 = 66568
Ids_info2 = 66608
Ids_info3 = 66569

These are all calls made to ids #'s
Ids numbers are what help us store things like our infocards and names of certain objects. Where ids_name makes a reference to an actual name, ids_info makes reference to an infocard written in xml.

Li_elite is the nickname of the ship.

DA_archtype is a link to your .cmp file you created earlier
And the first material_library is a link to your .mat file.

Nanobot_limit is just the max your ship can hold. Same with shield_battery.

Mass affects ships turning and how fast it speeds up or slows down.
Hold_size is you cargo limit.

And then the lovely one. Your Hit Points. Actual hull damage your ship can withstand. [Not to be confused with your shields.]

This red zone here is the area where you would edit and/or add all of your hardpoints.

The shield link is your default shield. That's what your ship comes with when you buy it.

You have your number of exhaust nozzles at the top,
Your weapons,
Turrets if you have any,
Shields,
Torpedos, and anything else you can find in this file. Its huge so you could be searching for a good 40 minutes for the best ship config in here.

At this point I want you to copy that entire ship entry and paste it just before the next ship entry(that's past the collision groups and simple groups.)
Rename the nickname to *yourship.*
Edit the *da archtype* so it knows where your ship's *cmp* is.
Edit the material library so it knows where to find your mat files.
Go ahead and edit your hit points and anything else you might want to change. However since we're using the defender as a guide and I had you place the same amount of *hardpoints* on it, I suggest not changing the *hardpoints*.
Save but don't close.

