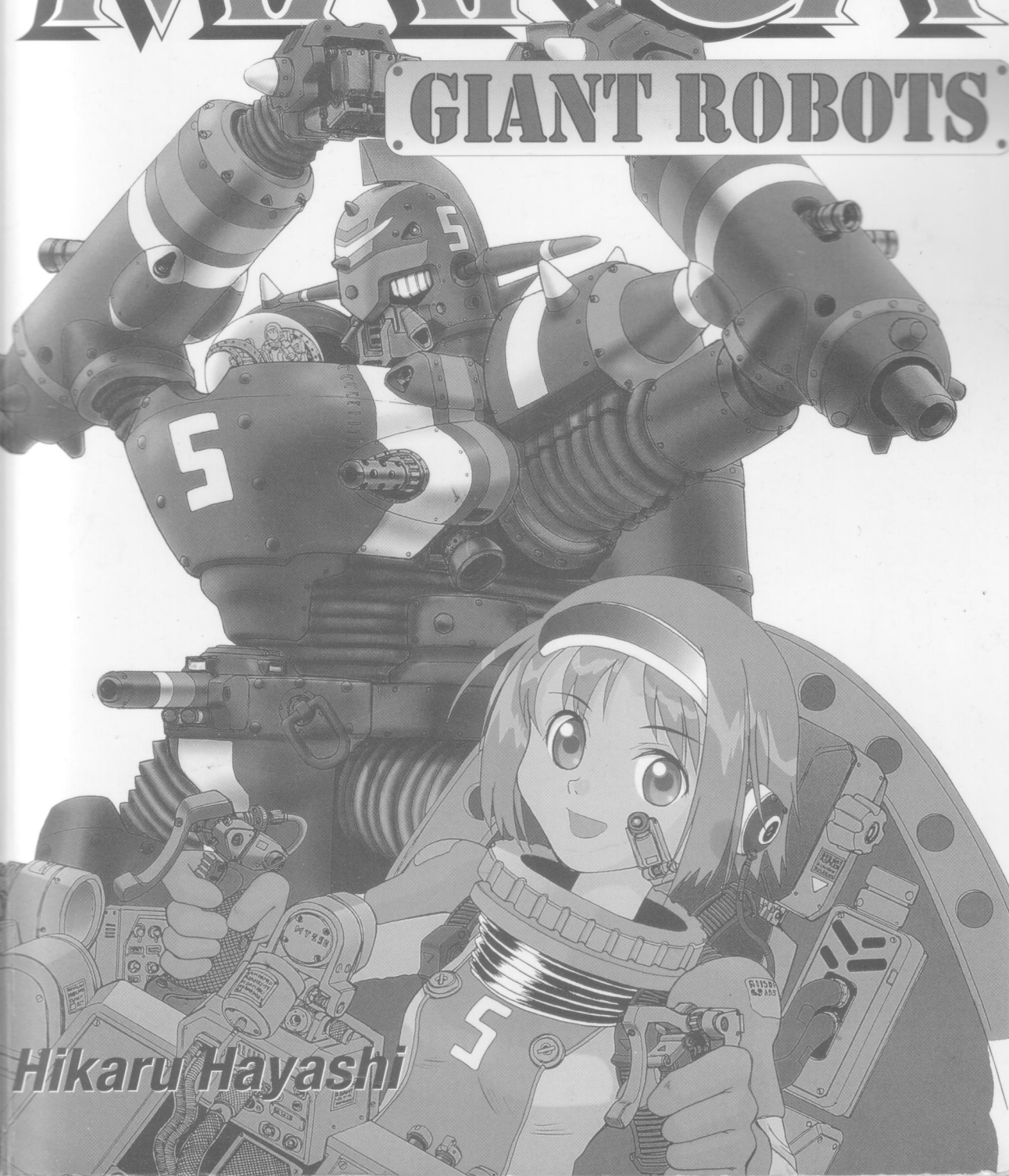


HOW TO DRAW

SPECIAL
EDITION

MANGA

GIANT ROBOTS!



Hikaru Hayashi

HOW TO DRAW

SPECIAL
EDITION

MANGA

GIANT ROBOTS.

Table of Contents

Section 1: Basic Robot Design	5
Full Body: Start with a Human Shaped Figure	6
Draw Robot-like Figures Using Only Basic Parts	
Full Body: Robots Comprised of Parts with Straight Lines	8
Head: Base the Design on a Face with Beveled Edges	10
Head: Replacement and Omission	12
Omission of Face Parts	
Replacement of the Head Itself	
Head: Eye Shape and Size	14
Mechanical Eyes	
Polygonal Type, Round Type, Rectangular Type	
Head: Mouth	16
Design Based on Shape	
Design Based on Structure	
Head: Nose and Ears	18
Head: Neck	20
Shaft- and Hinge-type Necks	
Cable- and Hose-type Necks	
Trunk: Body Basics	22
Chest Patterns	
The Art of Design	
Trunk: Type 1: Cylindrical Body	24
Cylindrical Body Variations	
Trunk: Type 2: Box-shaped Body	28
Box-shaped Body Variations	
Trunk: Type 3: Board-shaped Body	32
Board-shaped Body Variations	
Trunk: Back	36
Basic Components of Transformable Robots	
Attachable Units	
Chest: Part 1: Inverted-triangle Type	38
Chest: Part 2: Stand Type	40
Chest: Part 3: Spherical type	42
Chest: Part 4: Square Type	44
Hips: Part 1: Briefs Type	46
Straight-line Composition/Angular Type	
Curved-surface Composition/Spherical type	
Hips: Part 2: T Type	48
T Hip Joint Variations	
Trunk: Special Body/Centipede Type	52
Shoulder and Elbow Joints	54
Arm Forms	
Arms with Exposed Elbow Joints	
Shoulders	56
Shoulder Joint Covers	
Shoulder Pads/Armor	
Hands	58
Basic Finger Design	
Arms: Overall Design	60
Optional Parts Variations	

Legs	62
Feet	
Short, Fat Legs	
Long, Slender Legs	
Leg Form	
Leg Design	
Representation of Metallic Surfaces	68
Glossy Metal, Matted Metal	
Plastic, Rough Surfaces, Smooth Surfaces, Metallic Surfaces, Rusted/Worn Metal	
Using Tones to Create Curve Effects	70
Section 2: Combat Robots	73
Design Based on Medieval Armor	74
Arrangement of Swords, Axes and Spears for Use with Robots	
Robots Based on Combat Uniforms	78
Design of Head	80
Weapons	82
Arm Cannons	
Hand Missiles/Handguns	
Magazine Arrangements	84
Energy Guns	
Barrels and Muzzles	
Missiles	
Transportation Units	90
Using Ski Boots and Bindings as Catapults	
Changing Lower Body Parts	
Flying Parts and Wings	
Transformers	
Color Expression and Special Effects	100
Flames and Backfire	
Explosions and Smoke	
Designing Original Robots	104
Attach Shin Parts	
Flying Robots	
Add Joints to Connect Machines	
Robots with Tires	
Section 3: Female Robots	111
Designing Body Lines	112
Designing Breasts	114
Bust Variations	
Designing Bottoms	116
Designing Faces and Hair	118
Designing Body Parts	120
Design Based on Fashion	122
Underwear and Body Suit Lines	
Bunny Girl Motif	
Skirts and Blouses	
A Character Done in Metallic will Become a Robot	

HOW TO DRAW MANGA: Giant Robots
by Hikaru Hayashi, Go Office

Copyright © 2001 Hikaru Hayashi, Go Office
Copyright © 2001 Graphic-sha Publishing Co., Ltd.

First published in 2001 by Graphic-sha Publishing Co., Ltd.
This English edition was published in 2001 by
Graphic-sha Publishing Co., Ltd.
1-9-12 Kudan-kita, Chiyoda-ku, Tokyo 102-0073 Japan

Drawing and production: Nariaki Funabori, Kazuaki Morita, Kouichi Kusano, Hajime Yoshida,
Takehiko Matsumoto, Hikaru Hagizuki, Choujikuujari

Cover drawing and coloring: Yukiharu Akimoto, Kouichi Kusano

Scenario and composition: Hikaru Hayashi

Original cover design: Eiji Co., Ltd.

Japanese edition editor: Motofumi Nakanishi (Graphic-sha Publishing Co., Ltd.)

English edition editor: Glenn Kardy (Japanime Co., Ltd.)

English edition cover and layout: Shinichi Ishioka

English translation management: Lingua Franca, Inc. (an3y-skmt@asahi-net.or.jp)

Foreign language edition project coordinator: Kumiko Sakamoto (Graphic-sha Publishing Co., Ltd.)

All rights reserved. No part of this publication may be reproduced,
stored in a retrieval system, or transmitted in any form or by any means,
electronic, mechanical, photocopying, recording, or otherwise,
without the prior written permission of the publisher.

Distributed by
Japanime Co., Ltd.
2-8-102 Naka-cho, Kawaguchi-shi,
Saitama 332-0022, Japan
Phone/Fax: +81-48-259-3444
E-mail: sales@japanime.com
<http://www.japanime.com>

First printing: August 2001
Second printing: November 2001

ISBN: 4-7661-1255-5
Printed and bound in China by Everbest Printing Co., Ltd.

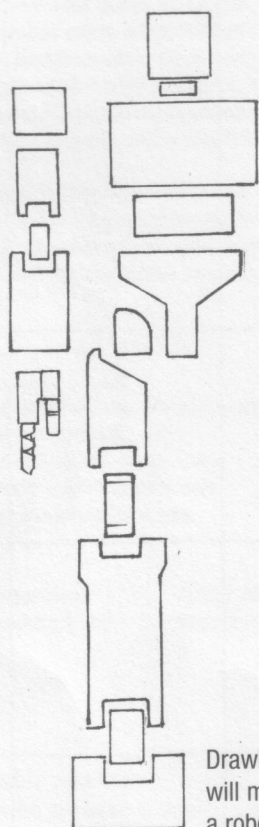
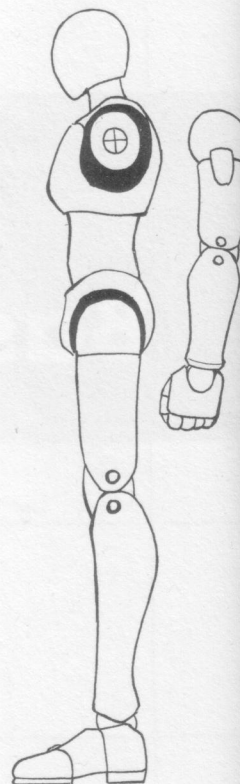
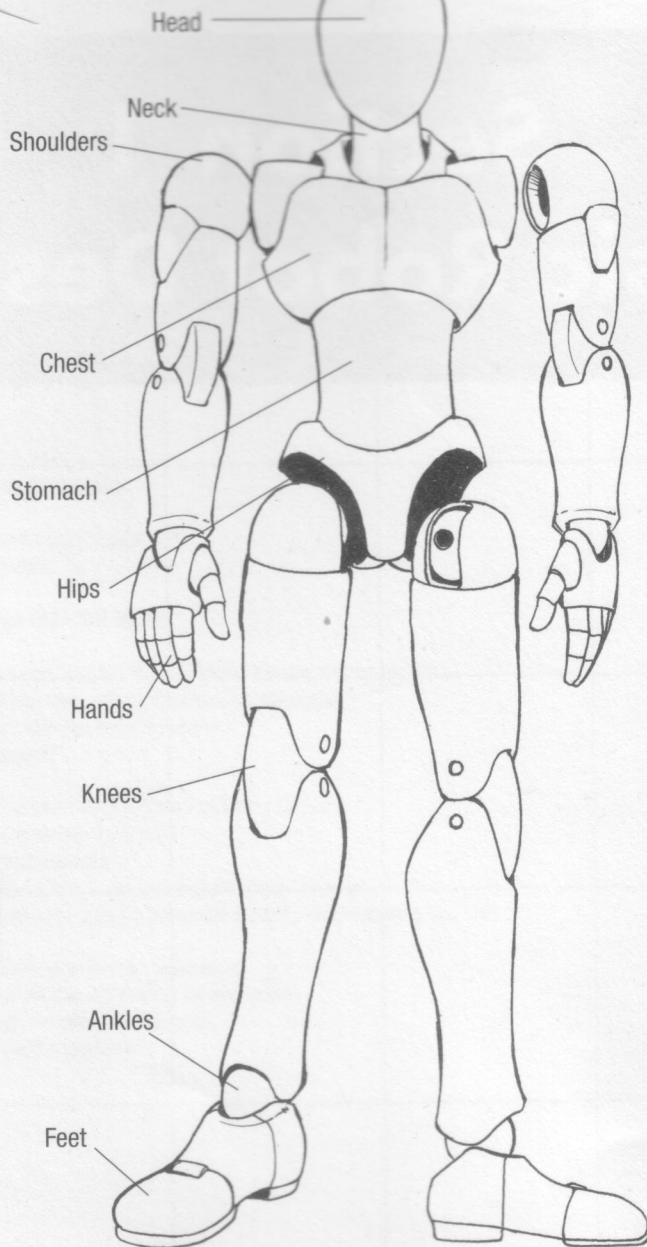
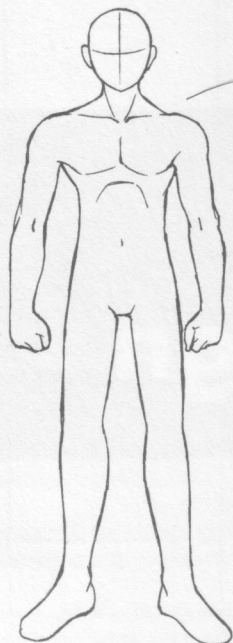
Section 1

Basic Robot Design

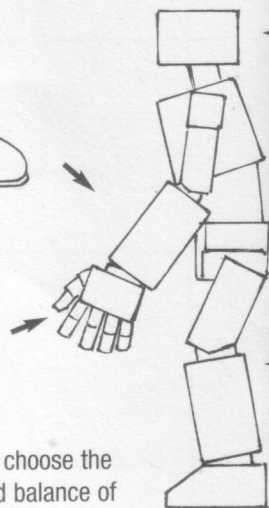
Full Body

Start with a Human-shaped Figure

Think of the parts of the body with drawing.



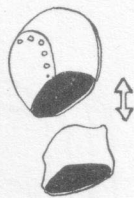
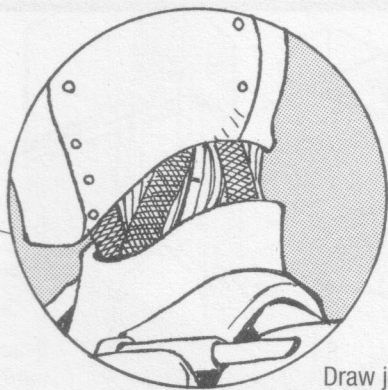
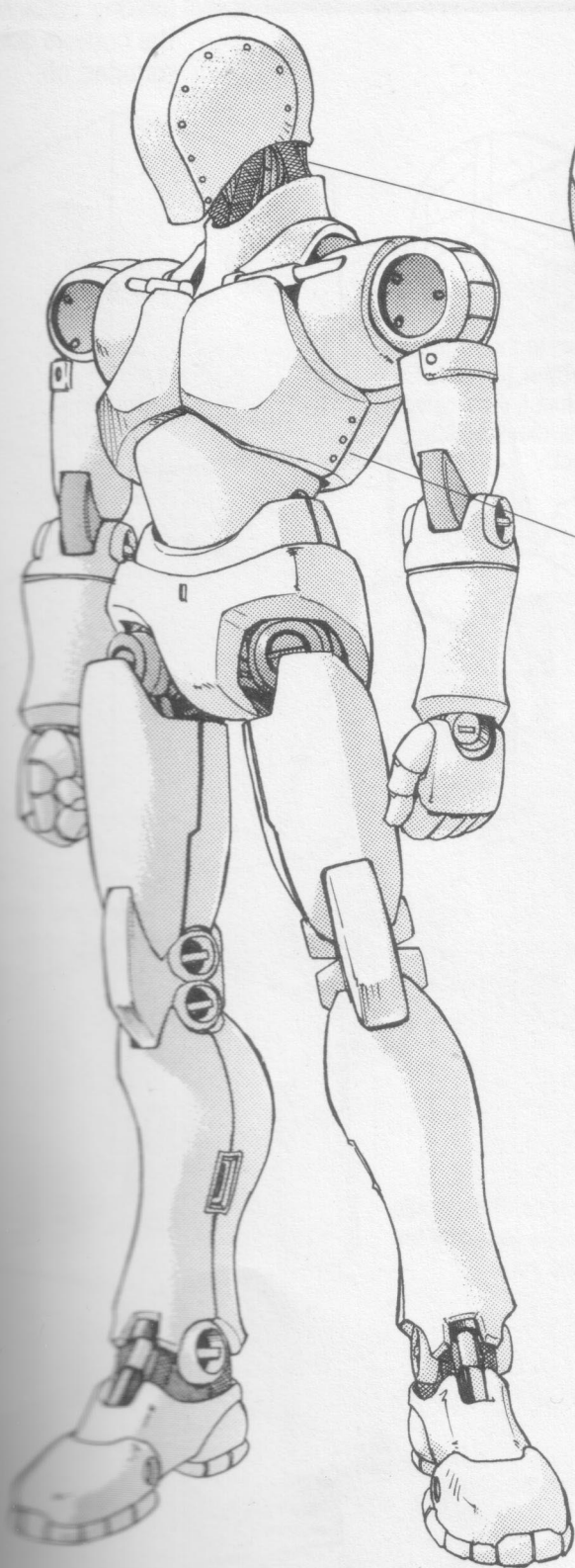
Drawing squarish parts will make it look more like a robot, i.e., man-made.



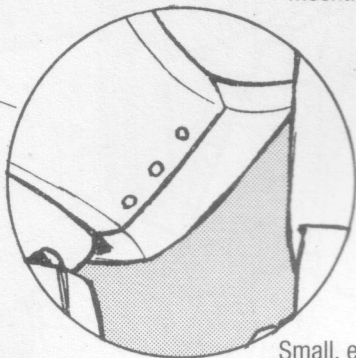
You are free to choose the size, shape and balance of the parts.

Draw Robot-like Figures Using Only Basic Parts.

- Draw big, bold joints.
- Give the surface a strong metallic contrast.

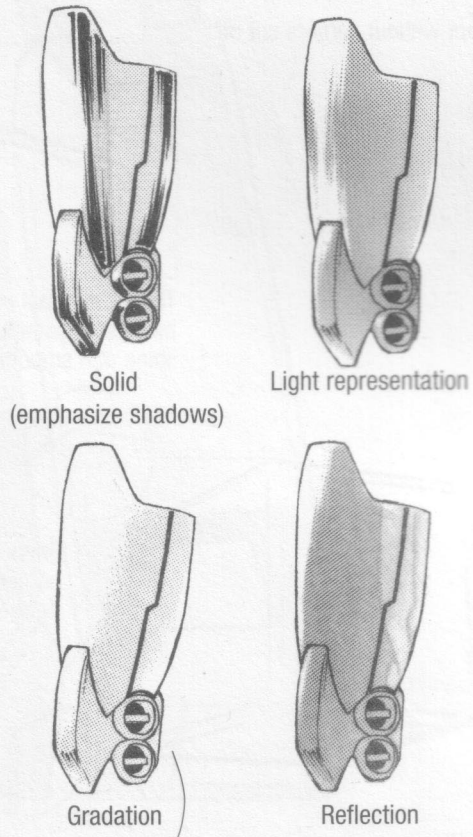


Draw joints in a way that makes it look like there are mechanical parts inside.



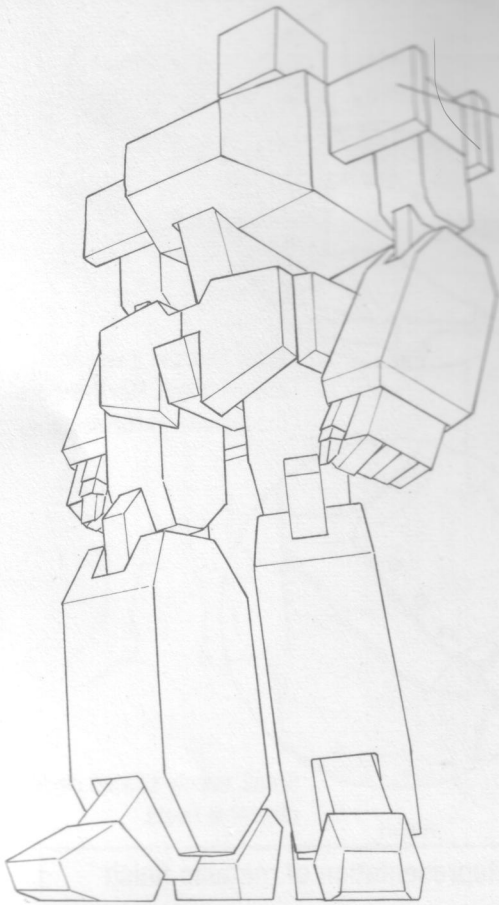
Small, evenly spaced circles resemble rivets.

Representation of metallic finish



Full Body Robots Comprised of Parts with Straight Lines

A square part becomes a metallic looking cube when the corners are rounded off.



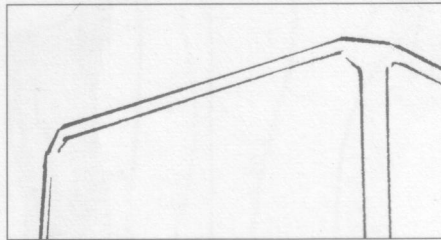
Robot without corners cut off



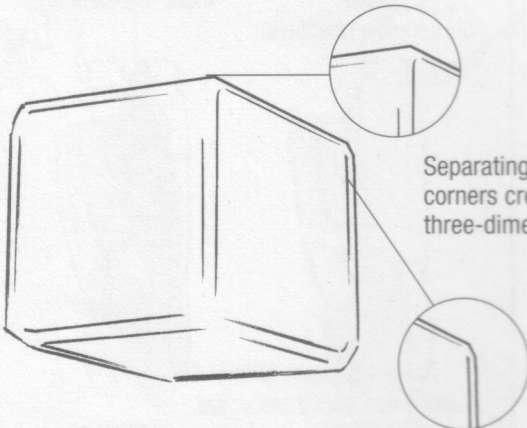
Drawing the edge lines narrower than the contour lines creates a three-dimensional effect.



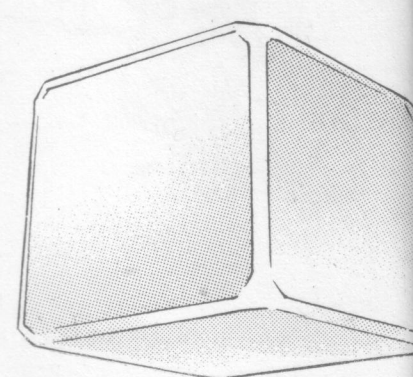
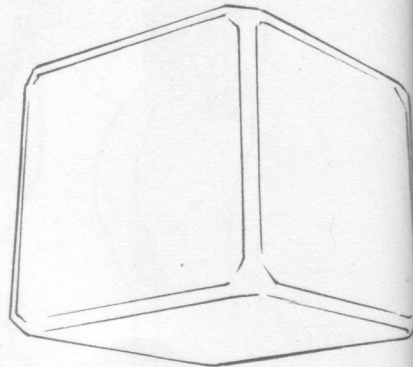
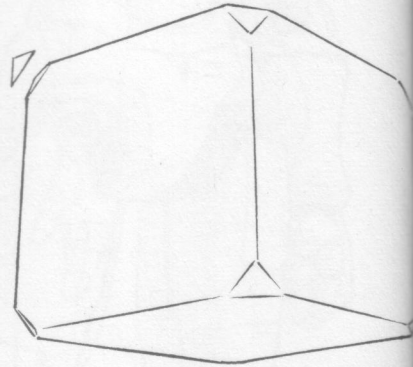
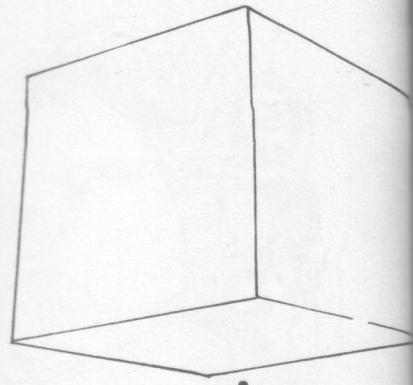
Cut diagonally.



Then draw dual contour lines. They should be close together. This helps represent the shine of a smooth metallic edge.

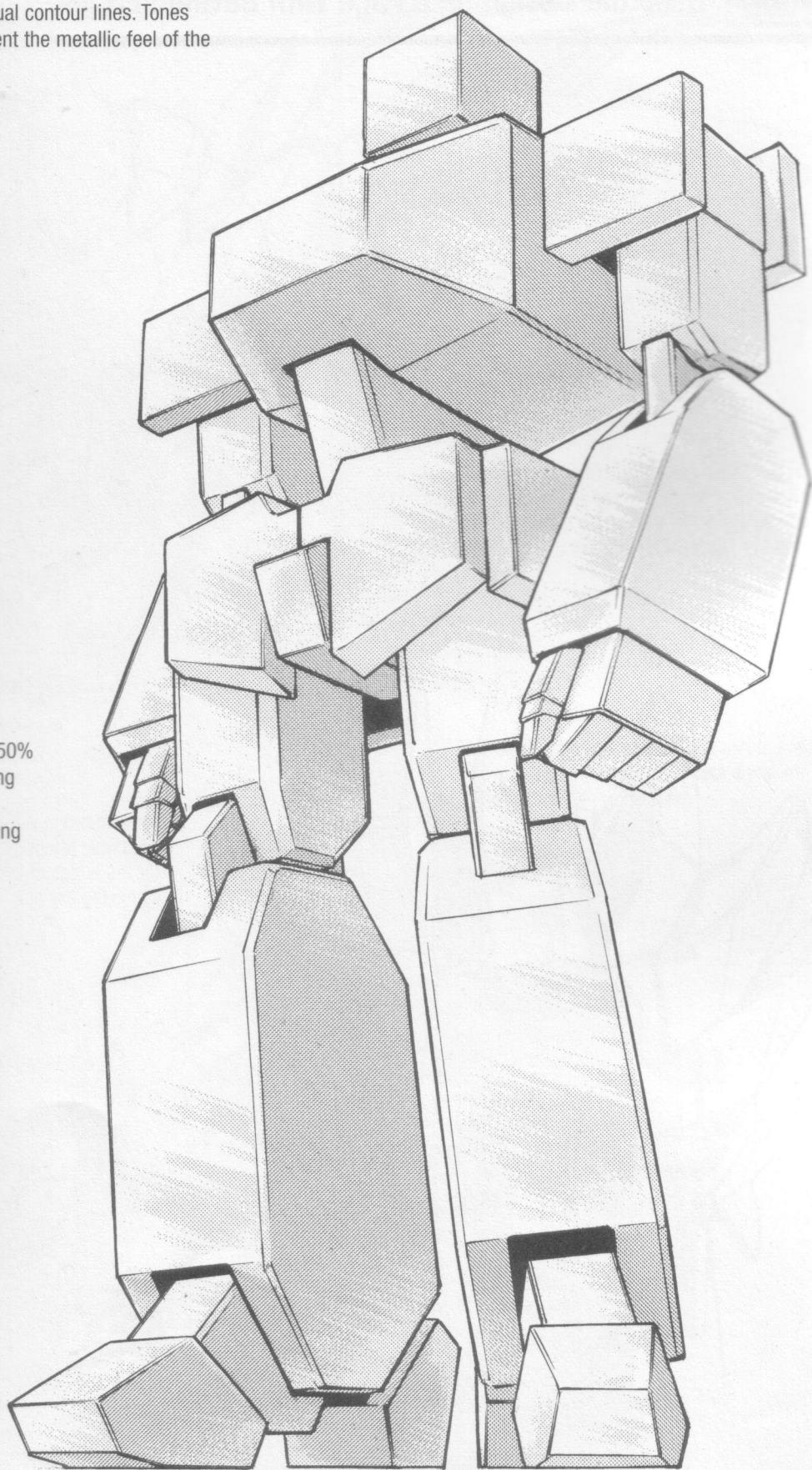


Separating the lines at the corners creates the same three-dimensional effect.

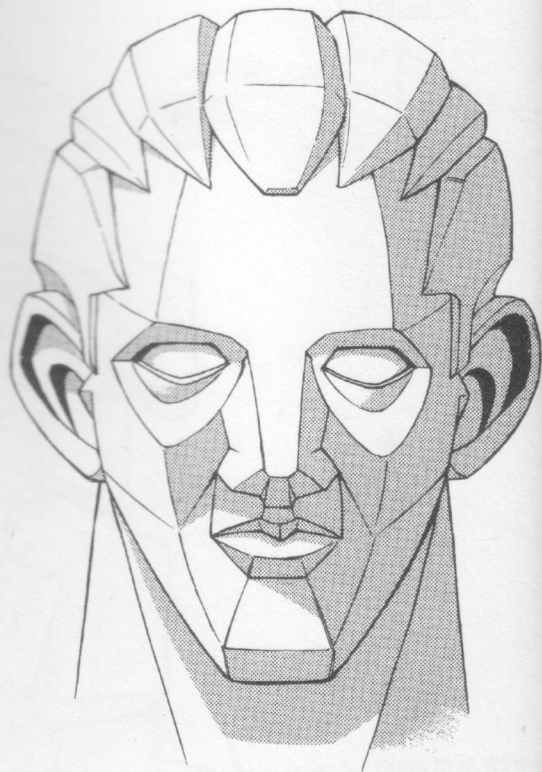


Example of finished block. Apply tone and plane.

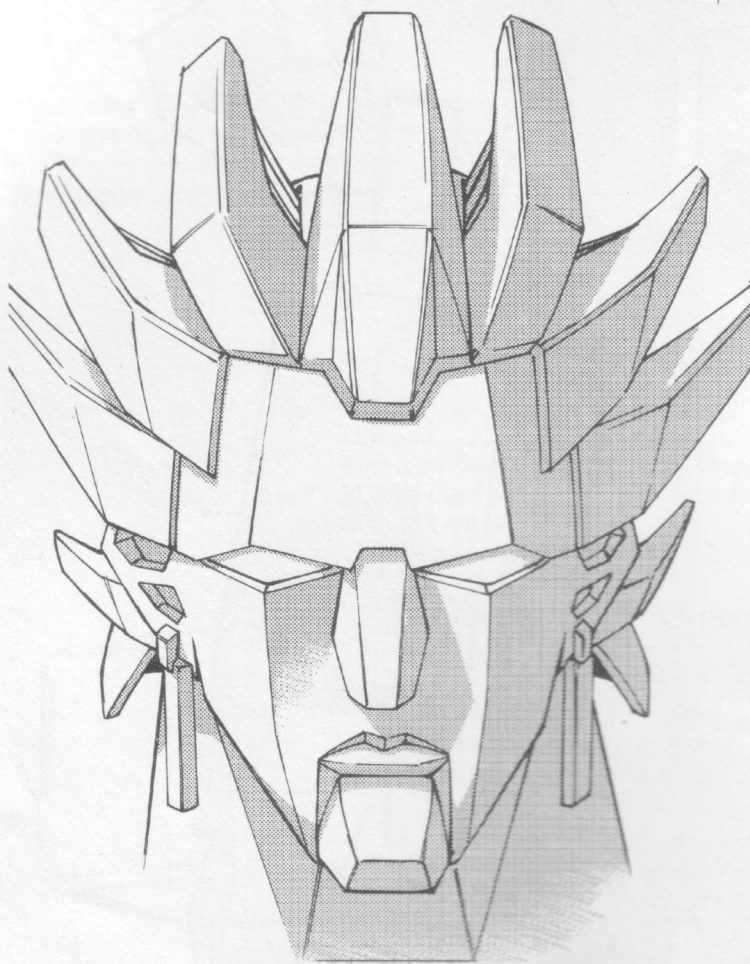
This robot was drawn by selectively removing corners and using dual contour lines. Tones were applied to accent the metallic feel of the surface.



The trick is to apply tones to only about 50% of the surface, leaving the other half white, thus creating a shining effect.

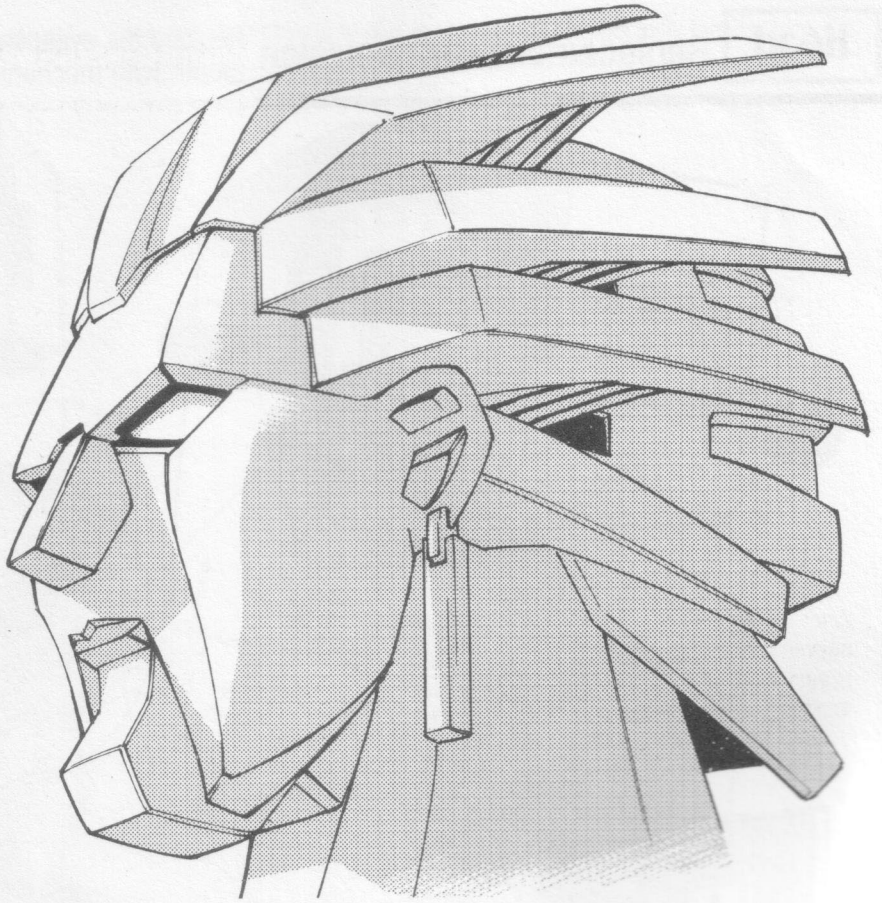


Since a beveled image simplifies the unevenness of the face/head and is blockish, it is easy to apply this effect to a robot head by making the lines sharp and giving it a metallic quality.



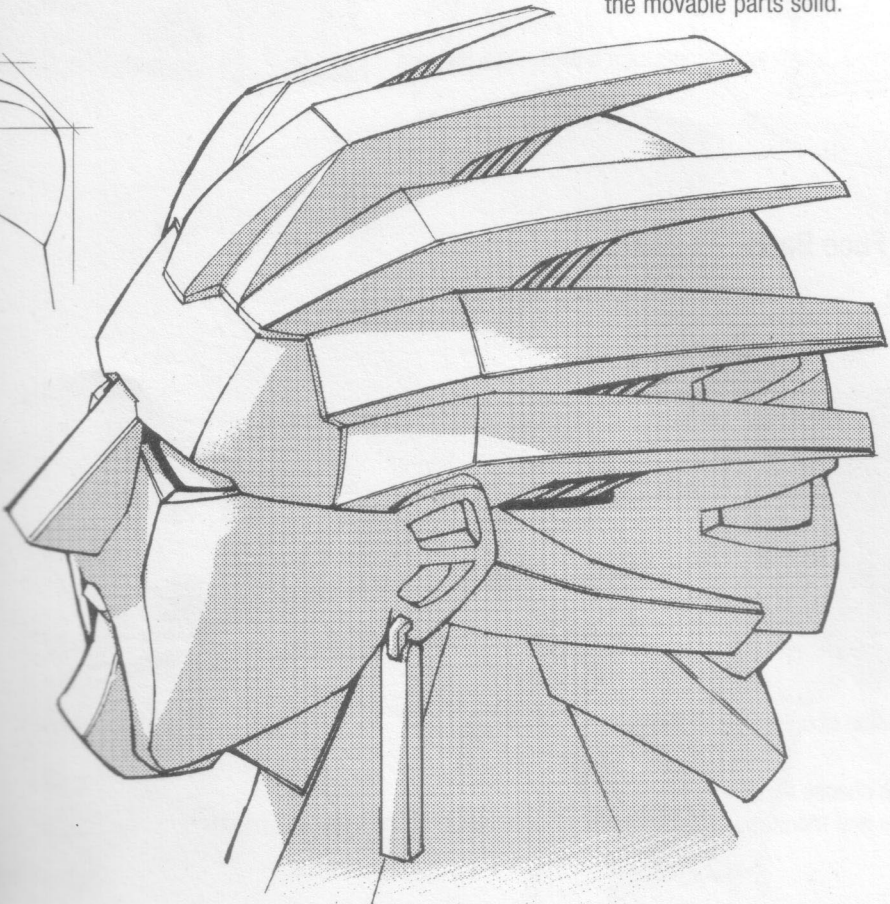
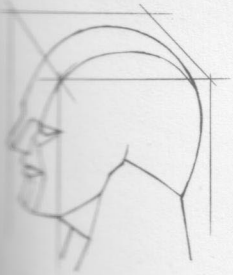
You can effectively express a metal-like cubic effect by using double lines for the edges of the part of the head signifying the hair.





You can make it look like removable armor is covering the face of a robot by making some lines bold and some thin.

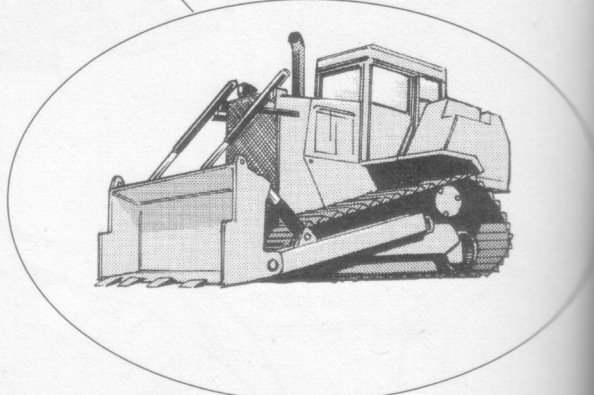
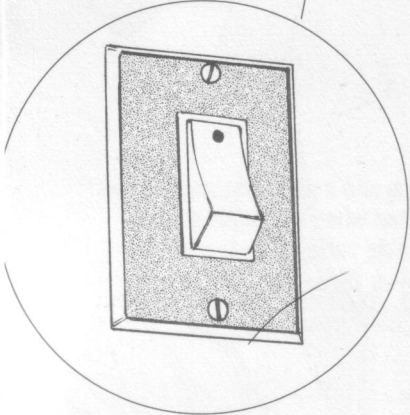
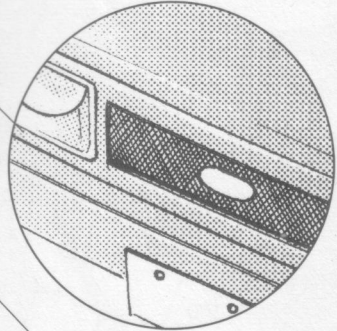
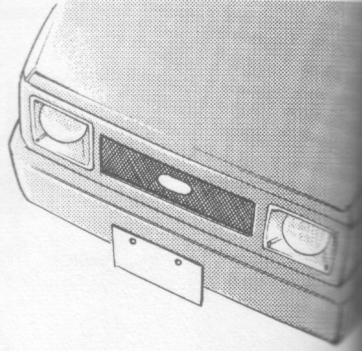
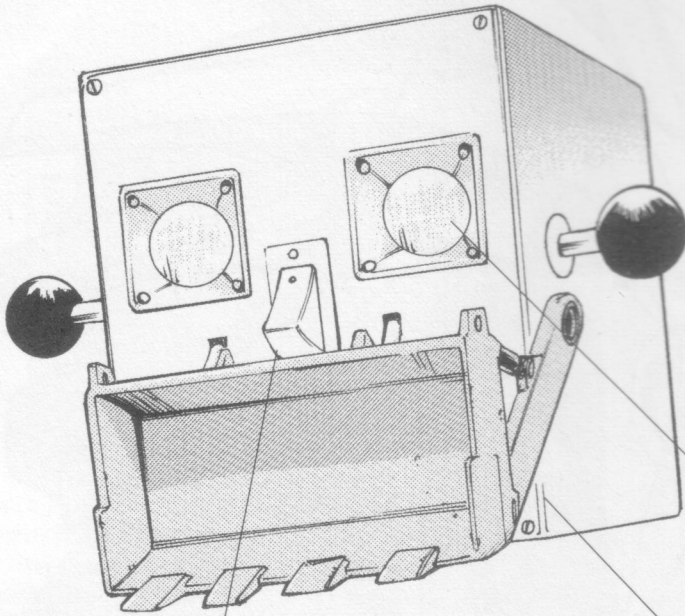
Heaviness and a robot-like molded feel are created when you make some of the movable parts solid.



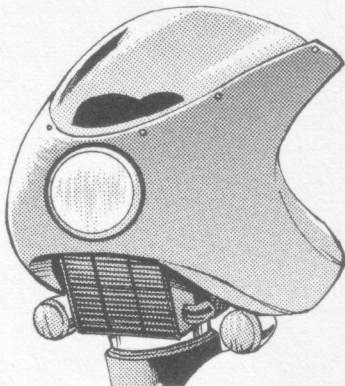
Head

Replacement and Omission

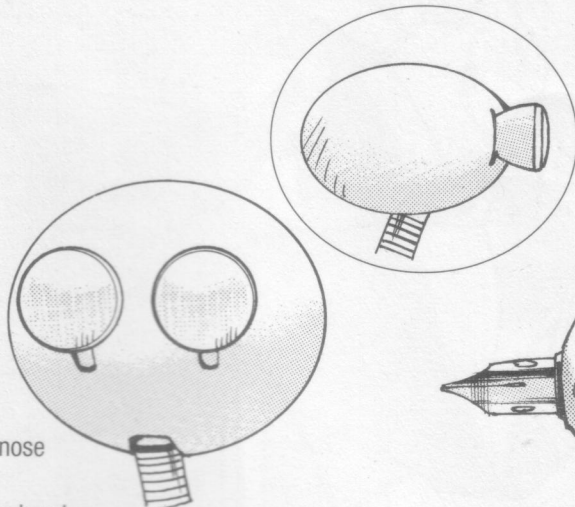
Replace the eyes, ears, nose and mouth with mechanical parts.



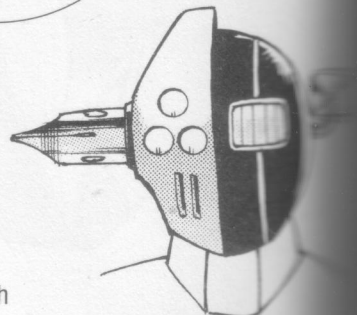
Omission of Face Parts



Omission of one eye and the nose



Omission of the nose and mouth

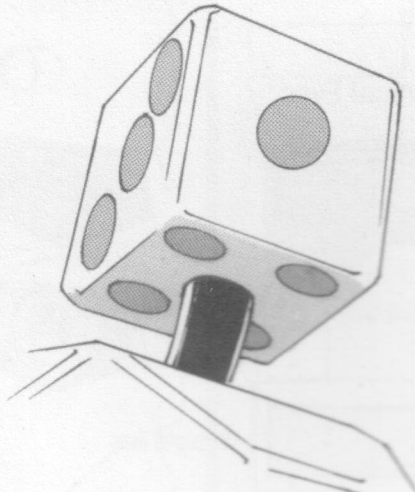
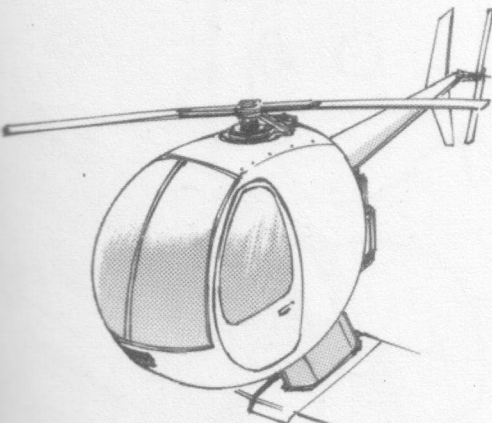
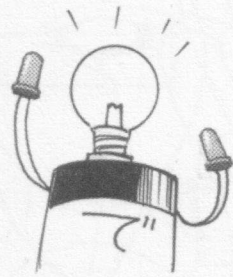
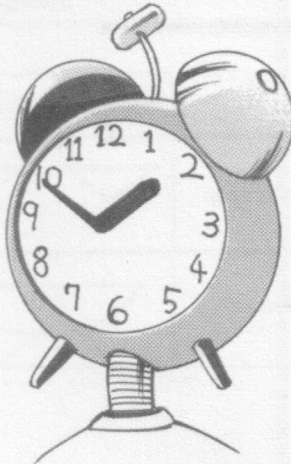
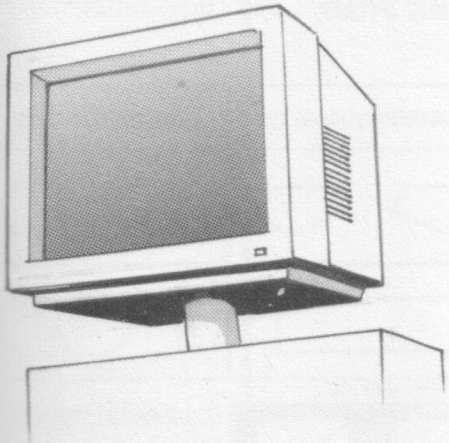


Asymmetrical

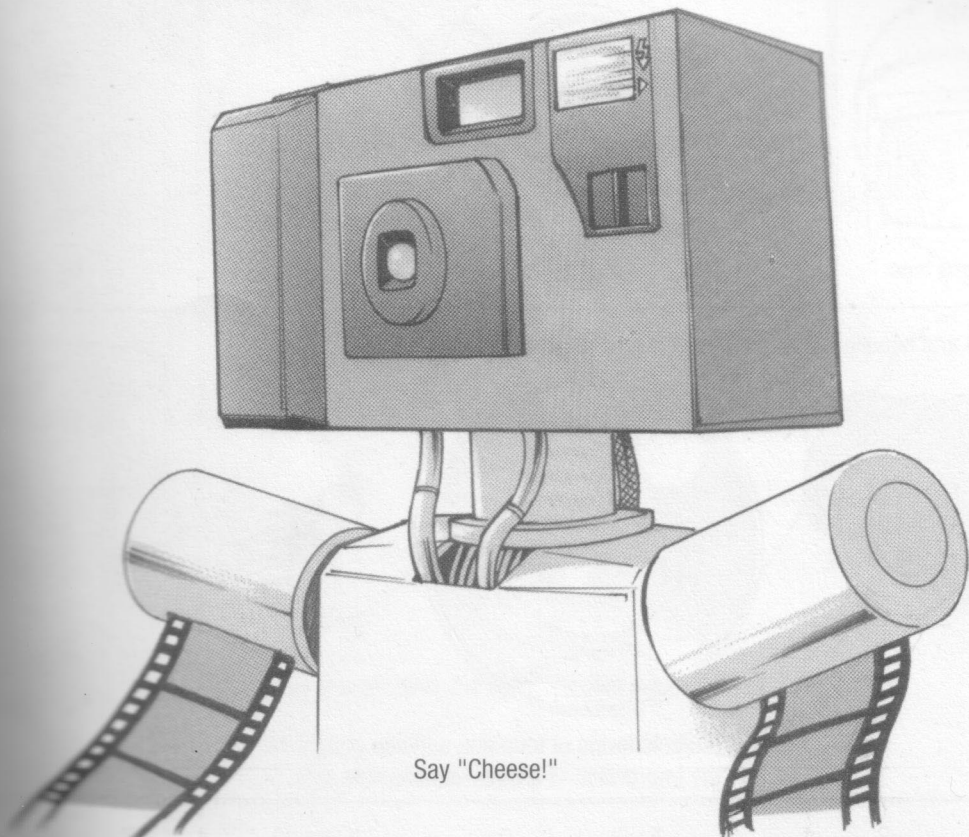
You are free to choose the shape of the head. The ears, nose and mouth are often omitted.

Replacement of the Head Itself

Use everyday objects to give your robot an unexpectedly familiar face.



You can also make a non-mechanical object look like a head.

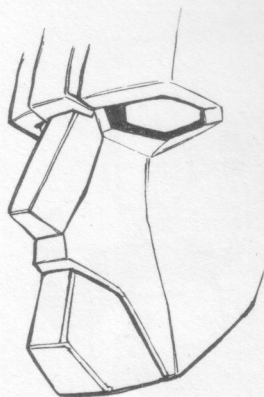


Say "Cheese!"

Head

Eye Shape and Size

The eyes are based on three basic shapes: triangles, squares and circles.

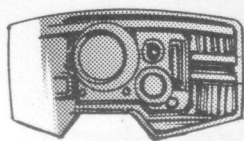


	Triangular/crescent type	Square/polygonal type	Round/oval type
Both eyes			
One eye			

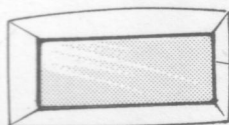
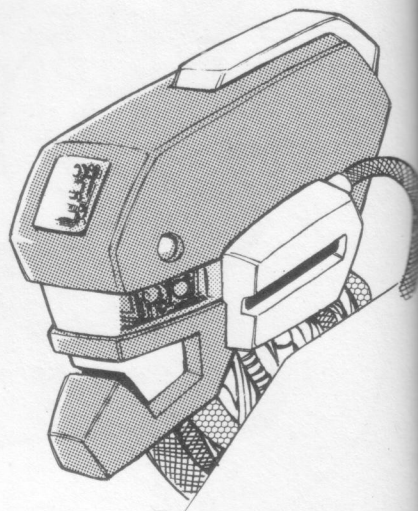
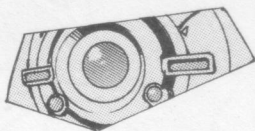
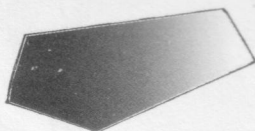


Combination/Goggles type

Mechanical Eyes

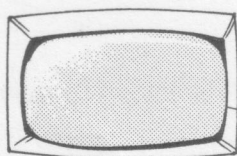


Goggles type



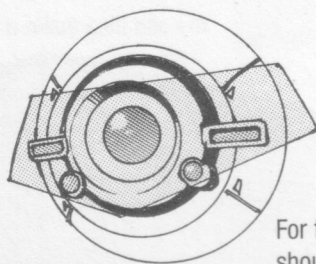
Straight line

Plate glass type



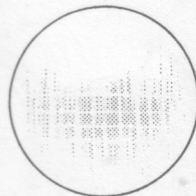
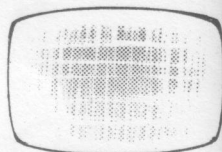
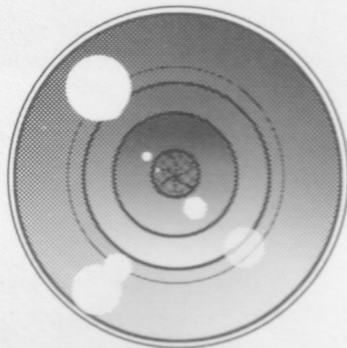
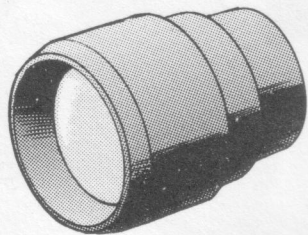
Curved line

Spherical-lens type



For the round-lens type, you should draw an entire eyeball.

Camera lenses and headlights can be used for mechanical eyes.

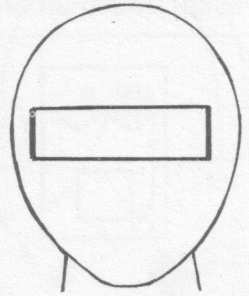
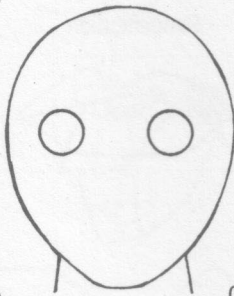
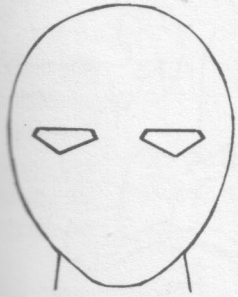


Use of multiple levels of tone and addition of light will create the impression of a three-dimensional lens.

Polygonal type

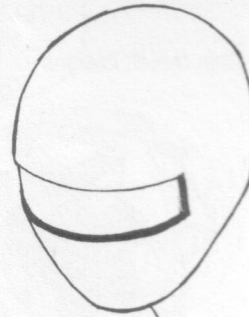
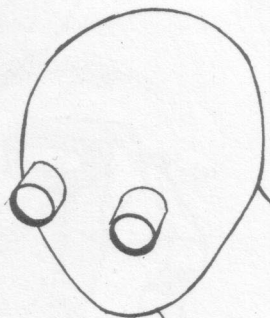
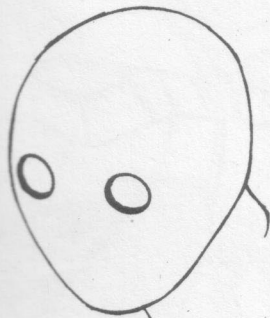
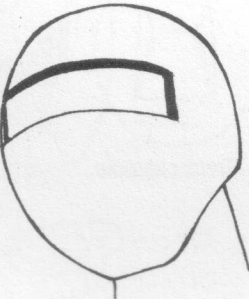
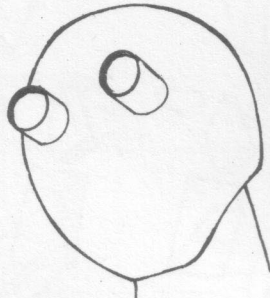
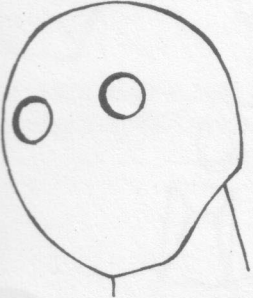
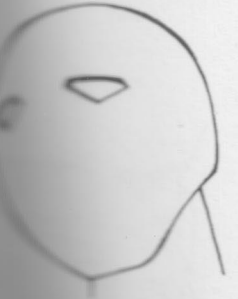
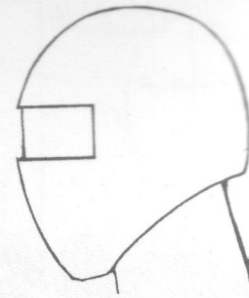
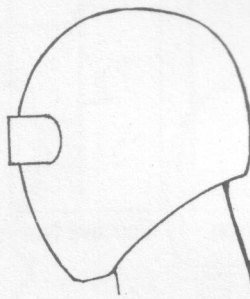
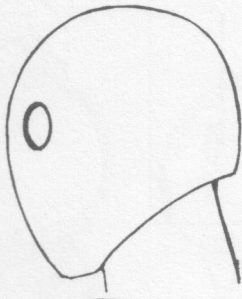
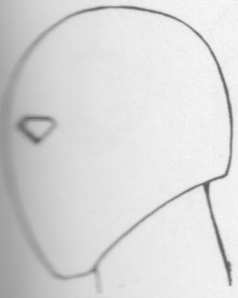
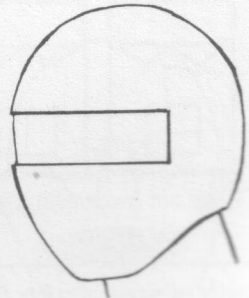
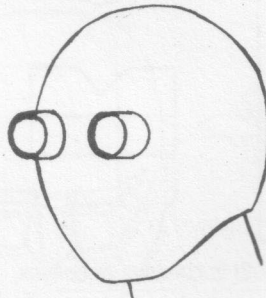
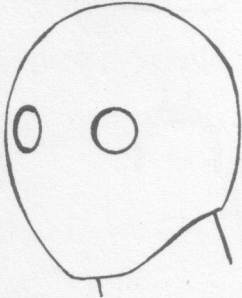
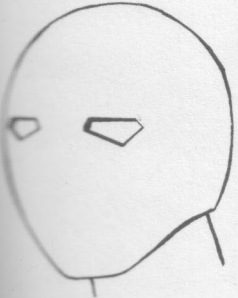
Round type

Rectangular type



Concave type

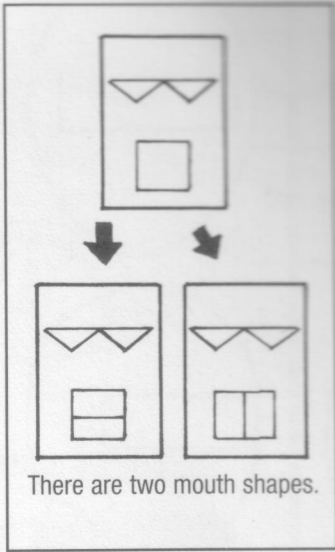
Convex type



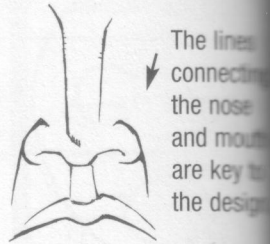
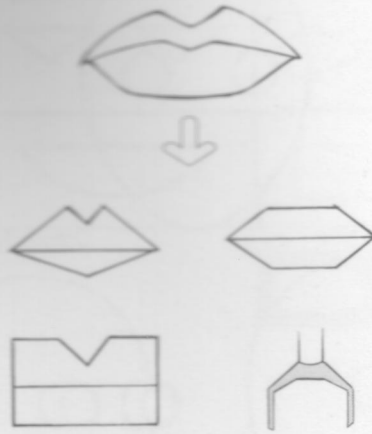
Decide whether the eyes are concave or convex.

There are two general approaches to drawing a robotic mouth: One is to consider the shape formed by the lines that connect the nose and mouth, while the other is to view the mouth in relationship to the overall structure of the head.

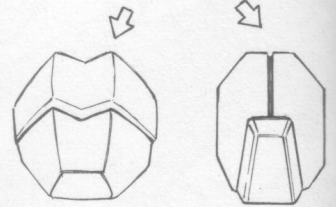
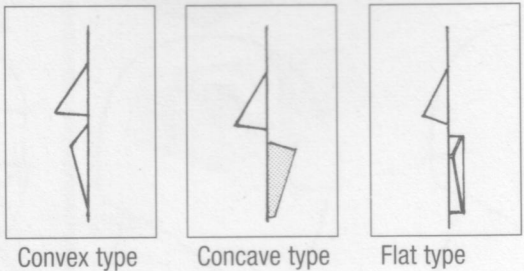
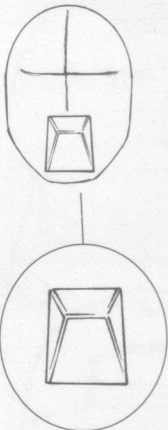
Design Based on Shape



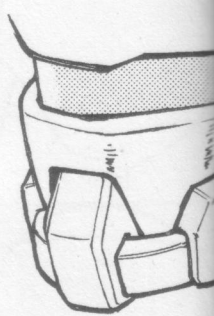
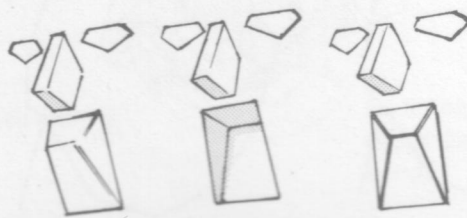
Simplification



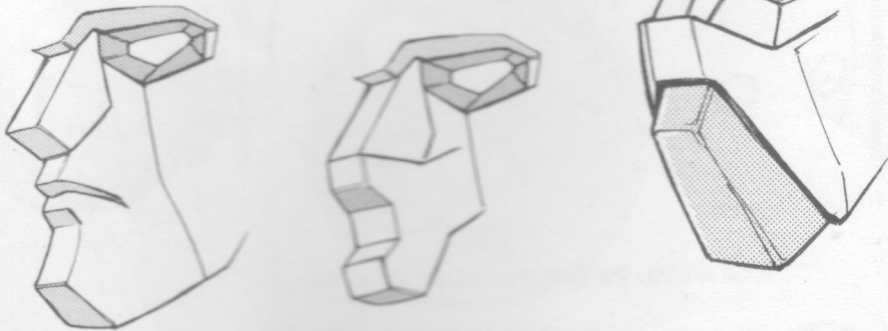
Clearly establish whether the mouth is concave or convex.



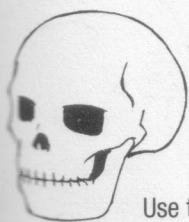
Front example



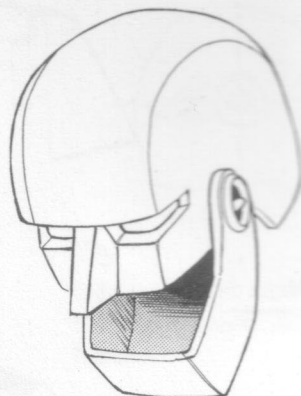
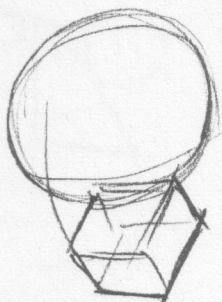
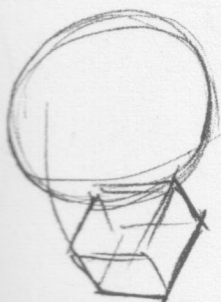
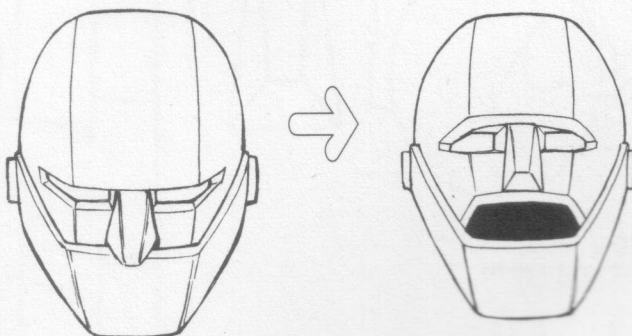
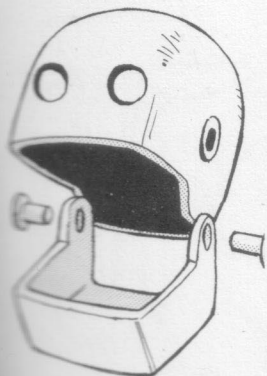
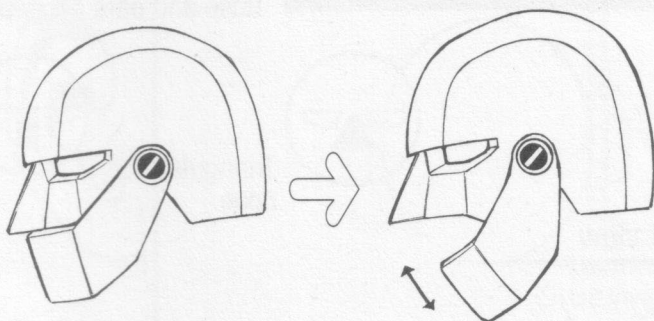
Other mouth designs



Design Based on Structure

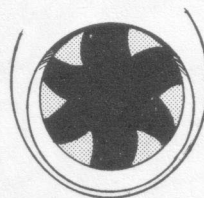
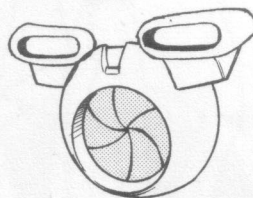
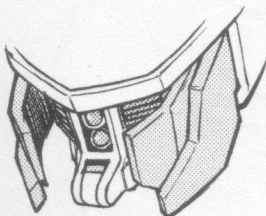
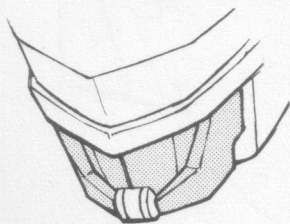
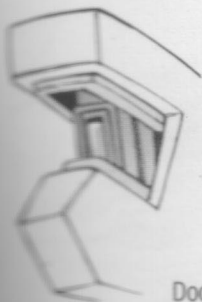


Use the shape of a human skull as a point of reference.



If the robot's mouth is open, the bottom should be shaded to create a sense of depth.

Open mouth



Door type
(moves left and right)

Circular shutter type
(opens and closes like a camera lens)

Head

Nose and Ears

Design the nose and ears based on basic beveled shapes. Or, don't draw them at all; professional manga artists often omit the nose and ears altogether.



