

# HOW TO DRAW **MANGA** **Computones**

**Vol. 3**



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### **On the Techniques and Images Included and Introduced in this Book**

Aside from a few exceptions, all of the original pieces in this book were created at a 600 dpi resolution in grayscale. Readers who will use the included CD-ROM and do their tone work on a computer are encouraged to do so on a machine that meets the indicated OS, CPU, memory, and hard disk requirements.

### **How to Use the Included CD-ROM**

In order to use the included tone patterns CD-ROM, you must have at least one of the following software packages installed: Adobe Photoshop 5.0/5.5/6.0/7.0/CS or Adobe Photoshop LE 5.0; Adobe Photoshop Elements 1.0/2.0; Jasc Paint Shop Pro 7.0/8.0

Please use the CD-ROM after you have installed one of the above.

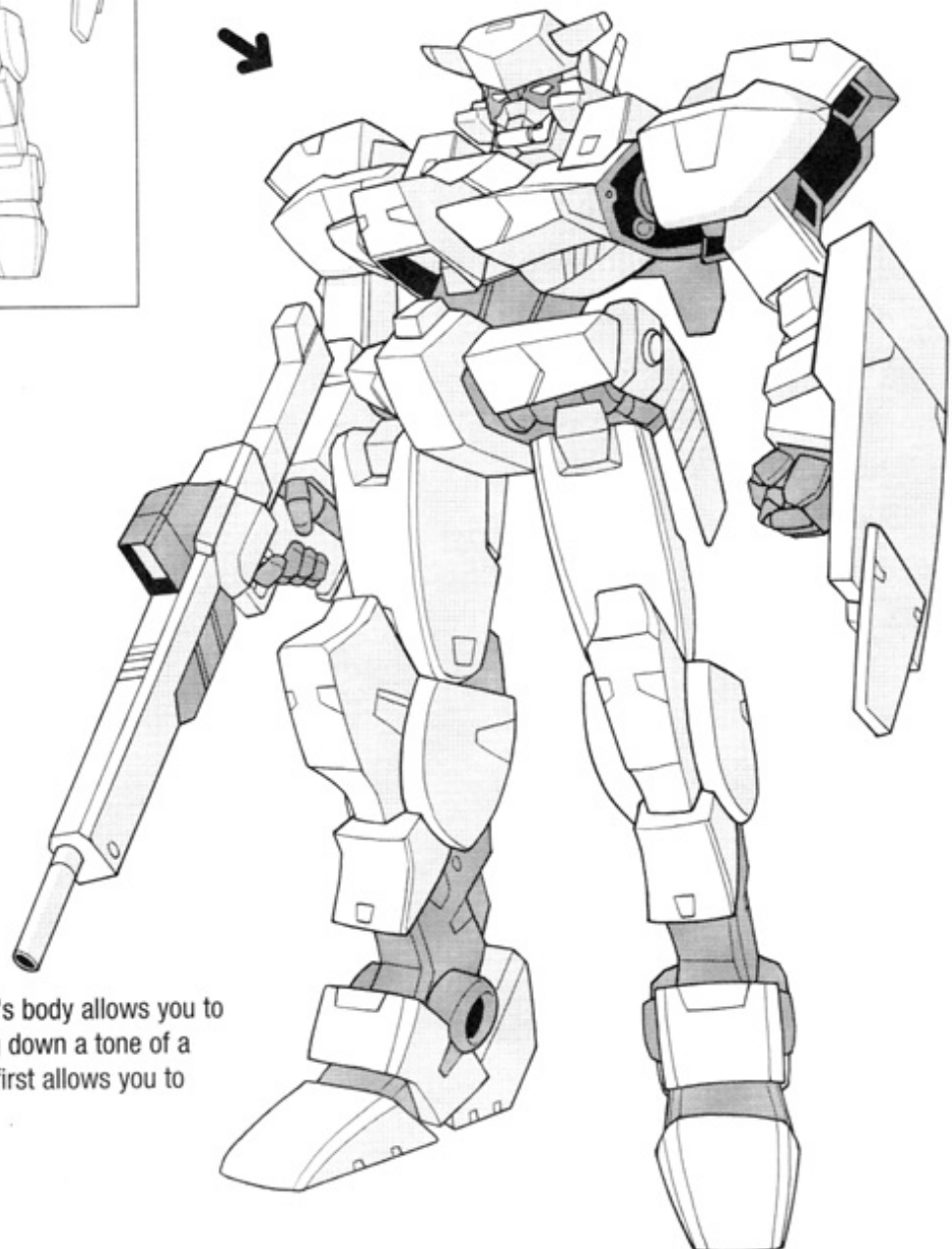
# Metallic Means "Mecha"

The key point in making a robot look convincing lies in the metallic textures forming the robot. Attaching two dot tones of different densities to the robot to give it shading enhances the metallic feel. Using angular forms for the figure created a sense of volume and hardness.

## Line Drawing



## Rendered in Dot Tone



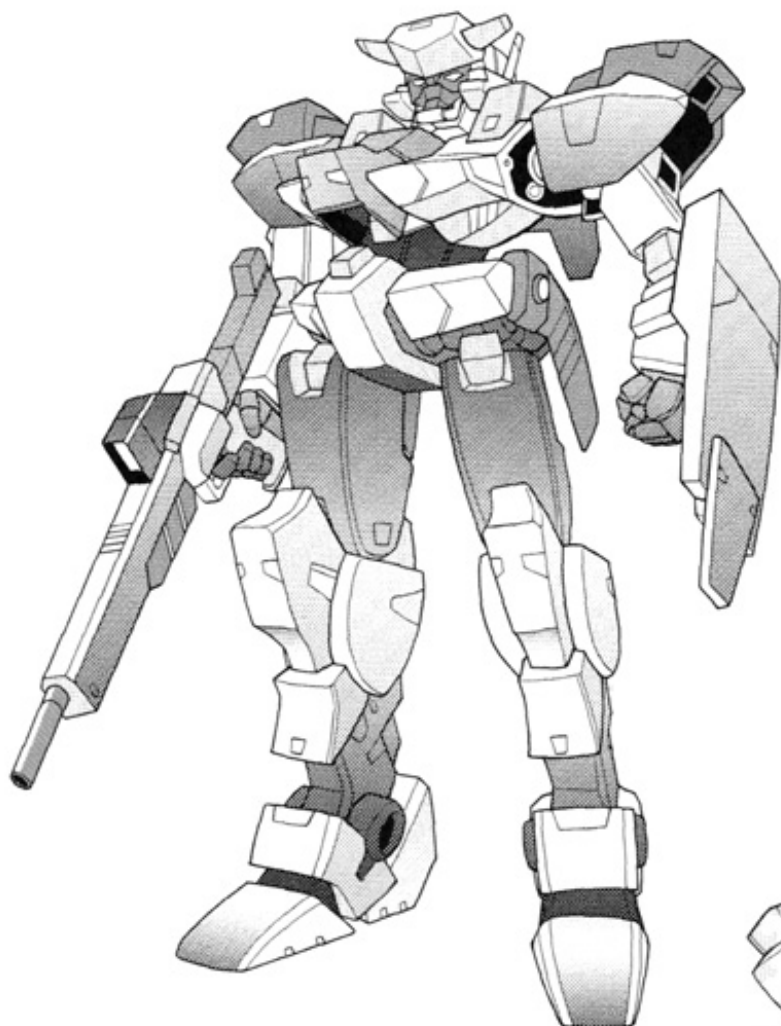
Attaching dot tone to the robot's body allows you to evoke a sense of metal. Laying down a tone of a different density on top of the first allows you to produce uniform shading.

Tones Used

Dots 60 Line(s) 10%

Dots 60 Line(s) 30%





### Rendered in Gradation Tone

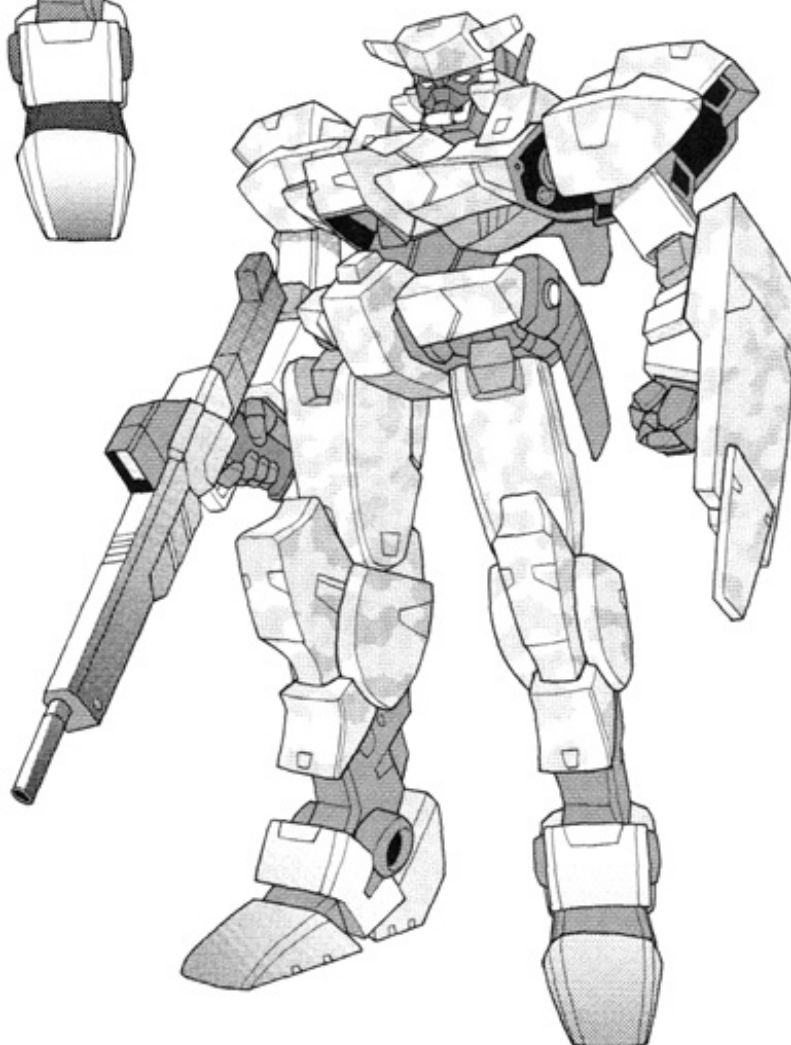
Applying gradation tone to each surface that forms the robot heightens the sense of three-dimensionality.

Tones Used

Dots 60 Line(s) 10%

Dots 60 Line(s) 30%

Dots Gradation 40 Line(s) 100-0-100%



### Rendered in Camouflage Tone

Applying multiple sheets of tone of differing densities to the robot's exterior produces a camouflage-like pattern.

Tones Used

Dots 60 Line(s) 10%

Dots 60 Line(s) 30%

Dots Gradation / 40 Line(s) 100-0-100%

como

## Use Effect Tones for Professional-looking Backgrounds



The example seen here shows actual cloud-patterned tone used in the background. Even though the backlighting allows us to see the robot's full silhouette, we have a sense of its enormous size.

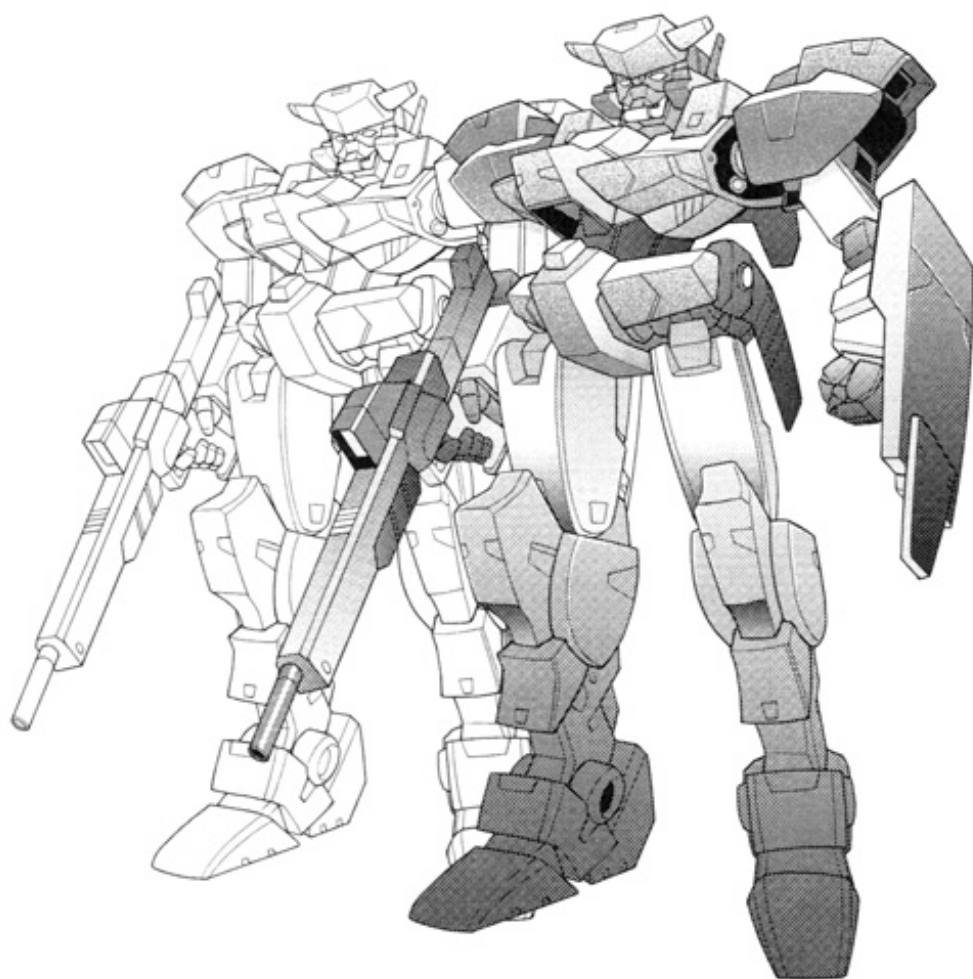
Tones Used

Dots 60 Line(s) 10% / Dots 60 Line(s) 30% / Dots Gradation 60 Line(s) 100-0-100% / Cloud Tone 03

# Chapter 1

## Mecha Tone Work

### Basic Tone Work

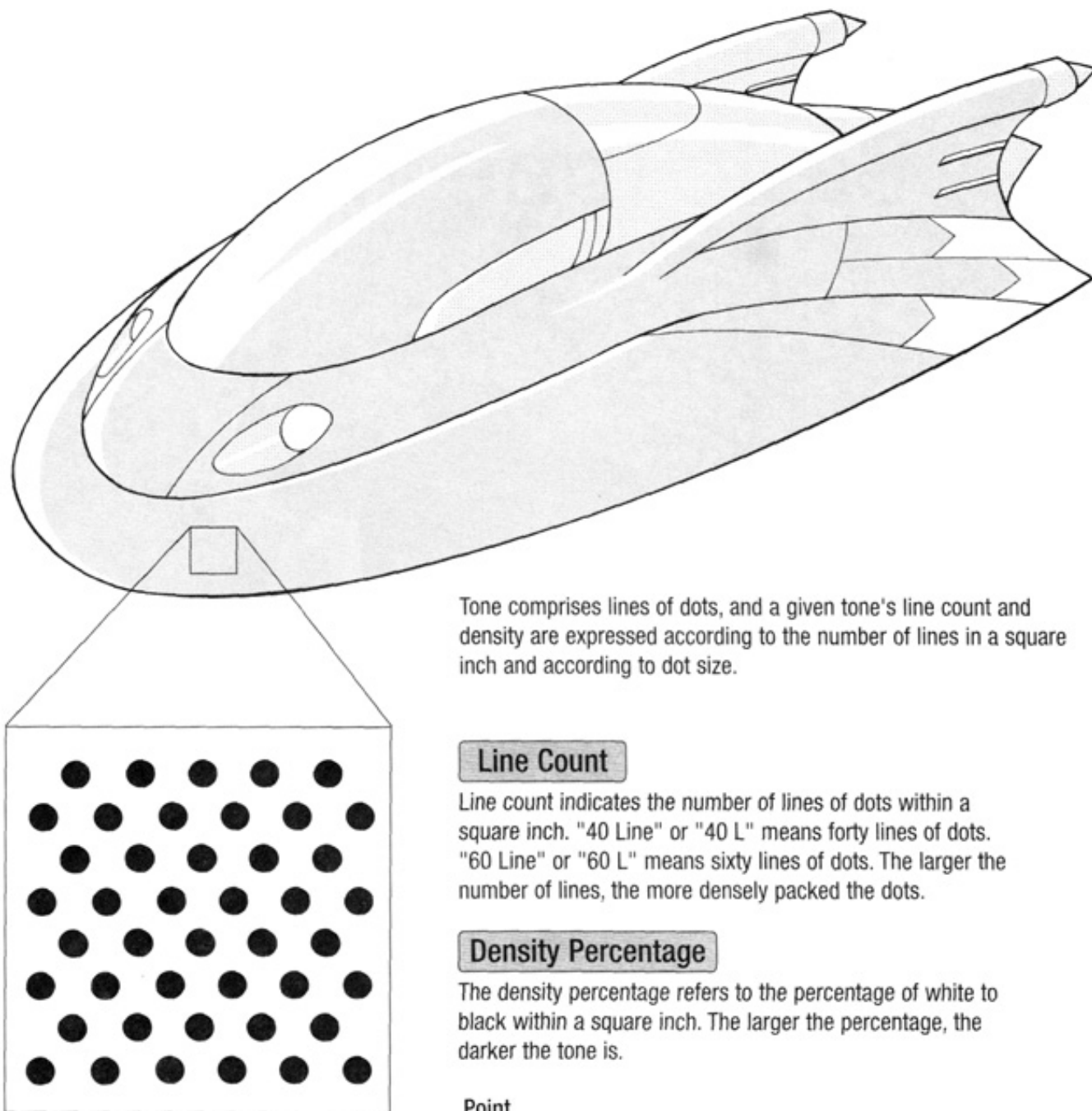


# Tone Makeup and Effects

## The ABCs of Tone

Tone is one of the most frequently used materials in manga and is a valuable one at that. Simply applying layered tone to a figure or to background allows you to enhance the look of three-dimensionality in your work. Of the array of tone patterns available, dot tone is the most commonly used. Tone may also be used to portray fabrics and materials and is used on robots to evoke a metallic feel.

The most common tone used for mechanical and synthetic objects is Dots 60 Line(s) 10%.



Tone comprises lines of dots, and a given tone's line count and density are expressed according to the number of lines in a square inch and according to dot size.

### Line Count

Line count indicates the number of lines of dots within a square inch. "40 Line" or "40 L" means forty lines of dots. "60 Line" or "60 L" means sixty lines of dots. The larger the number of lines, the more densely packed the dots.

### Density Percentage

The density percentage refers to the percentage of white to black within a square inch. The larger the percentage, the darker the tone is.

### Point

The popular dot tone used for mechanical and synthetic objects is 60-line, 10%, which provides dots that are not overly tiny and a shade that is not too dark.

# How to Use the Line Count and Density Percentage

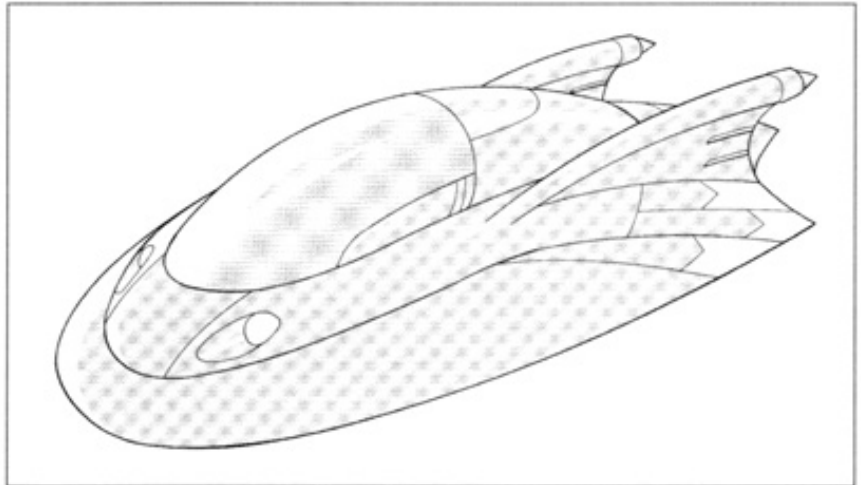
## Dot Tone with Small Dots

These tones produce a metallic look and enhance the sense of three-dimensionality.

Tones Used

Dots 60 Line(s) 30%

Dots 60 Line(s) 50%



## Dot Tone with Large Dots

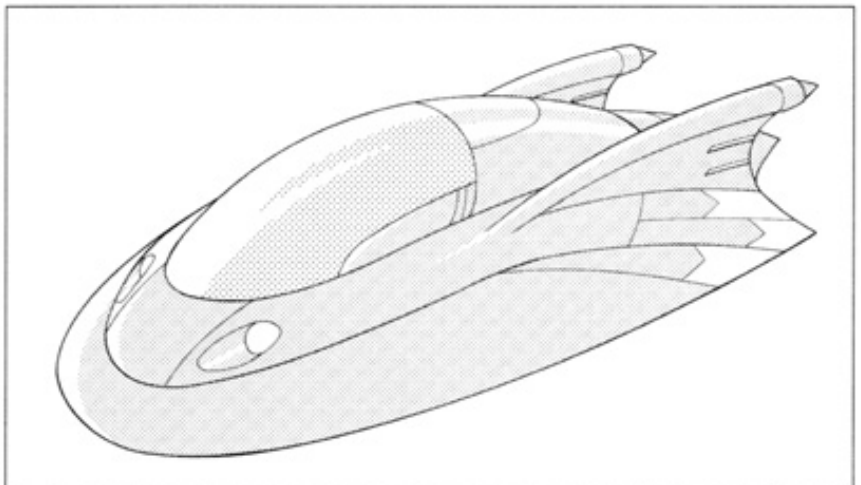
At first glance, this seems a rather rough pattern, but it allows you to produce more clearly delineated shadows.

Tones Used

Dots 20 Line(s) 10%

Dots 27.5 Line(s) 10%

Dots 30 Line(s) 10%



## Tones of High Densities

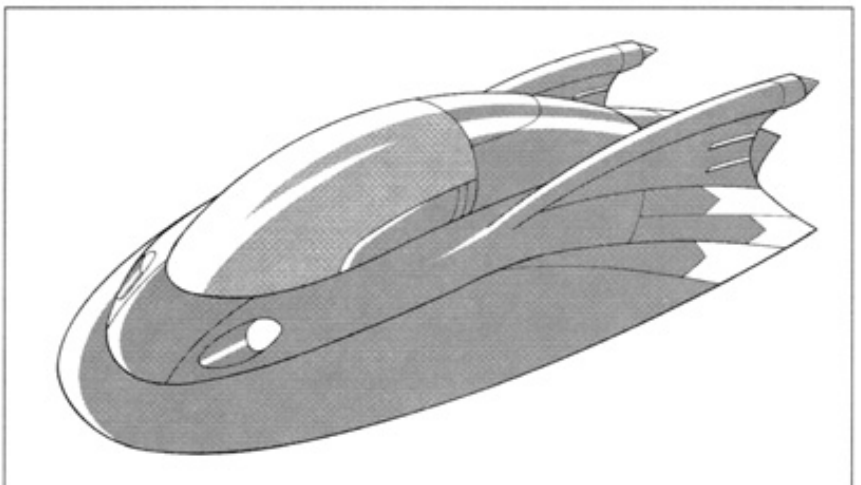
High densities increase the range of shades the artist might use as "solid black fill." Here, it enhances the sense of three-dimensionality. At the same time, high densities create associations with hue, and here it has been used to "color" the vehicle.

Tones Used

Dots 70 Line(s) 10%

Dots 75 Line(s) 10%

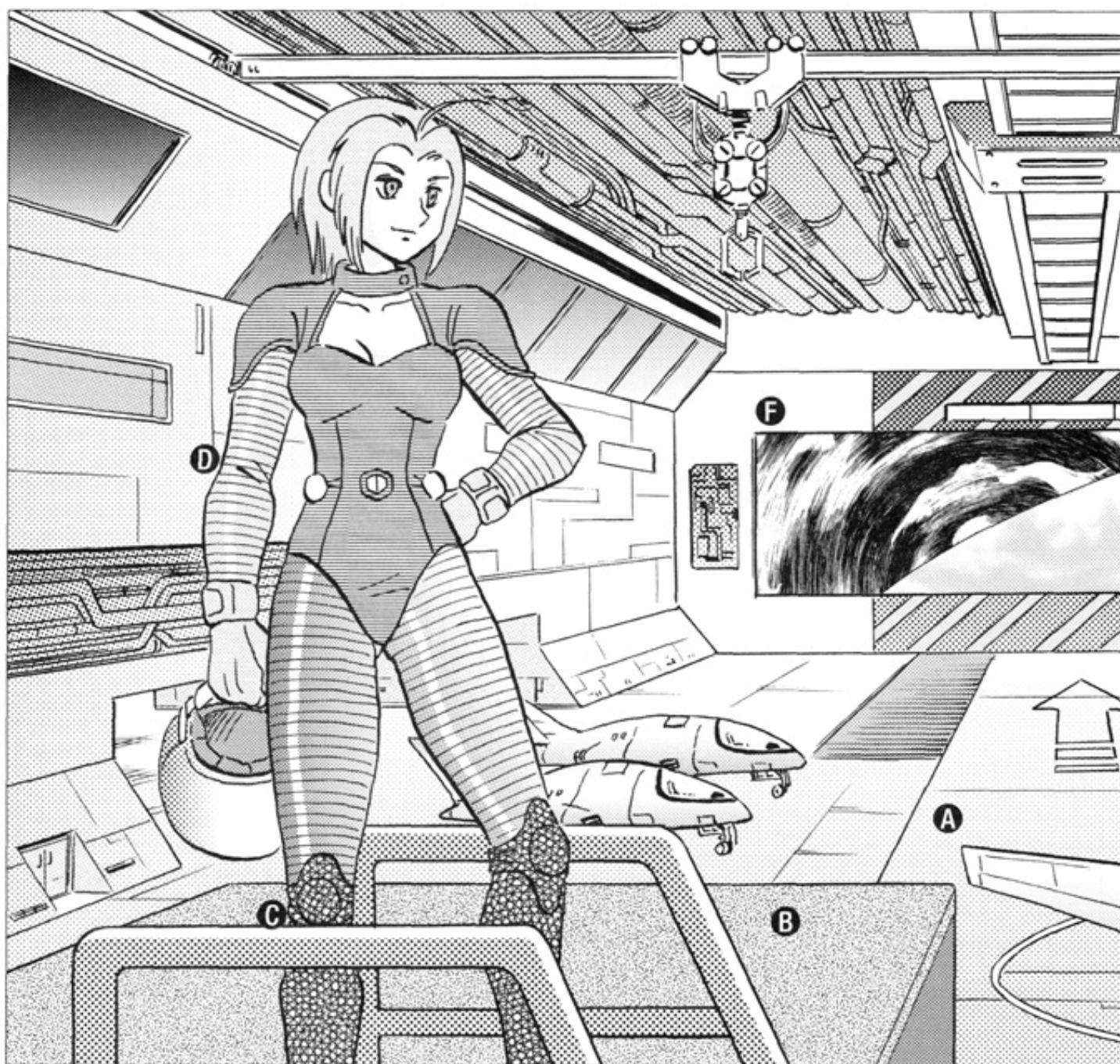
Dots 80 Line(s) 10%



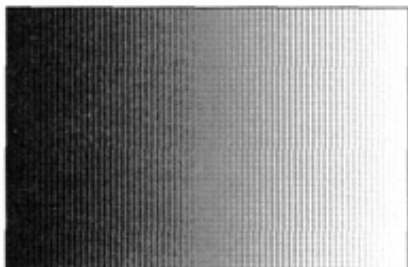


# Patterns Other Than Basic Dot Tone

Tones come in a wide variety, designed to suit different uses.

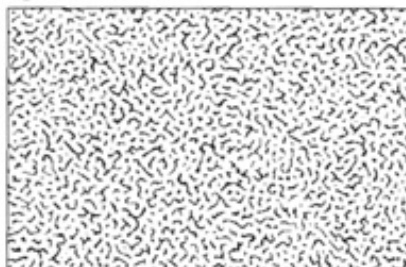


**A** Gradation Tone



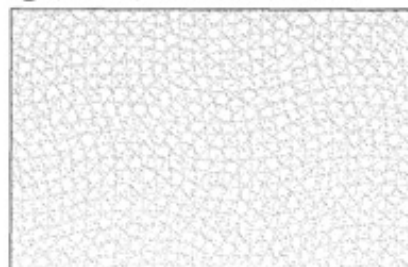
Gradation tone is used for rounded metallic forms and to suggest depth.

**B** Sand Tone



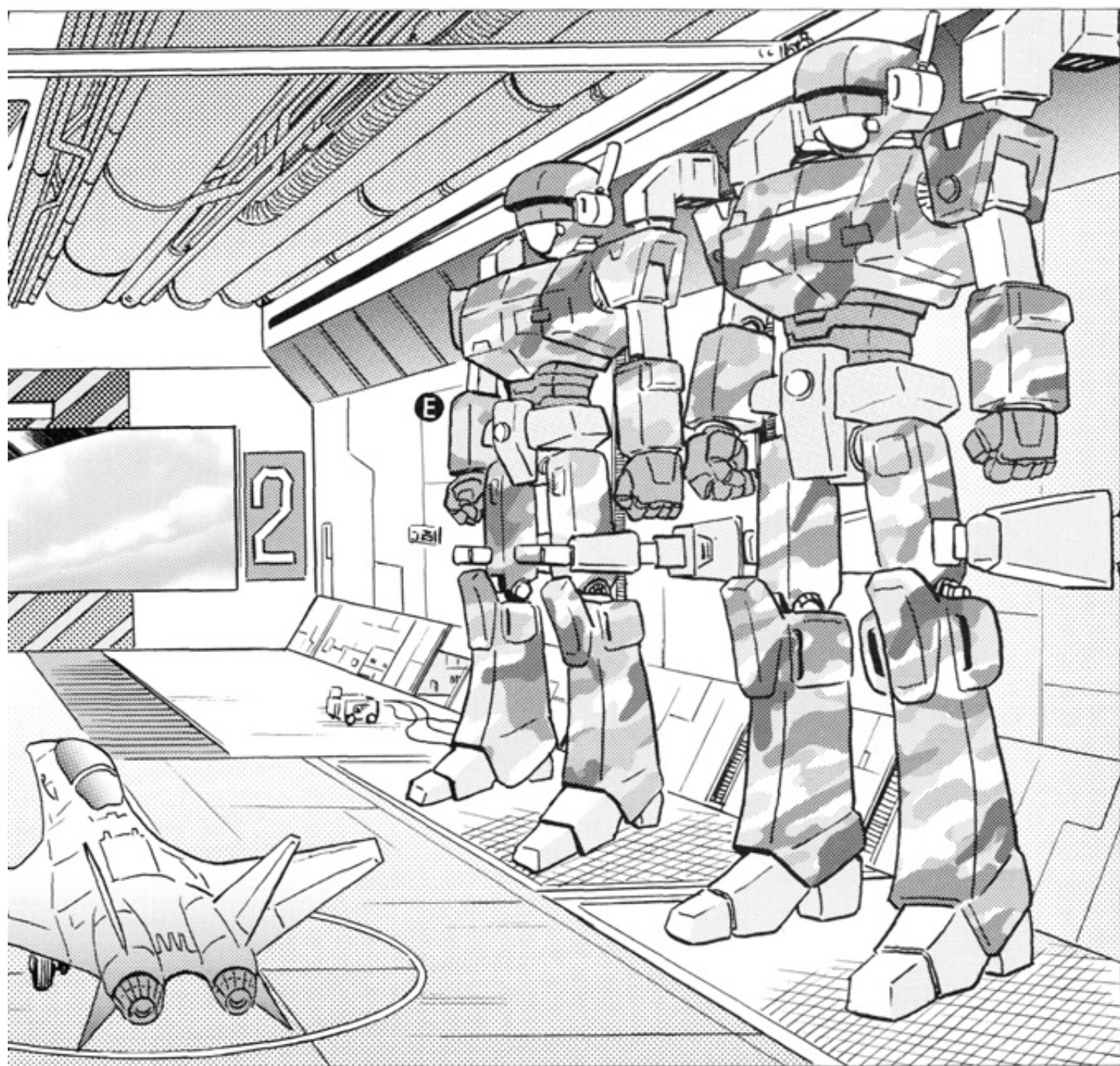
Sand tone is used to represent roads and other rough surfaces.

**C** (Cross) Hatching Tone

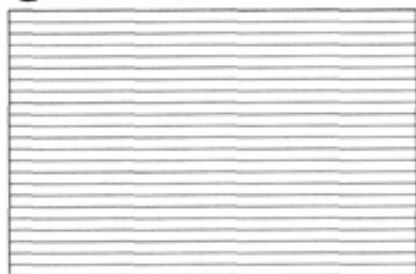


Hatching tone is used to suggest the plant foliage and to produce darker shadows.





**D** Lined Tone



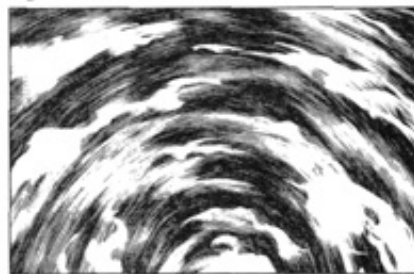
Lined tone is used to evoke a sense of speed and as a visual pattern.

**E** Patterned Tone



Patterned tone is used to represent fabric prints and motif designs.

**F** Special Effects Tone



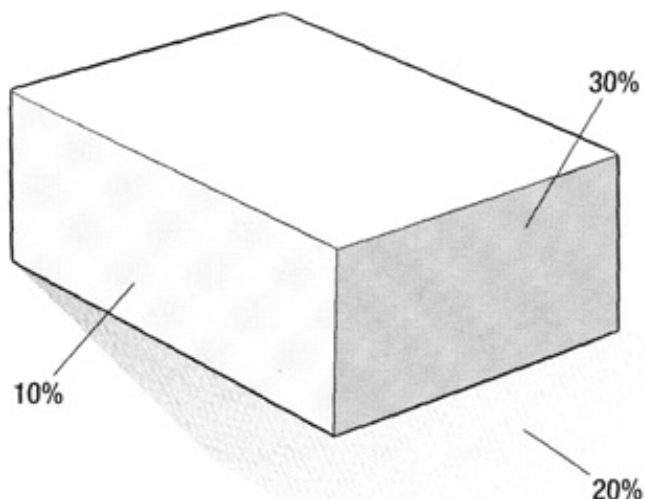
Special effects tone is used to raise the intensity of scenes showing explosions, raging fires, etc.

# Using Tone to Create a Sense of Volume

## The Key to Making an Object Appear Solid Lies in the "Shadows"

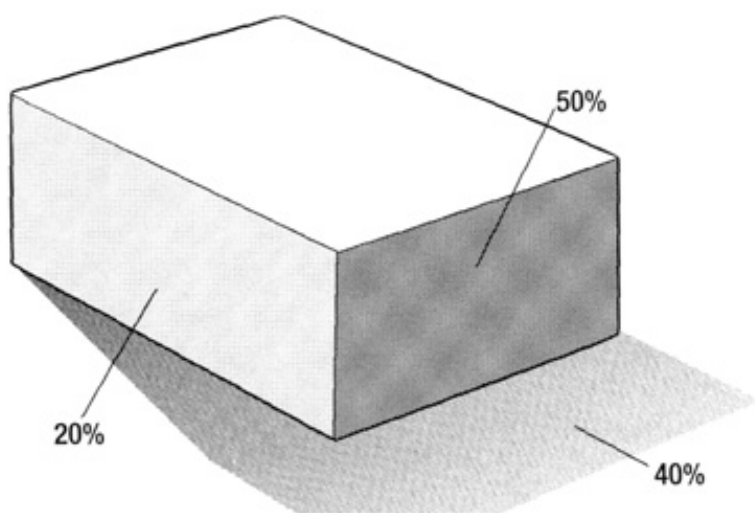
We recognize a form as three-dimensional according to how that solid forms shadows. It is vital that you commit to memory what shapes shadows take, where they form, and the degree of darkness and translate these shadows into tone of a given darkness and line count.

### Shadows That Form on a Box



Here, I used a 10% tone to render pale shadows on surfaces touched by light and close to the picture plane. I used a 30% density tone for surfaces not touched at all by light. Merely adjusting the tone's density enhances the figure's sense of volume.