Let's open up the FLEd_ids program.
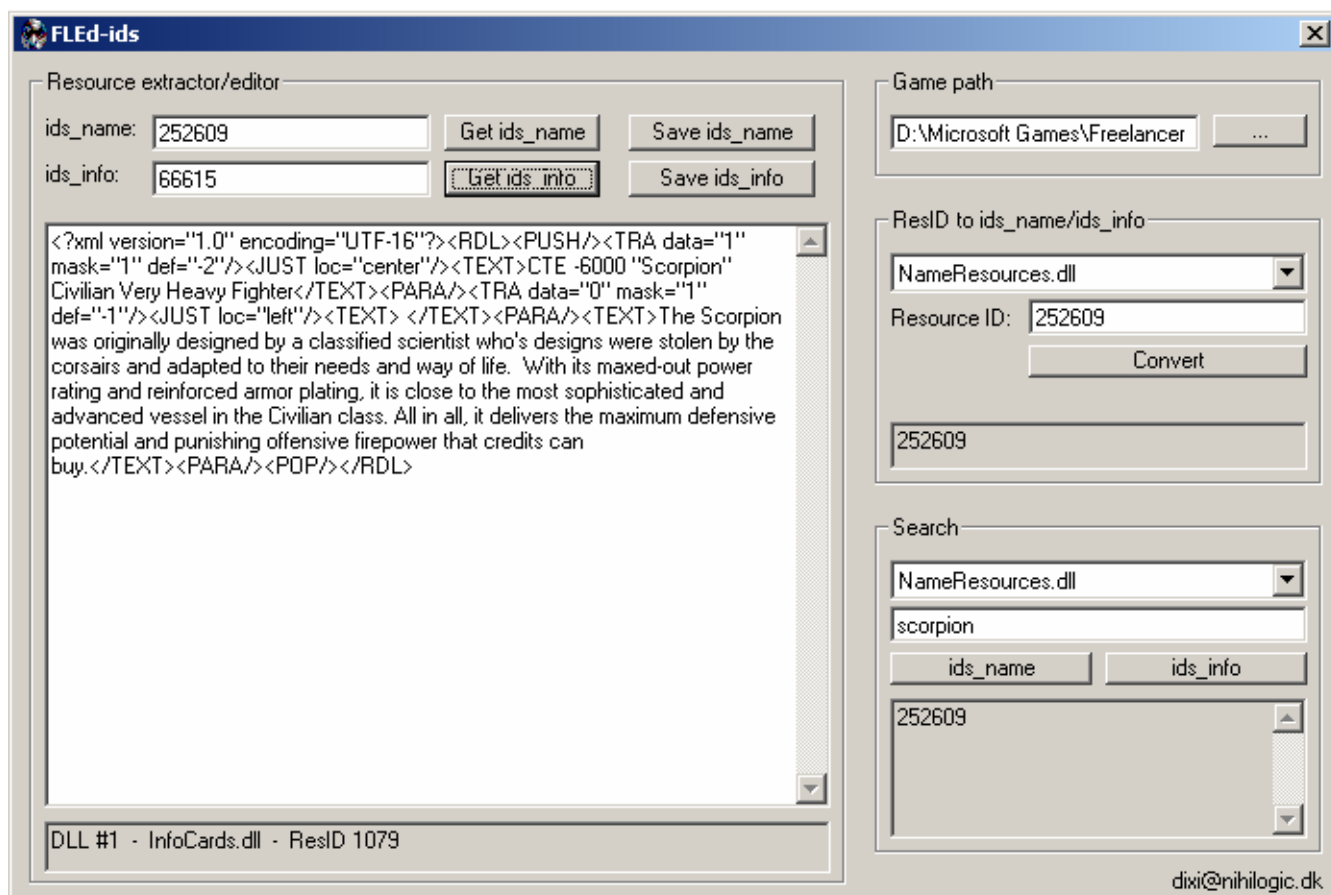
As I've said, infocards are written in XML script. The text box above is where you would see, and edit, any info a card slot had. The good thing is there are available card slots in FL. You just have to find them first. So let's use the Search box under the nameresources.dll you see up there... use that pull down menu to select infocards.dll, then search for the eagle. Type eagle in the search box and click ids_info. You end up with 2 numbers. If you stick the top number in the ids info box in the upper left and click the get ids_info? You get some info about a base. Go with the second number for now.
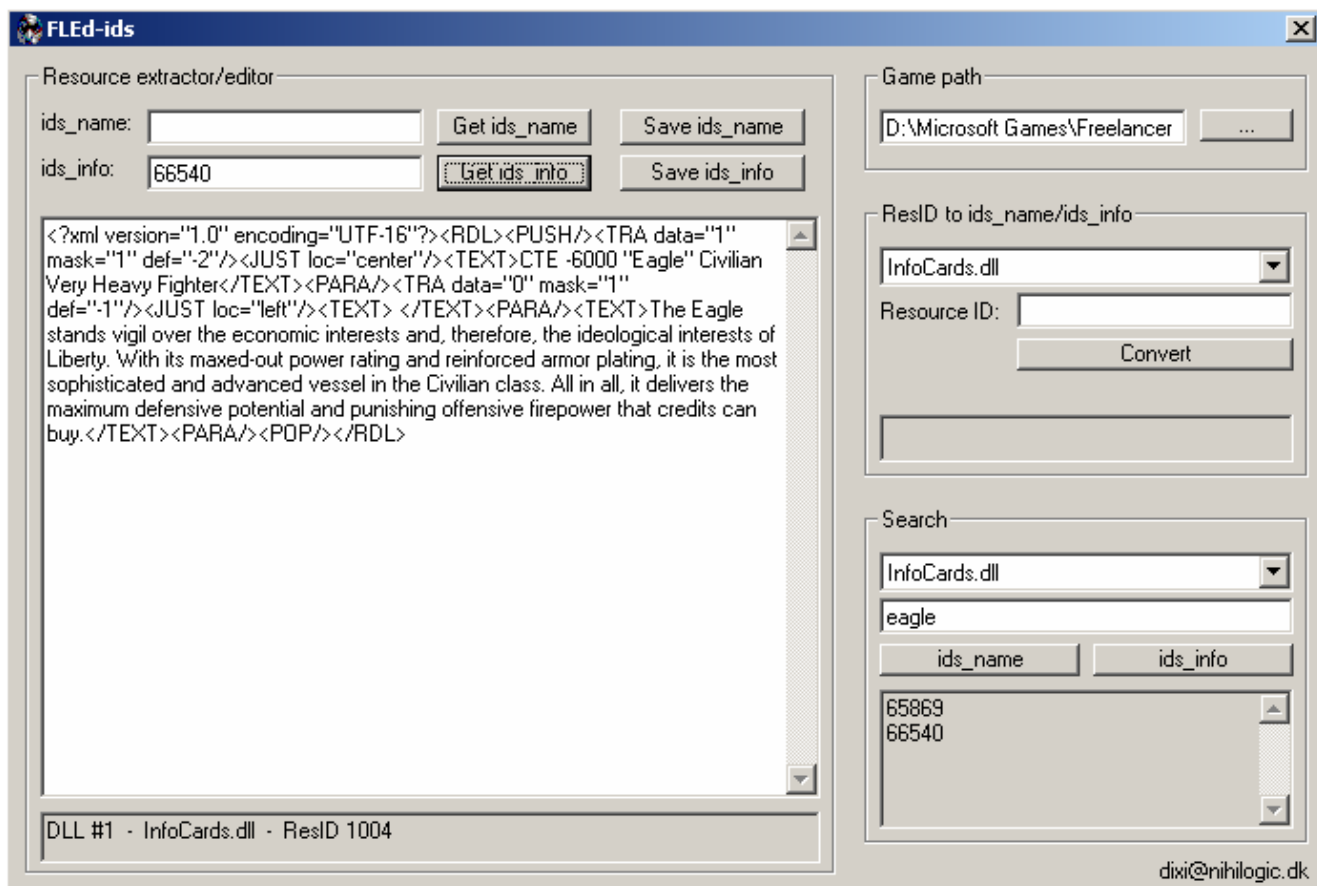
Ok. You should have something like that. From here you could just keep going up in numbers searching and searching for an empty slot. But ill tell you now that 66615 is free. I used it for my ship.

You will need 5 ids numbers one is going to be an ids_name the other 4 are ids_info numbers.