Triangular nose

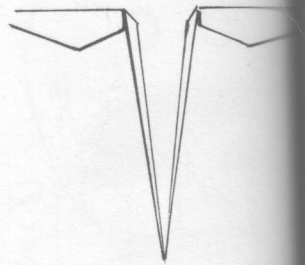
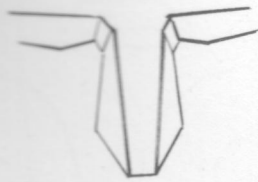
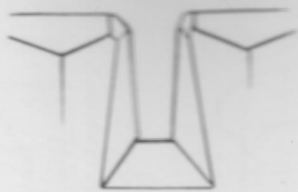


Rectangular nose

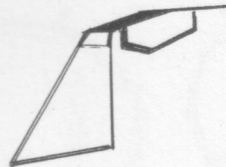


Inverted-triangular nose

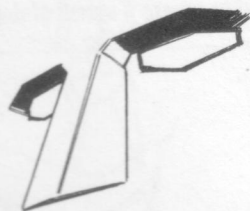
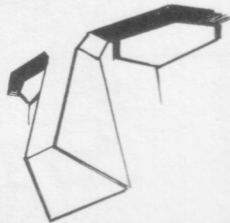
Front view



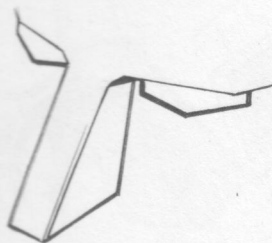
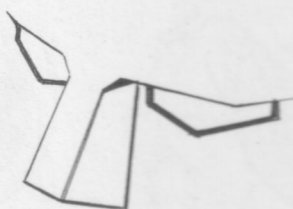
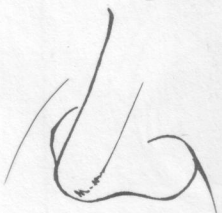
Side view

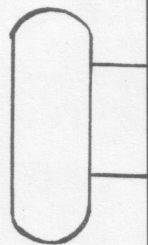
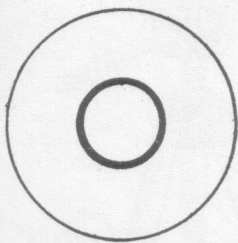
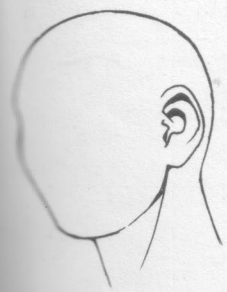


Upward view



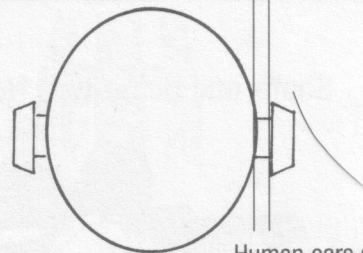
Downward view





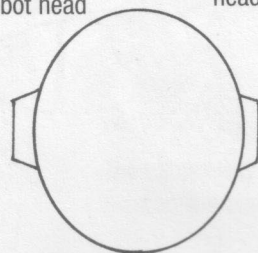
Robot ears are generally rectangular or round. Make them simple.

Human head

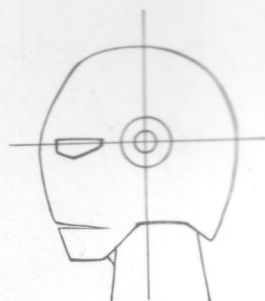


Human ears stick out from the head.

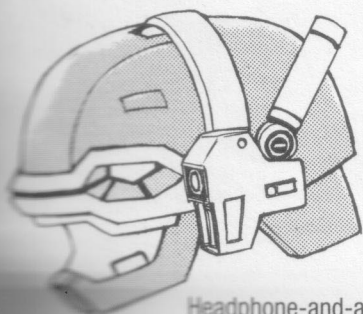
Robot head



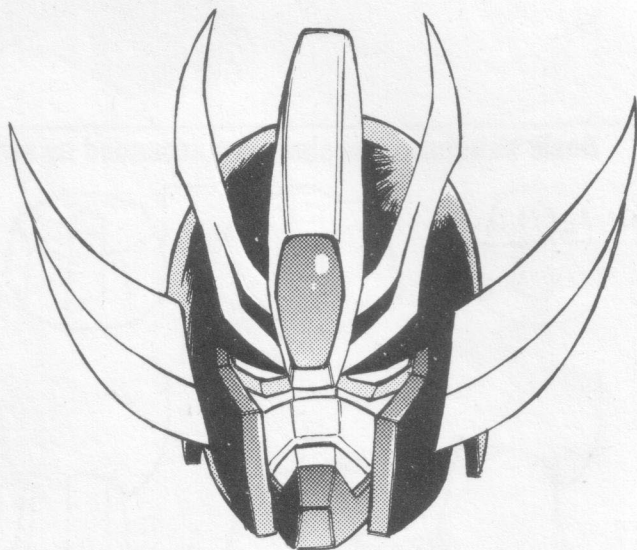
Robot ears are usually molded into the head.



Drawing the ears near the middle of the head will make the robot look human.



Headphone-and-antenna type



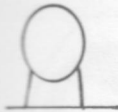
Horn-shaped type

Head

Neck

Think in terms of how the neck supports the head.

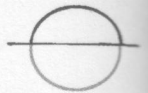
Three basic neck types



Thick neck

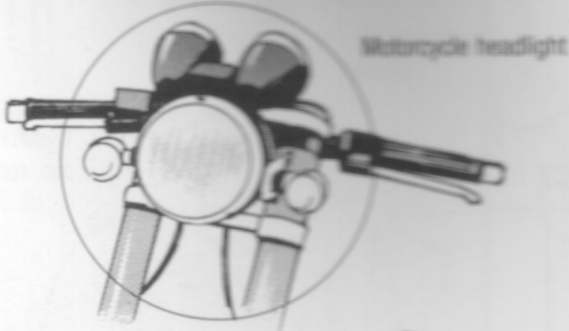


Thin neck

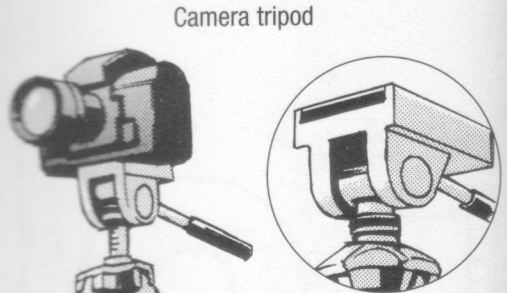


No neck
(lodged in the body)

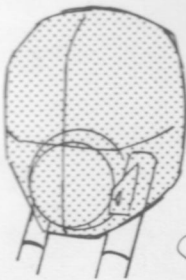
Shaft- and Hinge-type Necks



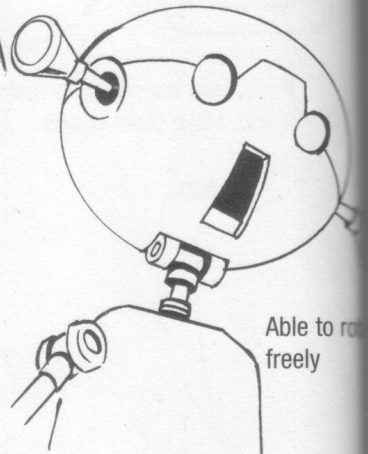
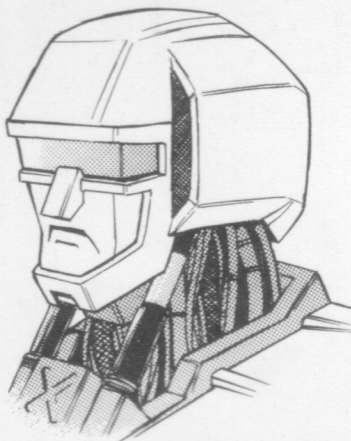
Motorcycle headlight



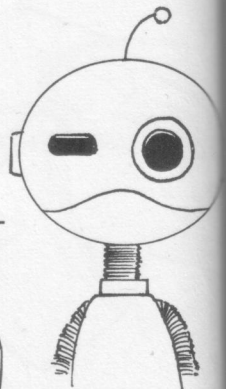
Camera tripod



Replace headlight
with head

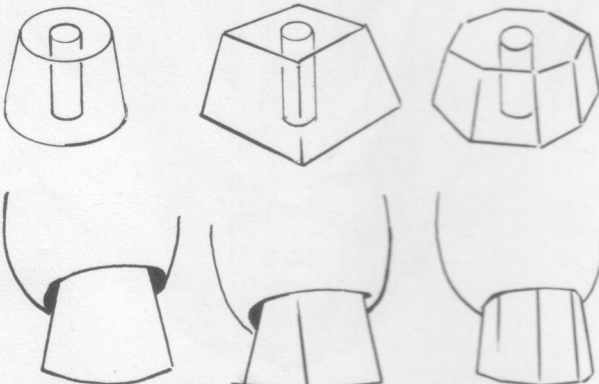


Able to rotate
freely



Spring- or
accordion-type
cover

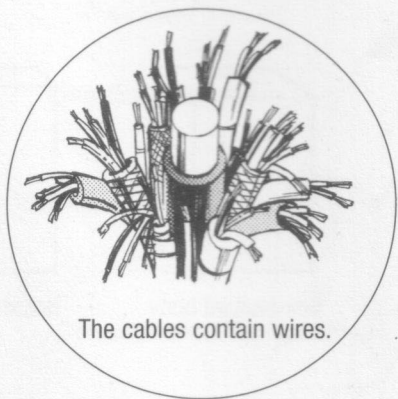
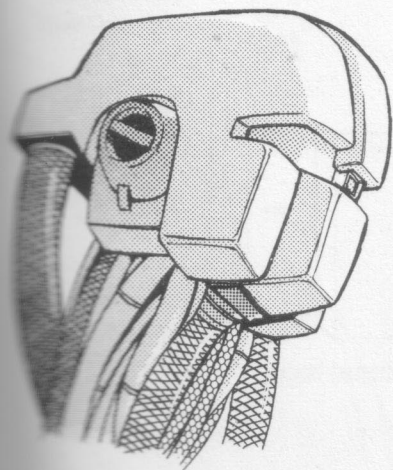
Basic structure: The shaft is surrounded by armor.



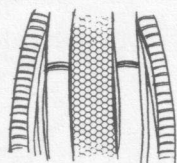
Protective cover used
instead of armor



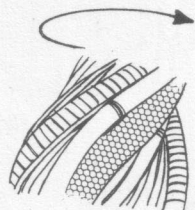
Cable- and Hose-type Necks



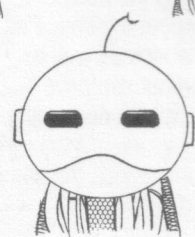
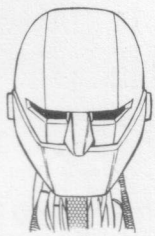
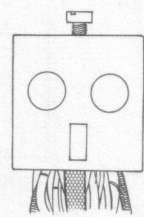
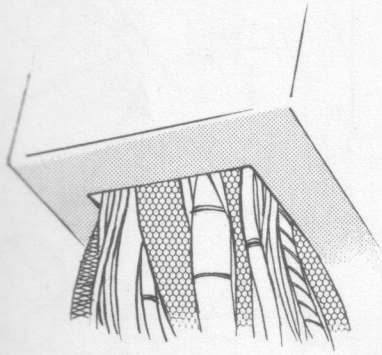
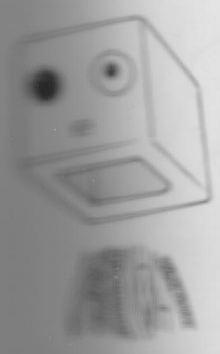
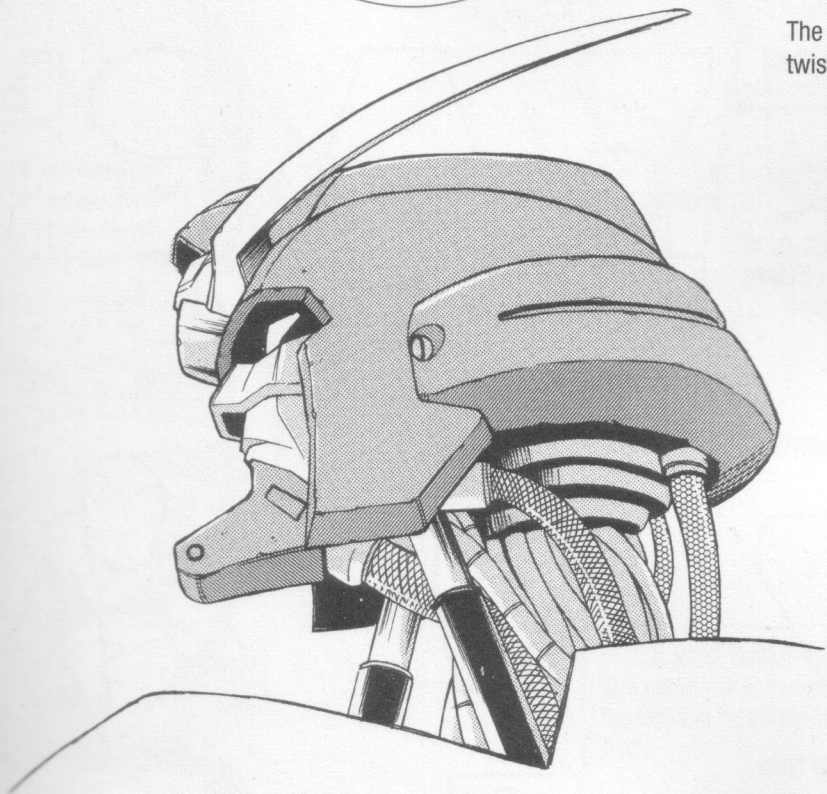
The cables contain wires.



Representing twisting



The cables and hoses twist as the head turns.



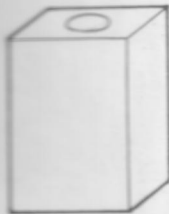
It looks like the robot is in for maintenance if you draw cables and hoses instead of a neck.

The trunk can be a single part combining the chest, stomach and hips, or two or more separate parts.

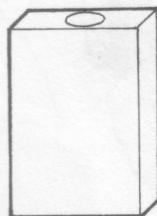
Single-part type Three basic shapes



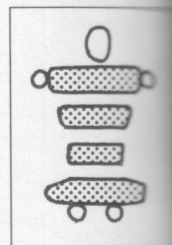
Cylindrical body



Box-shaped body



Board-shaped body



The special "centipede-type" body consists of multiple parts.

Two-part type



Chest part
Four basic shapes



Inverted triangle



Stand



Oval



Square

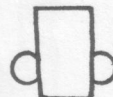
Hips part
Three basic shapes



Briefs type



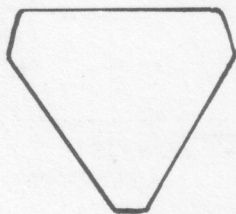
T type



I type

The I type is the skeleton of the briefs type and a simplified version of the T type.

Chest Patterns

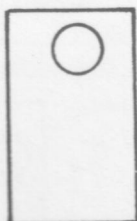
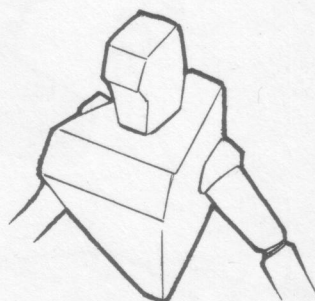


Inverted triangle type

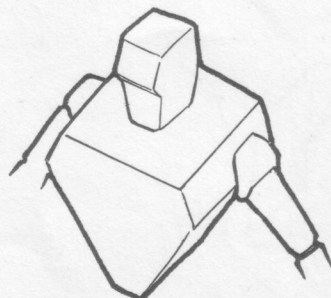
Side view



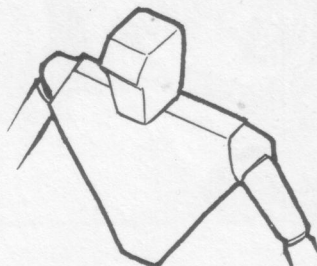
Irregular cone



Normal box



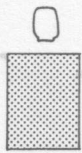
Board



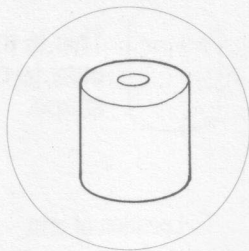
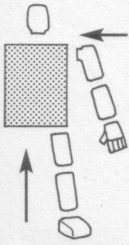
When designing the body of a robot, think about the shape as seen from the side as well as the front. A robot can have a totally different look depending on the thickness even if the design and shape look the same from the front.

The Art of Design

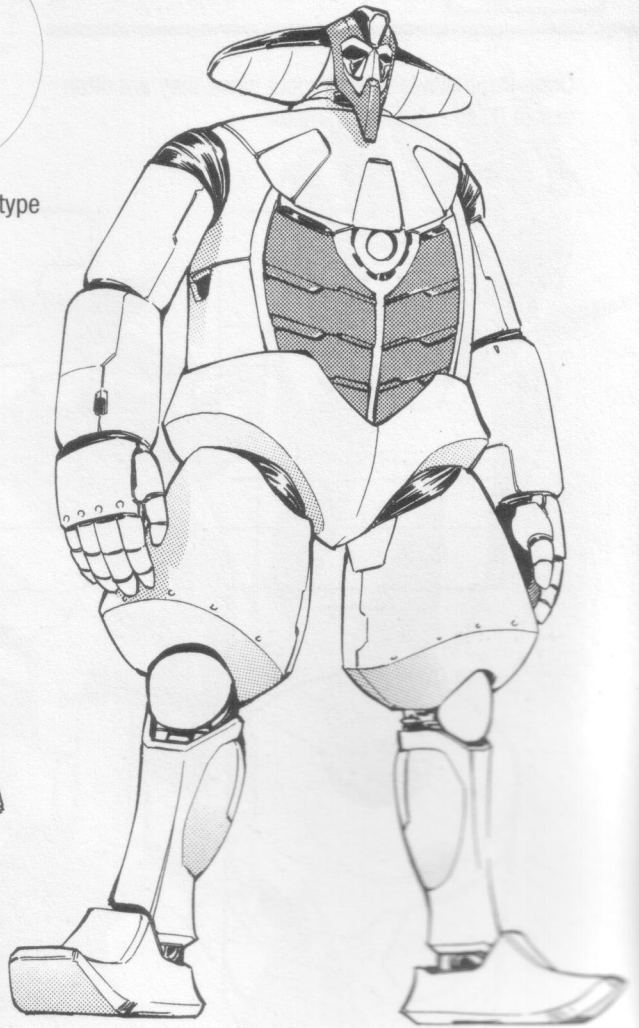
1. Choose body type.



2. Attach arms and legs of your choice.



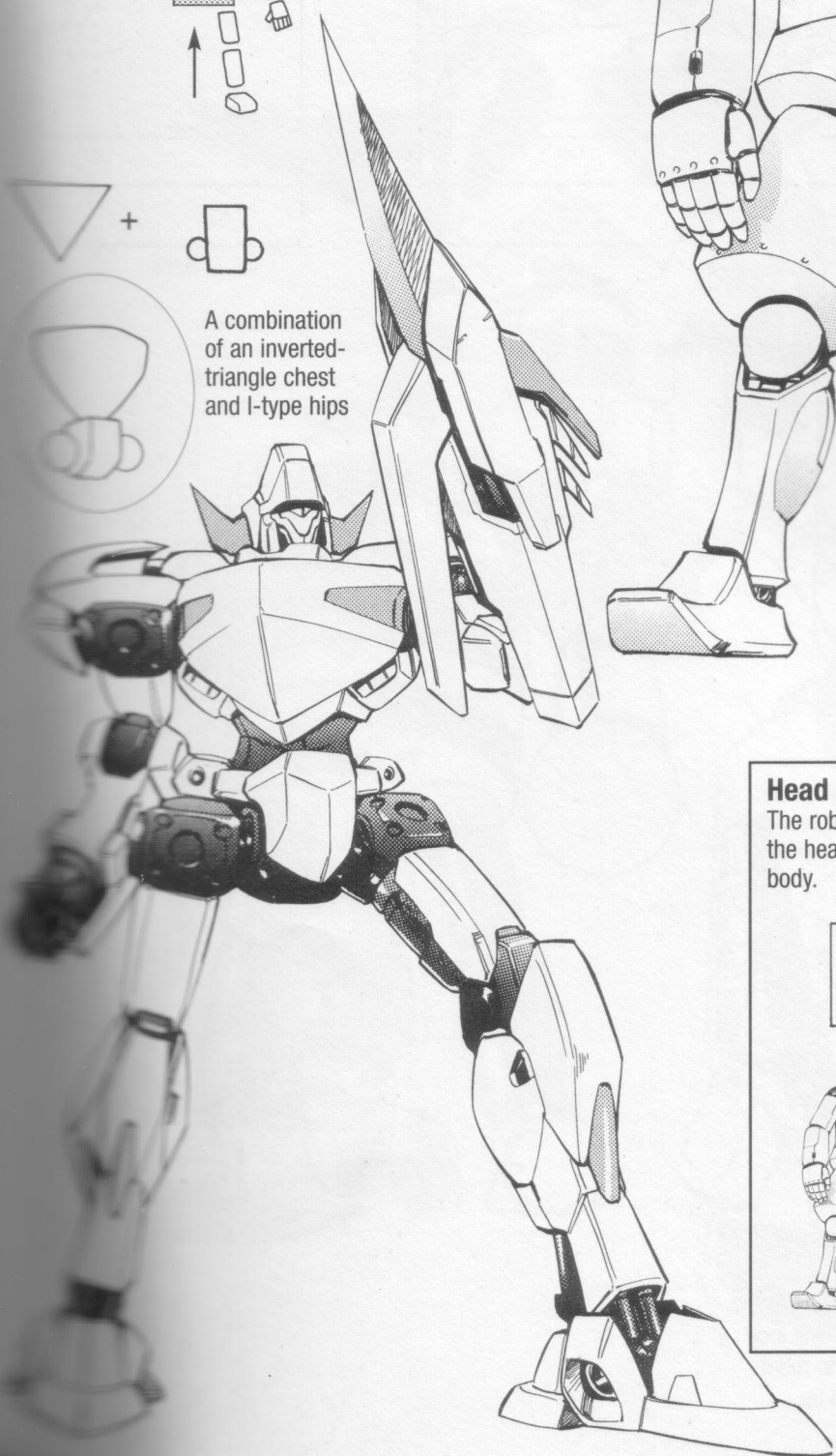
Cylindrical-body type



+

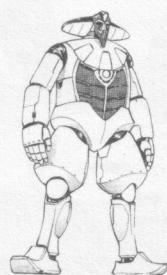
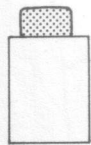
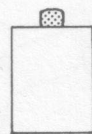


A combination of an inverted-triangle chest and I-type hips

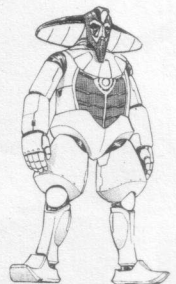


Head and body balance

The robot will look more intimidating if the head is relatively smaller to the body.



Good



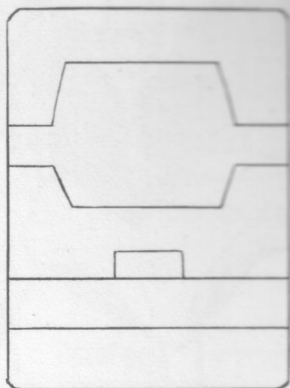
Bad

Trunk Type 1: Cylindrical Body

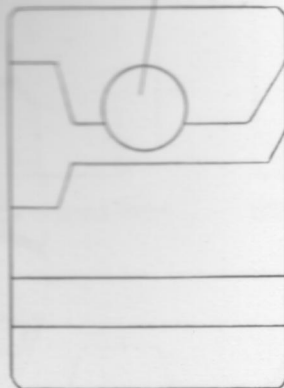


This is the classic "potbellied" robot. It is easy to draw stocky, solid robots using this shape.

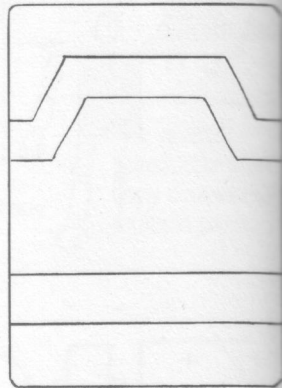
Draw three views of your robot since they are often drawn from a variety of angles.



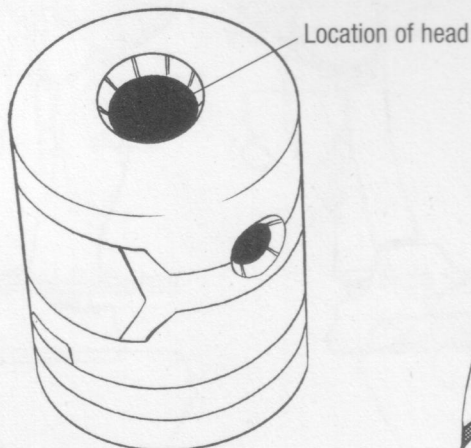
Front



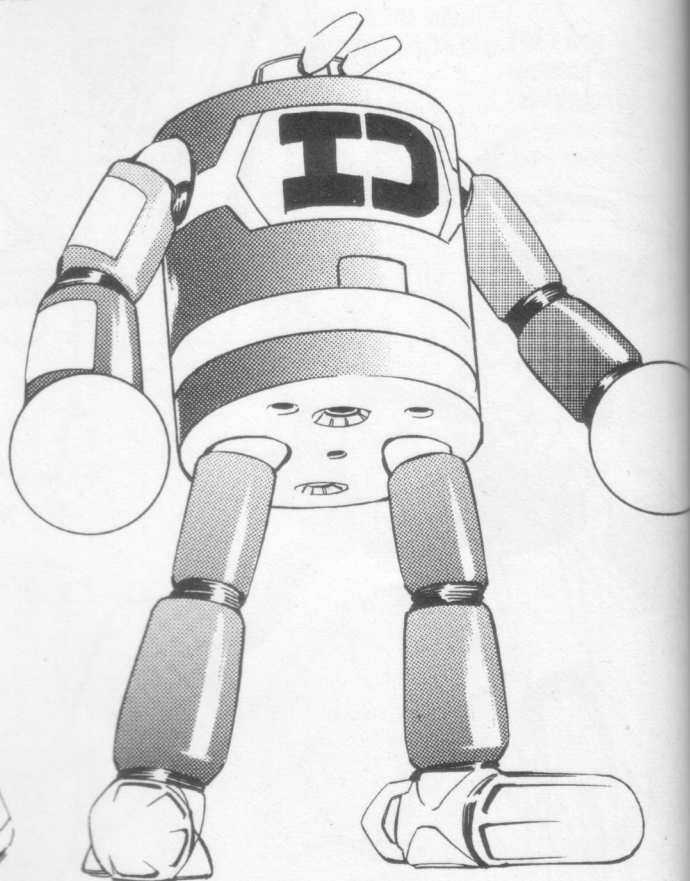
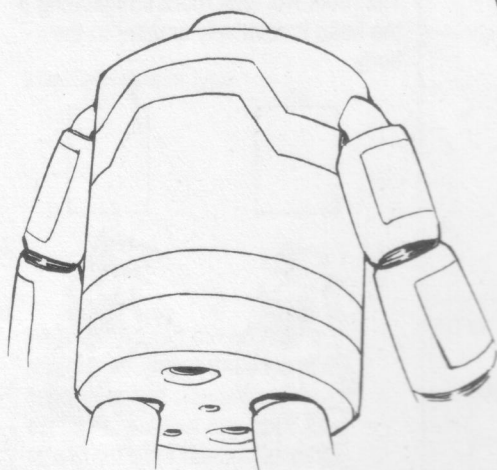
Side



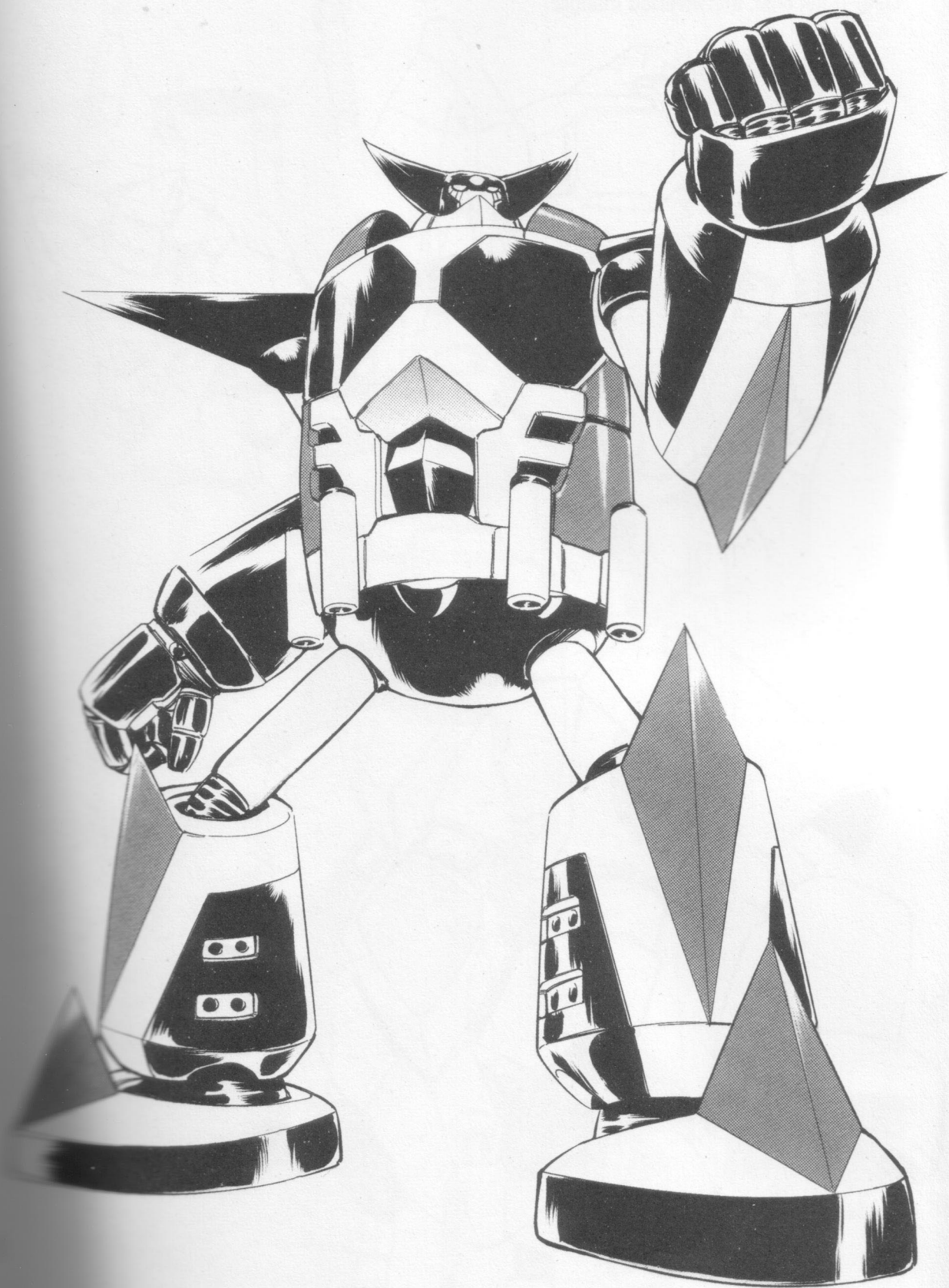
Back



As seen from above



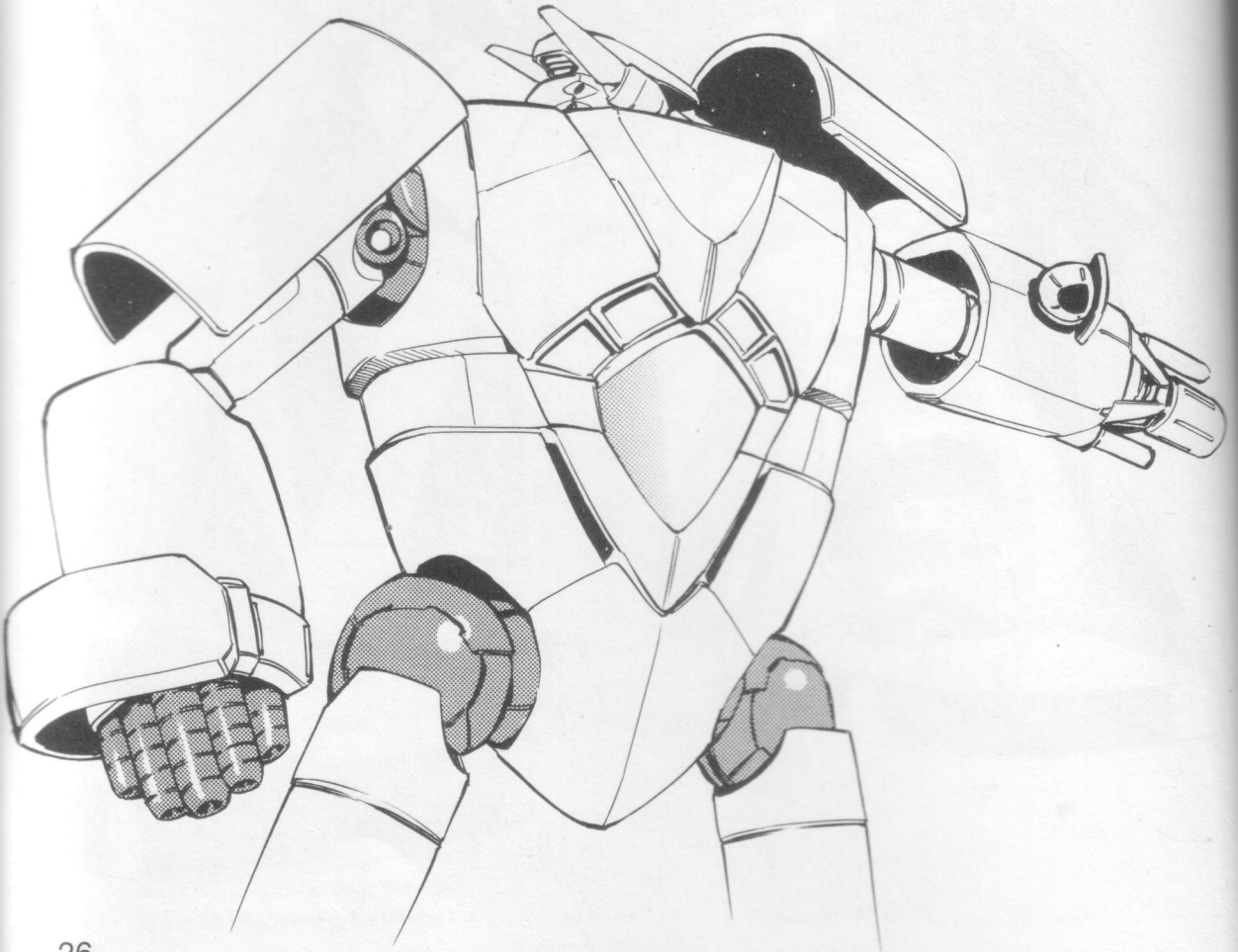
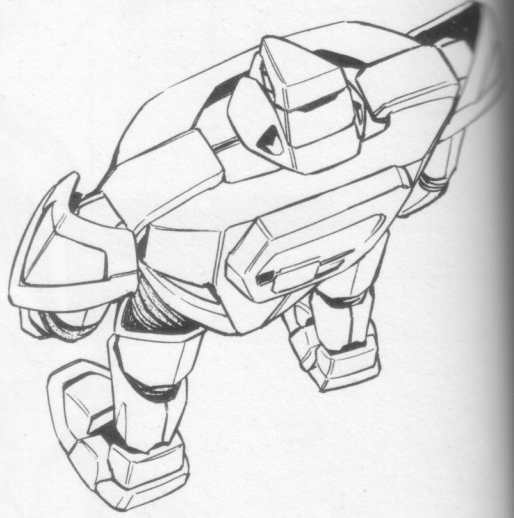
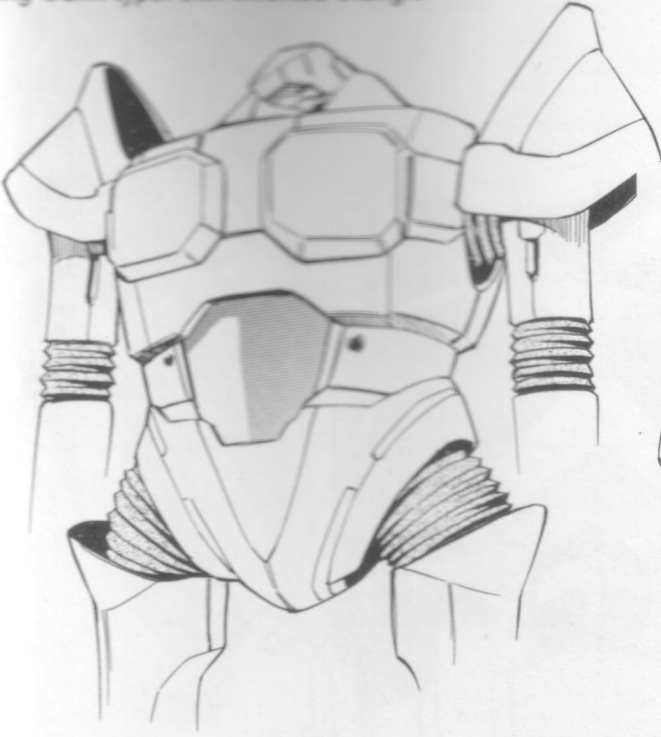
Carefully choose the locations of the arms and legs so they will look natural yet strong when the robot is viewed from the ground up.



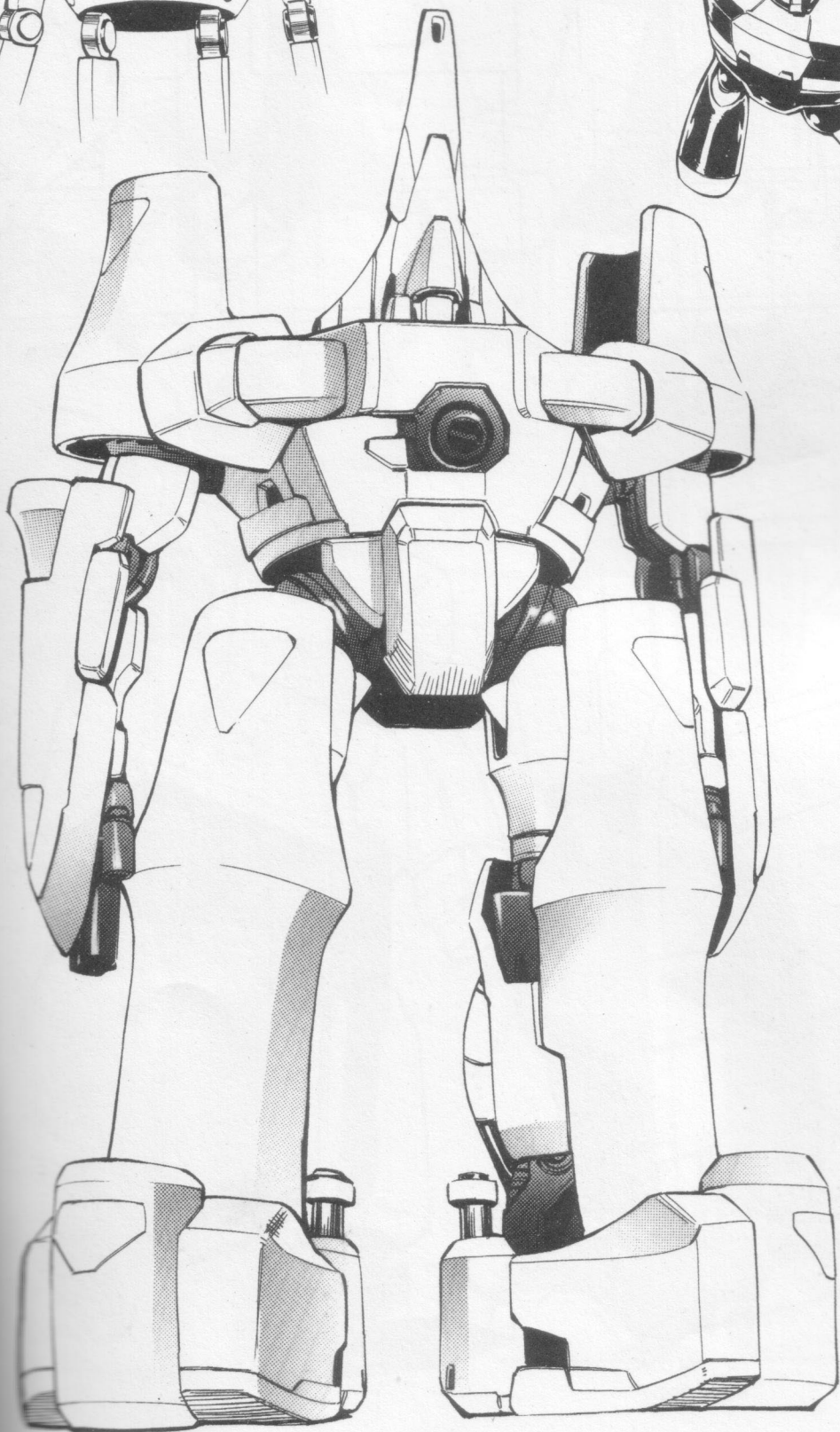
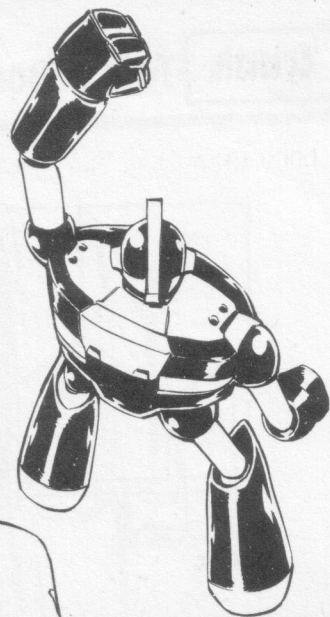
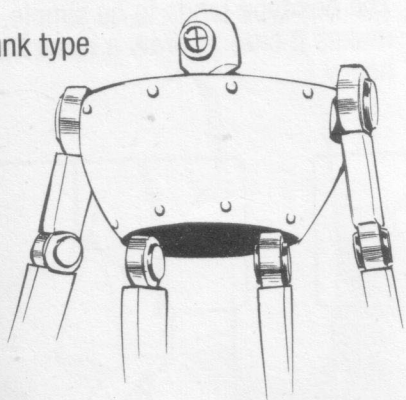
Cylindrical Body Variations

Robots with short or thin trunks look more intimidating than those with stocky ones.

Long-trunk type: thin inverted triangle

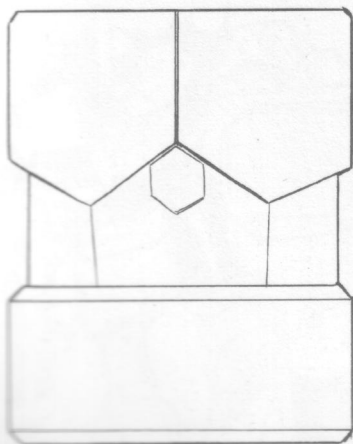


ort-trunk type

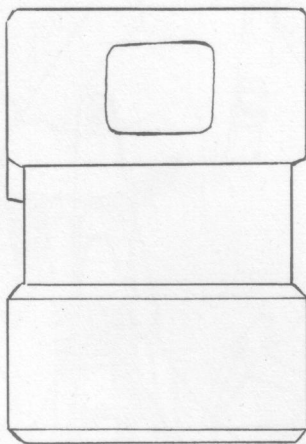




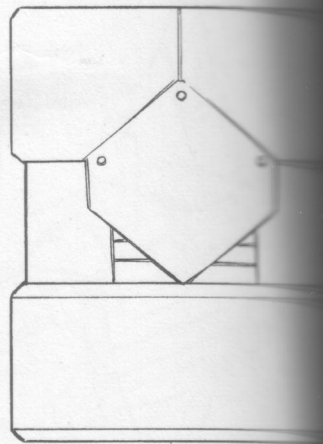
The box type tends to be simple, which makes it easy to draw a robot that looks heavy.



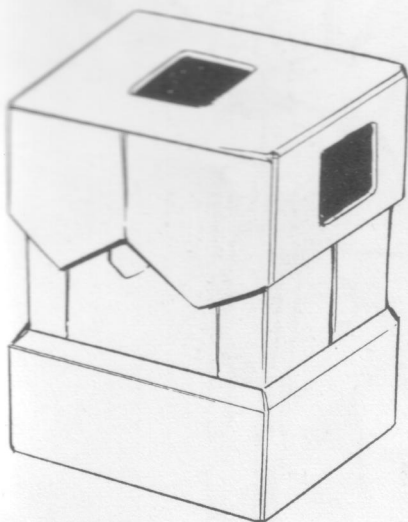
Front



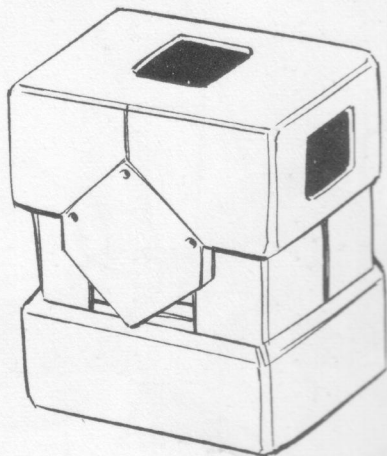
Side



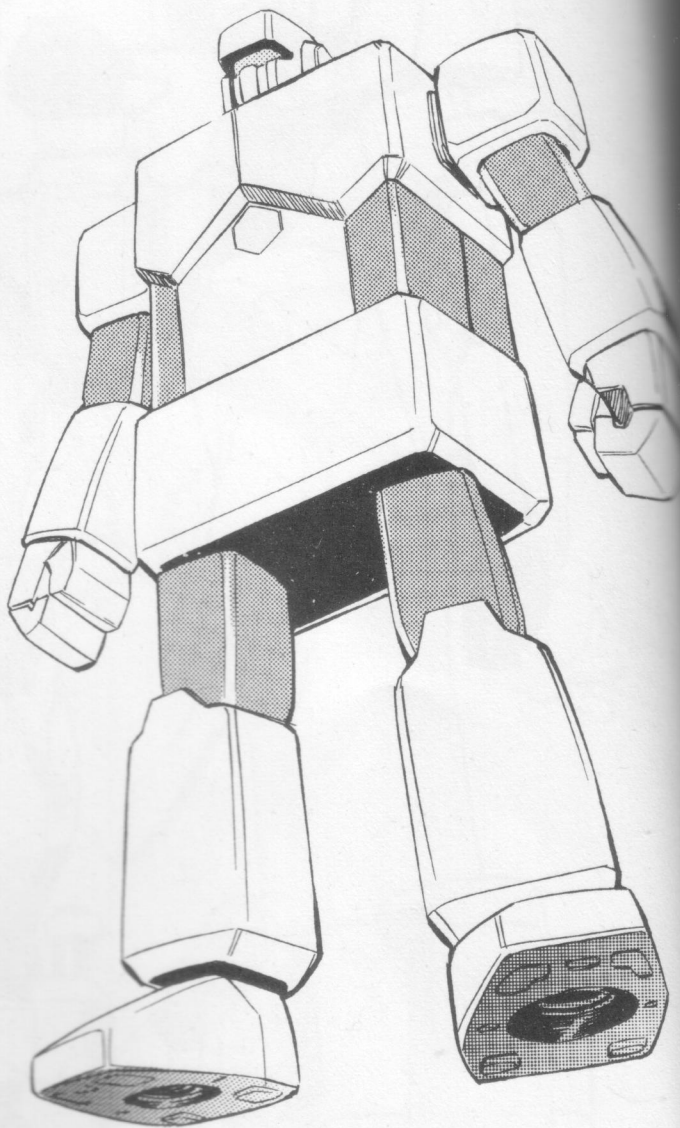
Back

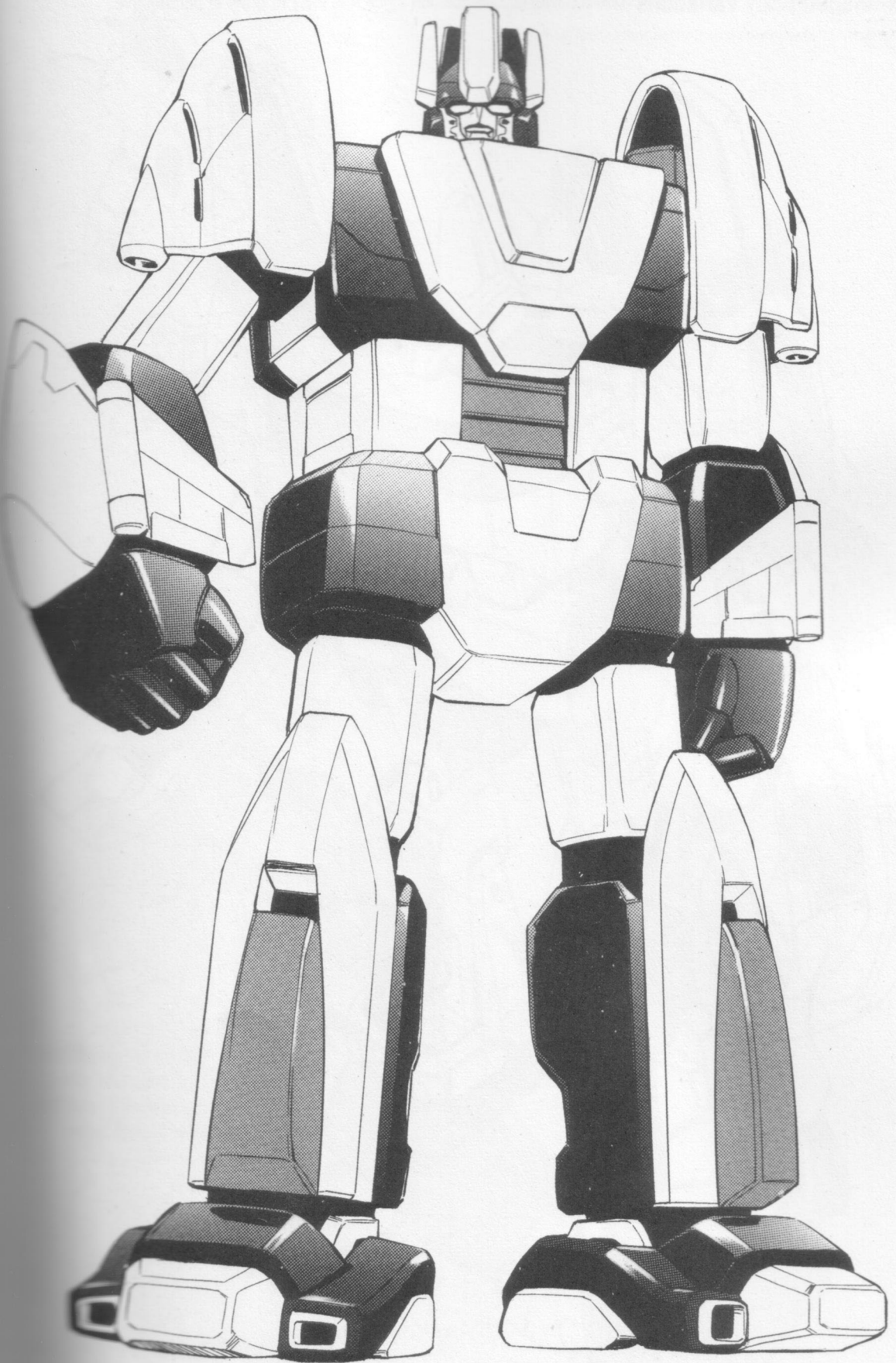


Looking down from front

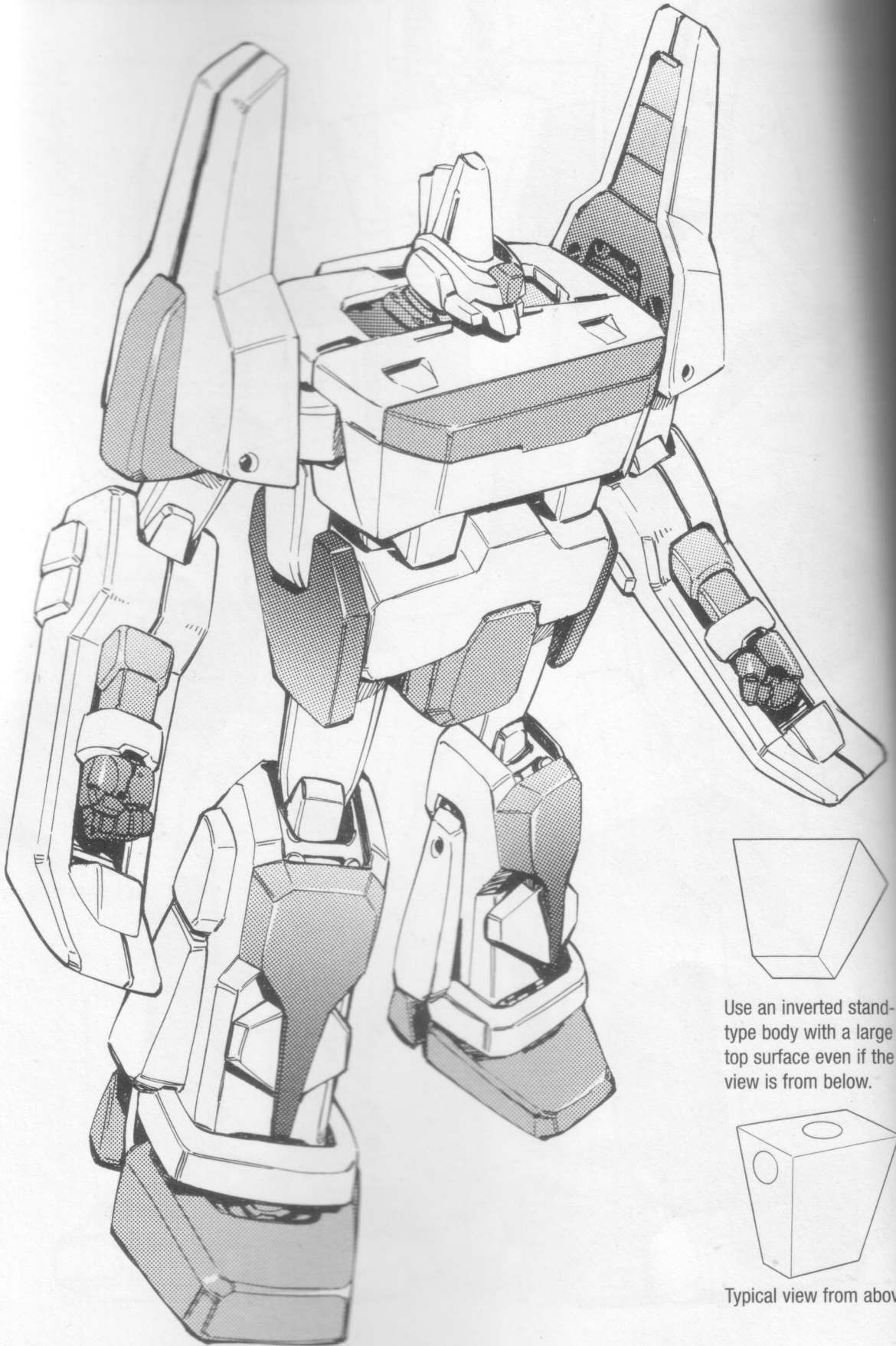


Looking down from behind



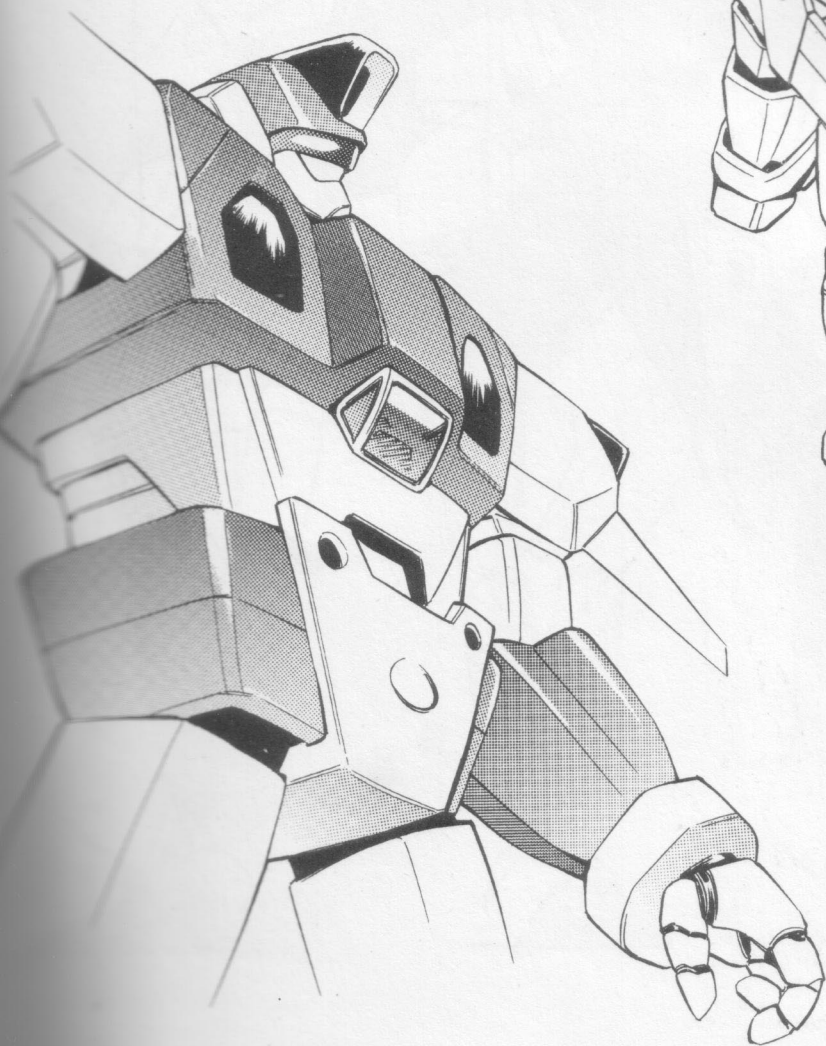
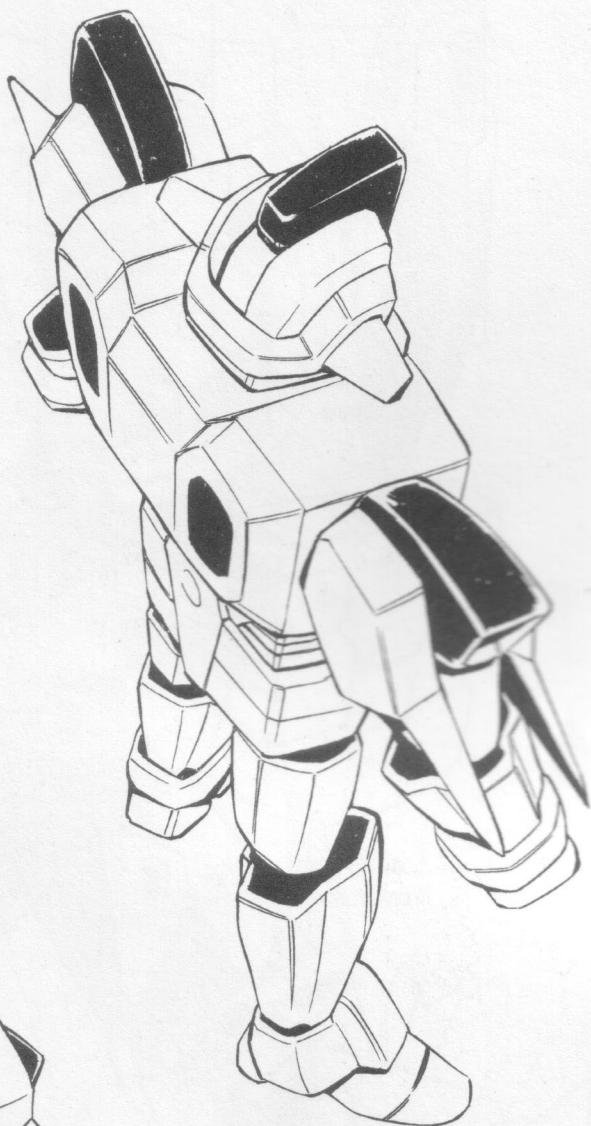
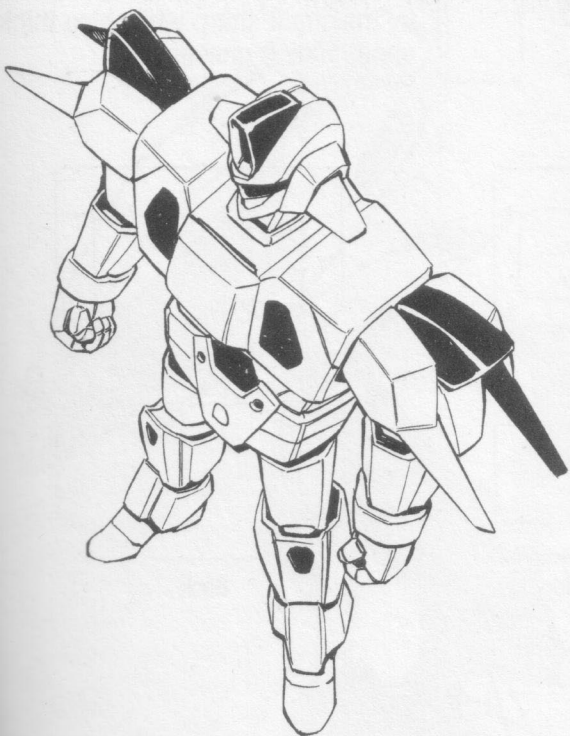


Box-shaped Body Variations Use a powerful composition since it is easy to draw in perspective.



Use an inverted stand-type body with a large top surface even if the view is from below.

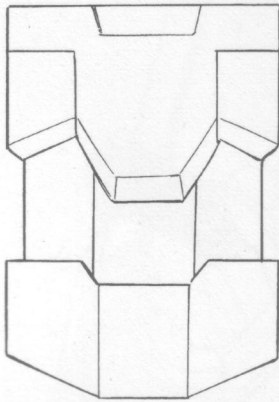
Typical view from above



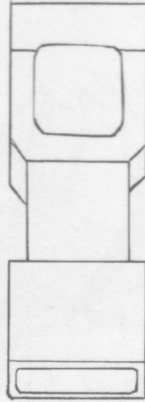
Trunk Type 3: Board-shaped Body



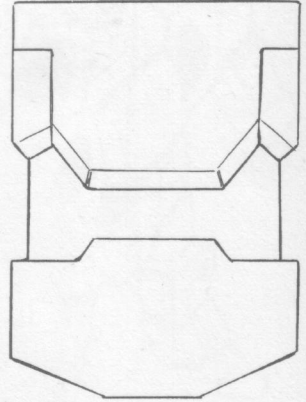
Attempt to make the most of this thing by making it sharp while also thinking about adding unevenness.