### Shadows Formed by Bright Light



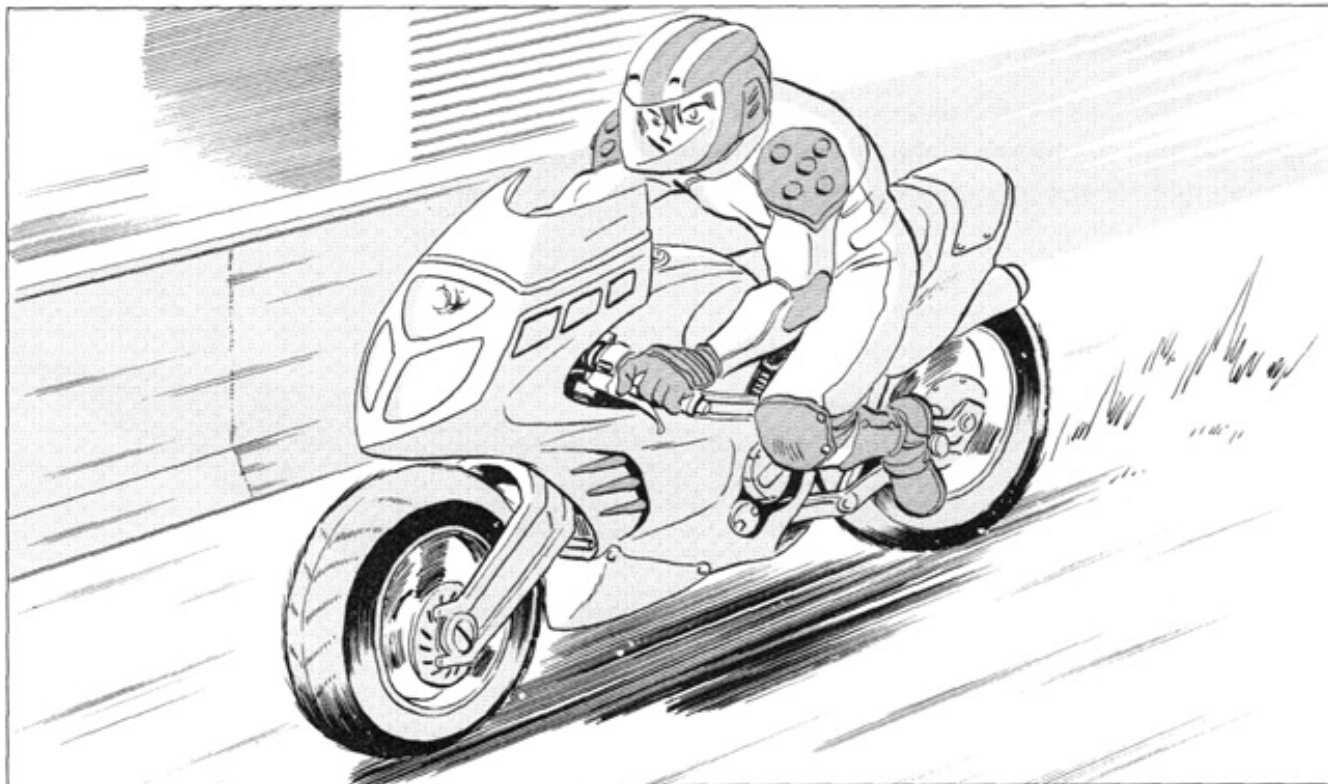
In the case of a bright light source, use darker tones for shadows to heighten the contrast between light and dark. Adding a shadow extending on the ground plane from the box makes the object more convincing.

### Caution Regarding Dark Tone

Note that albeit rare, using tone of a 50% density or greater could result in the individual dots bleeding together [in the printing process], producing the same effect as if you had used solid black.

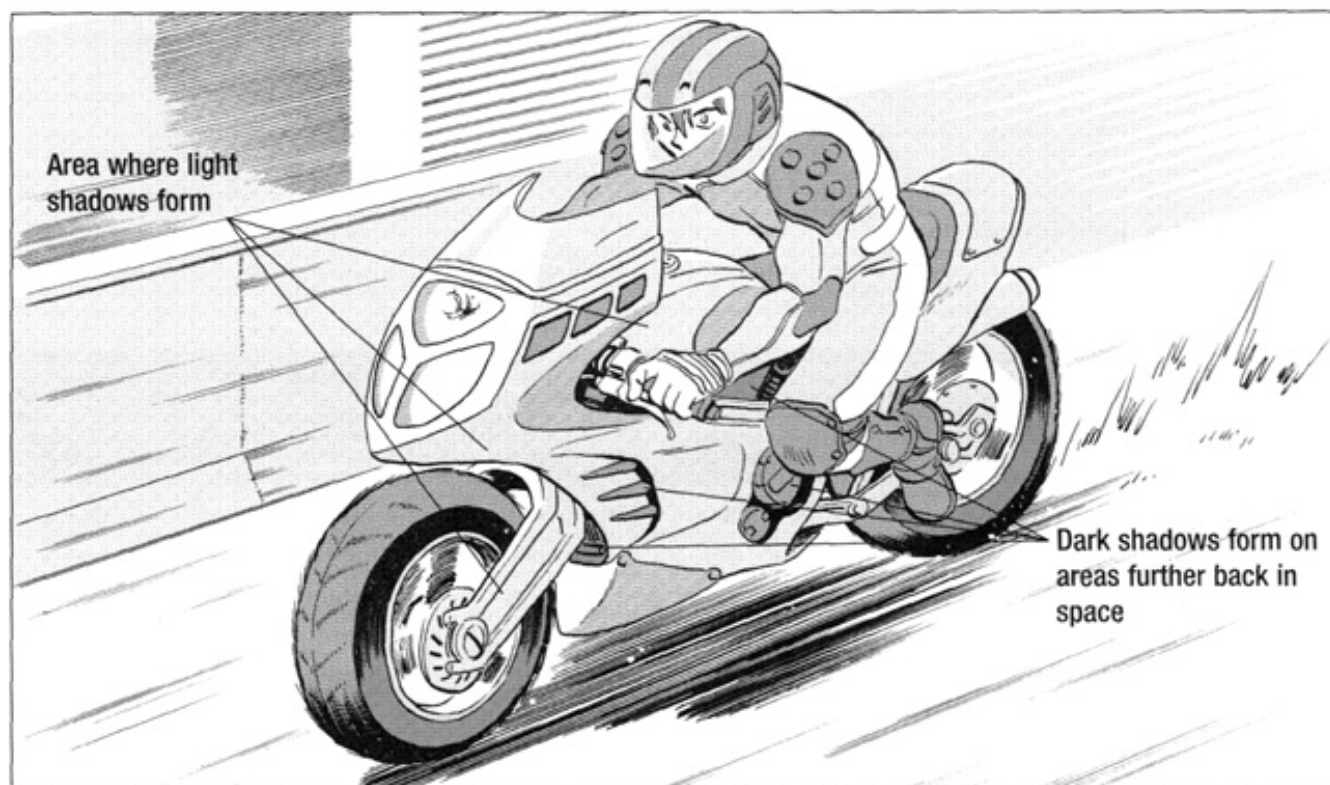
# How Light Touches Uneven Surfaces and How to Render It

## Rendered in Tones of a Uniform Density



In this composition, the light hits the bike in the front from the upper right. Apply the tone after imagining in concrete terms the direction of the light source. You will not be able to achieve much of a sense of three-dimensionality using only one type of tone.

## Figure Rendered in Tone with Densities Adjusted to Reflect the Uneven Surface

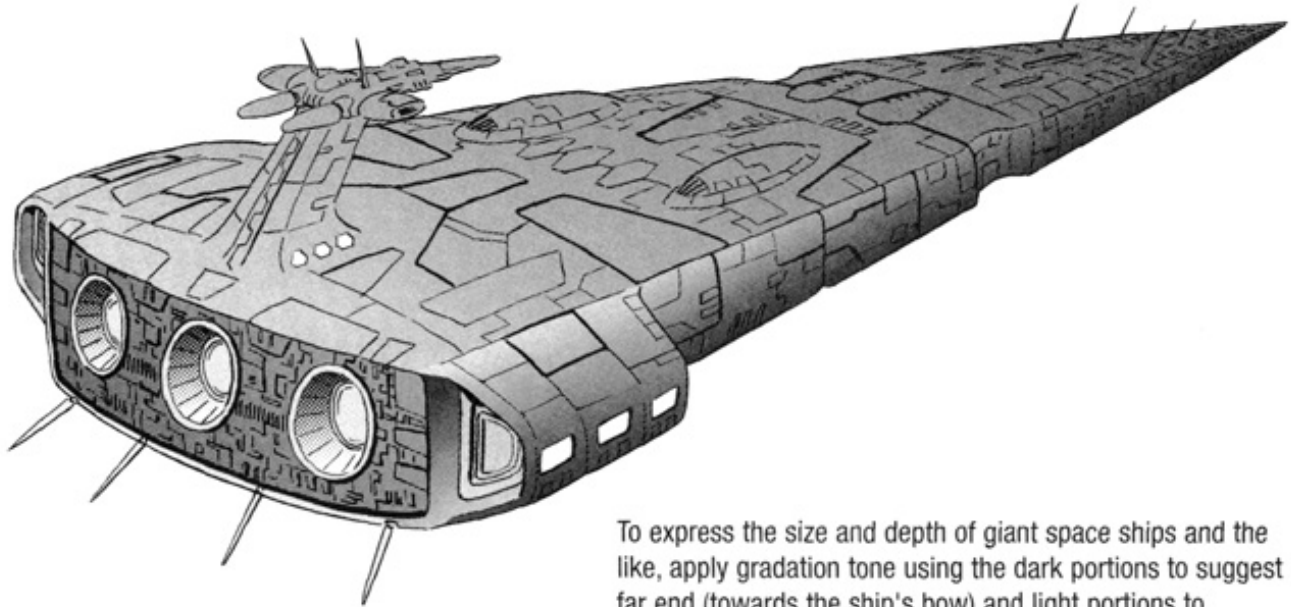


Use tones of differing densities to achieve visual balance in the shading. Here, successfully suggested texture in the wheels and the racing suit, enhancing the sense of volume. Added detailed white strokes around the wheels to create the illusion of dust kicked up, and in the background applied line tone to suggest speed.

# Use Tone to Create a Sense of Depth

**Apply tones of different densities to create illusion of depth.**

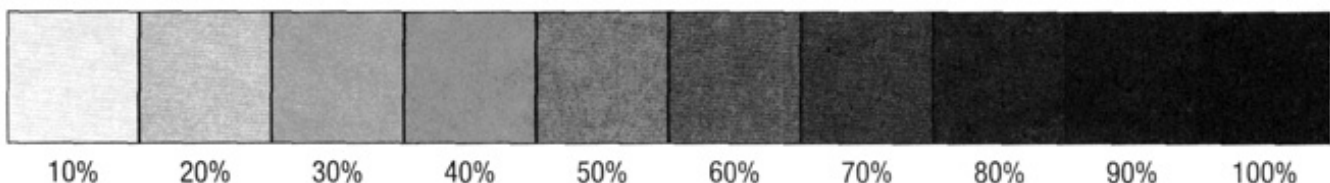
A technique for creating the illusion of a large or immense object is to use darker tones for objects far from the picture plane and lighter tones for those close. Alternatively, reversing the foregoing rules of shading allows you to generate a sense of depth.



To express the size and depth of giant space ships and the like, apply gradation tone using the dark portions to suggest far end (towards the ship's bow) and light portions to suggest the end near the picture plane. Gradation tone allows you to evoke a sense of depth more than would a uniform shadow portrayed in dot tone.

## Comparison of Tone Densities

### Dot Tone



### Gradation Tone



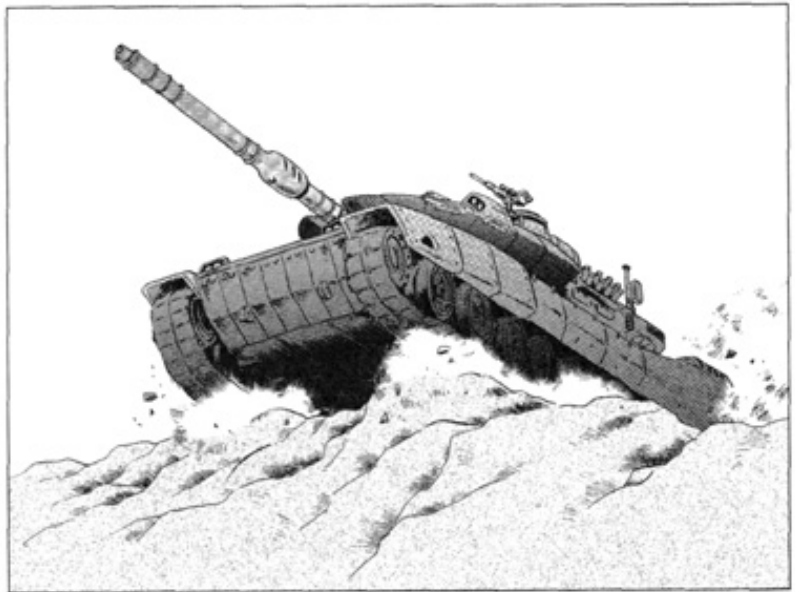
Light ← → Dark



## Gradation tone shows off the contrast of light and shade, allowing for effective shading.

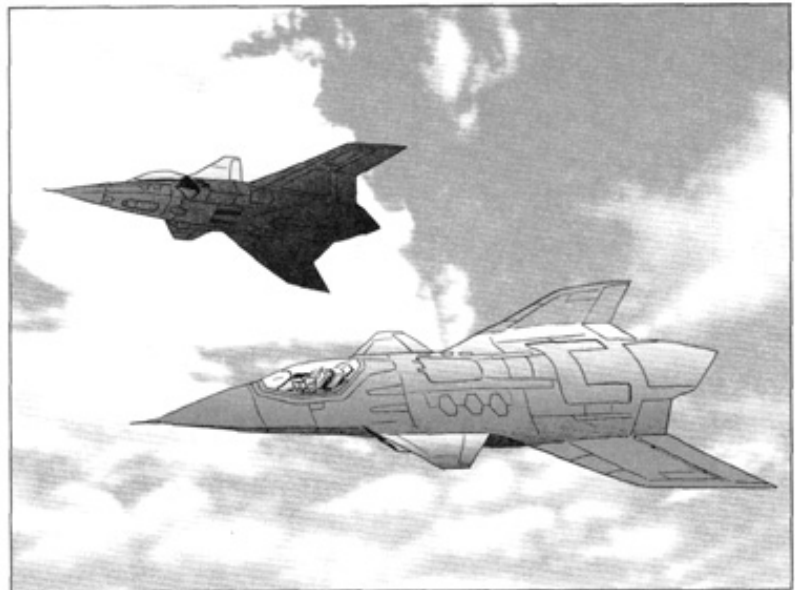
Gradation tone establishes a difference in the degree of darkness, giving the figure a sense of weightiness.

Applying dark gradation tone to the unlit underbelly of a large tank weighing several tons provides a sharp contrast with the tank's bright upper surface, creating a sense of the vehicle's substantial weight.



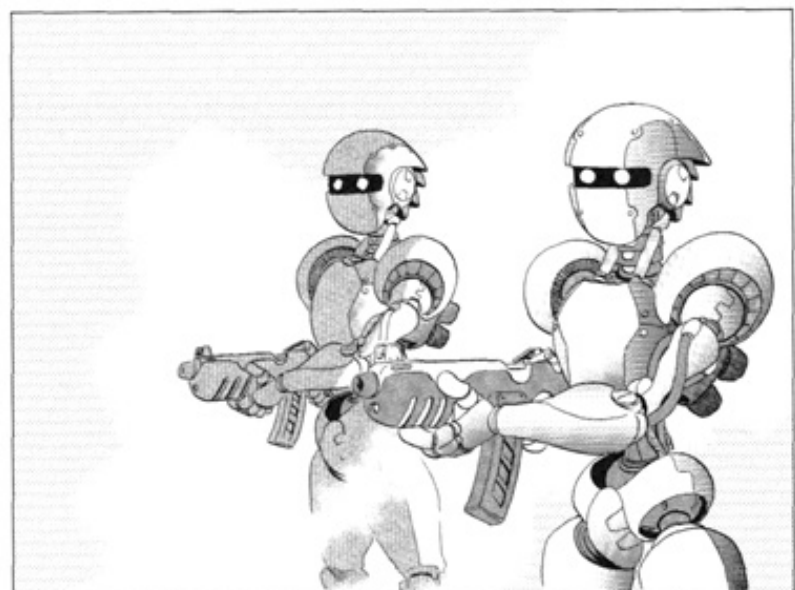
The difference established between light and dark in objects near the picture plane and far objects evokes a sense of depth.

Use dark portions for distant areas and light tone for areas close to the picture plane when rendering objects of similar shape lined next to one another. This will establish a sense of depth for the overall composition and will make the objects appear to have distance between each other.



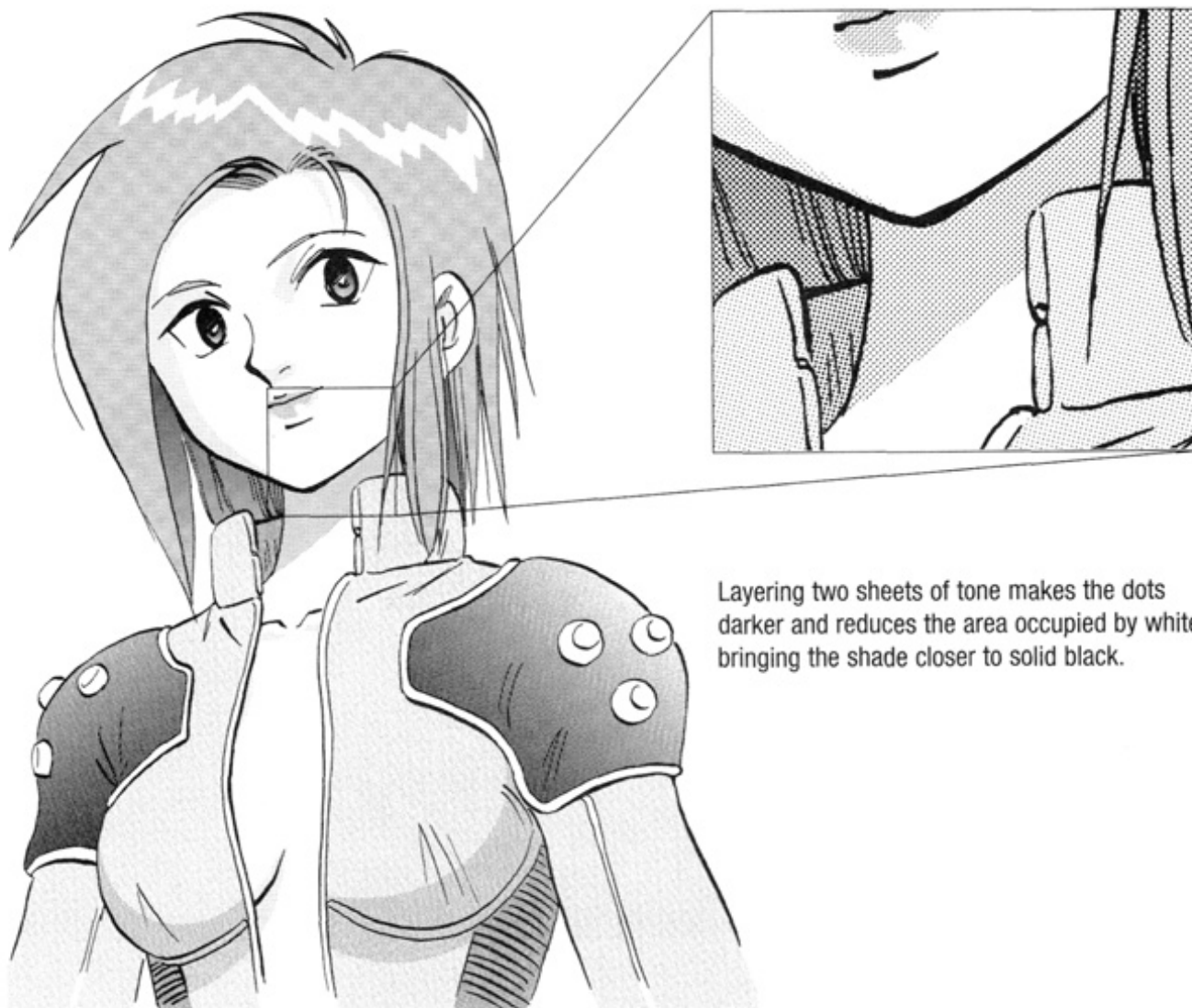
Gradation tone also allows you to create visual balance between light and dark.

When drawing solids lined in a row, maintaining a distinction between to which areas to allot dark tone and to which areas to allot light will allow you to portray a subtle sense of depth amongst the solids and as well as suggest miscellaneous objects in a row.



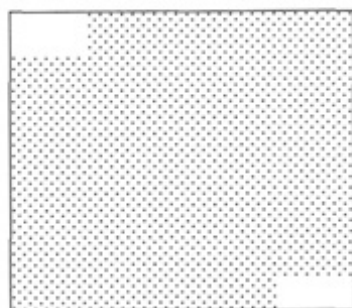
# Layering Tone to Augment Portrayal of Textures

Layering tone allows you to produce gradated shading with more depth than you would achieve using only one sheet. This is known as "layering" or "overlapping" tone. Each tone is suited to particular genres or physical areas, and you need to distinguish between the different tones when you use them.

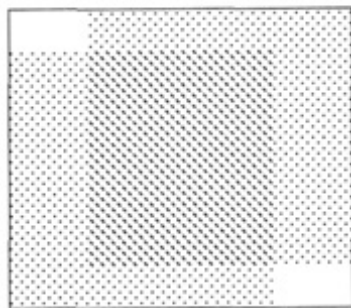


Layering two sheets of tone makes the dots darker and reduces the area occupied by white, bringing the shade closer to solid black.

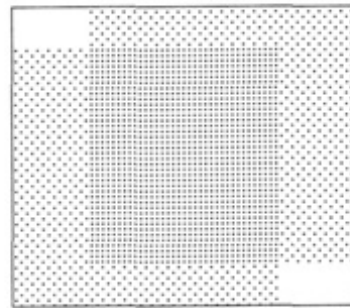
Layering two sheets of dot tone with the dots misaligned produces solid black.



Slightly overlapped



Shifted halfway

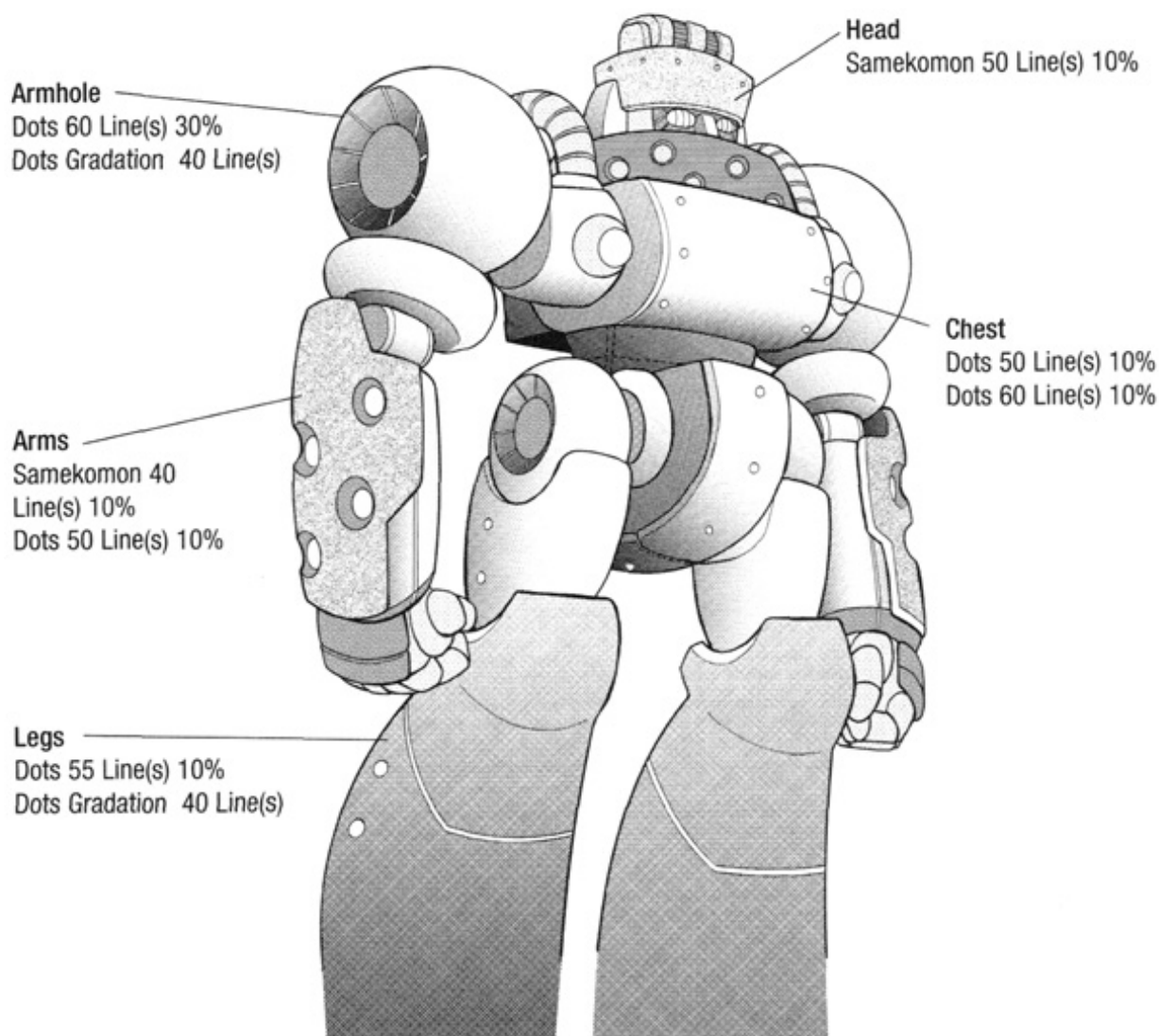


Shifted so the dots do not overlap at all



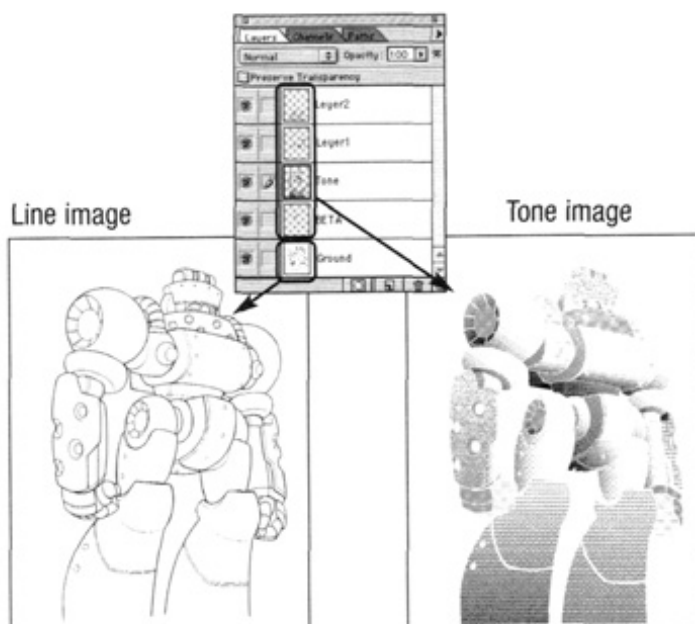
## Layering Two Different Tones

Layering tone allows a sense of the different shades of the robot's various parts.



## Using Digital Layered Tone

After applying the first layer of tone to the drawing, select the target area and apply the second layer. Enlarge the image to double check the appearance of the two tones overlapping. You may use the layer function including in the graphic software to facilitate the process. The layer function duplicates the feel of a real animation cell by allowing you to view the image underneath, even if you are using layered tones. This means that even if you make a mistake, you can start over again from midway in the process. Refer to your graphic software manual for more information.



# Etching Tone to Create a Sense of Texture

## Etching Dot Tone to Create Highlights

In order to make your artwork more realistic, use a brush to etch those areas of tone touched by light and use the white ground to portray light reflections. This technique is indispensable to creating highlights, luster, or a sheen.

### Shading and Etching on a Cylinder



Line Drawing of a Cylinder



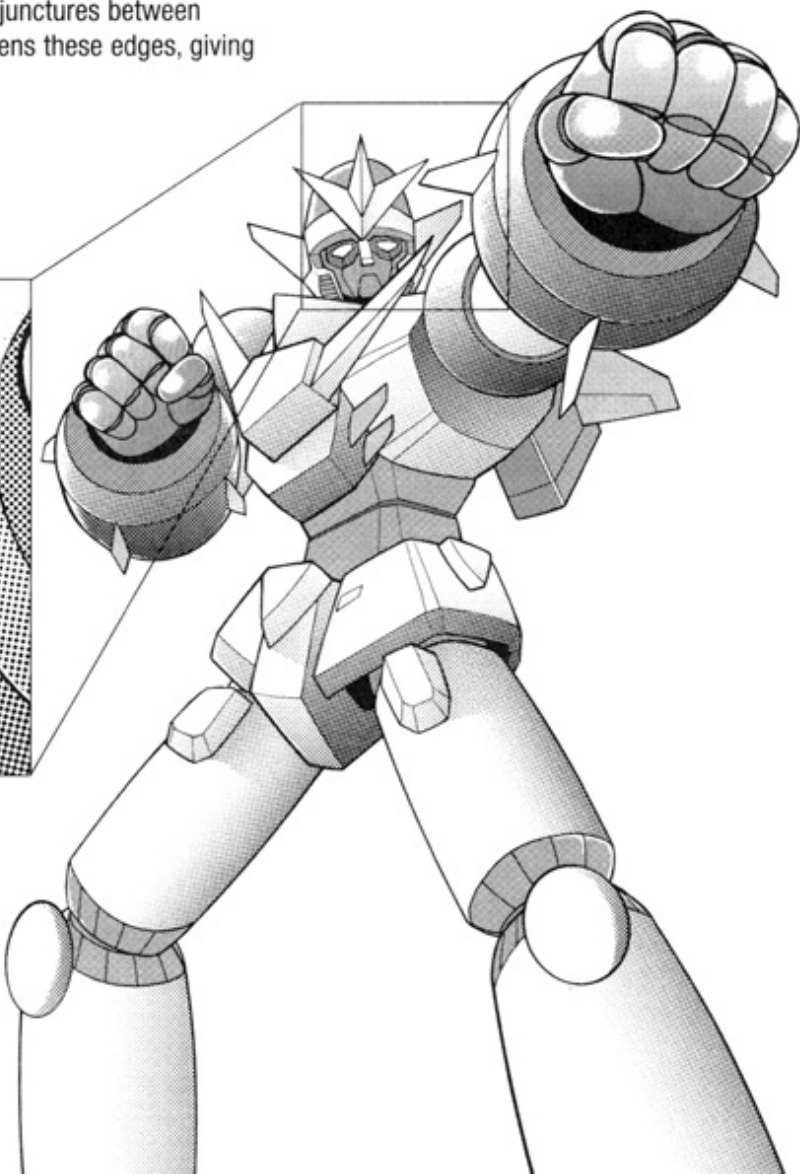
Cylinder with Tone



Cylinder with Etched Tone

You can create the sense of a solid simply by applying tone to the cylinder. However, using a brush to "etch" junctures between shadows or areas of blurred light and lightens these edges, giving the shadows a more natural feel.

### Enlargement of Etched Area

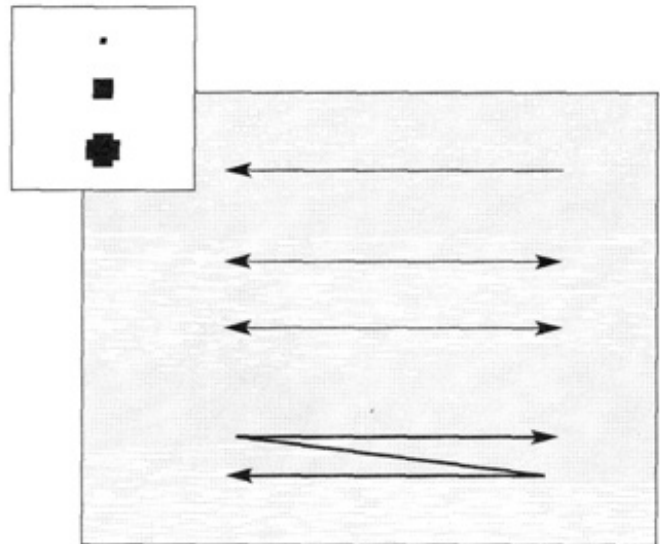


# Assorted Etching Techniques

Photoshop and other graphic software include a "brush" function primarily to allow you to draw. We will now discuss techniques for using the brush tool to make tone appear to have been "etched." Depending on the software you use, it may contain a similar brush tool. If you do not have a brush tool, dry creating your own "brush" using the figure below as reference.

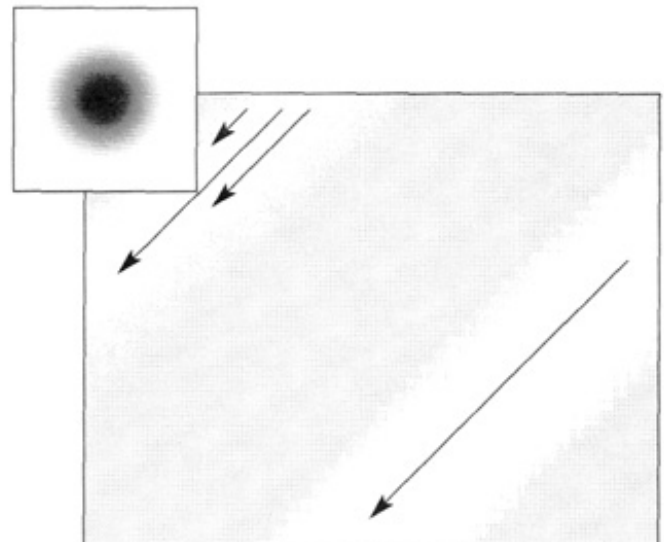
## Dot Etching

This technique consists of aligning dots of different sizes and etching the tone using straight strokes. How light the etched dots become allows you to give subtleness to the look of the reflected light. Please note, however, that when etching curved areas, the etched lines may run into each other depending on the angles you use for the strokes. In such cases, shift the angle of the brush (i.e. the strokes).



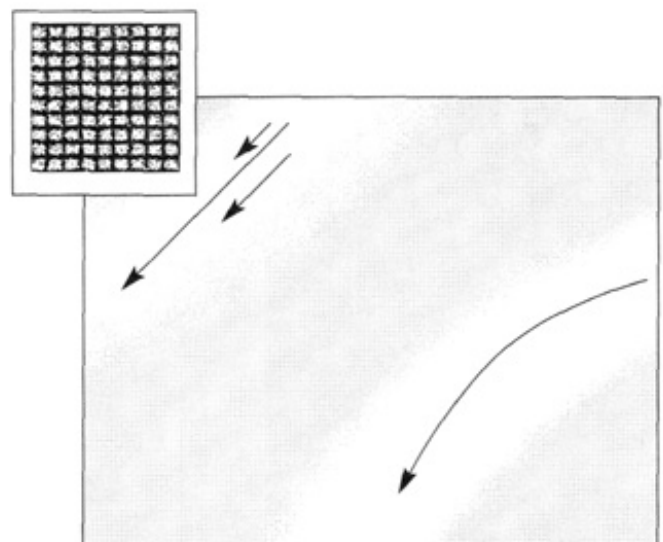
## Bokashi Kezuri ("Blurred Etching")

This is a technique whereby you blur the area surrounding the dots, gradually etching away dots that touch the brush. If you look at a photograph, you will see that the dots composing the image appear to fade gradually as if they were scattered etchings. Design factors such as the scope, length, and softness or hardness, etc. of the blurred region affect the results. Play around and see what results you get.



## Expanded Bokashi Kezuri

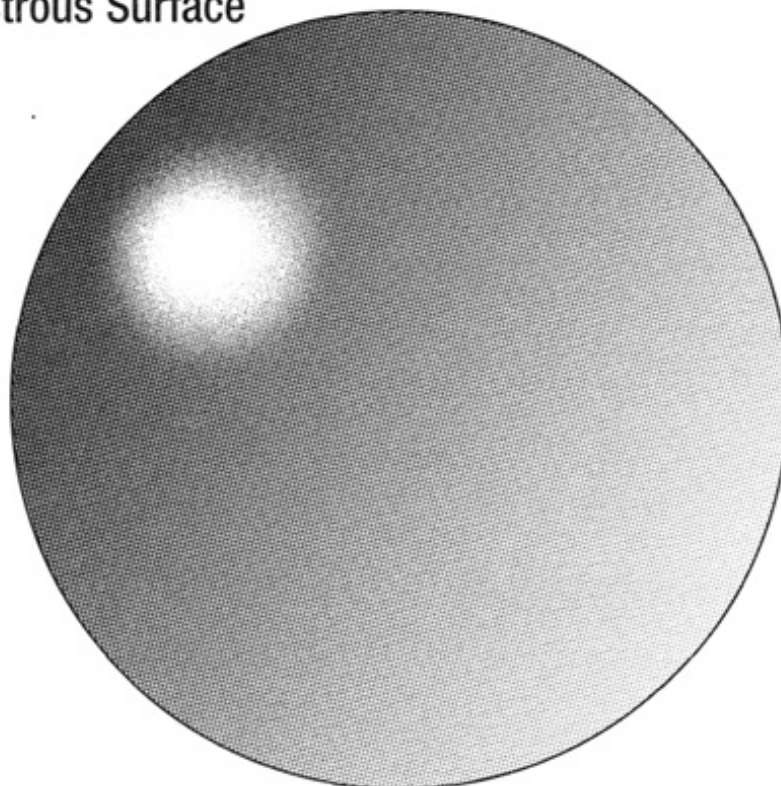
Unlike the brush etching described above, this technique allows you to etch at one go an expansive area of dots. The blurred regions look like dust within a latticework shape, and modifying the strokes can produce any number of effects.



# Portraying Luster

Tone work on a sphere can portray a sense of volume or luster on a surface. Applying gradation tone to a circle allows you to generate the illusion of three-dimensionality to some extent. However, spots of light reflected off the sphere's surface enhances the sense of luster and volume.