[Ship]
ids_name = 237034   the name of your ship
ids_info = 66570 this is your ships stats
ids_info1 = 66571   is your infocard
ids_info2 = 66608   stats being the value type
ids_info3 = 66572   stats being the actual value

Look familiar? This was grabbed from the data\ships\shiparch.ini file where I told you to change the da_archtype and such. This is where we will have to put your ids_name and ids_info numbers when we are done. The ids values I grabbed were off of the patriot.

Once you have found a free slot in the ids_info category we can start organizing our infocard.

Go ahead and enter this: 66571   it's from the ids_info1. Put it into the ids_name box in the upper left of the window.
Now click get ids_info

<?xml version="1.0" encoding="UTF-16"?><RDL><PUSH/><TRA data="1" mask="1" def="-2"/><JUST loc="center"/><TEXT>LZF-6364 "Patriot" Liberty Light Fighter</TEXT><PARA/><TRA data="0" mask="1" def="-1"/><JUST loc="left"/><TEXT> </TEXT><PARA/><TEXT>With comparable models in active government and military service, the Patriot delivers state-of-the-art maneuverability and punishing firepower in one unbeatable package. Impressive extensibility and a generous cargo hold round out the top notch appointments.</TEXT><PARA/><POP/></RDL>

Lovely aint it? The parts in red are actual text for the infocard. Edit them until you are happy with the way it sounds, but don't mess with the xml tags. When you are done you can copy and paste your xml text into the edit box of the ids editor FLEd-ids. So go ahead and put 66615 in the ids_info box, click get info and paste your xml based infocard in the editor. Click save ids_info. And save it.

Now put 66615 or the number you used into the resource ID box and make sure you have resourcenames.dll shown in the pull down menu. Click convert to get your ids_name # 197687 now put that in the ids_name box at the upper left side of the window. You should get an empty box where you could type something what we've got here…
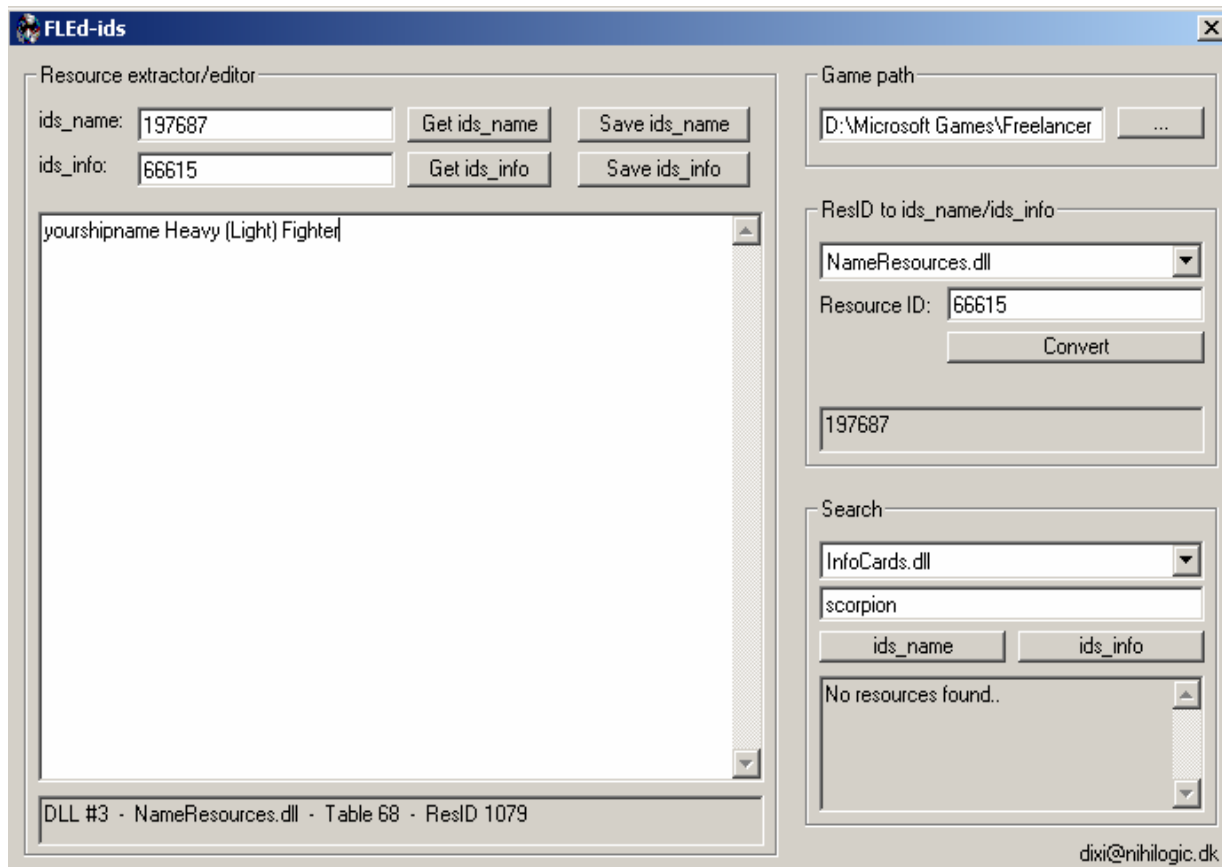
put the name of your ship like it is in that box.   However you should replace the YOURSHIPNAME with your real shipname and then the type of ship.
Like… Scorpion Heavy Fighter.   Don't worry about xml here.