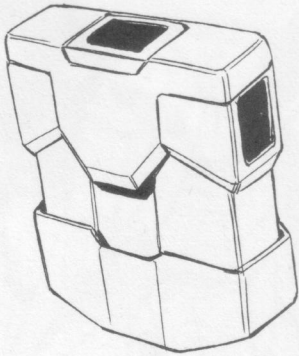
Front



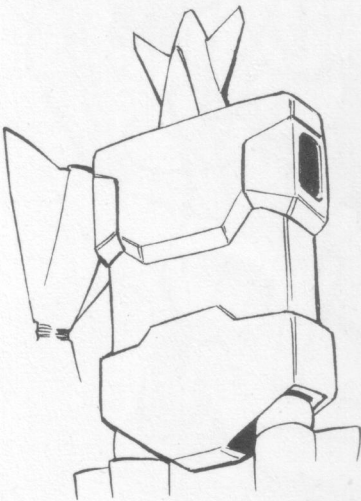
Side



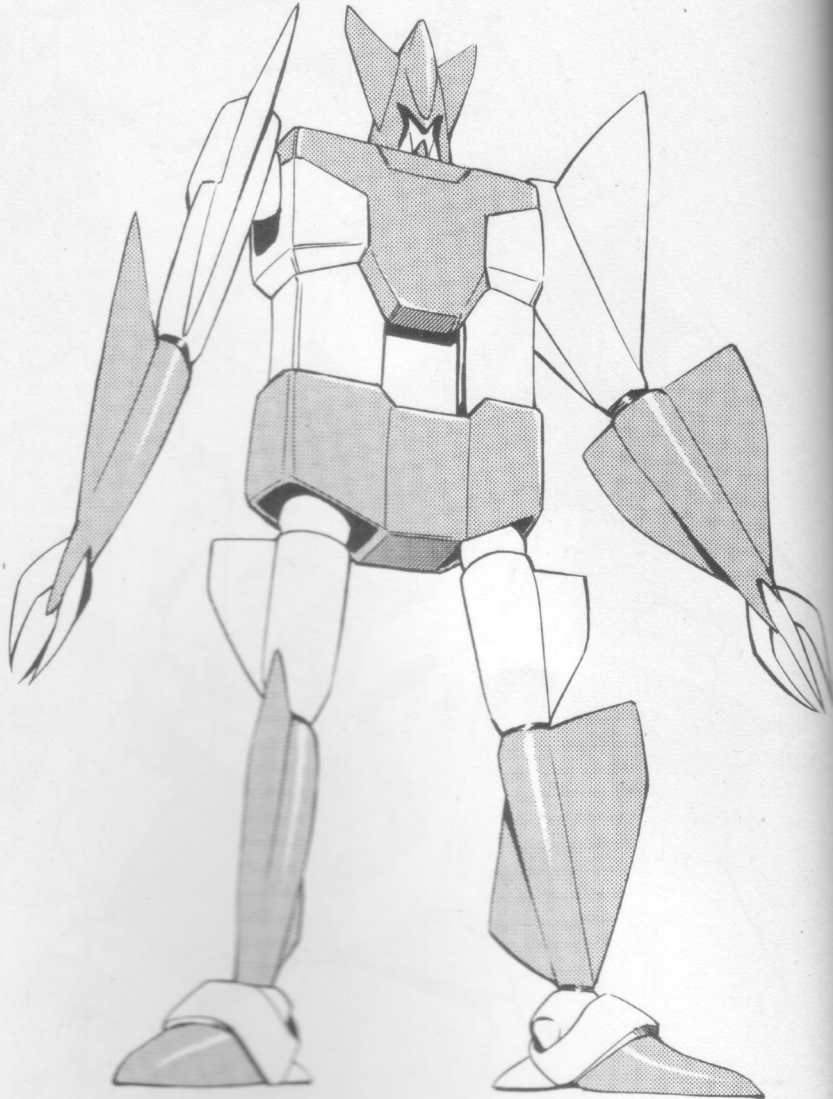
Back

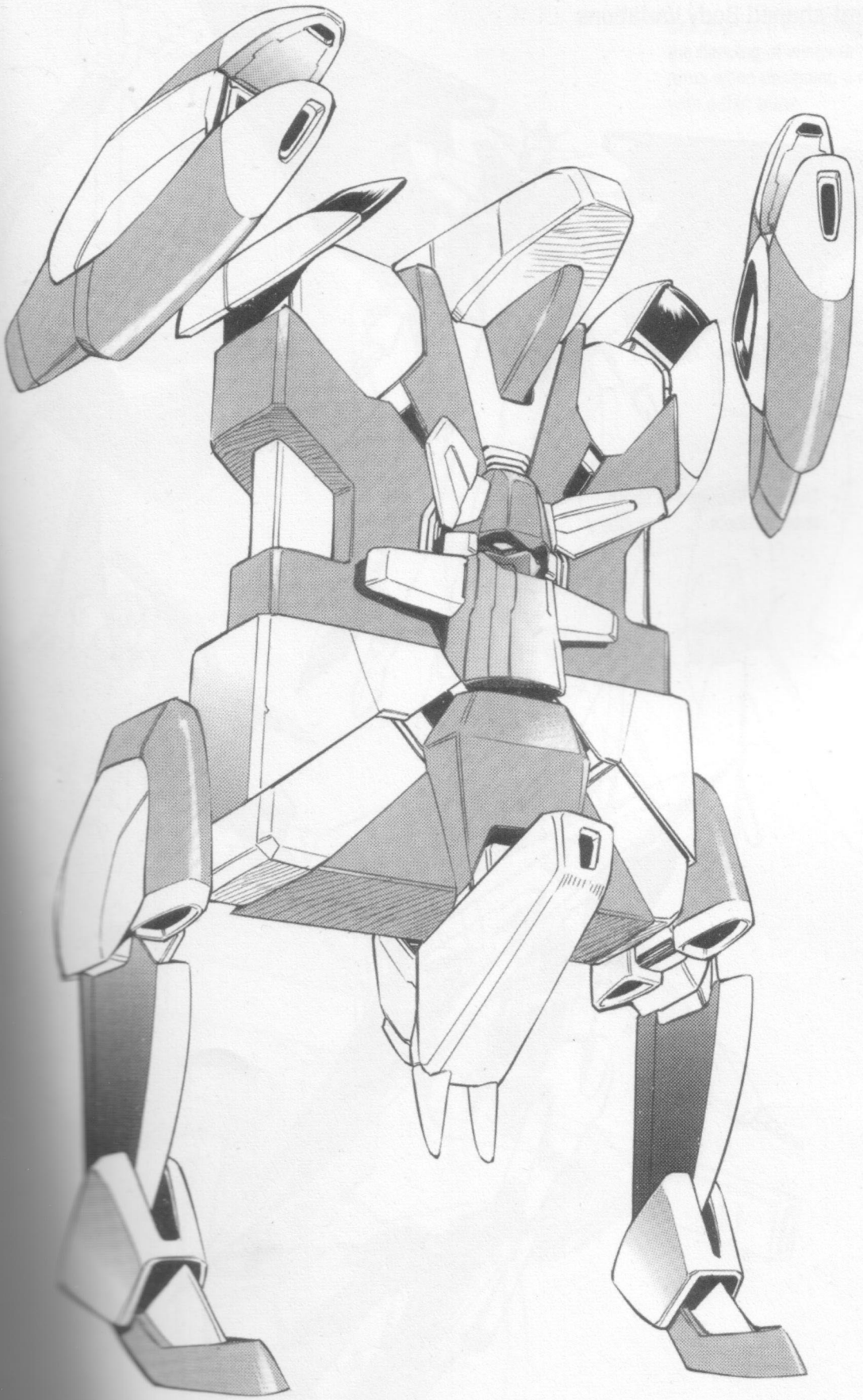


Looking down from front

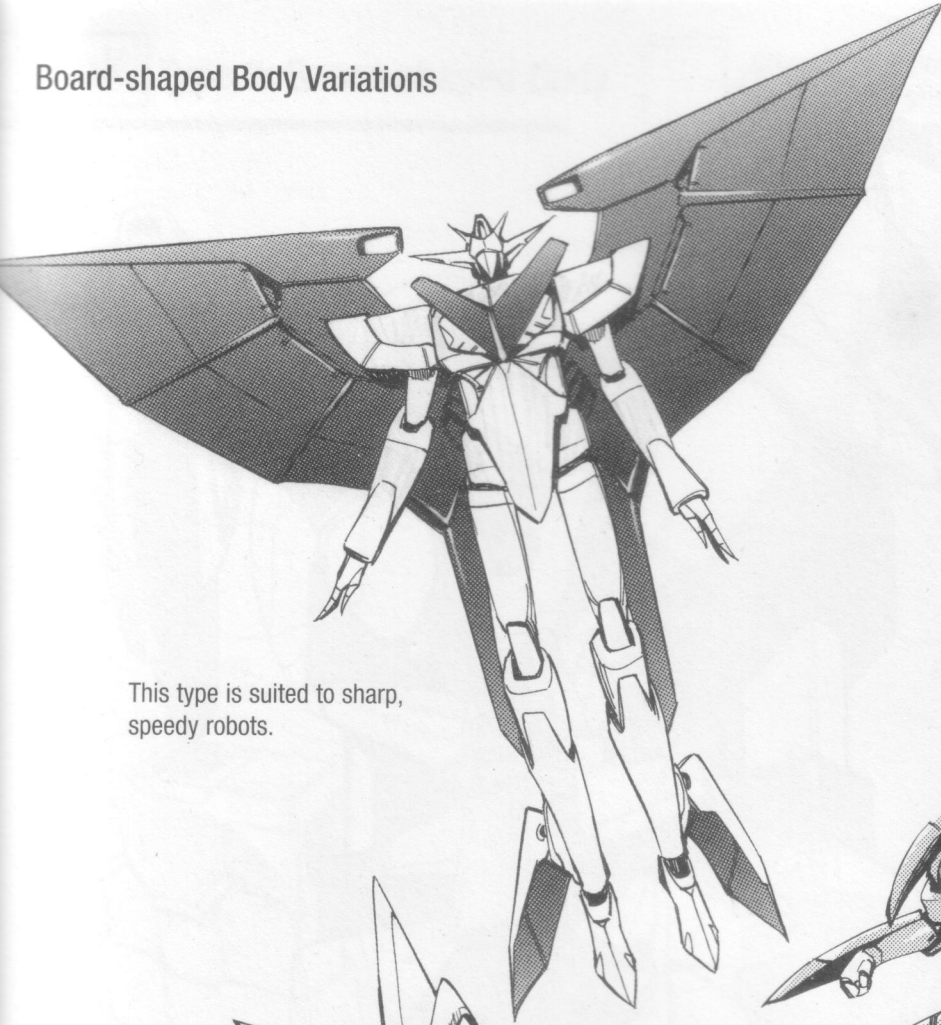


Looking up from behind





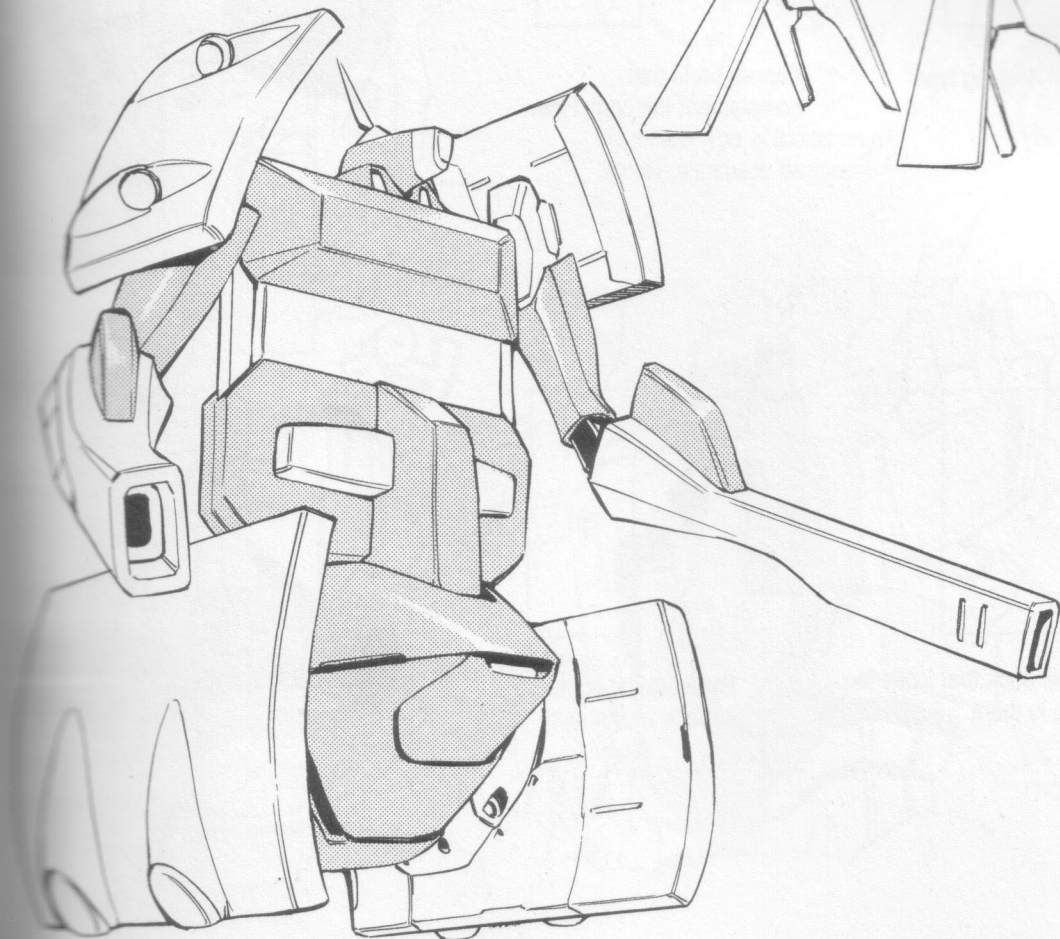
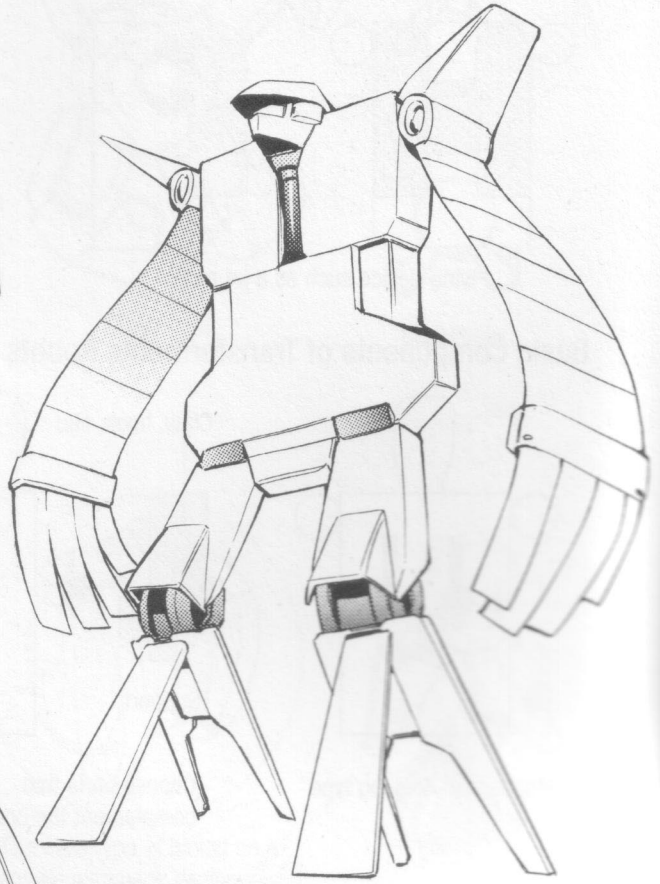
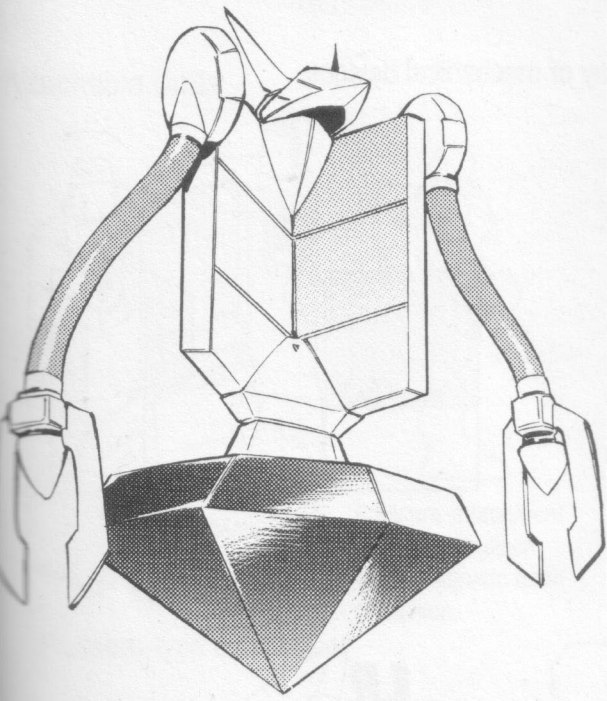
Board-shaped Body Variations



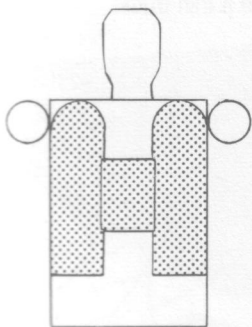
This type is suited to sharp, speedy robots.



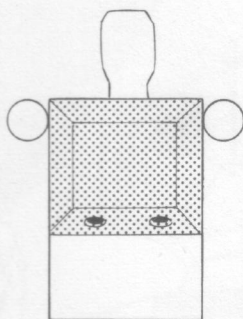
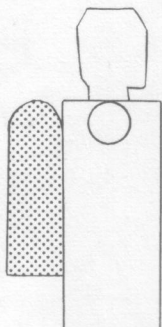
One approach is to imagine the flapping of wings or arms when designing a robot with a thin trunk.



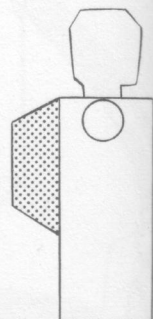
Equip your robot with an array of mechanical devices.



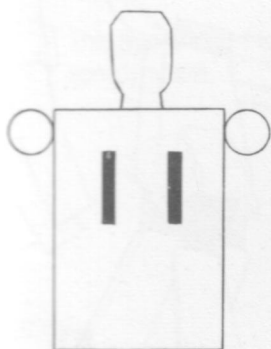
Flying device such as a jet pack



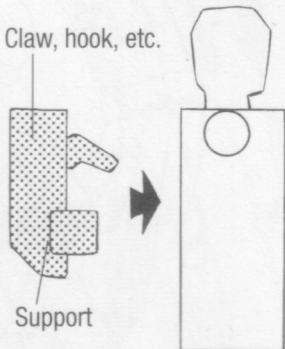
Weapons, fuel tanks, etc.



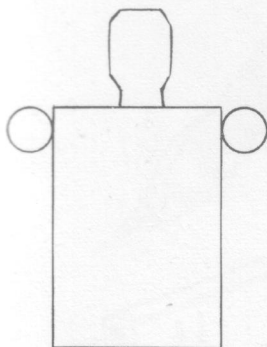
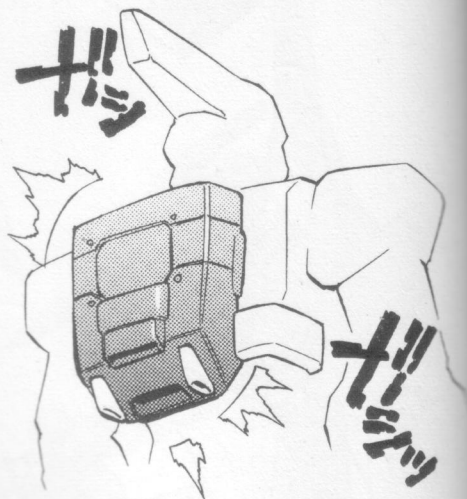
Basic Components of Transformable Robots



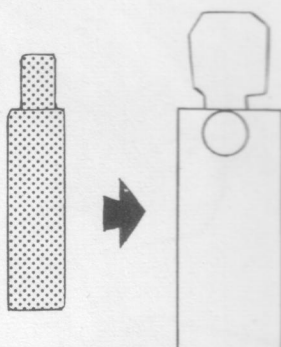
Mechanical docking type



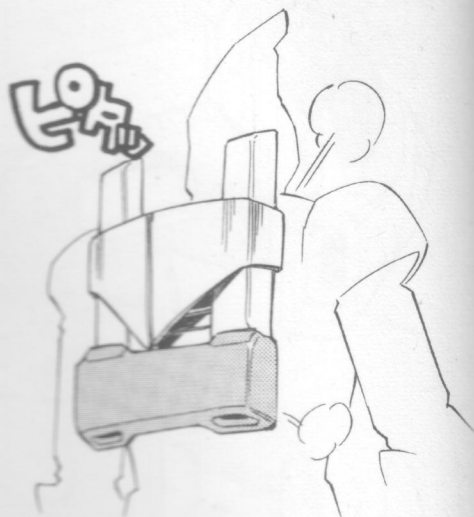
Choose parts that complement the body type.



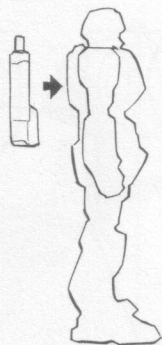
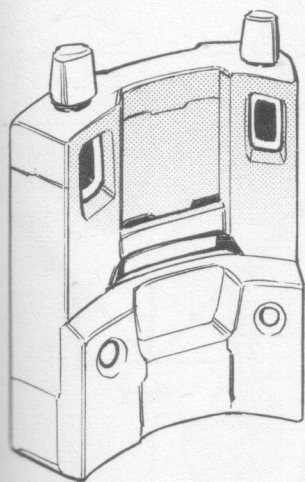
A simple back that looks like nothing is there



Part with the same surface as the back

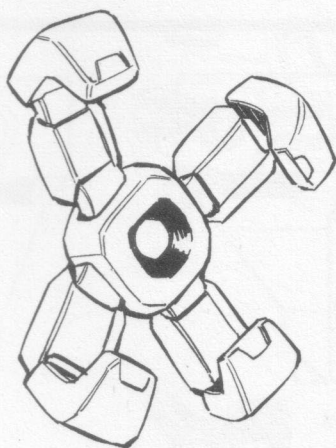


Attachable Units

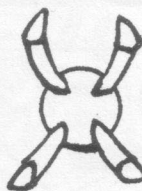


Pressure-attachment units stay in place using magnetic force or suction.

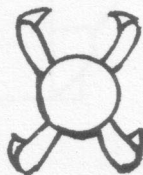
Pressure-type attachment



Claw type

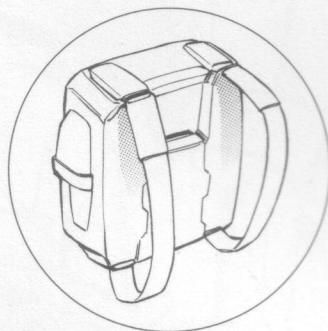
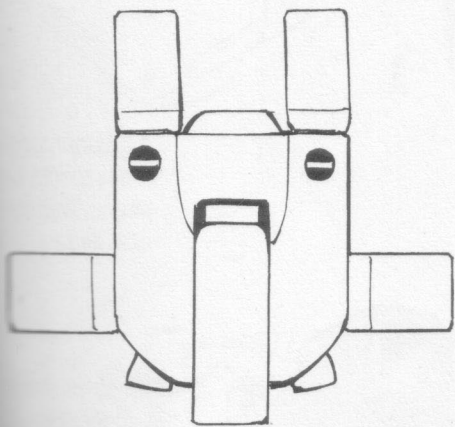


Back

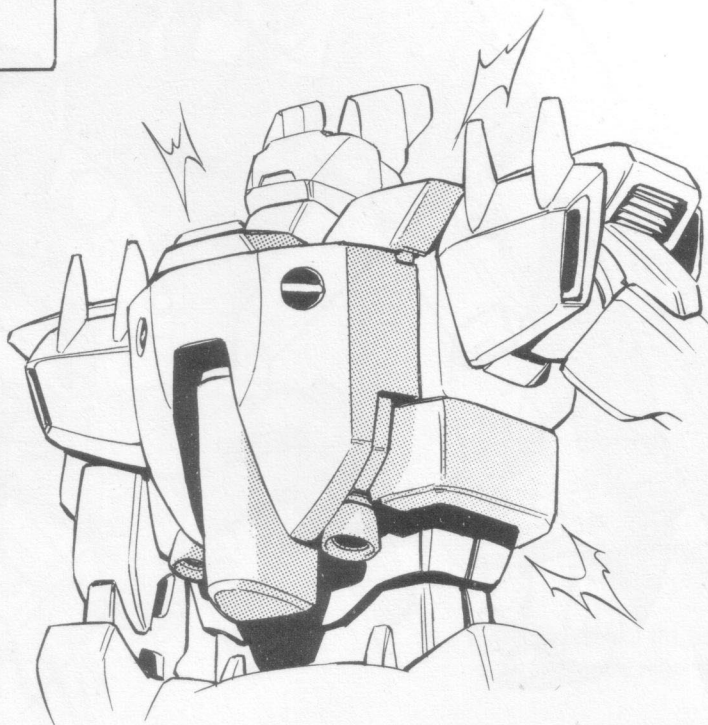
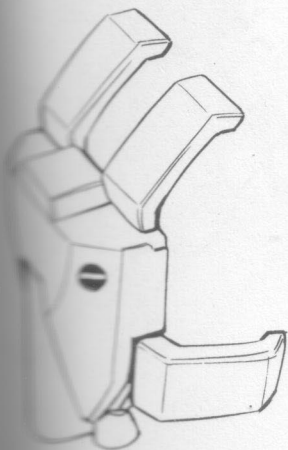


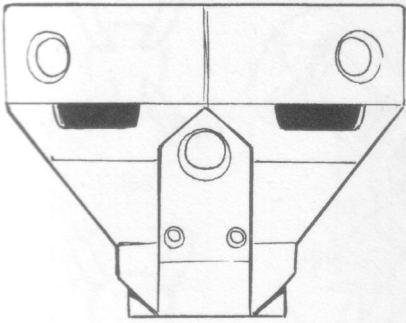
Underbelly

Example of claw-type attachment

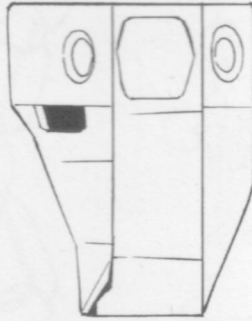


The claw type is based on a simple backpack design.

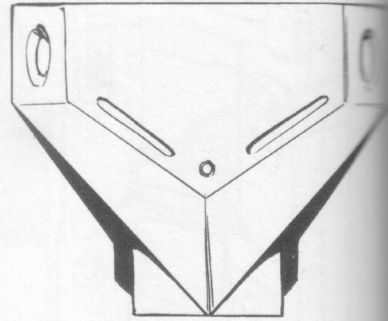




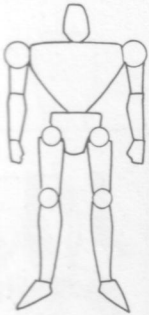
Front



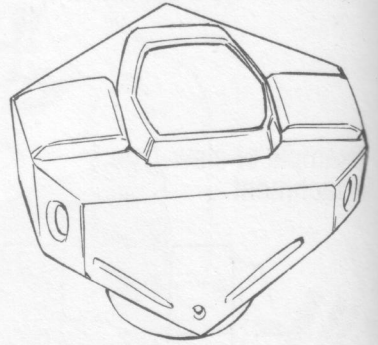
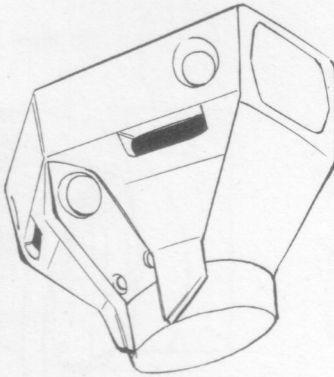
Side



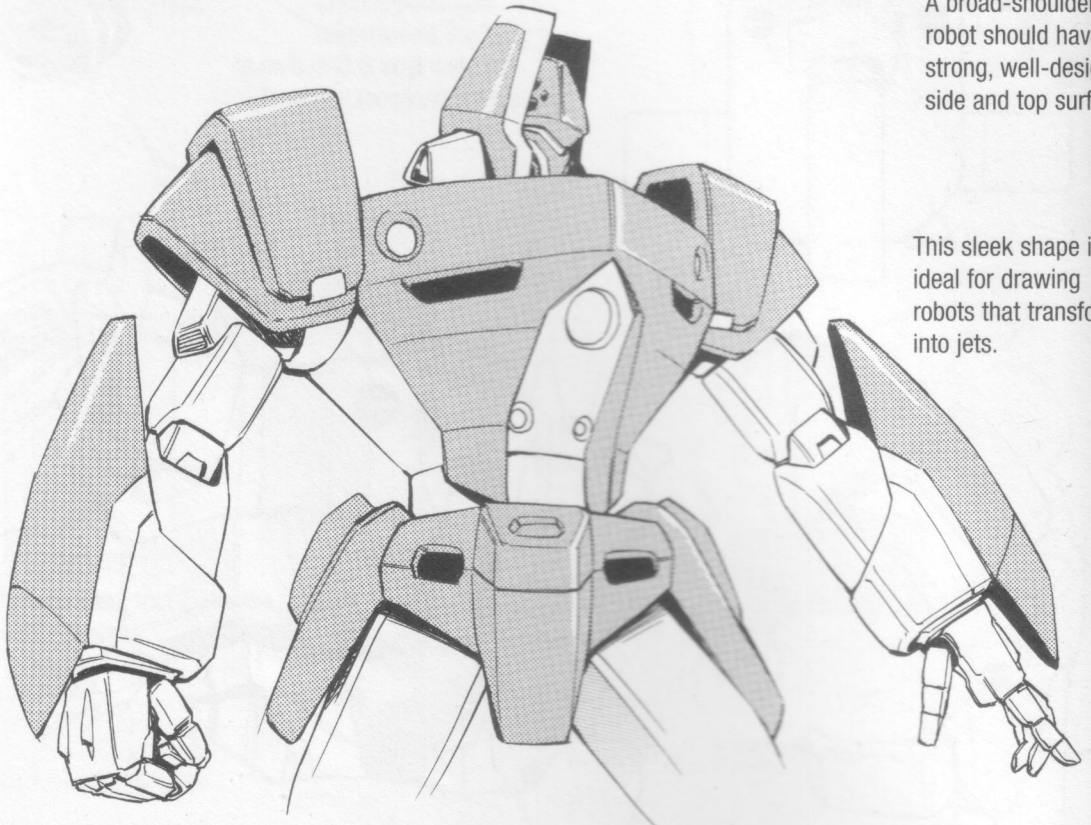
Back



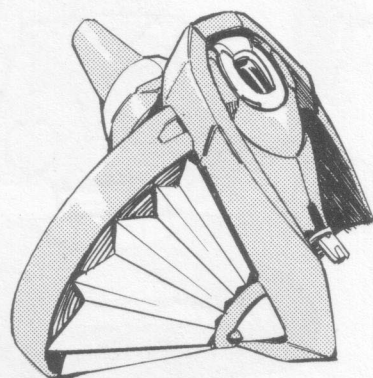
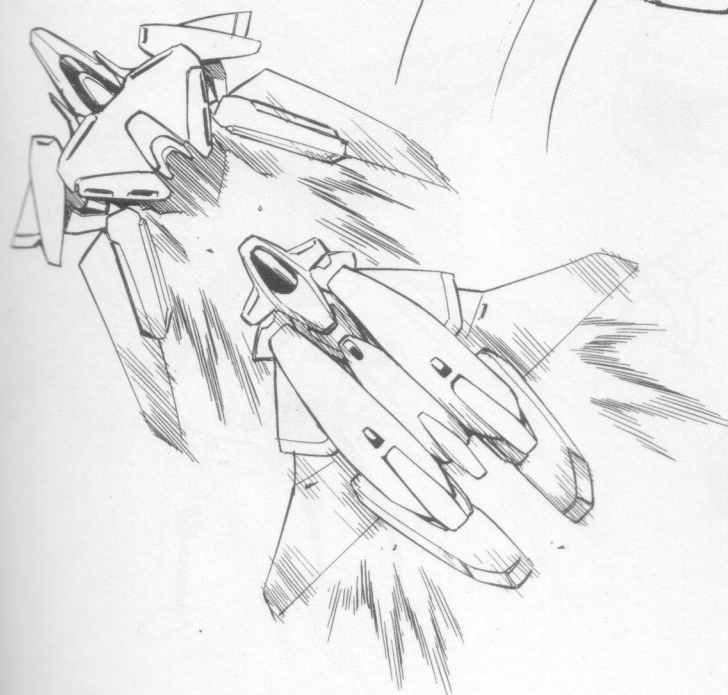
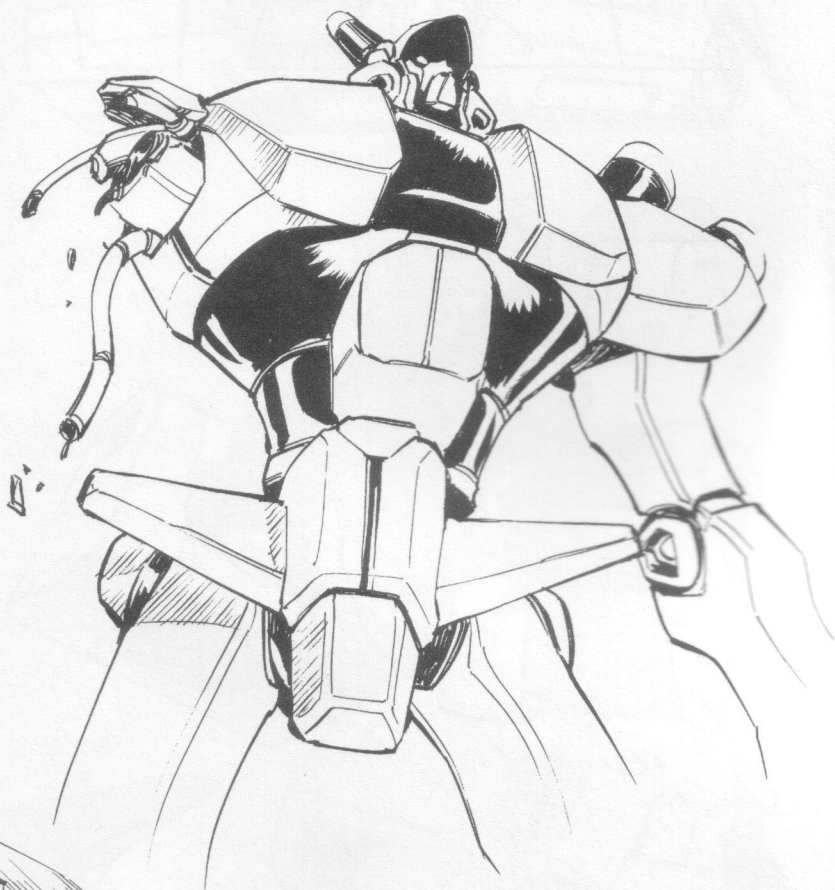
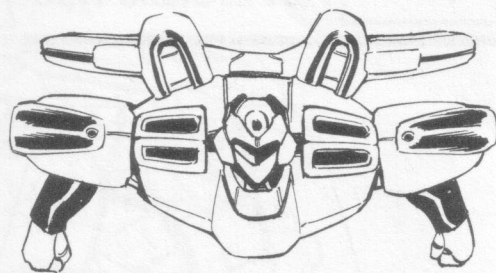
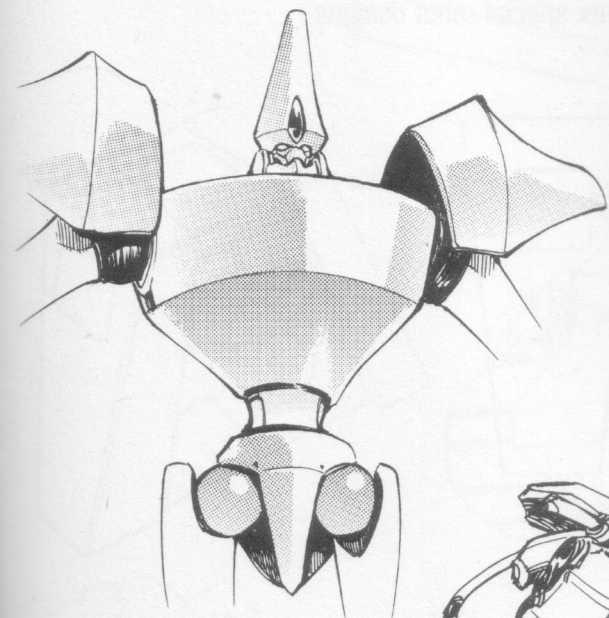
Male form



A broad-shouldered robot should have strong, well-designed side and top surfaces.



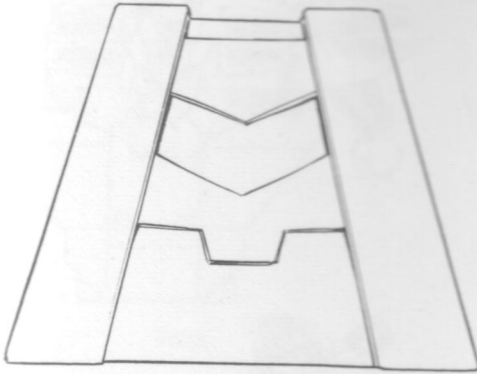
This sleek shape is ideal for drawing robots that transform into jets.



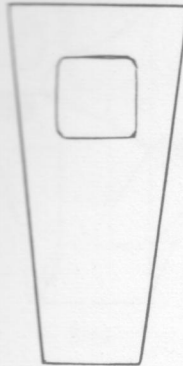
Close-up view of the back of a transformable robot.



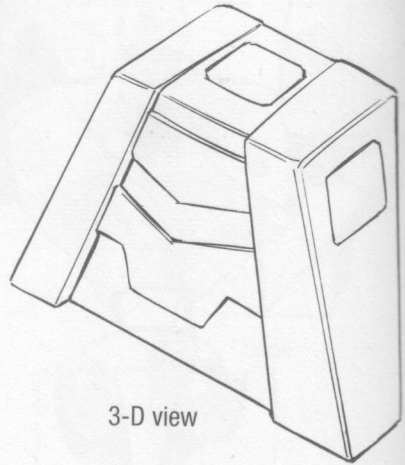
This shape is suited to tank-type robots and other special robot designs.



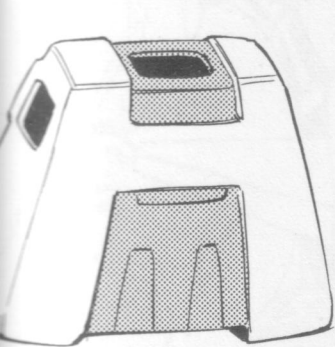
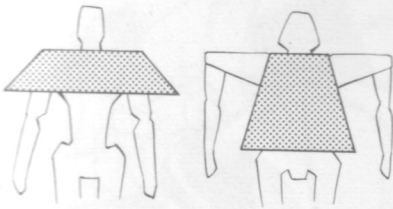
Front



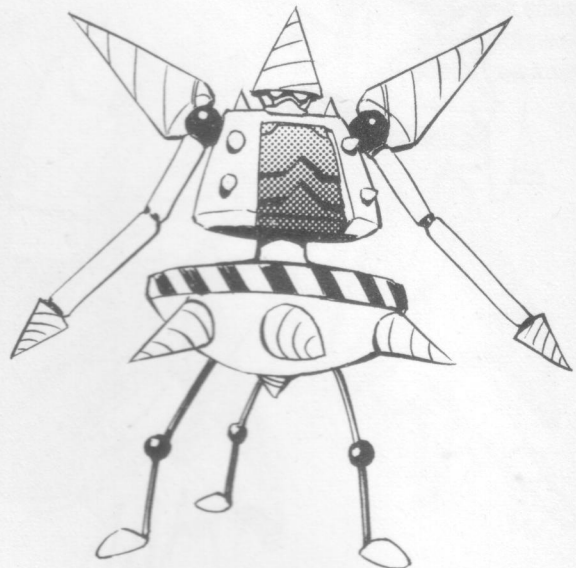
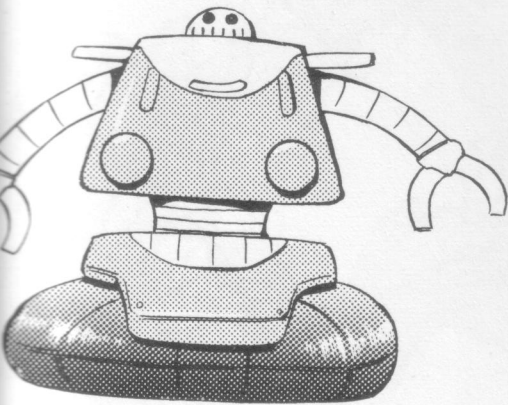
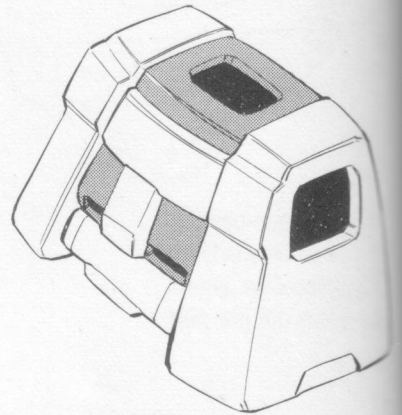
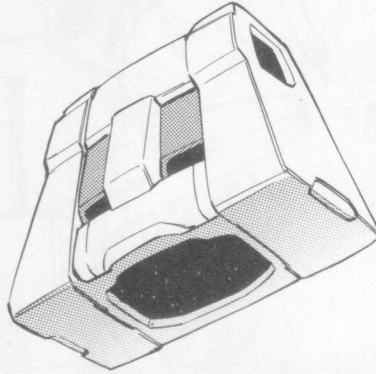
Side



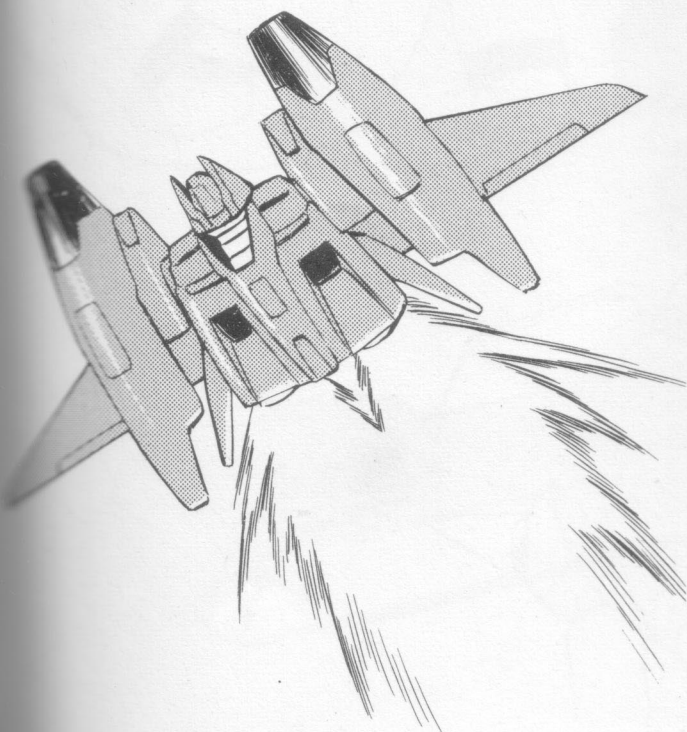
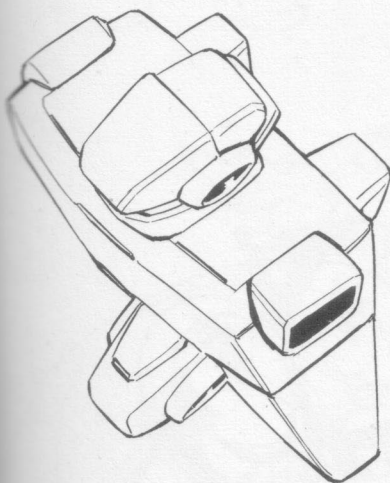
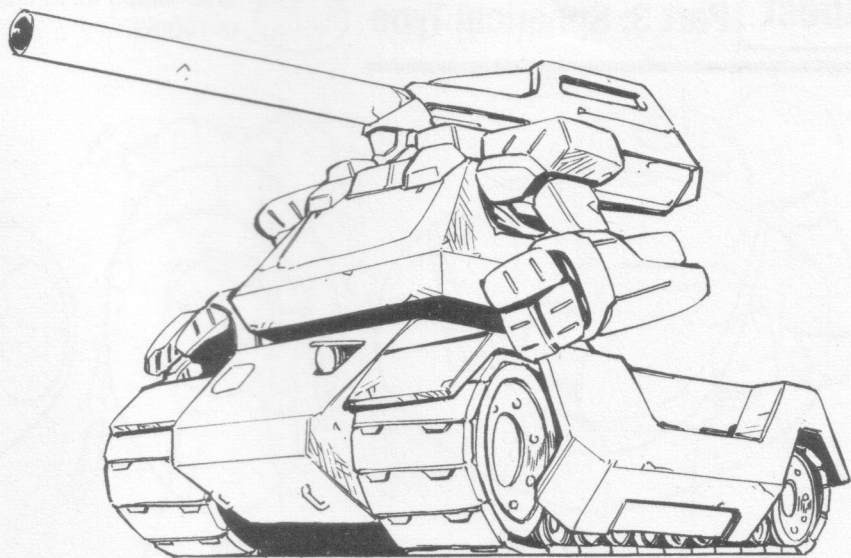
3-D view



Back

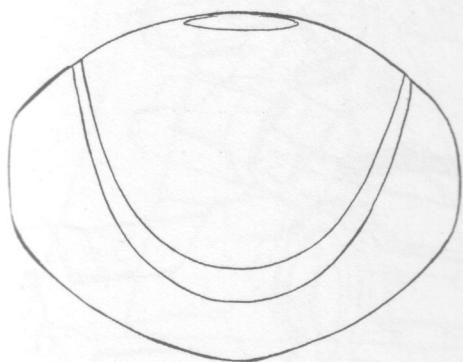


The stand-type chest enhances the originality of the lower body.

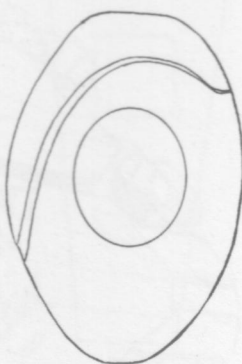




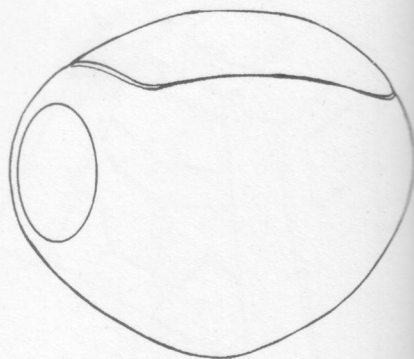
This shape is suitable for drawing all types of robots.



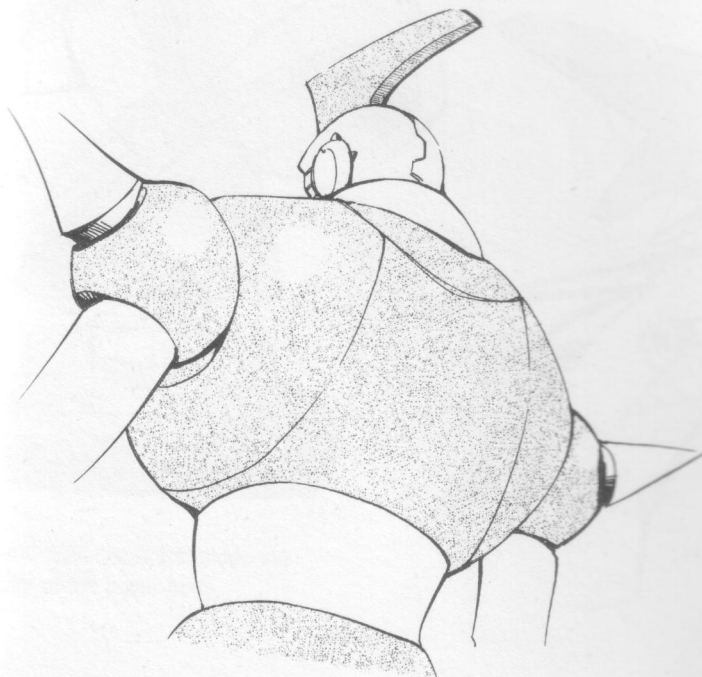
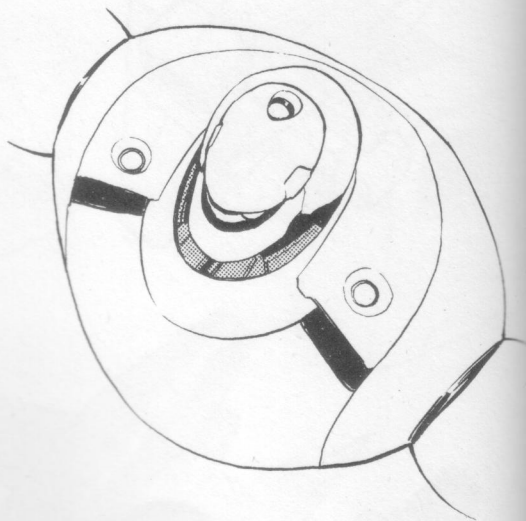
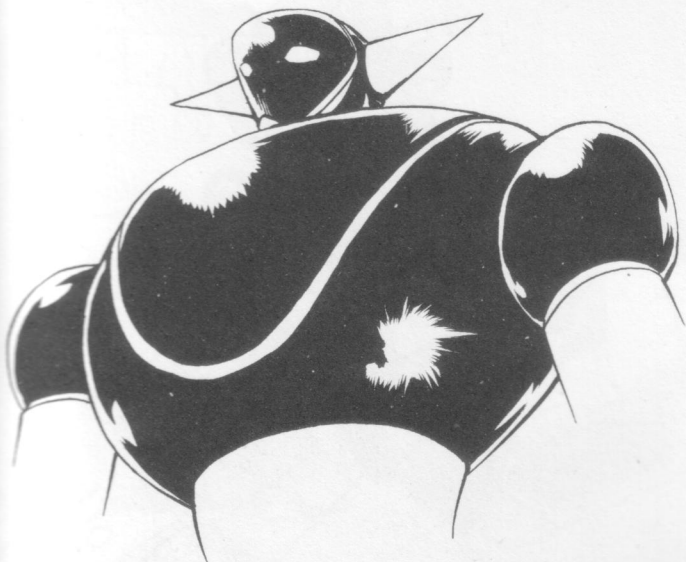
Front

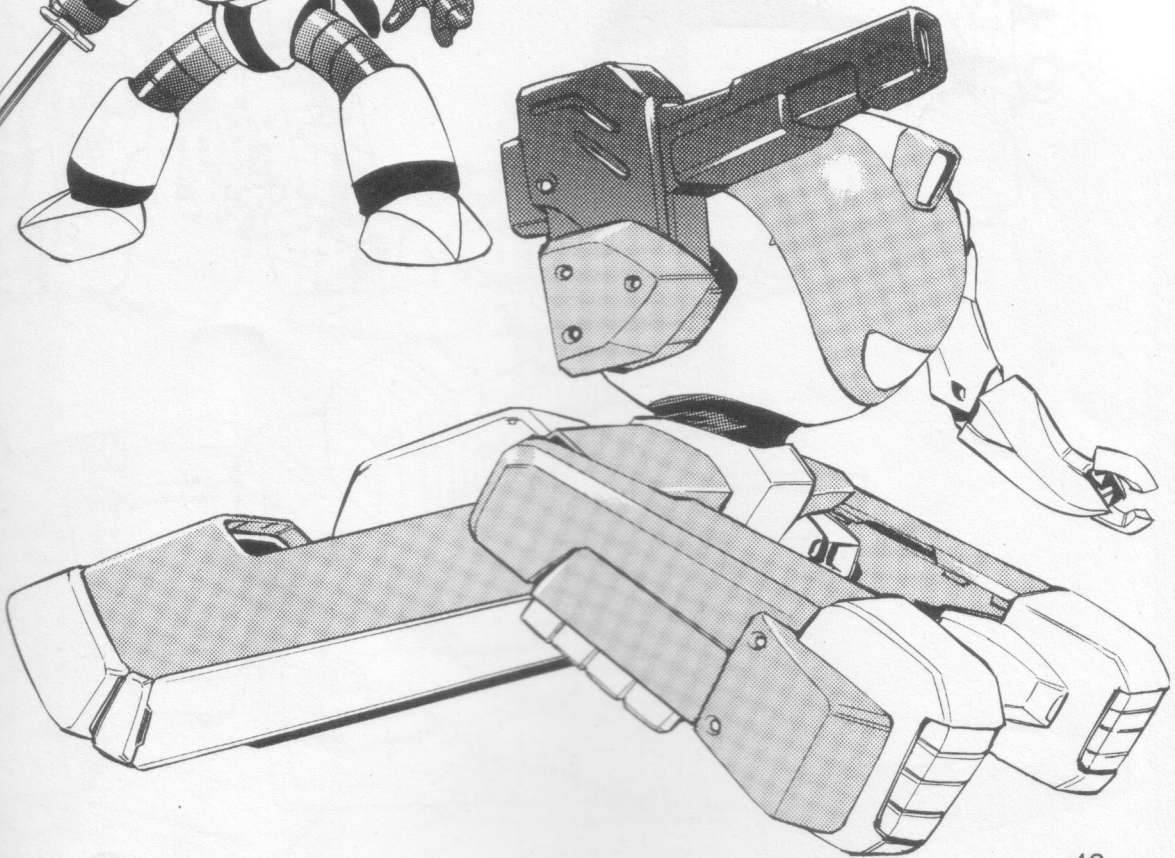
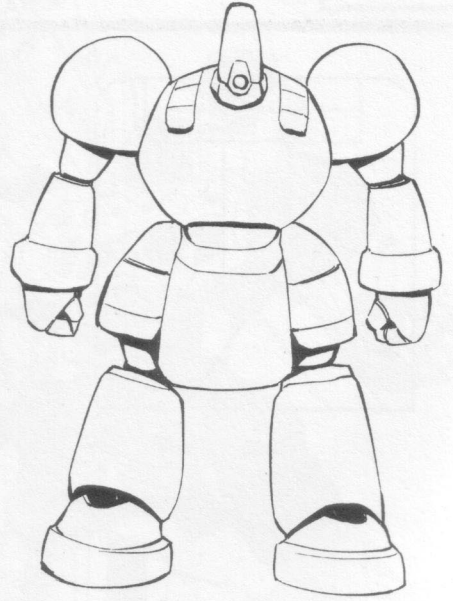
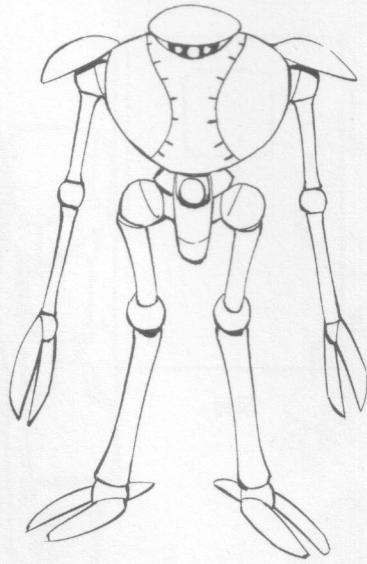
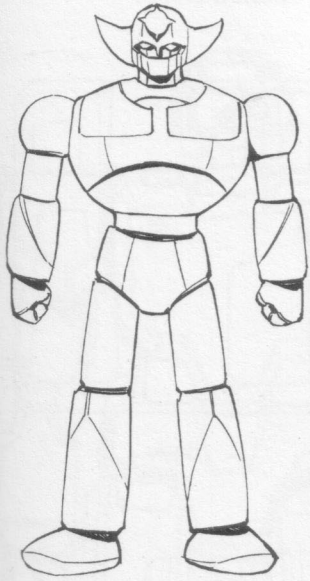


Side



Back



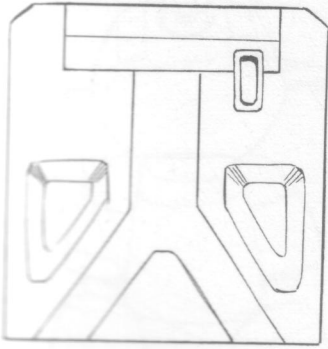


Chest

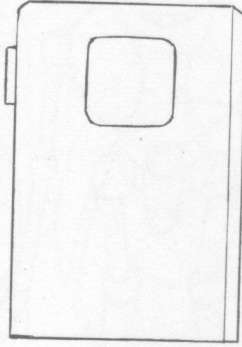
Part 4: Square Type



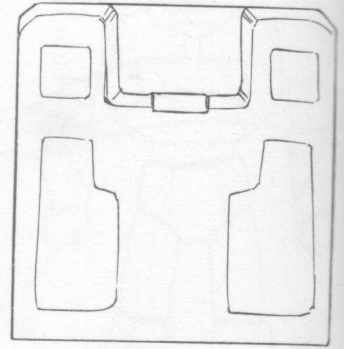
It is easy to attach a variety of parts and optional equipment to a square-shaped chest.



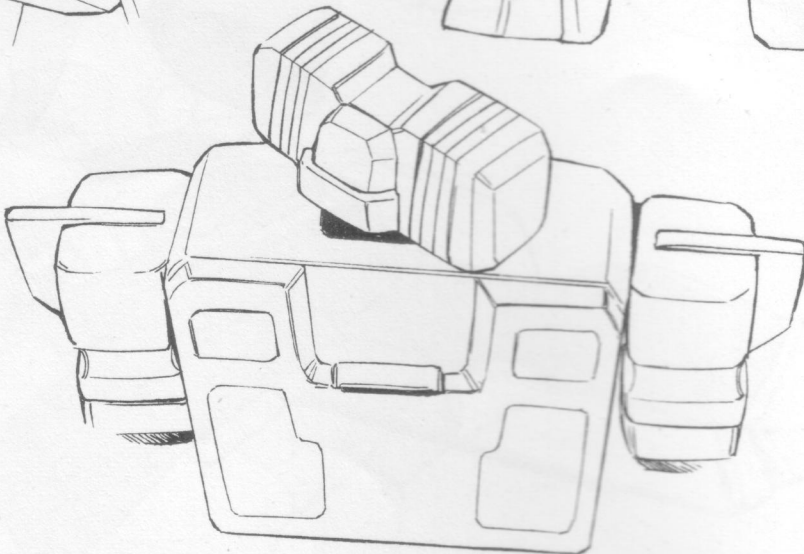
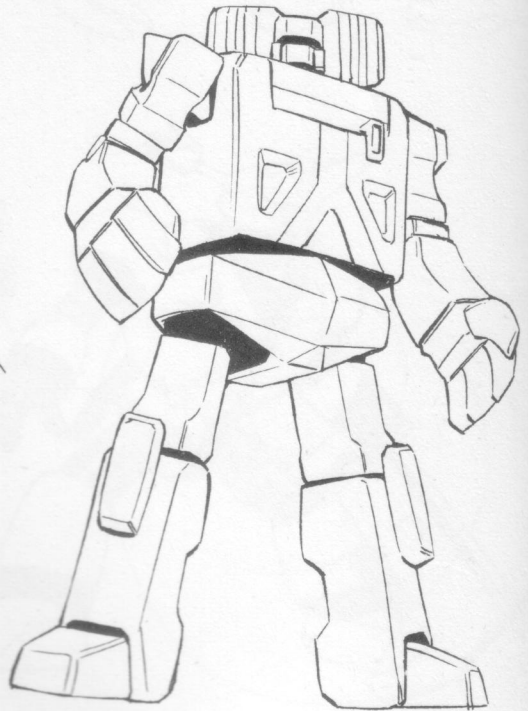
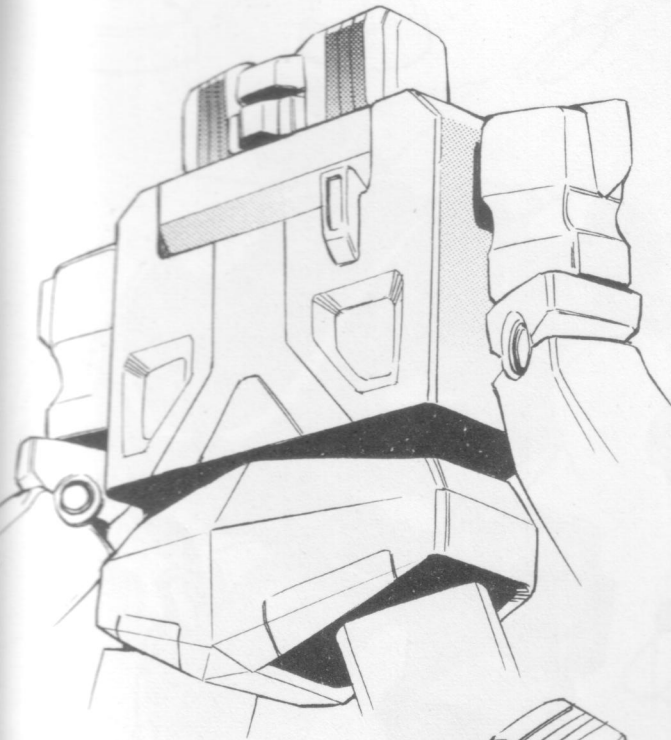
Front

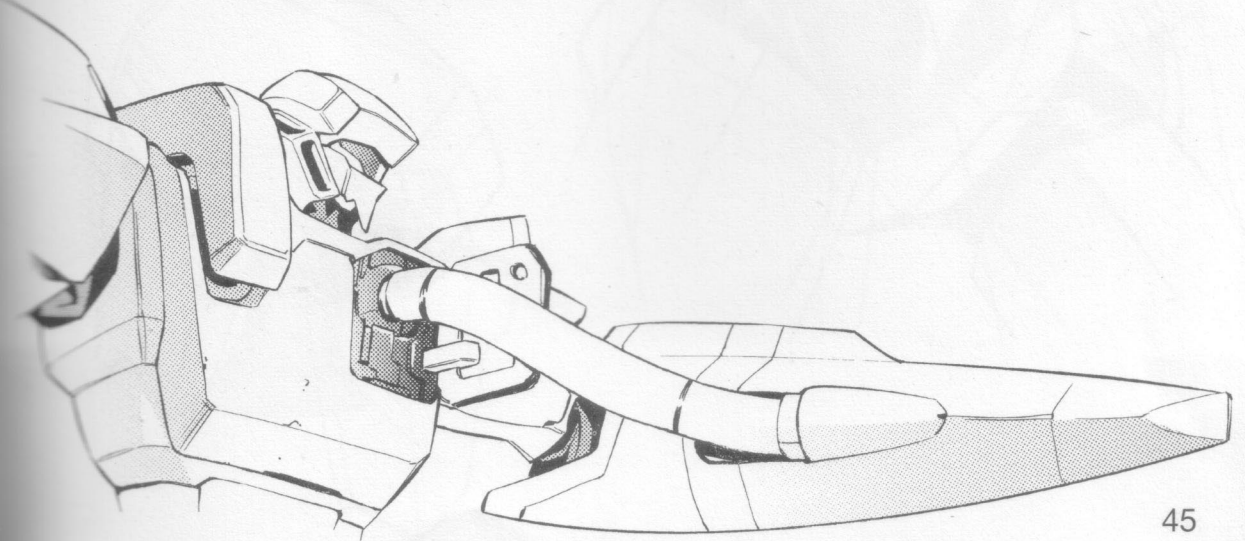
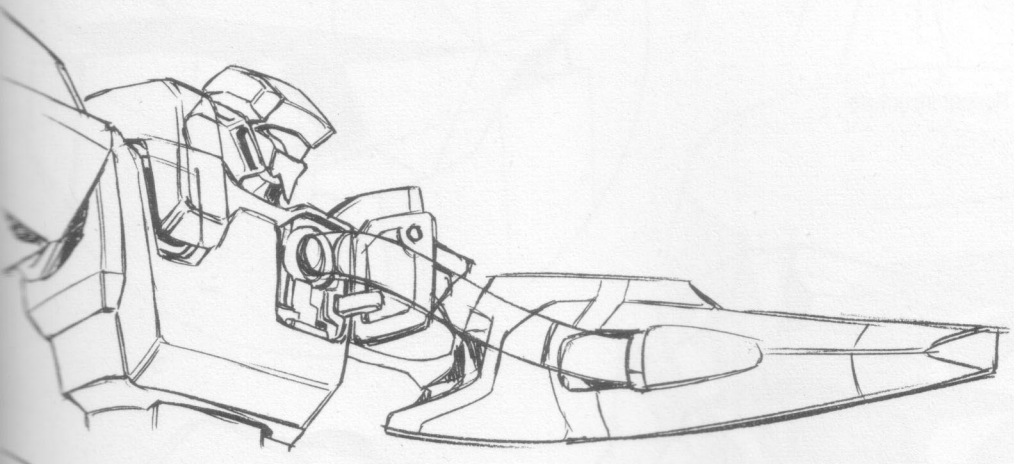
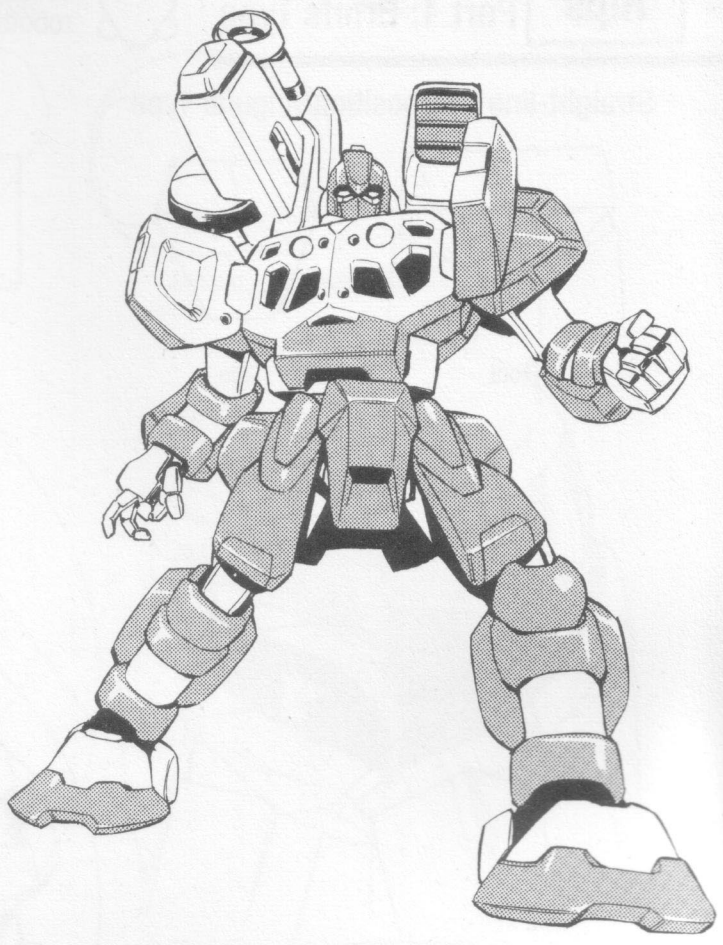
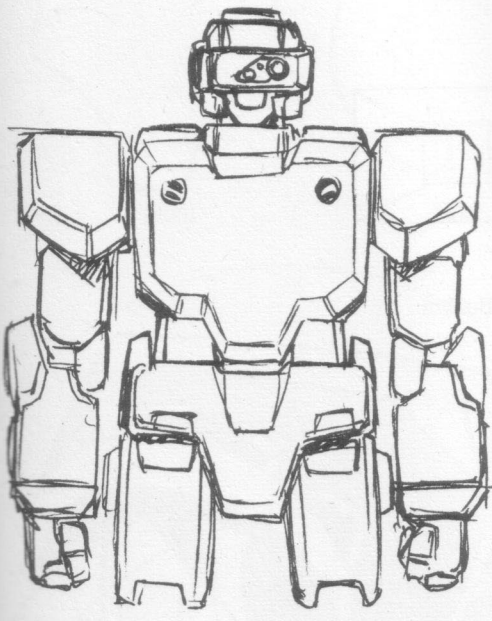


Side



Back





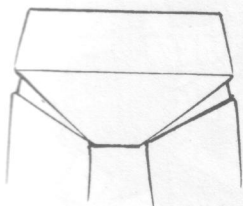
Hips

Part 1: Briefs Type

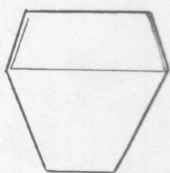


Tends to be comical. Suited to manga-type robots rather than realistic robots.