## Sphere with a Lustrous Surface



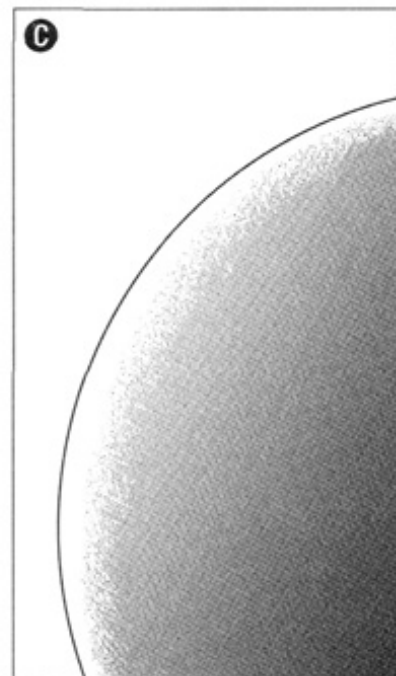
**Technique 1:**  
Gradation Tone with Borders  
Etched White



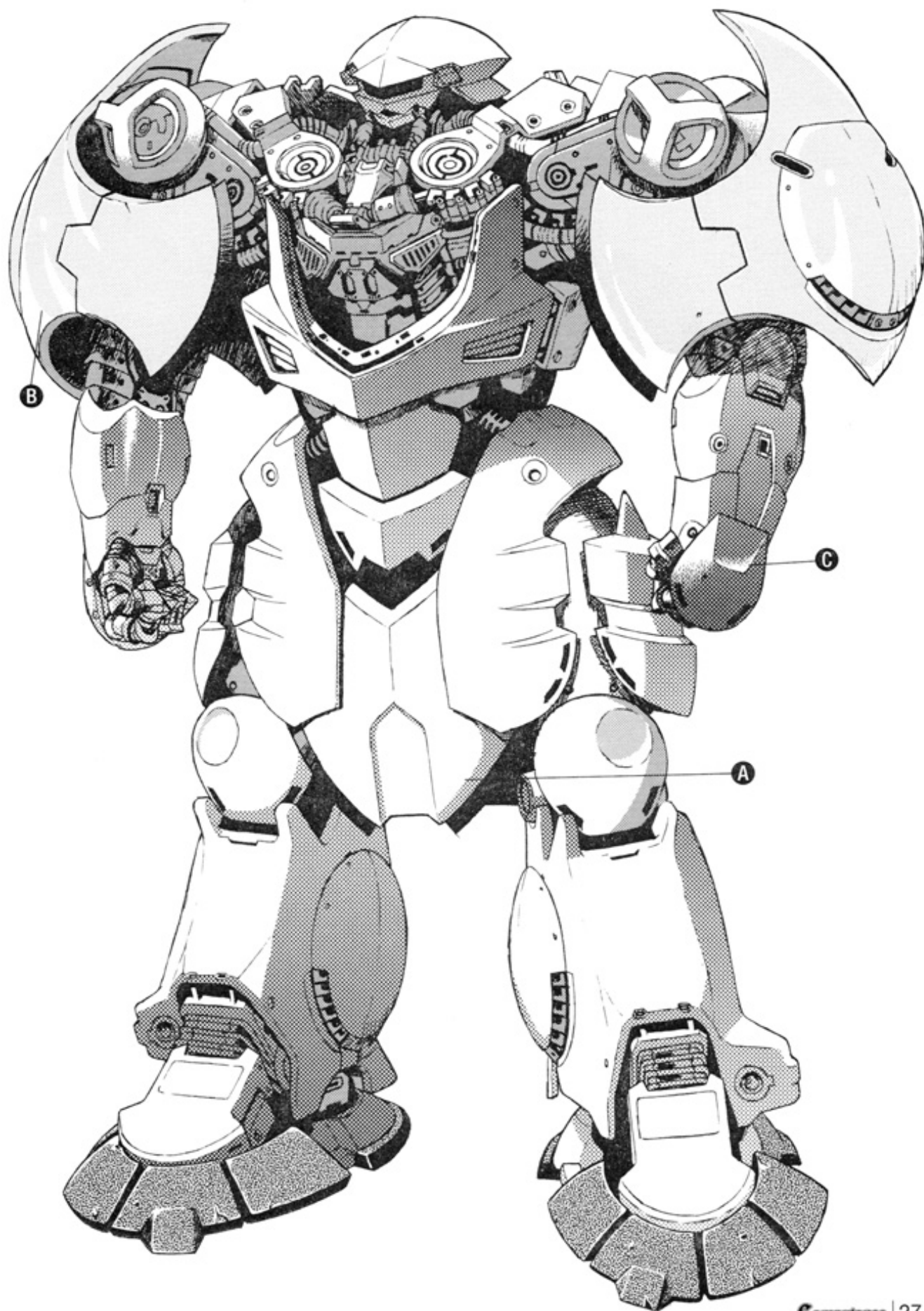
**Technique 2:**  
Gradation Tone with Etched Light  
Reflections



**Technique 3:**  
Gradation Tone with Borders  
Etched



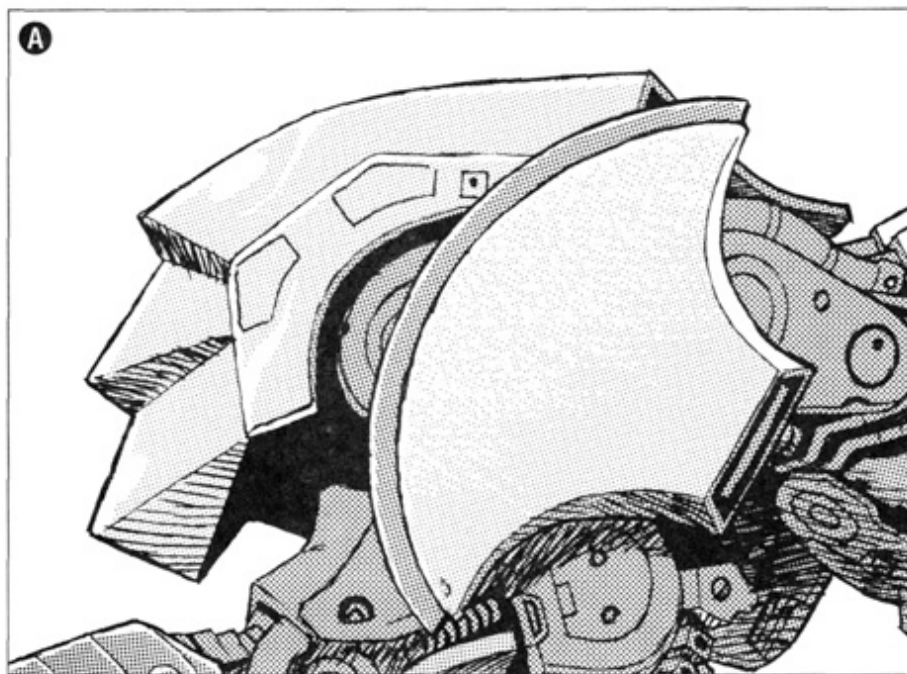
A metallic sheen is indispensable if the robot has rounded forms. Please note, however, that highlights should not be distributed randomly, but large, exaggerated reflections should be added to those areas where you want to draw particular attention. For this robot, I emphasized the reflections on the shoulders and feet, eliciting a look of rounded forms.





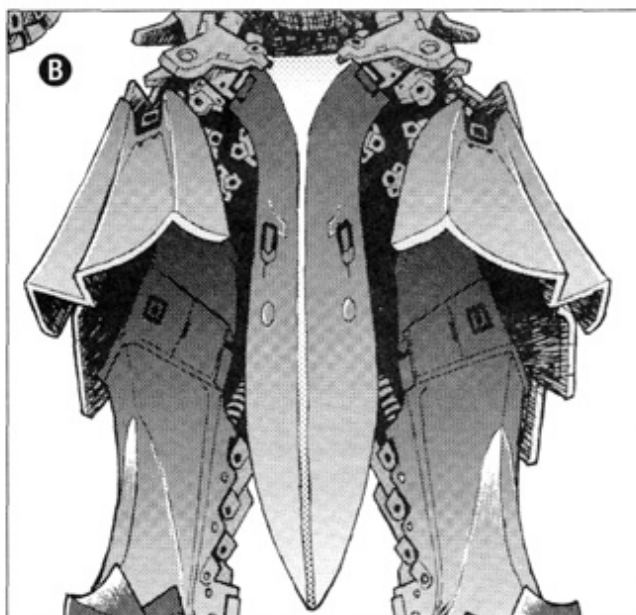
# Portraying Metallic and Synthetic Armor

Robots are made from multiple materials such as iron and rubber. Try to picture the robot's various components when applying tone and complete the image by adding dot tones of varying densities to give it balance.



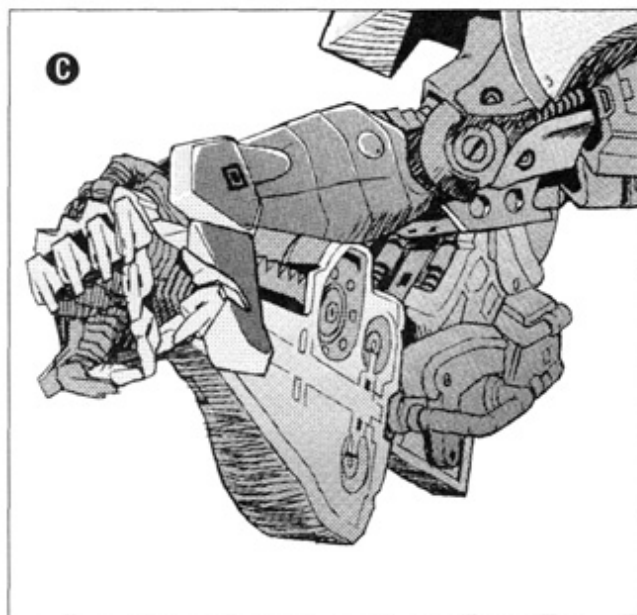
## Technique 1: Portraying a Metallic Texture

Robots with complicated surface shapes may be suggested using the same techniques for portraying a sphere through making use of gradation tone and etched highlights.



## Technique 2: Portraying Rubber

The key points in suggesting rubber lie in a matte finish and reflected light. Apply a slightly darkish tone to elicit the feel of the black texture. Use gradation tone instead of etching dot tone to portray highlights.

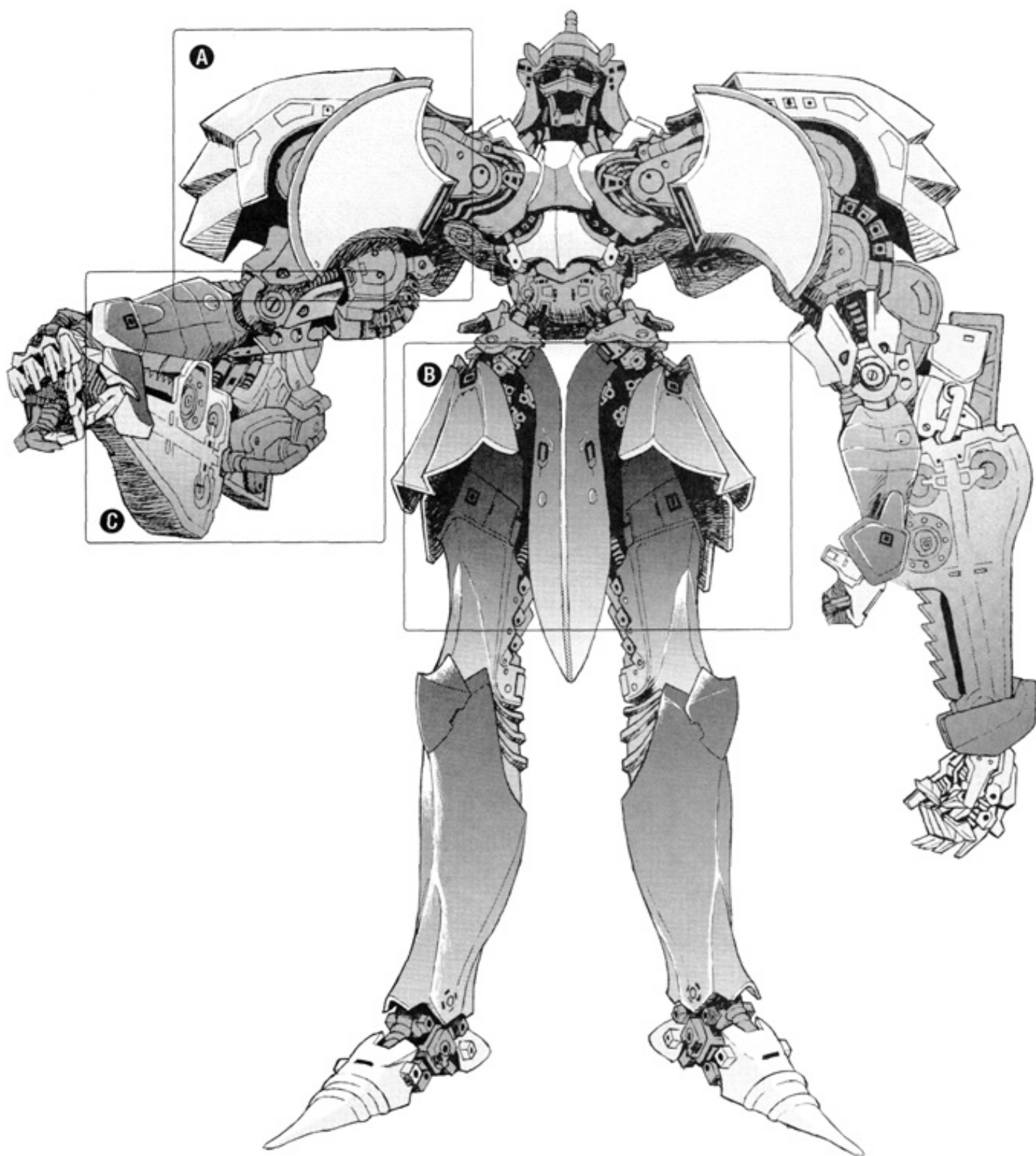


## Technique 3: Portraying Reinforced Plastic

Plastic is a reflective material, so a light dot tone works well. To portray light reflections and a sheen, use a brush to blur edges, etching the tone lightly with scattered strokes.



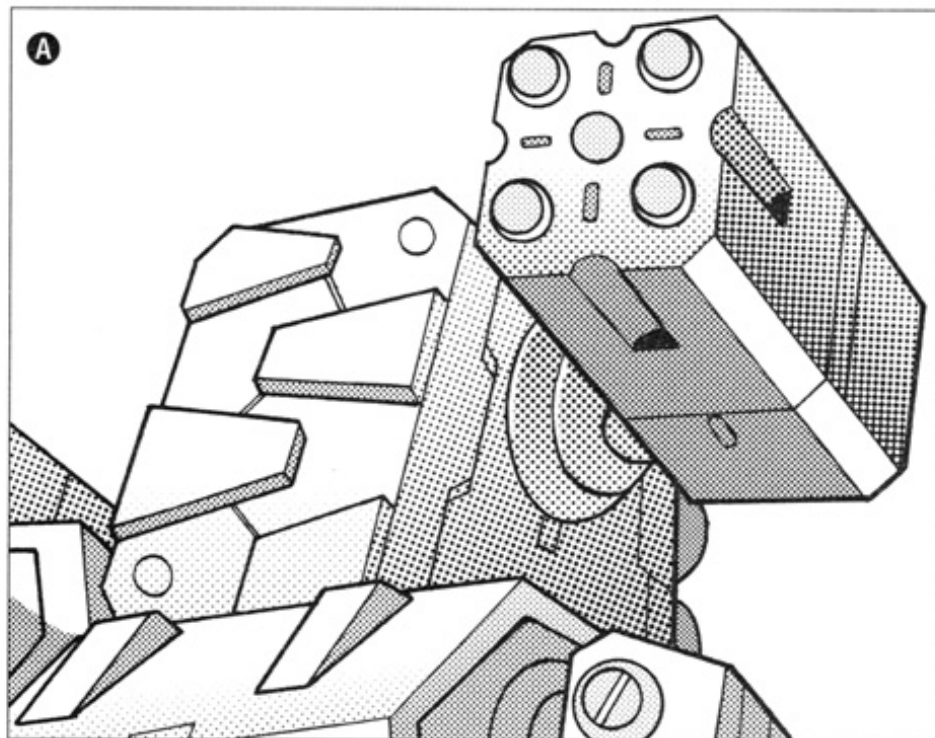
It is vital that you visualize the texture of each robot part's material and differentiate your tone application based on these materials. A uniform color (shade) fill or tone finish evokes a sense of weightiness and volume.



# Portraying Round and Angular Forms

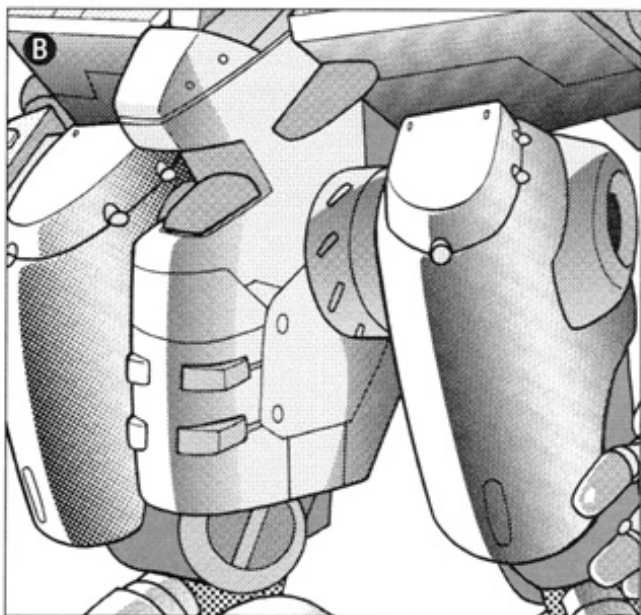
Use gradation tone to portray a variety of surface shapes. Most mechanical and synthetic objects are assemblages of surfaces, and, consequently, should be reproduced by exploiting the various techniques of expression to their fullest.

## Using Tone to Suggest a Variety of Surfaces



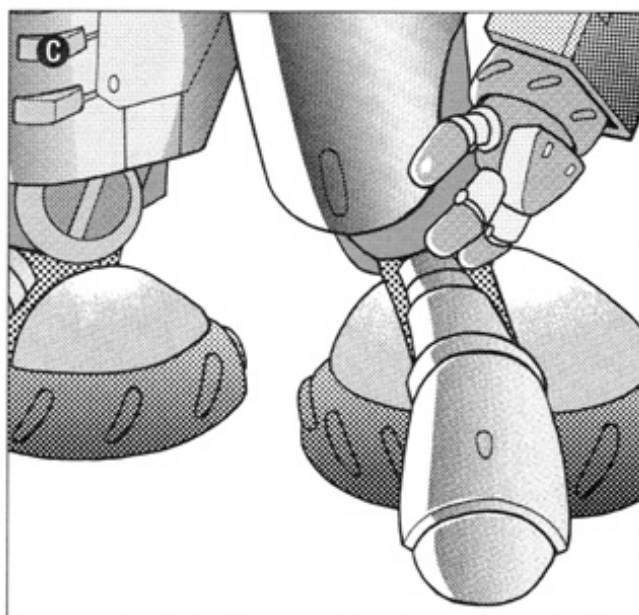
### Technique 1: Heat-pressed Steel Sheet

Launcher are formed from angular, boxy shapes. Applying gradation tone to each surface will generate a sense of three-dimensionality.



### Technique 2: Heels with Internal Engines

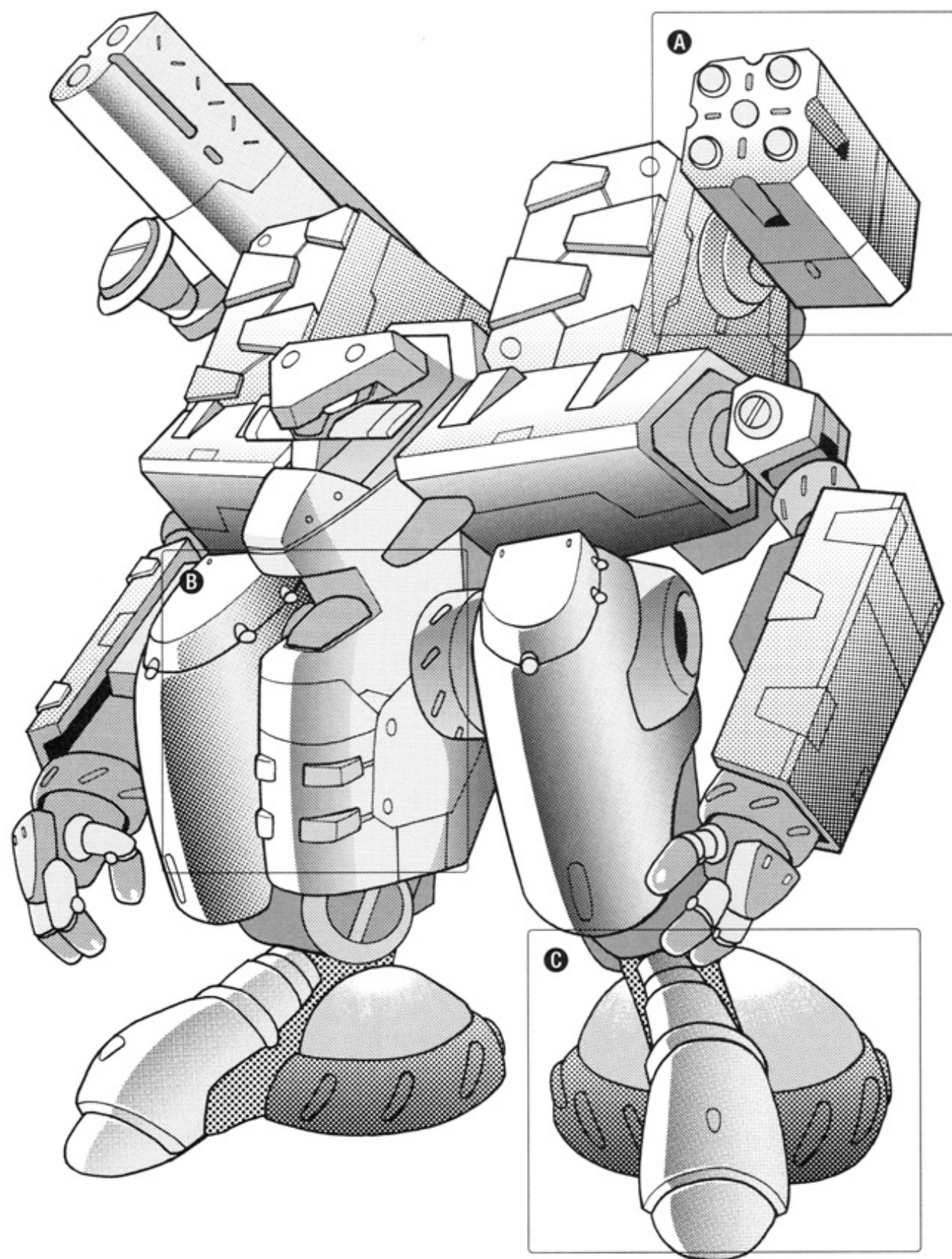
Etch reflected light in hemispheric shape of the underside of the foot and other round forms so that they are bordered in white. This creates the impression of a lustrous form.



### Technique 3: Legs with a Sense of Weight

The shin has the curved surface of a cylinder, so I used gradation tone to suggest roundness and a sheen. Adding contrasting shadows allows the portrayal of depth and weight.

To render a robot with a strong sense of weight, skillfully contrast white with dark to portray heaviness. Solid black projects the illusion of weightiness. Contrast the solid black with highlights to produce a three-dimensional look.

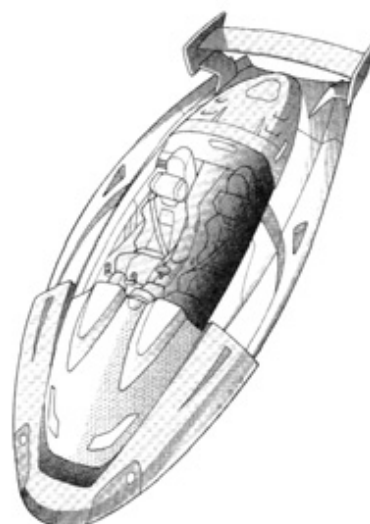
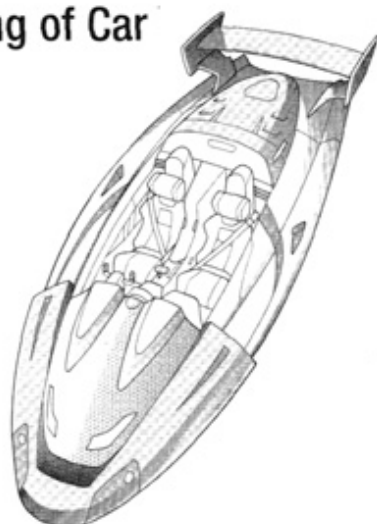


# Portraying the Inside of a Car cabin

To portray this futuristic car formed of curved surfaces, draw the viewer's attention to reflections on the smoked windshield and the interior seen from beyond. Apply gradation tone and etch for an effective finish.



## Line Drawing of Car

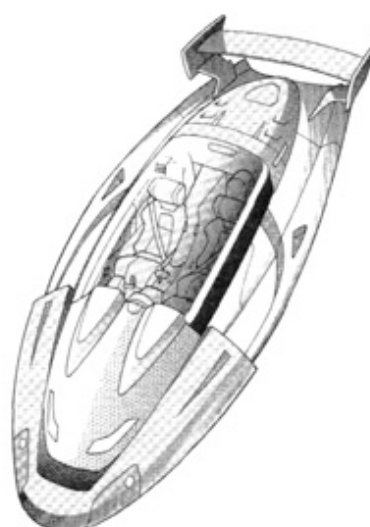
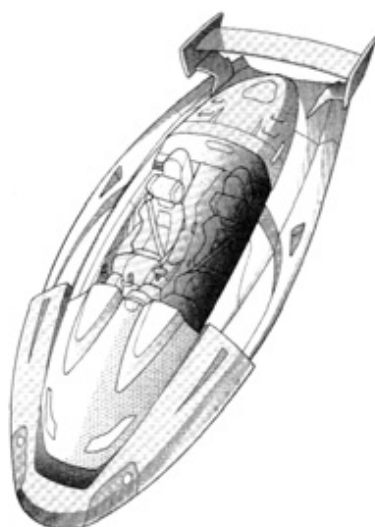


### Technique 1: Tone Work on the Body

I used gradation tone to suggest the rounded form of the car's body. I drew the cabin's interior before applying the tone.

### Technique 2: Portraying Shading on Smoked Glass

Apply gradation tone to portray the roundedness of the windshield. The more the roof moves in the direction of the bright frame, the darker it becomes visually. This alone allowed me to suggest the curved surface.



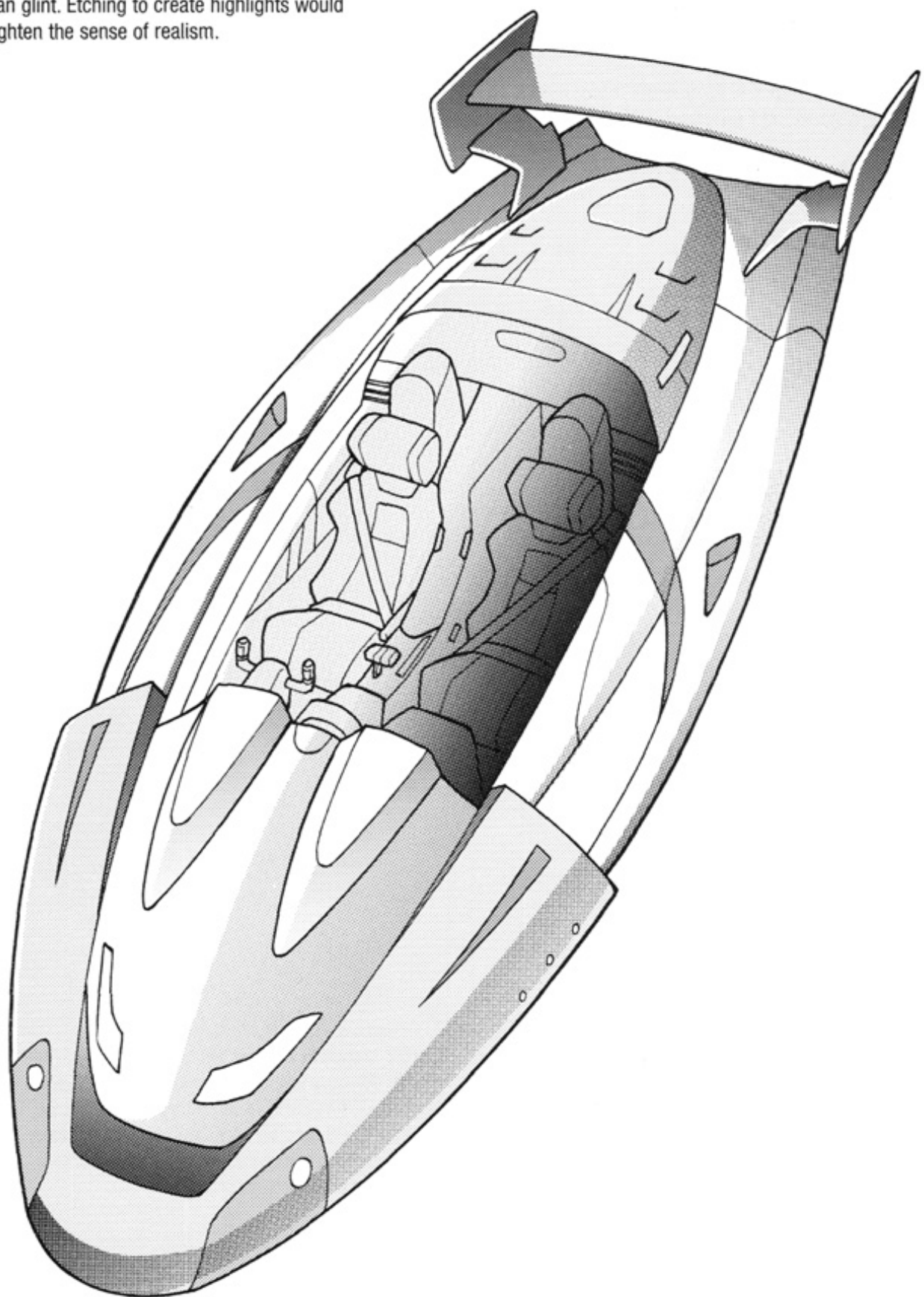
### Technique 3: Rendering Highlights

Here, I laid dot tone over the light area of a gradation tone, lightly etching the top layer of dot tone to give the shading depth. I etched using straight strokes adhering to the windshield's surface.

### Technique 4: Etching Highlights

After applying gradation tone, I etched the upper portion of the windshield to create reflected light. Adding definable highlights produces a more convincing image.

This is the sort of roundish car one finds in Sci Fi manga. Using gradation tone allows you to portray a futuristic translucence accompanied by a crisp, clean glint. Etching to create highlights would heighten the sense of realism.



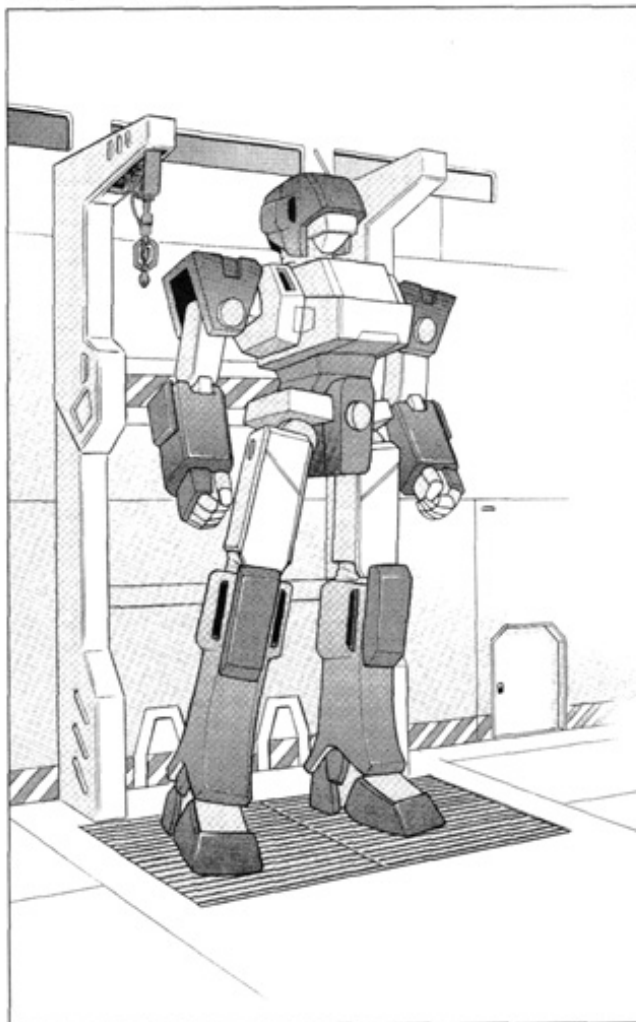


# Portraying Soiled and Scratched Mechanical and Synthetic Objects

Let's take a look at the tone work process of a robot from beginning to end. Using tone work to portray soiling and scratches received during battle will make the image more realistic.

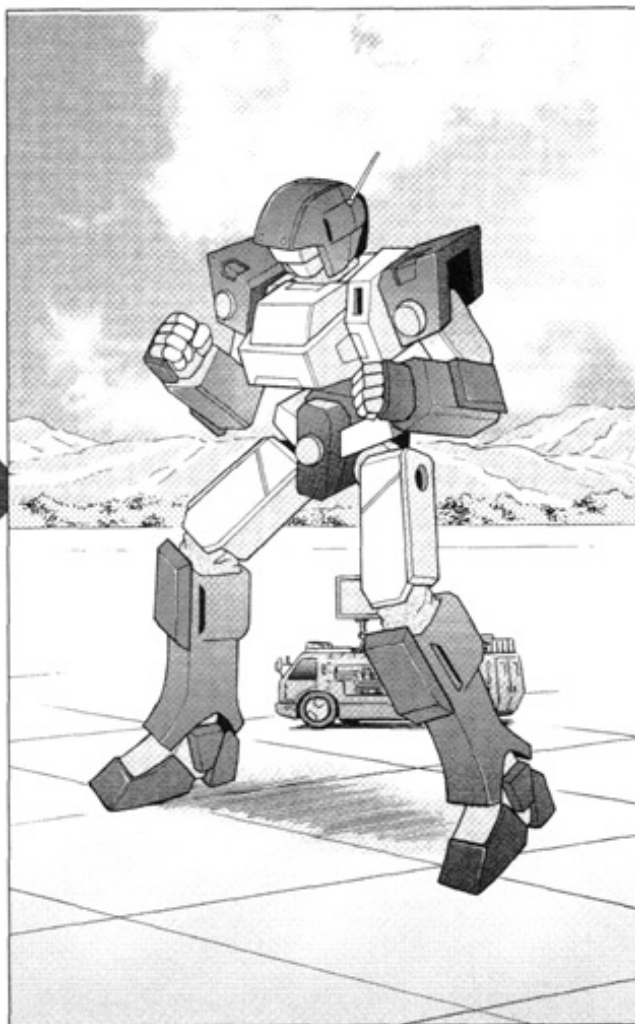
## Robot from Birth to End

### Newly Born Robot



Portray a sheen by applying tone to a robot fresh off the assembly line. Use a different shade of tone for each surface of the unit to produce a shine indicative of a brand-spanking new machine.

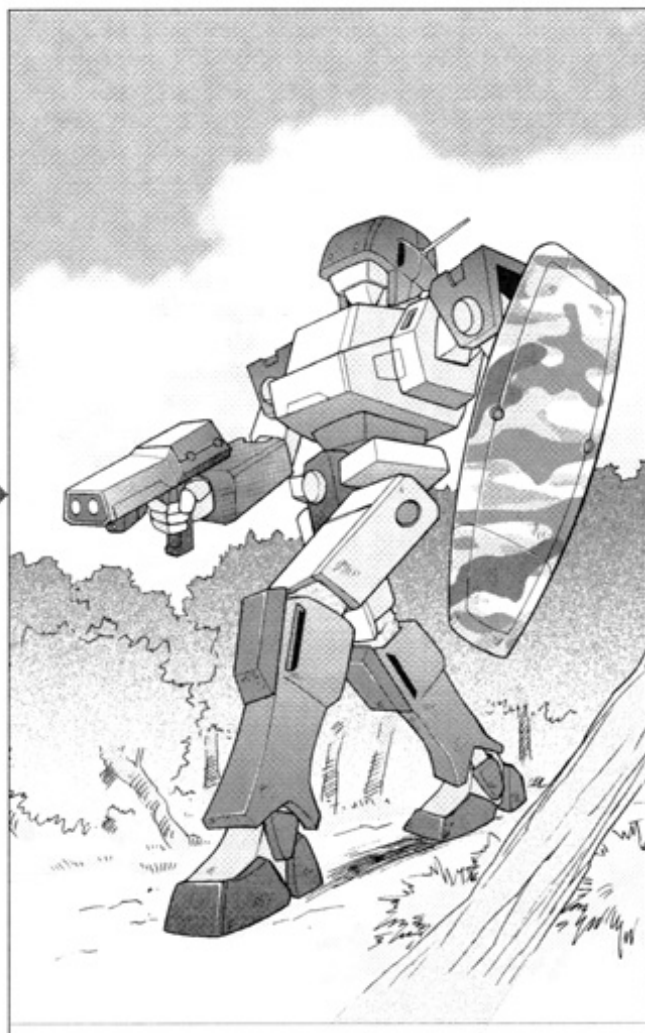
### Battle Scene: Step I



In order to portray a scratched-up machine, you will need to do some preparatory work before applying the tone. Using unbroken lines, draw scratches on the robot's line drawing and then overlay with tone. By etching only "damaged" areas, the lines drawn will create the illusion of scratches.