Ok so now your ship name and info card are numbers. Now we need your stats.
In the above file excerpt I showed you 5 sets of numbers.   Ids_name, ids_info, ids_info01, 02 and 03.
Ids_info is your stats.   However they go farther than that and break it down as well.
Ids_info02, and 03 are identifier and value format respectively
Meaning.   In 02 you have your list of stats without the amounts (i.e.: weapon/turrets:,) and in 03 you have the amounts (i.e.: 6/2.)

Look up Ids_info = 66570 (the patriot's stats) copy the xml text and place it in your next empty empty slot.
Keep track of the ids number! I used 66700

66570 stands for:

```
<?xml version="1.0" encoding="UTF-16"?><RDL><PUSH/><TEXT> </TEXT><PARA/><TRA data="1" mask="1" def="-2"/><JUST loc="center"/><TEXT>Stats</TEXT><PARA/><TRA data="0" mask="1" def="-1"/><JUST loc="left"/><TEXT> </TEXT><PARA/><TEXT>Gun/Turret Mounts: 4/0</TEXT><PARA/><TEXT>Armor: 1300</TEXT><PARA/><TEXT>Cargo Space: 25</TEXT><PARA/><TEXT>Max Batteries/NanoBots: 12/12</TEXT><PARA/><TEXT>Optimal Weapon Class: 2</TEXT><PARA/><TEXT>Max. Weapon Class: 3</TEXT><PARA/><TEXT>Additional Equipment: M, CM, CD</TEXT><PARA/><PARA/><POP/></RDL>
```

where we are shown the whole set of stats and their values.

Then in…
Ids_info02 = 66608 (once again the patriot) copy the xml text and place it in your next empty slot.   Keep track of the ids number! I used 66701

```
<?xml version="1.0" encoding="UTF-16"?><RDL><PUSH/><TRA data="1" mask="1" def="-2"/><TEXT>Stats</TEXT><PARA/><TRA data="0" mask="1" def="-1"/><TEXT> </TEXT><PARA/><TEXT>Gun/Turret Mounts: </TEXT><PARA/><TEXT>Armor: </TEXT><PARA/><TEXT>Cargo Space: </TEXT><PARA/><TEXT>Max Batteries/NanoBots: </TEXT><PARA/><TEXT>Optimal Weapon Class: </TEXT><PARA/><TEXT>Max. Weapon Class: </TEXT><PARA/><TEXT>Additional Equipment: </TEXT><PARA/><POP/></RDL>
```

Where they skip the values of each stat.

And finaly…
Ids_info3 = 66572 (once again the patriot) copy this xml text and place it in an empty slot. Keep track of the ids number! I used 66702

<?xml version="1.0" encoding="UTF-16"?><RDL><PUSH/><TEXT> </TEXT><PARA/><TEXT> </TEXT><PARA/><TEXT>4/0</TEXT><PARA/><TEXT>1300</TEXT><PARA/><TEXT>25</TEXT><PARA/><TEXT>12/12</TEXT><PARA/><TEXT>2</TEXT><PARA/><TEXT>3</TEXT><PARA/><TEXT>M, CM, CD </TEXT><PARA/><POP/></RDL>