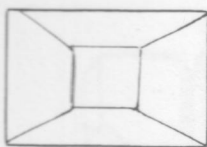
Straight-line Composition/Angular Type



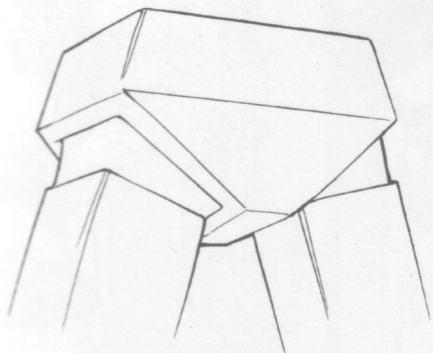
Front



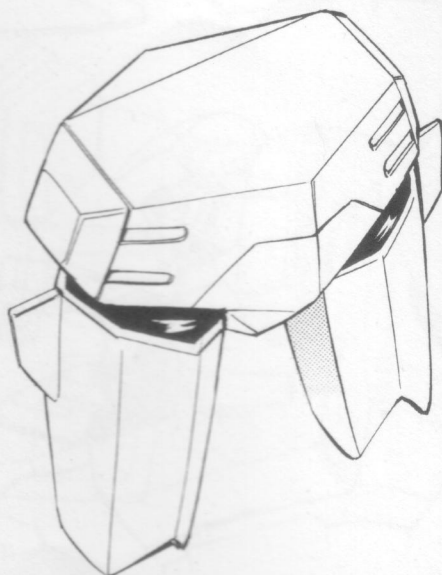
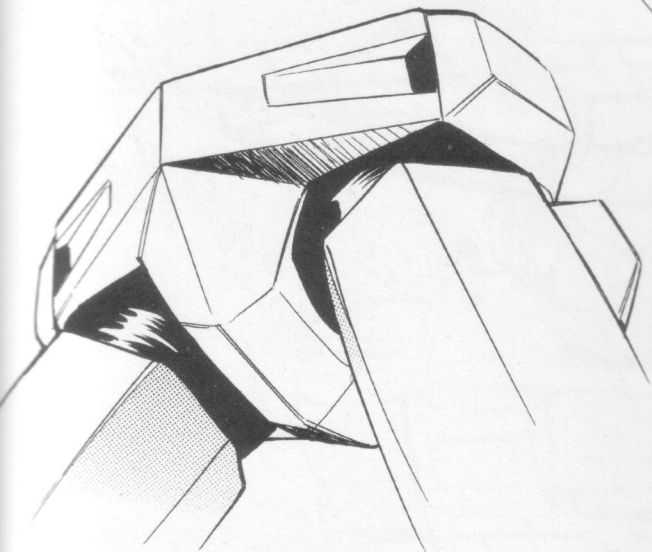
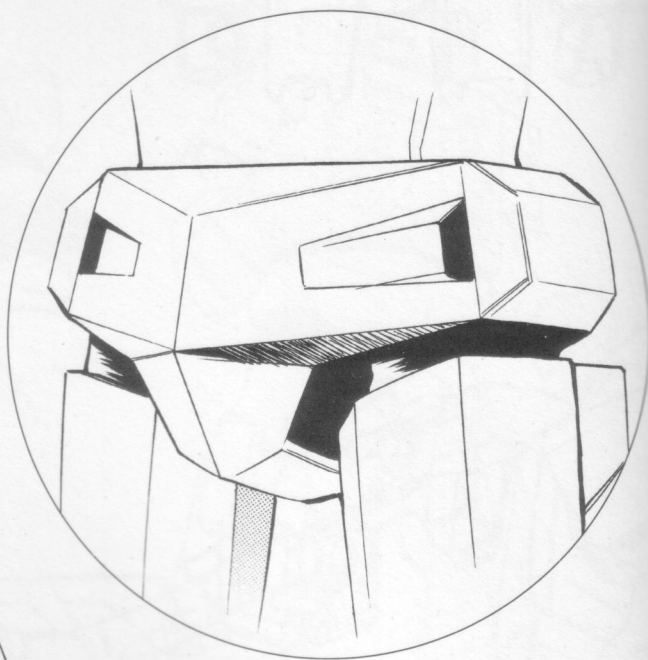
Side



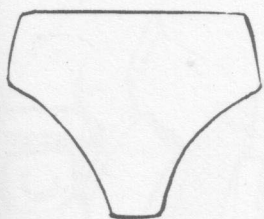
Bottom



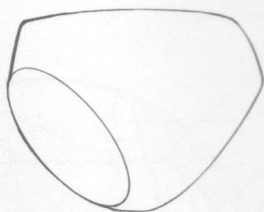
Typical structure



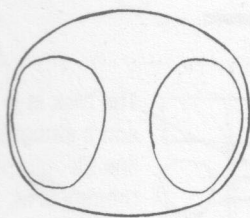
Curved-surface Composition/Spherical Type



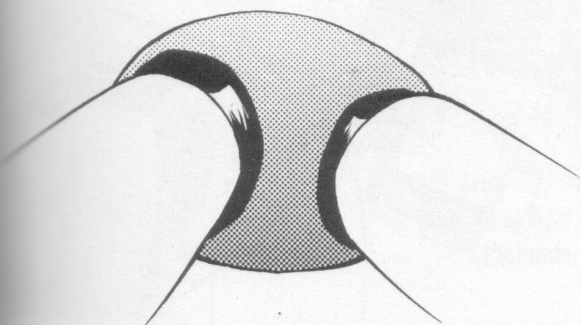
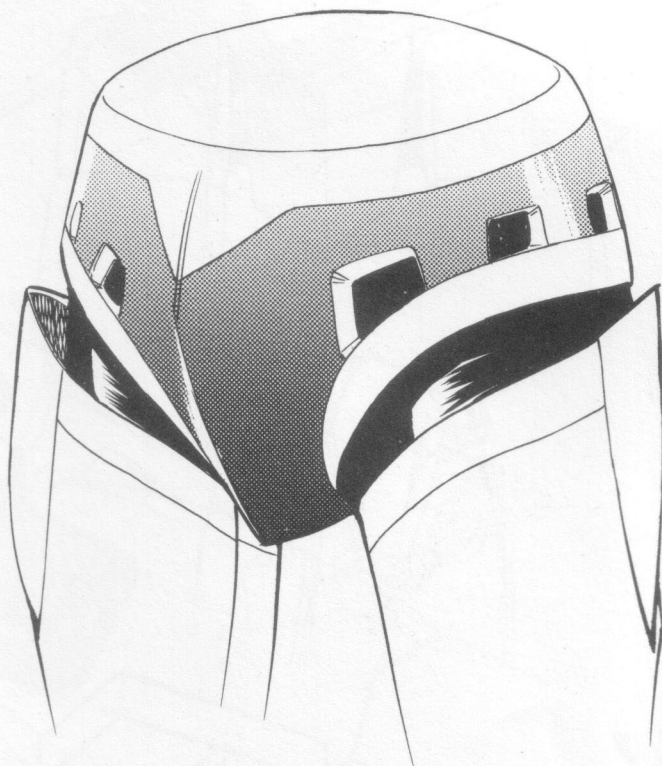
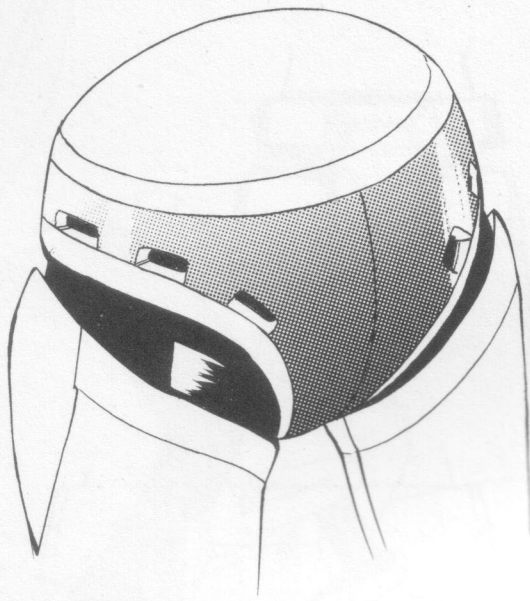
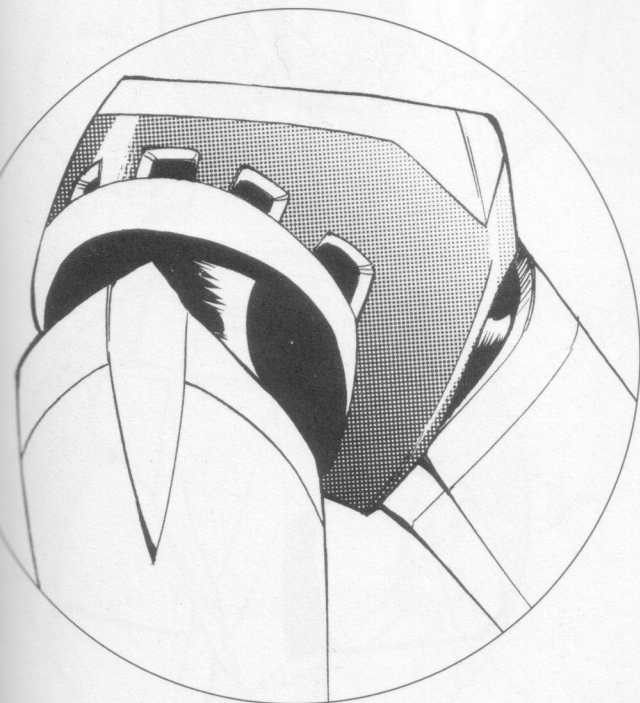
Front



Side

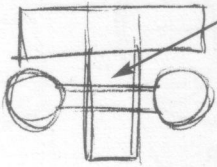
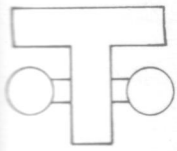


Bottom

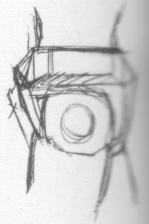
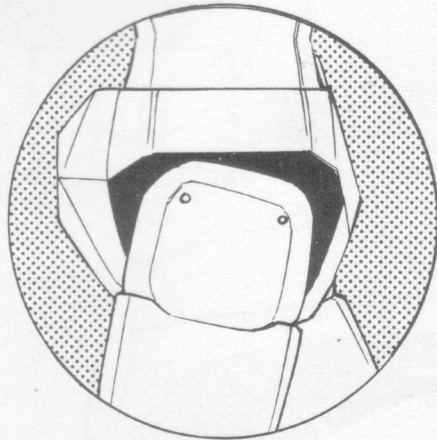




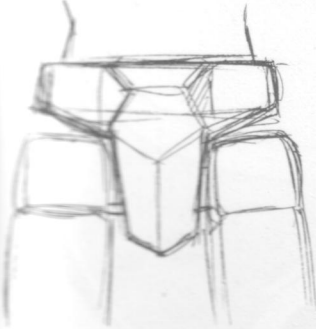
This type is ideal for drawing combat robots.



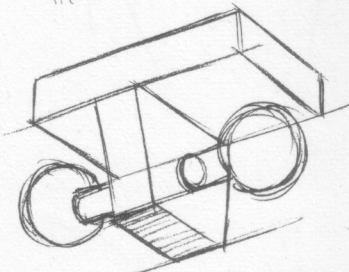
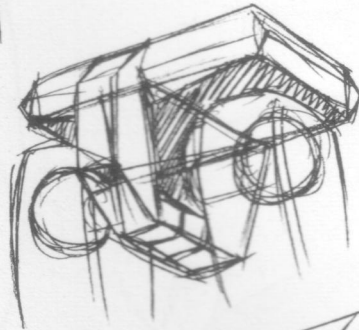
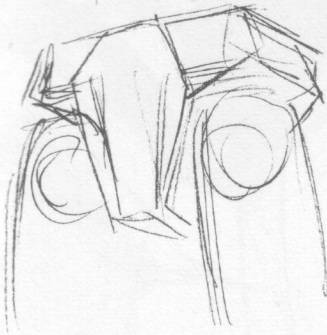
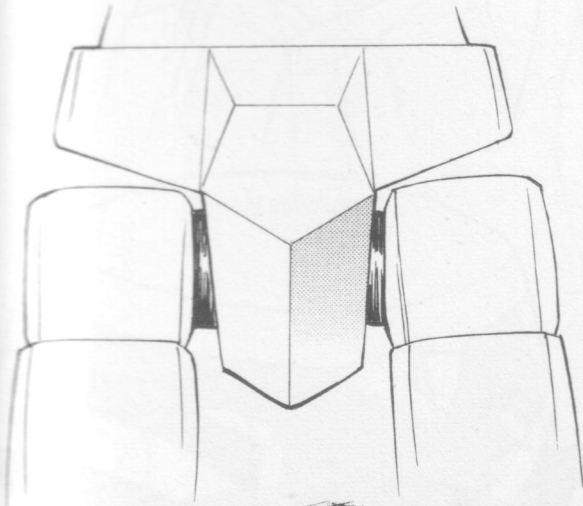
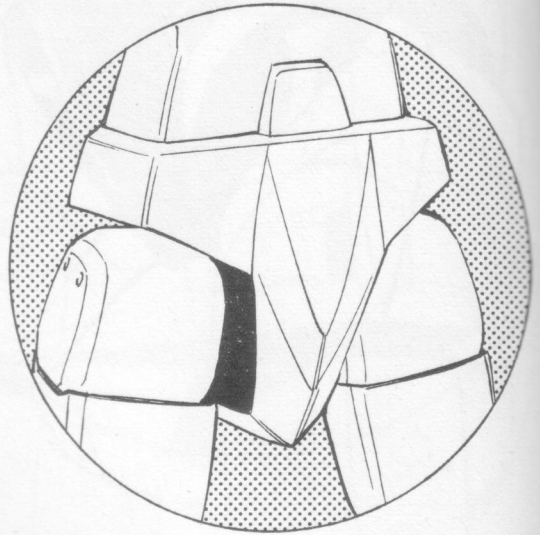
The trick is to add a straight line for reference.



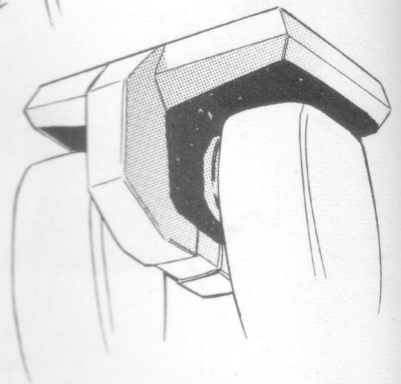
Side

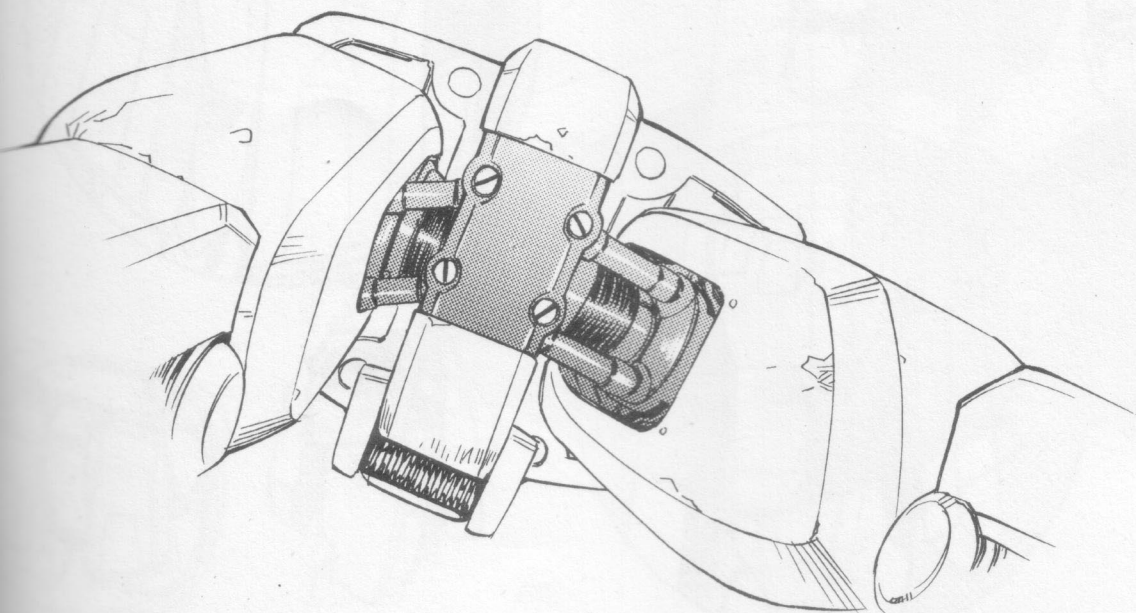
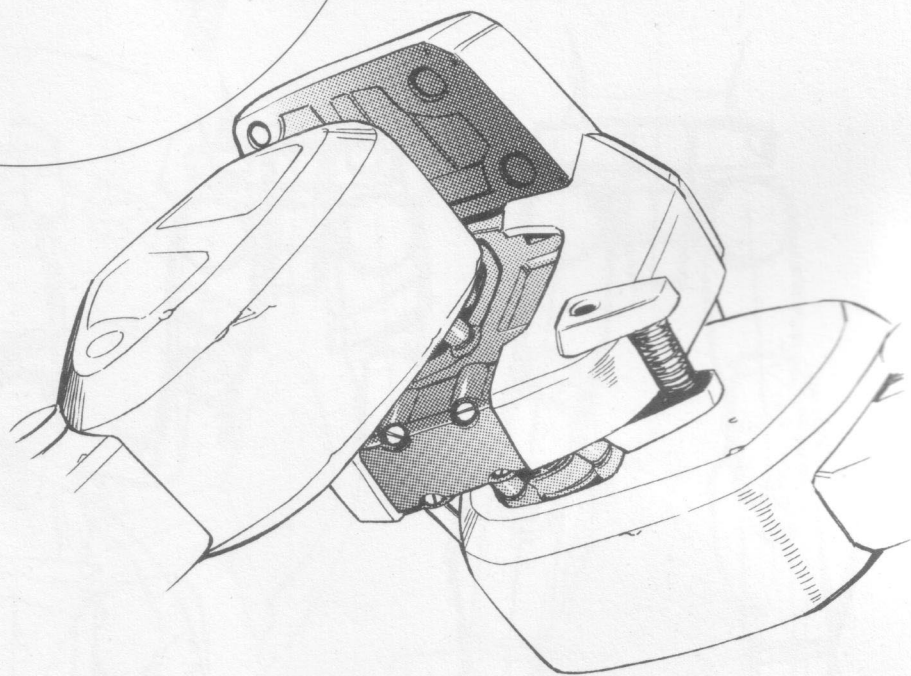
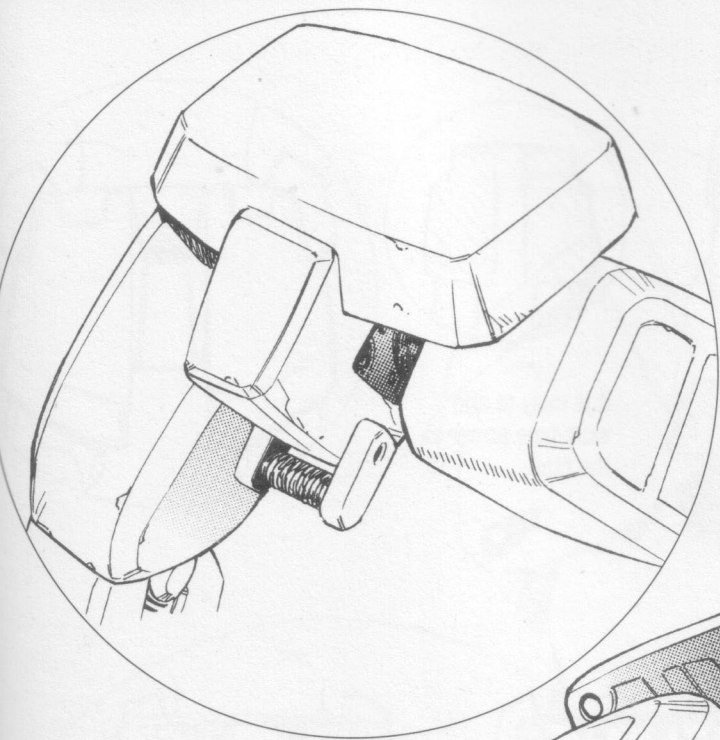


Front

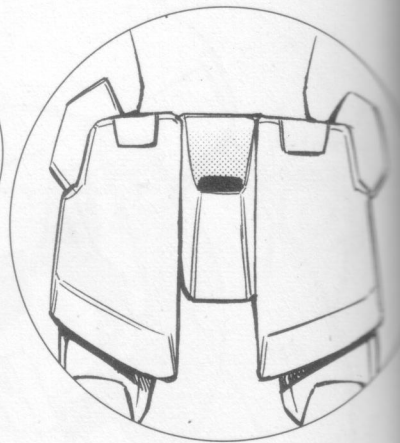
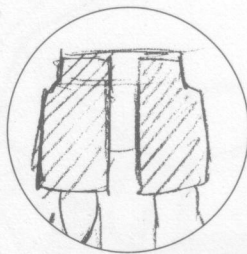
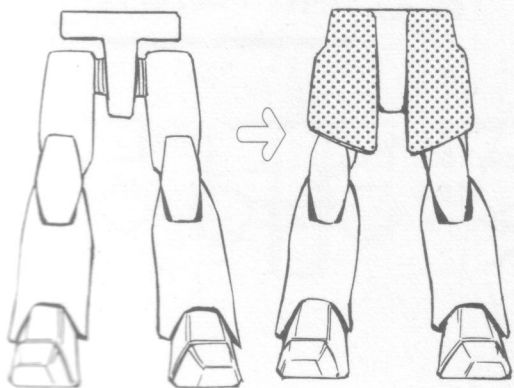


Typical hip joint structure

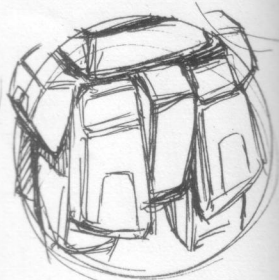
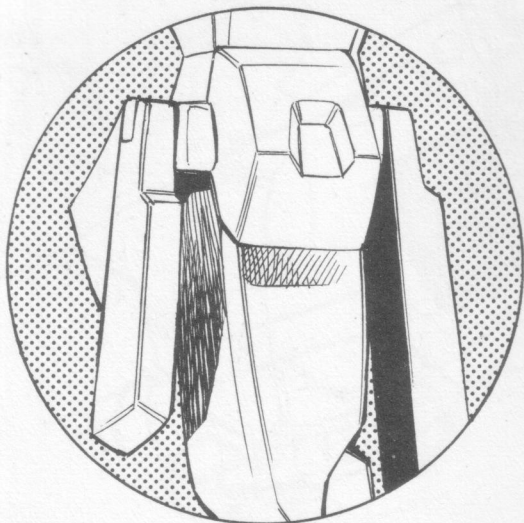
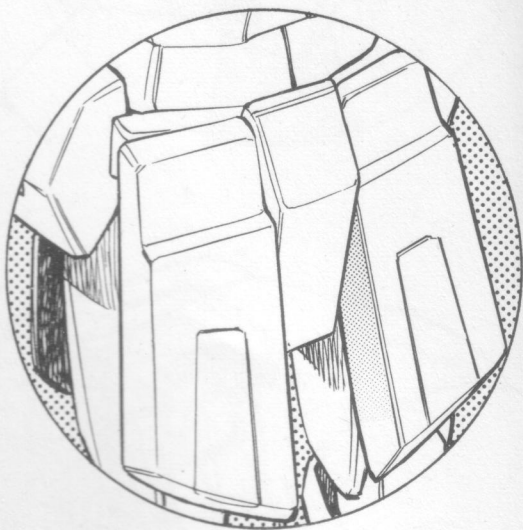
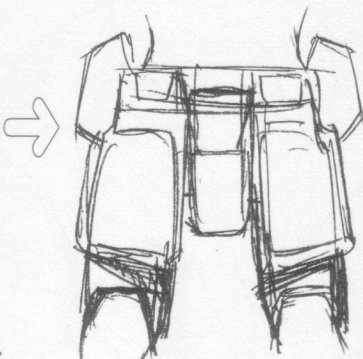
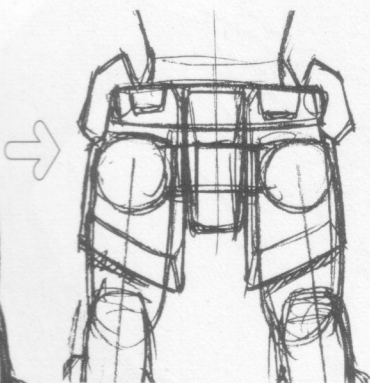
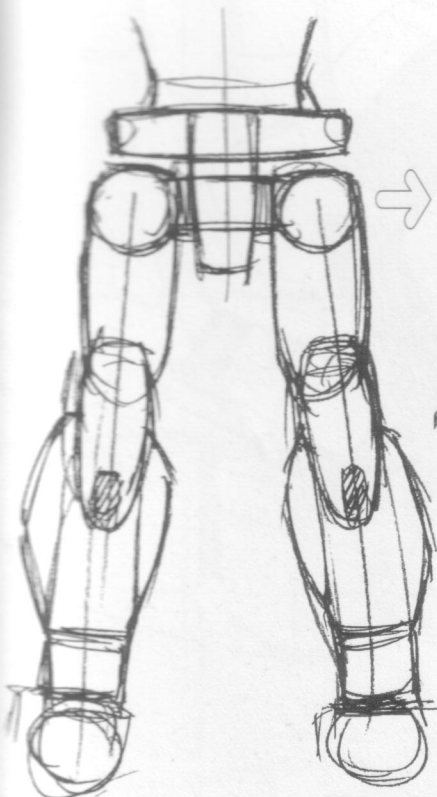


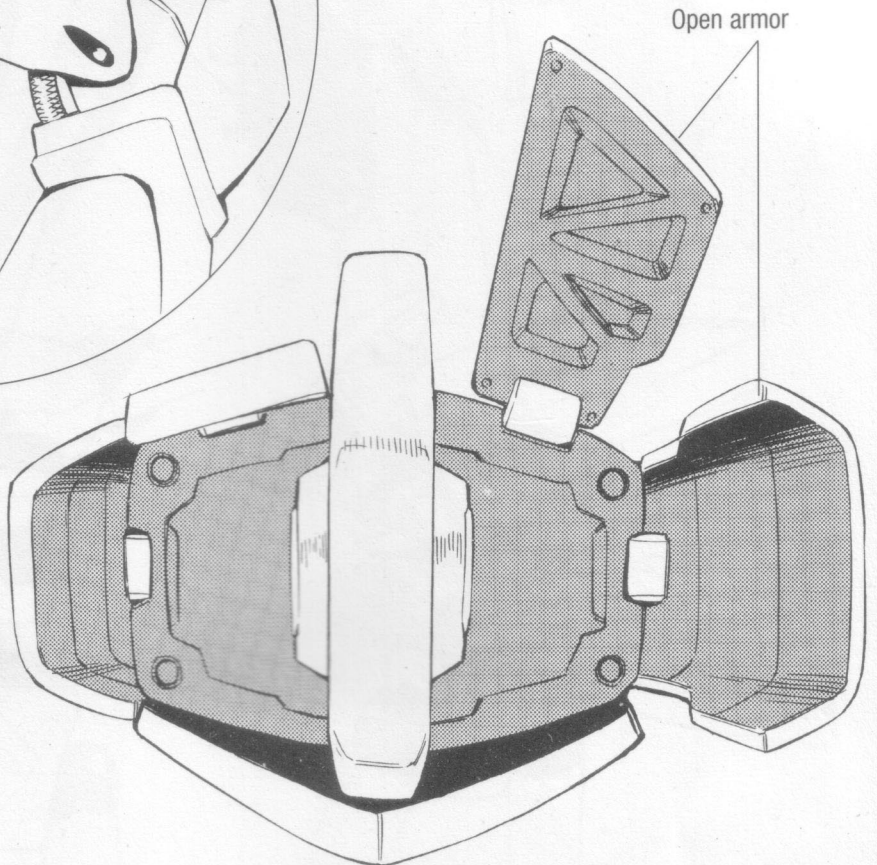
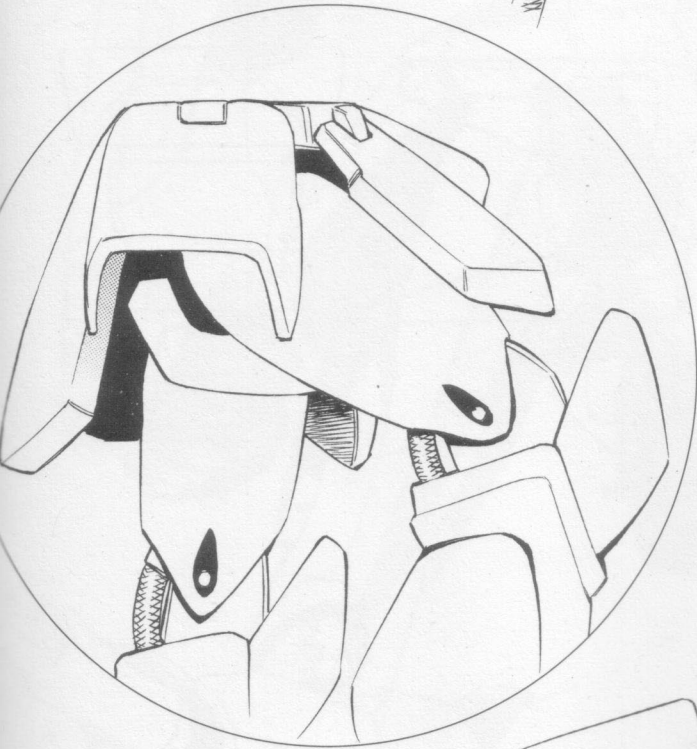
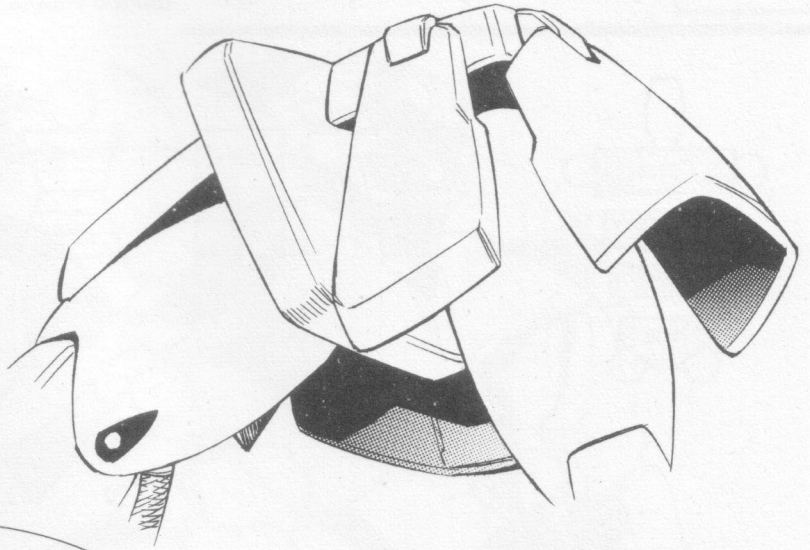


T Hip Joint Variations

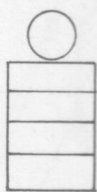
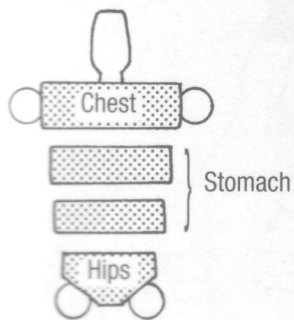


It is easy to add skirt-type armor to the hips.

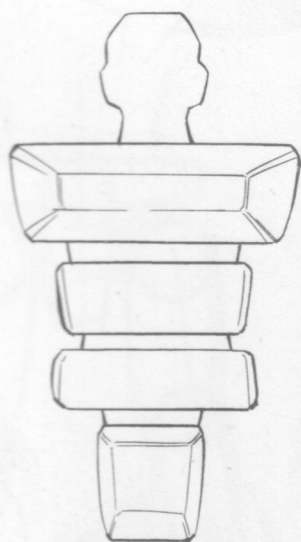




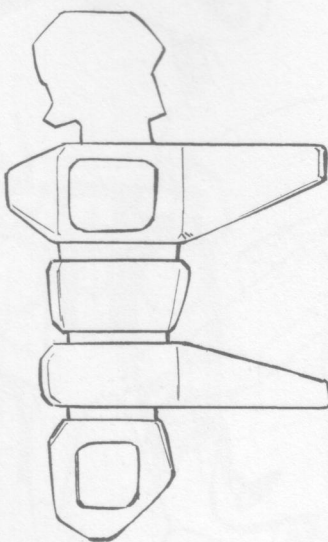
Use this body type to design original, unique robots.



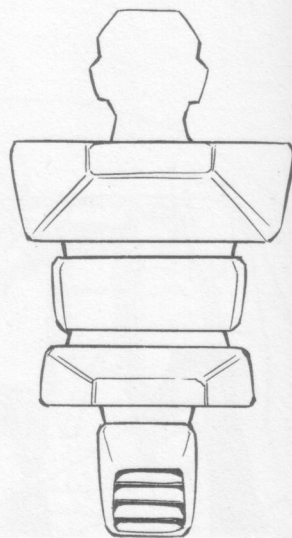
You are free to choose the number of joints, shape, thickness and form.



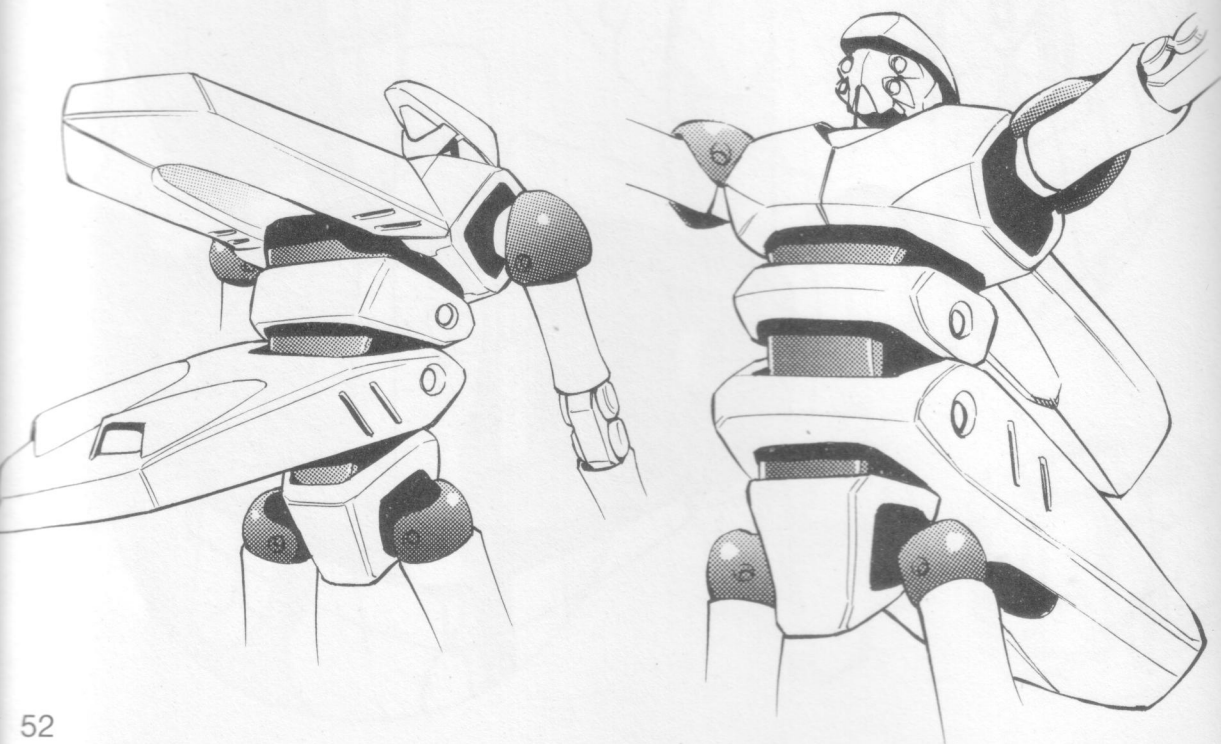
Front

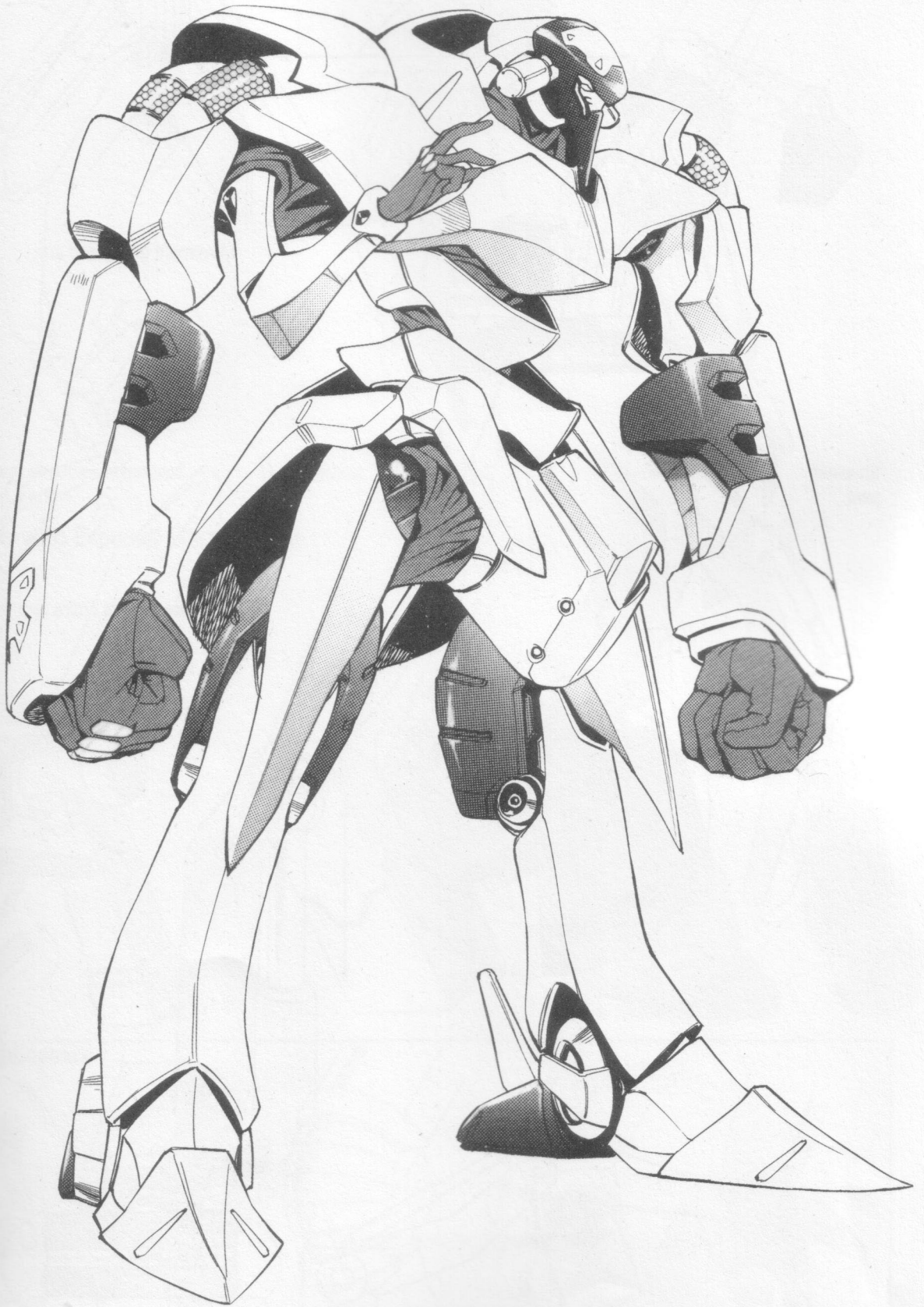


Side



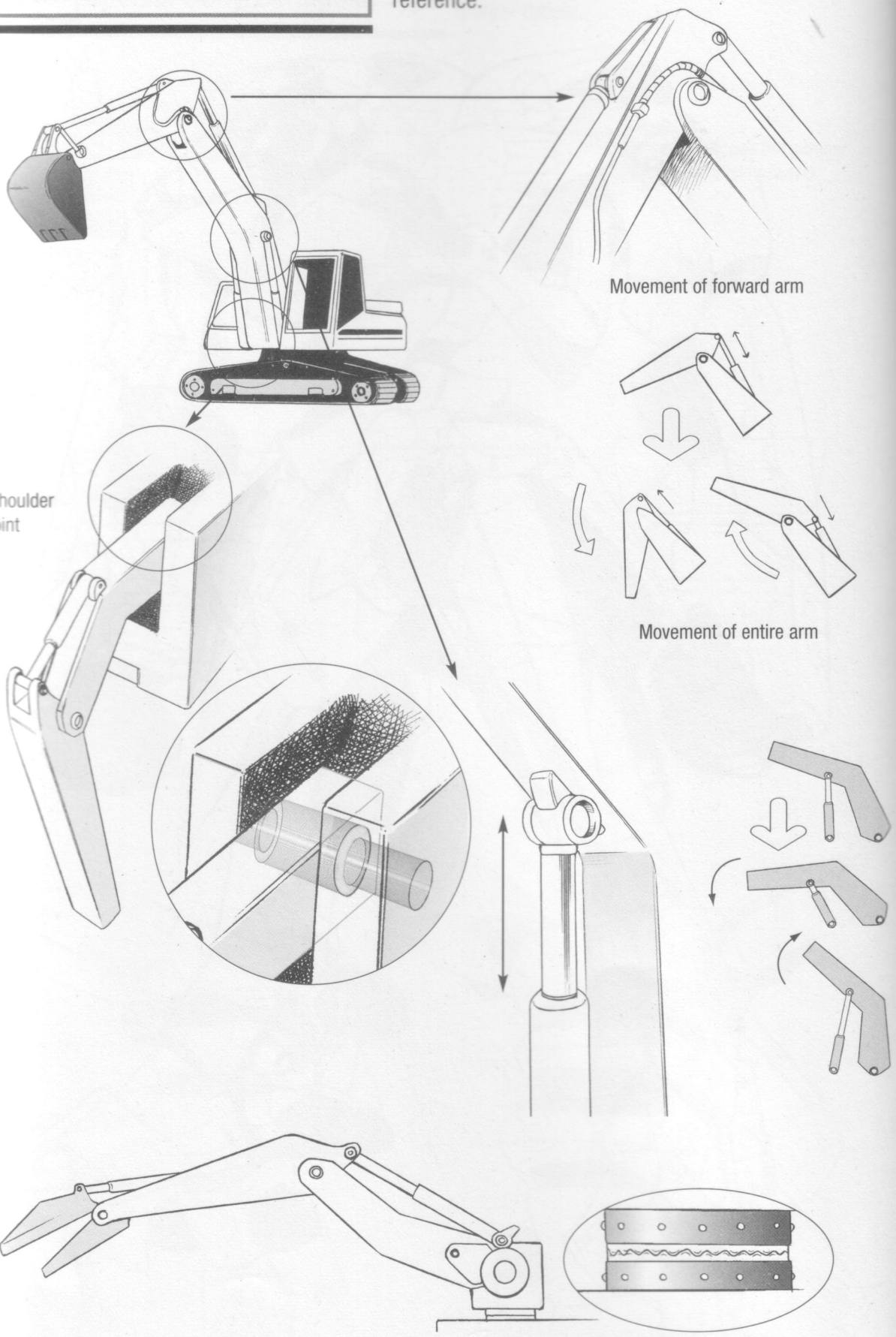
Back





Shoulder and Elbow Joints

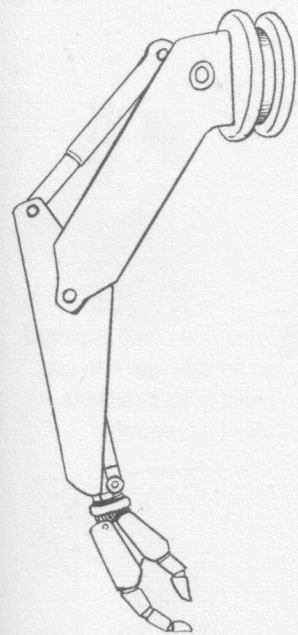
Use the arms of cranes and excavators as a reference.



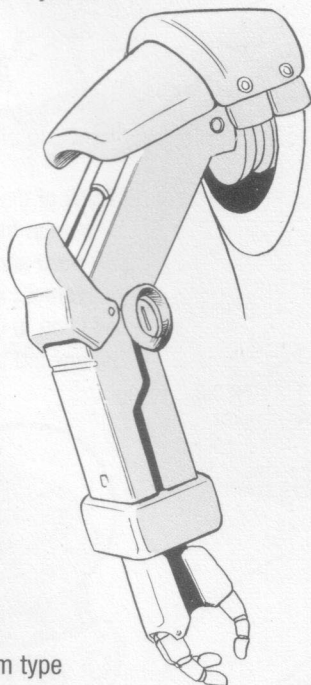
Rotating joint at base

Arm Forms

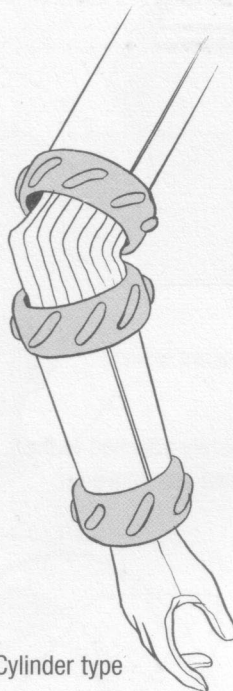
They are based on prisms and cylinders.



The arm structure resembles that of a crane.

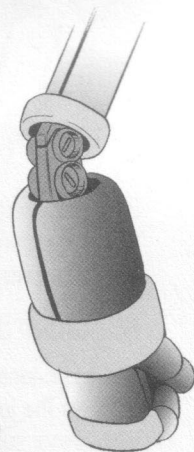
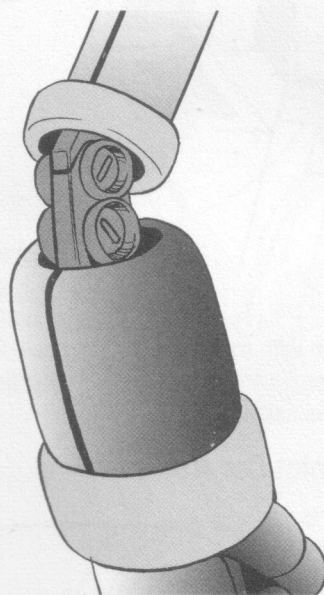
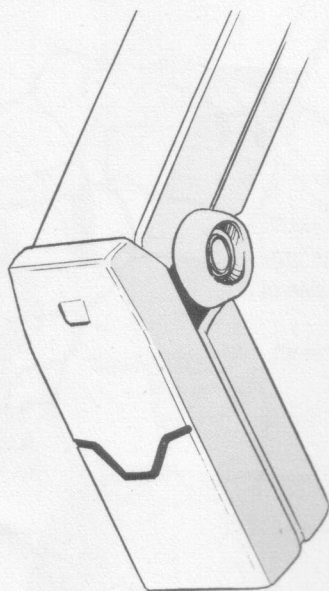
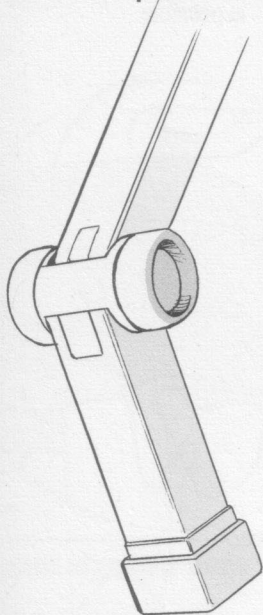


Prism type

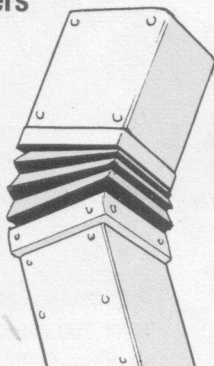


Cylinder type

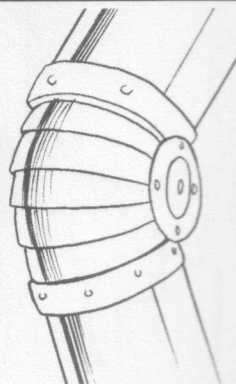
Arms with Exposed Elbow Joints



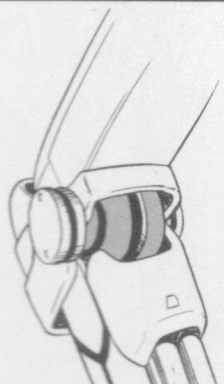
Joint covers



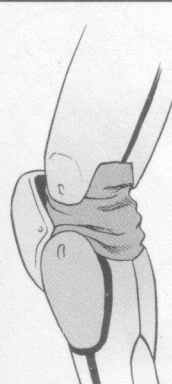
Accordion type



Metal cover

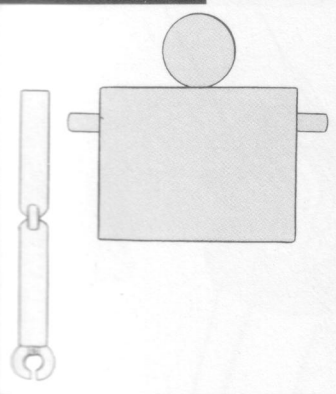


Armor type

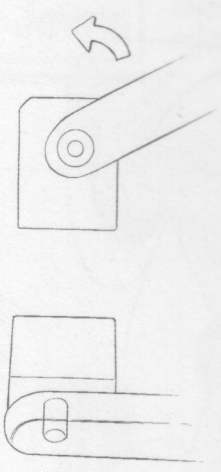


Rubber cover

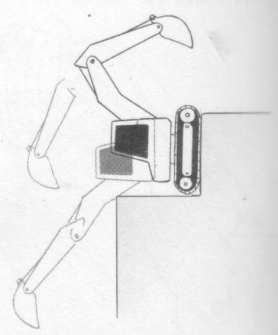
Shoulders



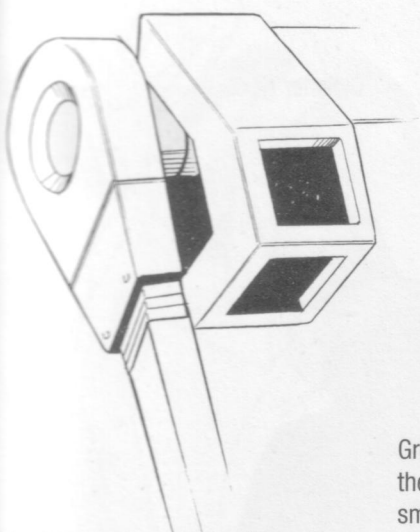
The arm is merely attached to the support and can only move up and down.



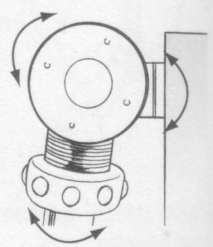
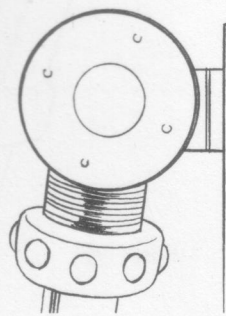
Think of the arm as crane sitting on top of a shoulder. Forward and backward movement is possible in addition to upward and downward movement.



When the crane is placed on its side, the arm can move in all directions, albeit awkwardly.

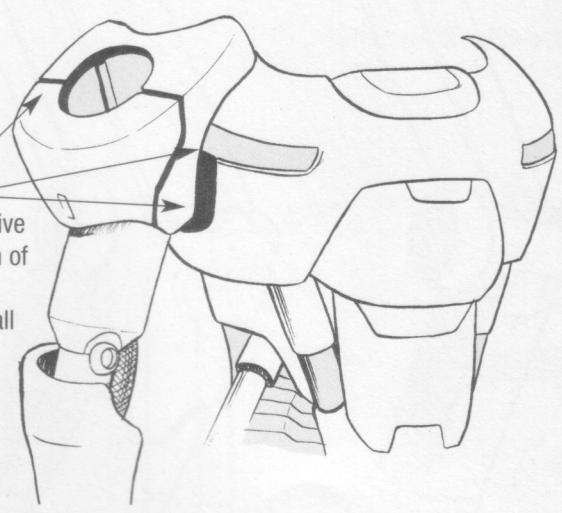


Shoulder design with traditional function allowing upward and downward movement only.



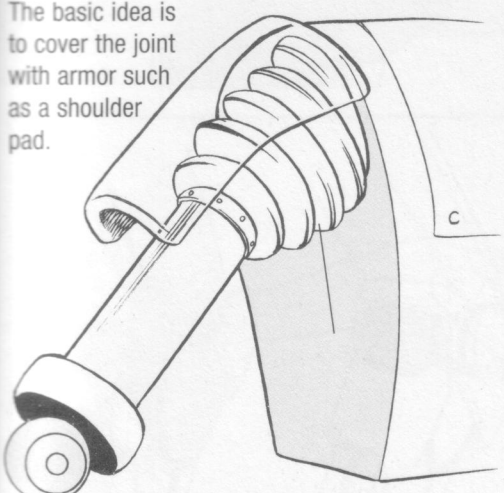
A shoulder joint emphasizing rotation. Crane-like movement is possible.

Groove lines give the impression of smooth movement in all directions.

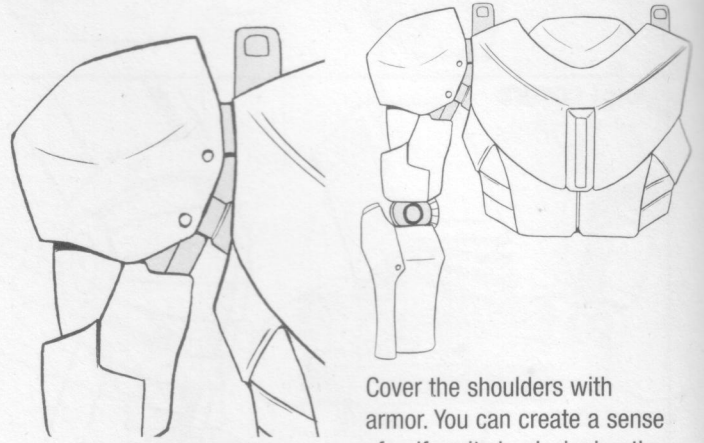


Shoulder Joint Covers

The basic idea is to cover the joint with armor such as a shoulder pad.

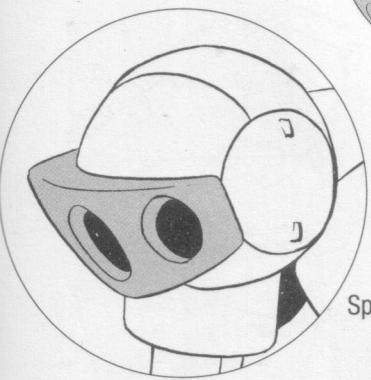


Rubber cover

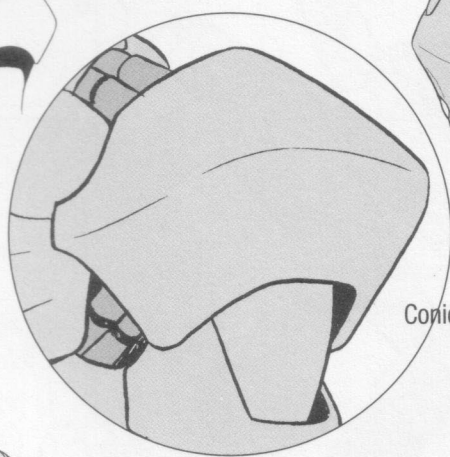
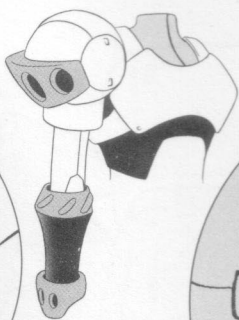


Cover the shoulders with armor. You can create a sense of uniformity by designing the arms and upper body at the same time.

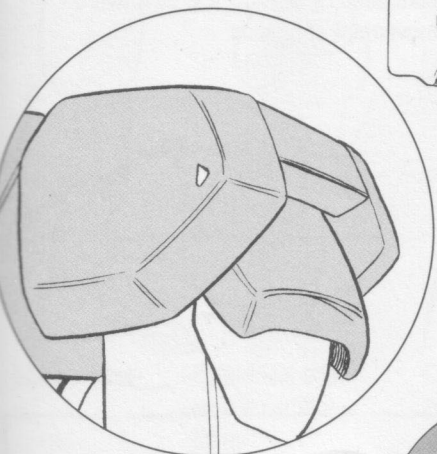
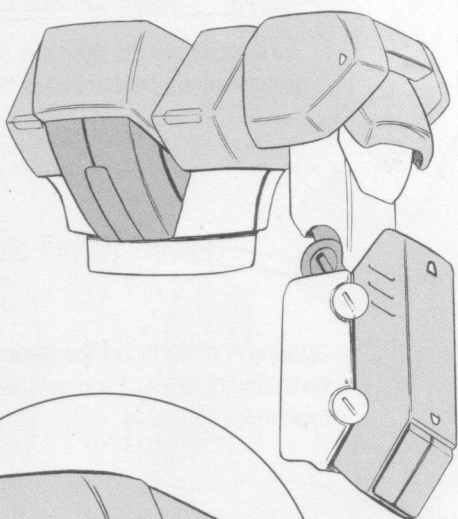
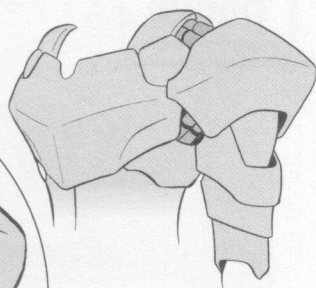
Shoulder Pads/Armor



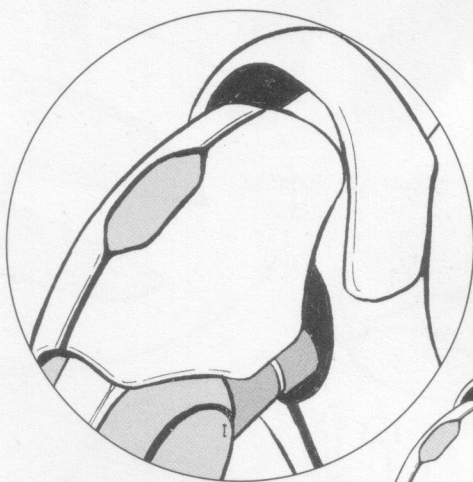
Spherical type



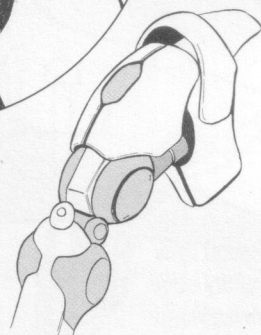
Conical transformation type



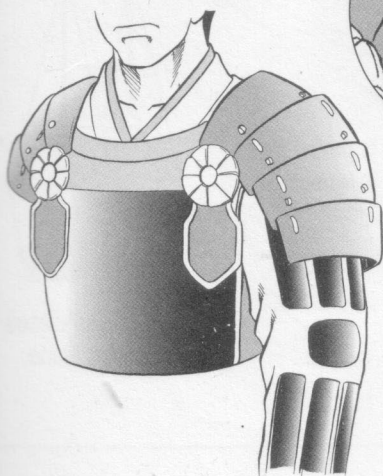
Square type



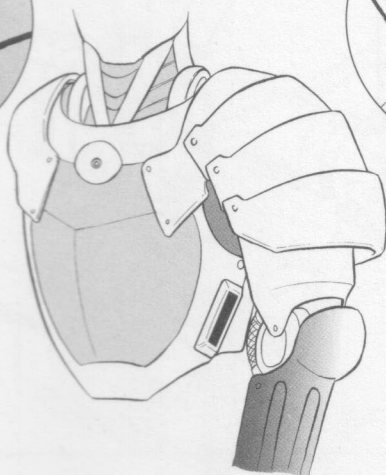
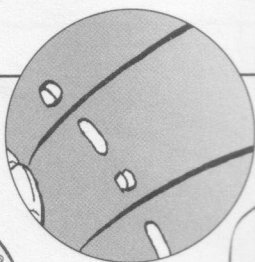
Belt and shield type



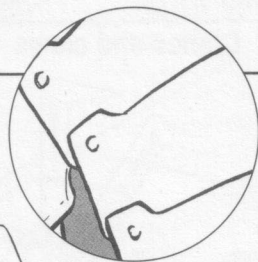
Armor shoulder pads

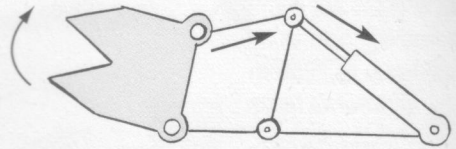
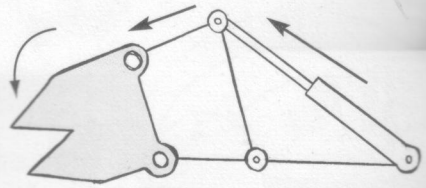
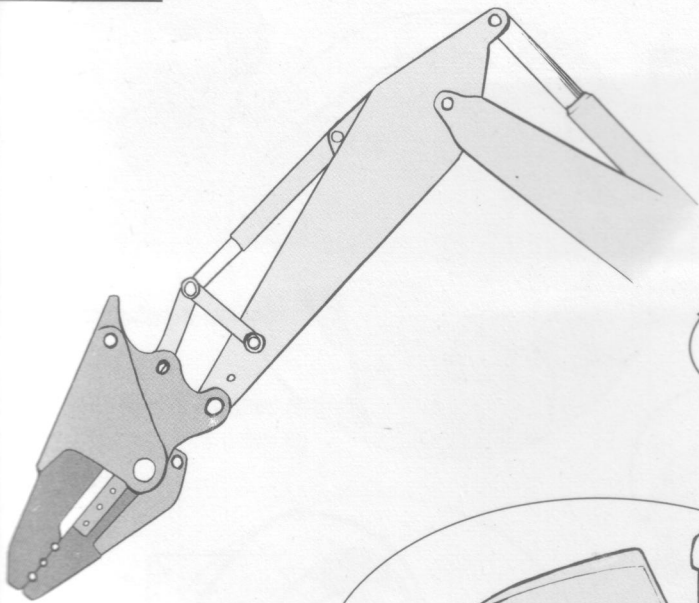


Tied together with string

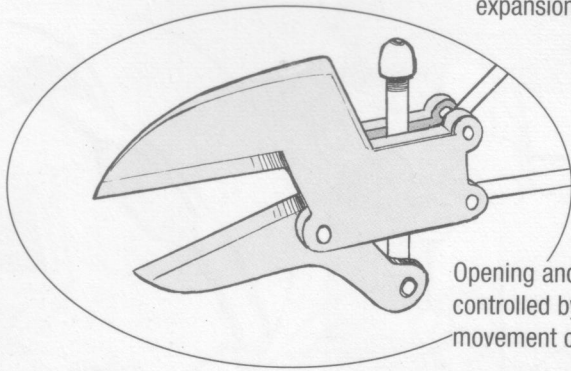


Affixed with rivets

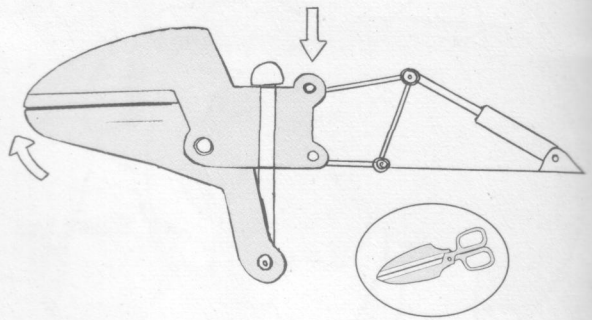
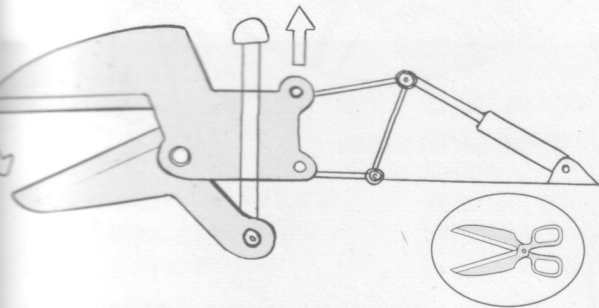




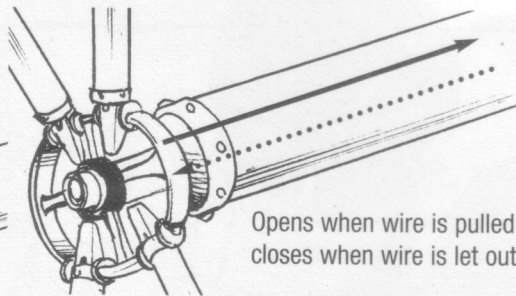
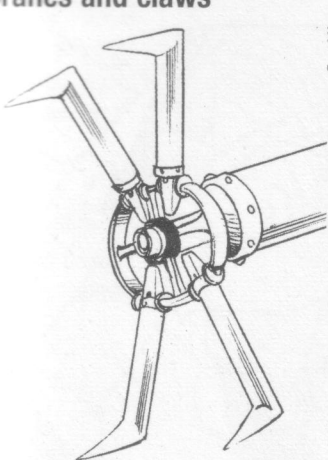
The direction of the sheers is changed by expansion and contraction of the shaft.



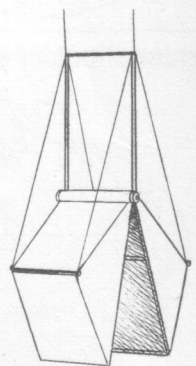
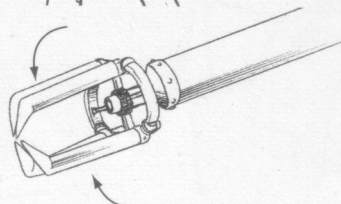
Opening and closing of the blades is controlled by upward and downward movement of pistons.