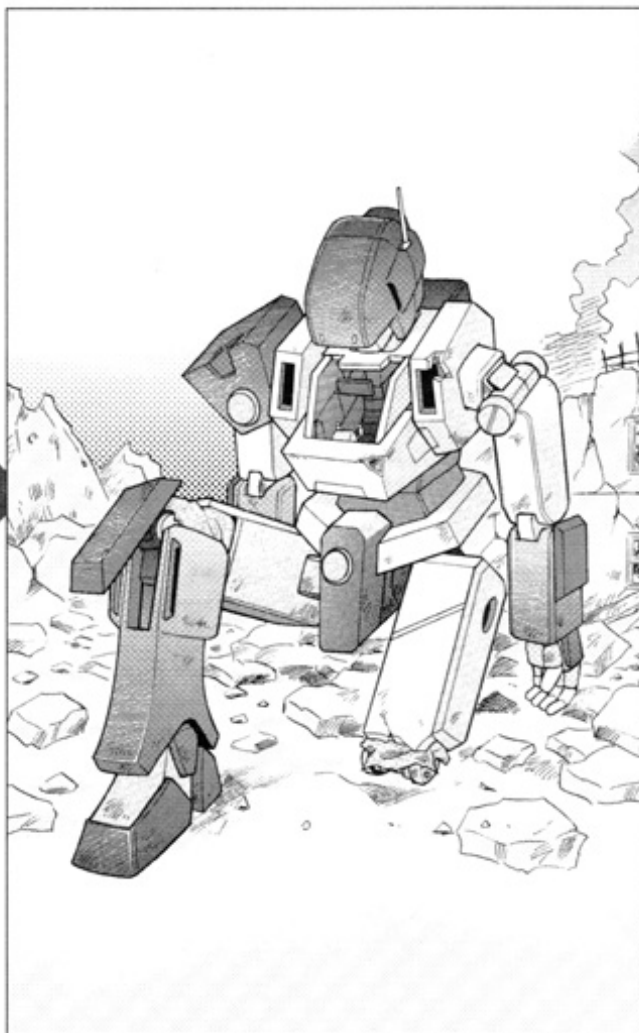


### Battle Scene: Step II



Imagine that the battle has grown even fiercer and add soiling to the robot's body. Using large strokes to blur regions intended to be "soiled" will produce roughly etched areas that look like soiling.

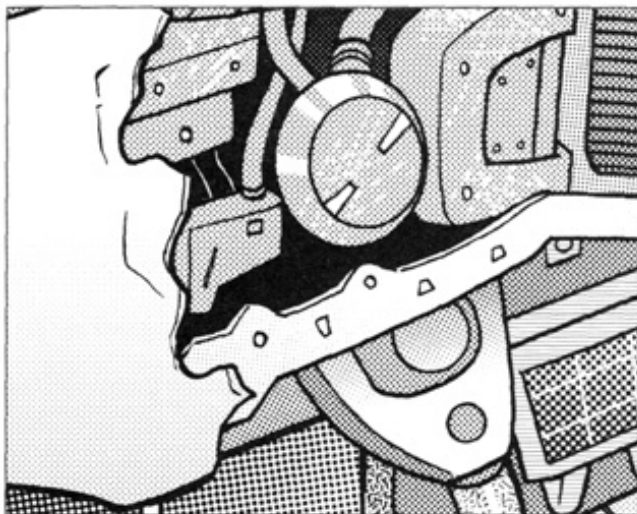
### Breakdown and Full-Scale Destruction



Use unbroken lines and solid black (i.e. black fill) to portray demolished robot parts, while adding etching all over the figure to suggest scratches.

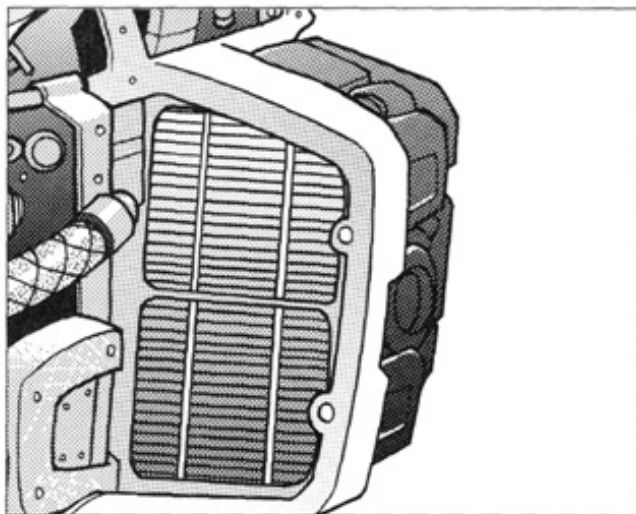
# Portraying Heavily Damaged Mechanical and Synthetic Objects

This illustration is of a robot whose armor has been destroyed and whose internal parts are now exposed. Exploit the textures and features of the robot's various components, such as the texture of uncoated, exposed metal, of internal soot, of the luminosity from the lights, of tubular cables, etc.



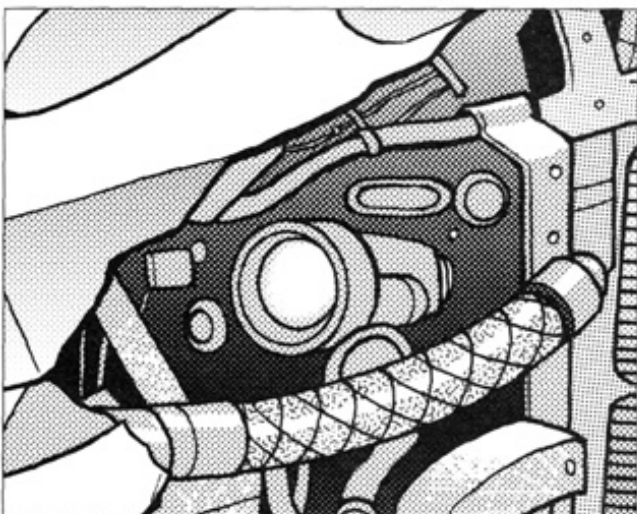
## The Texture of Bare Metal

Etch dot tone to portray exposed metal. To portray a gritty, metallic texture, select the pencil tool and draw scratches here and there on the tone.



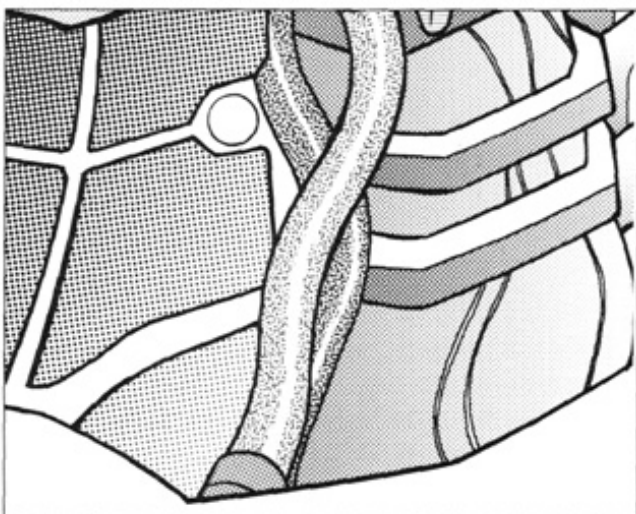
## Portraying Internal Soiling

Apply a darkish gradation tone to portray interior shadows. This will draw areas close to the picture plane into contrast. Scattering detailed etching here and there will allow you to suggest scratches and soiling.



## Lights

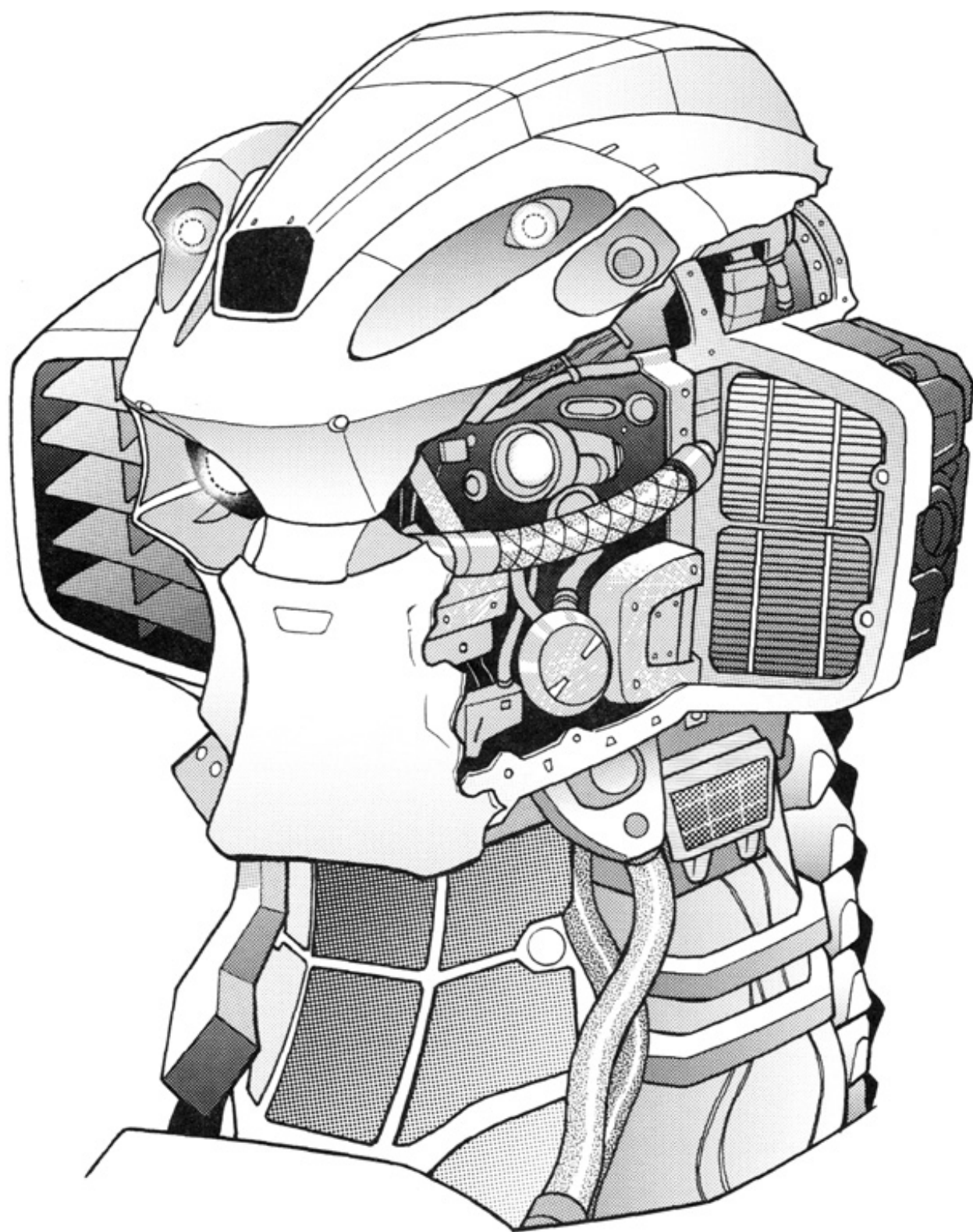
The left eye emanates a dim glow. Applying dot tone not to the eye's center but to the surrounding area and then using bokashi kezuri to blur provides a contrast with the pure white ground, making the glow from the lights more convincing.



## Cables

I used a large random dot tone for the cable components to differentiate between the assorted materials. Etching the cables' surfaces allowed me to produce the matte finish of rubber.

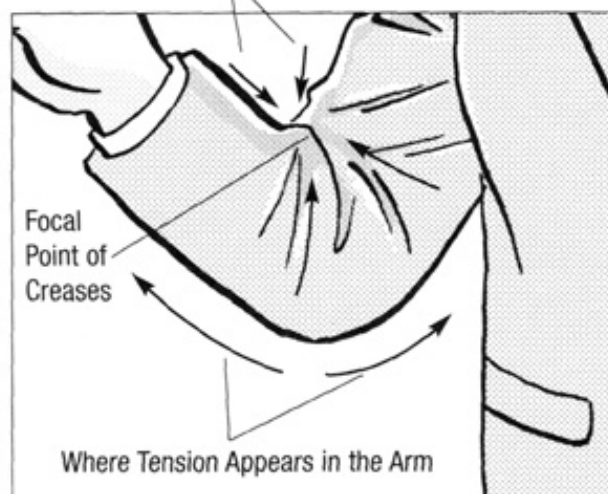
I used gradation tone over the entire figure to generate a three-dimensional feel and amplified the sense of contrast by applying black fill to areas far from the picture plane. The more tones of differing shades are used to portray the various, fine components, the more successfully convincing the robot's complicated structure will appear.



# Portraying Creases in Uniforms and Suits

Movement-induced creases are vital to clothing portrayal. How creases form varies according to the material or fabric type, and you, the artist, must look observe clothing on a daily basis and investigate into its characteristics.

Direction of Pulling against the Fabric



There are fixed rules to how movement-induced creases form. If a limb bends at the joint, the fabric is pulled with the joint forming the tension center, and the fabric pulling away from that center. Use the brush to etch lightly crease shadows.

## Formation of Creases Owing to Arm Movement

Without worrying about the particular pose, identify where the movement-induced crease focal points lie and draw in the creases.

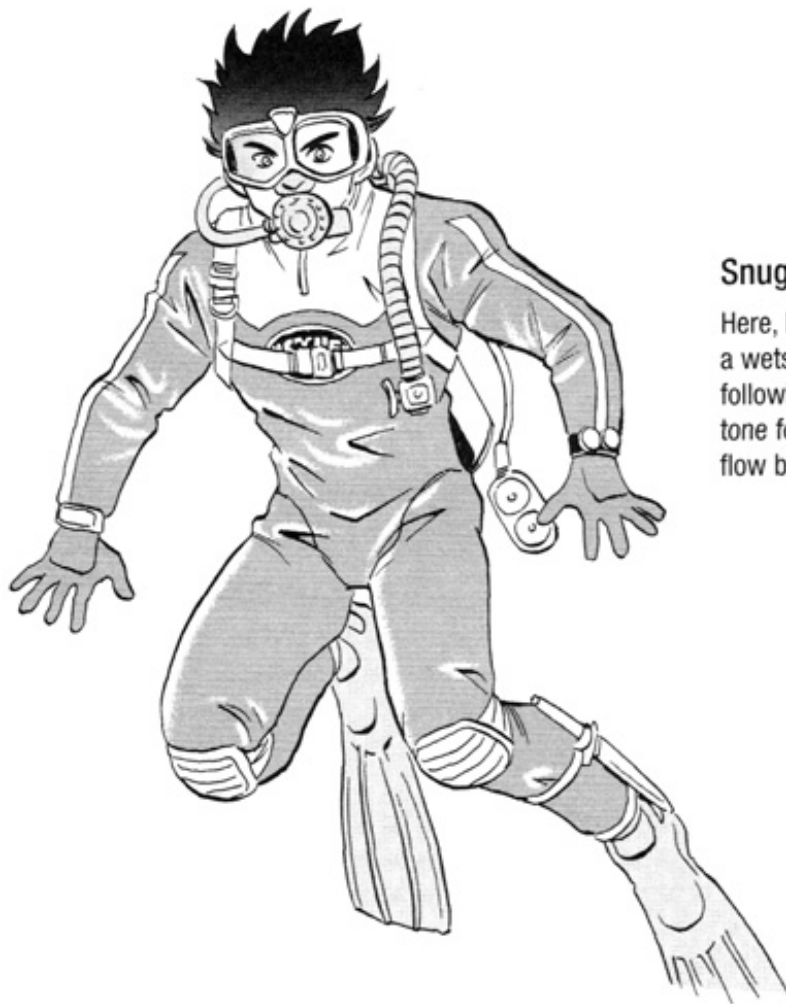
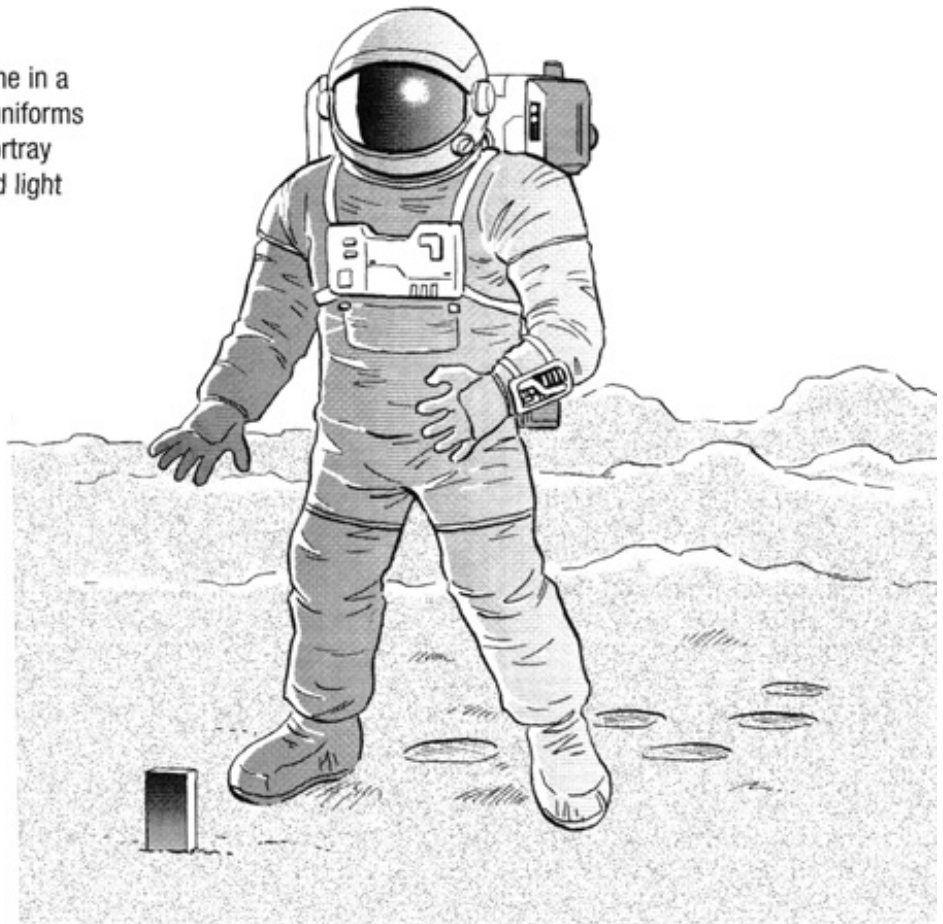




# Natural Bagginess and Fit

## Loose Clothing

To portray drooping in clothing apply tone in a wave-like pattern and etch. For space uniforms and helmets, apply gradation tone to portray smooth surfaces. Etch areas of reflected light for effective results.



## Snugly Fitted Clothing

Here, I used lined tone to portray the tight fit of a wetsuit and etched ripples of creases following the musculature. I applied gradation tone for the diver's hair to make it appear to flow back and up.



## Structure

To draw a mechanical or synthetic object, you will need basic knowledge of the subject. You might be able to produce a convincing-looking object simply by looking and mimicking it visually. But some viewers may spot your lack of peripheral knowledge. Let's say for example an imaginary fighter jet. Very least need to know the following:



A. Simply drawing the canopy stuck on the fuselage somehow loses any sense of realism and makes the figure look like a toy.



B. Canopies are designed to be actually part of the fuselage in order to eliminate air resistance.



C. The fuselage is formed from attached sheets of treated metal, and close inspection will reveal numerous seams. However, noses often contain radar and are made of a resinous substance, and, therefore, have no seams.



D. Inspection manuals for fighter jets comprise tens of thick handbooks. However, the minimum "points of caution" are written ahead of time inside the fuselage. The fuselage contains detailed writing indicating the pilot's name, emergency procedures, places on the jet that must not be touched, etc. The United States military even has manuals for writing inside the fighter jets stipulating the type of font to be used, lettering dimensions, etc.



E. Because fighter jets are made from numerous types of metals, the surface luster on each panel has a different shade. Directly in front of the canopy, you find near-black, "anti-glare" coating designed to prevent glare from the sun.

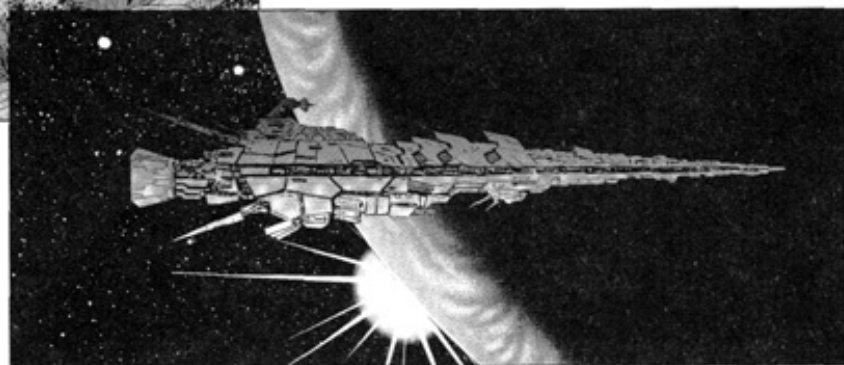
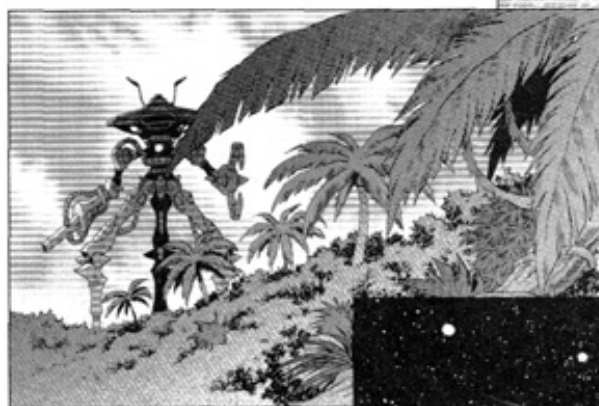
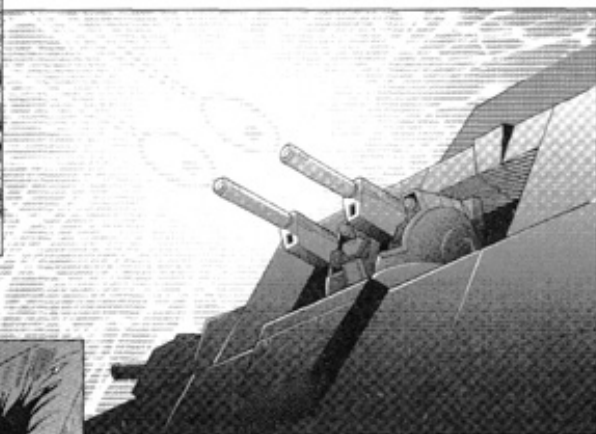
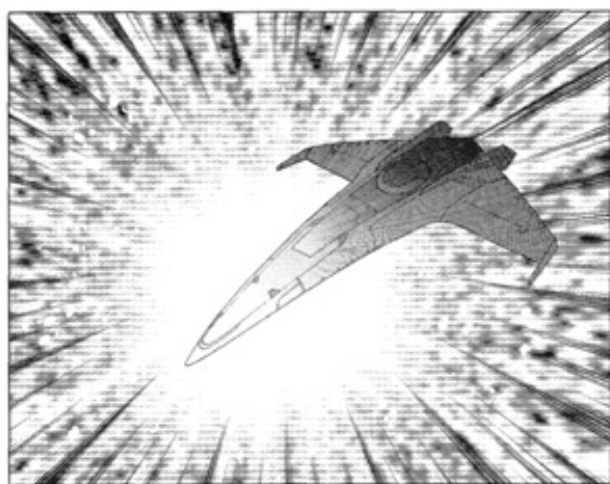


F. Next, add soiling, scratches, and finally shading to help portray a sheen on the jet to finish.

If you show consideration to the above, you will achieve a sense of realism, even when drawing an imaginary fighter jet. If you follow these points integral to drawing a fighter jet, a tank, or a battleship, then you will be able to give imaginary weapons a convincing air.

# Chapter 2

## Advanced Tone Work

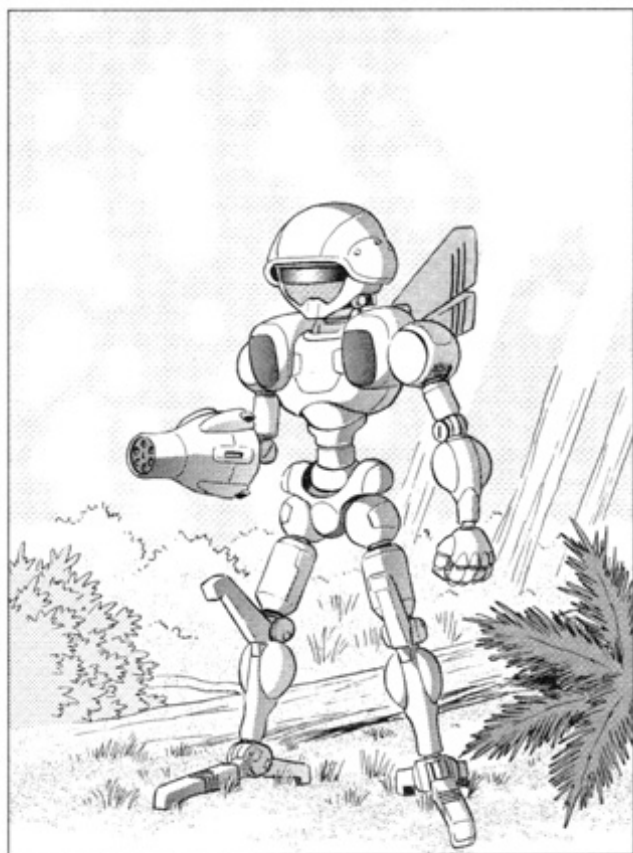


# Using Tone to Suggest Colors

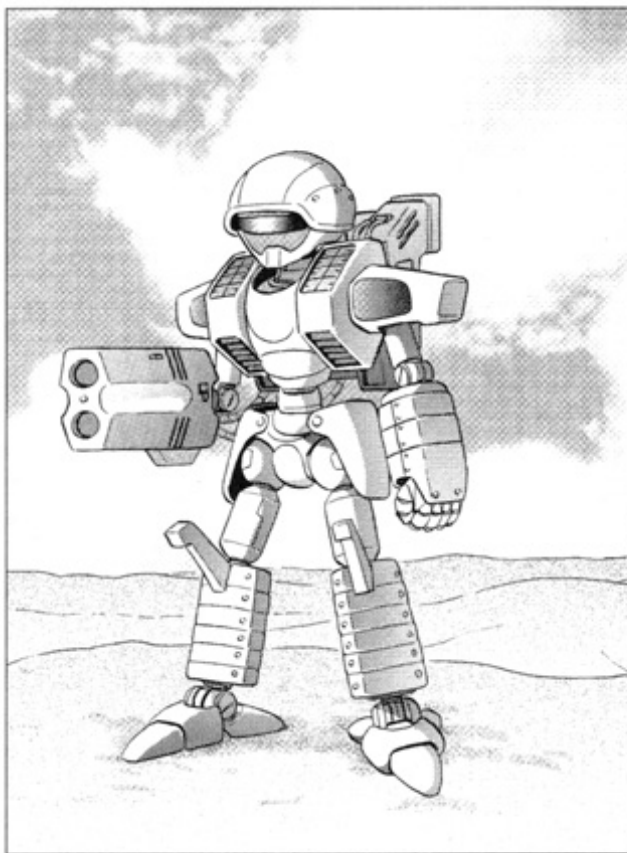
## Using Shades of Tone to Portray Color

Tones come in light and dark shades, and tones may create the illusion of different hues by exploiting these differences in shade. For example, dark tones make give the impression of being red or blue. To learn what shade gives the impression of which color, take a black and white photo of your subject to see what shades the colors appear.

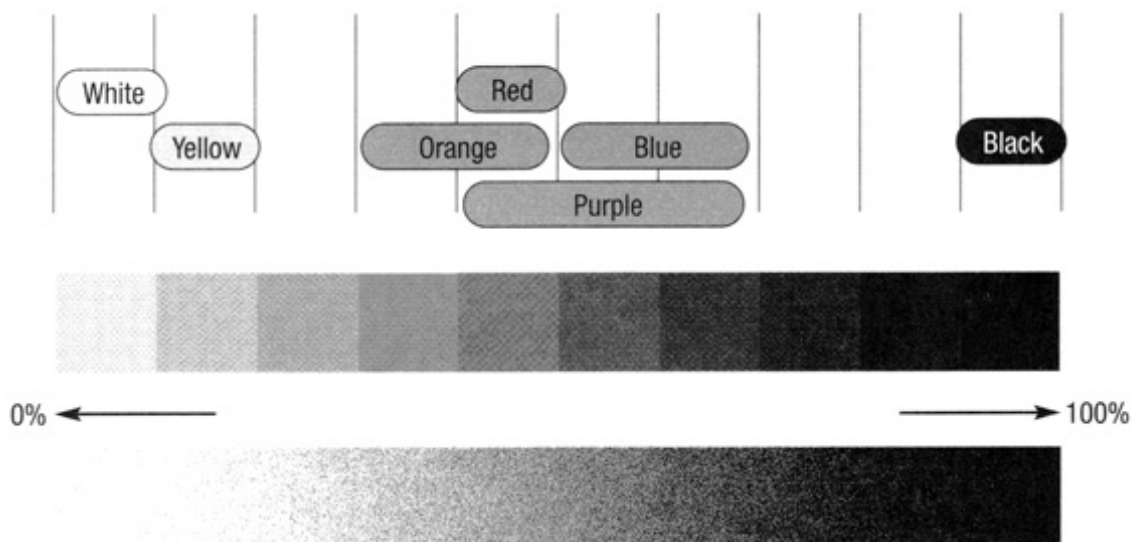
### Camouflage Tone Palette



Jungle Palette



Desert Palette



# Using Tone to Portray a Landscape

## Using Tone to Portray Forests and Jungles

Use a random dot tone to portray the trees of a dense jungle. I imagined the green as a light tone of 5% density. In contrast, I opted for a dark tone of high density for the trees close to the picture plane, to create the impression of shadows darkening the forest.



## Portraying the Blue of the Ocean and Sky

Use a gradation tone of approximately 30% to portray the blue of oceans and the sky. Showing water spray on the waves and adding fine shadows to ripples will not only duplicate a blue tone, but will create the illusion of blue.



## Portraying the Red Glow of Sunset

I used a 40% gradation tone to depict the red, setting Sun and a 30% gradation tone to portray the pattern of the glowing sky at sunset. As with the ocean, the key points here are to portray the flickering of the Sun and flow of the clouds using shading and etching.

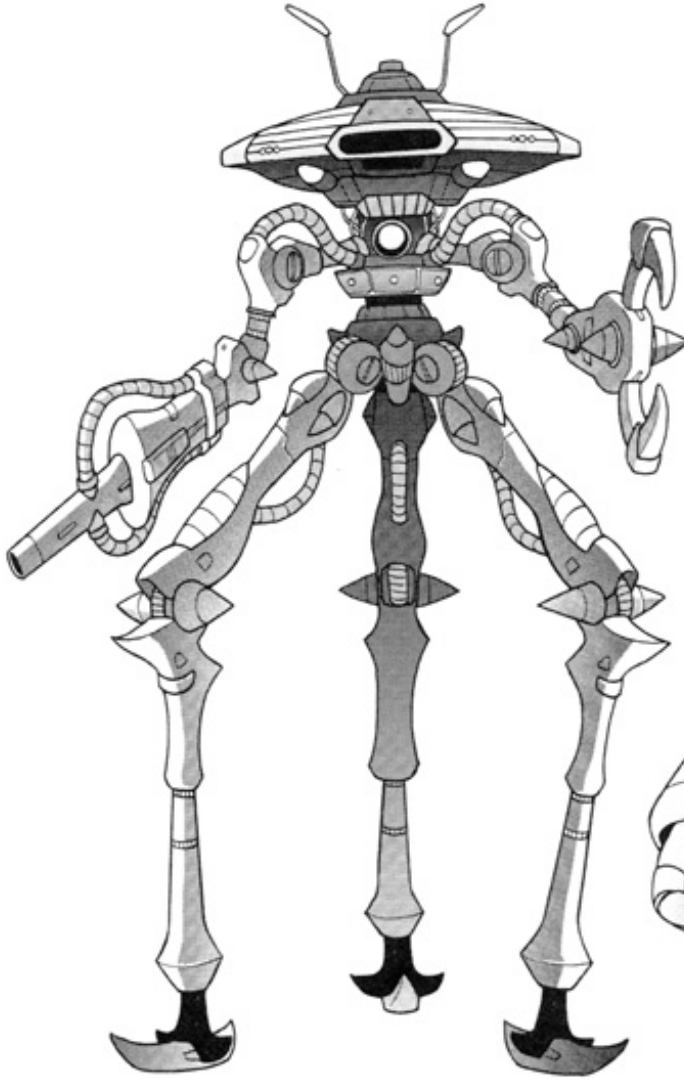




# Mecha Tone Work I: Form

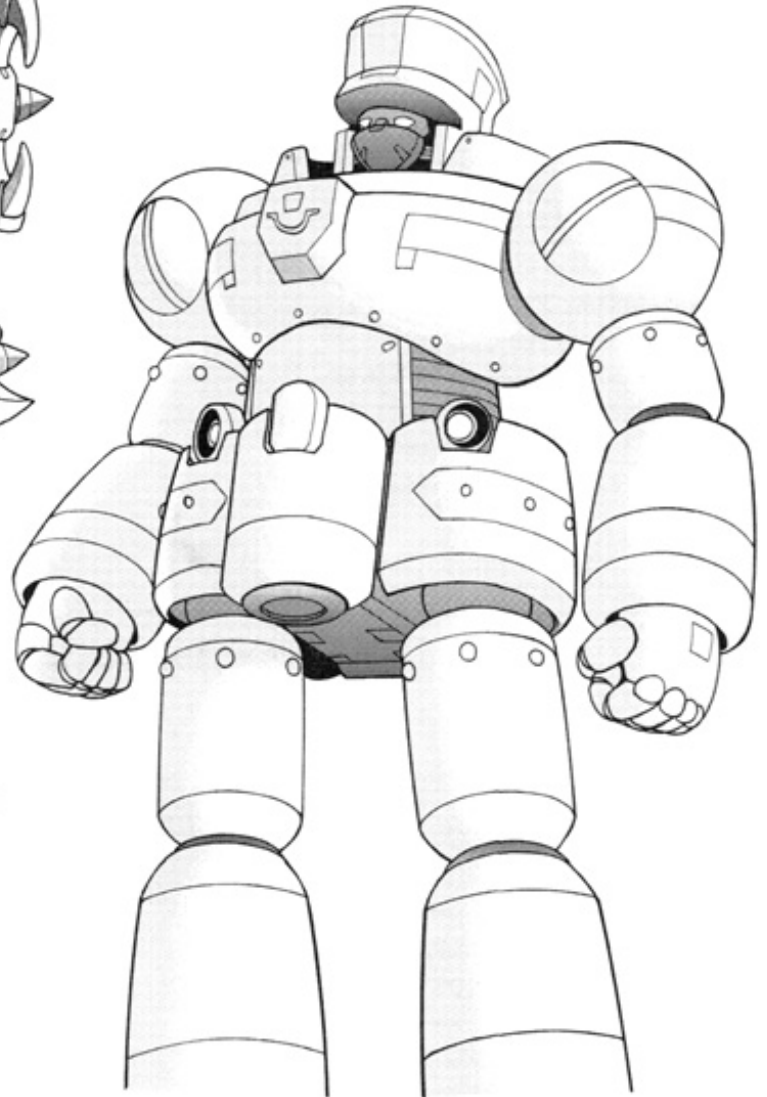
## Distinct and Fuzzy Forms

The mechanical design can be considered a robot's lifeline, and what shapes the design is the form. It is essential that you keep the robot's design and form in mind when applying or etching the tone.



### Distinct Forms

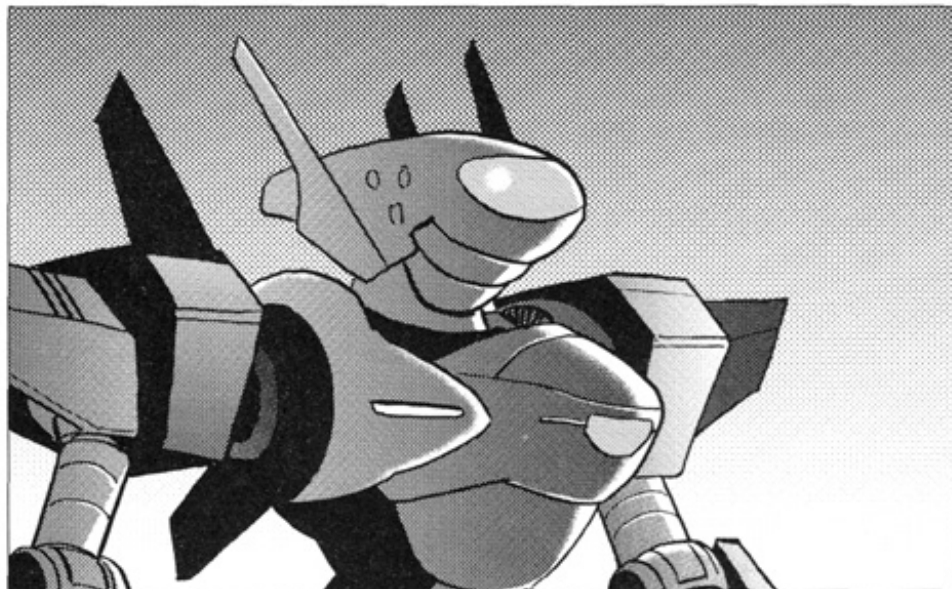
When creating a robot using fine lines, exaggerate the shading to accentuate the slenderness of its various components. Use plenty of dark shadows and leave tone boundaries sharp and distinct to project a reptilian image.



### Fuzzy Forms

When creating a gargantuan, burly-looking robot, using an abundance of highlights will project the illusion of largeness. Apply tone to accentuate areas that jut out, such as the breastplate, etc. and lightly etch to blur. This will emphasize the largeness of the robot's parts.

# How to Portray an Array of Forms



## Form as Silhouette

The use of light becomes key when showing off silhouettes in dark scenes. Apply a dark tone to the overall, bathe the composition in light, and add highlights to robot components reflecting light. You may also portray light surrounding the figure to create the illusion of volume and draw out the silhouette.