I hope you see what I'm talking about there. You have the full set of stats, the titles of the states and the stats themselves.
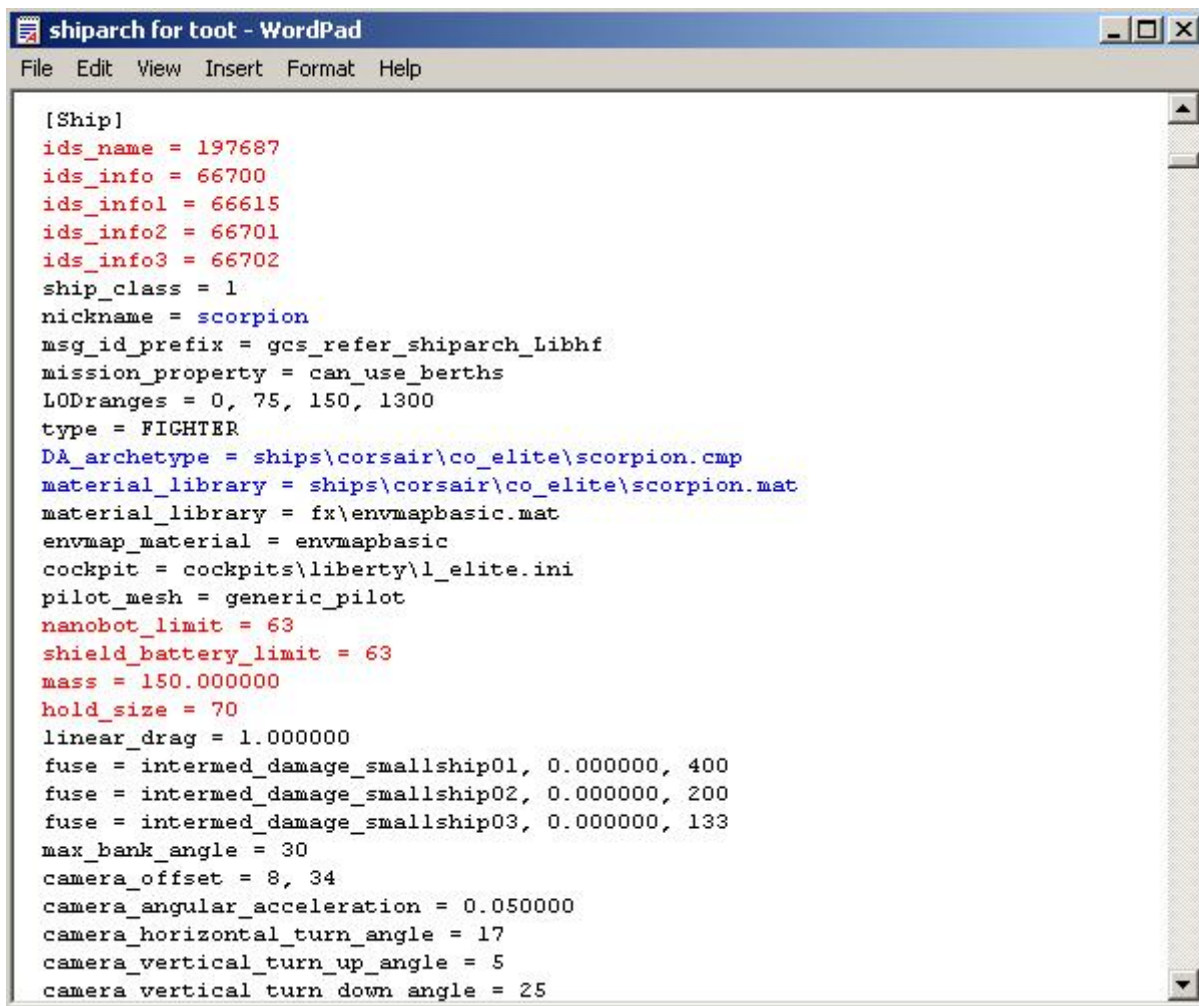
Now if you understand what I'm talking about, you can edit the stats in ids_info, and ids_info03 to what you'd like… keeping the values the same in each set of stats.

The final set of ids#'s
The numbers I used ended up being:

ids_name = 197687
ids_info = 66700
ids_info1 = 66615
ids_info2 = 66701
ids_info3 = 66702

I put these in the shiparch.ini in order to create links to all of my infocards.

```
shiparch for toot - WordPad
File  Edit  View  Insert  Format  Help

[Ship]
ids_name = 197687
ids_info = 66700
ids_info1 = 66615
ids_info2 = 66701
ids_info3 = 66702
ship_class = 1
nickname = scorpion
msg_id_prefix = gcs_refer_shiparch_Libhf
mission_property = can_use_berths
LODranges = 0, 75, 150, 1300
type = FIGHTER
DA_archetype = ships\corsair\co_elite\scorpion.cmp
material_library = ships\corsair\co_elite\scorpion.mat
material_library = fx\envmapbasic.mat
envmap_material = envmapbasic
cockpit = cockpits\liberty\l_elite.ini
pilot_mesh = generic_pilot
nanobot_limit = 63
shield_battery_limit = 63
mass = 150.000000
hold_size = 70
linear_drag = 1.000000
fuse = intermed_damage_smallship01, 0.000000, 400
fuse = intermed_damage_smallship02, 0.000000, 200
fuse = intermed_damage_smallship03, 0.000000, 133
max_bank_angle = 30
camera_offset = 8, 34
camera_angular_acceleration = 0.050000
camera_horizontal_turn_angle = 17
camera_vertical_turn_up_angle = 5
camera_vertical_turn_down_angle = 25
```

I put my ship "Scorpion Heavy Fighter" for sale at Crete so I placed my ship's cmp and mat files in corsair folders. But you can put them anywhere you want. Just make sure you have the da_archtype and material libraries linked to their location.

After you put your ids_info and ids_name numbers in the shiparch.ini where they belong, you are done with the editing part of this tutorial. Your ship is buyable, should have its own infocards, and if we did everything right you should still be able to fly your ship.

Once you've flown your ship and fixed any bugs you might have found (it's impossible to go over possible bugs here but you can always ask questions in my lancers reactor tutorial thread,) you can create a MOD ARCHIVE which will allow you to activate the mod in flmm.

LOD ranges

You may have noticed something in our shiparch.ini that mentioned LOD ranges. What's LOD? That's Level of Detail. This little bugger took me a while to figure out. If this isn't set right your ship will become invisible. Don't worry too much, this doesn't mean you have bad textures it just means that the level of detail isn't set high enough.