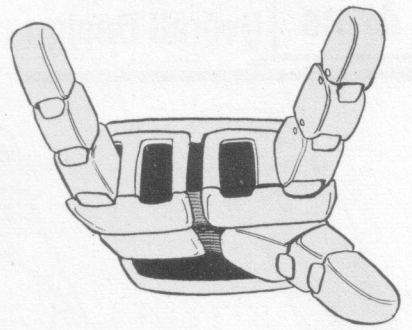
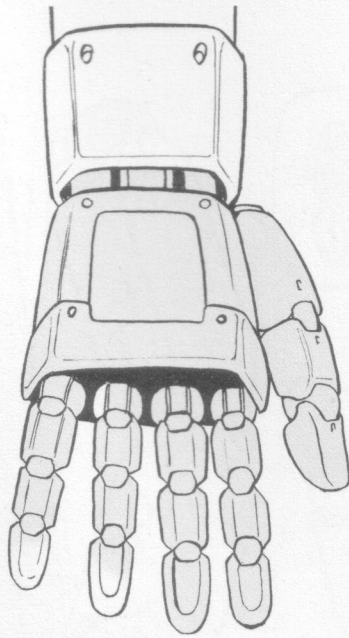
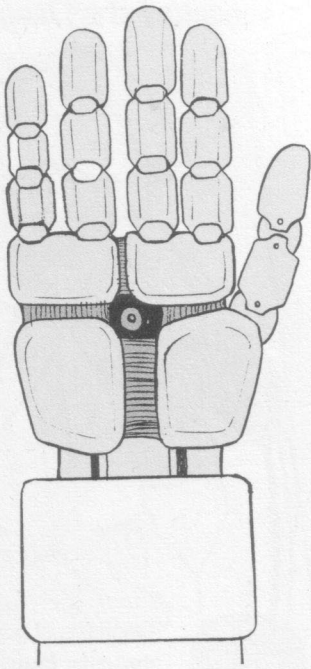
Cranes and claws



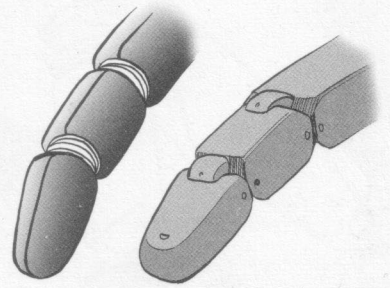
Opens when wire is pulled and closes when wire is let out.



Opens and closes with wire alone.

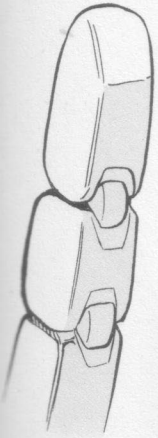


Fingers are sometimes detachable.

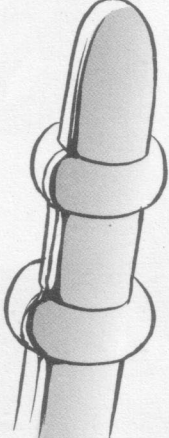


Cylindrical and square types

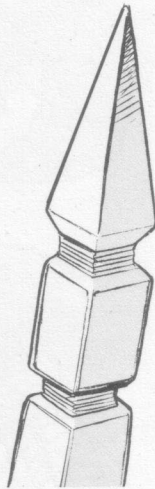
Basic Finger Design



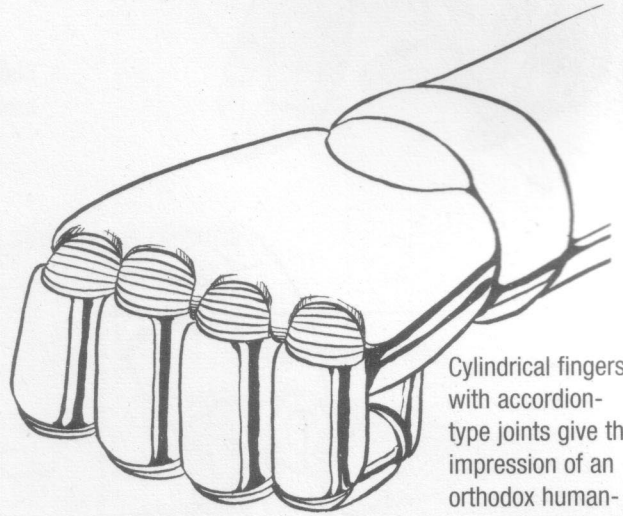
Square base



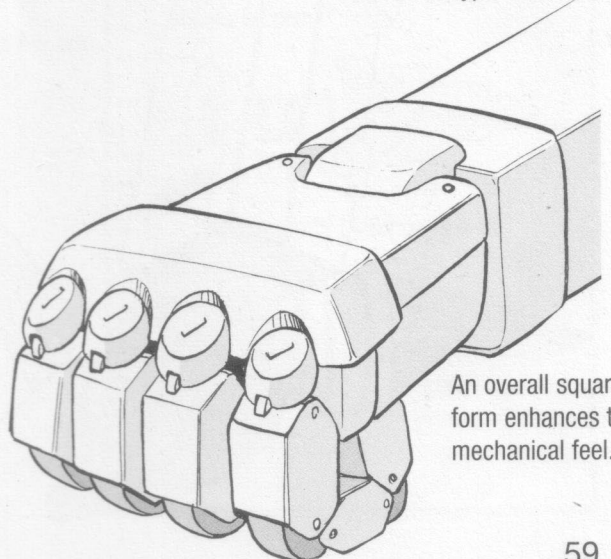
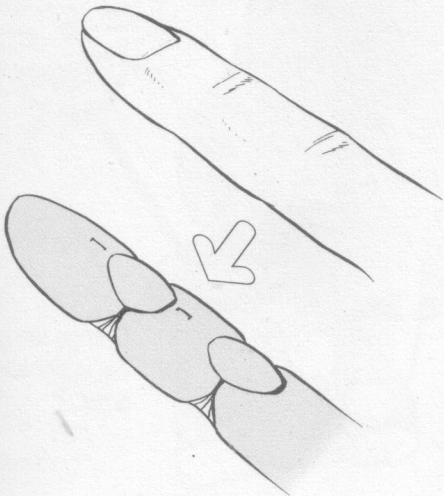
Cylindrical base with enlarged joints



Conical cone type

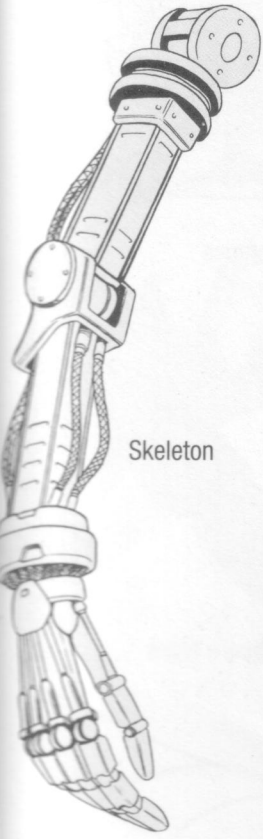


Cylindrical fingers with accordion-type joints give the impression of an orthodox human-type robot.

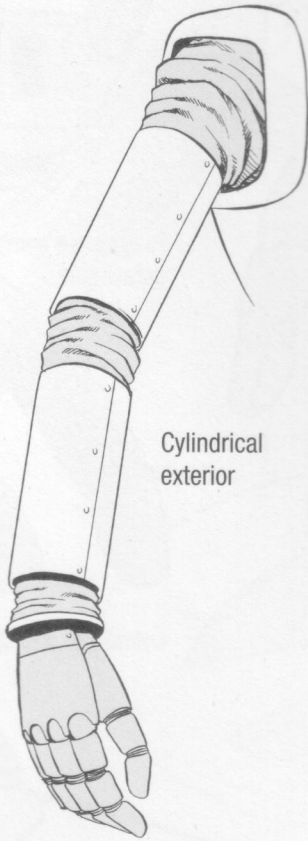


An overall square form enhances the mechanical feel.

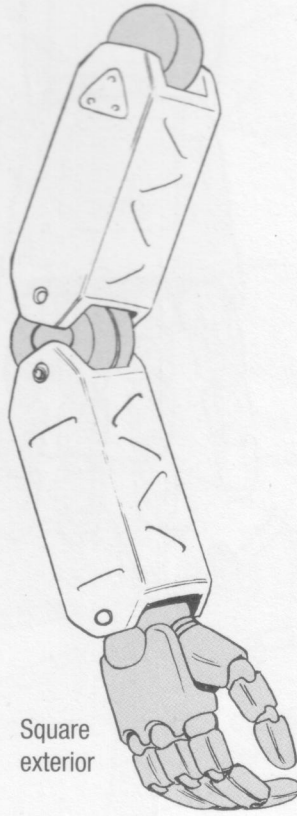
Arms Overall Design



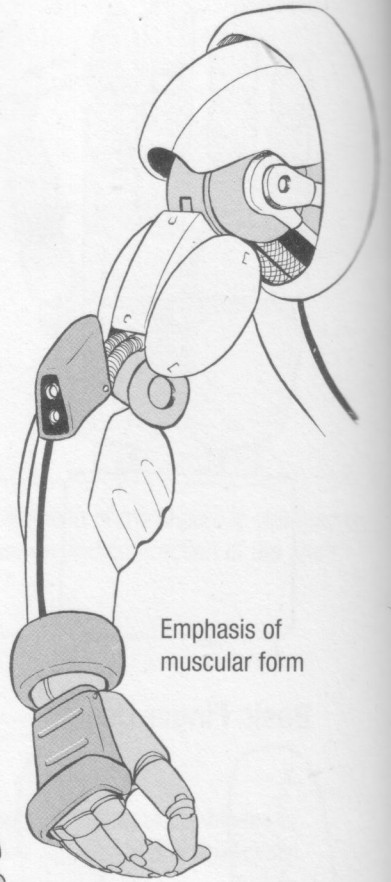
Skeleton



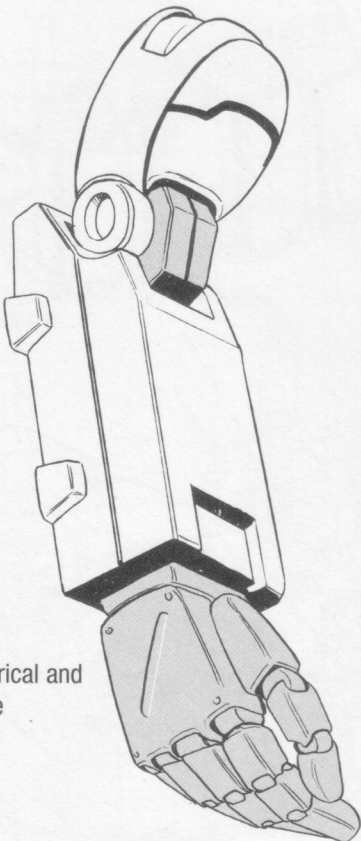
Cylindrical exterior



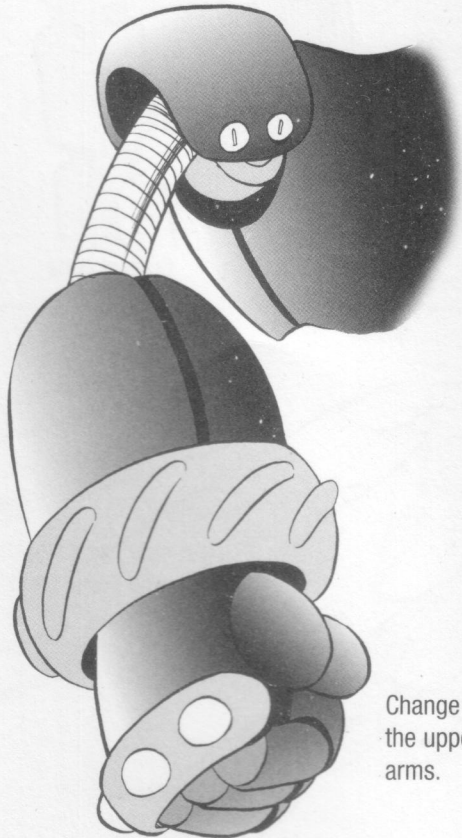
Square exterior



Emphasis of muscular form



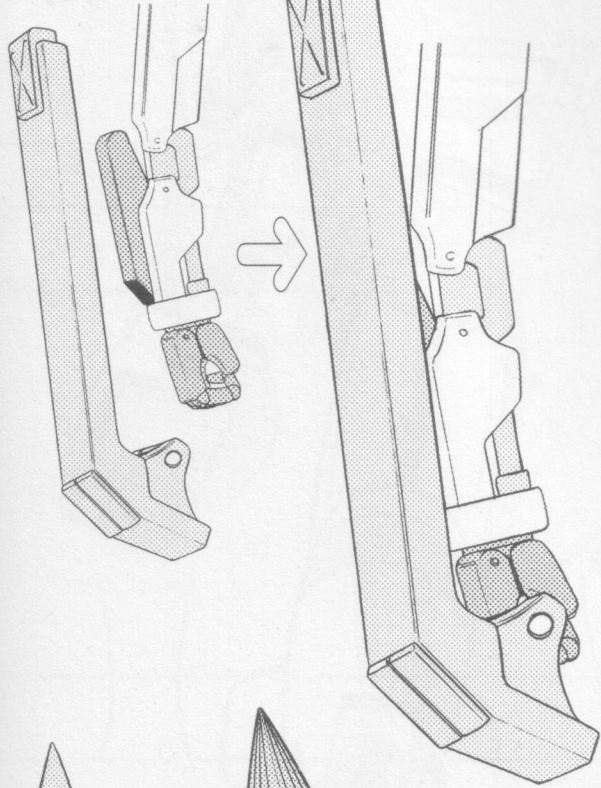
Cylindrical and square



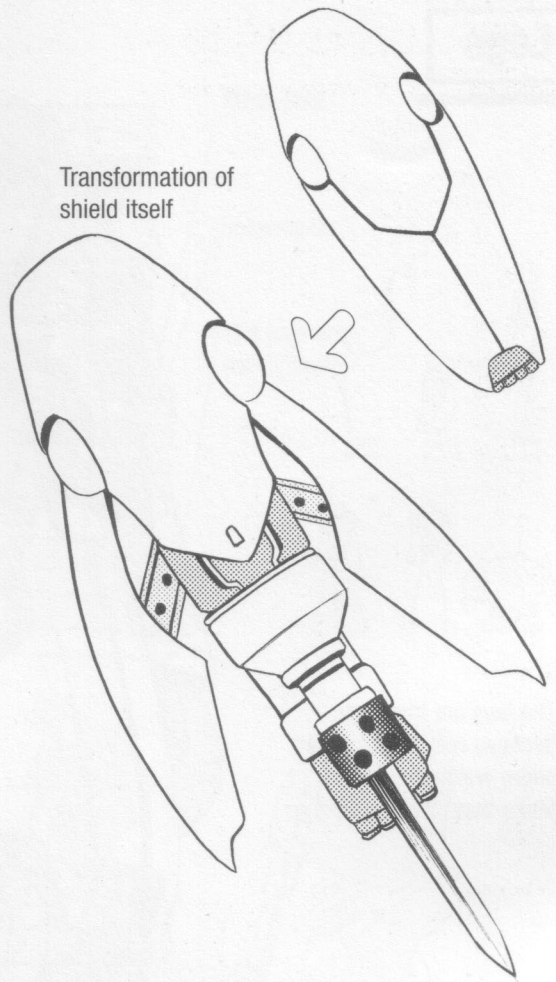
Change the girth of the upper and lower arms.

Optional Parts Variations

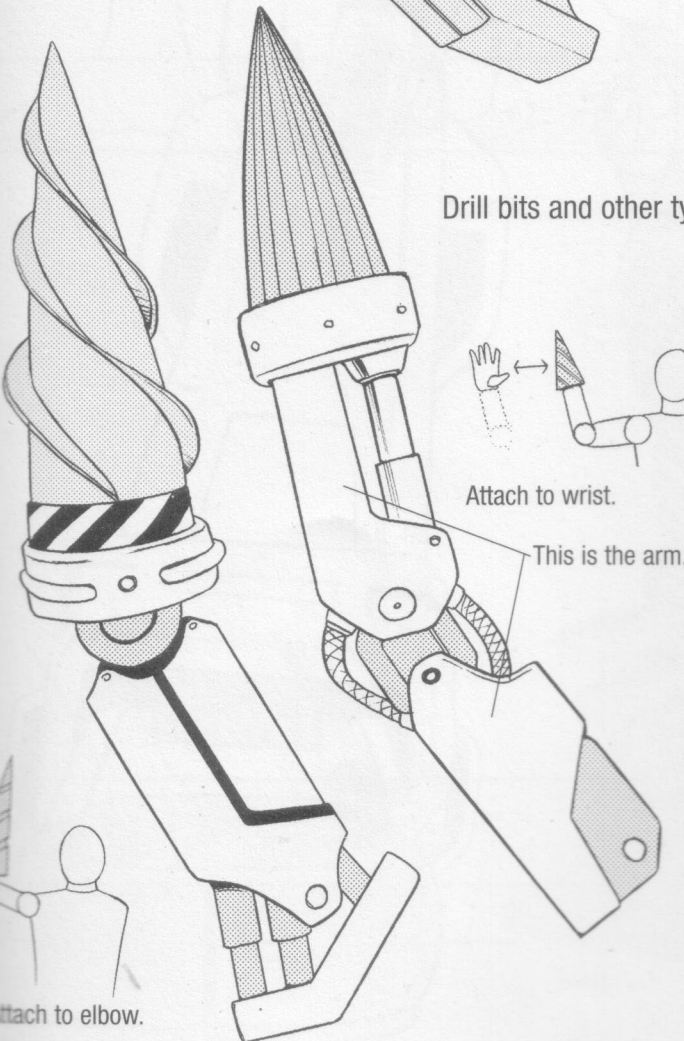
Shields/guards



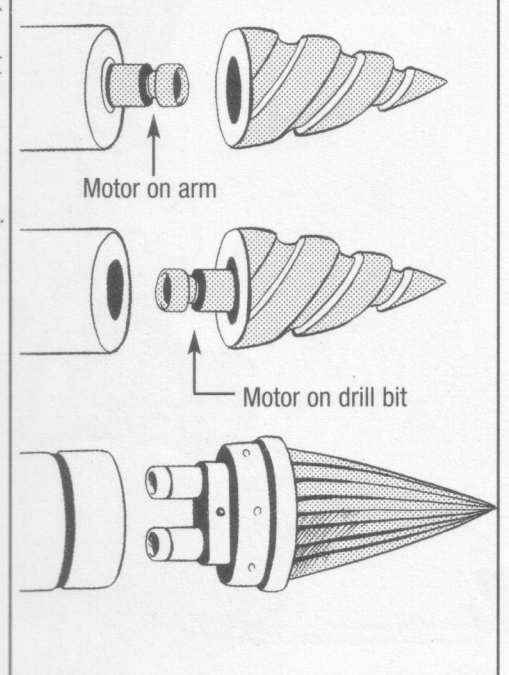
Transformation of shield itself



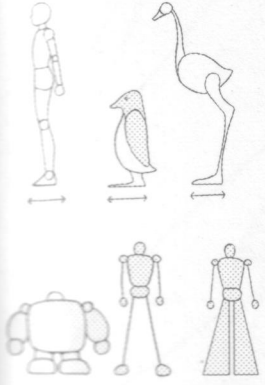
Drill bits and other types of arms



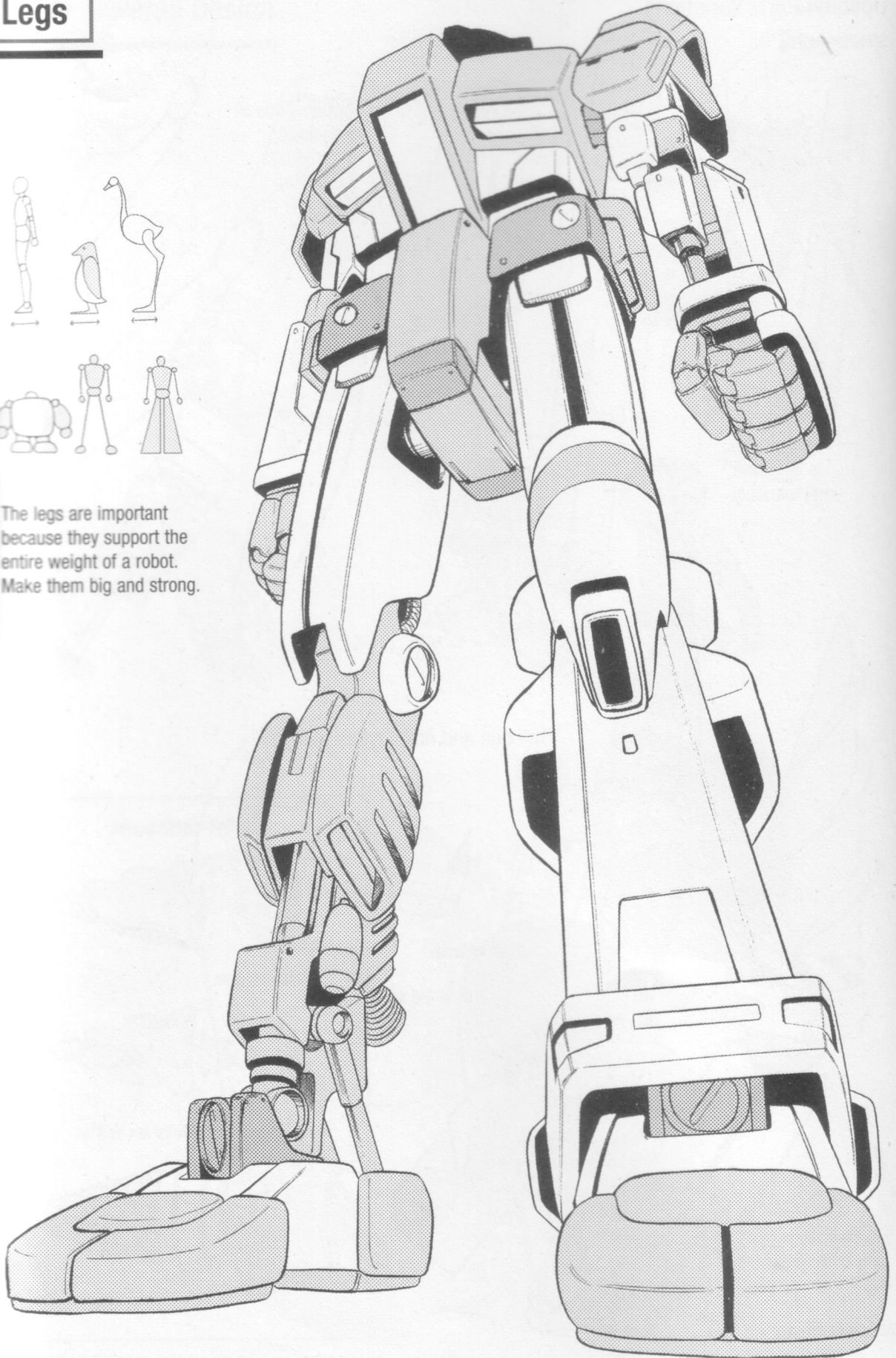
Joint variations



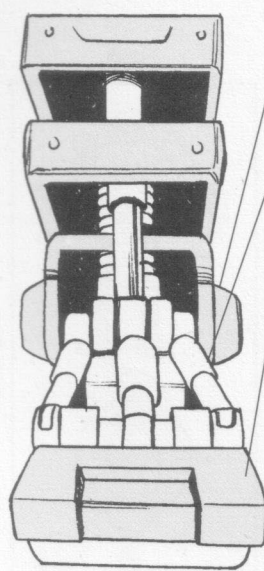
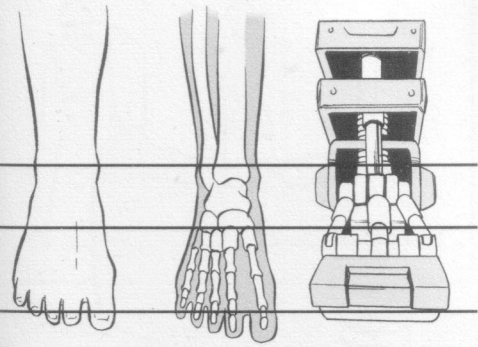
Legs



The legs are important because they support the entire weight of a robot. Make them big and strong.



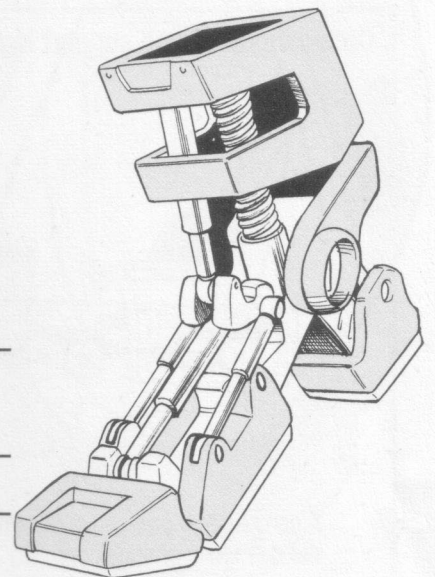
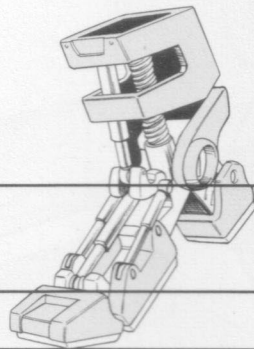
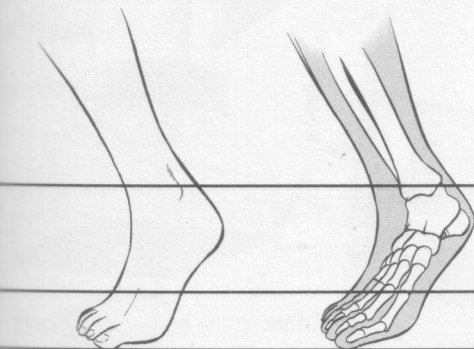
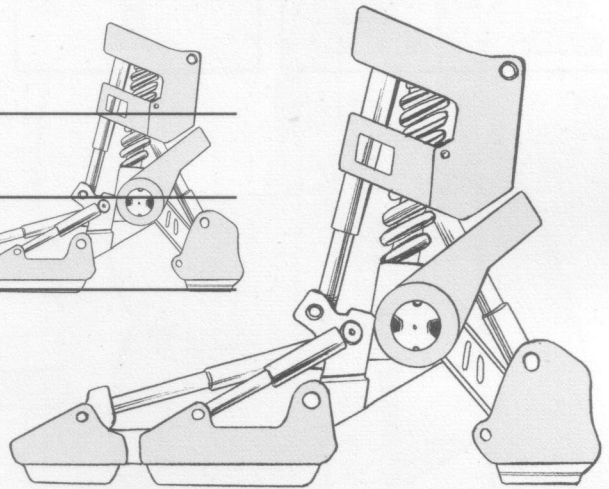
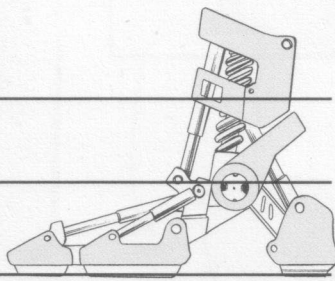
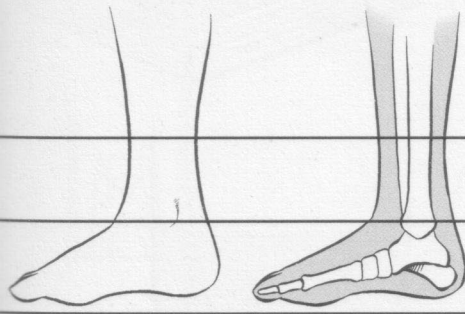
Feet



Ankle joint

Suspension

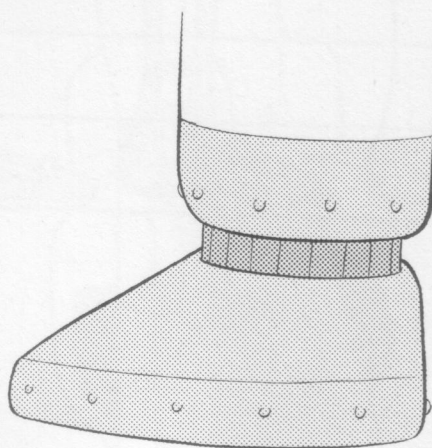
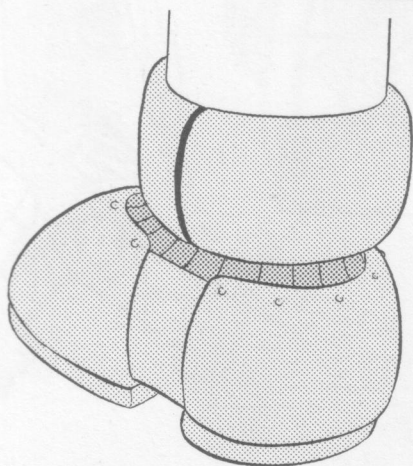
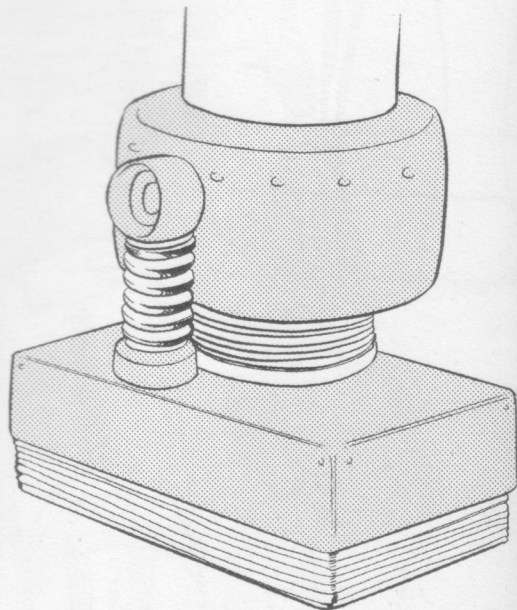
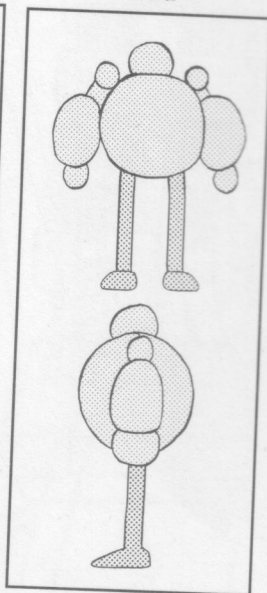
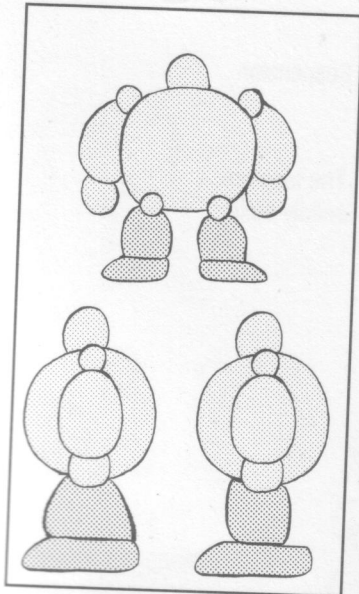
The toes are solidly built.



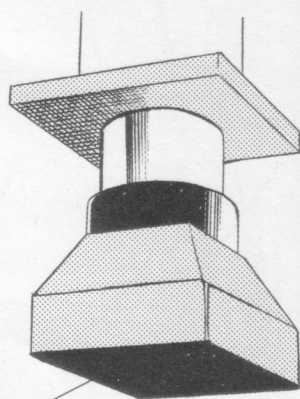
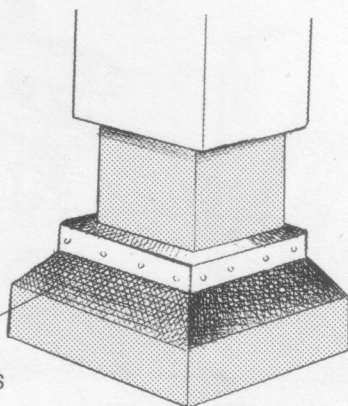
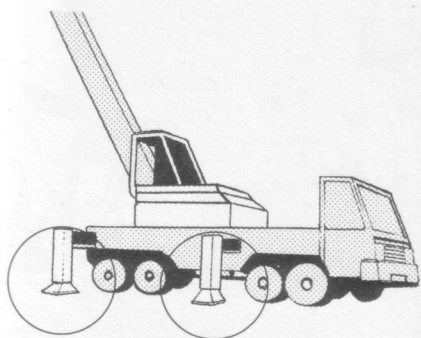
Short, Fat Legs Stocky legs create a sense of stability.

Good

Bad



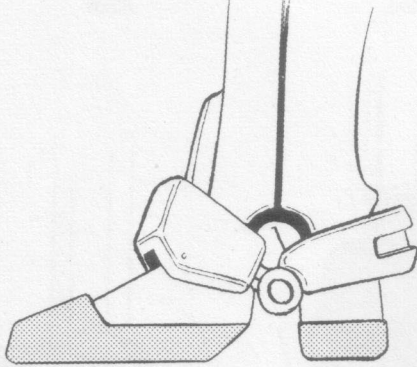
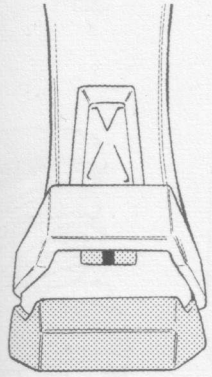
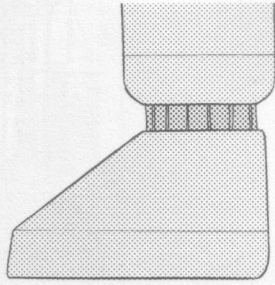
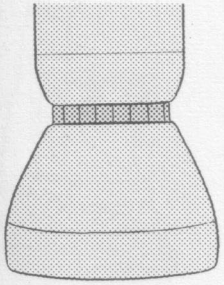
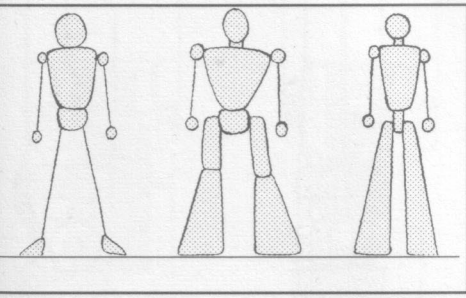
Optional crane-type support legs



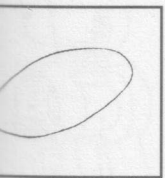
A combination of mesh and matting creates the dull shine of metal.

Drawing the bottom of support legs solid black makes them look heavy and hard.

Long, Slender Legs Draw the legs and feet large so that they are shaped like those in the illustrations below.

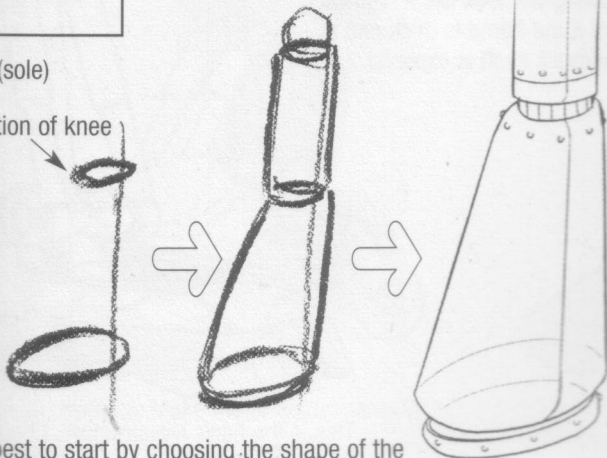


Leg Form

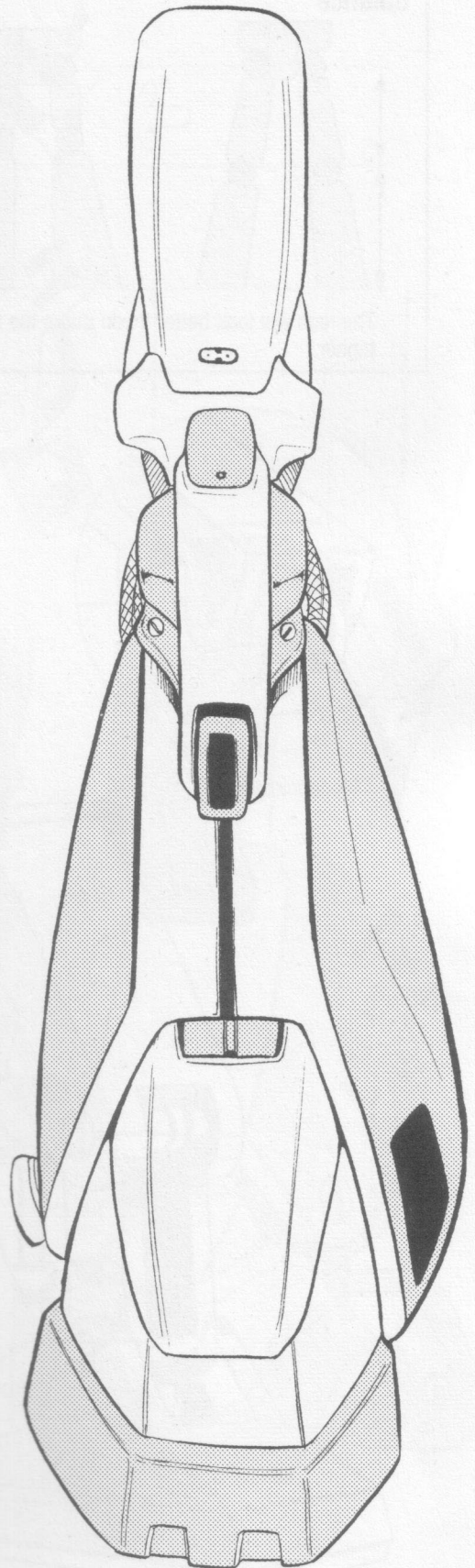


Foot (sole)

Location of knee

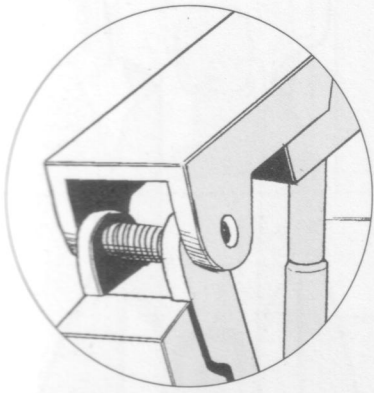
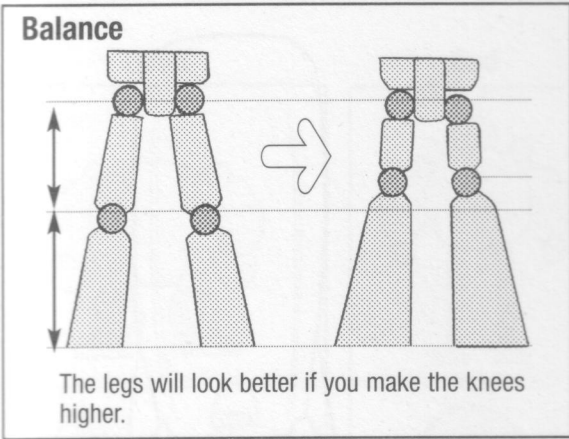


It is best to start by choosing the shape of the foot (sole) and drawing the entire leg by connecting the foot to the knee and hip joint.

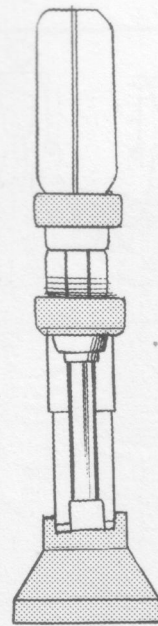


Leg Design

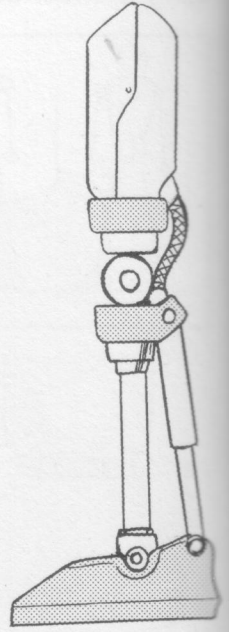
Skeleton frame



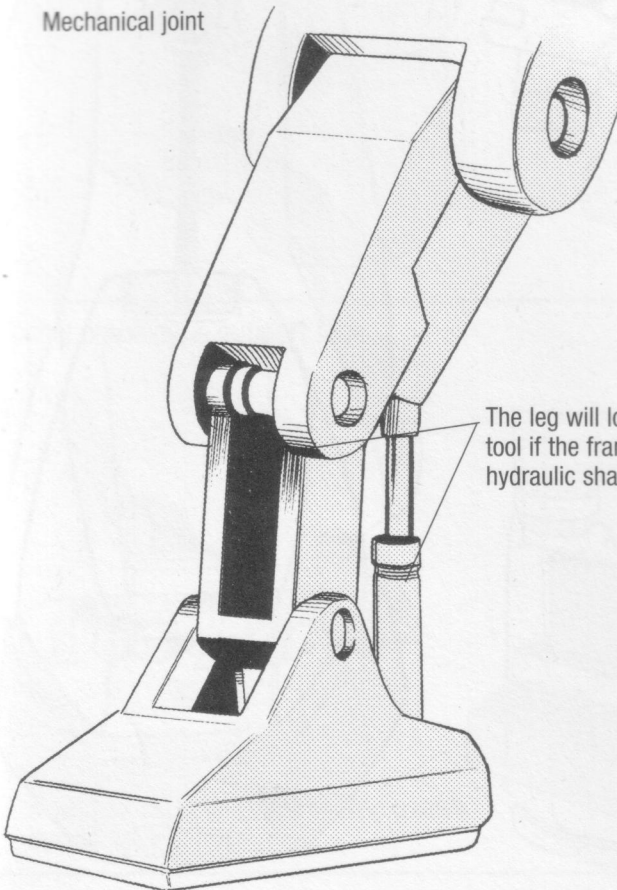
Mechanical joint



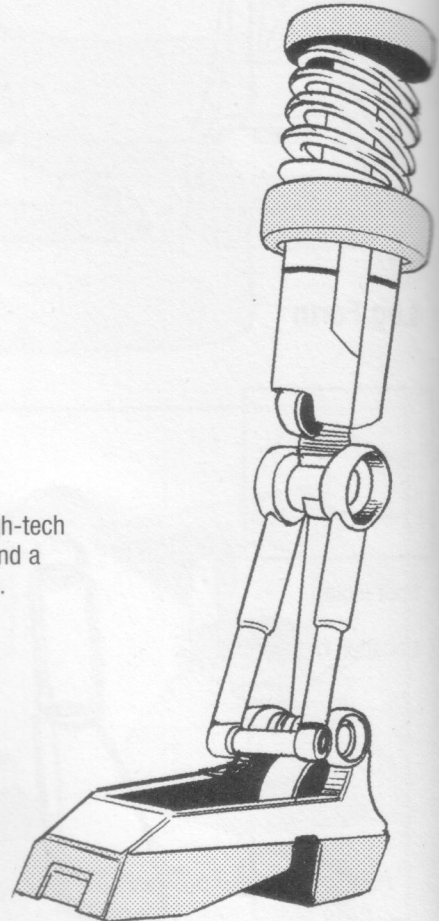
Front view



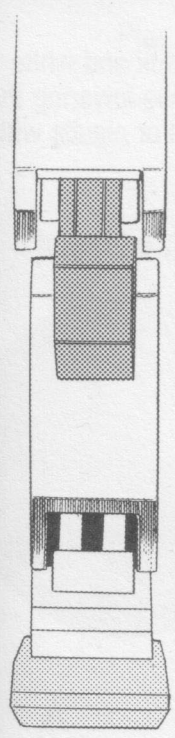
Side view



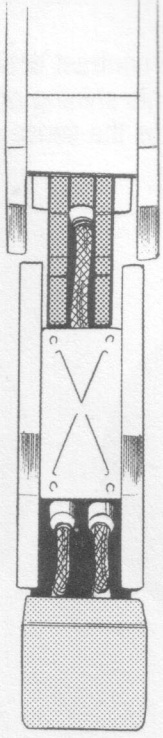
The leg will look like a high-tech tool if the frame is thick and a hydraulic shaft is exposed.



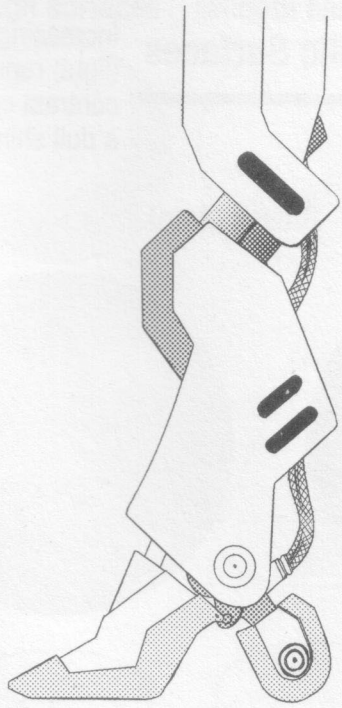
This is the basic leg structure. Choose the girth and the number and positions of shafts according to your tastes and how the robot will be used.



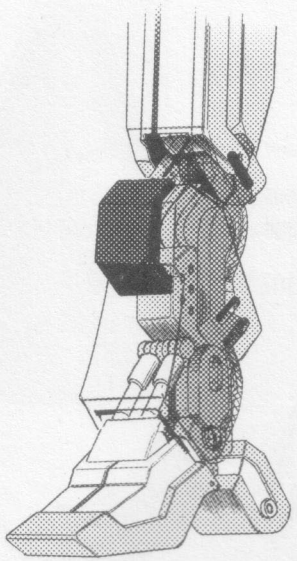
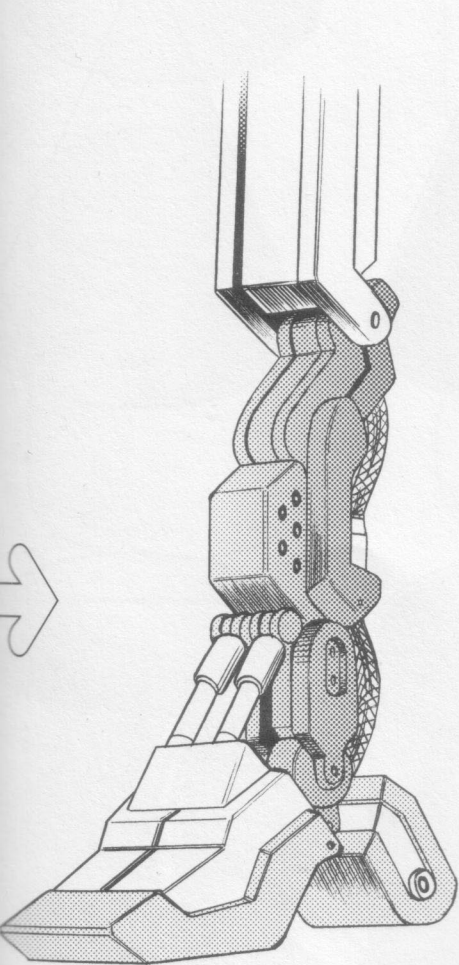
Front



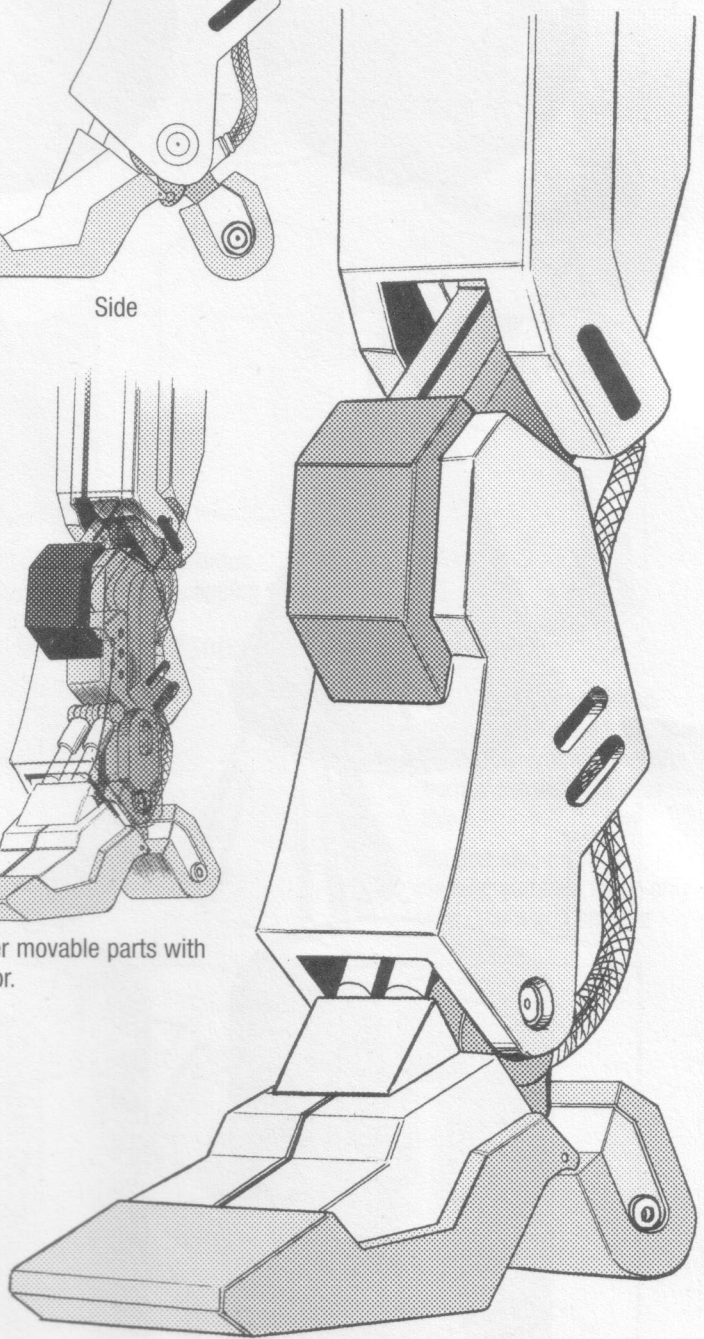
Back



Side



Cover movable parts with armor.



Internal structure: Make minor adjustments to the angle and position of shafts. Add supplemental parts to create the effect of a mechanical interior.

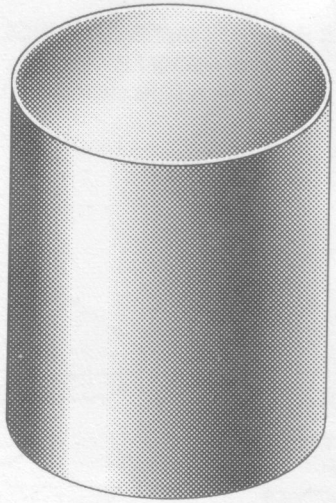
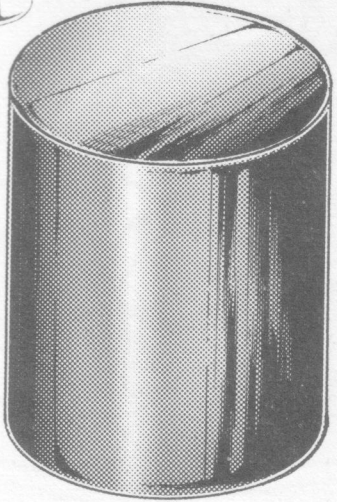
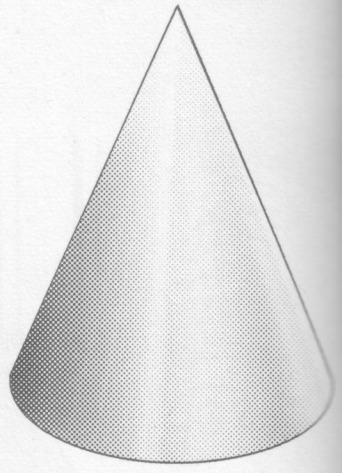
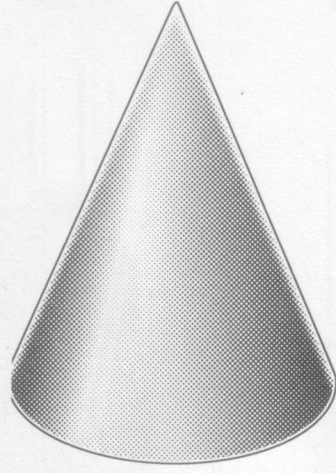
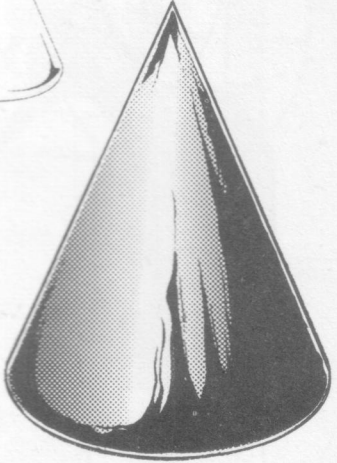
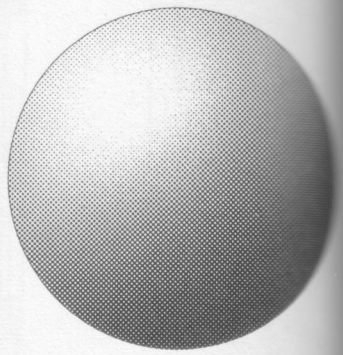
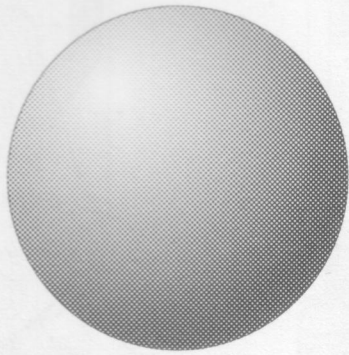
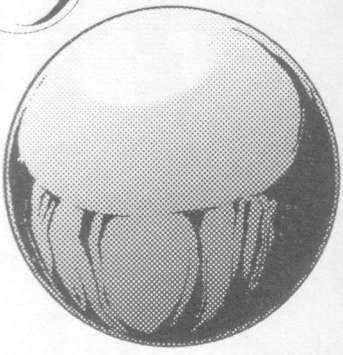
Representation of Metallic Surfaces

Increasing the contrast between black and white (light) represents shining metal, while lowering the contrast creates the sense of metal or plastic with a dull shine.



Glossy Metal

Matted Metal

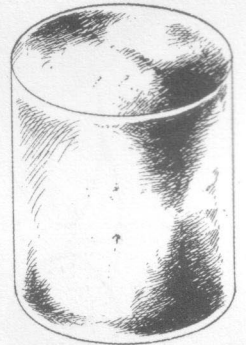
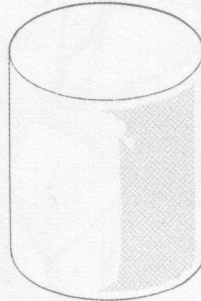
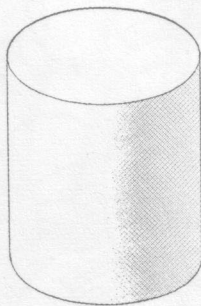
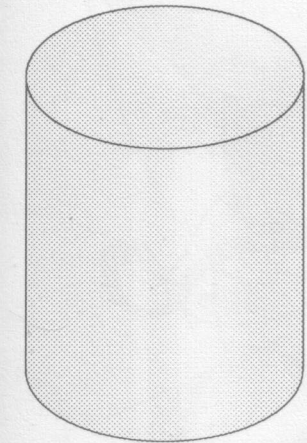
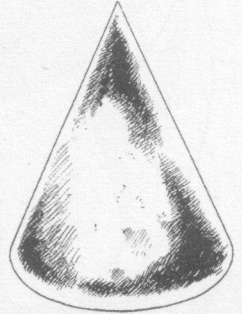
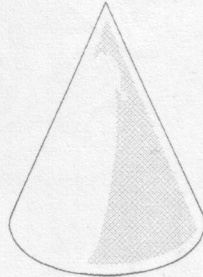
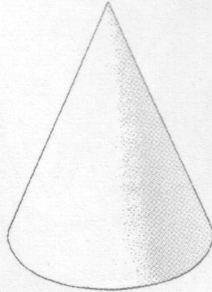
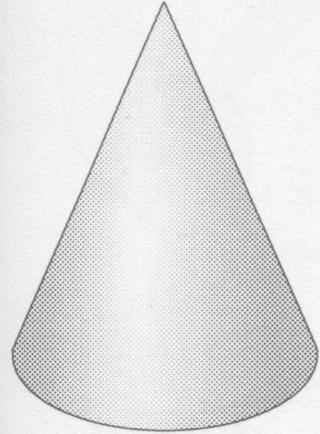
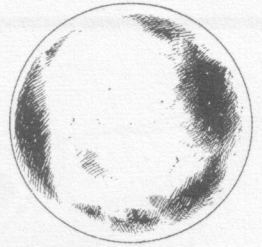
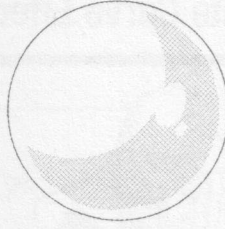
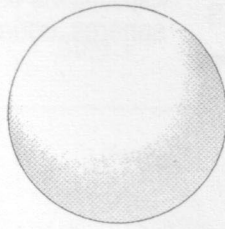
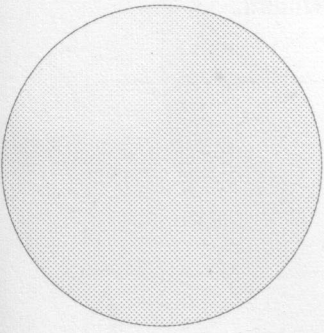


Plastic

Rough surfaces

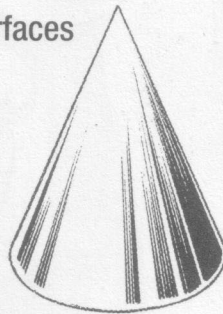
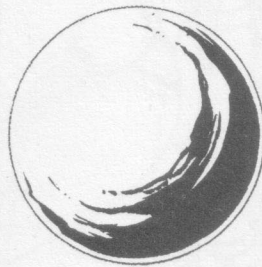
Smooth surfaces

Rusted/Worn metal



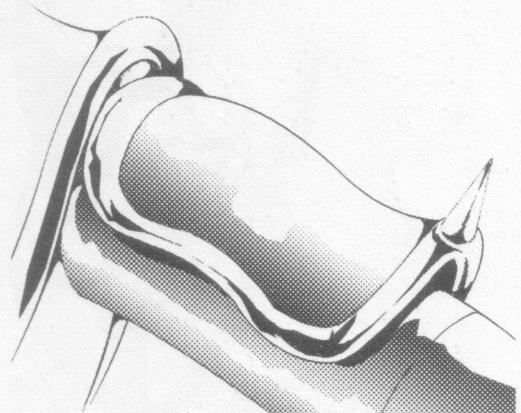
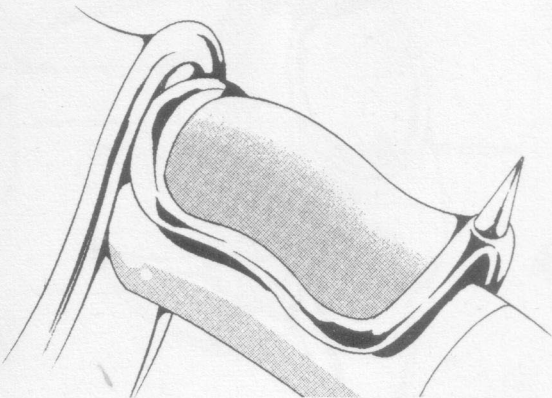
The feel of a solid is sometimes expressed by shading or clipping tones.

Metallic Surfaces



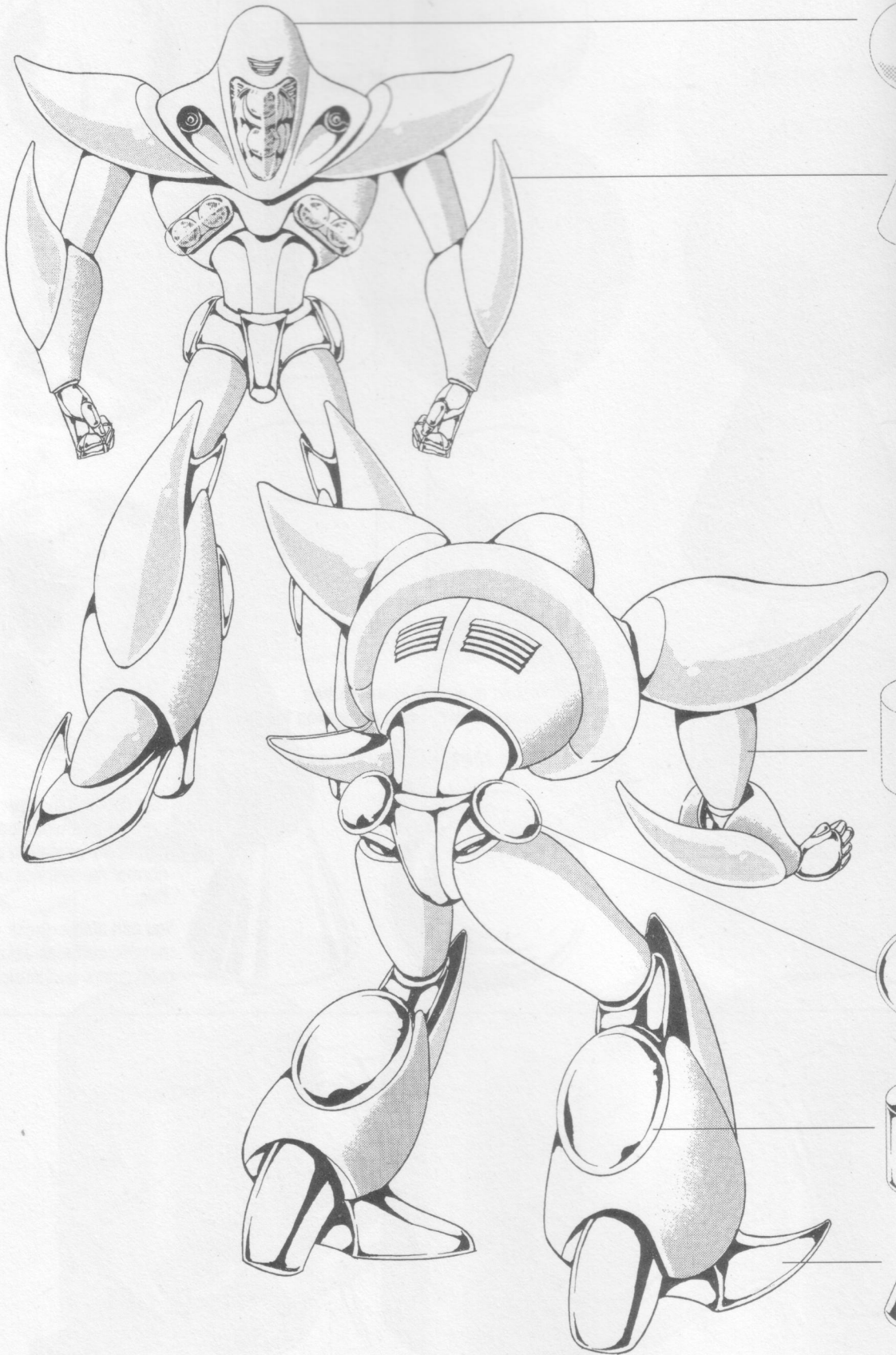
Use spotting to express grime and a worn look. You can apply gradation and/or normal mesh tones over this.

You can also express metallic surfaces using only solid colors and straight lines.

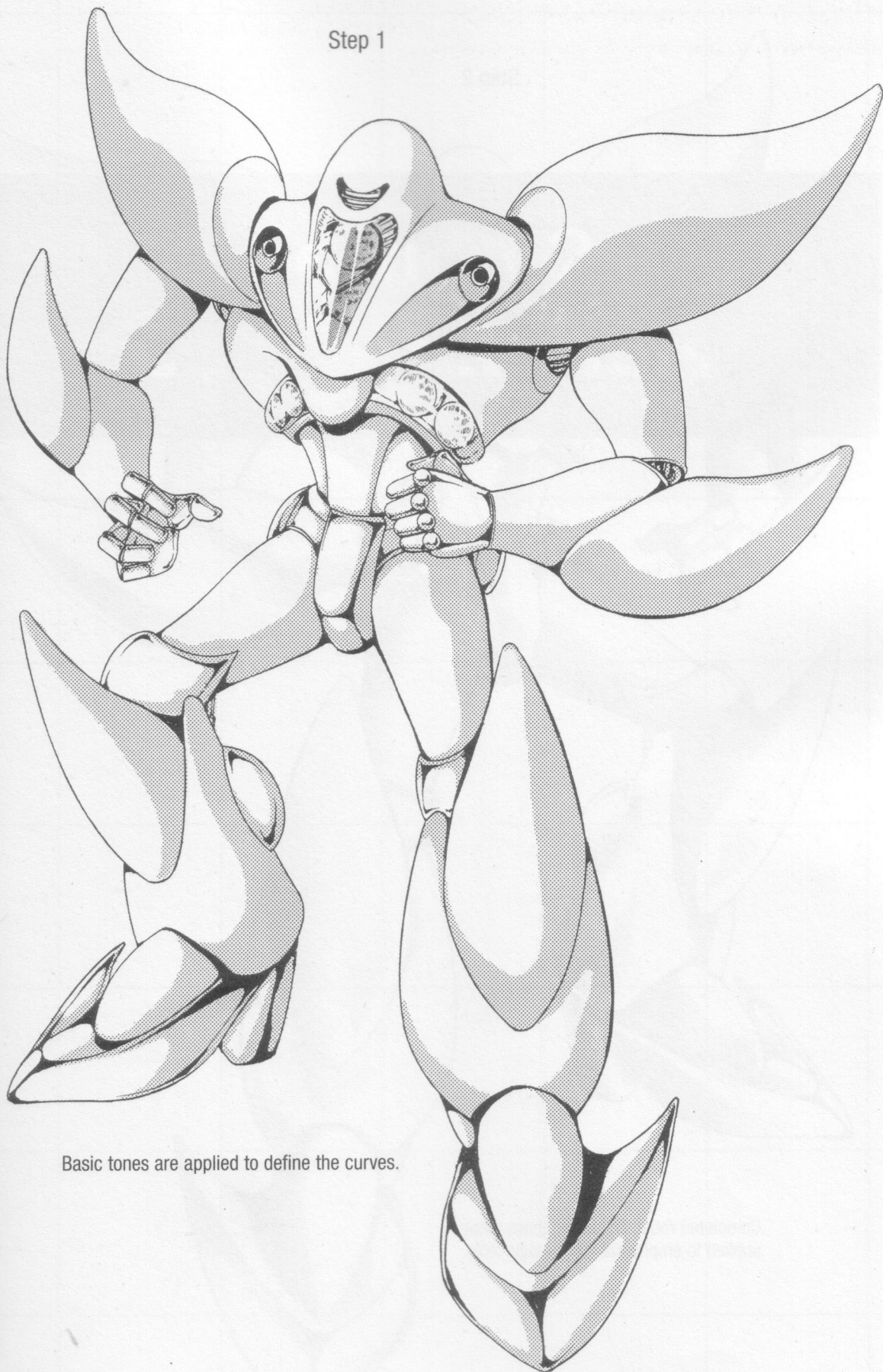


Using Tones to Create Curve Effects

Express curve lines by using a combination of spheres, cones and cylinders.