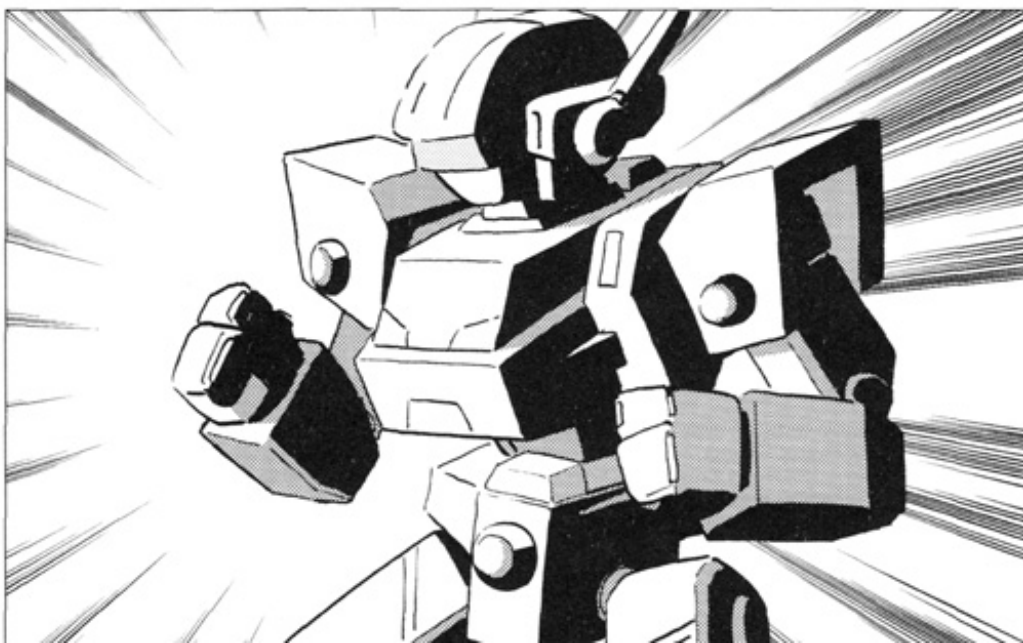
## Hazy Forms

To evoke a hazy atmosphere such as in rainy or misty settings, apply a large dot tone to the subject and etch following the direction of the wind. The tone should not cover the entire composition, but should be applied to individual portions as if concealing the subject to create the proper atmosphere.



## Forms Bathed in Light

Using radiating lines creates a burst effect akin to light rays. Adding black fill to the effects sets off a contrast that makes the burst appear even brighter. Furthermore, radiating lines adds a sense of three-dimensionality and tension more than would limiting your tone usage to a single type.



# Mecha Tone Work II: Arms and Legs

## Robot Joints

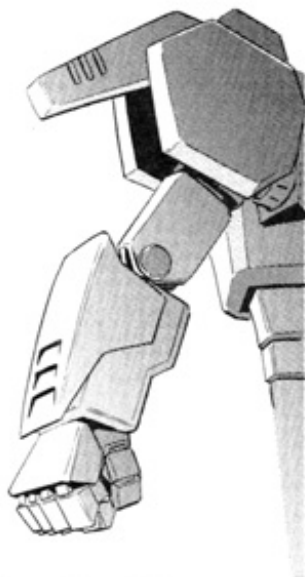
Robot joints are essential components in making your mecha look convincing. Maintain an awareness that the joints are assemblages of parts and distinguish its individual parts in your tone application.

### Assorted Arms



#### Thick Robot Arms

To render a round, thick arm, increase the area of reflected light on the arm's surface. This will emphasize the arm's size. In contrast, apply a darker tone to the joints than you did to the limb. This will create the illusion of being indented, making the joint appear tiny, thus accentuating the arm's girth.



#### Butterfly Hinge-shaped Arms

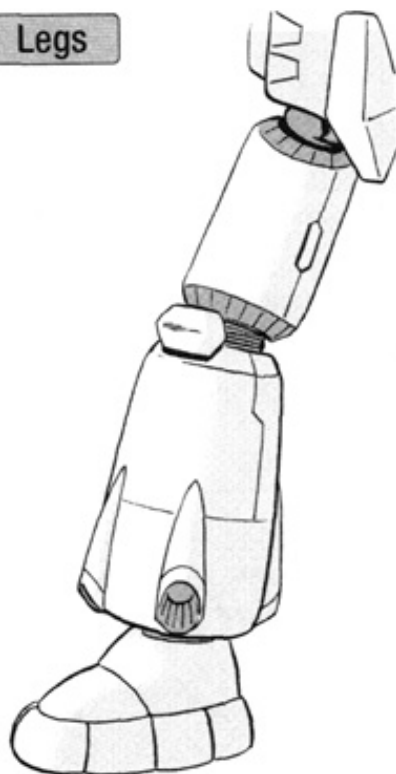
This arm is able to fold at the shoulder with the elbow being reminiscent of a butterfly hinge in that it is capable of moving in only one direction. The part to accentuate is the butterfly hinge aspect, so apply a dark tone to the components and layer the tone to evoke the distinguishing features.



#### Humanlike Arms

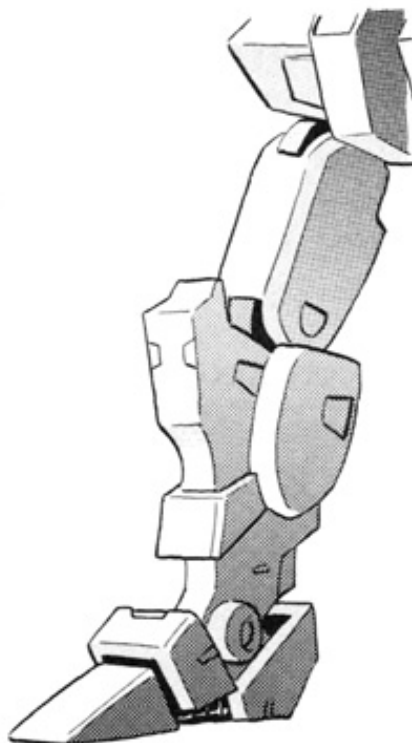
Here we see a robot with humanlike joints, making it appropriate to shade it similarly to the flesh on an actual human arm. The joint is protected by rubber, so apply a tone darker than that of the limb itself to make the arm appear to dip in at the joint.

## Legs



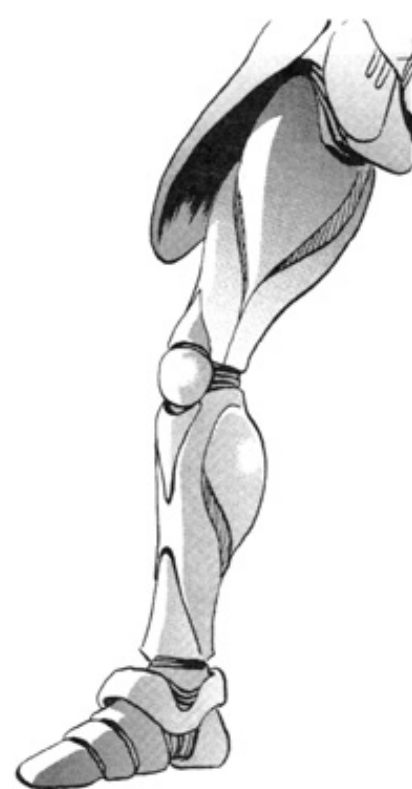
### Thick Legs

These legs were designed to support a massive torso and are fundamentally triangular in form. Another key design feature is that different shapes were used to depict the hips than those for the knees. Add highlights with clearly defined boundaries and apply a tone to the joints that is darker than the rest of the limb to give the impression of a rounded leg.



### Butterfly Hinge Ankles

When enlarging the joints, avoid applying the same tone that you do for the remainder of the leg. Applying a tone of a different density to distinguish the joint is a more effective approach. Adding shadows to solid robot parts that have depth, such as butterfly hinge-shaped joints, emphasizes the joint, pulling together the robot's pose compositionally.



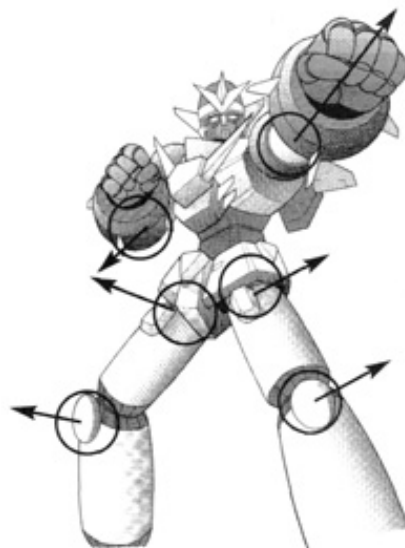
### Humanlike Arms

In the case of legs mimicking the musculature of a human leg, tone must be applied to follow the muscles just as you would when rendering a real leg. It is critical that you also distinguish between the thigh and the shin by shifting the direction of the gradation tone. Be sure to etch the joints to add light reflections, creating natural-looking highlights.

## Using Joints to Make a Pose Sparkle

If you are having trouble achieving a pleasing composition or a satisfying pose for a robot you drew, a possible cause is the way you rendered joints. Robots and humans rarely stand in straight-upright, immobile manner, but rather their elbows and knees are turned either in or out.

Once you have determined what the pose will be, carefully draw the directions the shoulders, hips, elbows, knees, and ankles face. This will alone ensure a successful pose.



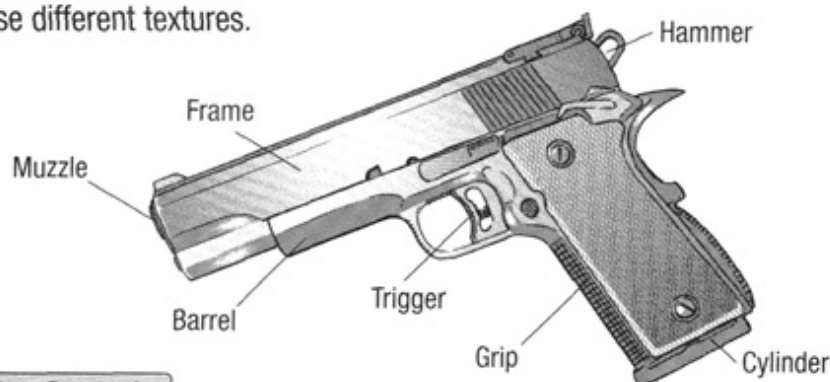


# Mecha Tone Work III: Mechanical Objects and Metal

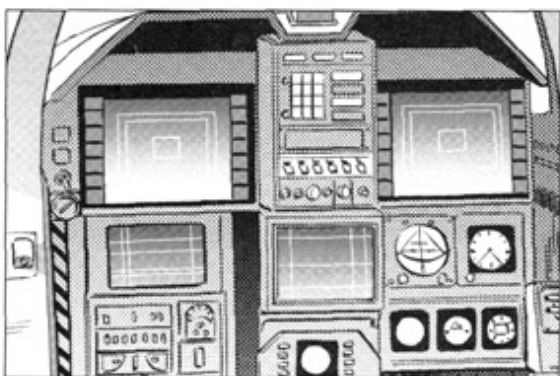
## Portraying Metallic and Hard Textures

The trick to making a mechanical or synthetic object look convincing lies in material textures. Beginning manga artists may find some rendering techniques out of their range; however, using different tones to distinguish various components will allow neophytes to produce a convincing looking mecha.

Let's take a handgun for example. The frame is metal, the grip is resin, the hammer is brass, and the slide is, meaning that for each part, the material as well as that fabric's luster changes. Tone work reflects these different textures.

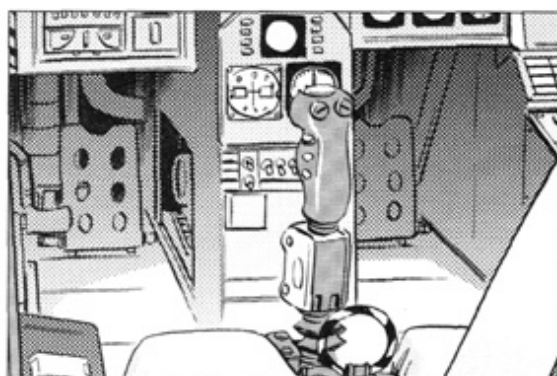


### Fighter Jet Cockpit



#### Display Monitor

This is an LCD monitor that displays images. Apply gradation tone, making the upper portion darker to draw out the sense that it is LCD, and use white for letters and images displayed.



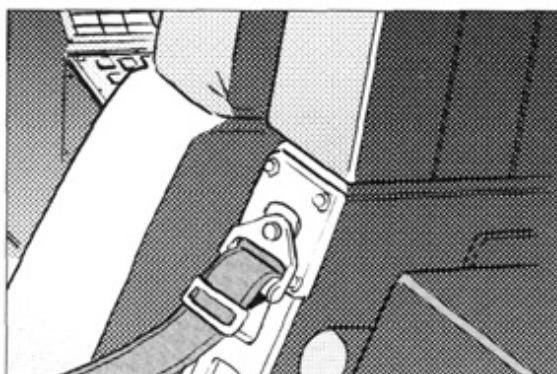
#### Console Panel

40-line gradation tone with moderately large dots to achieve a uniform sense of luster and a rough texture. Apply black fill to areas far from the picture plane to achieve visual balance.



#### Side of the Seat

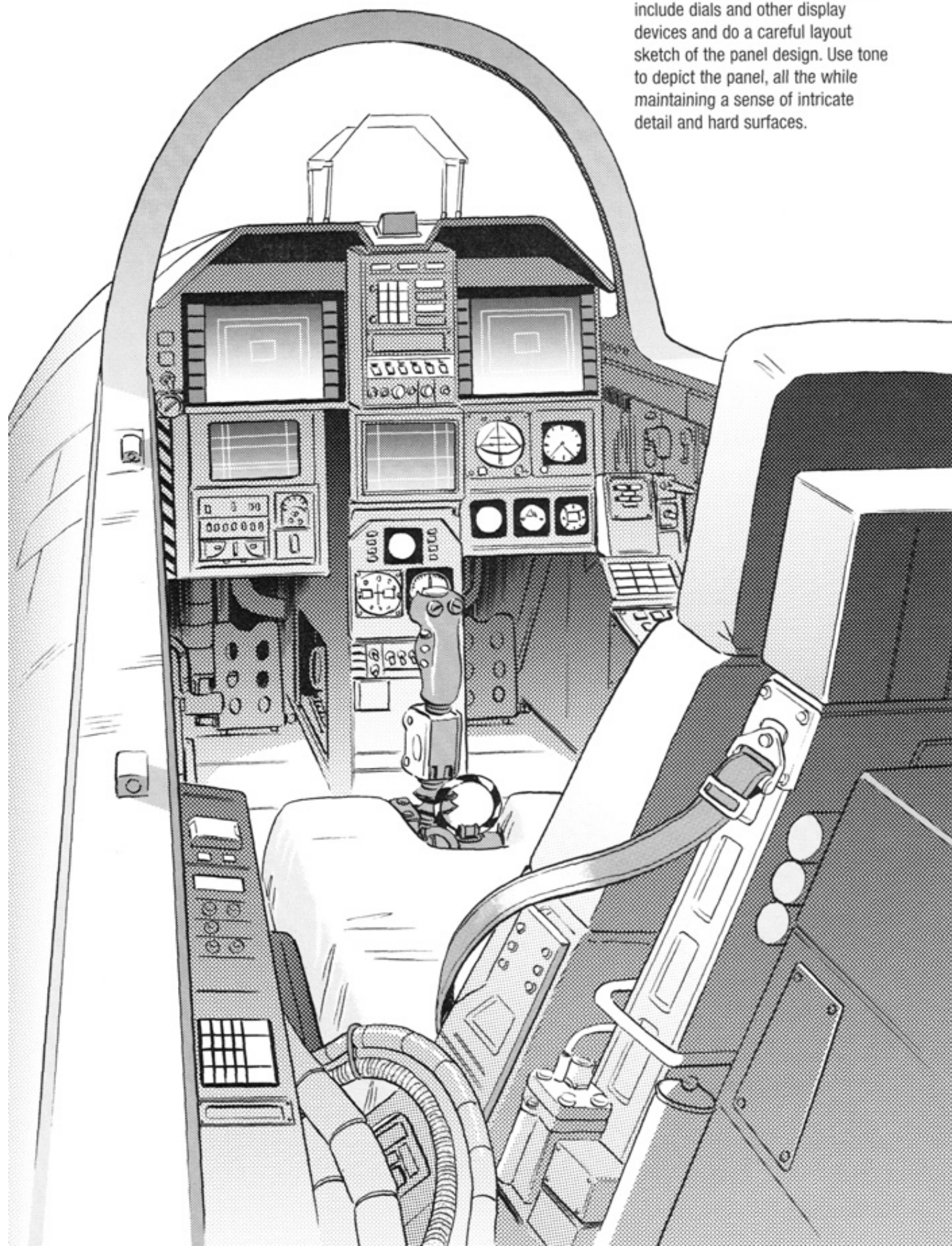
60-line dot tone for the side of the seat and etched the surrounding reflected light with soft strokes to blur boundary lines. The resulting image marks a soft contrast to the distinctly rendered panel.



#### Rear of Seat

The rear of the seat should be in shadow. Consequently, I selected a 40-line gradation tone and applied primarily the tone's darker portion. I also drew the seat askew to make it appear more like the real McCoy.

The console panel of a fighter jet's cockpit is typically rendered flat. To give the panel a more realistic feel, include dials and other display devices and do a careful layout sketch of the panel design. Use tone to depict the panel, all the while maintaining a sense of intricate detail and hard surfaces.



# Mecha Tone Work IV: Windshields

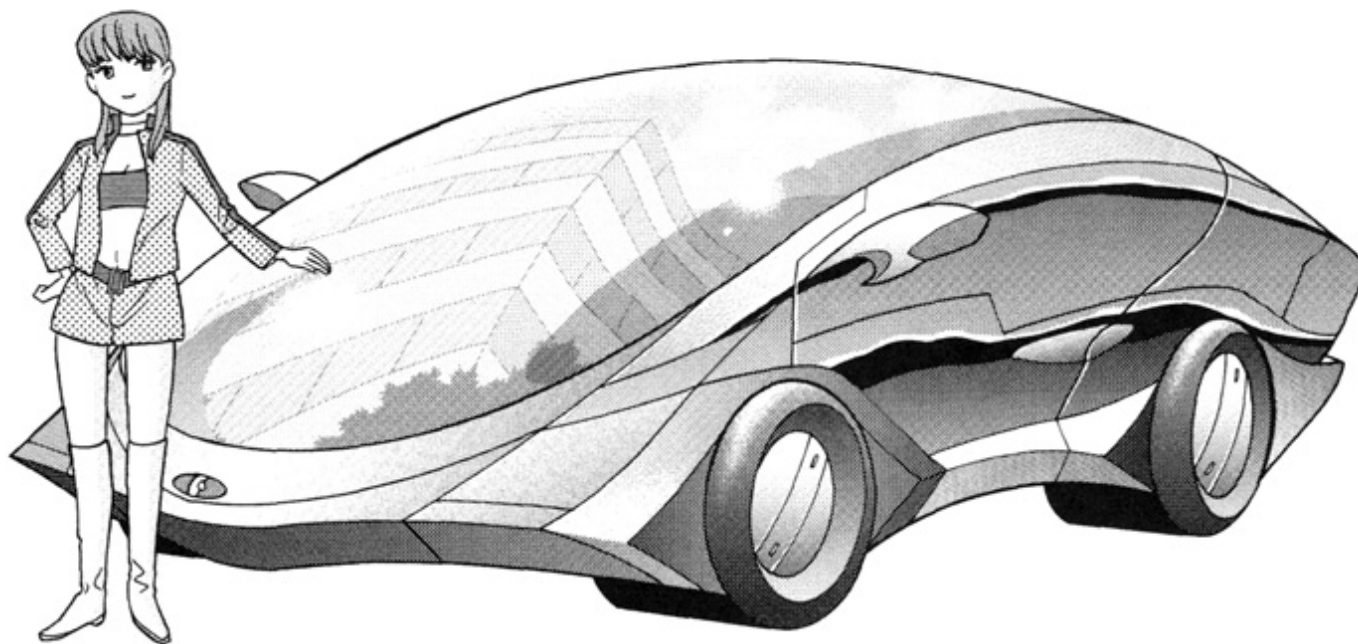
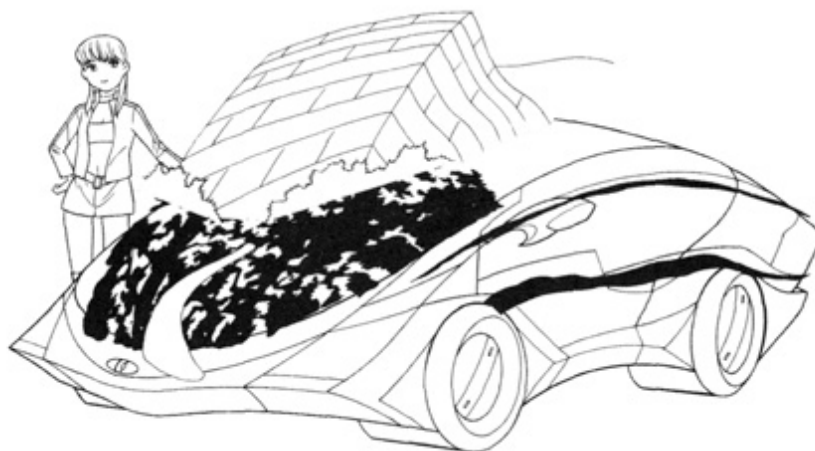
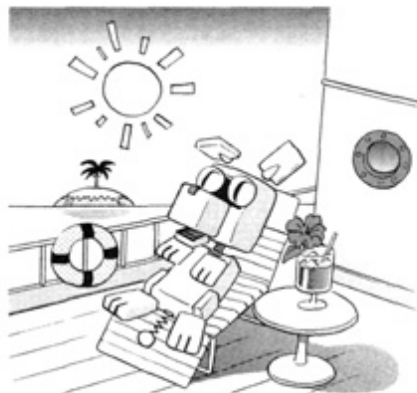
## Smooth Surfaces and Reflections

Gradation tone, which allows you to suggest glinting highlights, works well with a futuristic concept car with smooth, curved surfaces. Drawing reflected background details on the body enhances the sense of a gleaming car.

## Incorporate Images

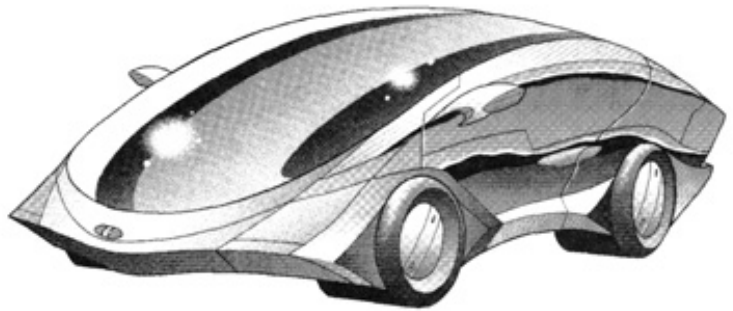
Consider what might be reflected in the body of a car: neighboring trees, buildings, people, a vast array of possibilities are out there.

Let's draw reflections into glass and mirror so that you can express sheen!



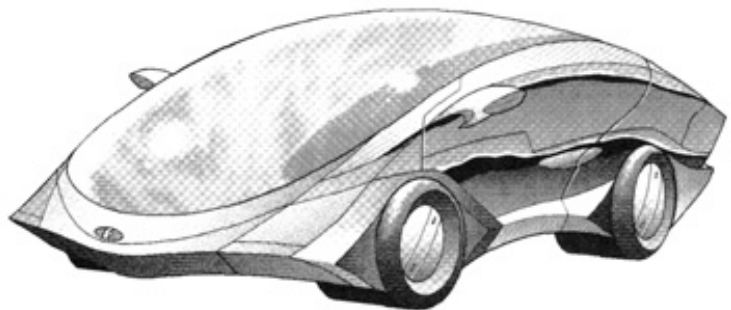
### Step 1: Using a Variety Tone for Different Items

Apply three tones of differing density to the front windshield. Blur the highlights' boundaries, visualizing reflected light while you work.



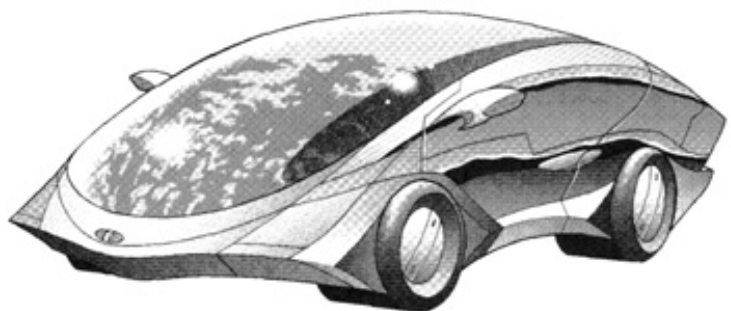
### Step 2: Applying Cloud Pattern Tone

Next, apply cloud-patterned tone to the front windshield and etch to blur the reflected clouds. Etching clouds all over the windshield will achieve the most effective results.



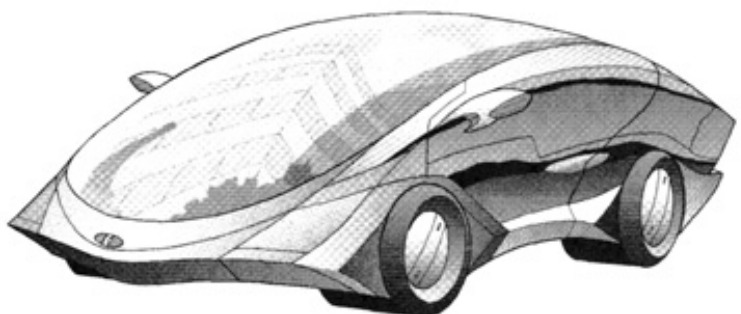
### Step 3: Applying Tone to Create Foliage

one to the windshield and etch in the shape of tree foliage. If you are layering tone, shift the dots slightly to make the tone appear darker.



### Step 4: Composing the Building Reflection

In Step 3, you created tree foliage. However, a windshield with buildings reflected might also be effective. As with the foliage, apply two types of tone, distinguishing between the different components when you apply them, add highlights, and lightly etch.

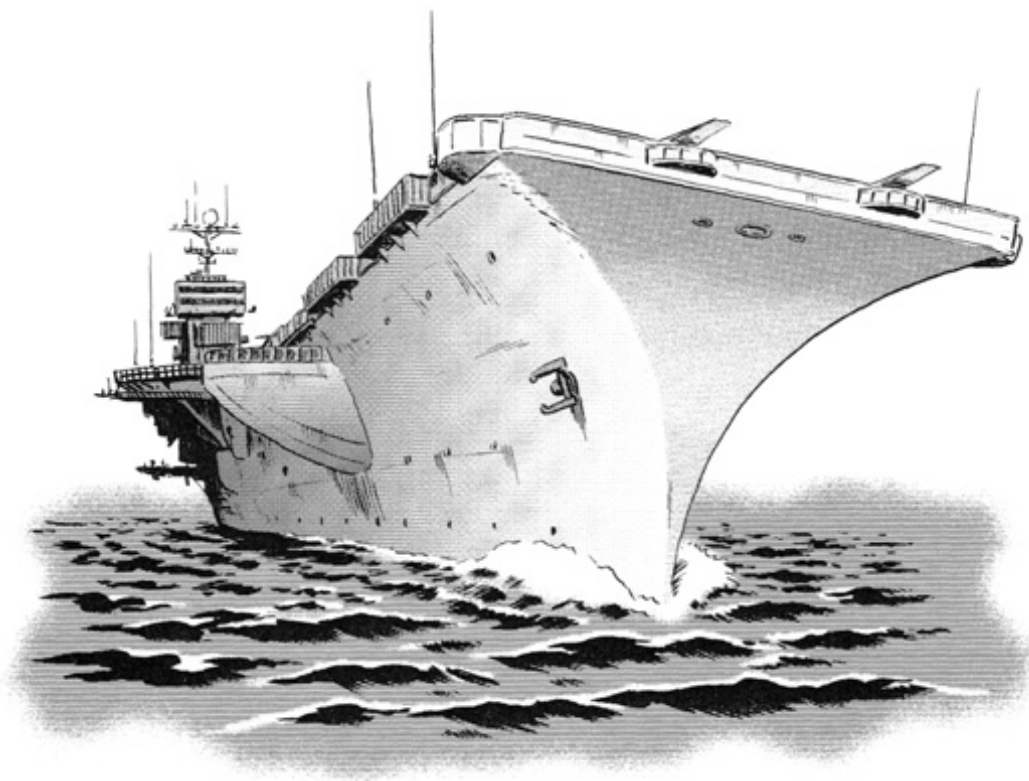




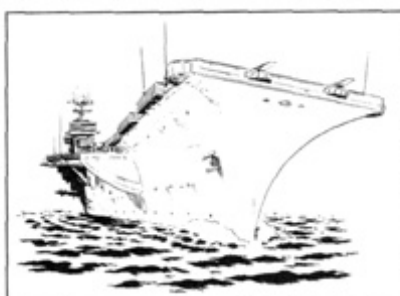
# Mecha Tone Work V: Colossal Mechas

## Portraying Size and Depth

Perspective drawing techniques as well as tone are used to suggest size and depth in giant robots, battleships, etc. Applying gradation tone to accompany the perspective will allow you to suggest a deeper level of shading and heightened sense of depth.

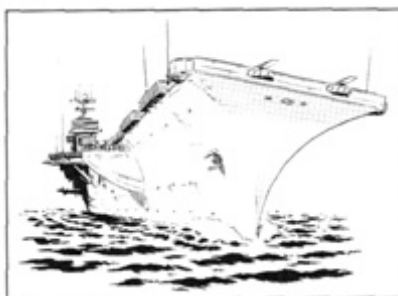


### A Look at the Effectiveness of Tone



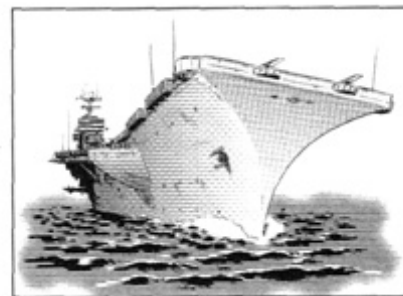
#### Line Drawing

Here we see a submarine drawn in perspective, but we do not have much of a sense of size.



#### Submarine Bow with Tone

In this figure, tone has been applied solely to the submarine bow. The tone gives the sub's front a heavier appearance, but we still have no sense of size.



#### Submarine's Side with Tone

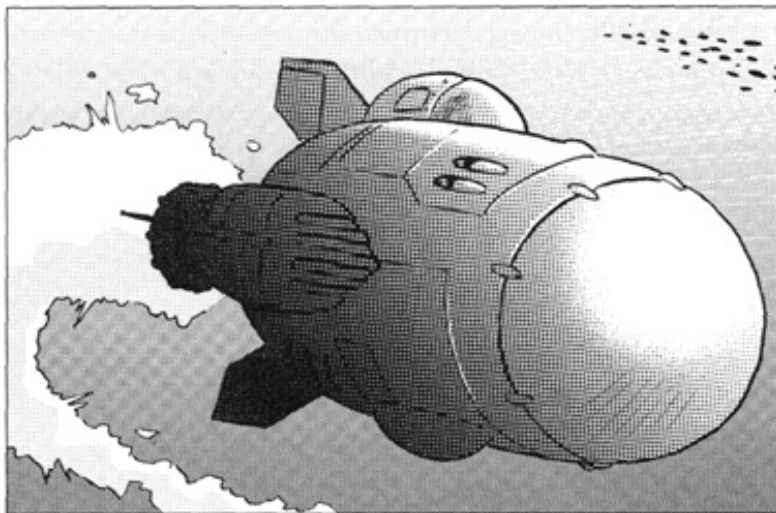
I applied gradation tone to the submarine's side as well, giving the viewer a sense of its length. In addition, I layered the tone on the sub's nose, darkening it, and consequently projecting a more effective atmosphere.

## Size Portrayed through Perspective

Make an effort to learn perspective and tone techniques so that you can master imparting your compositions with a sense of depth. The most common technique is to whiten objects close to the picture plane, while darkening those far from the picture plane, but the opposite technique also exists.



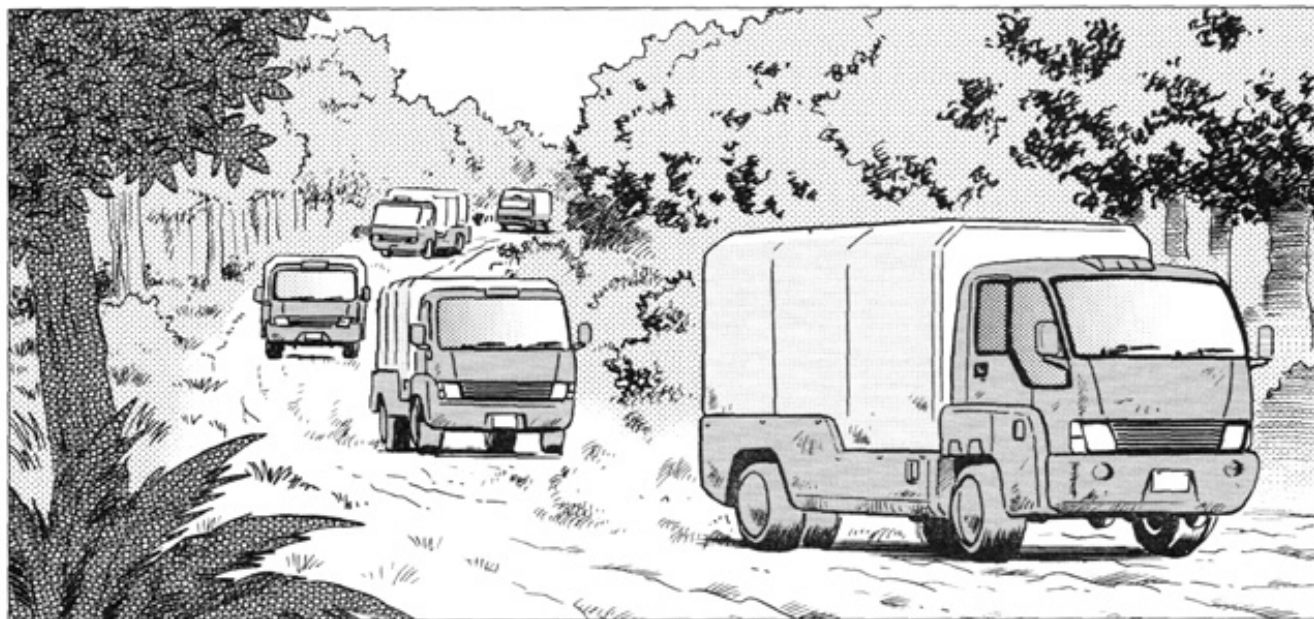
This is a downward field angle of the robot. Applying gradation tone so that the tone becomes darker in a downward direction portrays through the graduated darkening the distance and the length from the head to the bottom of the foot. Furthermore, either drawing shadows on the lower portion of the feet or applying tone allows you to project impressions of substantial size and weight.



This composition was executed as if sun was beating down on the submarine's upper half. Gradation tone was applied so that the submarine's upper half is white and the underbelly dark. Next, highlights were added to portions of the sub close to the picture plane to project a sense of direction and speed.

## Contrast and Using Tones to Distinguish Items

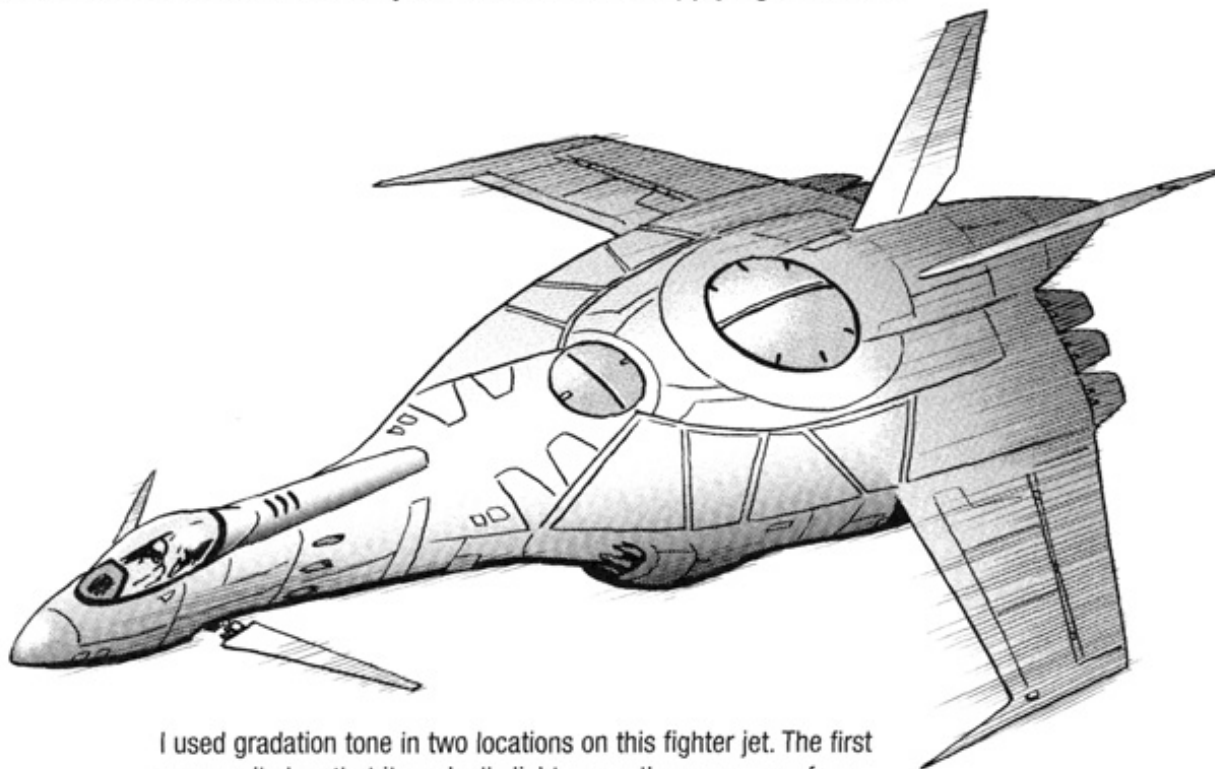
Using the same tone to portray a long convoy of trucks allows you to indicate that the trucks comprising the convoy are all the same make.