LOD is shown in meters. It's the distance at which your ship becomes visible to the camera. And from what I understand a good LOD range for fighters is 0, 2000. Yes only 2 ranges. It doesn't seem to matter if you use the closest and farthest distances or if you use the whole range like 0, 25, 50, 75, 100, etc. Freelancer seems to understand that if a ship is visible at 2k than its visible anywhere between IN YOUR FACE and 2k away.

Thanks go to Chips for helping me understand this.

Creating the mod folder and importing it into flmm.

This is rather simple... in fact its insanely simple.

Tools used:
WinZip a file compression utility that allows you to zip folders, files, and programs for downloading purposes.

First thing to do is make a folder on your desktop and name it *yourship*mod.
Now in that folder create 2 folders, one called data and the other called exe.
In data create 2 folders one called ships and the other called equipment.
In ships create the folders you had put your ship and its mat file in before (I had put mine in the corsairs\co_elite folder so I recreate those folders.)
Now we move all of your changed .ini files, your changed .dll files (namesresources.dll and infocards.dll) and your .cmp and .mat files to their respective folders in our mod folder. The thing here is to maintain the HEIRARCHY freelancer uses, so flmm can place the files where they are supposed to be.

Example: (each – is a folder a name without the – in front is a file.)

- **_Yourship_mod**
    - **Data**
        - **Equipment**
            Engine_equip.ini
            Goods.ini
            Market_ships.ini
            Misc_equip.ini
        - **Ships**
            Shiparch.ini
            - **_Yourship_group_**
                - **_Yourship_**
                    Yourship.cmp
                    Yourship.mat
    - **Exe**
        Namesresources.dll
        Infocards.dll
    script.xml

Script.xml… well that's the script that tells flmm what your mod is. This is your description. Its xml, of course…

```
<script>
<header name="Scorpion Ship">
<scriptversion>
0.3
</scriptversion>
<author>
[DOA]_Dragon
</author>
<description>

Allows the Scorpion to be bought at Planet Crete.

Created by [DOA]_Dragon
-Freeware-

</description>
</header>

</script>
```

Go ahead and cut and past that into notepad, edit it so you like the description, change the author, remove the freeware if you want and save it as script.xml in the root folder of your mod... *yourship*mod\script.xml. Once you got that set up and WinZip installed, you can right click your mod folder and select WinZip -> add to WinZip file where you are going to add .flmm to the end of the name. Like this:
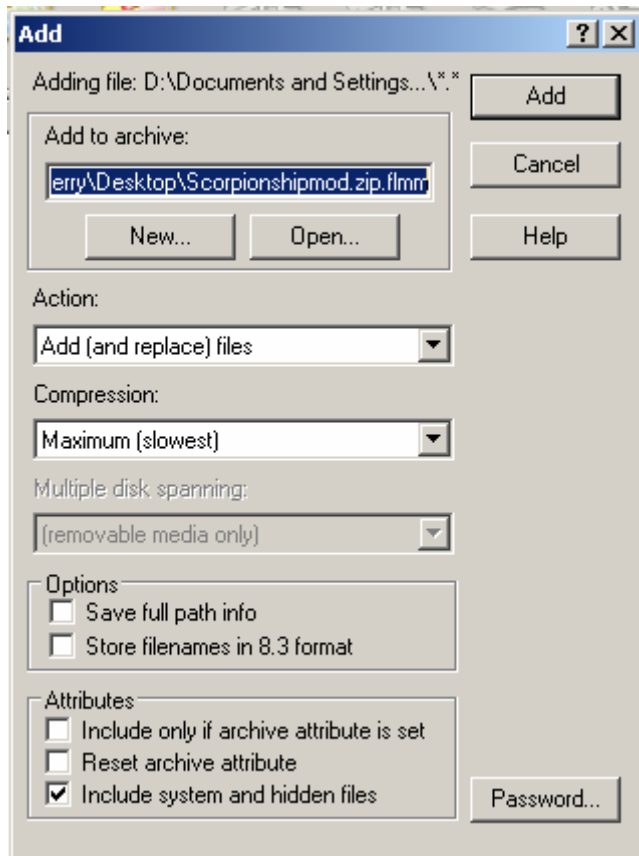
When you click add, you have your mod. Now go try it out and if you are happy with everything send it in to lancersreactor or lancerplanet.

Congratulations and I hope this tutorial helped you out as much as writing it helped me.

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Station codes

STATION CODES courtesy of Kendo_THM
color coded for easier separation between worlds
once you have found your base in this list copy the
coded name and use the find option to go to it in
your market_ships.ini file.