Step 1



Basic tones are applied to define the curves.

Step 2



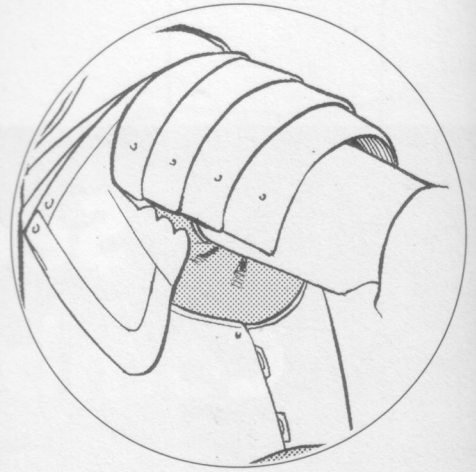
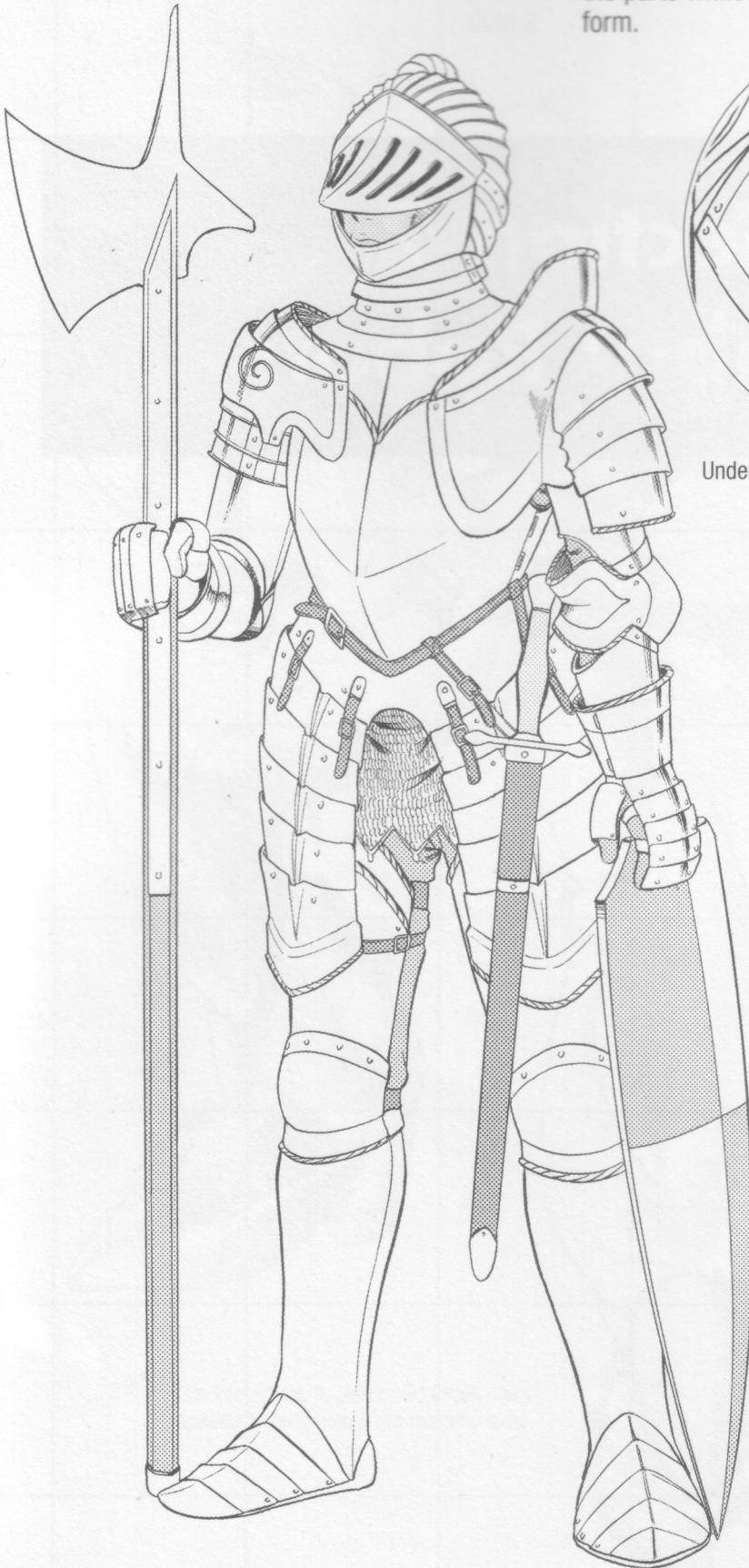
Completed robot. Deformed tones were applied to emphasize the metallic look.

Section 2

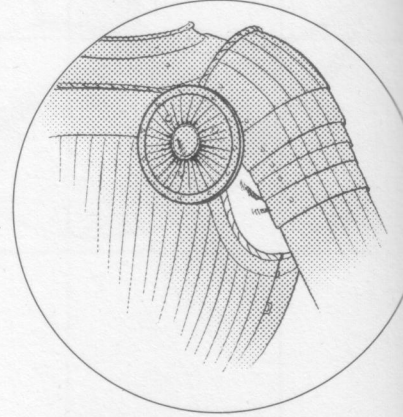
Combat Robots

Design Based on Medieval Armor

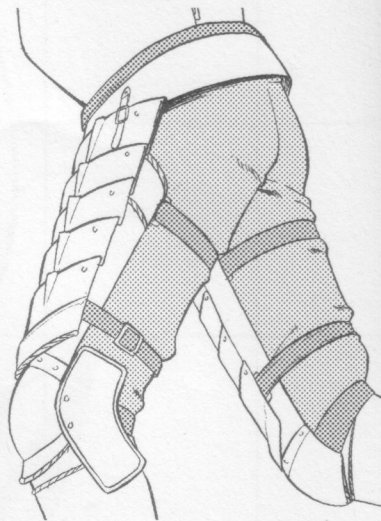
A classic suit of armor can be rendered into a modern-day mecha by simplifying and deforming the parts without significantly altering the overall form.



Underarm and seam of sleeveless undergarment



Different version of shoulder pad and sleeveless undergarment



Thigh protectors and knee pads

Use the helmet lines to form the head.

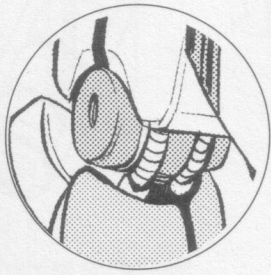
Emphasize sturdiness by extending and thickening the shoulders.

Turn elbow pads into jets.

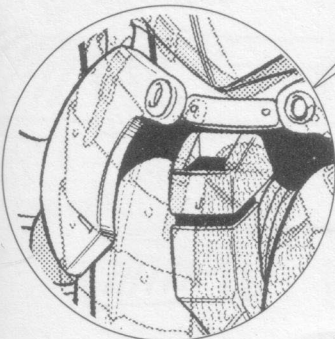
Leave the original lines in place.

Create three-dimensional effects (thickness and hardness) by adding lines such as these.

Feet should be big and stable to make up for simplicity of foot lines.



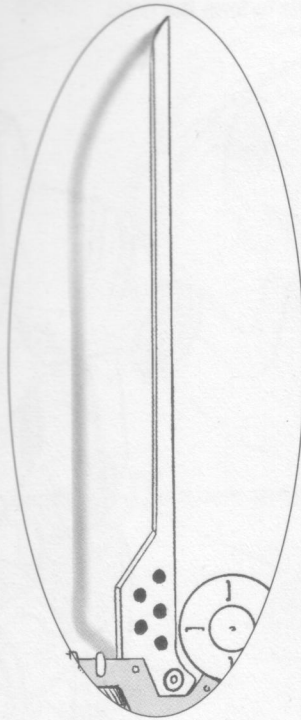
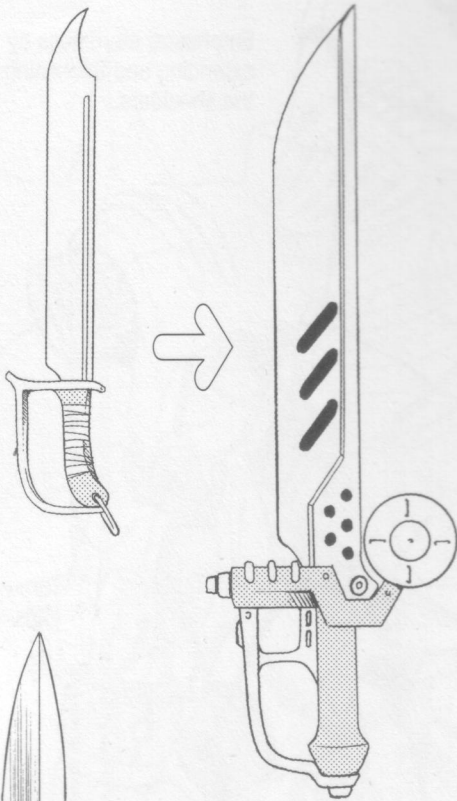
Make joints movable.



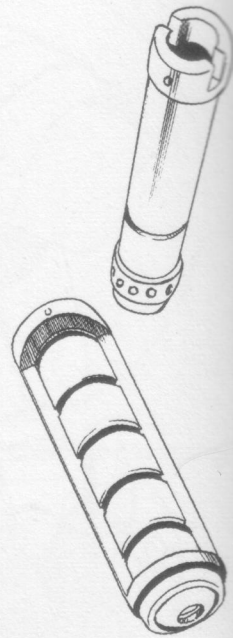
Combine belts into a single belt.

Arrangement of Swords, Axes and Spears for Use with Robots

Classic weapons should retain their original overall form but feature minor modifications to make them look futuristic.

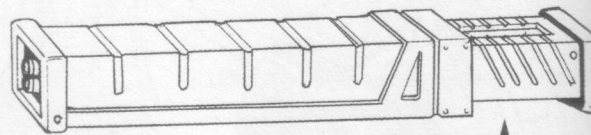


Applying tones to a blade and planing will make it look like a laser blade.

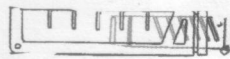
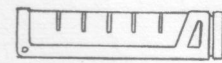


Making the handle look like a metal shaft will give it a mechanical feel.

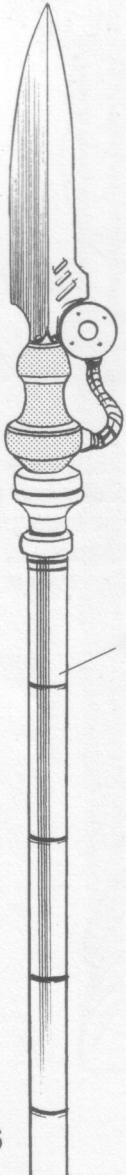
Beam saber



Energy pack



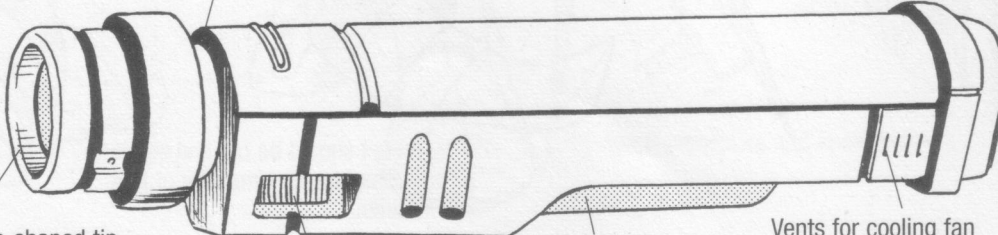
You can give beam sabers an optional energy pack.



Metal shaft

Use lines such as this to express a hard-plastic, three-dimensional effect.

Seam



Lens-shaped tip

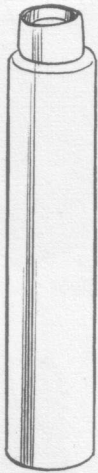
Indicator

Switch

Vents for cooling fan

Small tools used to make a robot look more mechanical

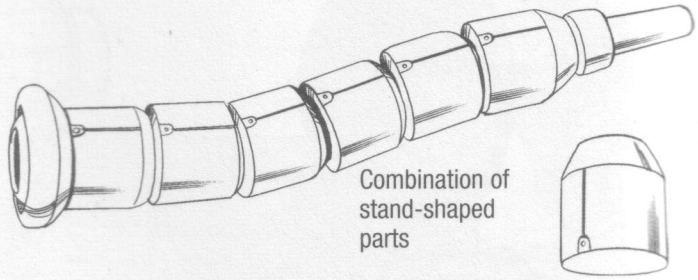
Shafts



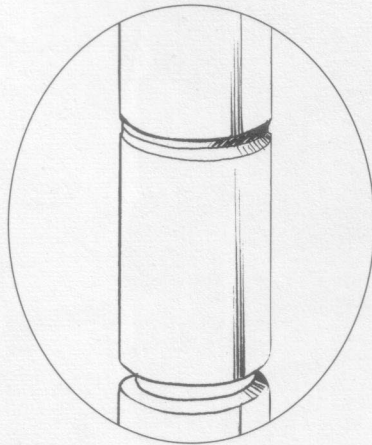
Plain type



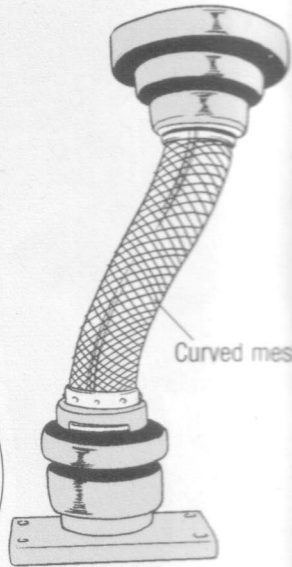
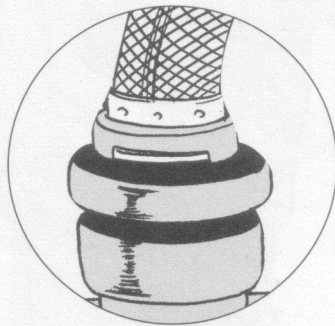
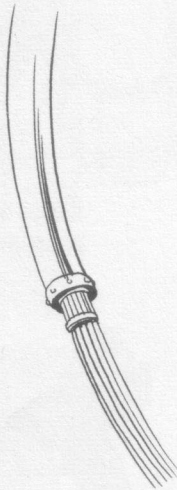
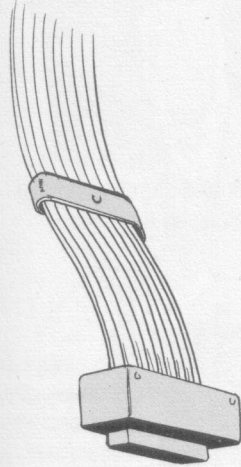
Type with seams/grooves



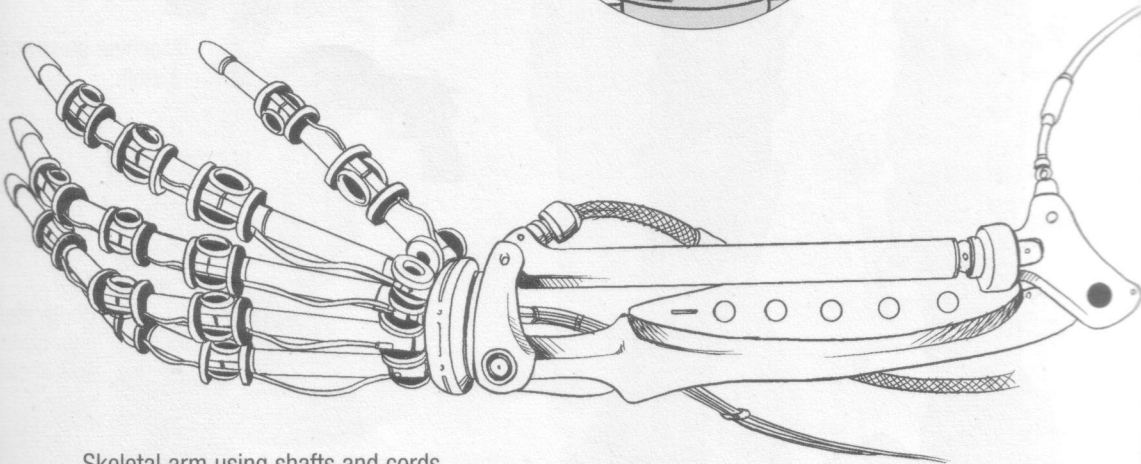
Combination of stand-shaped parts



Cords

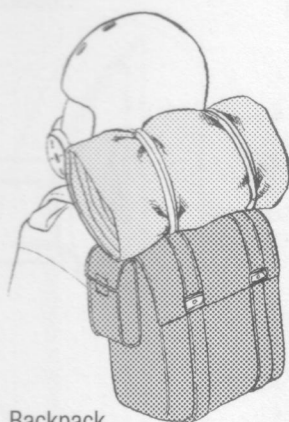
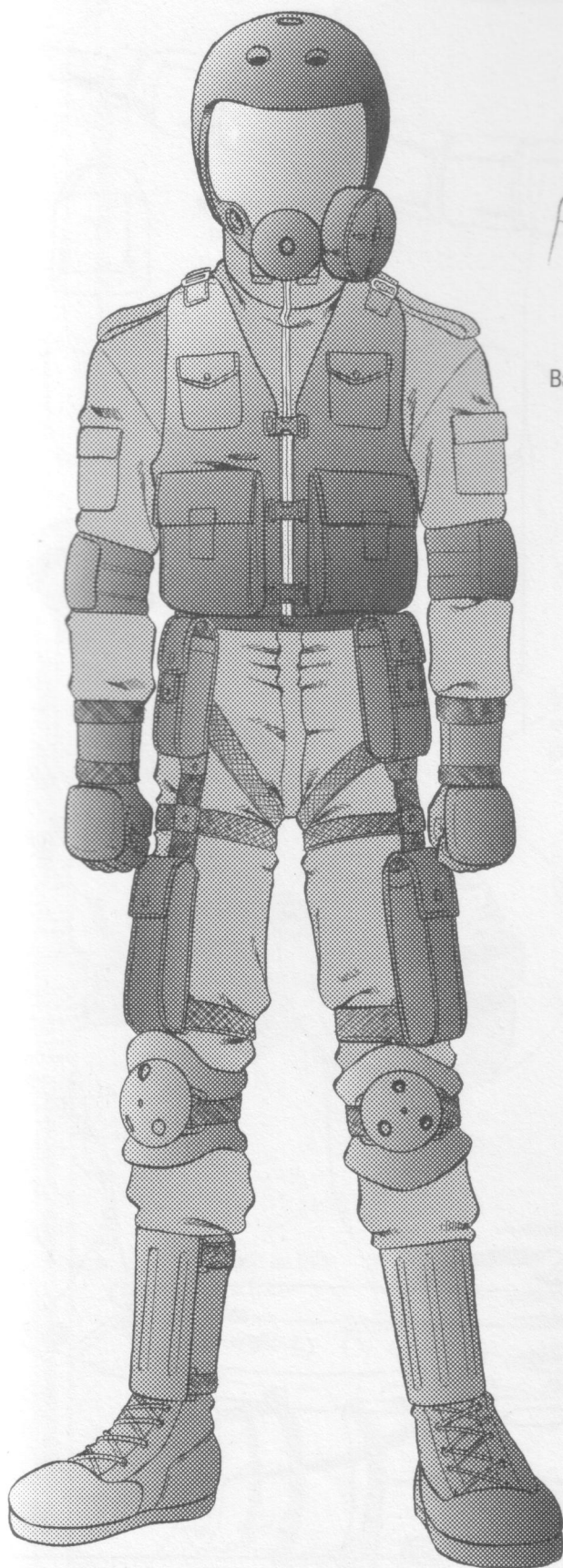


Curved mesh

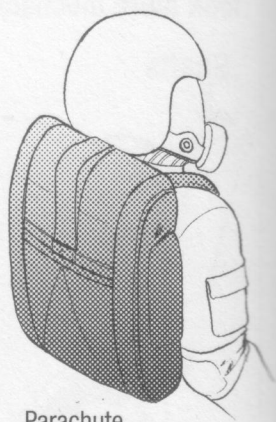


Skeletal arm using shafts and cords

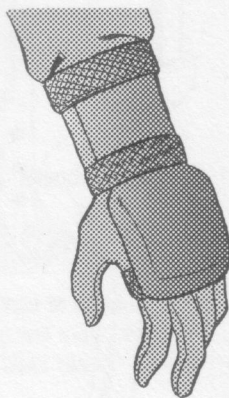
Special-forces style. Refer to space suits and diving suits.



Backpack



Parachute



Gloves are thick and sturdy and have protective cushions on the back.

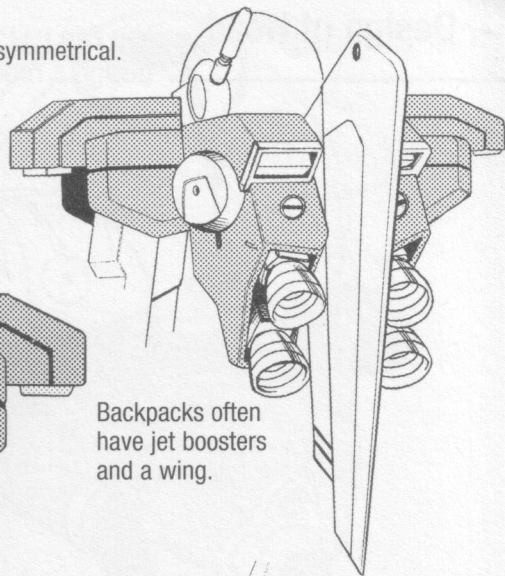


Machine guns and pistols

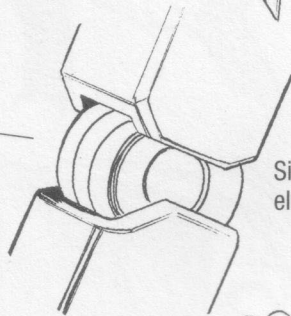


Boots feature shin guards and thick soles.

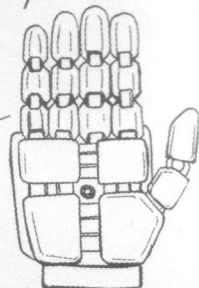
Antenna can be asymmetrical.



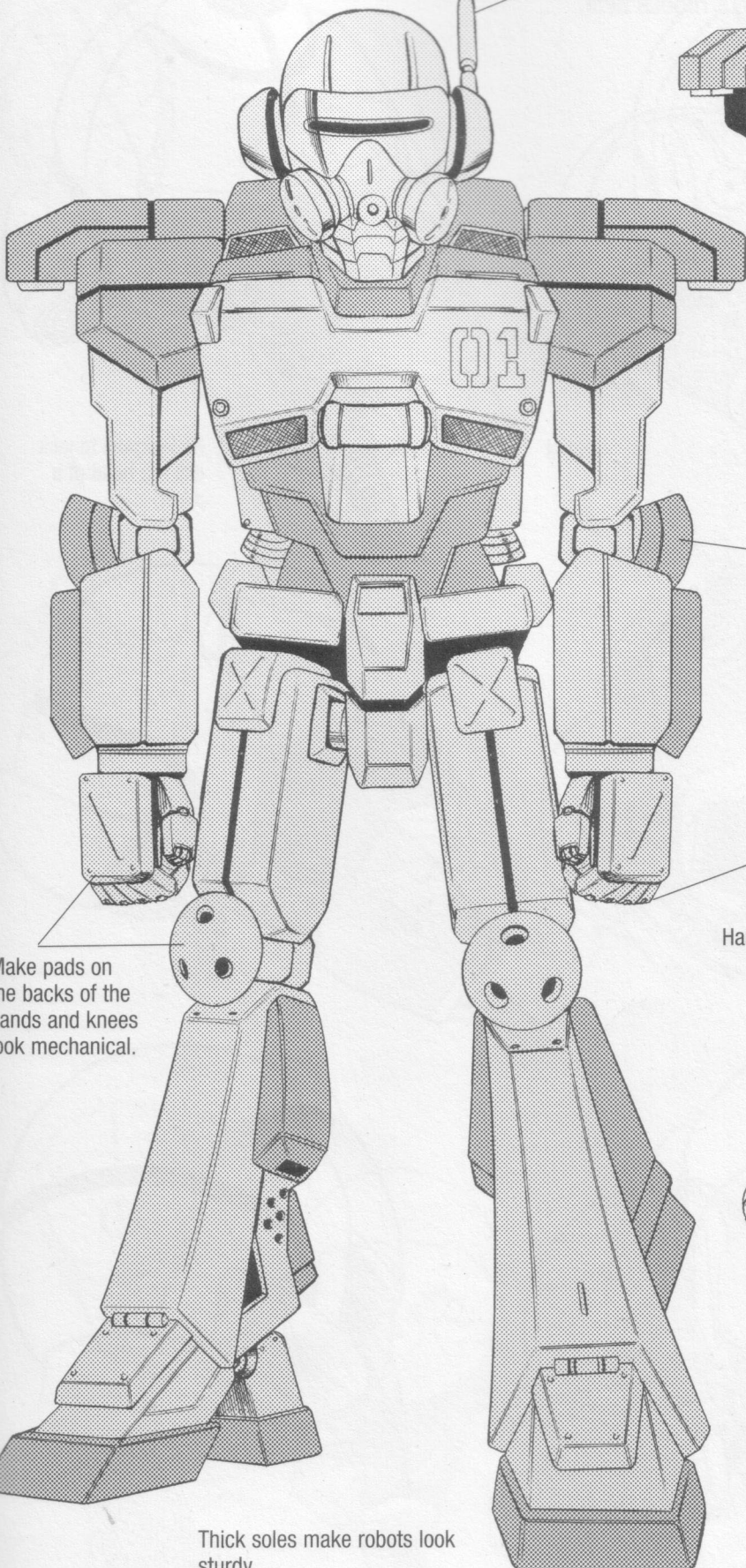
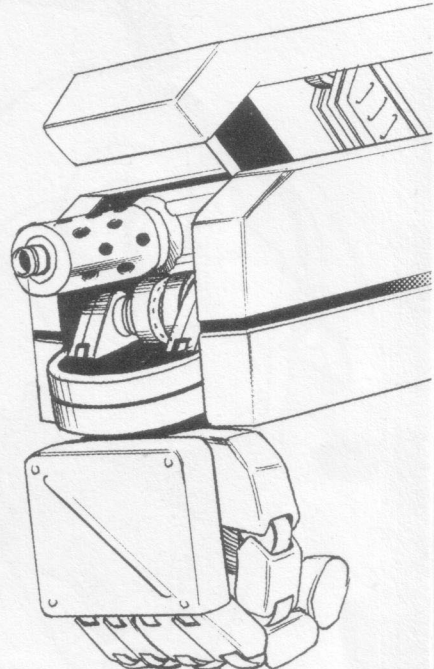
Backpacks often have jet boosters and a wing.



Side view of elbow joint



Hand weapon

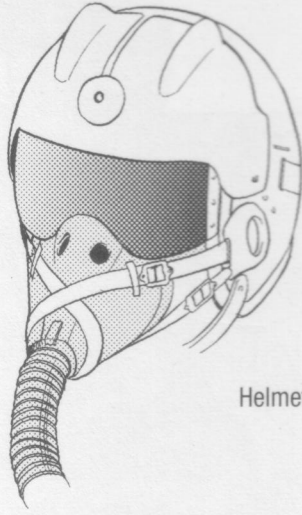
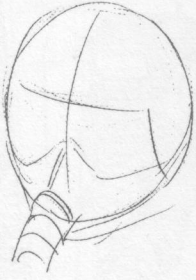


Make pads on the backs of the hands and knees look mechanical.

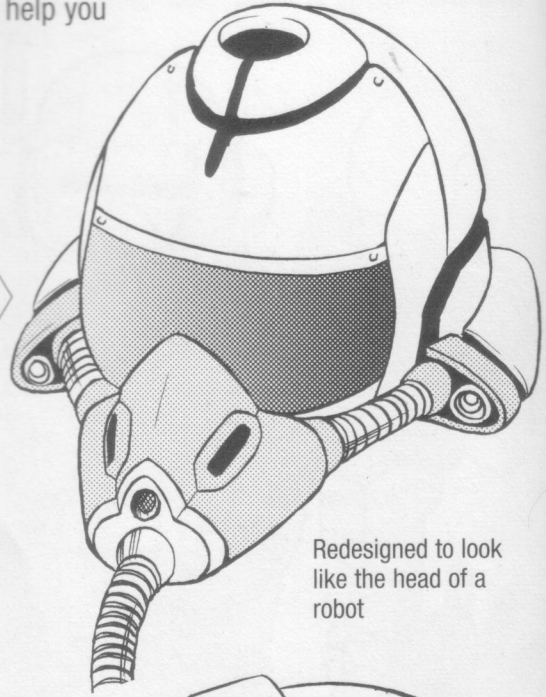
Thick soles make robots look sturdy.

Design of Head

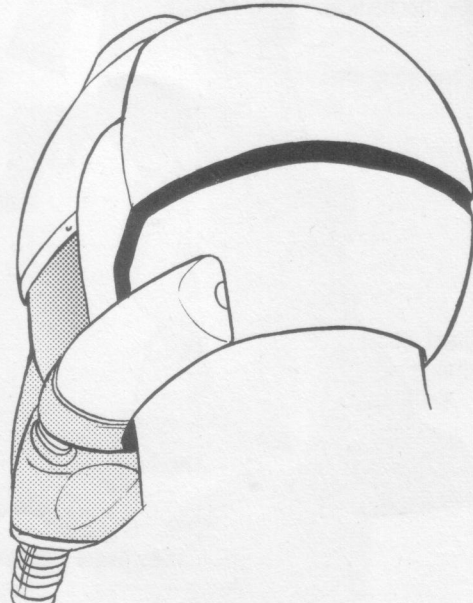
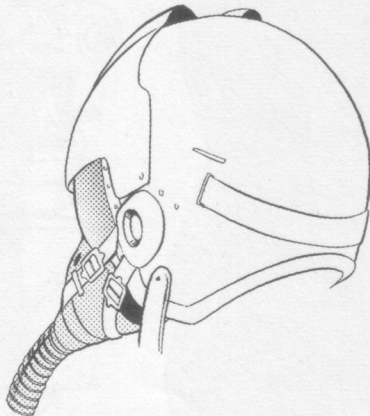
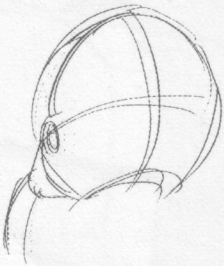
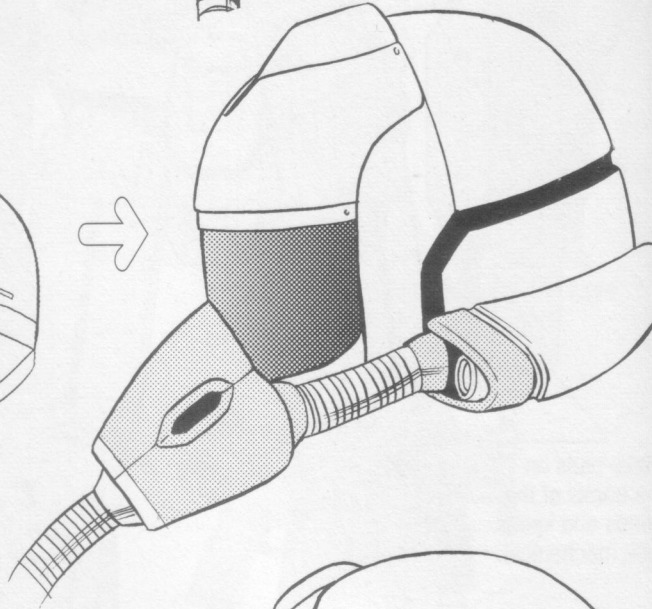
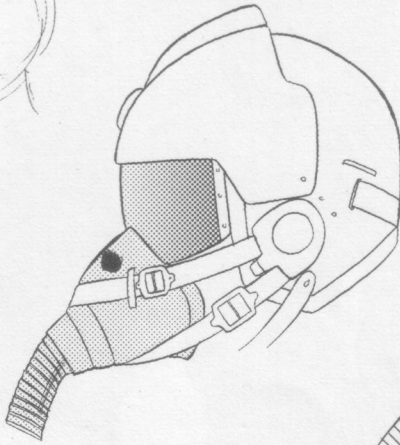
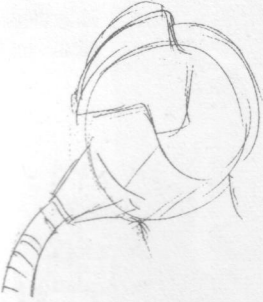
You can use a pilot's helmet to help you design a robot's face.

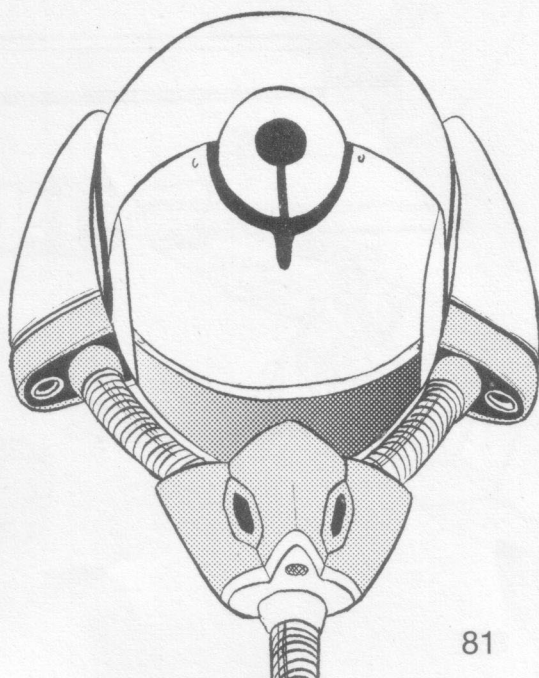
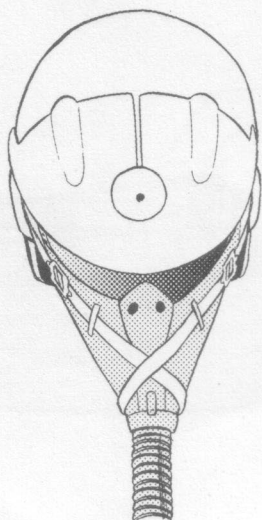
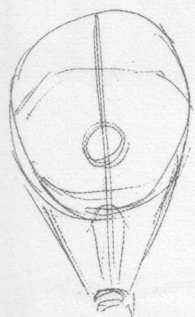
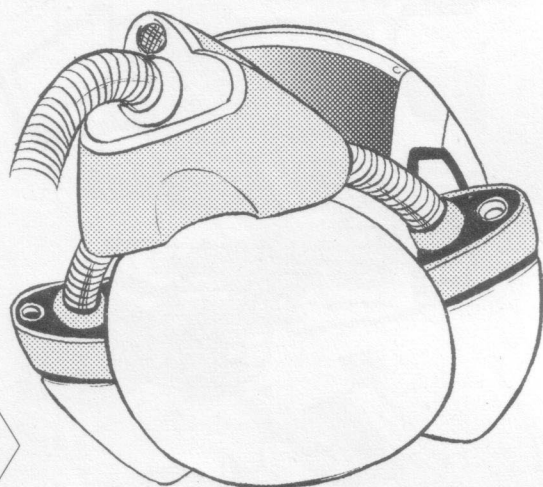
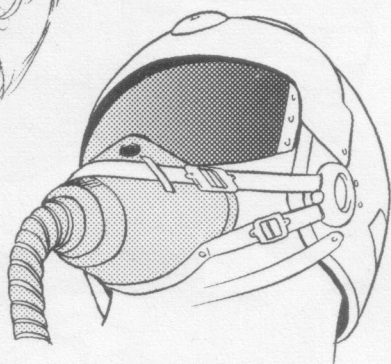
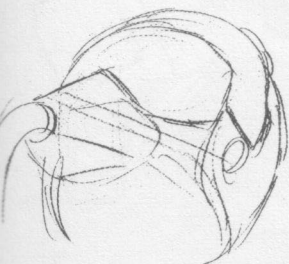
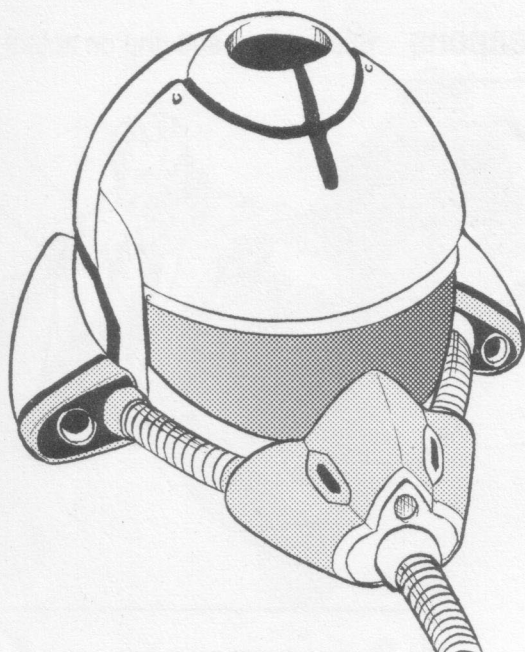
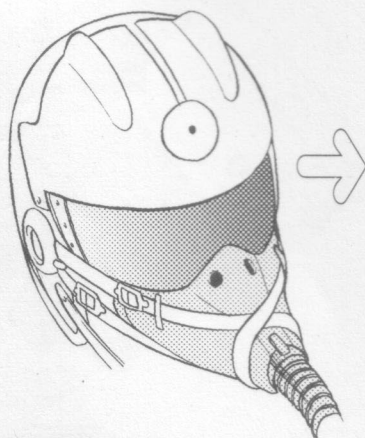
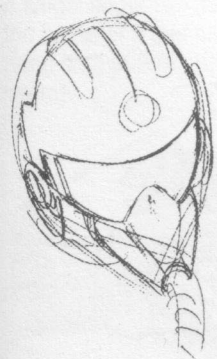


Helmet

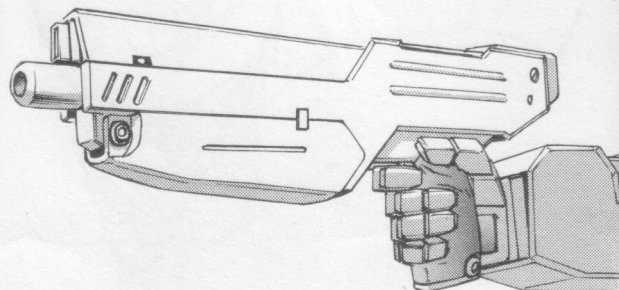
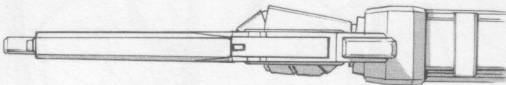
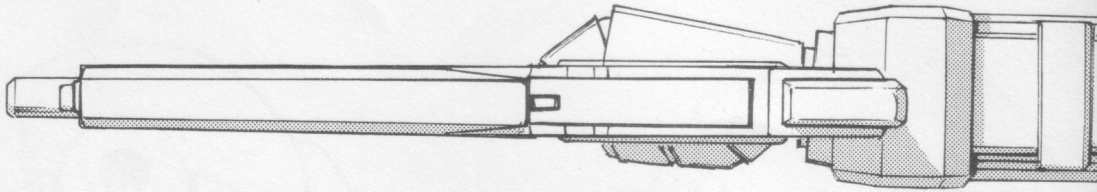
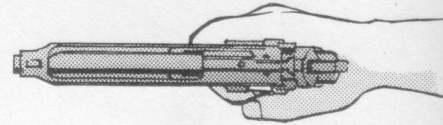
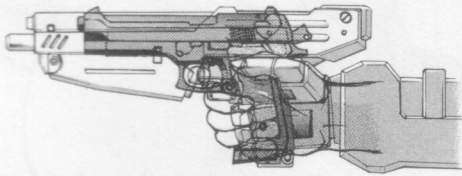
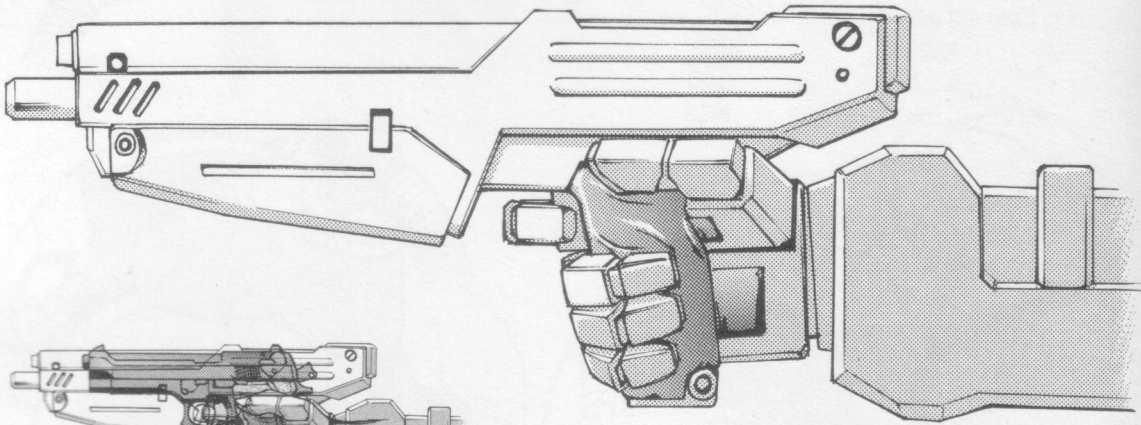
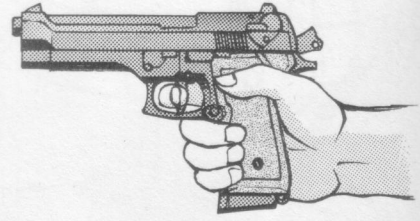


Redesigned to look like the head of a robot

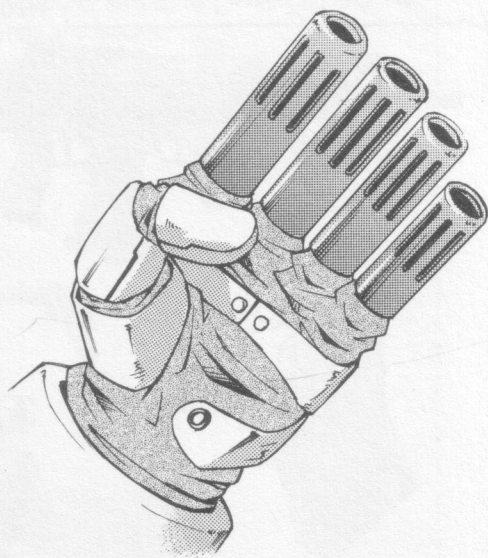
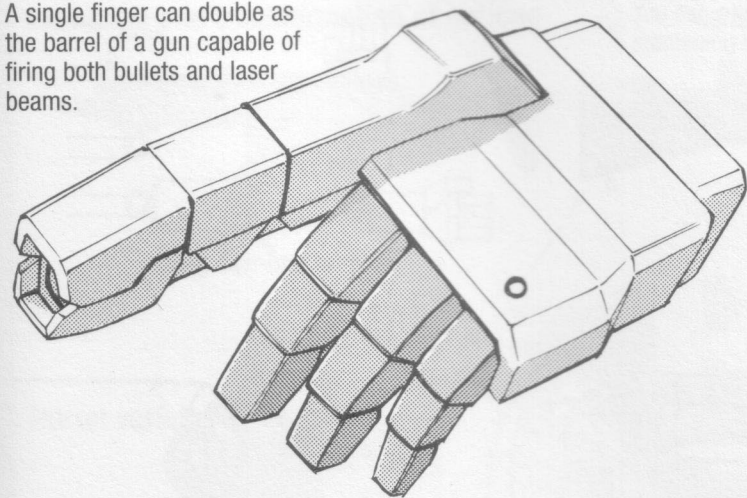




Weapons Base stance and grip on actual pose.

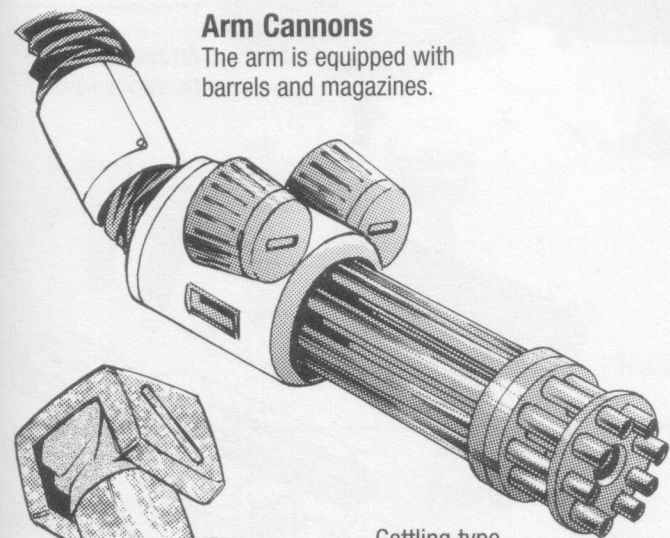


A single finger can double as the barrel of a gun capable of firing both bullets and laser beams.

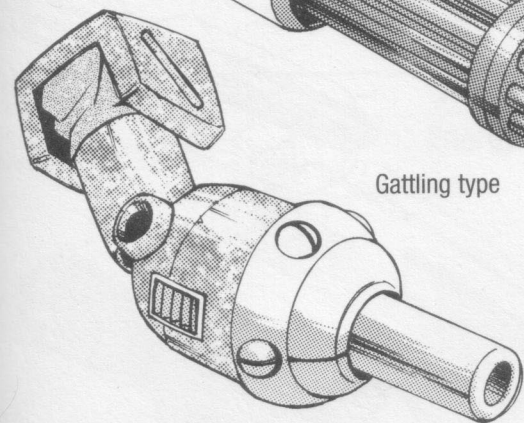


Arm Cannons

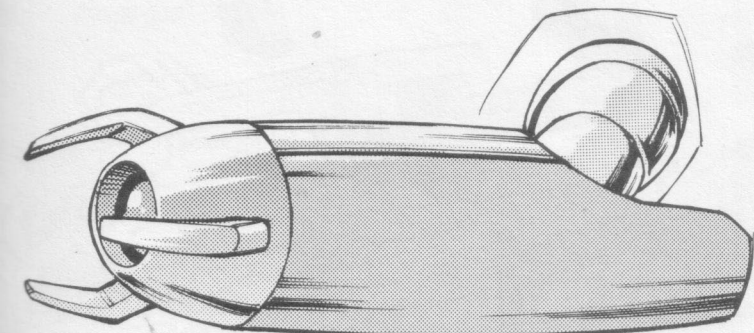
The arm is equipped with barrels and magazines.



Gatling type



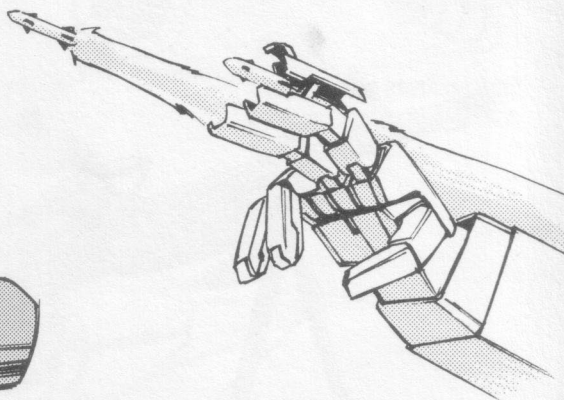
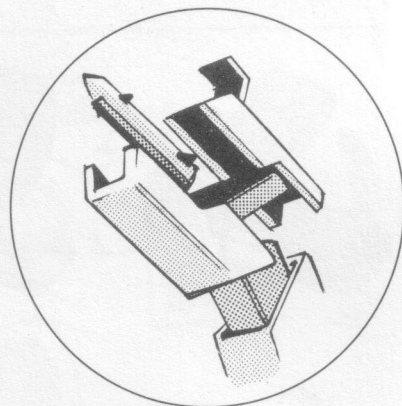
Cannon type



Laser type

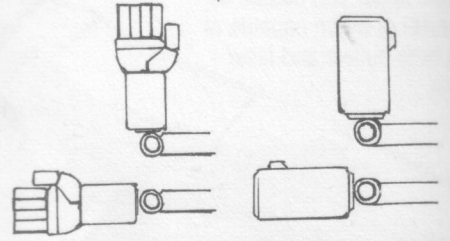
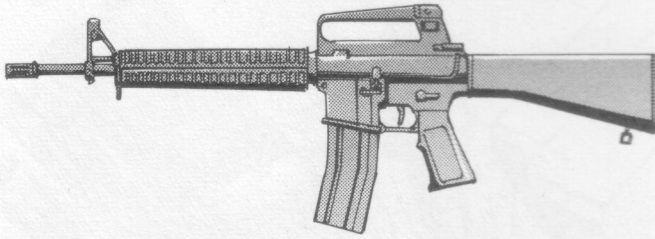


Hand Missiles/Handguns

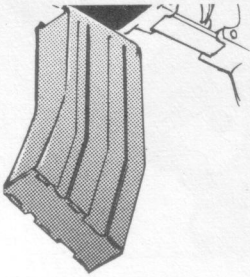


Magazine Arrangements

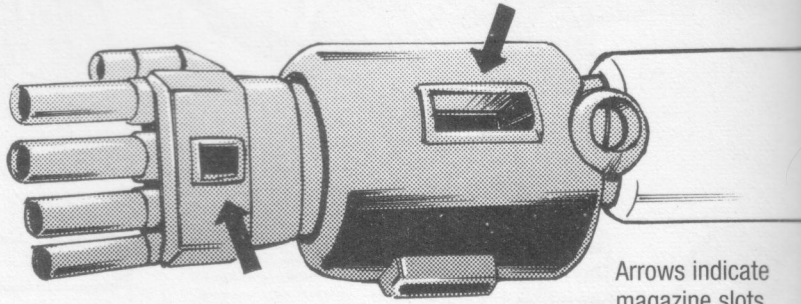
Apply magazines and loading systems to robot arm weapons.



Hand- or arm-type guns

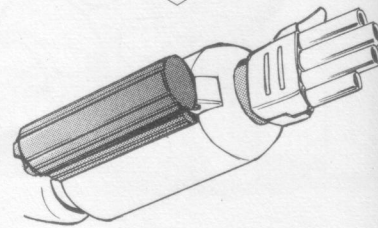
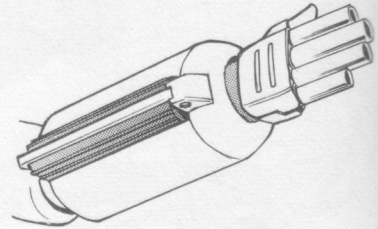
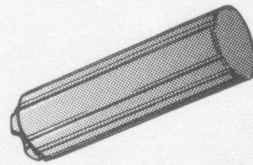
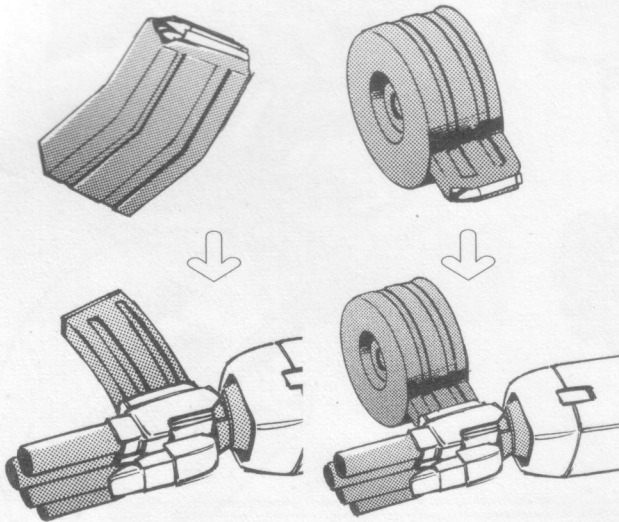


Exchange/removal of magazine

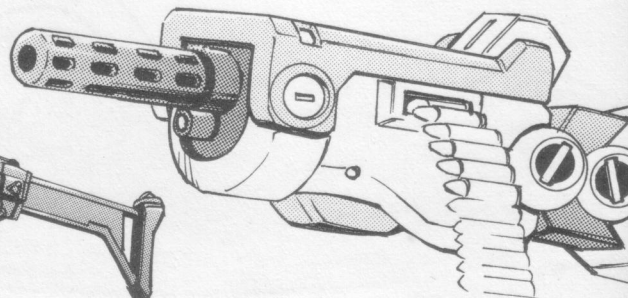
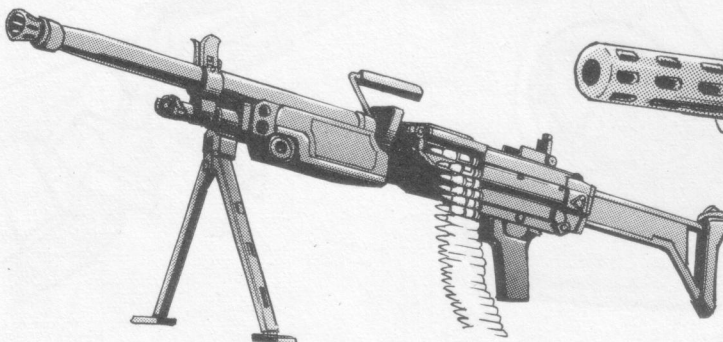


Arrows indicate magazine slots

Magazine variations

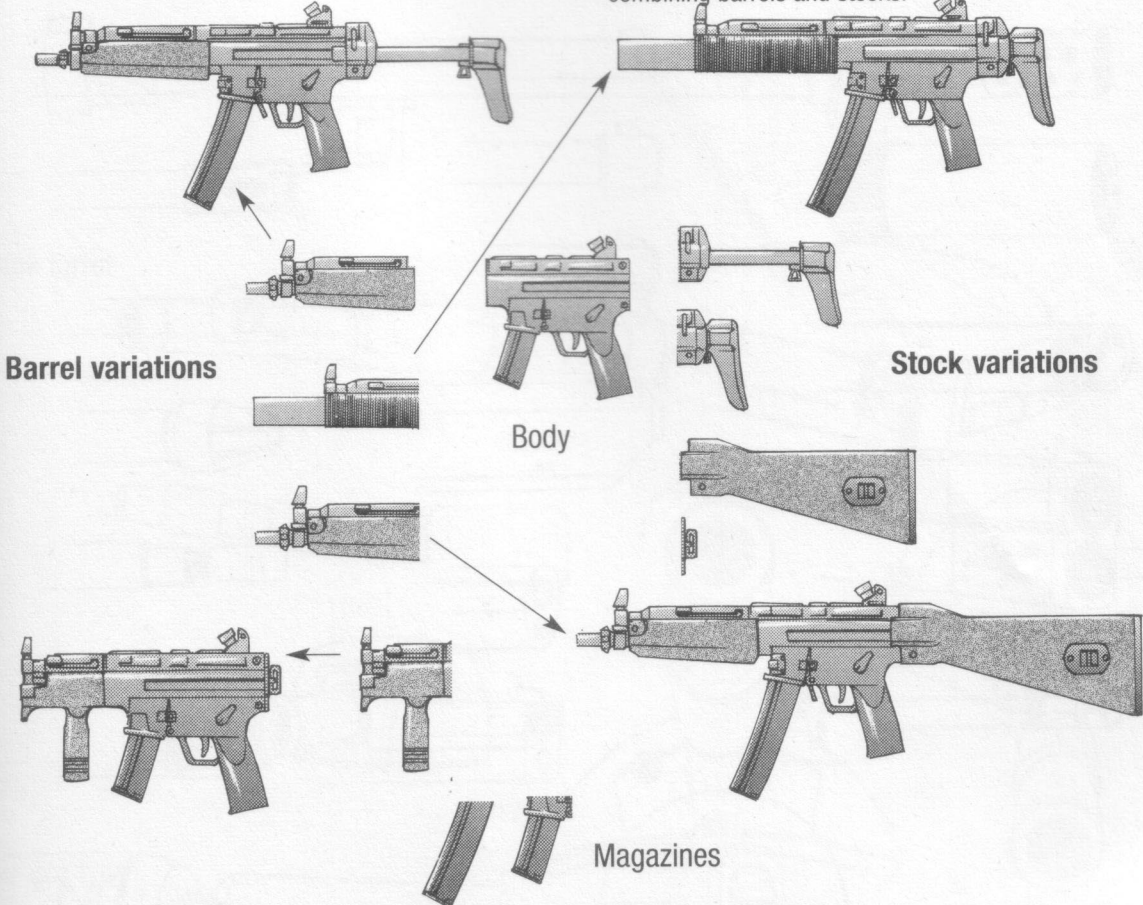


Machine guns



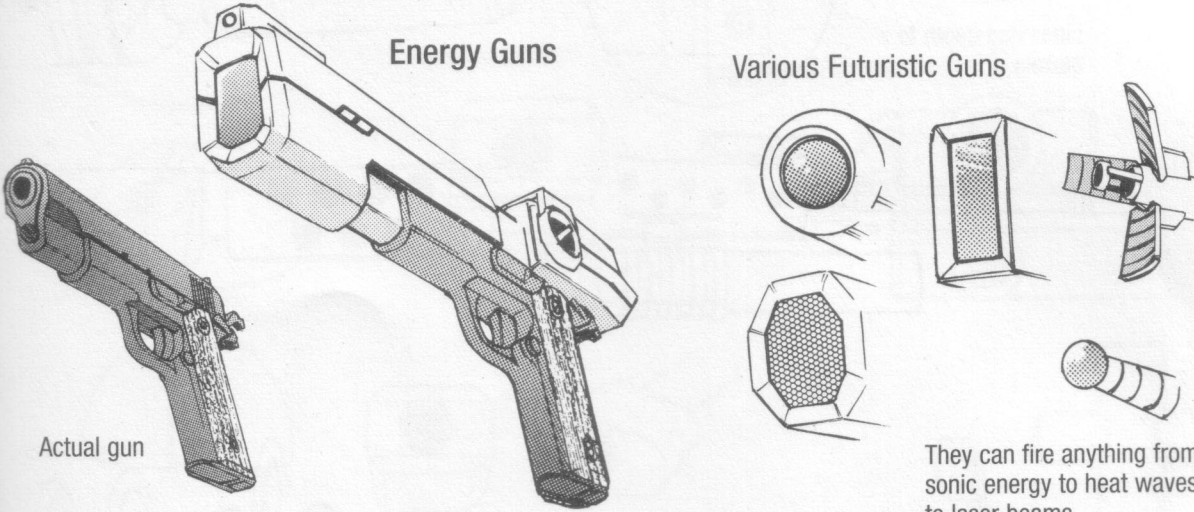
Exchange and transformation of options

You can get a variety of shapes by exchanging and combining barrels and stocks.

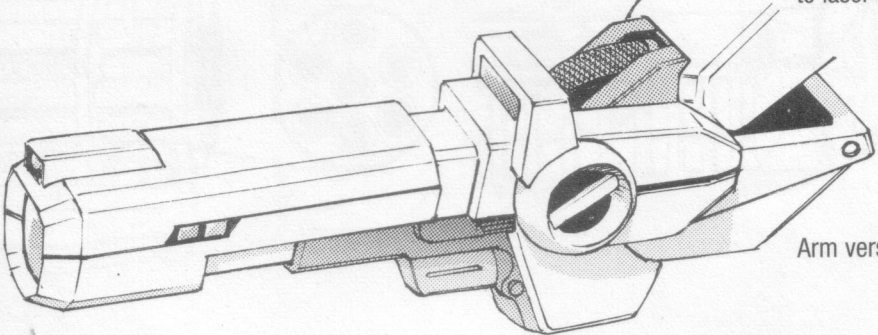


Energy Guns

Various Futuristic Guns



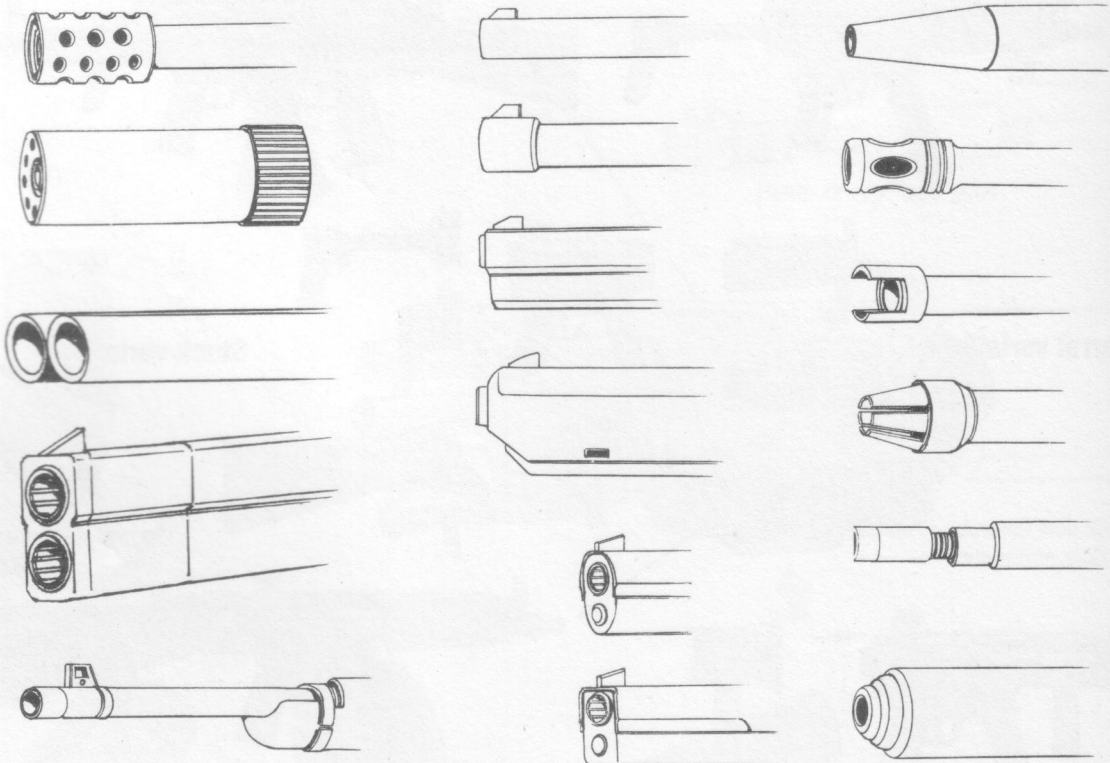
They can fire anything from sonic energy to heat waves to laser beams.



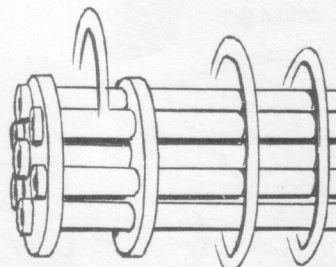
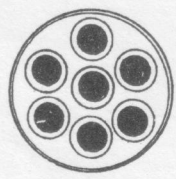
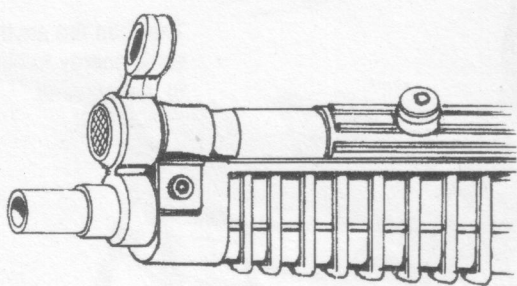
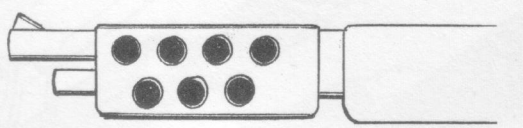
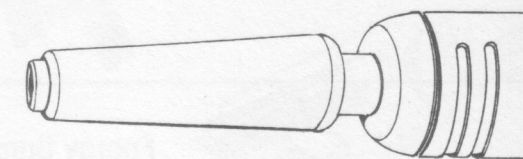
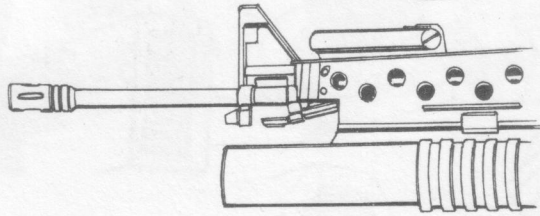
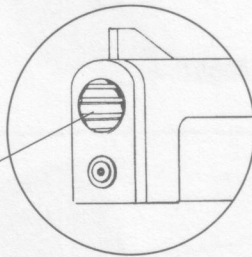
Arm version

Barrels and Muzzles

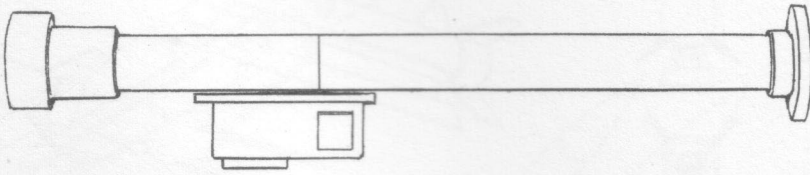
Use a variety of gun types, including sidearms, rifles and automatics.