# Mecha Tone Work VI: Fighter Jets

## Using Tone to Portray Volume and Shading

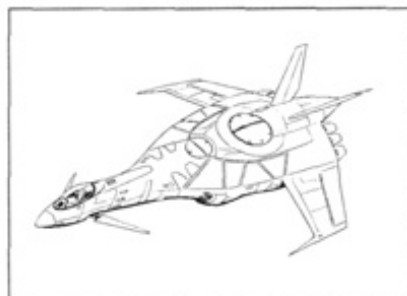
Regular aircraft and space battleships are composed of detailed parts. To portray these complicated shapes using tone, not only must each component be differentiated from the others through the tone, but the direction in which the tone is applied is also critical. Be conscious that the subject is a solid when applying the tone.



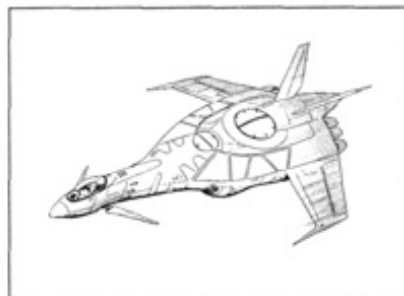
I used gradation tone in two locations on this fighter jet. The first was applied so that it gradually lightens as the eye moves from the tail to the cockpit. The second was applied so that it lightens from the aircraft's underbelly to the upper regions. Using two gradation tones enhances the fighter jet's three-dimensional feel.

### Executing the Ground for the Fuselage

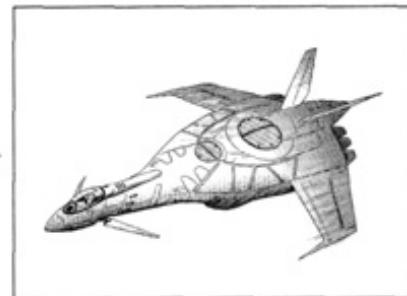
Use solid lines toward the back of the fuselage to evoke an illusion of speed. In addition, apply gradation tone to darken the rear to further heighten the sense of speed.



**Apply black fill**  
The addition of the solid black pulls together the composition.



**Apply lined tone**  
The addition of the lined tone imparts a sense of speed.



**Apply tone to the aircraft.**  
The application of gradation tone from two directions projects a sense of volume.

# Exploded Diagram of the Fighter Jet Tone Work



## Four Renditions of a Fighter Jet



### Fuselage Tone Work

Apply tone to the fuselage's underside to create shadows. Make the shading on the far wing darker than the rest, picturing it as not touched by reflected light.



### Wing Tone Work

Produce shadows on the wing close to the picture plane. Apply a darkish tone as you did with the reverse side to cover the wing's overall underside with a dark shade.



### Portraying Dirt

Using solid lines to portray dirt. Applying tone from above the lines will create the illusion of soiling or scratches, projecting a realistic air. Not to draw too many strokes.



### Solid (Hatching) Lines as Shading

I added speed lines in the form of solid lines, since the aircraft is supposed to be flying midair. Using scratchy strokes gives the image a rough look.

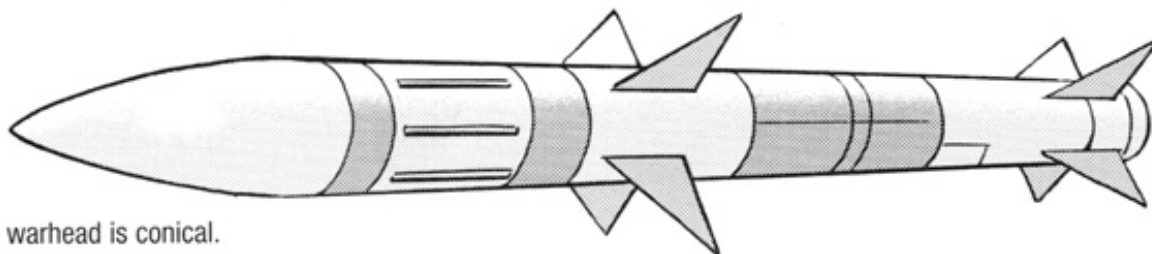
# Mecha Tone Work VII: Missiles

## Portraying Speed through Tone and Etching

Tones with radiating line patterns or speed line patterns often appear in compositions to portray speed. However, not only may these patterns be used to depict speed, but also merely applying such tone patterns enables you to draw the viewer's eye to the subject. This does not pertain solely to the missile discussed, but the same effects hold true when these tones are used with human and robots as well.

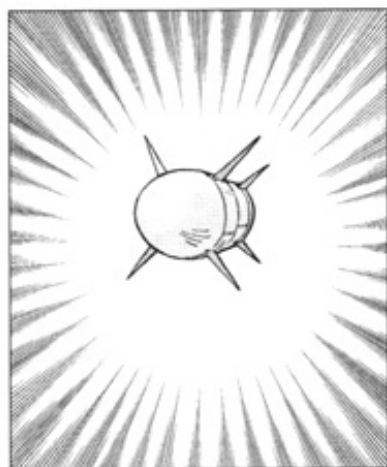
### Missile Structure

The missile body is cylindrical.

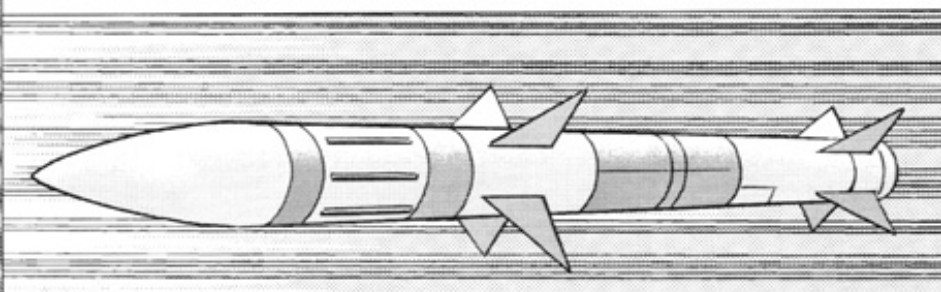


The warhead is conical.

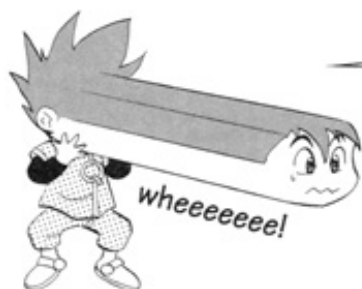
### Renditions of Missiles Using Tone



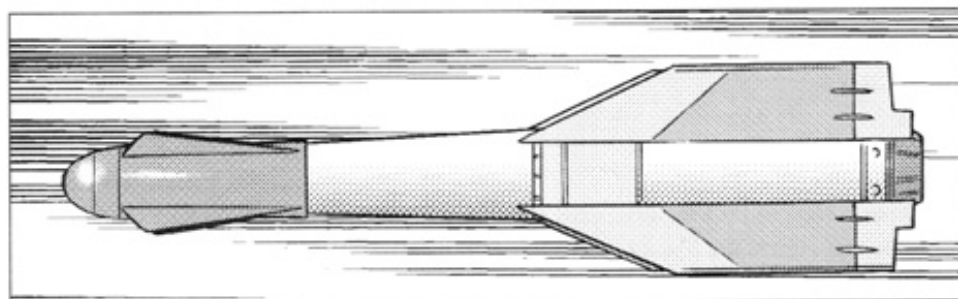
Missile with Radiating Lines



Missile with Speed Lines

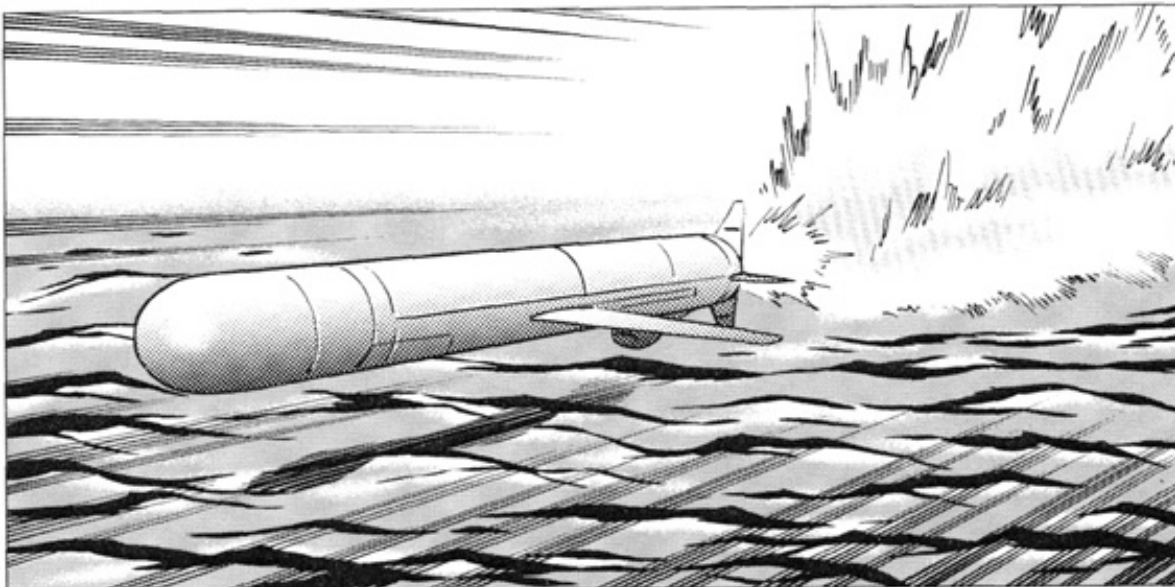


Only drawing in three-dimensional is not enough method for expressing real "Speed"!



Missile with Diminishing Lines





### Hurting Missile

Use the brush to etch the tone so as to create sprinkling water spray resulting from air pressure as the missile skims over the ocean's surface. Adhere to the direction in which the missile is flying when you etch, while following the shape of the waves.

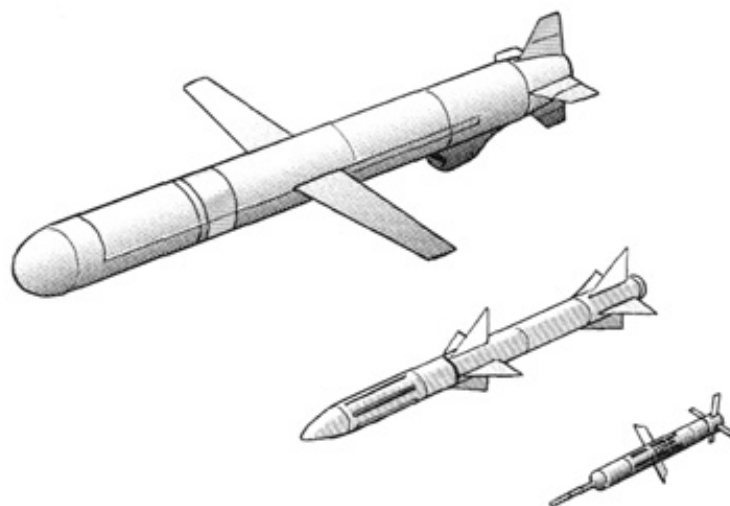


### Launched Missile

This figure shows a missile that has just now launched. Using gradation tone to darken the missile body overall evokes the impression of the missile rocketing into the distance. Furthermore, adding tone to the spewed smoke underscores the smoke's intimidating appearance.

### Missile Types

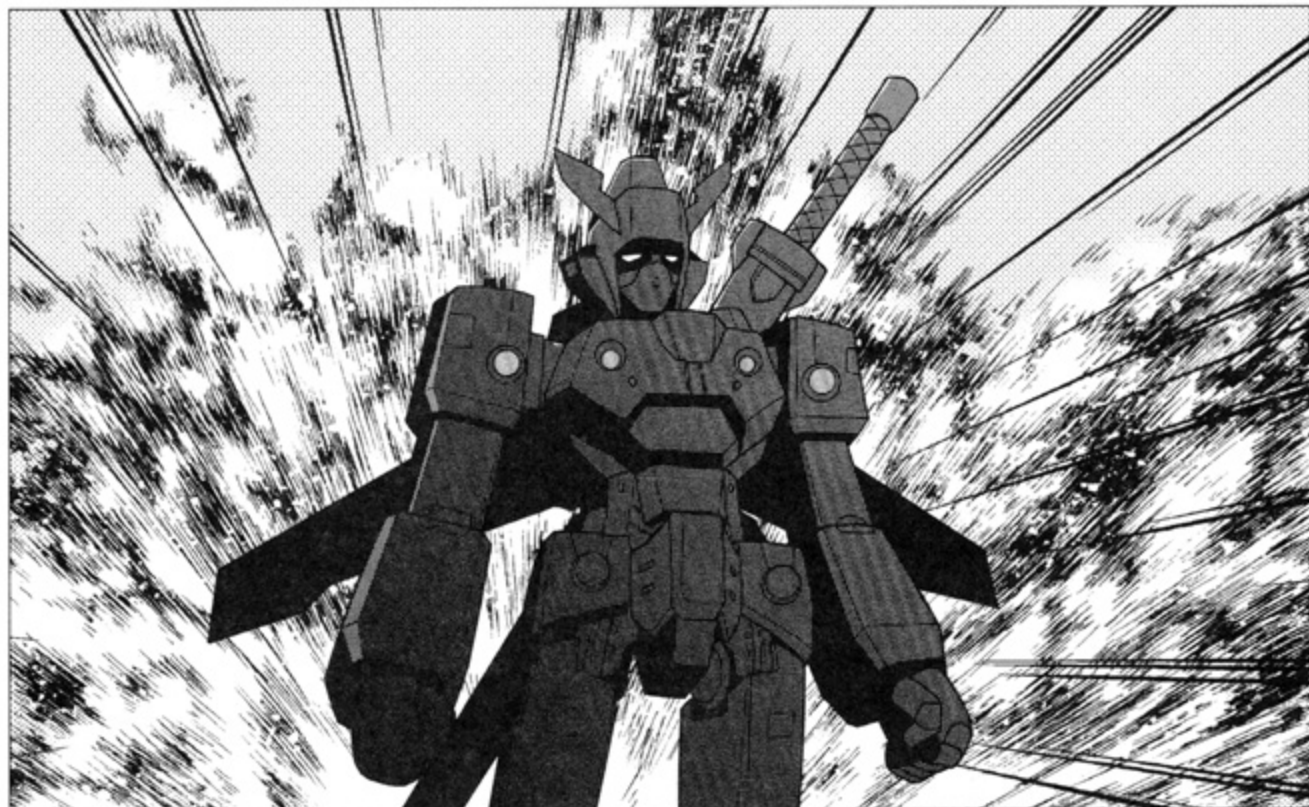
Drawing a manga missile so that it has some form of distinguishing feature will make it more memorable for the reader. Make an effort to imbue your missile with idiosyncratic qualities, including the size of the missile body; the presence of a tail and other identifiable features; whether the design has a high-tech, futuristic quality; etc.



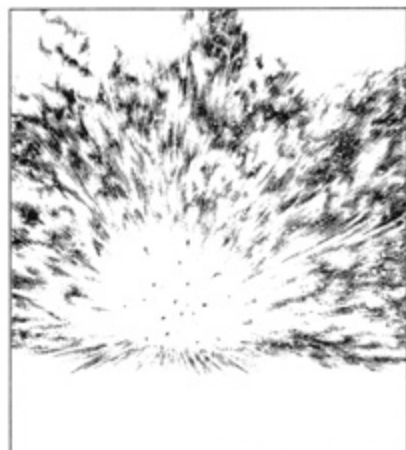
# Backlighting

## Rendering Silhouettes in Explosion Scenes

By devising the stage setting so that an explosion far in the background creates a flash of light that renders the subject as a black silhouette, you are able to create a dramatic image. The following are key points in designing a composition.

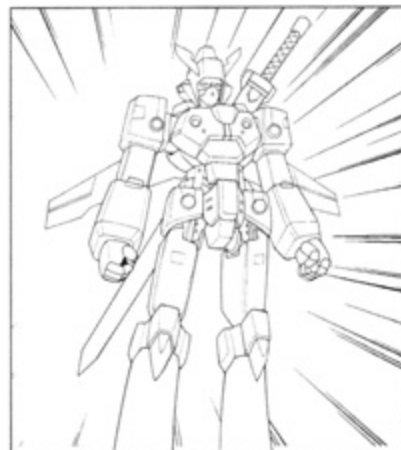


**Key Point 1: Using Explosion Tone Effectively**



Tone software packages always include some pattern that can be used in explosion scenes. Since merely applying this tone allows you to produce a dramatic image, it is fairly indispensable.

**Key Point 2: Using Radiating Lines as Background**



The ground behind the character comprises radiating lines. By using radiating lines as the secret ingredient in this composition, the viewer's eye is unconsciously drawn to the robot.

**Key Point 3: Using the Silhouette to Enhance the Subject**



The robot in this figure is represented solely as in silhouette, is not rendered in pitch black. By three different tones on the body, the robot's overall and details are not lost, even portrayed in a dark palette.

## The Process

### Step 1: Applying Explosion Tone



Apply explosion-patterned tone to the background behind the robot. Shifting the explosion's center just a bit off of the robot's position facilitates conveying the sense of an explosion taking place.

### Step 2: Filling in the Silhouette



The silhouette takes form upon adding solid black and tone. The body is primarily rendered in tone, while nothing was added to the robot's eyes, which are backlit.

### Step 3: Applying the Radiating Line Tone



Add radiating lines to the rear where the explosion is erupting. Here, the center point of the radiating lines should be positioned at the explosion's center to emphasize the terribleness of the explosion more than the robot.

### Step 4: Etching the Tone



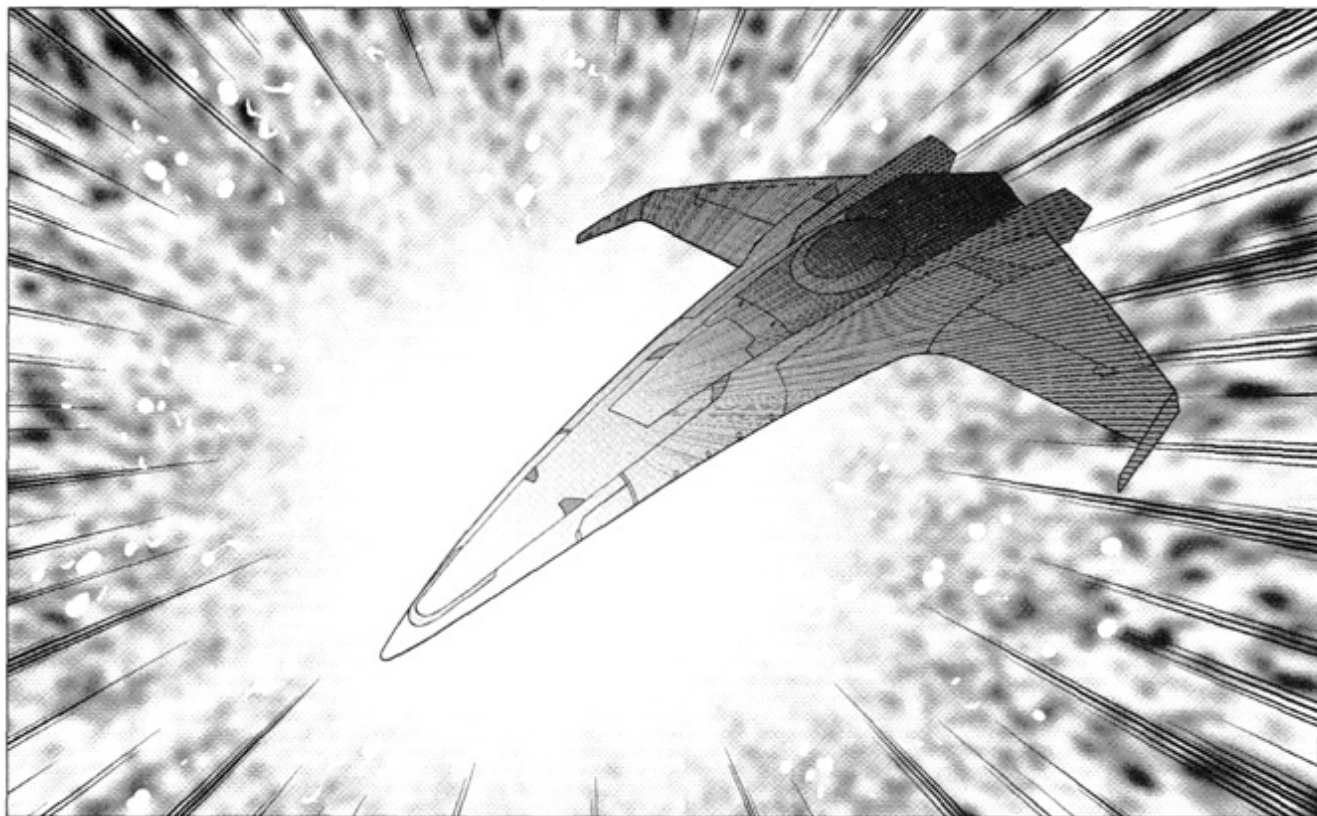
To finish, etch the area surrounding the explosion tone, using rough strokes to blur the tone's borders.



# Flashes of Light

## Using Radiating Lines Twice and Etching Tone

In this figure, we see what could be a spaceship instantaneously coming out of warp speed, etc. Using radiating lines in two locations: the background and on the spaceship's hull, heightens the sense of tension.

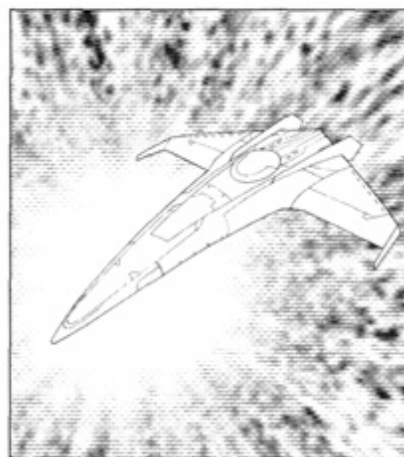


**Key Point 1: Using Radiating Lines Twice**



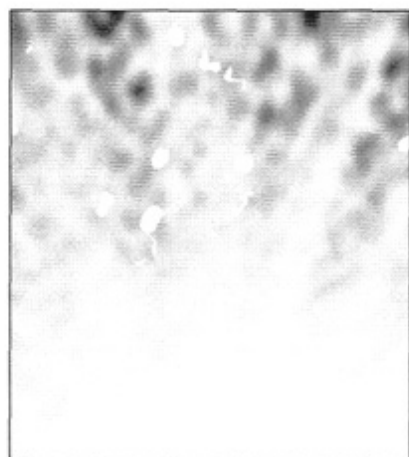
The radiating lines used in the background, also apply lines to the spaceship's hull. The viewer's gaze to the composition's center and underscores the sense that the spaceship suddenly appeared.

**Key Point 2: Substituting Tone**



The tone was originally designed to portray explosions. Even if you use a tone for a purpose other than its original intention, you can still achieve interesting results depending on the juxtaposition

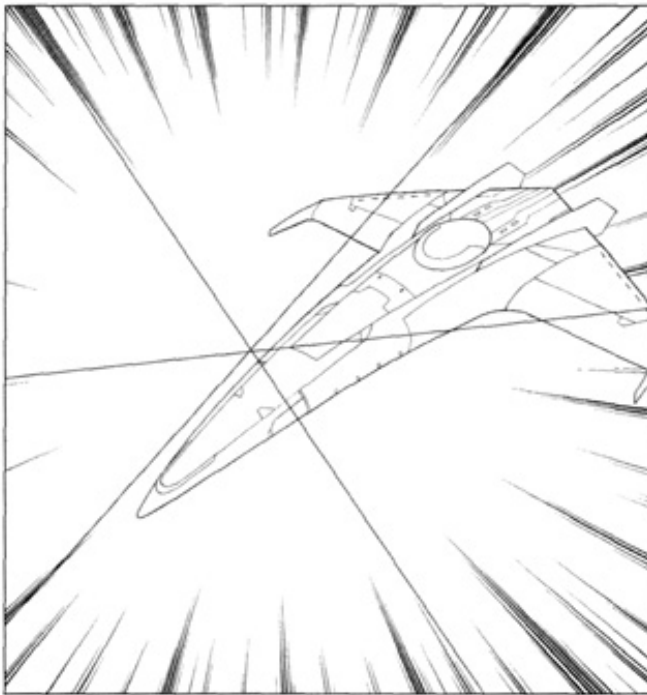
**Key Point 3: Spattering White**



Highlights produced using the brush. Applying white "paint" produces a similar effect to etching the tone. Dribbling white specks around the spaceship's hull projects of the dynamism of warp speed.

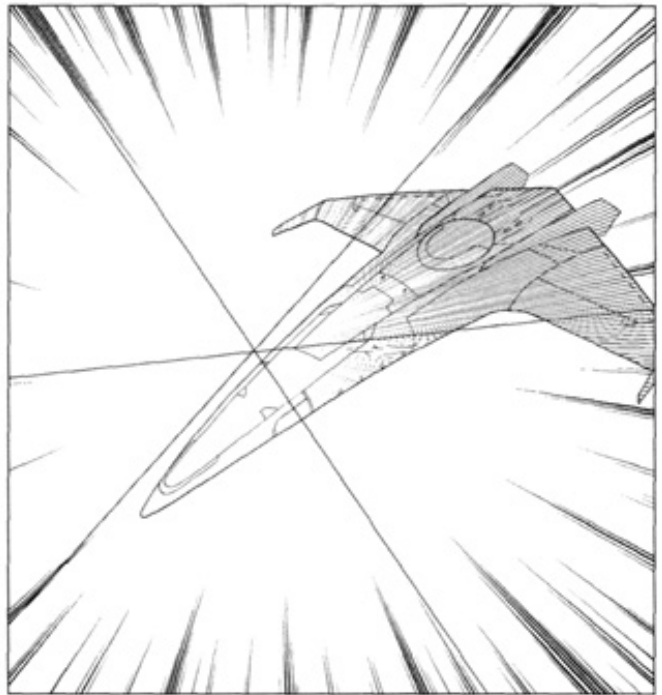
## The Process

### Step 1: Establishing the Center Point



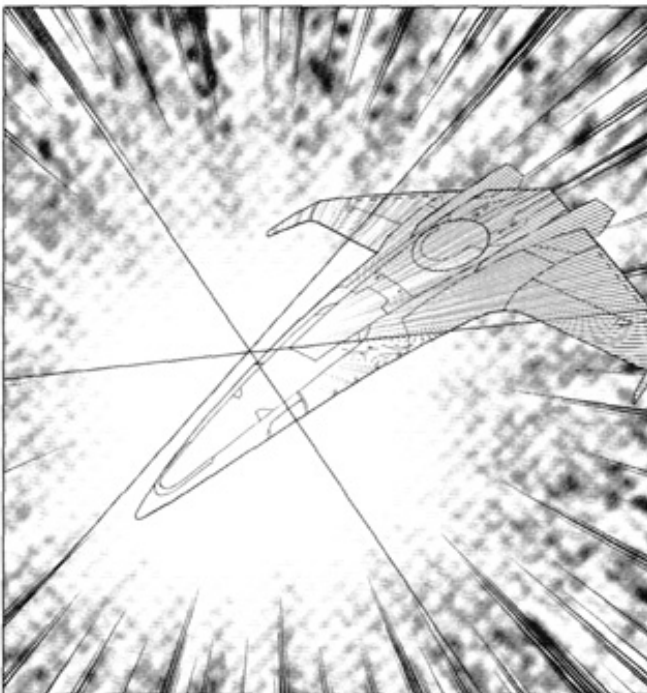
Determine where the center point of the radiating lines should lie so that you may lay down the tone. Rather than centering this point on the spaceship, instead shift it slightly to the side to achieve a more interesting composition.

### Step 2: Applying Radiating Lines



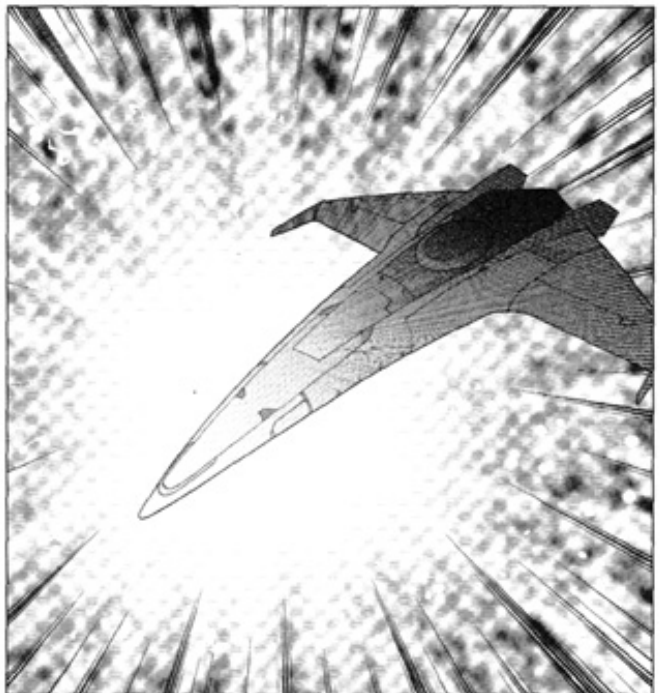
Add radiating lines to both the background and to the ship's hull. To draw the viewer's attention to the ship, select a finely detailed pattern with many lines to apply to the hull. This makes the ship appear dark.

### Step 3: Applying Tone to the Background



Apply the explosion-patterned tone to the background, overlapping the radiating lines. The center point now appears to be a black hole from which the ship emerges.

### Step 4: Adding White



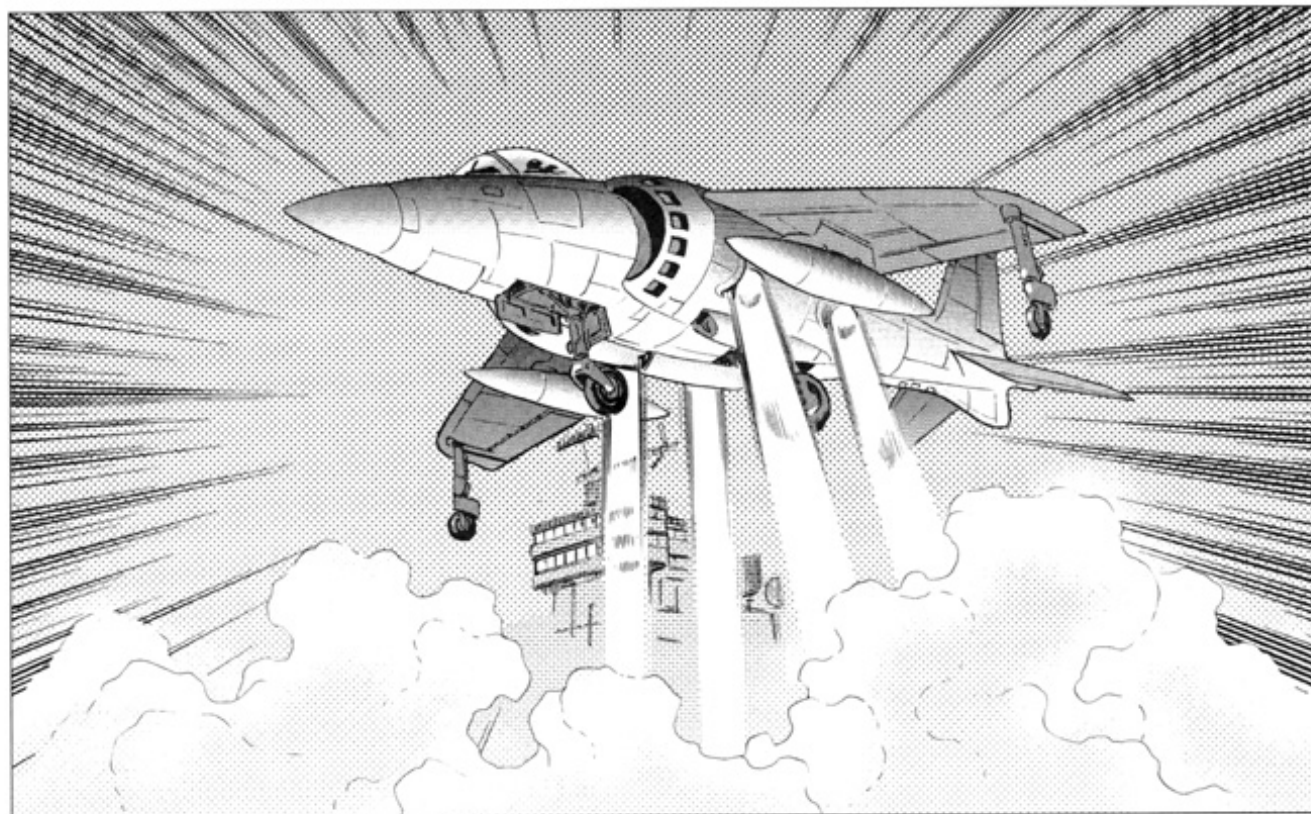
Use the brush to add white to the explosion's center. Apply the white imagining that you are spattering white paint, producing the effect of scattered flecks of light. And, voila!



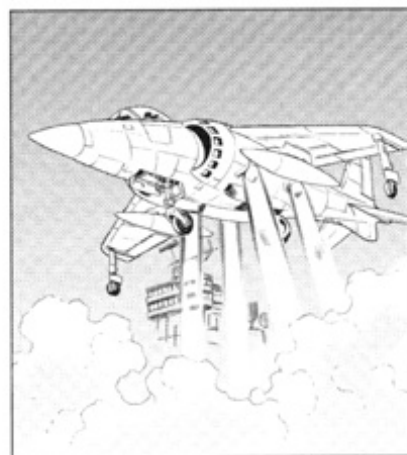
# Exhaust Fumes

## Portraying Exhaust Fumes and Thrusters

Here we see an image of a VTOL (Vertical Takeoff and Landing) aircraft, which uses powerful thrusters for jet propulsion, allowing takeoff and landing. To suggest intensely hot exhaust fumes and vapor, use gradation tone or etch using the brush. Adding radiating lines will give the viewer a sense of actually being there.

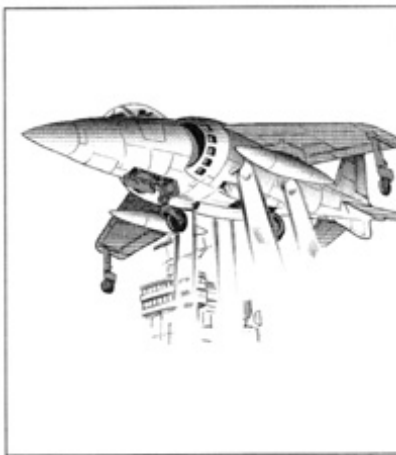


**Key Point 1: Etching Smoke**



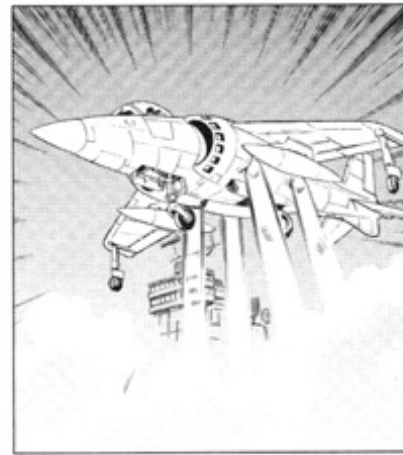
Use the brush to etch to create the sense of vapor whirling about. Using rough strokes of the brush, etch randomly about the smoke's periphery.

**Key Point 2: Shading the Aircraft**



I used two types of shading for the VTOL aircraft: shadows on the body and on the wings, exploiting light and dark areas to evoke a three-dimensional appearance.

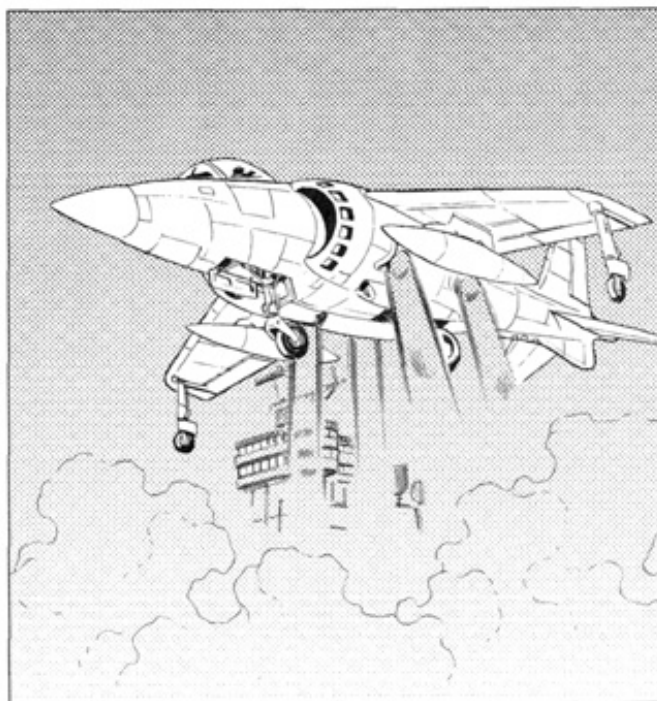
**Key Point 3: Using Radiating Lines to Elicit the Sense of Being There**



Even merely attaching the tone and then etching it with the brush will generate the look of an aircraft in flight. The addition of radiating lines allows you to produce a more realistic and striking scene.