LIBERTY BASES	
Li01_01_Base	Planet Manhattan
Li01_02_Base	Planet Pittsburgh
Li01_03_Base	Battleship Missouri
Li01_04_Base	Benford Station
Li01_05_Base	Ithaca Research Station
Li01_06_Base	Trenton Outpost
Li01_07_Base	Norfolk Shipyard

Base ID	Name
Li01_08_Base	Newark Station
Li01_09_Base	West Point Military Academy
Li01_10_Base	Detroit Munitions
Li01_11_Base	Fort Bush
Li01_12_Base	Buffalo Base
Li01_13_Base	Rochester Base
Li01_14_Base	Baltimore Shipyard
Li01_15_Base	Battleship Osiris SP ONLY
Li02_01_Base	Planet Los Angeles
Li02_02_Base	California Minor
Li02_03_Base	Battleship Yukon
Li02_04_Base	Willard Research Station
Li02_05_Base	San Diego Border Station
Li02_06_Base	Alcatraz Depot
Li03_01_Base	Planet Denver
Li03_02_Base	Battleship Rio Grande
Li03_03_Base	Ouray Base
Li03_04_Base	Pueblo Station
Li04_01_Base	Planet Houston
Li04_02_Base	LPI Huntsville
Li04_03_Base	Battleship Mississippi
Li04_04_Base	Beaumont Base
Li04_05_Base	LPI Sugarland
Li04_06_Base	Battleship Osiris SP ONLY
Li05_01_Base	Prison Station Mitchell SP ONLY

BRETONIA BASES

Base ID	Name
Br01_01_Base	Planet New London
Br01_02_Base	Southampton Shipyard
Br01_03_Base	Battleship Suffolk
Br01_04_Base	Waterloo Station
Br01_05_Base	Canterbury Station
Br01_06_Base	Thames Outpost
Br01_07_Base	Kensington Ship Platform
Br01_08_Base	Trafalgar Base
Br02_01_Base	BPA Newgate
Br02_02_Base	Birmingham Station
Br02_03_Base	Sheffield Station
Br02_04_Base	Liverpool Border Station
Br02_05_Base	Kingston Border Station
Br03_01_Base	Planet Cambridge
Br03_02_Base	Cambridge Research Station
Br03_03_Base	Battleship Norfolk
Br03_04_Base	Cardiff Mining Facility
Br04_01_Base	Planet Leeds
Br04_02_Base	Stokes Mining Station
Br04_03_Base	Battleship York
Br04_04_Base	Glasgow Outpost
Br04_05_Base	LD-14
Br04_06_Base	Durham Border Station
Br05_01_Base	Battleship Hood
Br05_02_Base	Mining Station Glorious
Br05_03_Base	Graves Station
Br05_04_Base	Battleship Essex
Br05_05_Base	Arranmore Base
Br06_01_Base	Luxury Liner Shetland
Br06_02_Base	Aberdeen Border Station
Br06_03_Base	Islay Base
Br06_04_Base	Perth Station

KUSARI BASES

Base ID	Name
Ku01_01_Base	Planet New Tokyo
Ku01_02_Base	Narita Outpost
Ku01_03_Base	Yokohama Shipyard
Ku01_04_Base	Roppongi Station
Ku01_05_Base	Shinagawa Station
Ku01_06_Base	Shinjuku Station
Ku01_07_Base	Kabukicho Depot
Ku02_01_Base	Fuchu Prison
Ku02_02_Base	Battleship Myoko
Ku02_03_Base	Deshima Station
Ku02_04_Base	Planet Junyo
Ku02_05_Base	Ohashi Border Station
Ku03_01_Base	Planet Kyushu
Ku03_02_Base	Tsushima Depot
Ku03_03_Base	Battleship Nagumo
Ku03_04_Base	Nansei Research Complex
Ku03_05_Base	Kagoshima Depot
Ku04_01_Base	Planet Honshu
Ku04_02_Base	Osaka Storage Facility
Ku04_03_Base	Yukawa Shipyard
Ku04_04_Base	Kansai Research Station
Ku04_05_Base	Aomori Station
Ku04_06_Base	Akita Border Station
Ku05_01_Base	Battleship Matsumoto
Ku05_02_Base	Ainu Depot
Ku05_03_Base	Chugoku Gate Con Site
Ku05_04_Base	Sapporo Station
Ku06_01_Base	Kyoto Base
Ku07_01_Base	Ryuku Base SP ONLY
Ku07_02_Base	Tekagi's Base SP ONLY

RHEINLAND BASES

Rh01_01_Base	Planet New Berlin
Rh01_02_Base	Oder Shipyard
Rh01_03_Base	The Ring
Rh01_04_Base	Bonn Station
Rh01_05_Base	Dortmund Station
Rh01_06_Base	Essen Station
Rh01_07_Base	Brandenburg Border Station
Rh01_08_Base	Kreuzberg Depot
Rh02_01_Base	Planet Hamburg
Rh02_02_Base	Battleship Westfalen
Rh02_03_Base	Vierlande Prison
Rh02_04_Base	Alster Shipyard
Rh02_05_Base	Altona Station
Rh02_06_Base	Lübeck Border Station
Rh02_07_Base	Battleship Osiris SP ONLY
Rh03_01_Base	Planet Stuttgart
Rh03_02_Base	Planet Baden Baden
Rh03_03_Base	Freiburg Station
Rh03_04_Base	Ulm Border Station
Rh03_05_Base	Konstanz Border Station
Rh03_06_Base	Darmstadt Depot
Rh04_01_Base	Planet Holstein
Rh04_02_Base	Mainz Storage Facility
Rh04_03_Base	Mannheim Station
Rh04_04_Base	Fulda Border Station
Rh04_05_Base	Bruchsal Base
Rh05_01_Base	Leipzig Station
Rh05_02_Base	Bautzen Station
Rh05_03_Base	Pirna Border Station
Rh05_04_Base	Vogtland Base
INDEPENDENT WORLDS BASES	
Iw01_01_Base	Pacifica Base
Iw01_02_Base	Freeport 2
Iw02_01_Base	Barrow Base
Iw02_02_Base	Dawson Base
Iw02_03_Base	Battleship Osiris SP ONLY
Iw03_01_Base	Freeport 4
Iw03_02_Base	Mactan Base
Iw04_01_Base	Planet Curacao
Iw04_02_Base	Montezuma Base
Iw05_01_Base	Ames Research Station
Iw05_02_Base	Nome Base
Iw06_01_Base	Leiden Base
Iw06_02_Base	Padua Base
BORDER WORLDS BASES	