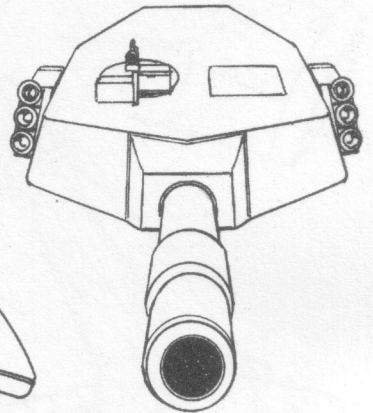
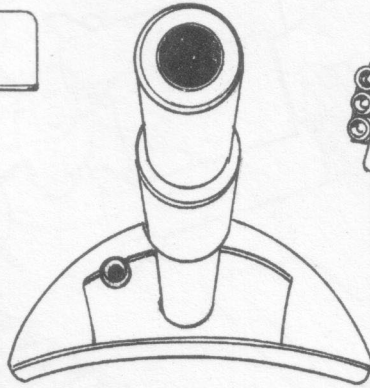
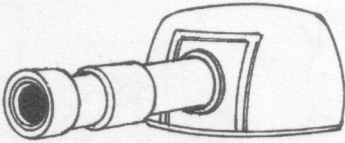
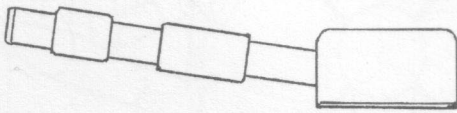
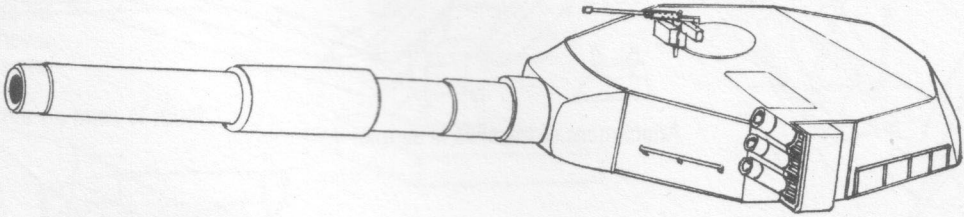
Lines add depth to barrels.



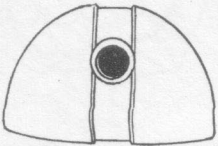
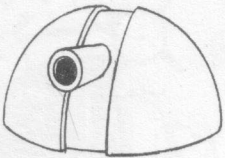
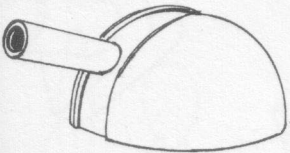
azooka



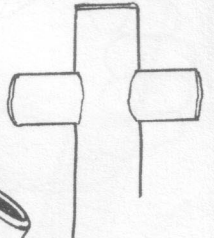
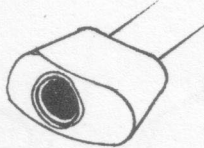
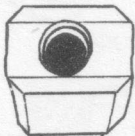
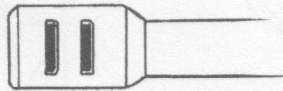
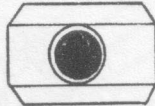
Tank turret



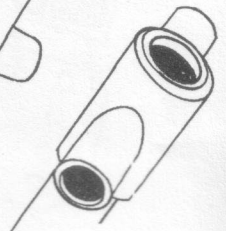
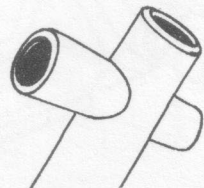
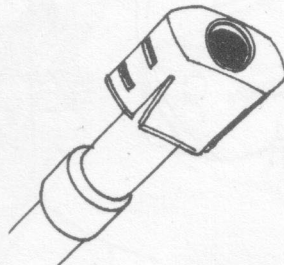
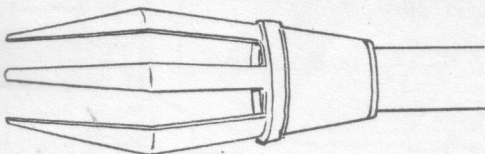
Simple type



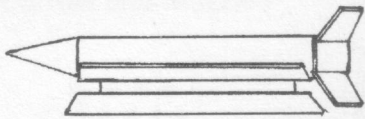
Muzzle



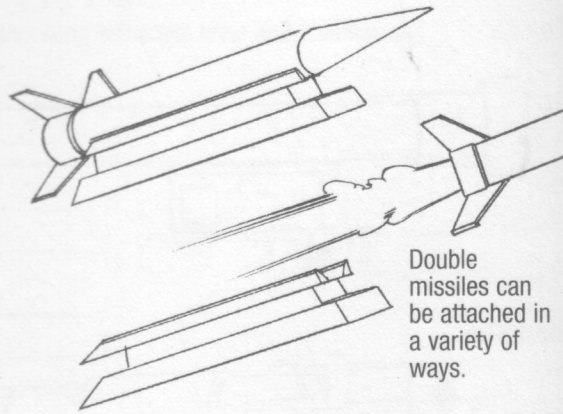
Tip of self-propelled anti-aircraft gun



Missiles

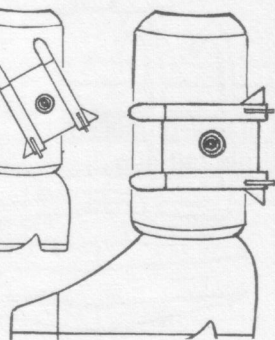
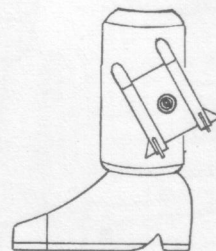
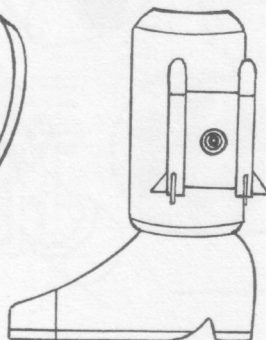
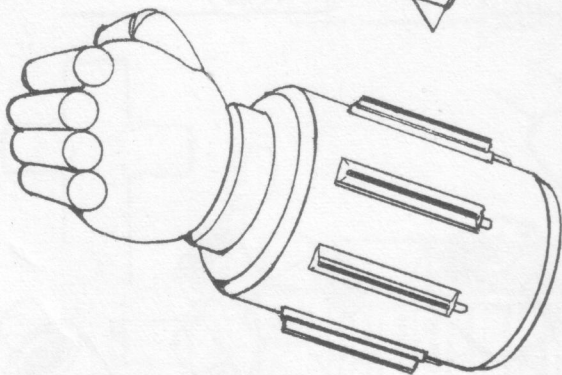
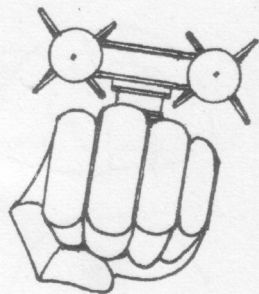
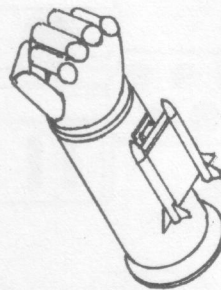
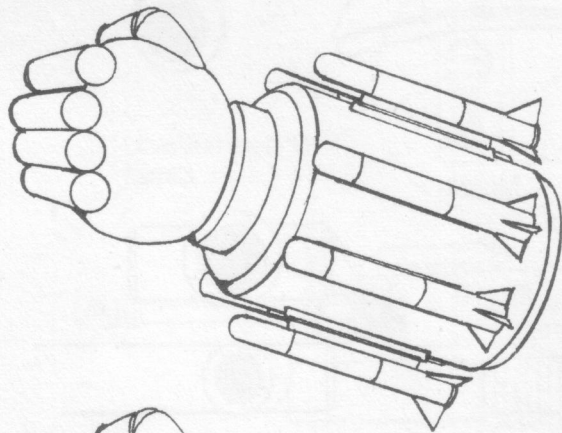
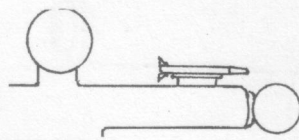
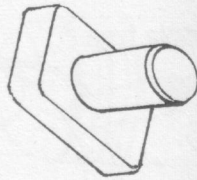
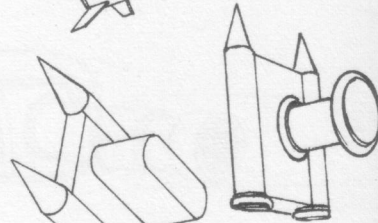
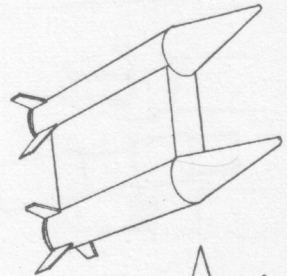
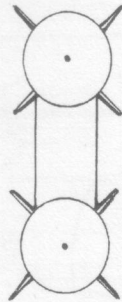
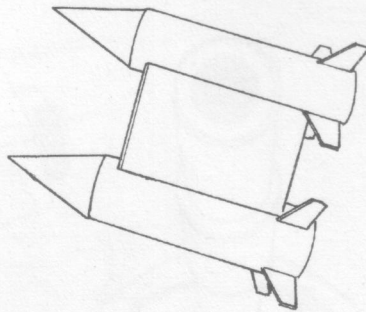
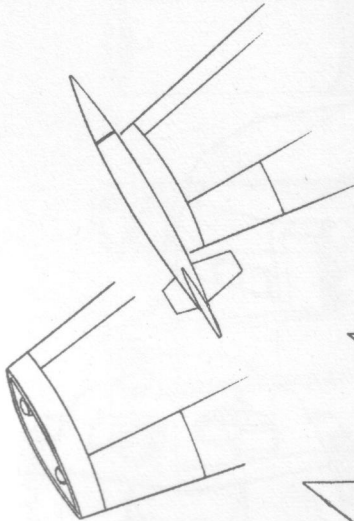


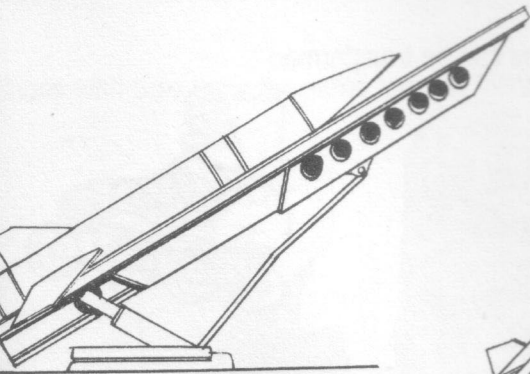
Sidewinder



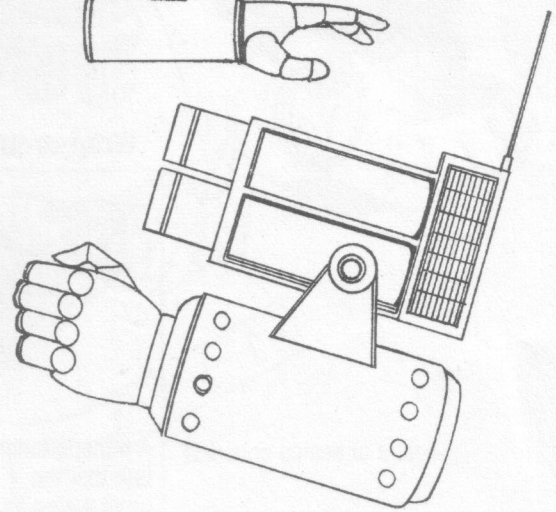
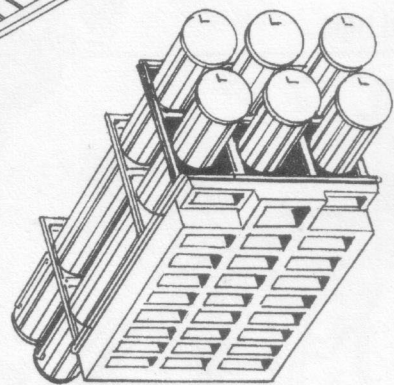
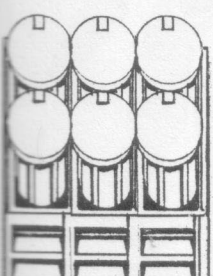
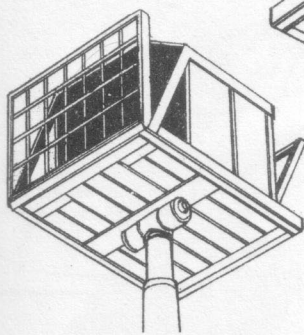
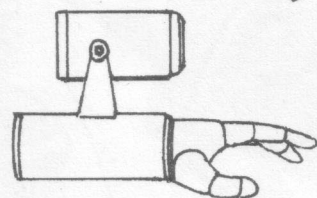
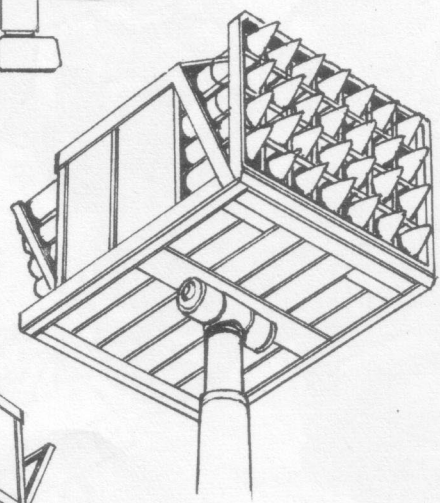
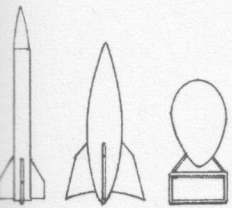
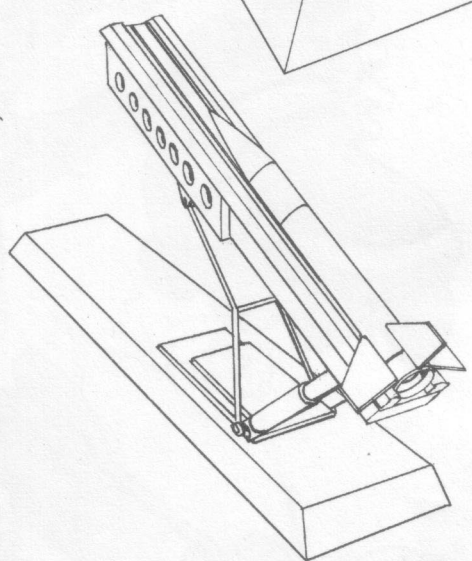
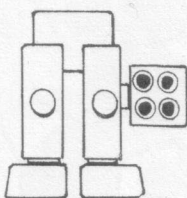
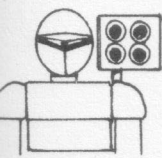
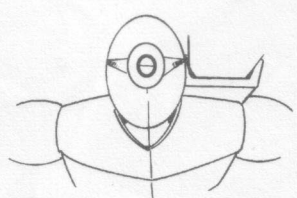
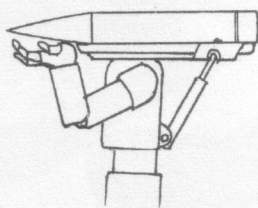
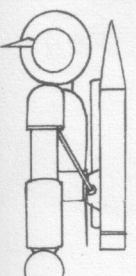
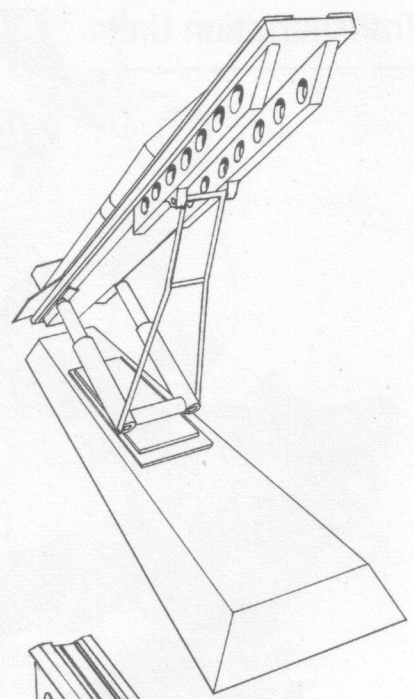
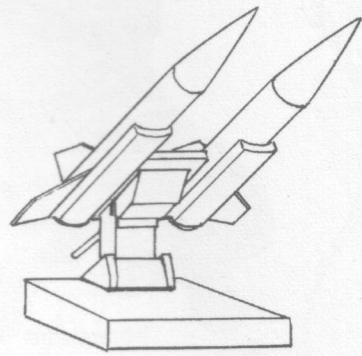
Double missiles can be attached in a variety of ways.

Attachment of missiles is simple.





Mount launcher on back of robot

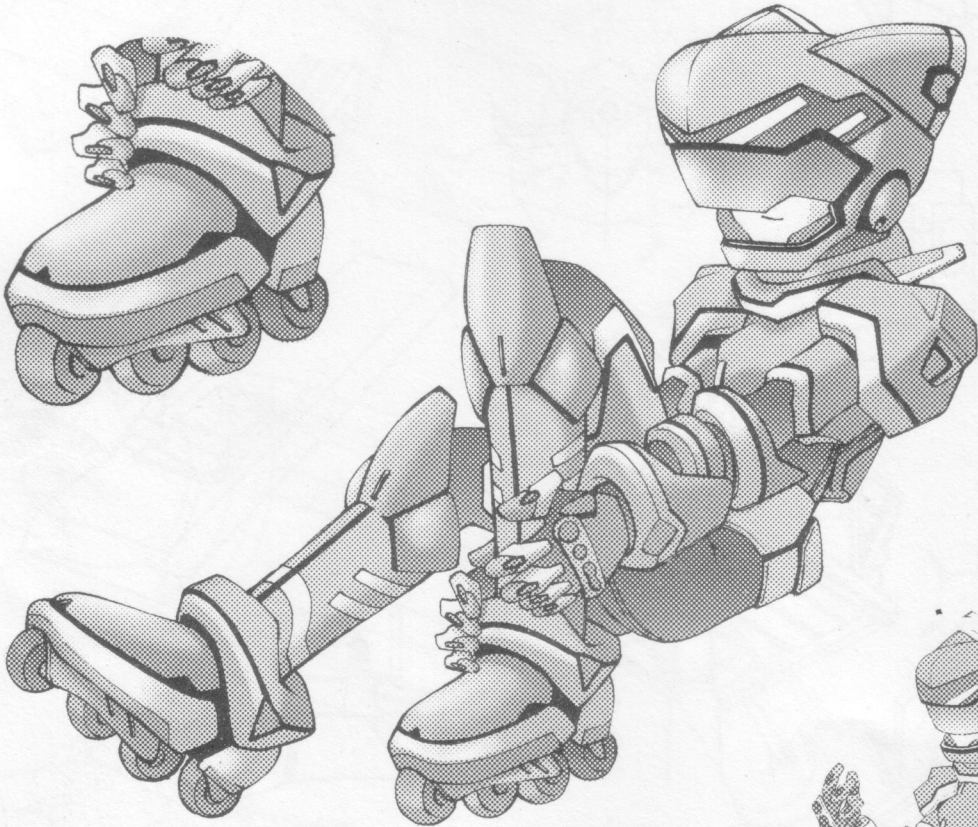
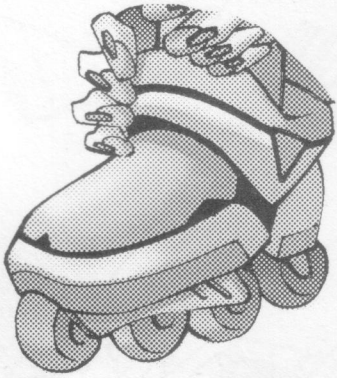
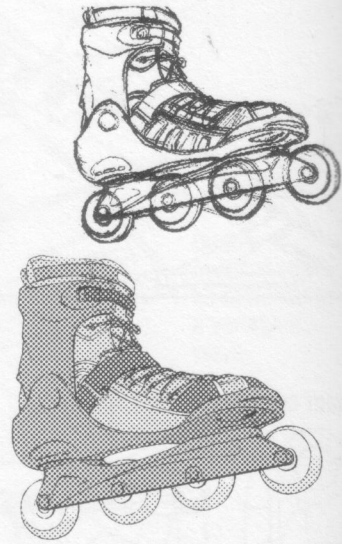


Transportation Units

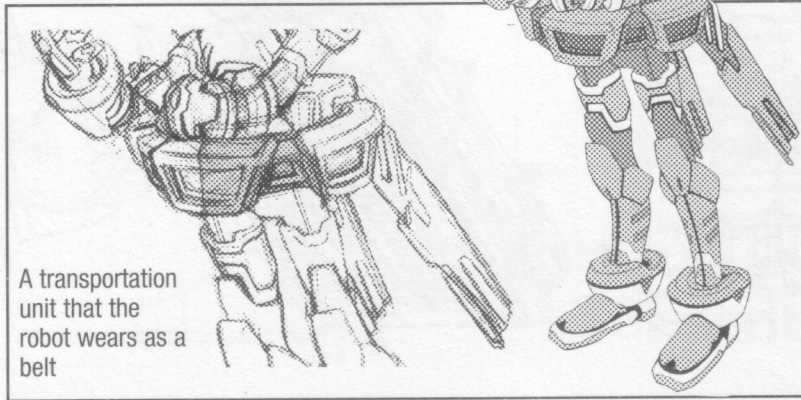
Common items such as skates can be transformed into high-tech conveyances.



Inline skates

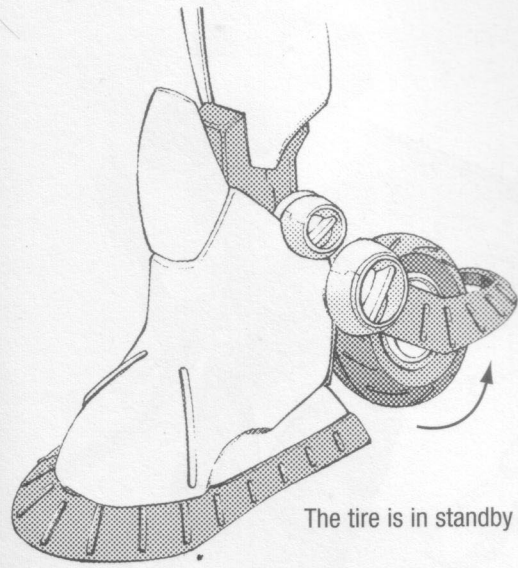


Wrap-around hips

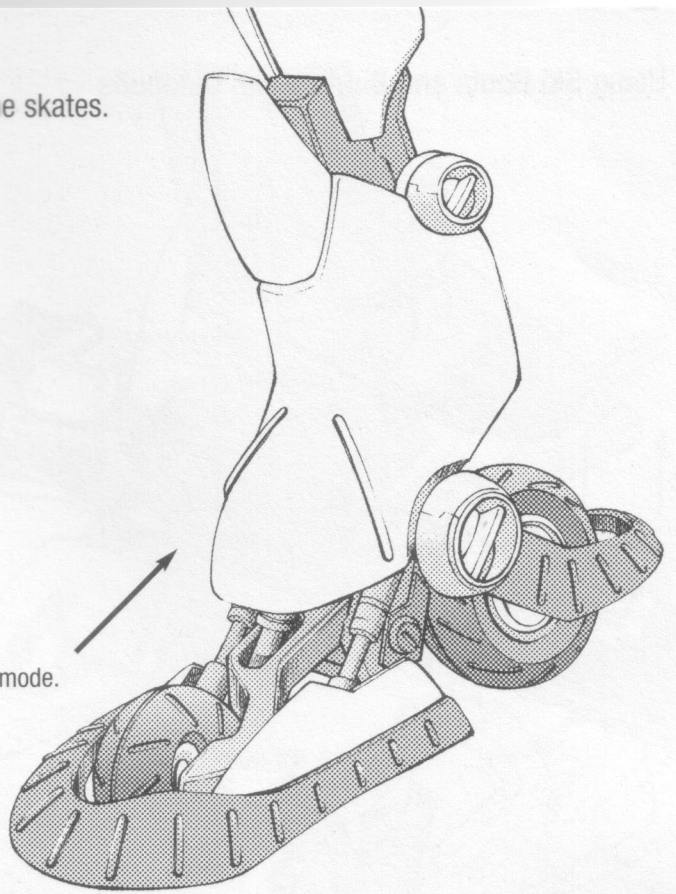


A transportation unit that the robot wears as a belt

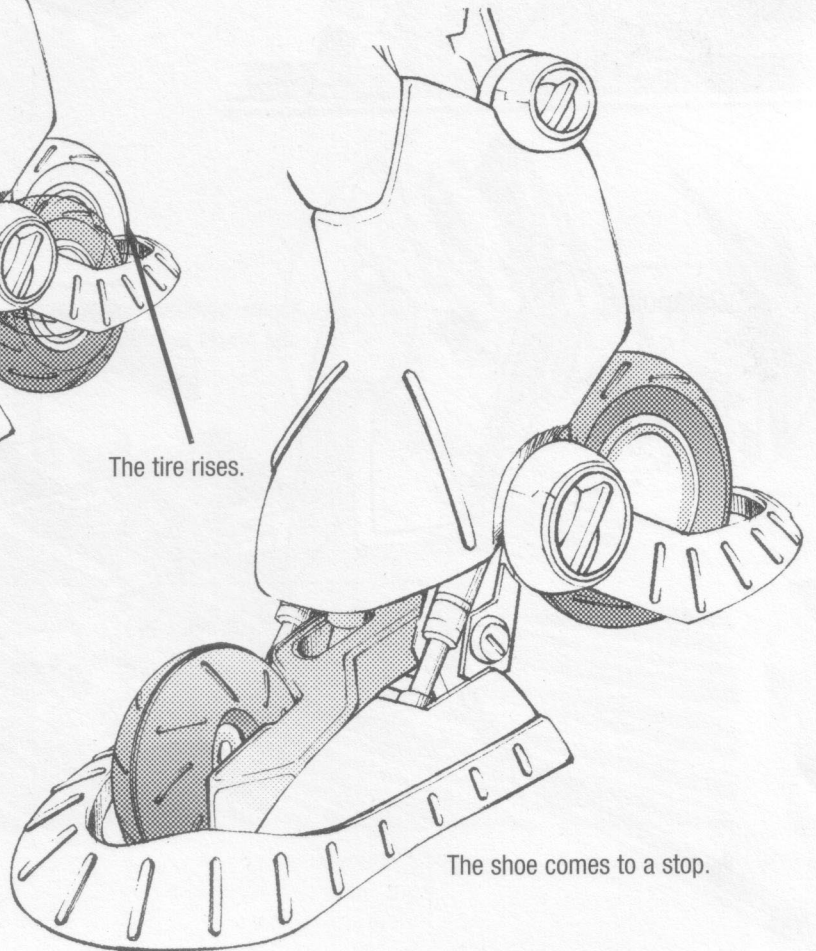
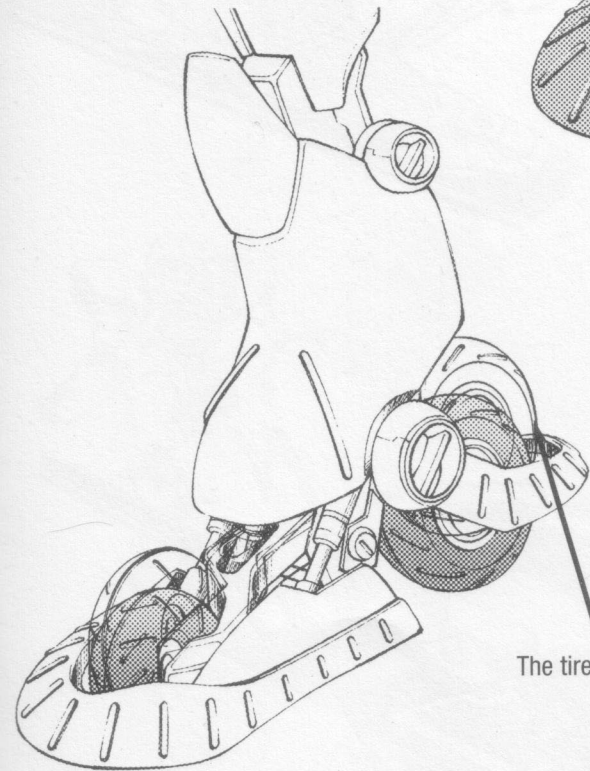
Shoes with tires have the same form as inline skates.



The tire is in standby mode.

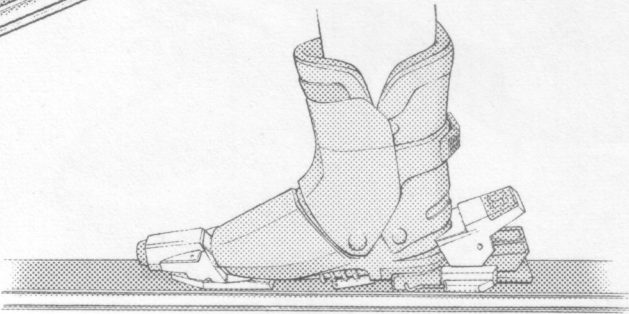
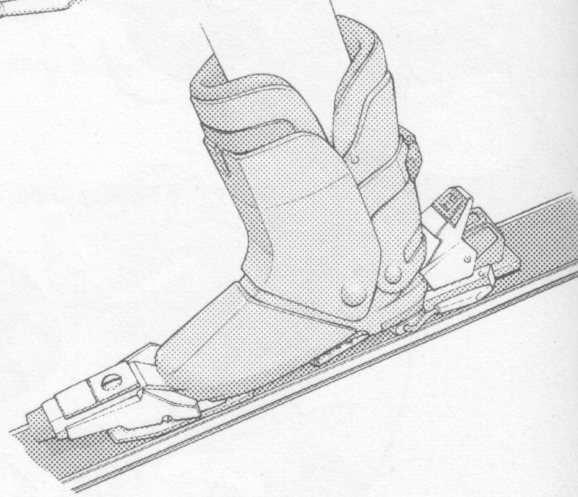
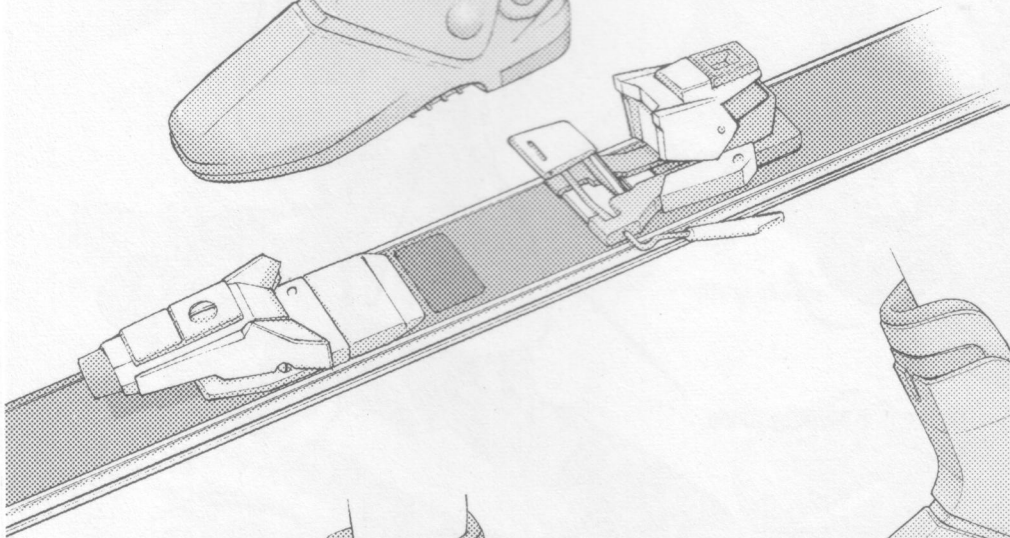
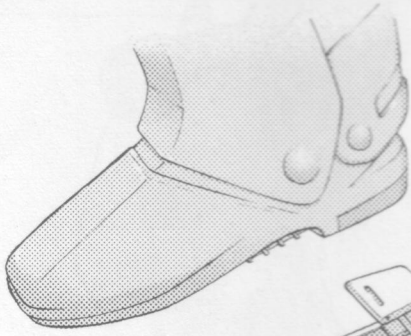


The tire rises.

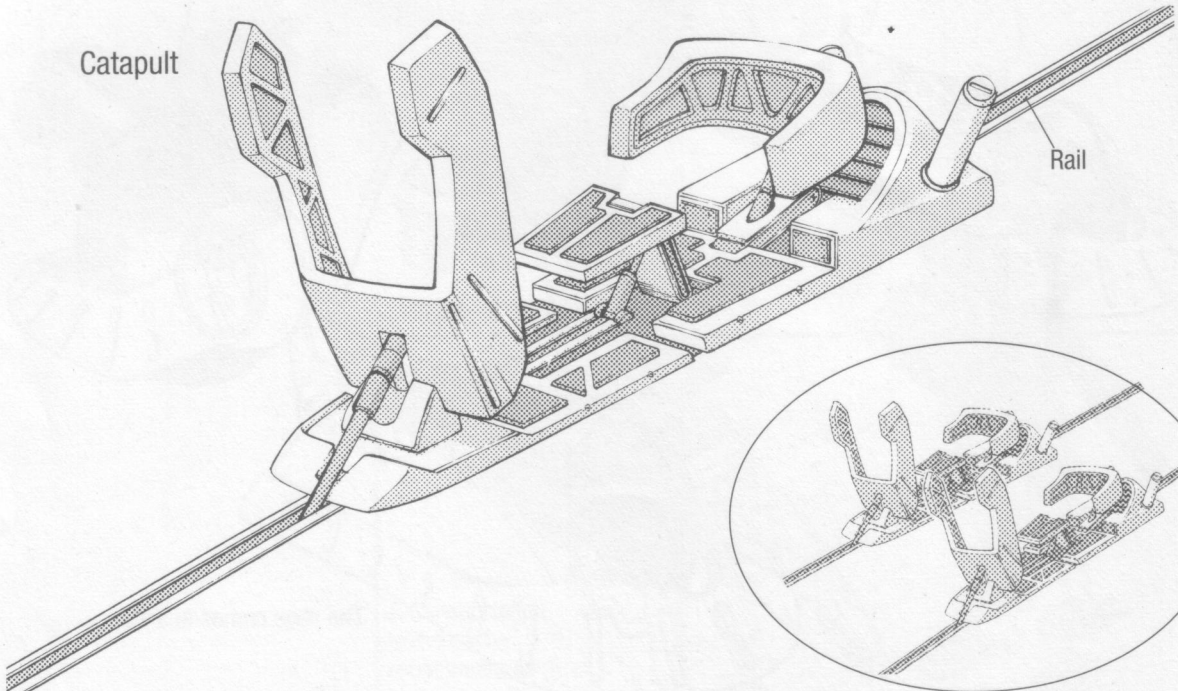


The shoe comes to a stop.

Using Ski Boots and Bindings as Catapults

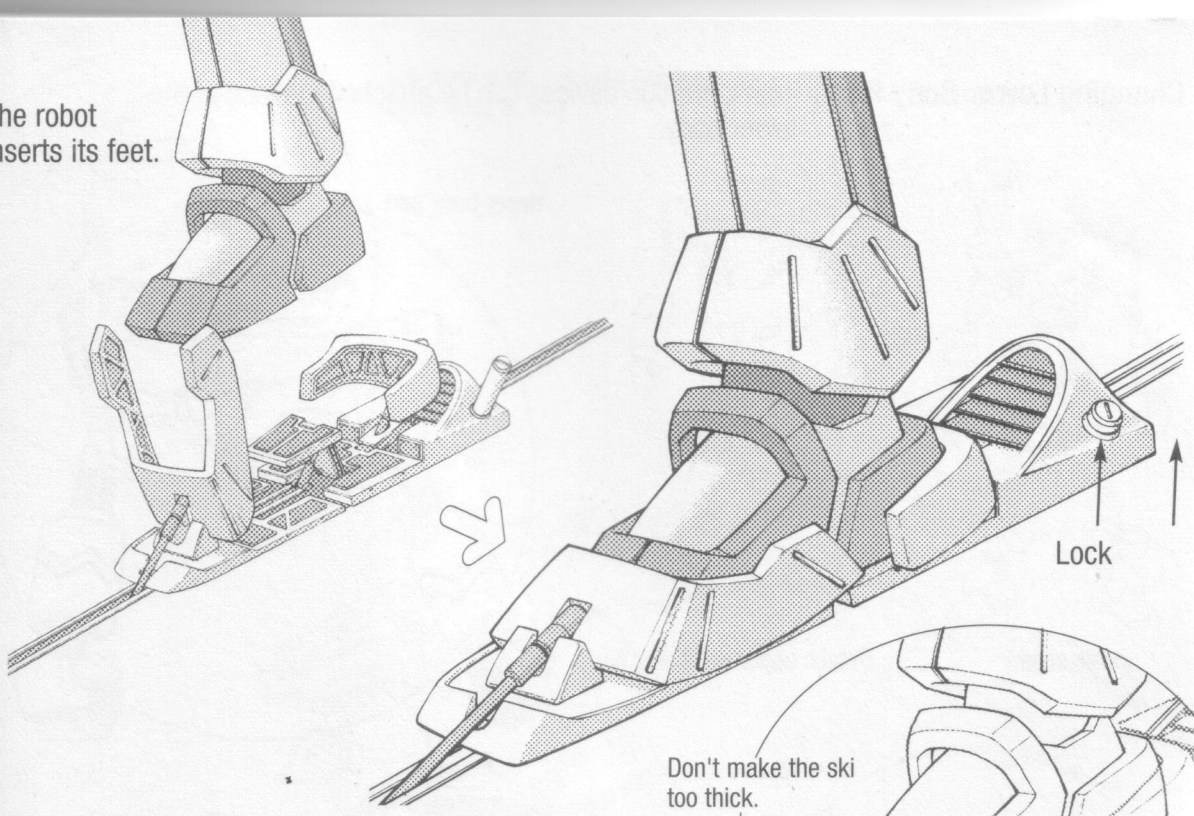


Catapult

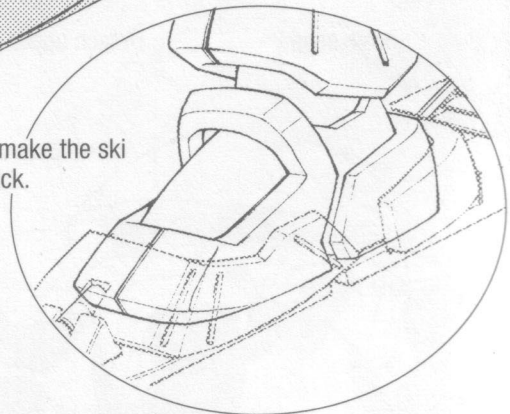


Rail

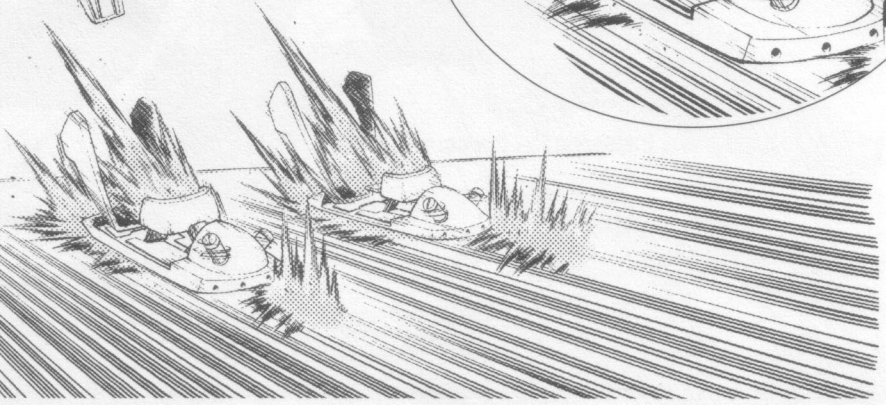
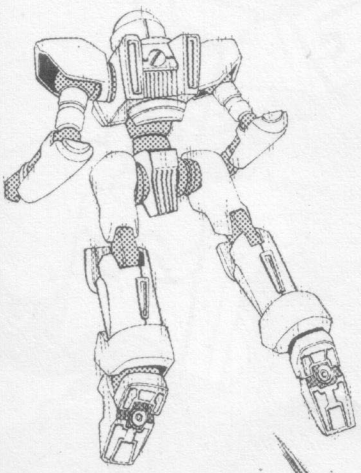
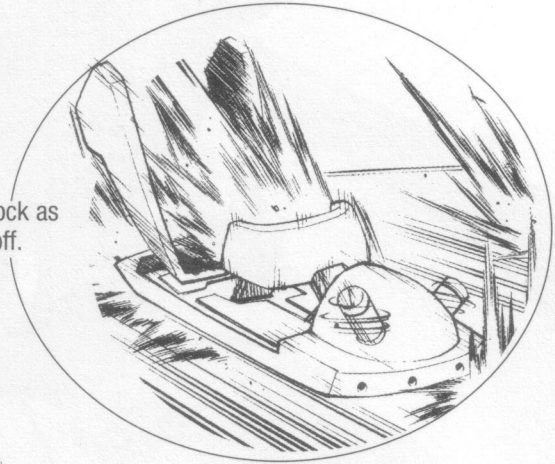
The robot
inserts its feet.



Don't make the ski
too thick.

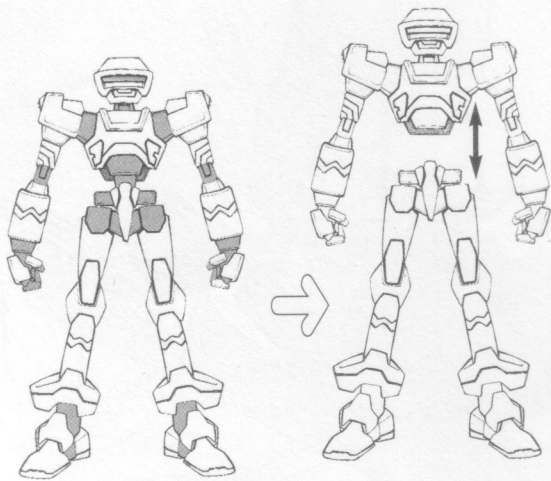


The bindings unlock
as the robot blasts off.



Changing Lower Body Parts

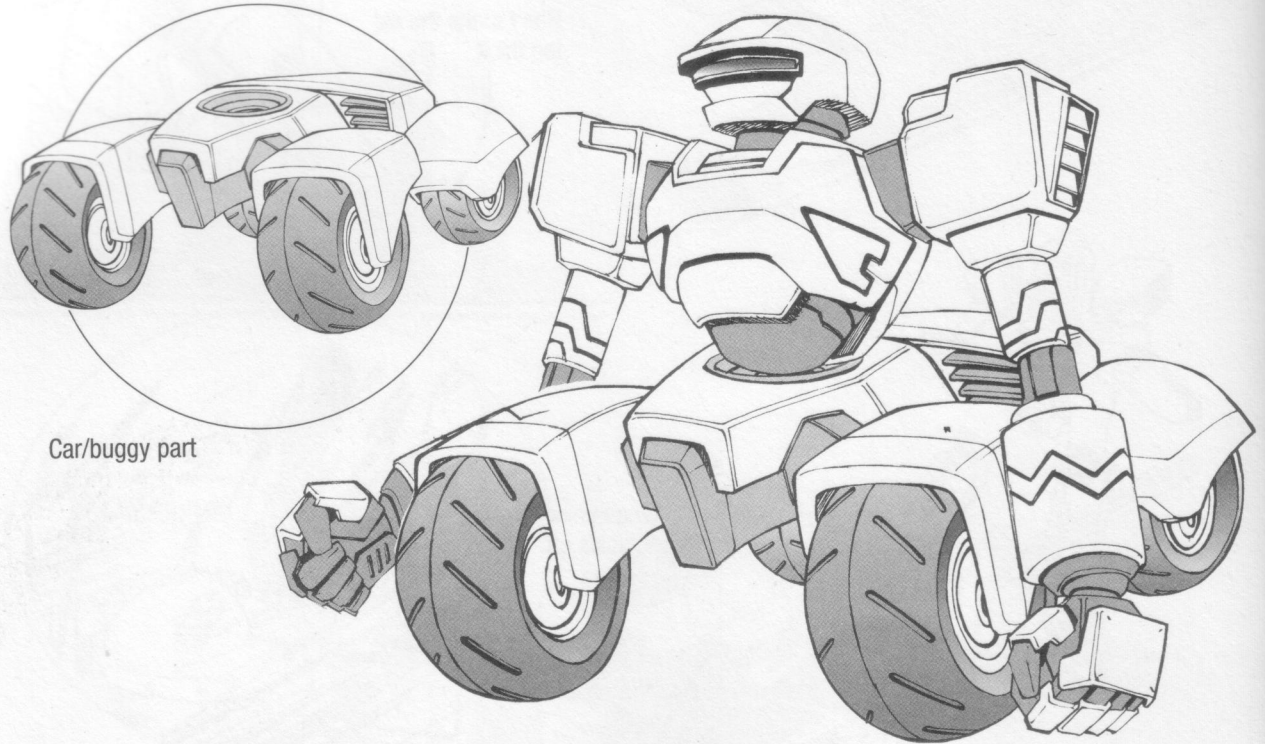
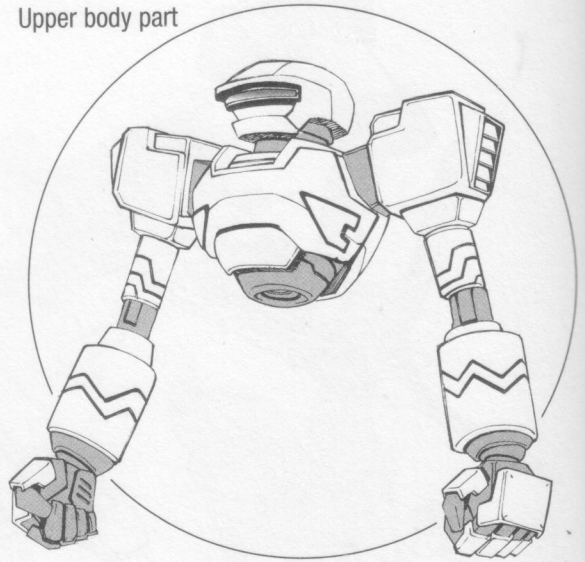
Transportation devices can be attached in place of the lower body.



Basic style

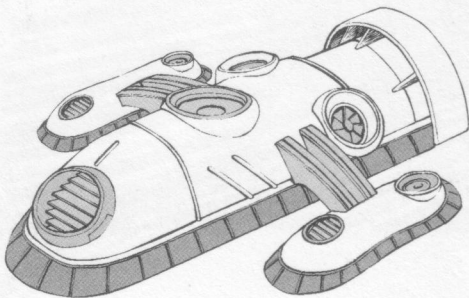
Detach upper and lower body.

Upper body part

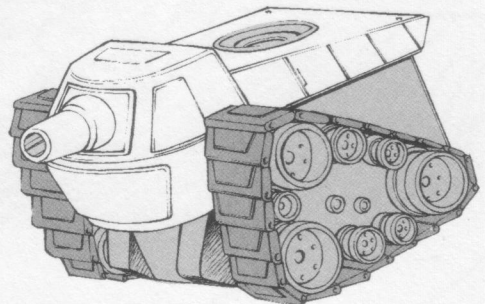


Car/buggy part

You are free to choose any transportation device.

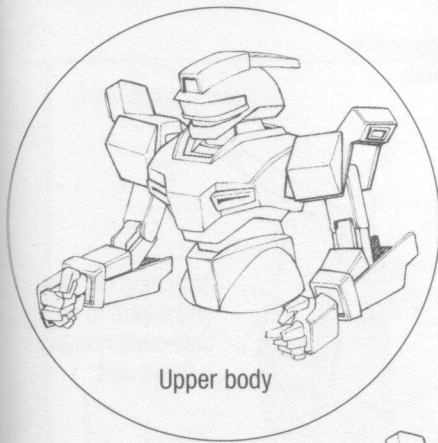


Marine type

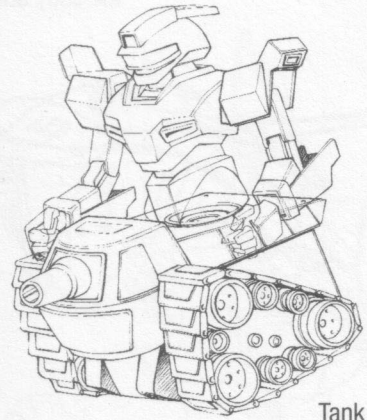


Tank type

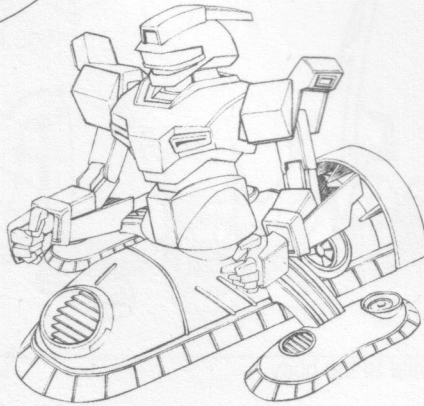
The robot does not even need a lower body at first.



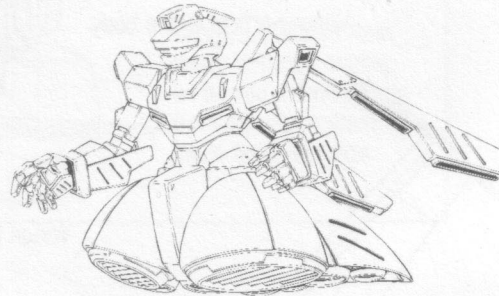
Upper body



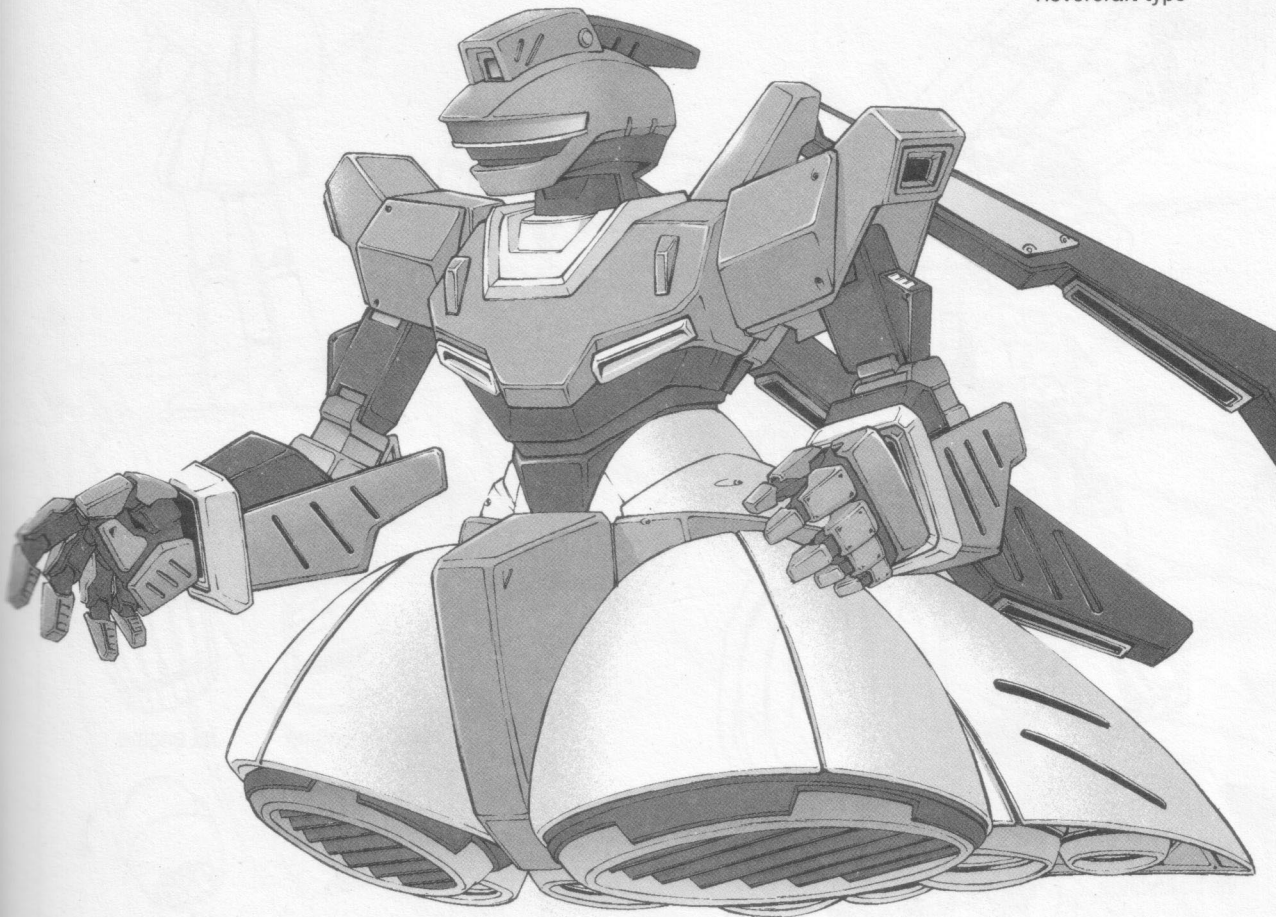
Tank type



Marine type

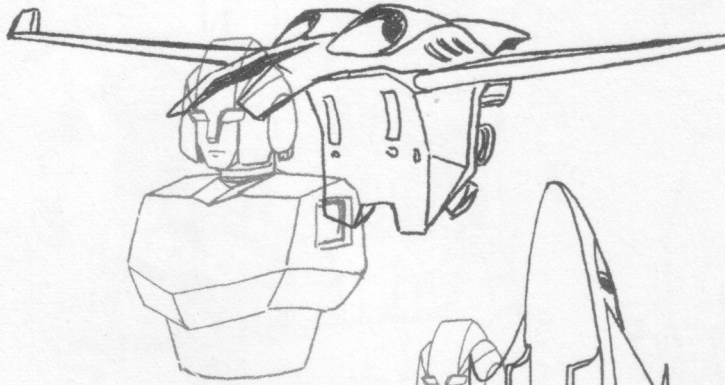


Hovercraft type

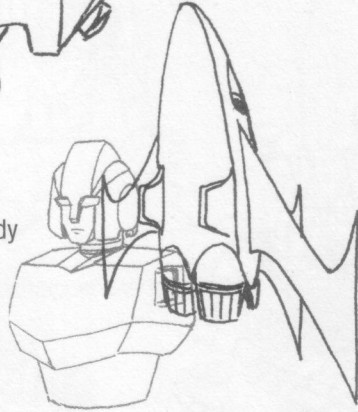


Flying Parts and Wings

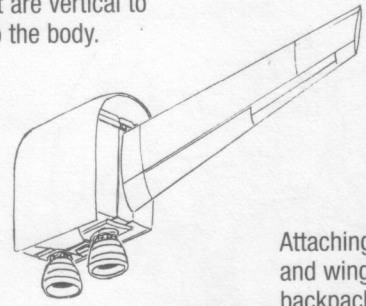
There are two types of wings: Those that are vertical to the body and those that are horizontal to the body.



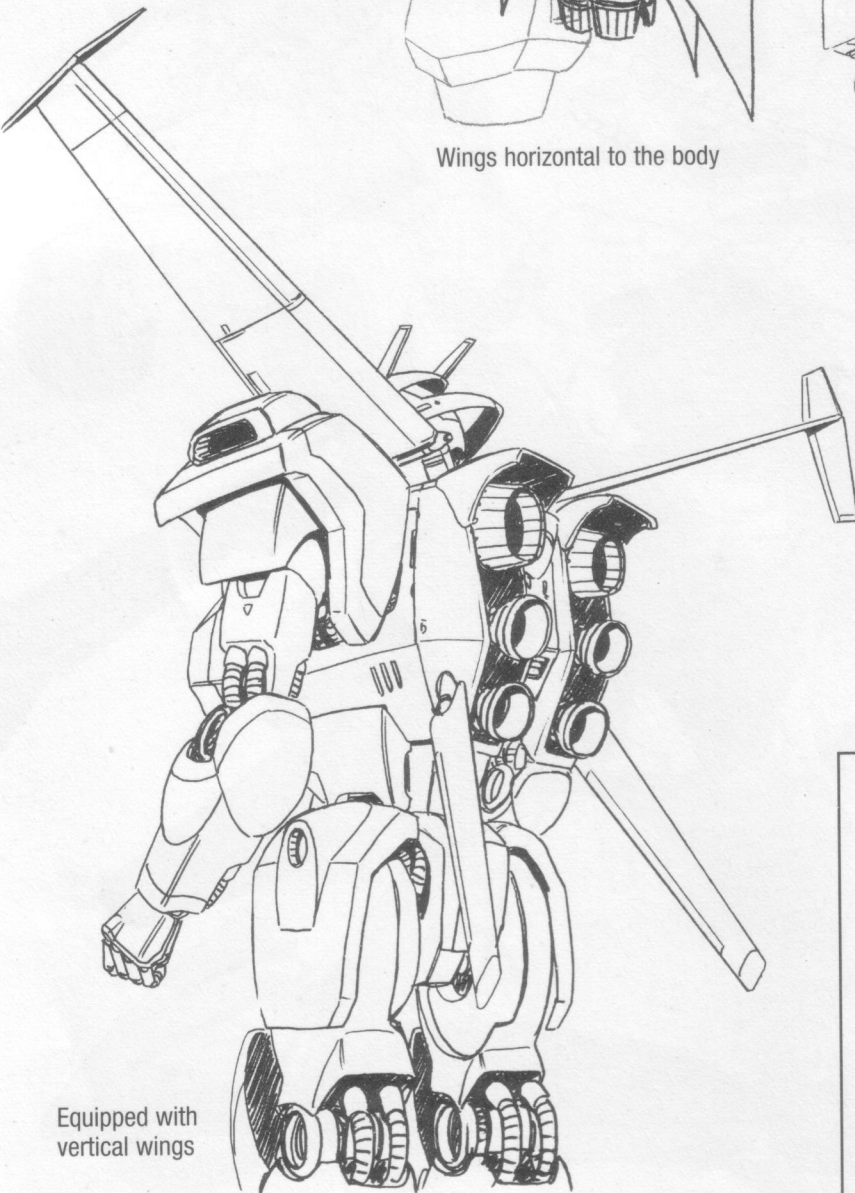
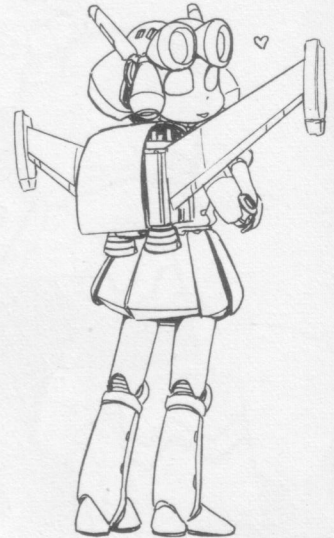
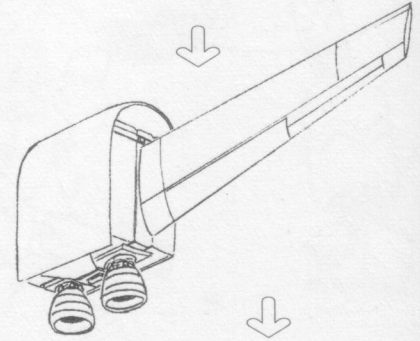
Wings vertical to the body



Wings horizontal to the body



Attaching nozzles and wings to a backpack creates a flying unit.



Equipped with vertical wings

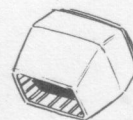
Propulsion nozzles



Rocket engine



Jet engine

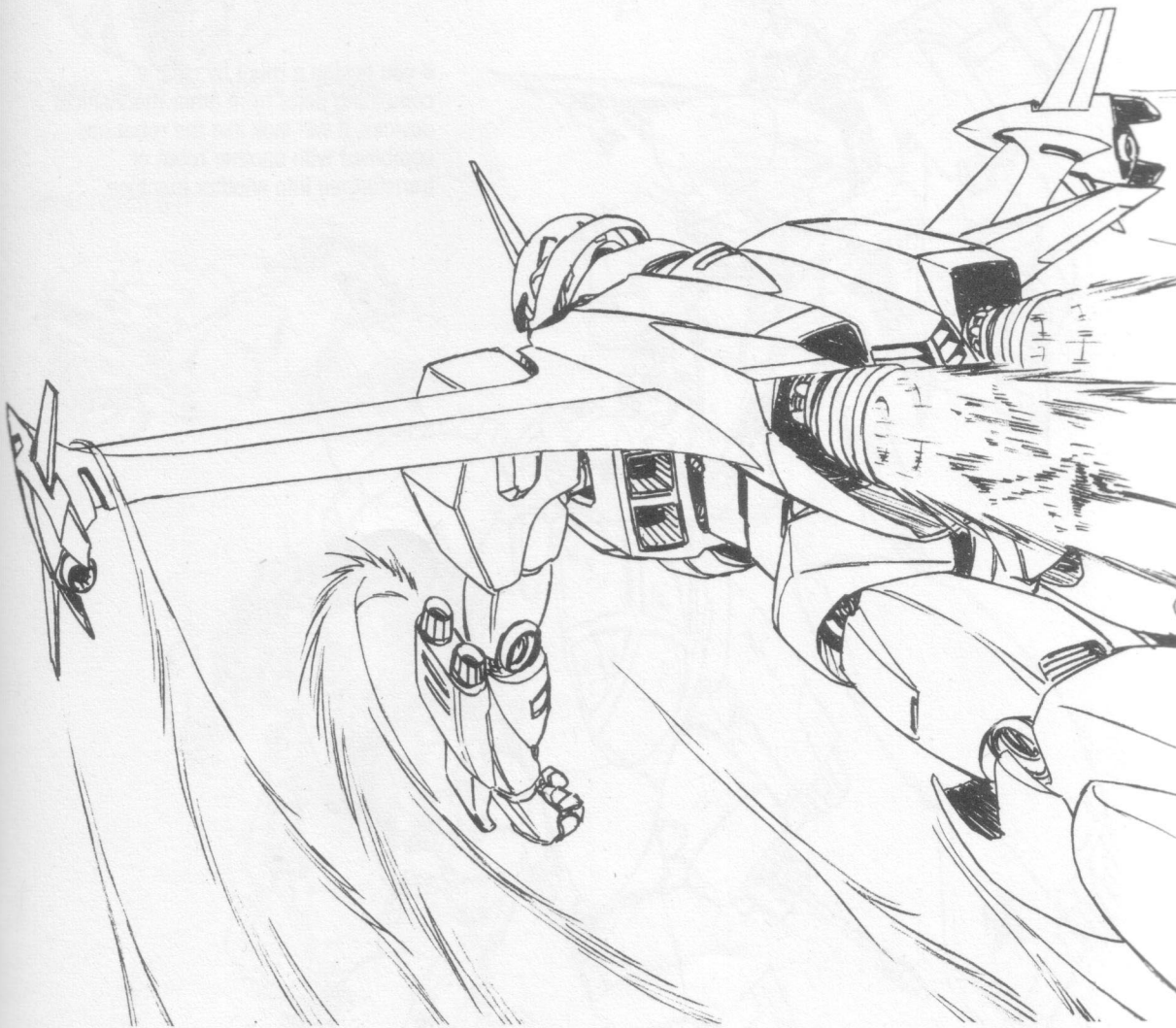
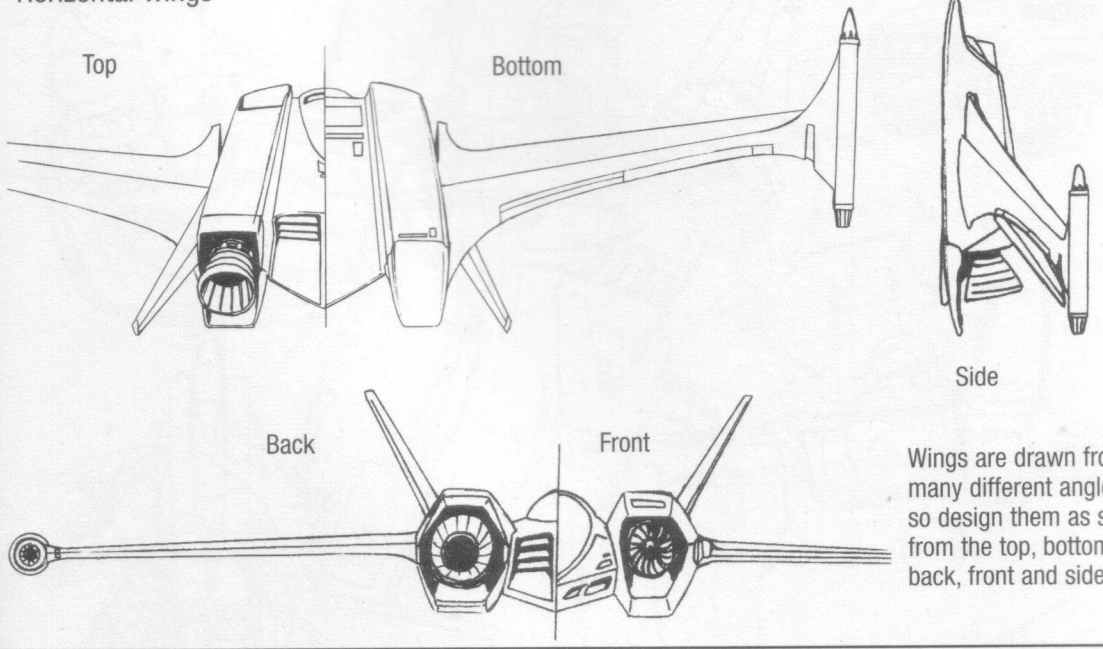


Square jet



Round jet

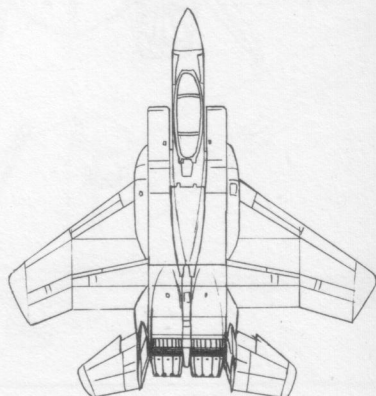
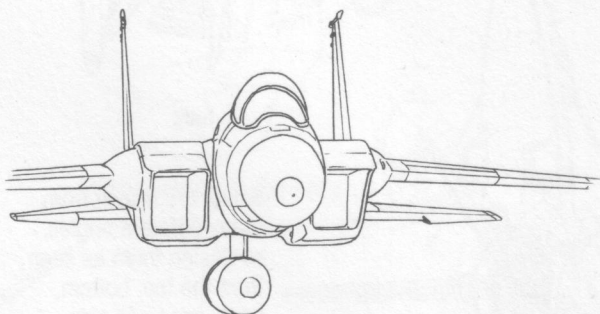
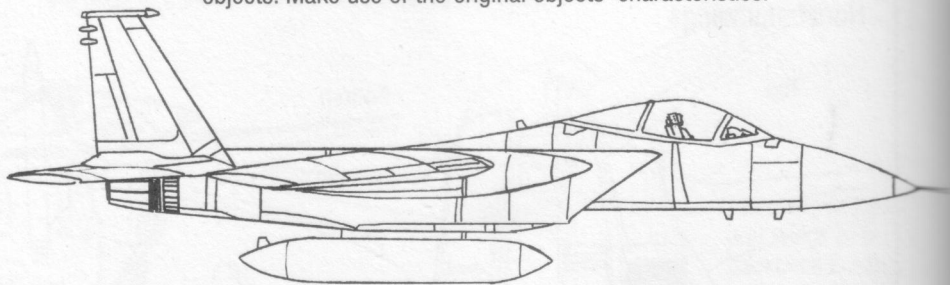
Horizontal wings



Transformers

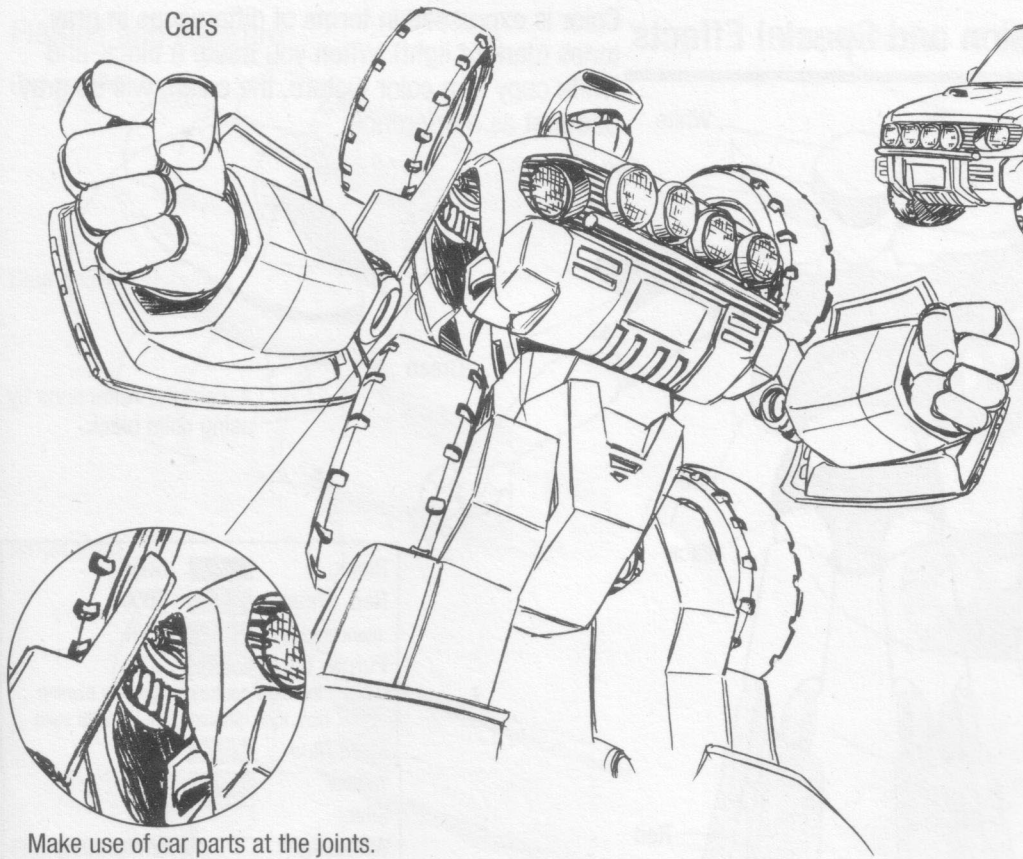
Jet fighters

Create a robot by combining parts from jet fighters, cars and other objects. Make use of the original objects' characteristics.