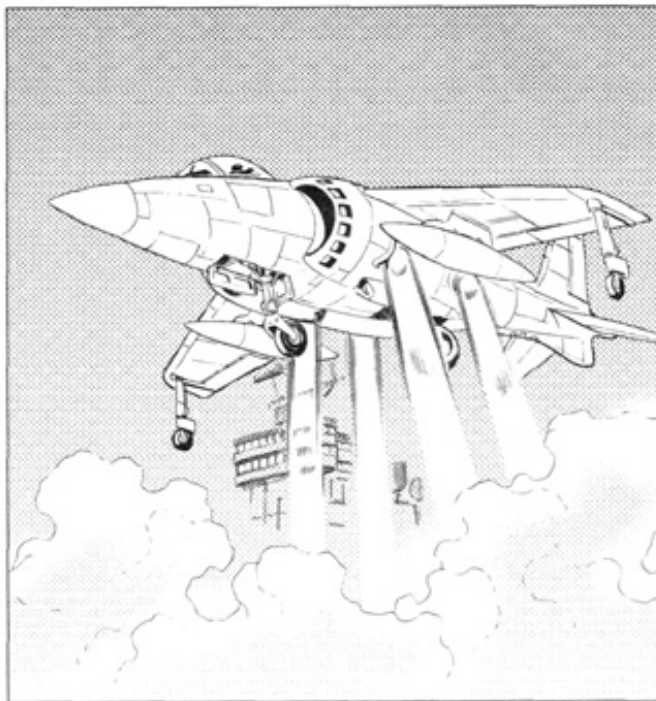
## The Process

### Step 1: Composing the Background



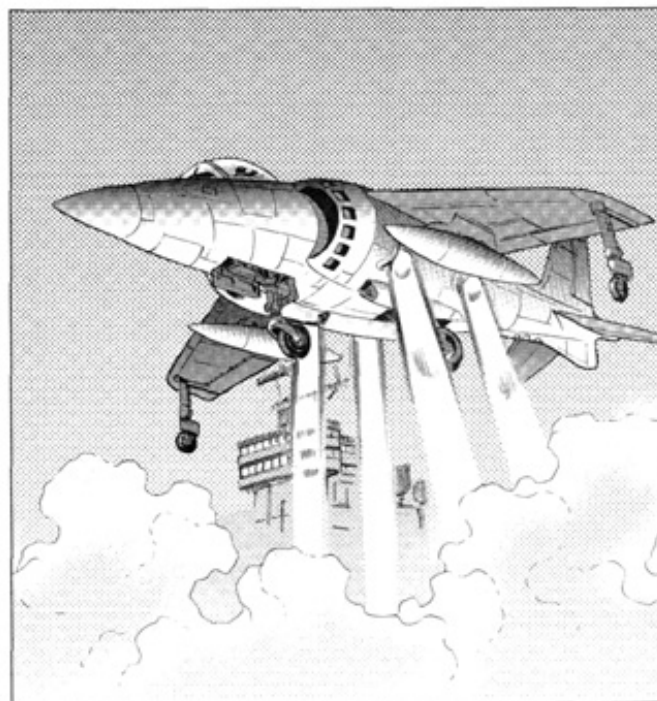
Draw the fighter jet and smoke and then apply gradation tone to the background laying it so that the darker portion is toward the top of the composition.

### Step 2: Etching Smoke



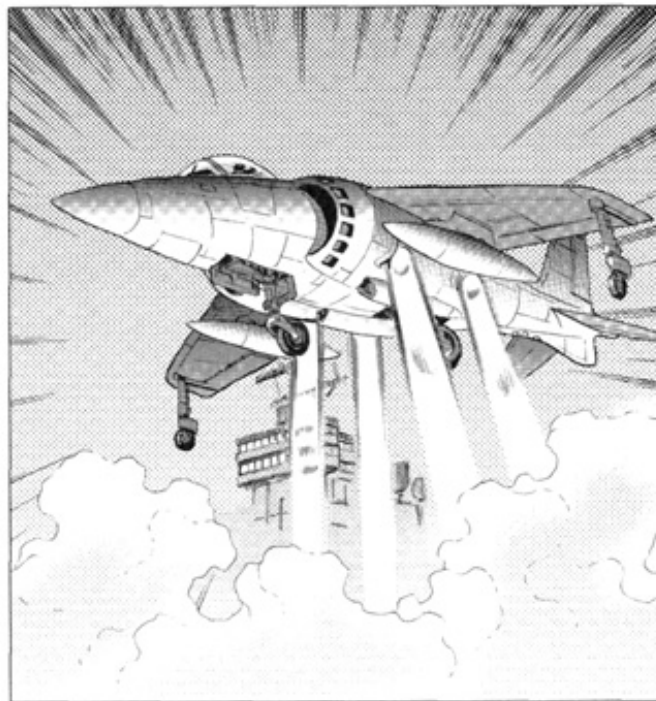
Keep the brush ready to blur the smoke's interior. Leave only the center unetched, etching the smoke in big, rough strokes.

### Step 3: Shading the Craft's Body



Add shadows to the robot's torso as well as gradation tone. Meanwhile, add different tones to the missile loaded on the aircraft, the tail, and other parts.

### Step 4: Applying Radiating Lines

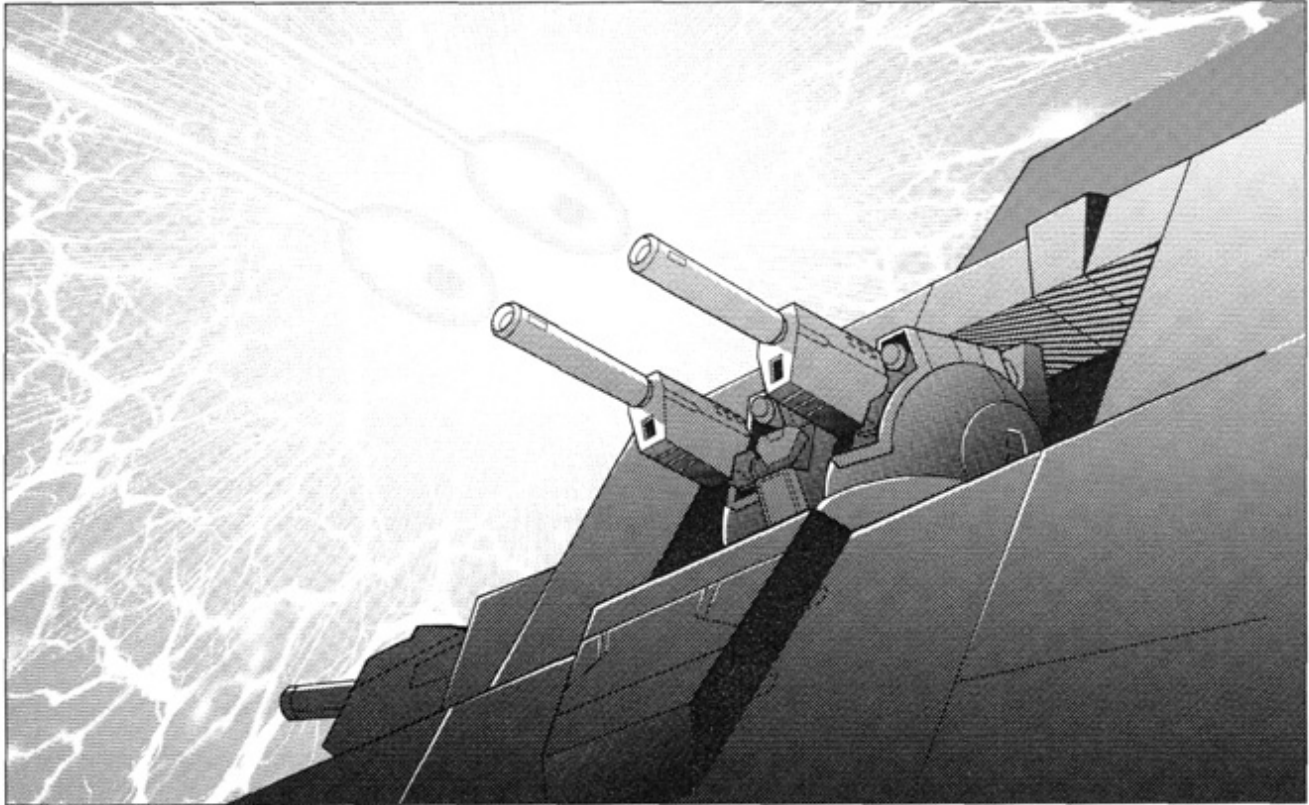


Apply radiating lines with the center point located on the craft's hull. The addition of the radiating lines truly gives the impression that the aircraft is in flight.

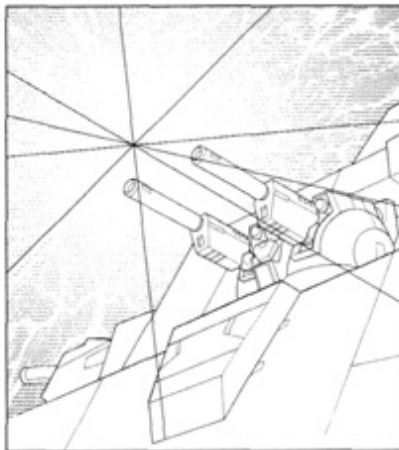
# Bursts of Fire from the Gun Barrel and Firearms

## Portraying Flashes of Light and Luminescence

This figure shows a cannon firing a burst of light. The flash at the time of the light burst and the burst's trajectory are portrayed using tone and etching.

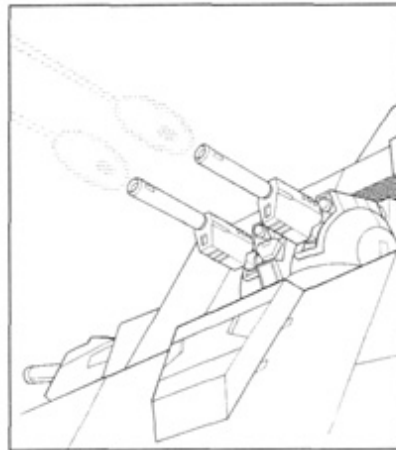


**Key Point 1: Positioning the Center Point**



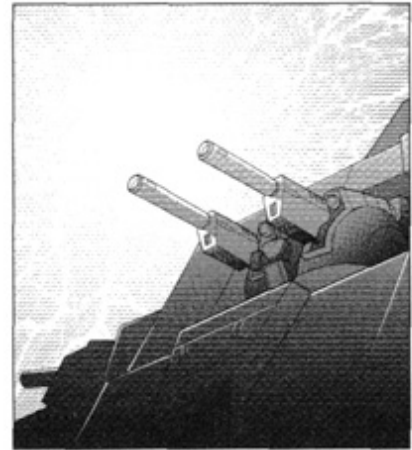
To emphasize the force of the light burst, lay tone so as to bring the viewer's gaze to the artillery piece's muzzle.

**Key Point 2: Solid Black Effects**



Shading the cannon with black fill gives it a heavy appearance.

**Key Point 3: Depicted Light Blasts**

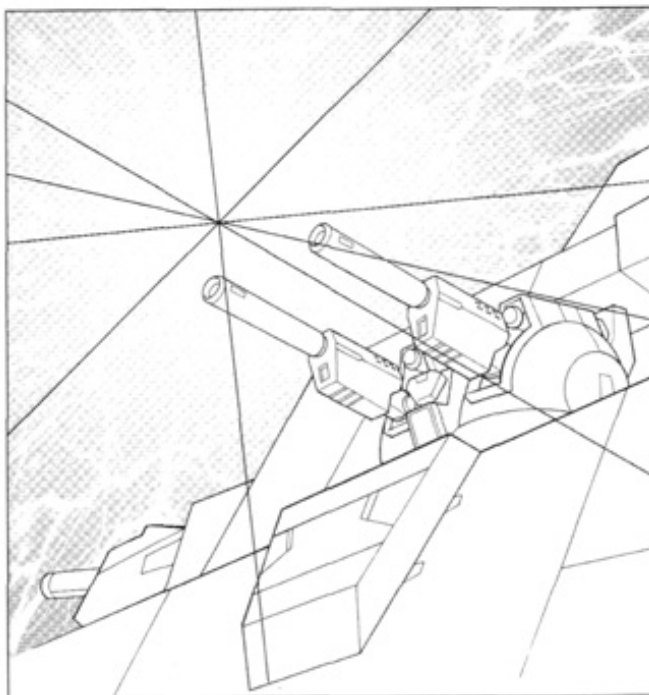


To achieve a sense of realism, the burst of light fired from the cannon should not follow a simple, straight trajectory, but should swell for an instant and then attenuate.



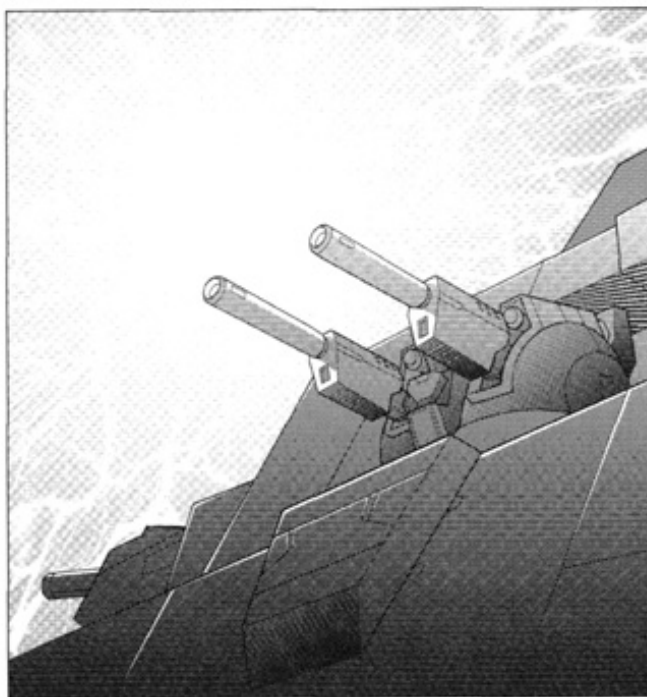
## The Process

### Step 1: Center Point Positioning and Tone Selection



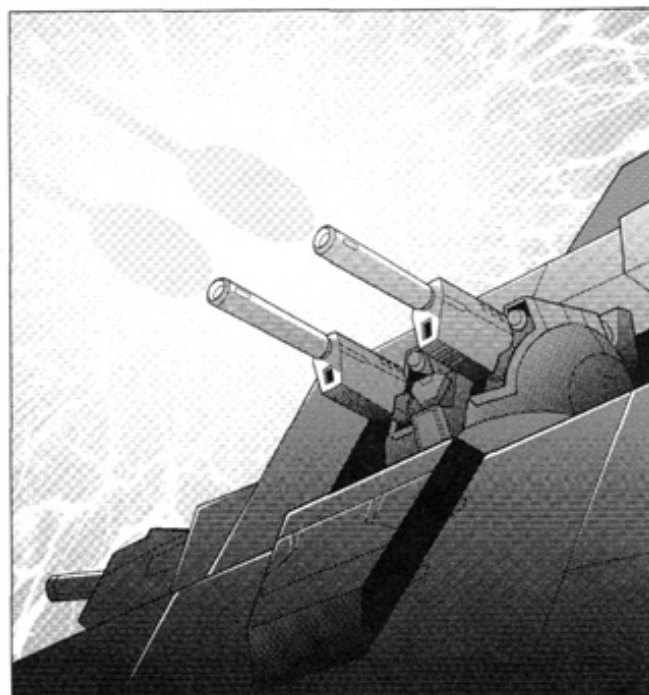
Position the center point of the artillery piece's muzzle. Since the subject is a fired burst of light, opt for a thunderclap-patterned tone and align the center of the thunderclap with the muzzle.

### Step 2: Applying Tone and Solid Black



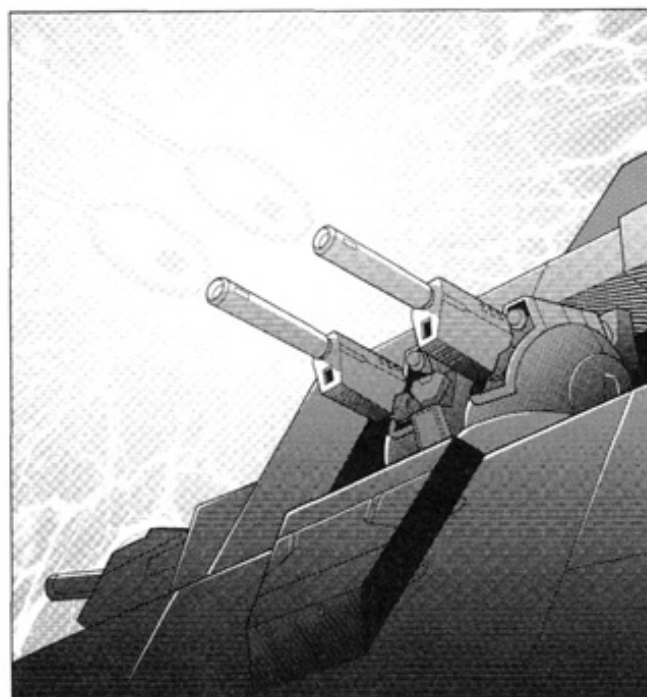
Apply tone to the cannon and then add black fill. Visualize the cannon becoming a shadow over the fired burst and cover the cannon in dark shades. Use particularly dark tone on the underside of the artillery and in crevices and projecting areas to create a sense of weight.

### Step 3: Drawing the Trajectory



"Color" the route of the fired burst to define the trajectory. Next, use the brush to etch the "colored" regions.

### Step 4: Etching the Burst of Light

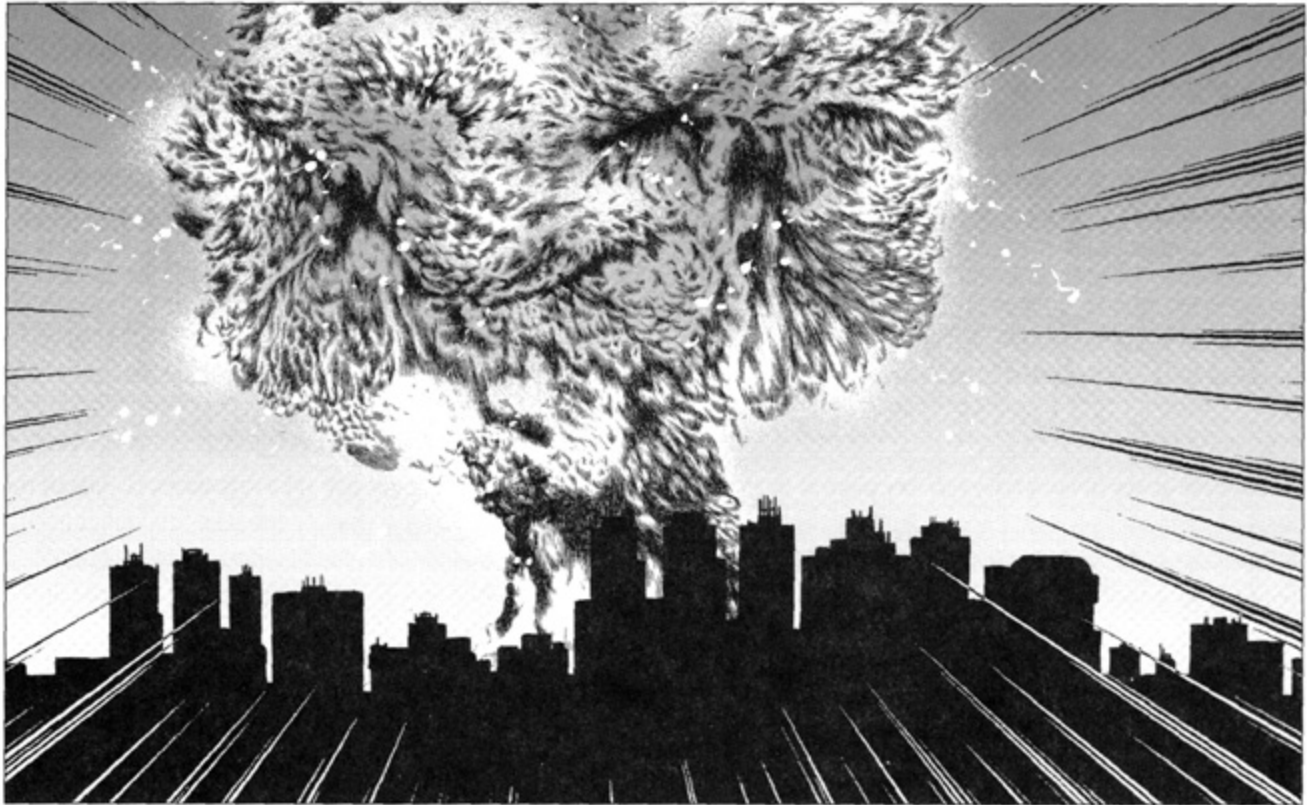


Add white to the regions just colored, thus portraying the flash of light's brilliance through contrast with the dark, "colored" regions. Also, etching in bold, rough strokes with the brush, blur the swell of the light burst near the muzzle to generate the look of having just been fired.

# Explosions

## Portraying Explosions Using Tone

There are various means of representing an explosion. Here, we will demonstrate how to create a scene with impact using explosion-patterned tone. The sample shows a huge mushroom cloud explosion detonating in the sky above the town.

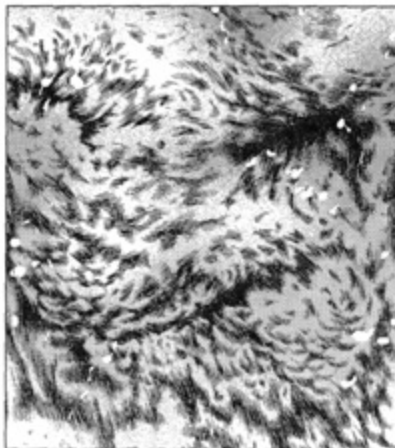


**Key Point 1: Amplifying the Contrast**



To portray the explosion's flash, I used a darker shade for the rows of buildings in the background, thereby heightening the light/dark contrast.

**Key Point 2: Portraying Smoke**



While the composition would have been acceptable with merely applying explosion-patterned tone, overlaying the explosion with dot tone and then etching it gave the smoke a heavy feel.

**Key Point 3: Differentiating with Radiating Lines**

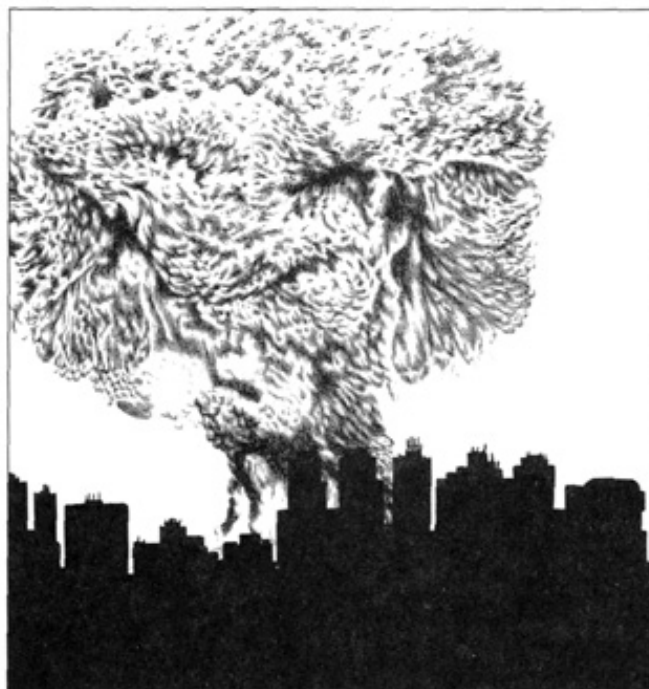


White radiating lines reversing the appearance of normal radiating lines to create the fill burst pattern for the background buildings along street. Refer to the Computone Manual for more technique.



## The Process

### Step 1: Applying Explosion Tone



Maintaining a consciousness of achieving contrast, fill in the background buildings with black and then apply explosion-patterned tone to the background.

### Step 2: Applying Radiating Lines



Align the center of the radiating line pattern with that of the explosion pattern, and cover the surrounding area with radiating lines.

### Step 3: Etching Smoke



Apply gradation tone to the overall background and using the brush, etch to blur the smoke from the explosion. Etch around the outside of the tone, leaving the center untouched.

### Step 4: Apply the Reversed Radiating Lines



Finally, flip over the radiating lines just used, thereby whitening the effect, and align with the black-filled background buildings. Following this process allowed me to encircle the entire explosion with radiating lines.

# Scorched Earth

## Portraying Smoke and Flames

Try to depict flames, an indispensable element to battle scenes, using tone. There are various methods of rendering tone, but let us examine in our discussion a combination of a subject and flames. In the example offered here, we have a robot standing in the center of raging flames.



**Key Point 1: Underscoring the Contrast with the Aircraft**



Imagine this as a dark scene and select dark tones for the aircraft hull.

**Key Point 2: Applying Different Tones to the Upper and Lower Portions of the Composition**



After large-dot tone, overlay the first sheet with two different types tone, one for the upper and the other for the lower half of the composition. This will produce a devastated, scorched earth atmosphere.

**Key Point 3: Rough Etching Technique**



Etch the tone with the brush using whorl-shaped strokes. Etch the overall composition, moving the brush to create the illusion of smoke being lifted by a breeze.

## The Process

### Step 1: Applying Tone



Use solid lines to draw the robot and lay scorched earth tone over the figure.

### Step 2: Adding Tone and Shadows to the Robot



Here, I used 20% tone for the robot's front, 30% for its side, and then 40% for regions far from the picture plane, to create an overall dark composition, since "scored earth" has a dark sensibility to it.

### Step 3: Layering Tone



I laid rain-patterned tone over the background's upper regions. Smoke appears to coil around the robot's feet, permeating the surrounding air, while bearing down heavily on the robot's head.

### Step 4: Etching the Overall Form



Lastly, I used the brush to etch the smoke, making it appear to encircle the overall figure. I set the brush tool to etch large, bold strokes, creating a spiral coiling around the robot.





## Key Points in the Techniques Used

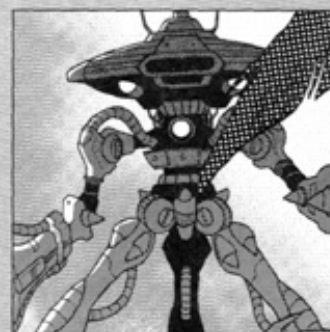
### Jungles

Three types of tone were used here to portray the foliage and the individual trees. By reserving the darkest shades for large leaves close to the picture plane, the overall composition became dark in atmosphere, which is contrasted with a bright sky.



### Shading the Robot

Visualize the robot with backlighting, and use dark, blackish tones. Etch the boundaries, suggesting light surrounding the figure.





## Scene Dramatization and Portrayal Techniques Part I Forests and Jungles

This is a scene depicting an encounter with a robot in a jungle. The composition was rendered for impact, using tone work to create the illusion of a dense jungle, while creating the impression of a robot appearing out of nowhere.

### Tones Used

Robot:  
Dots Gradation 60 Line(s)  
100-0-100%

Sky:  
Cloud12

Leaf of coconut:  
Dots Gradation 40 Line(s)  
100-0-100%



Jungle:  
Dots Gradation 60 Line(s)  
100-0-100%  
Sand 35 Line(s) 10%

Tree:  
Samekomon 50 Line(s)  
20%

### Etching Clouds

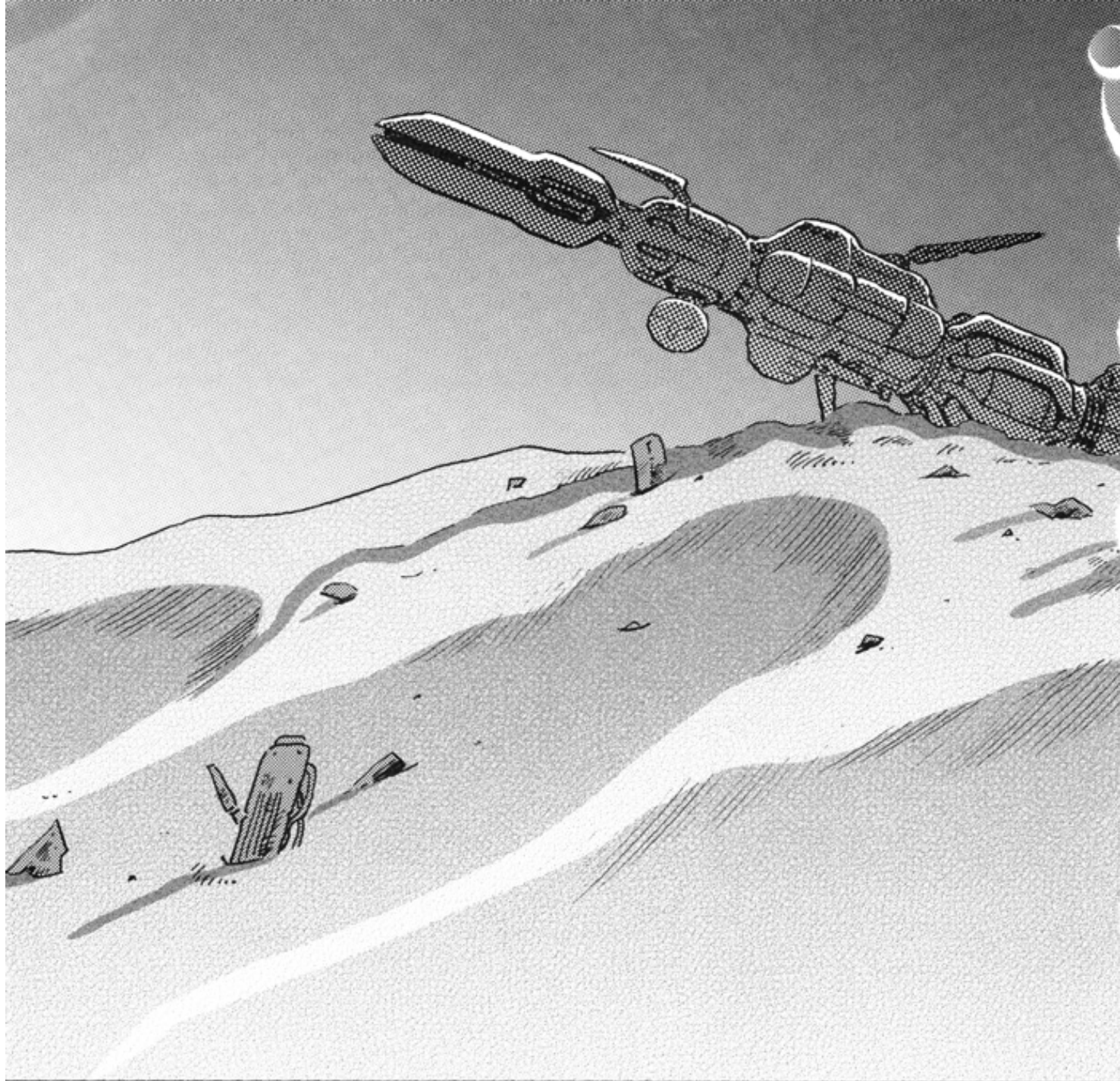
Lay two tones of differing densities on the sky. Then, use bokashi kezuri and blur boundaries to create clouds. Before beginning the tone work, make a decision as to which direction the clouds should flow.



### Portraying Gloom and Using Solid Fill

Use black fill in between the individual trees. This will pull together the composition and evoke the sense of the jungle as a densely packed space.

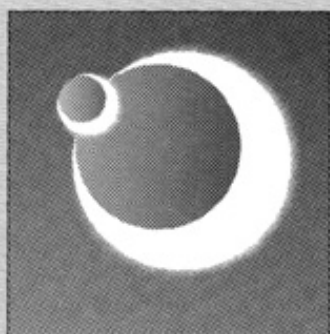




## Key Points in the Techniques Used

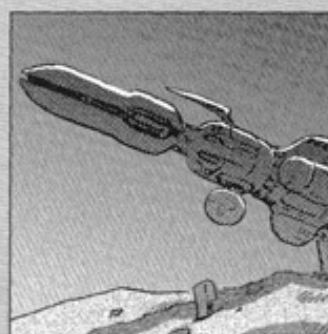
### Moonlight

Apply a layer of tone, and once again add tone to areas cut out and left white. Create a striking image, by using the brush to blur the border of the white area.



### Crashed Spaceship

Apply a darkish tone to the spaceship, painting a lonely picture of the ship's wreckage rendered in silhouette. Solid fill added in between the various components and moonlight surrounding the ship constitute key points in rendering the composition successfully.





## Scene Dramatization and Portrayal Techniques Part II

### Deserts

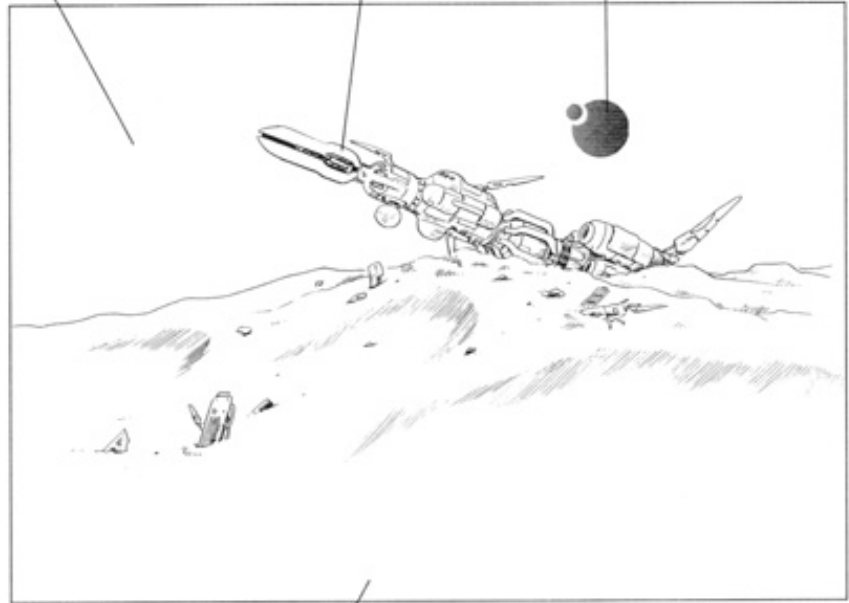
To portray a desert, show a desolate landscape expanding across the composition. Use random dot tone, while adding gradation tone to impart modulation and depth on a gently sprawling landscape.

#### Tones Used

Night sky:  
Dots Gradation 60 Line(s)  
100-0-100%

Spaceship:  
Dots Gradation 40 Line(s)  
100-0-100%

The moon:  
Dots Gradation 60 Line(s)  
100-0-100%



Desert:  
Sand Hatching Gradation 40 Line(s) 40-0-40%

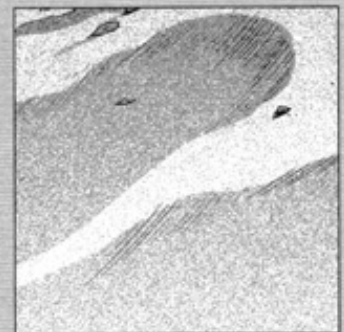
#### Hatched Ground

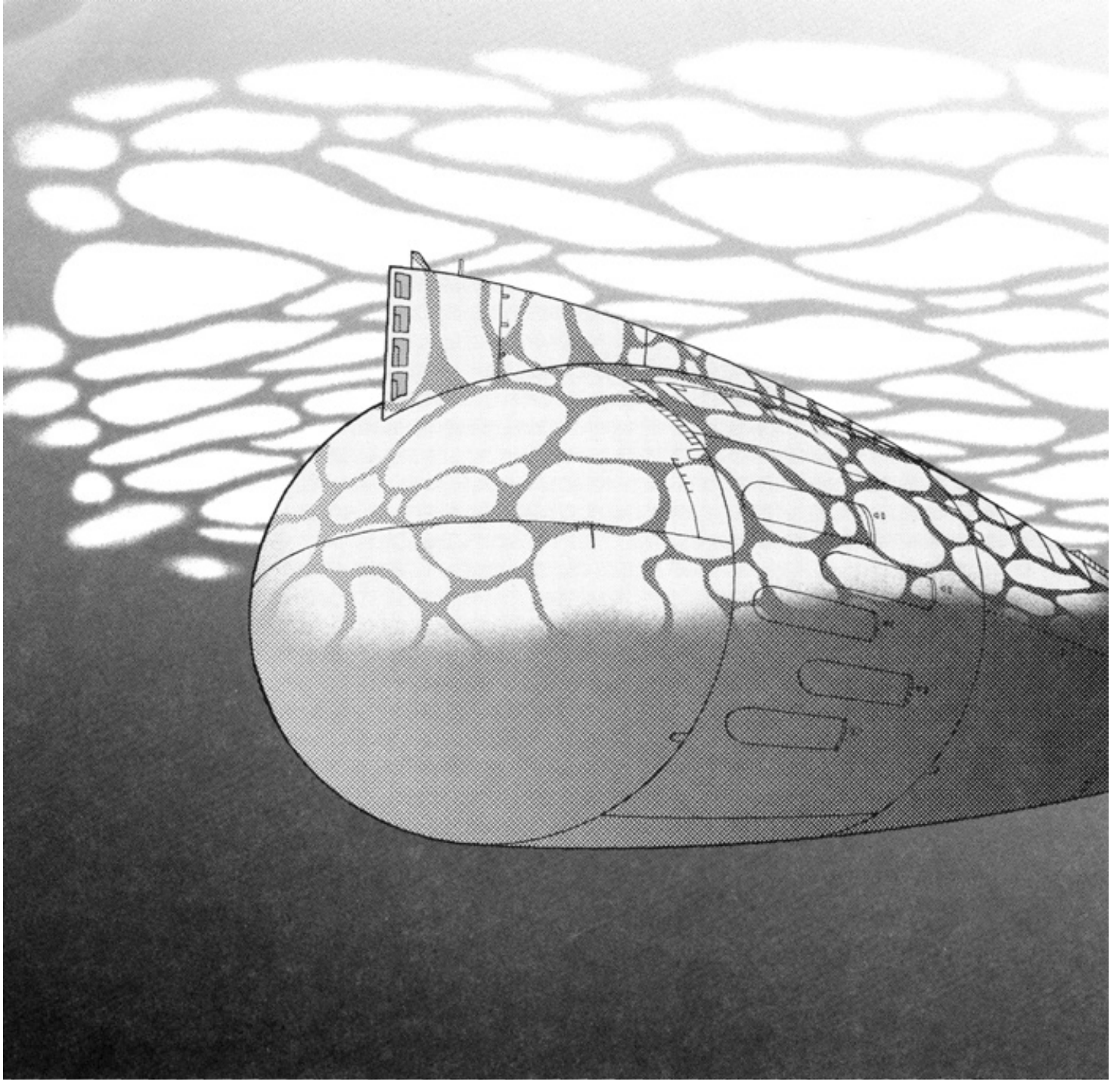
It may be difficult to convey the impression of a desert using tone alone. Therefore, adding hatching in the form of solid lines to portray the gentle slope of a hill should enhance your descriptive capacity.