Bw01_01_Base	Planet Sprague
Bw01_02_Base	Freeport 1
Bw01_03_Base	Rugen Station
Bw01_04_Base	Douglas Station
Bw01_05_Base	Baxter Research Station
Bw02_01_Base	Cadiz Base
Bw02_02_Base	Ronneburg Base
Bw03_01_Base	Freistadt Base
Bw03_02_Base	Briesen Mining Facility
Bw03_03_Base	Elbich Mining Facility
Bw04_01_Base	Solarius Station
Bw04_02_Base	Freital Base
Bw05_01_Base	Gas Miner Naha
Bw05_02_Base	Helgoland Station
Bw05_03_Base	Yanagi Depot
Bw06_01_Base	Planet Kurile
Bw06_02_Base	Atka Research Station
Bw07_01_Base	Luxury Liner Hawaii
Bw07_02_Base	Gas Miner Ogashawa
Bw08_01_Base	Cali Base
Bw08_02_Base	Tau-31 Gate Con Site
Bw08_03_Base	Java Station
Bw09_01_Base	Nago Station
Bw09_02_Base	Shinkaku Station
Bw09_03_Base	Freeport 6
Bw10_01_Base	Planet Harris
Bw10_02_Base	Holman Outpost
EDGE WORLDS BASES	
Ew01_01_Base	Freeport 10
Ew01_02_Base	Falkland Base
Ew02_01_Base	Ruiz Base
Ew03_01_Base	Leon Base
Ew03_02_Base	Freeport 5
Ew04_01_Base	Freeport 9
Ew06_01_Base	Planet Primus
Ew06_02_Base	Planet Gammu
HISPANIA BASES	
Hi02_01_Base	Planet Crete
Hi02_02_Base	Tripoli Shipyard
I THINK THIS IS A STORY LINE BASE ONLY NOT SURE THOUGH I COULDN'T FIND IT IN LANCER THING OR ANYWHERE ELSE.	
St01_01_Base	Planet Toledo

Frequently Asked Questions:

At any given point of time that you have a question not listed here you can always ask us professionals (***snicker***) at The Lancers Reactor Tutorial Forum but you may want to check my personal thread as well.

Q: Why is my ship invisible when I import it into Freelancer?

    A: Could be a couple things but here is two of the obvious:

        1: make sure that you scaled the ship before exporting the CMP. If you see your ship in the display hud while trying to buy it but cant see it on the dealership floor than your ship is scaled TOO SMALL and you need to increase the scale.

        2: check your LOD ranges in the shiparch.ini for a fighter it should be 0, 2000. remember that this is how far away your ship can be seen if you set it too low your only going to be seeing your weapons.

Q: Why are there holes in my ship?

    A: Ah, you have inverted faces or triangles. In ms3d these are shown as black triangles… try selecting the black triangles and clicking invert faces or invert vertex order.

Q: Why aren't any of the links working?

    A: if the bookmark links aren't working… meaning you can't use the index to go to places in the tutorial than you need to update your acrobat reader. If the download links aren't working than the server or sites that host those programs are probably running into a little technical difficulties and they should be available soon. Please do not email me asking me for files. Be patient those links should be repaired shortly.

Q: Why is there a stupid FAQ in the tutorial when you have a tutorial thread at lancersreactor.com?

    A: How the heck should I know

    Just kidding… I decided to start including a FAQ so that when someone asks me a really great question… I can include it here and hope that the FAQ answers the question before they have to come to the thread… while I think that it's great to have loads of traffic, and I'm sure the Admins at Lancersreactor.com think so too, I would rather answer all questions before a person comes requesting help at the forum. Once I notice that I haven't had any questions at the tutorial thread for a month will mean either I SUCK and no one wants to bother with me anymore, or IM THE GREATEST and no one needs to ask any more questions cause I did a great job.

This tutorial will continue to be updated… this FAQ will help insure that. The more questions that can be answered here the more often I have to make updates. And that's a good thing. I have noticed a download count of about 1500 per tutorial version and if that's 1 new person every ten downloads than I'm helping Lancers Reactor to be THE COOLEST LANCER SITE ON THE WEB.