#### Deserts

Here, two types of random dot tone were used for the desert. A light random dot tone was used for surfaces touched by light, while a dark tone was used for areas in shadow. The light and dark shades create the illusion of an undulating surface.





### Key Points in the Techniques Used

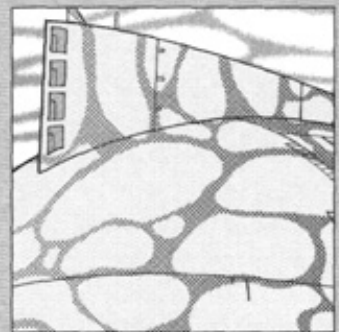
#### Water Surface Pattern

To portray the Sun beating down on the sub through the clear water, apply gradation tone to the composition overall. Etch with the brush, blurring the borders of the gentle waves rocking in the water.



#### Reflections on the Hull

This figure shows ocean waves reflected on the submarine's hull. Tone has been applied to the submarine in a pattern mimicking the water's surface.





## Scene Dramatization and Portrayal Techniques Part III

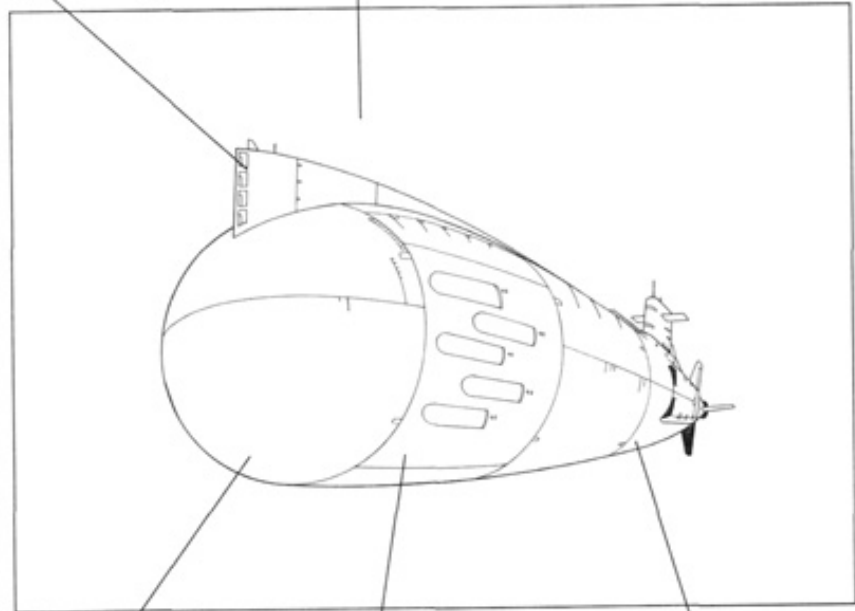
# The Ocean

Here we see a massive submarine propelling through the water. The submarine skims the water's surface, and Sun's rays beating down on the ocean's exterior bathes the submarine in light. The transparent water and reflections of the submarine on the ocean's surface constitute key points for this composition.

### Tones Used

Prow:  
Dots 60 Line(s) 30%

Ocean:  
Dots Gradation 60 Line(s) 100-0-100%



Submarine:  
Dots Gradation 40 Line(s)  
100-0-100%

Shadow made submarine:  
Dots 60 Line(s) 10%

Black

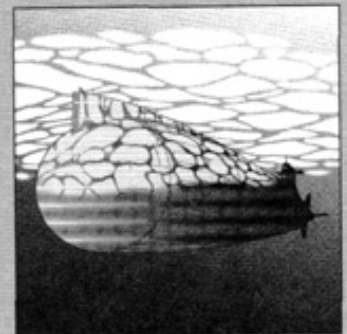
### Etching the Hull

Apply gradation tone to the hull with the tone becoming darker as the eye moves down. Use the brush to blur shape borders. Widen the area etched for the bridge, which is located far from the picture plane, and narrow the area etched as you approach the picture plane.



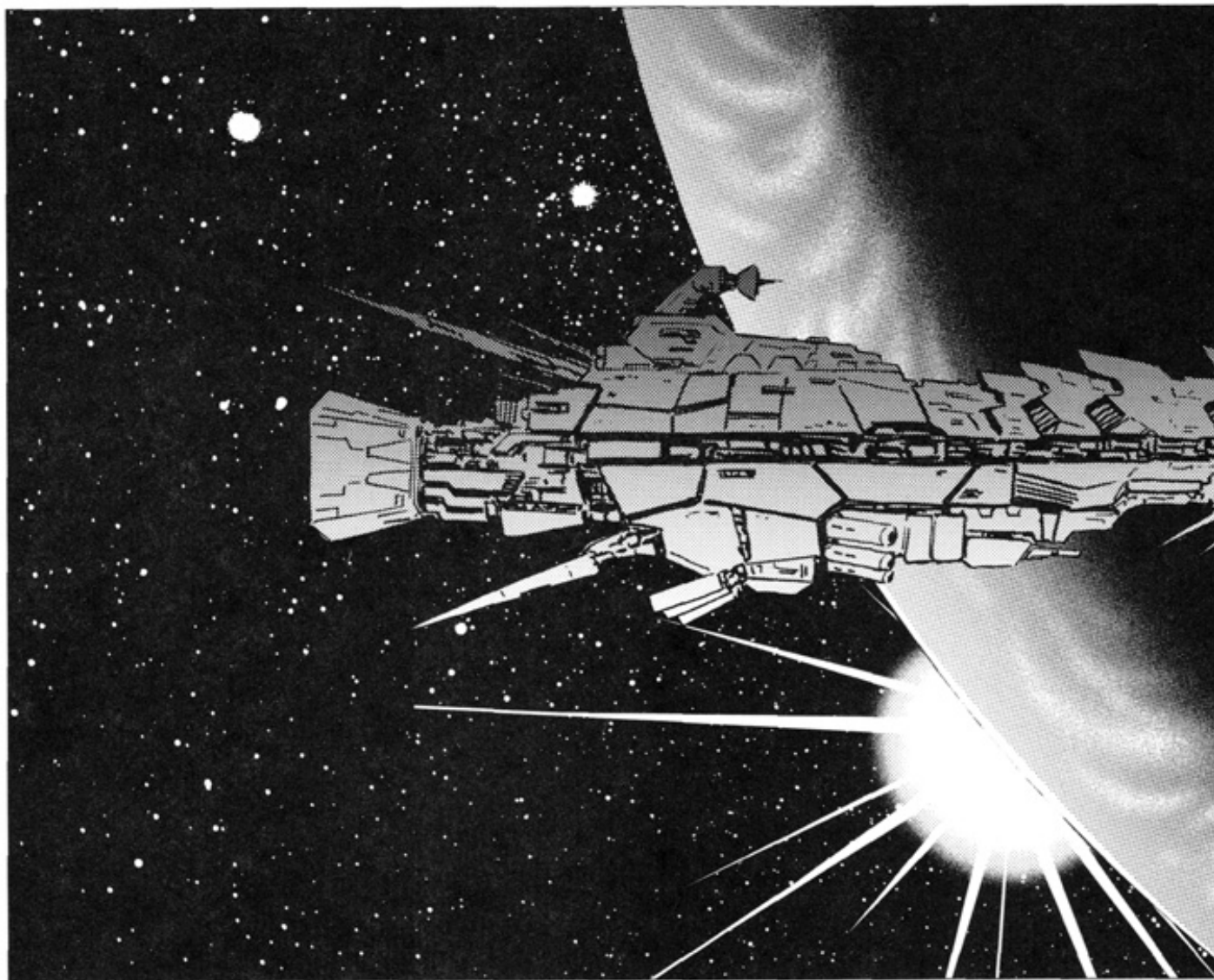
### Portraying Depth

Applying the tone to the sub becomes lighter as the eye moves toward the picture plane, and the other to the water becomes darker as the eye moves toward the ocean's floor. A key point when applying the tone to the water is to lay beforehand at an angle.



## Space

The example seen here is a planet and gigantic space ship defined using tone. The twinkling of stars speckling the background and the glow of the planet are key points in generating a dynamic luminescence.



### Key Points in the Techniques Used

#### Spaceship Detail

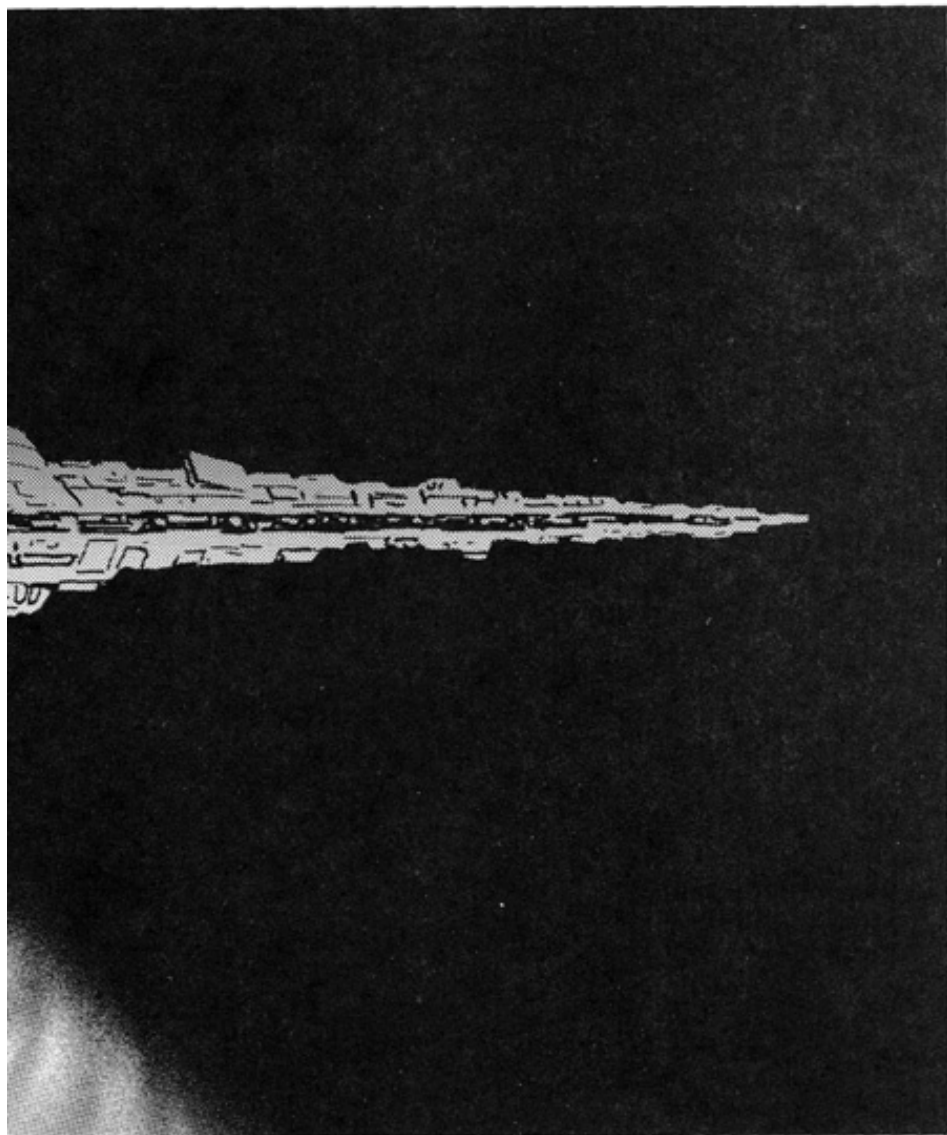
Since visual balance must be achieved in the varying degrees of darkness, and because the spaceship is the object that should be made the most prominent second only to the planet, opt for a tone that is lighter than the surrounding space but darker than the planet.



#### Sun Rays

Apply white to the black-filled background and using the brush, etch to create a softly indistinct blur, and finish by adding lines to suggest twinkling starlight. If you experience difficulty creating the lines for starlight by hand, radiating line tone is another viable option.

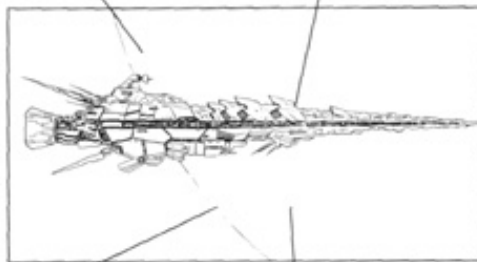




### Tones Used

The tone is cut down and the cloud is made.

Space:  
Dots Gradation 60 Line(s)  
100-0-100%



Sun:  
Dots 60 Line(s) 10%

Sun Rays:  
Dots Gradation 60 Line(s)  
100-0-100%

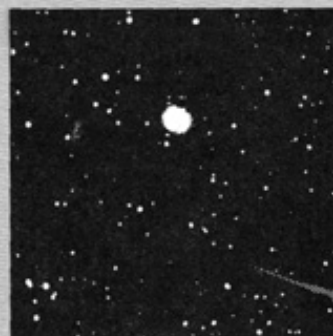
### Planets

Fill in the planet's silhouette with solid black and apply gradation tone to areas touched by light. Use the brush to blur shadow borders. At this time, open the setting for the brush tool, and set the ink volume to 70%. This will allow you to create even softer etches than previously.



### Space

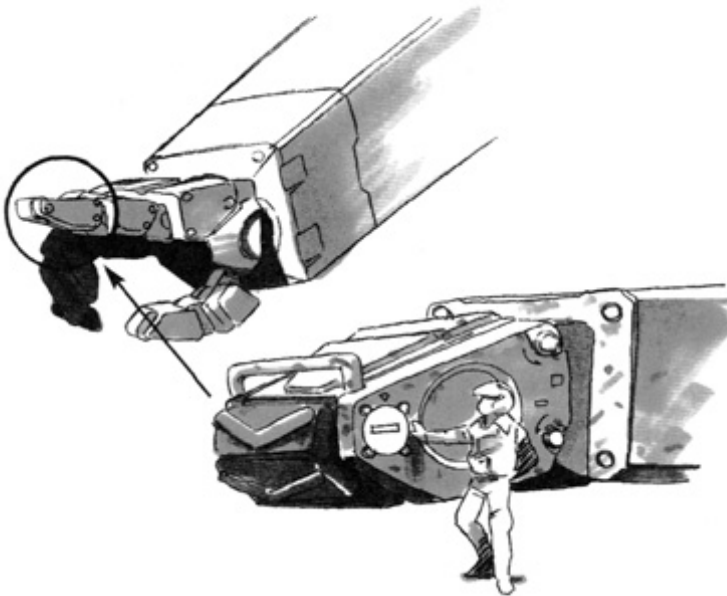
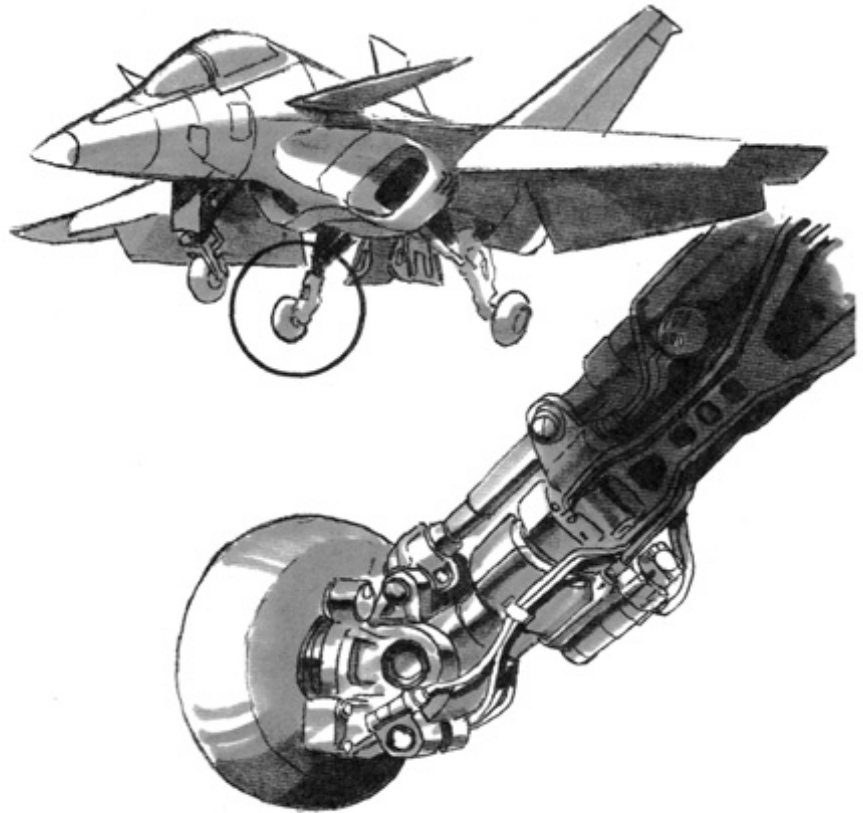
Space is primarily rendered using black fill. Use the standard pencil tool to produce regular and fixed stars, scattering randomly sized flecks throughout the composition.



## Realistic Parts

Mechanical and synthetic objects are a compilation of innumerable parts. However, despite the many parts, not a single one is without purpose. When intending to draw a close-up, including realistic detail to any degree will allow you to draw the object as up close as you deem necessary.

In Fig. A, which shows the full fighter jet, the landing gear is depicted as a single pole. However, a close-up of the landing gear reveals that it is actually made of hundreds of parts. These are apparatuses comprising the main shock absorption oleo struts, retractable gear, drag braces, shock absorbers, hydraulic oil pipes, electrical cables, disk brakes, and countless other parts. An even closer angle would bring even more tiny, complicated apparatus and screws into view.

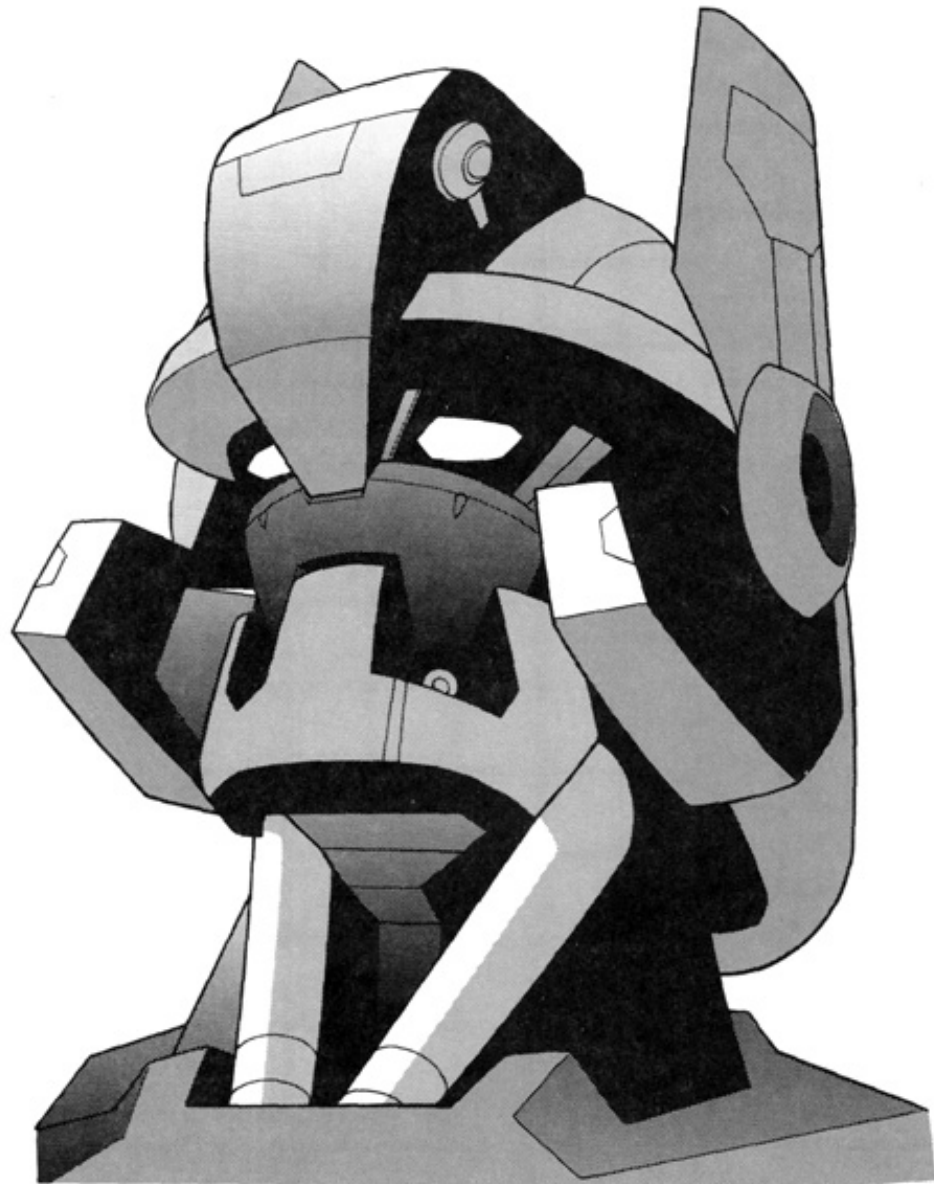


When designing an imaginary mecha, imagine the functions that this original mecha of yours might possess. The fingers of the 100-meter tall giant robot shown in Fig. B are not mere cylinders. These fingers are meant to grasp, and therefore appear to have flexible, heat-resistant rubber attached to them to prevent the fingers from dropping objects. In addition, the robot has a slide device allowing the arm to retract and draw an object inward immediately upon grasping it. Perhaps there might even be a sensor alerting the pilot that the robot has successfully grabbed the object. Giving that much consideration to the mecha's design will allow you to create a convincing, ingeniously drawn robot.



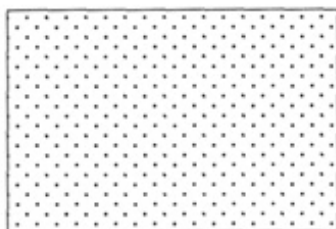
# Chapter 3

## Manual

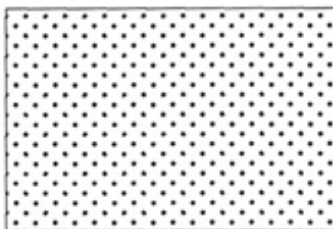


# Tone Collection Guide

## Dot Tones



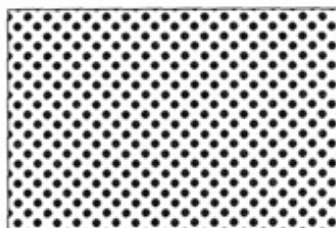
Dots 20 Line(s) 5%  
300dpi 600dpi



Dots 20 Line(s) 10%  
300dpi 600dpi



Dots 20 Line(s) 20%  
300dpi 600dpi



Dots 20 Line(s) 30%  
300dpi 600dpi



Dots 27.5 Line(s) 5%  
300dpi 600dpi



Dots 27.5 Line(s) 10%  
300dpi 600dpi



Dots 27.5 Line(s) 20%  
300dpi 600dpi



Dots 27.5 Line(s) 30%  
300dpi 600dpi



Dots 27.5 Line(s) 40%  
300dpi 600dpi



Dots 32.5 Line(s) 10%  
300dpi 600dpi



Dots 32.5 Line(s) 20%  
300dpi 600dpi



Dots 32.5 Line(s) 30%  
300dpi 600dpi



Dots 42.5 Line(s) 10%  
300dpi 600dpi



Dots 42.5 Line(s) 20%  
300dpi 600dpi



Dots 50 Line(s) 10%  
300dpi 600dpi

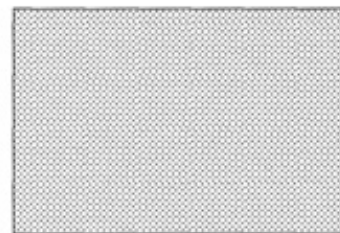
## Dot Tones



Dots 55 Line(s) 10%  
300dpi 600dpi



Dots 60 Line(s) 10%  
300dpi 600dpi



Dots 60 Line(s) 20%  
300dpi 600dpi



Dots 60 Line(s) 30%  
300dpi 600dpi



Dots 60 Line(s) 40%  
300dpi 600dpi



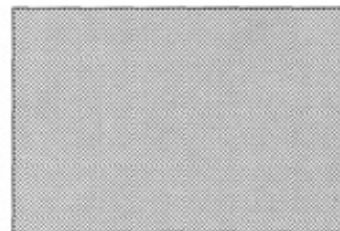
Dots 60 Line(s) 50%  
300dpi 600dpi



Dots 75 Line(s) 10%  
600dpi



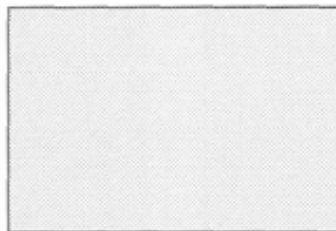
Dots 75 Line(s) 20%  
600dpi



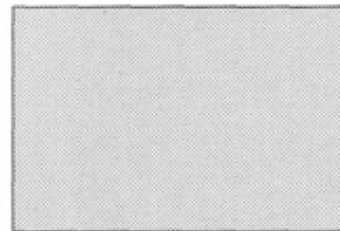
Dots 75 Line(s) 30%  
600dpi



Dots 75 Line(s) 40%  
600dpi



Dots 85 Line(s) 10%  
600dpi



Dots 85 Line(s) 20%  
600dpi



Dots 85 Line(s) 30%  
600dpi



Dots 85 Line(s) 40%  
600dpi

# Tone Collection Guide

## Line Tones



Lines 35 Line(s) 10%  
300dpi 600dpi



Lines 42.5 Line(s) 10%  
600dpi



Lines 50 Line(s) 10%  
600dpi



Lines 60 Line(s) 10%  
600dpi

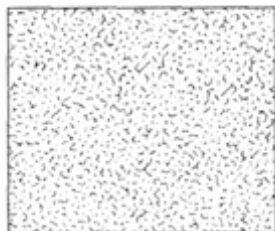


Lines 60 Line(s) 30%  
600dpi

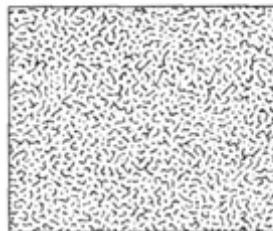
## Sand Tones



Sand 35 Line(s) 5%  
300dpi 600dpi



Sand 35 Line(s) 10%  
300dpi 600dpi



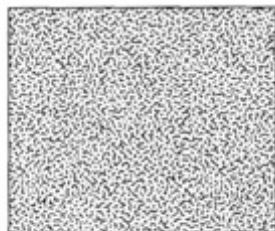
Sand 35 Line(s) 20%  
300dpi 600dpi



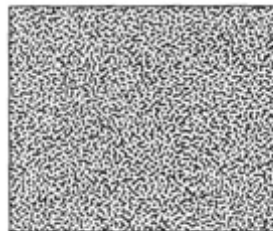
Sand 45 Line(s) 10%  
300dpi 600dpi



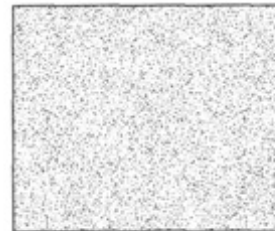
Sand 45 Line(s) 20%  
300dpi 600dpi



Sand 45 Line(s) 30%  
300dpi 600dpi



Sand 45 Line(s) 40%  
300dpi 600dpi



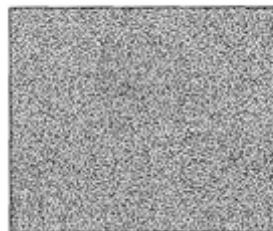
Sand 65 Line(s) 10%  
300dpi 600dpi



Sand 65 Line(s) 20%  
300dpi 600dpi



Sand 65 Line(s) 30%  
300dpi 600dpi



Sand 65 Line(s) 40%  
300dpi 600dpi



## Rendering Tones



Flash Effect L 01B  
300dpi 600dpi



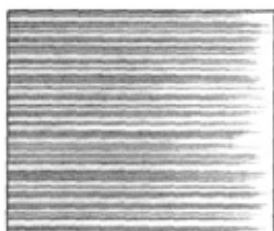
Rendering L 04B  
300dpi 600dpi



Rendering L 06  
300dpi 600dpi



Speed Lines 01  
300dpi 600dpi



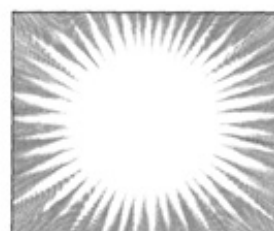
Speed Lines 03  
300dpi 600dpi



Rendering L 01  
300dpi 600dpi



Rendering L 04B2  
300dpi 600dpi



Rendering L 09B  
300dpi 600dpi



Rendering L 10B  
300dpi 600dpi



Rendering L 17  
300dpi 600dpi



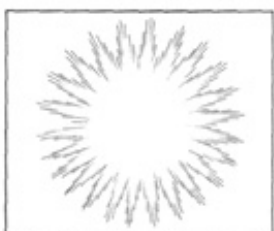
Flash Fills 01A  
300dpi 600dpi



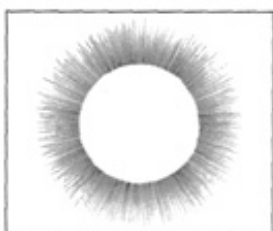
Flash Fills 05  
300dpi 600dpi



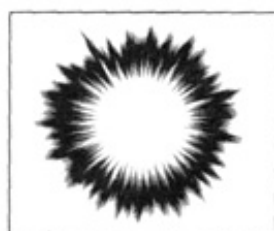
Flash Fills 11  
300dpi 600dpi



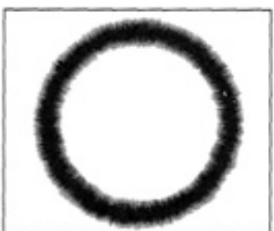
D Needles 02  
300dpi 600dpi



D Needles 06  
300dpi 600dpi



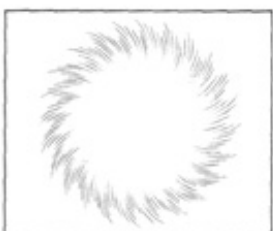
Needle Fills 01  
300dpi 600dpi



Needle Fills 02  
300dpi 600dpi



Needles 09-E  
300dpi 600dpi



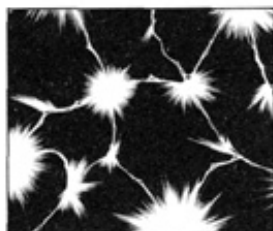
Needles 17-C  
300dpi 600dpi

# Tone Collection Guide

## Gradation Tones

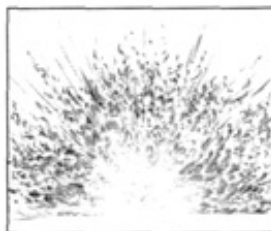
	Dots Gradation / 40 lpi / 100% - 0% - 100% / 2cm 300dpi 600dpi
	Dots Gradation / 40 lpi / 100% - 0% - 100% / 6.6cm 300dpi 600dpi
	Dots Gradation / 40 lpi / 100% - 0% - 100% / 16.5cm 300dpi 600dpi
	Dots Gradation / 40 lpi / 100% - 0% - 100% / 33cm 300dpi 600dpi
	Dots Gradation / 60 lpi / 100% - 0% - 100% / 2cm 300dpi 600dpi
	Dots Gradation / 60 lpi / 100% - 0% - 100% / 6cm 300dpi 600dpi
	Dots Gradation / 60 lpi / 100% - 0% - 100% / 16.5cm 300dpi 600dpi
	Dots Gradation / 60 lpi / 100% - 0% - 100% / 33cm 300dpi 600dpi
	Dots Gradation / 65 lpi / 100% - 0% - 100% / 2cm 300dpi 600dpi
	Dots Gradation / 65 lpi / 100% - 0% - 100% / 6.6cm 300dpi 600dpi
	Dots Gradation / 65 lpi / 100% - 0% - 100% / 16.5cm 300dpi 600dpi
	Dots Gradation / 65 lpi / 100% - 0% - 100% / 33cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% / 4.4cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% / 16.5cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% / 33cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% - 100% / 2cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% - 100% / 4.4cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% - 100% / 16.5cm 300dpi 600dpi
	Sand Hatching Gradation 100% - 0% - 100% / 33cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% 2cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% 4.4cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% 16.5cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% 33cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% - 40% 2cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% - 40% 4.4cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% - 40% 16.5cm 300dpi 600dpi
	Sand Hatching Gradation 40% - 0% - 40% 33cm 300dpi 600dpi
	Hatching Gradation 100% - 0% 3.3cm 300dpi 600dpi
	Hatching Gradation 100% - 0% 5.5cm 300dpi 600dpi
	Hatching Gradation 100% - 0% 8.25cm 300dpi 600dpi
	Hatching Sgl Cross 300dpi 600dpi
	Hatching Dbl Cross 300dpi 600dpi

## Effect Tones



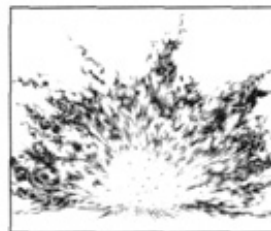
Lightning

300dpi 600dpi



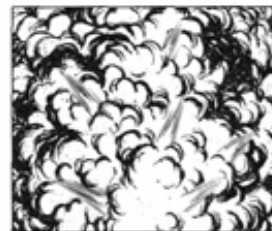
Explosion 02

300dpi 600dpi GLAY



Explosion 04

300dpi 600dpi



Explosion 06

300dpi 600dpi



Explosion 07

300dpi 600dpi



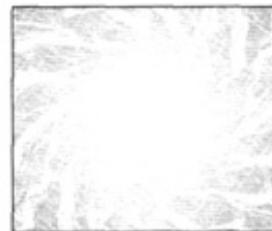
Volcanic Eruption

300dpi 600dpi



Midair Explosion

300dpi 600dpi



Sand Hatching CL02

300dpi 600dpi



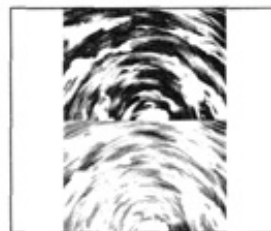
Lightning Rd Msk02

300dpi 600dpi



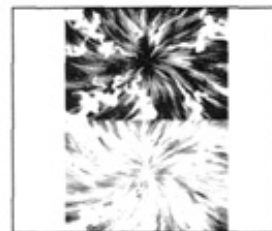
Smoke

300dpi 600dpi



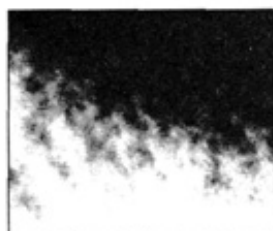
Swl Smoke 01

300dpi 600dpi



Rad Smoke 01

300dpi 600dpi



Scorched Earth 01

300dpi 600dpi



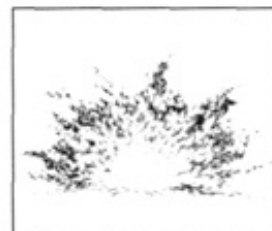
Scorched Earth 02

300dpi 600dpi



Explosion 01

GLAY



Explosion 03

GLAY



Explosion 05

GLAY



Nova

GLAY



Cloud Lightning 01

GLAY

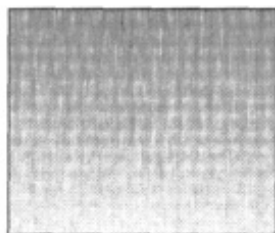


Lightning Rd 02

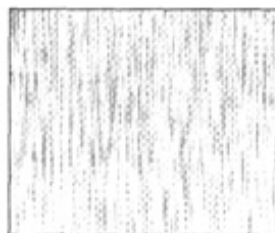
GLAY

# Tone Collection Guide

## SPECIAL / Variety



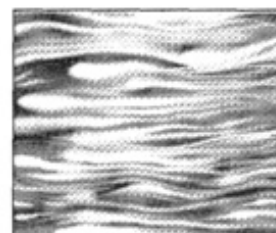
Rain 02  
GLAY



Deluge  
GLAY



Parallel L FFlow  
GLAY



Parallel L LFlow01  
GLAY



Clouds 01  
GLAY



Clouds 12  
GLAY



Clouds 24  
GLAY



Clouds 40  
GLAY



Clouds 45  
GLAY



Clouds 49  
GLAY



Zebra Stripes  
GLAY



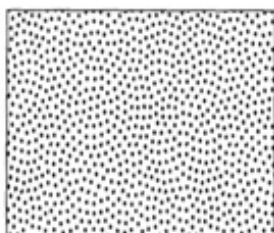
Camo 01  
GLAY



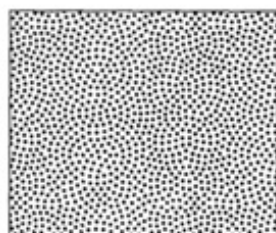
Camo  
GLAY



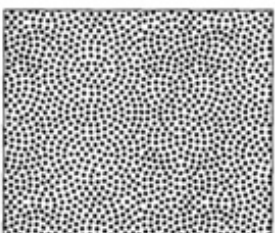
Samekomon 5%  
300dpi 600dpi



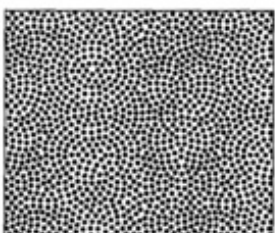
Samekomon 20%  
300dpi 600dpi



Samekomon 30%  
300dpi 600dpi



Samekomon 40%  
300dpi 600dpi



Samekomon 50%  
300dpi 600dpi