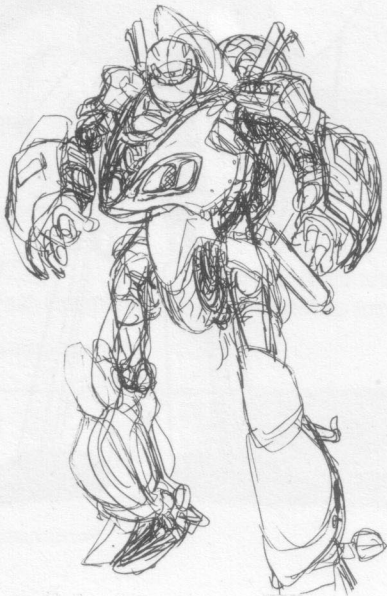
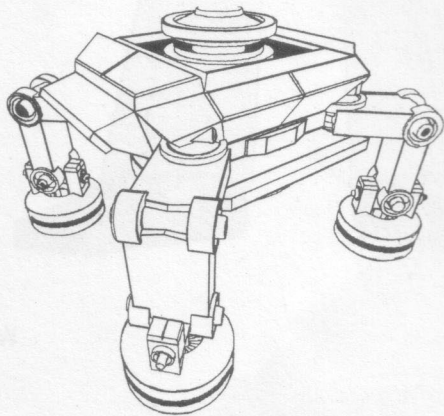
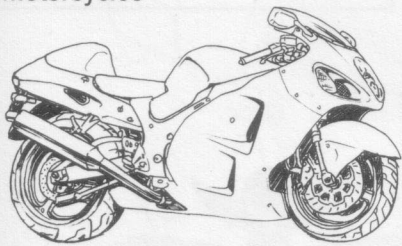
If you design a robot by clearly combining parts from other mechanical devices, it will look like the robot has combined with another robot or transformed into another machine.

Cars



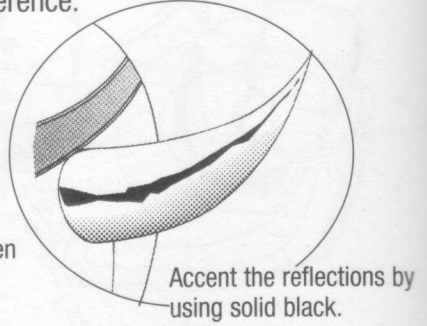
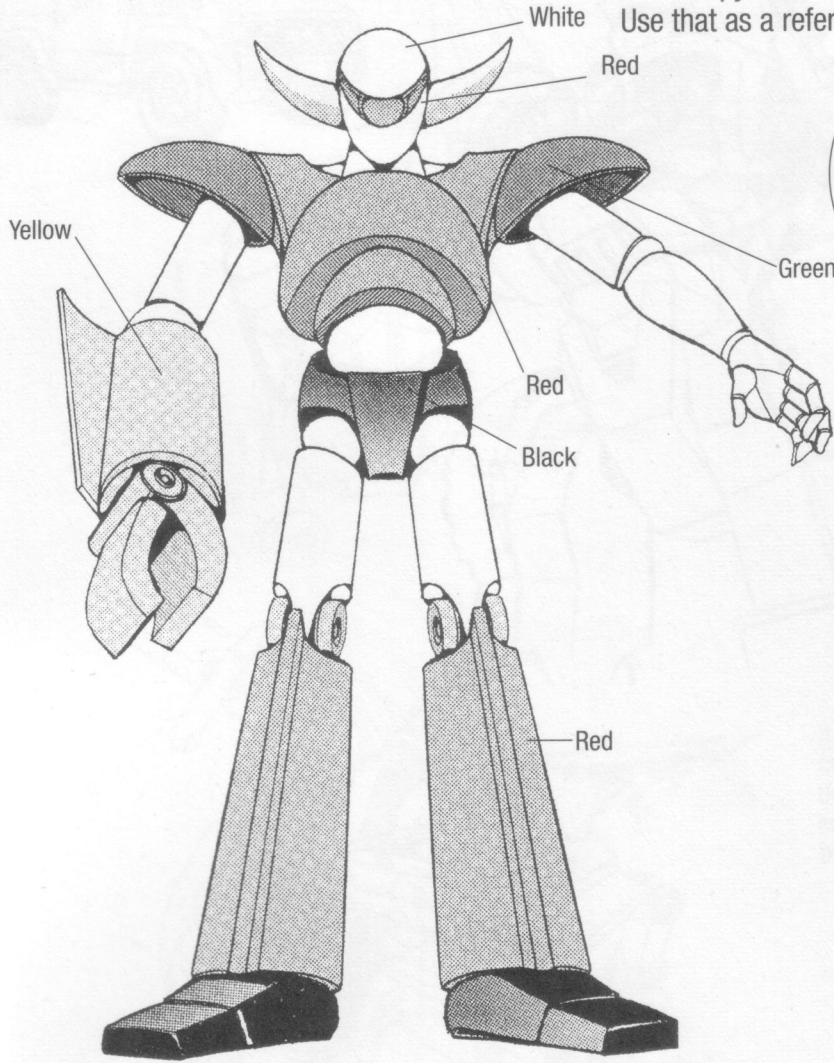
Make use of car parts at the joints.

Motorcycles



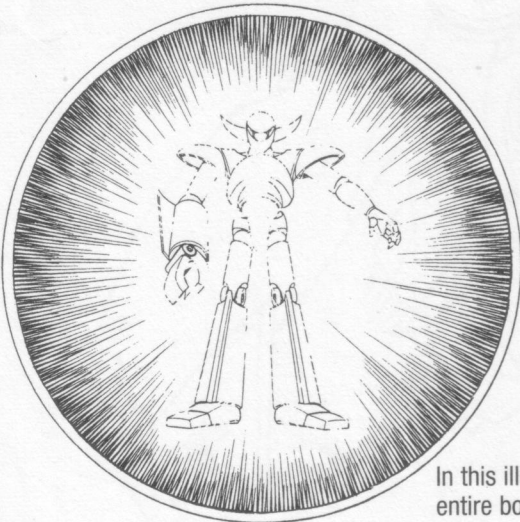
Color Expression and Special Effects

Color is expressed in terms of differences in gray tones (dark or light). When you make a black-and-white copy of a color picture, the colors will be gray. Use that as a reference.

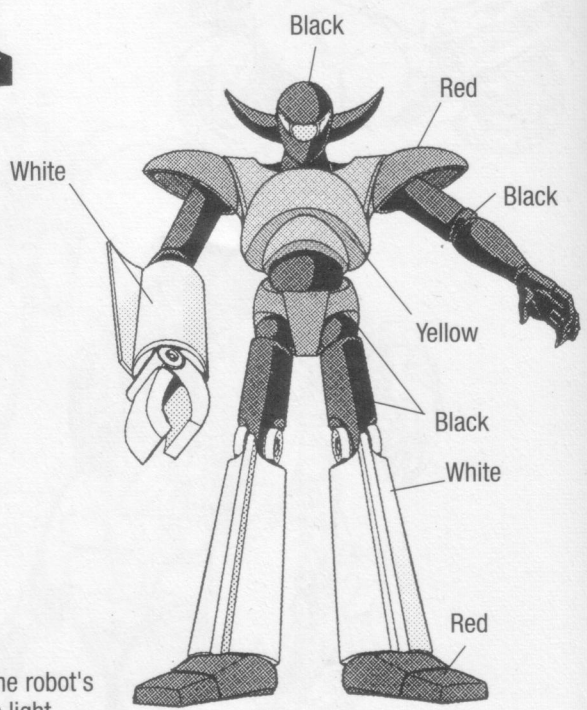


Black		Solid
Red, green (dark colors)		30%
Purple, blue		25%
Gold		20%
*Increase contrast of gold by planing dark tone. Should combine with solid.		
Light blue		15%
Yellow		10%
Silver		5%
White, light		White (0%)

*In general, use dark tone for dark colors and strong colors and light tone for light colors. You should have contrast in at least two places, i.e., dark/light (apply, do not apply, etc.).

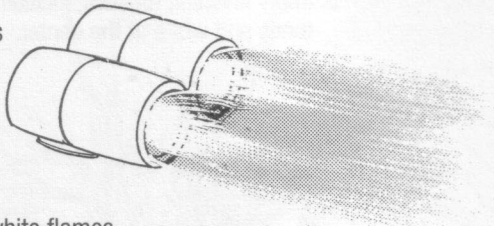


In this illustration, the robot's entire body radiates light.

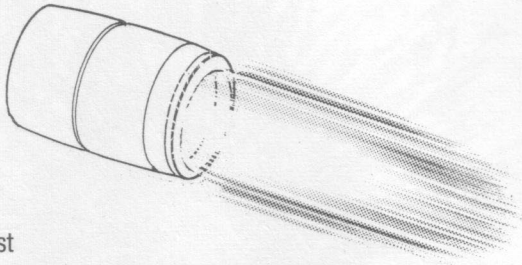


Flames and Backfire

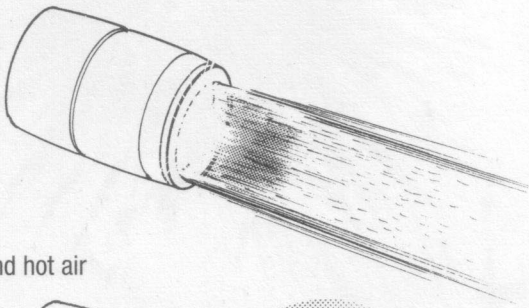
Red flames



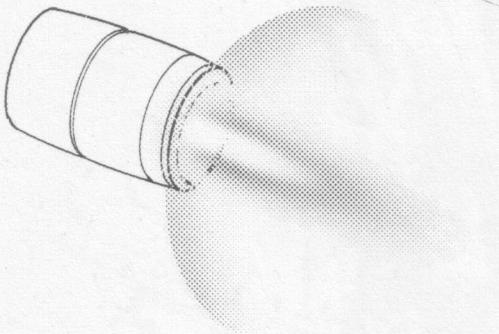
Blue and white flames



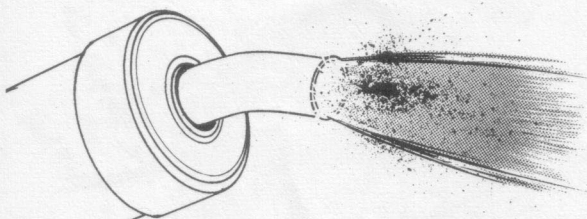
Air/jet blast



Flames and hot air

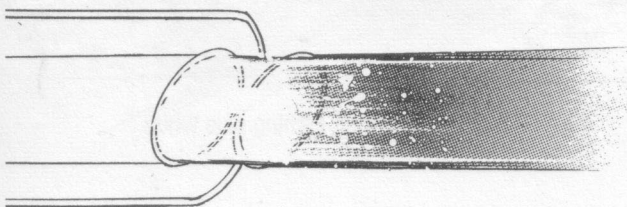


Red accompanied by explosion

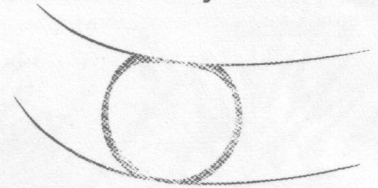


Fast-streaming red

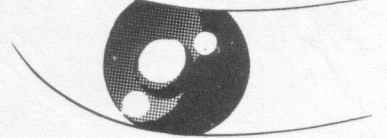
Ink splatters are an effective way to depict an explosion.



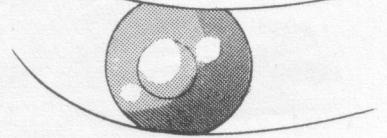
Presentation of eyes



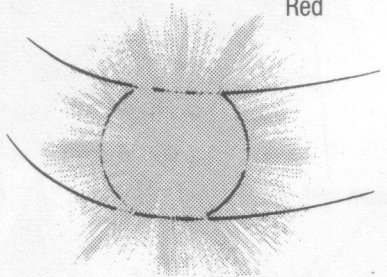
Dull shine



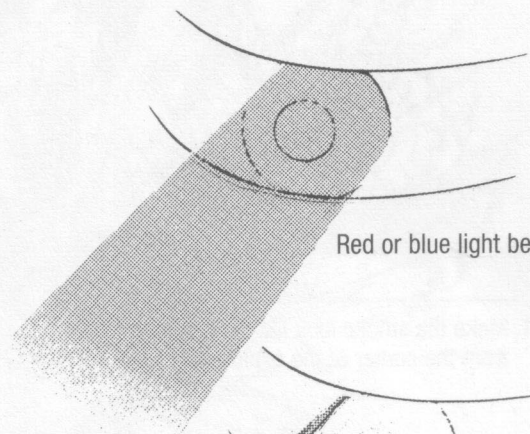
Normal eye



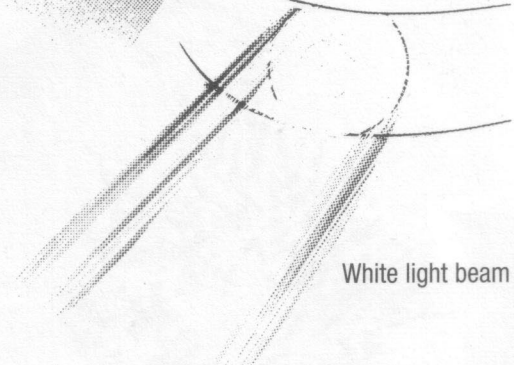
Red



Shining red



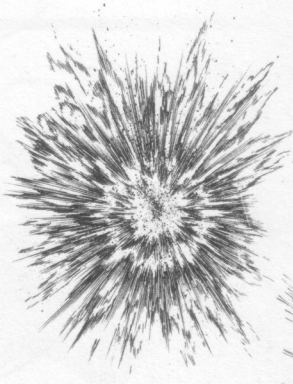
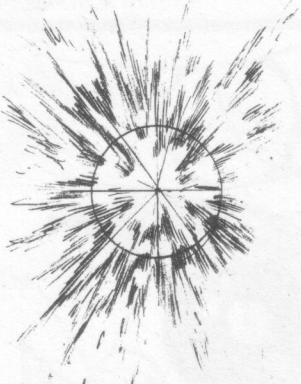
Red or blue light beam



White light beam

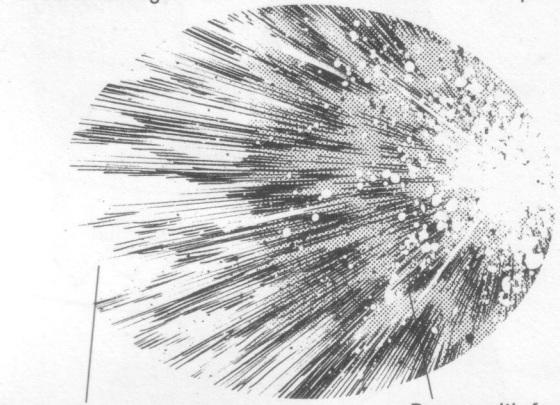
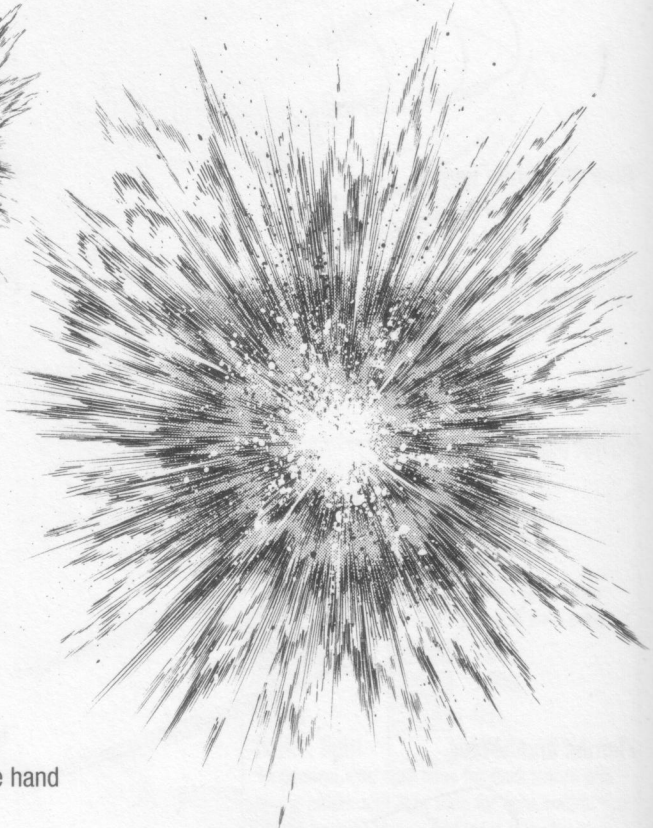
Explosions and Smoke

3. Apply finishing touches, including tones and white at the center.



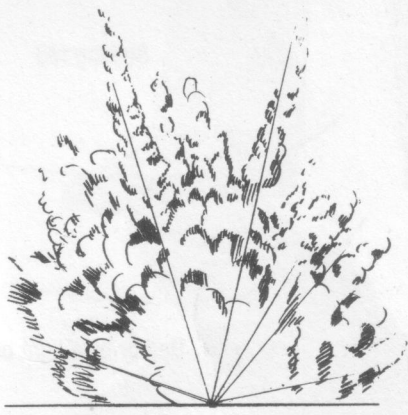
1. Make a rough sketch

2. Draw with pen

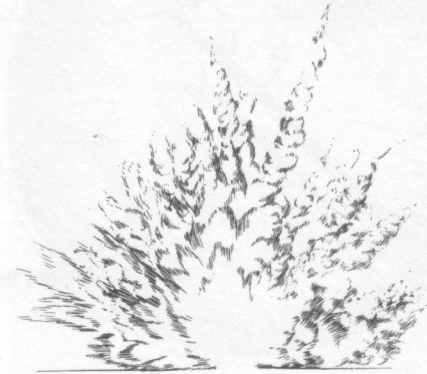


Drawn with ruler

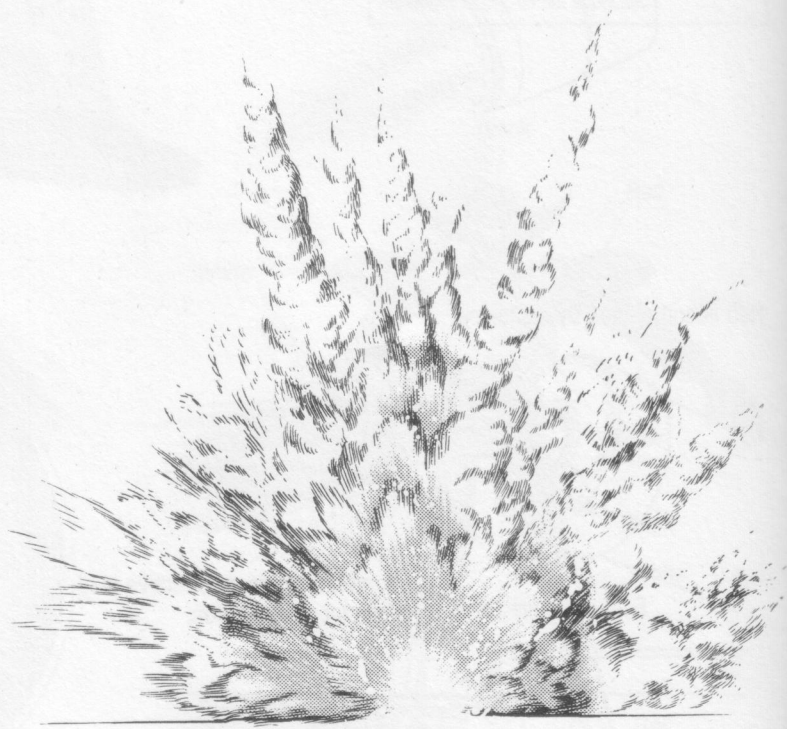
Drawn with free hand



1. Make the smoke look like it emanates from the center of the explosion.

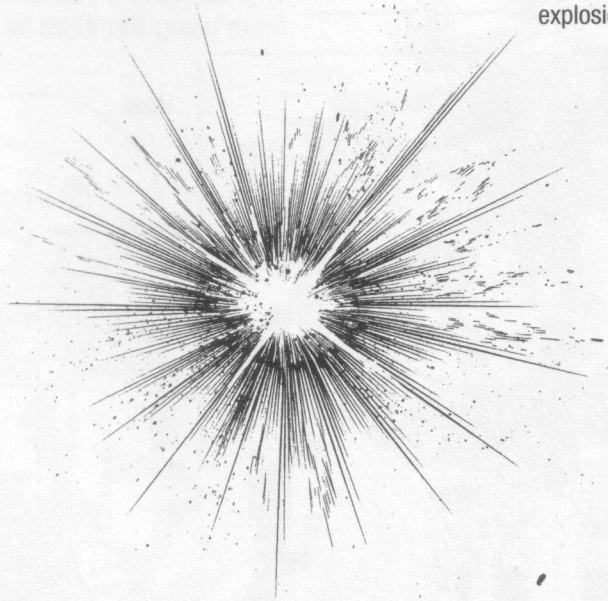


2. Draw with pen. Do not use a ruler.

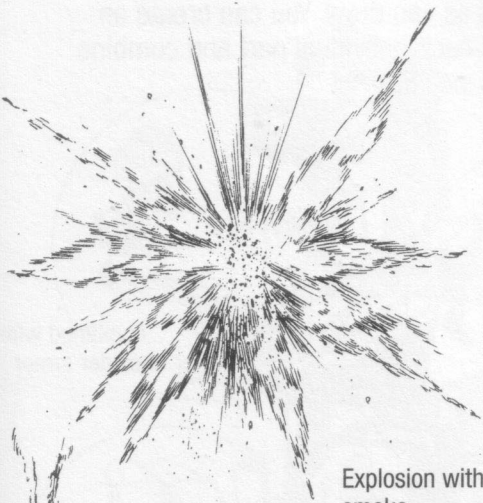


3. In the center use tone etching plus white.

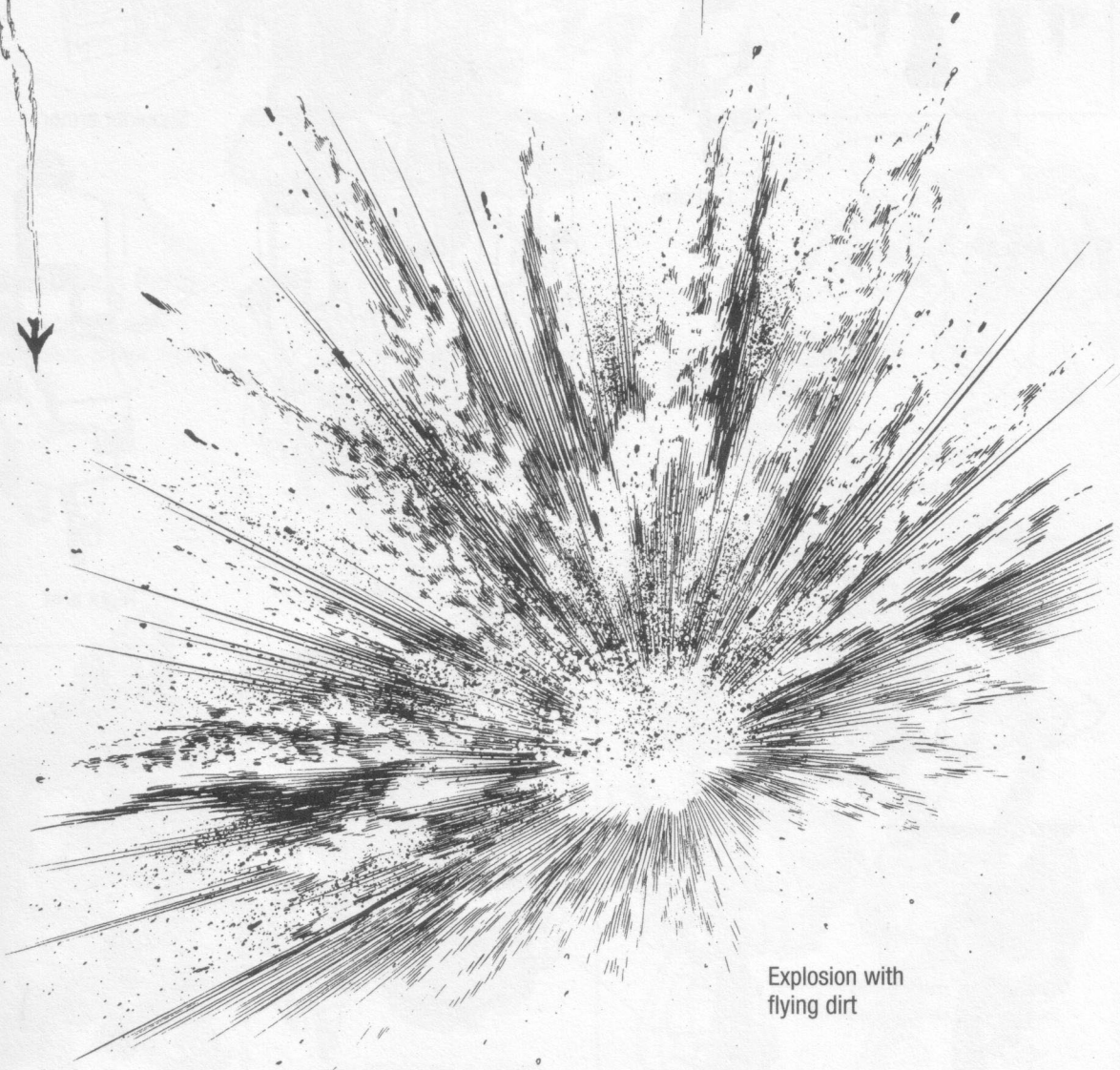
Light at instant of explosion



Explosion with smoke

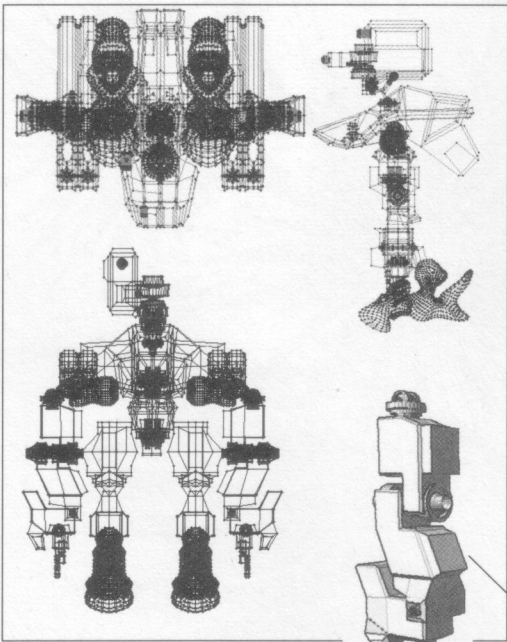


Explosion with flying dirt

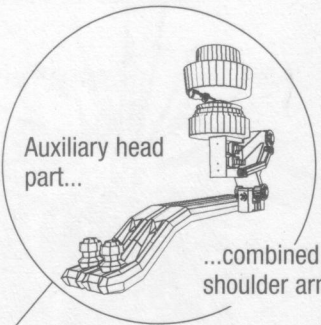
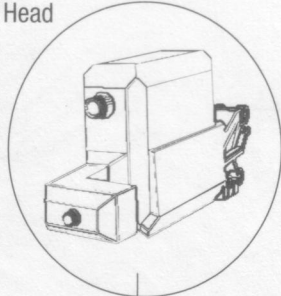


Designing Original Robots

Think about the body parts as you draw. You can create an original robot if you design each individual part and combine them using the three basic views.

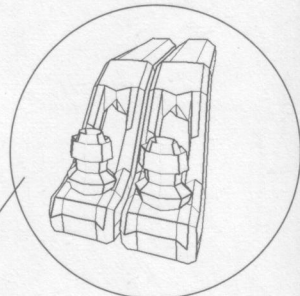


Head

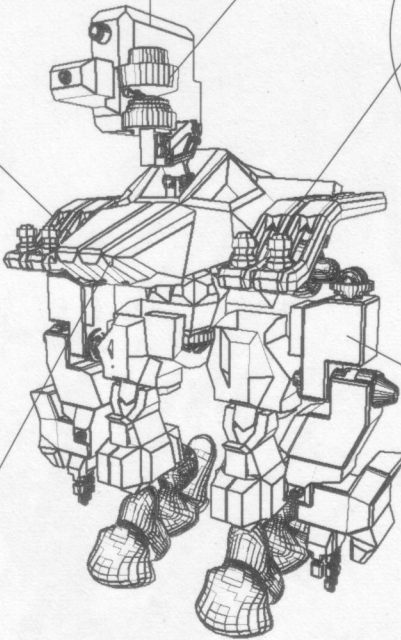


Auxiliary head part...

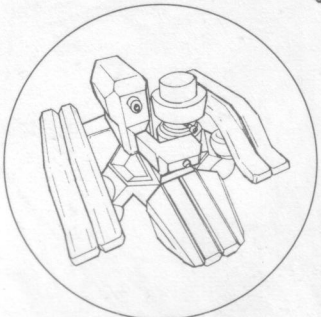
...combined with shoulder armor



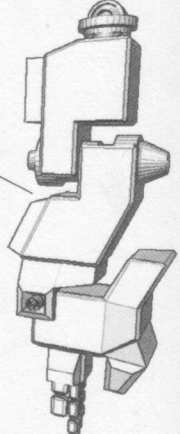
Shoulder armor



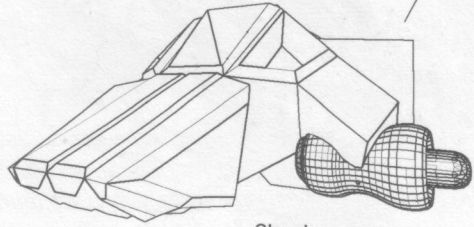
Left arm



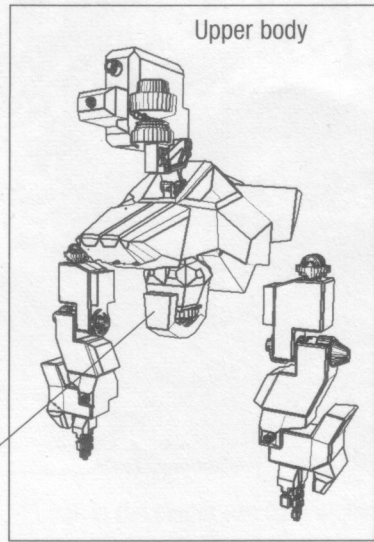
View of head and shoulders from above



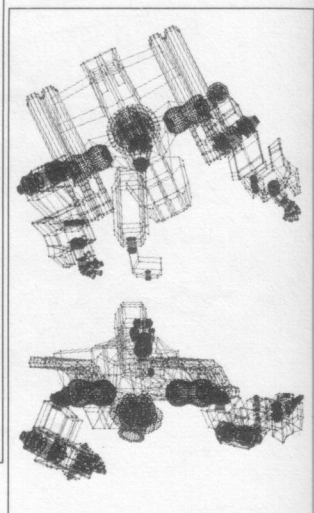
Right arm



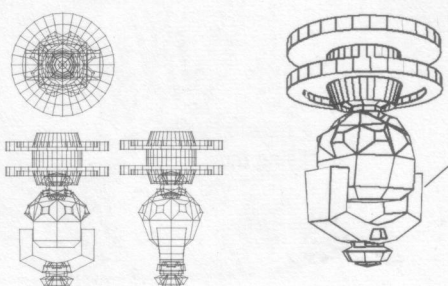
Chest

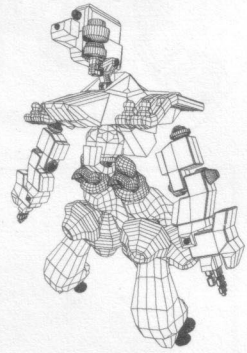
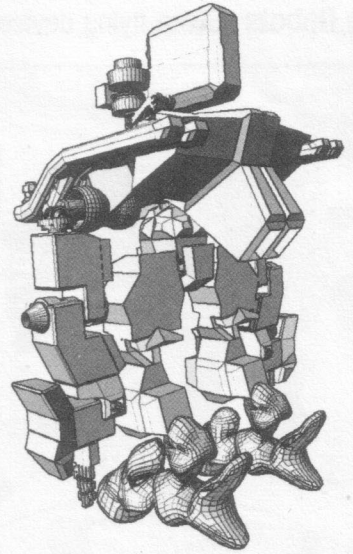
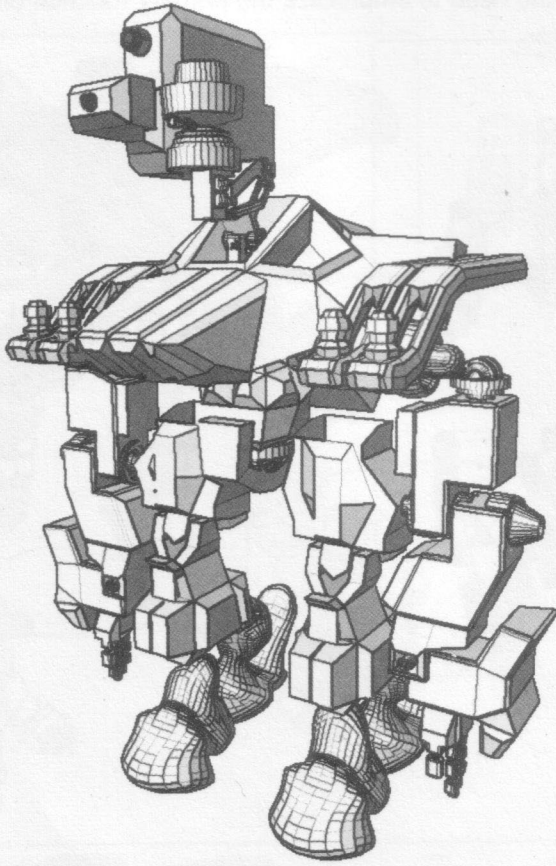


Upper body



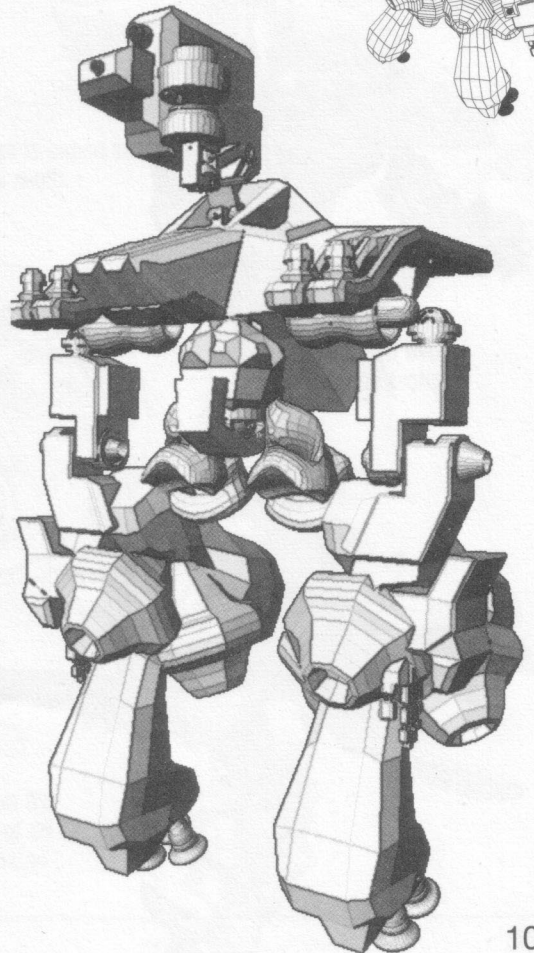
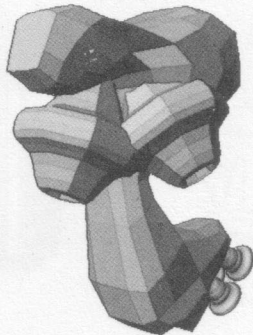
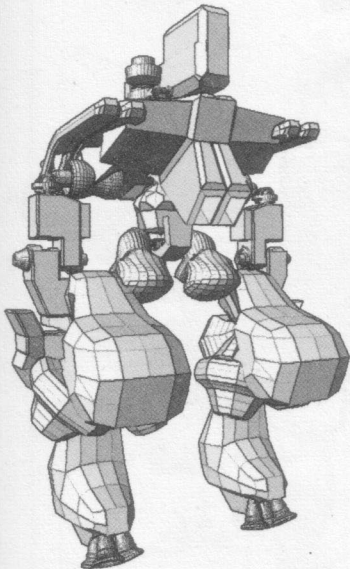
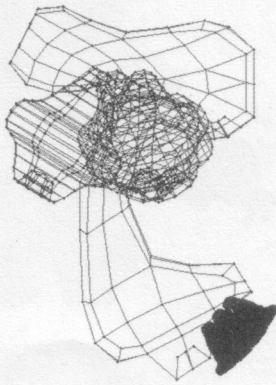
Core/movable unit





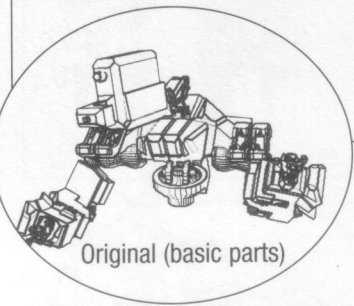
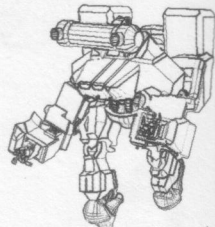
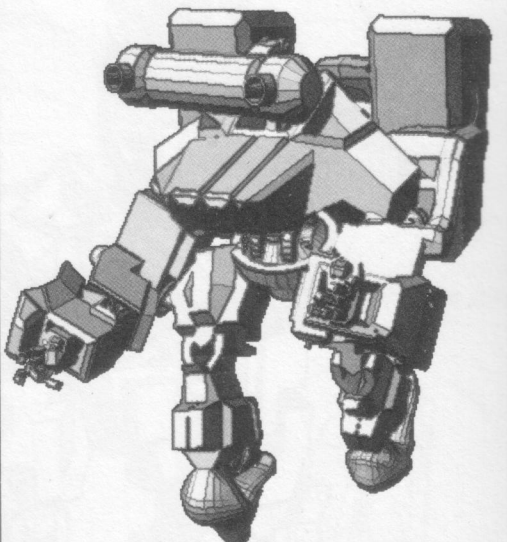
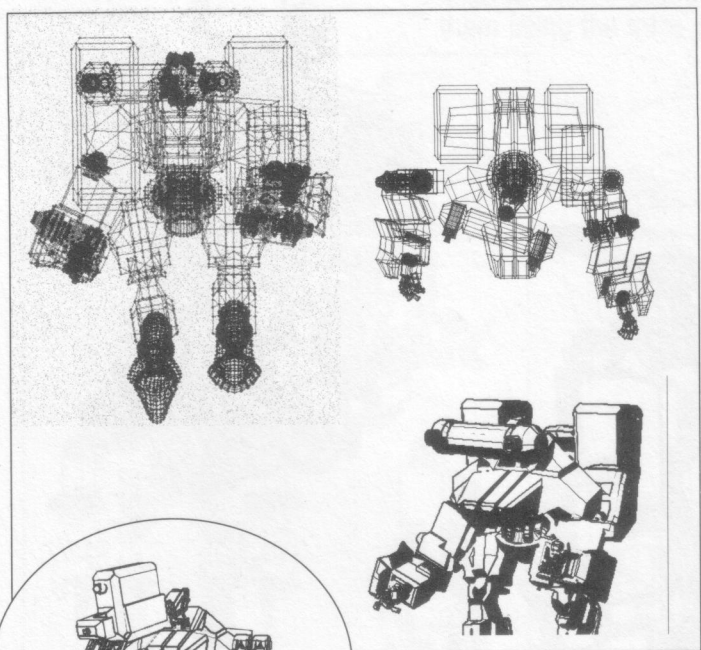
Attach Shin Parts

Reinforce legs with hydraulics, armor, flying aids, etc.

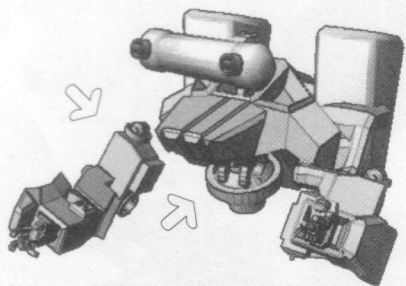


The appearance differs depending on the angle.

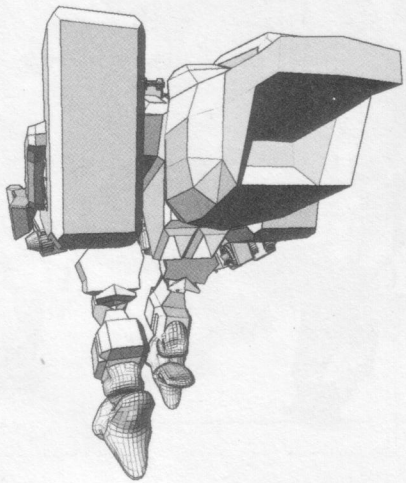
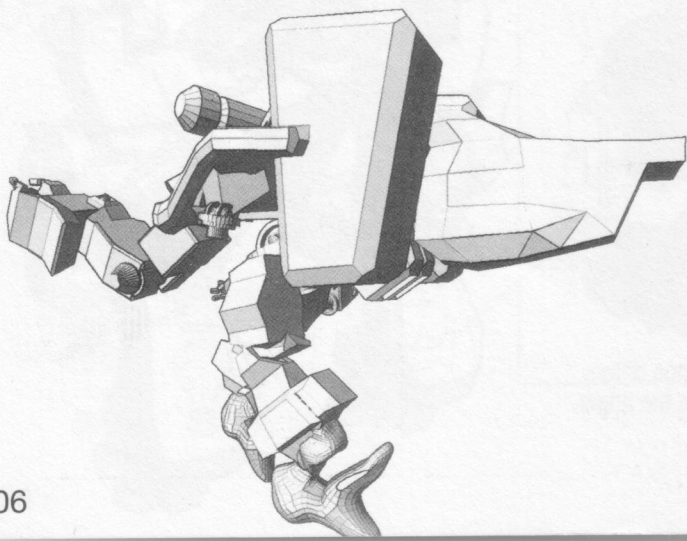
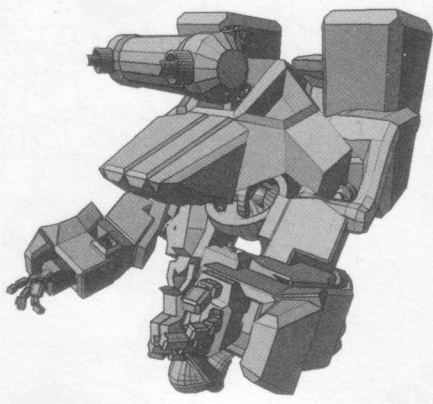
Flying Robots Swap flying devices with the head to emphasize the primary function of the robot.



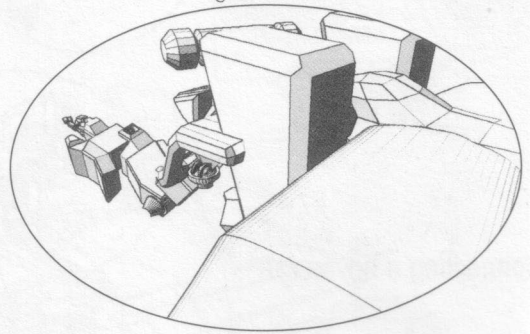
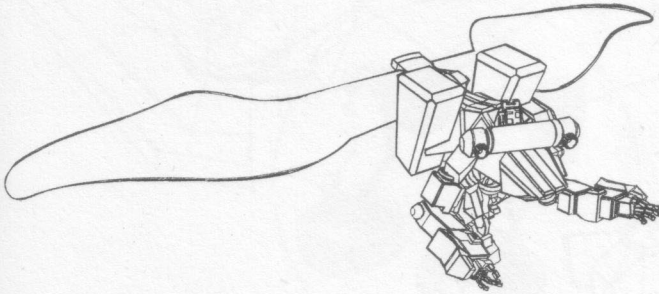
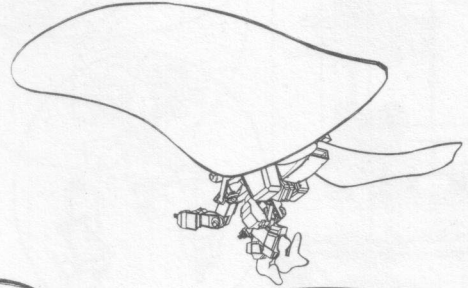
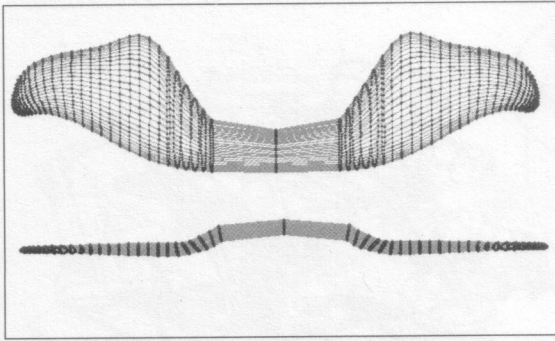
Original (basic parts)



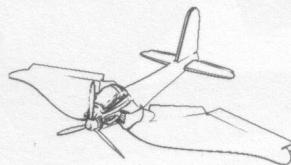
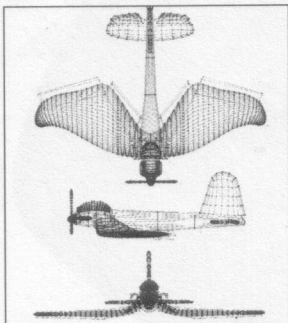
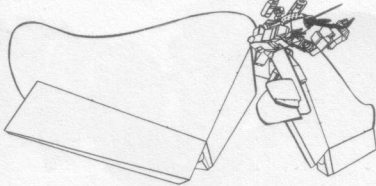
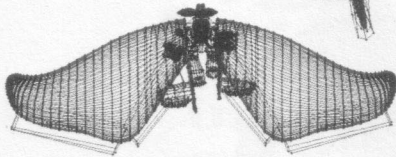
Use basic parts for the chest and arms.



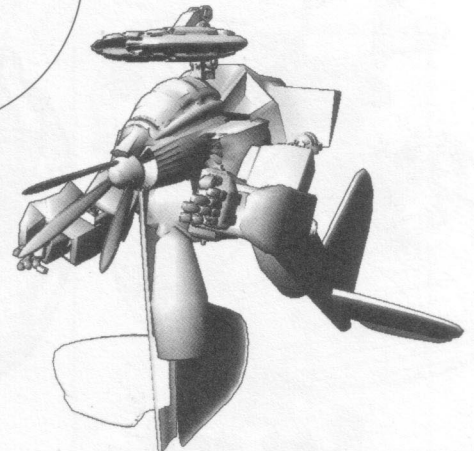
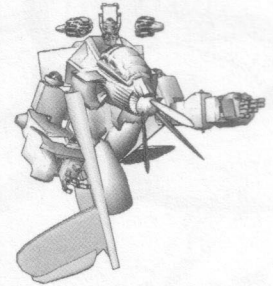
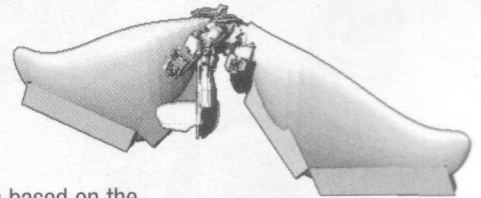
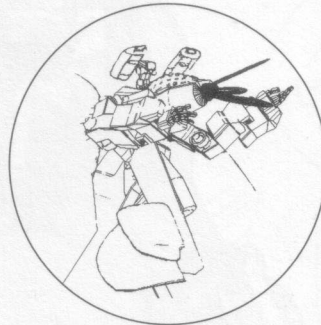
Attach wings



Wing variations

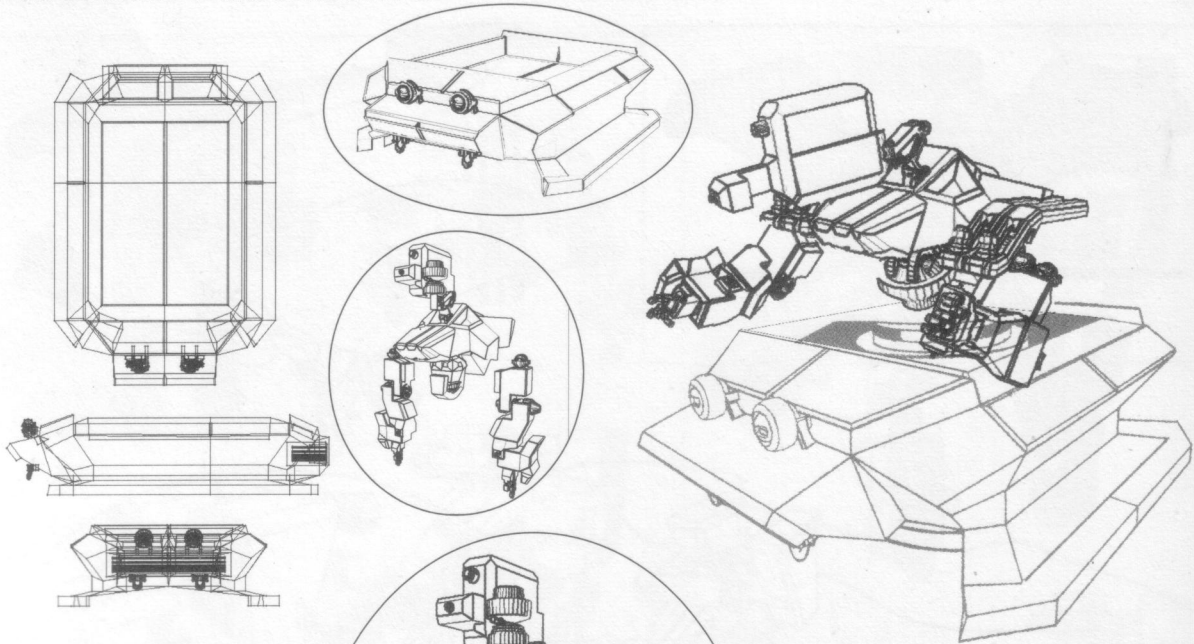


This design is based on the wings of a moth.

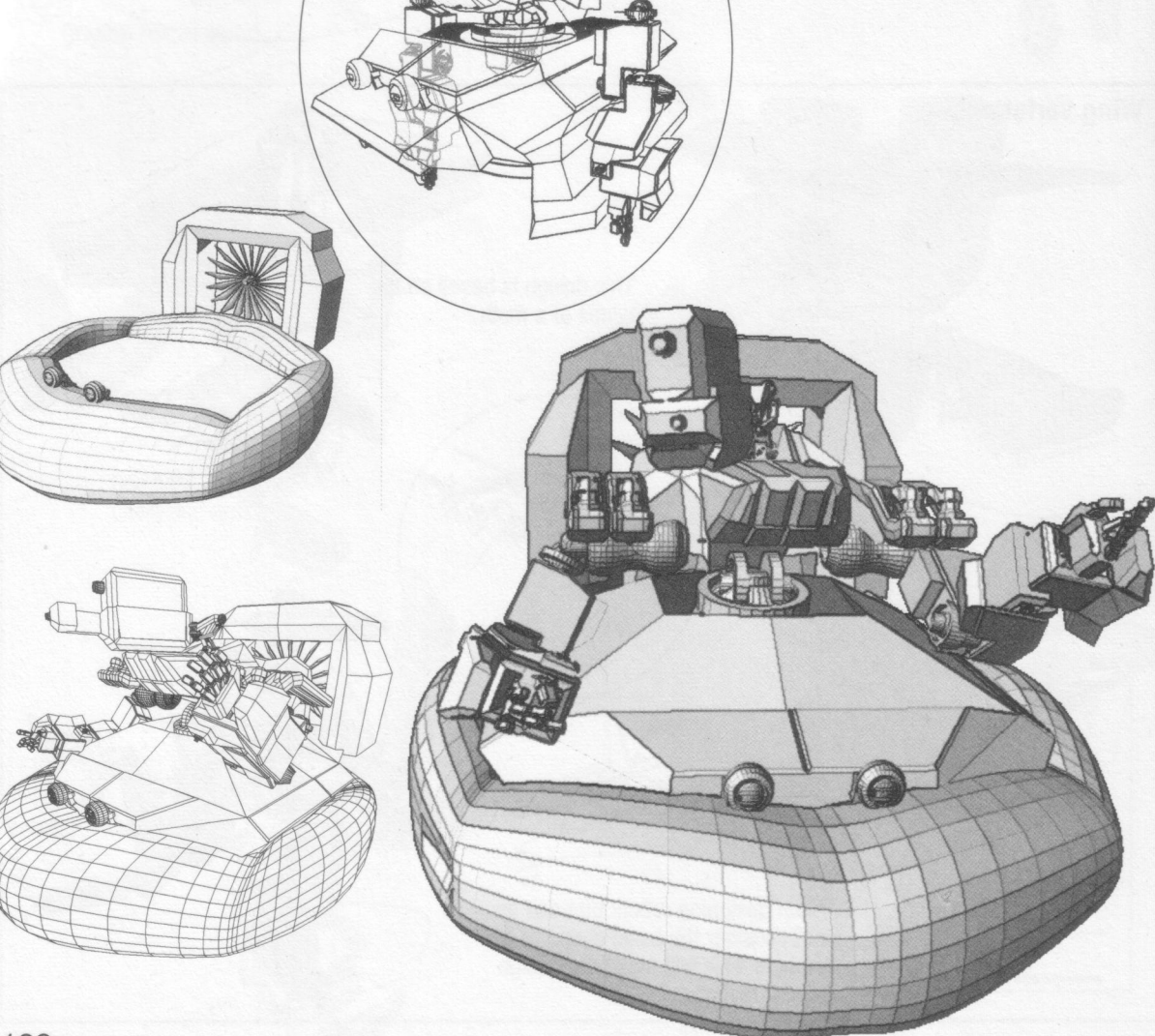


When designing robots that can fly, first consider the basic shape of an airplane. This will make the design appear realistic.

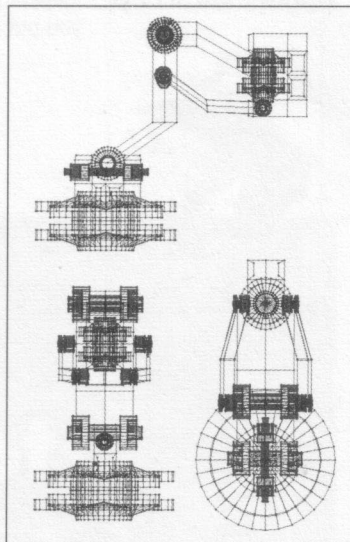
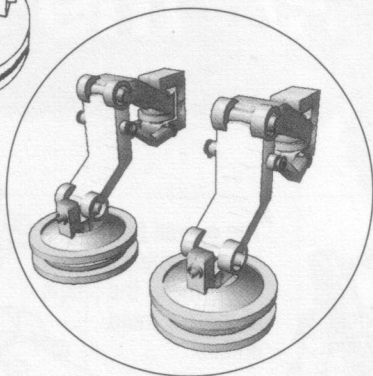
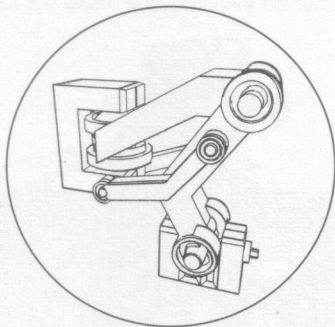
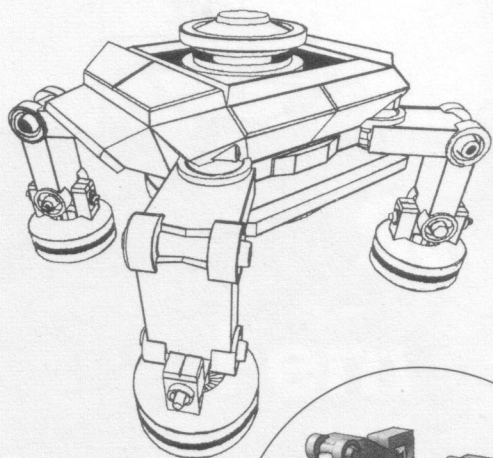
Add Joints to Connect Machines



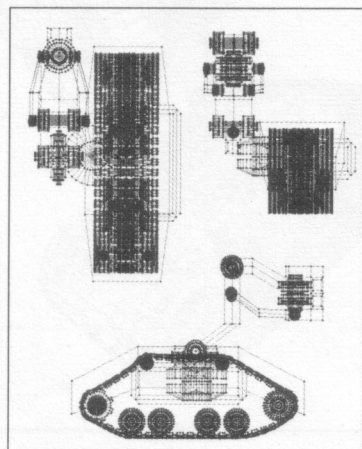
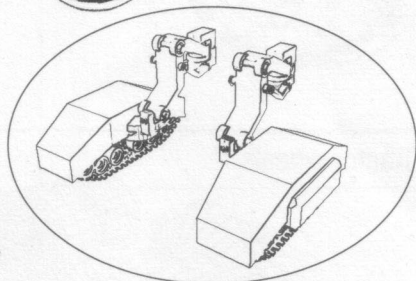
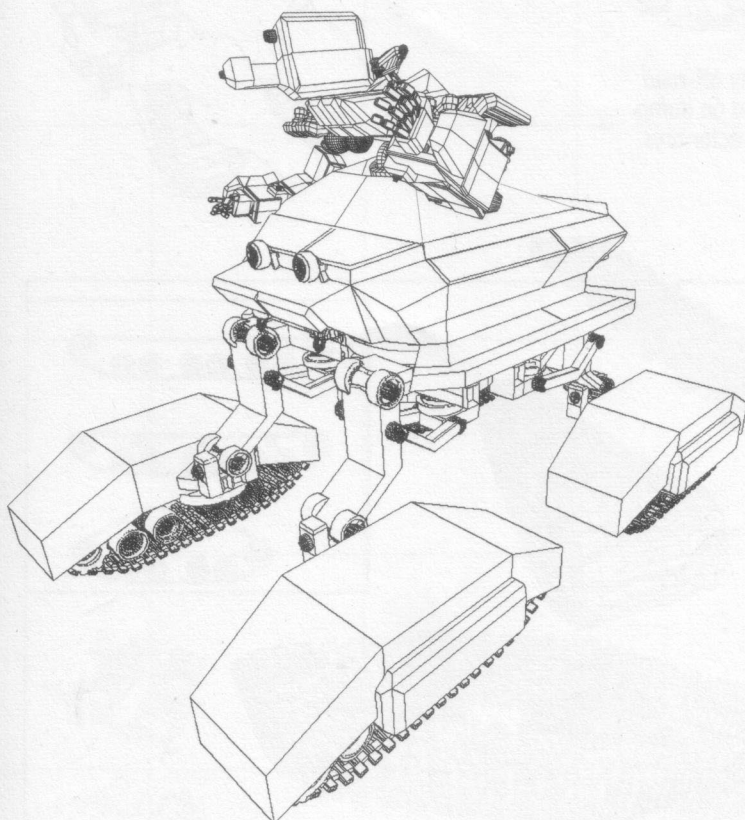
Connecting a hovercraft



Legs connected to a foundation

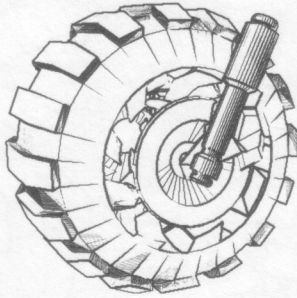
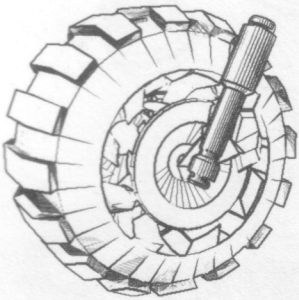
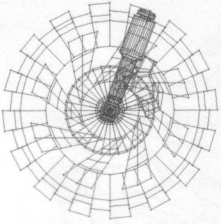
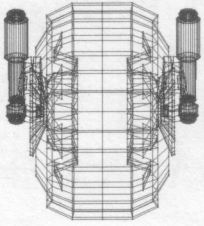
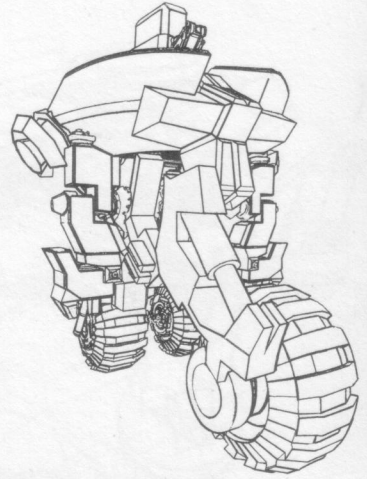
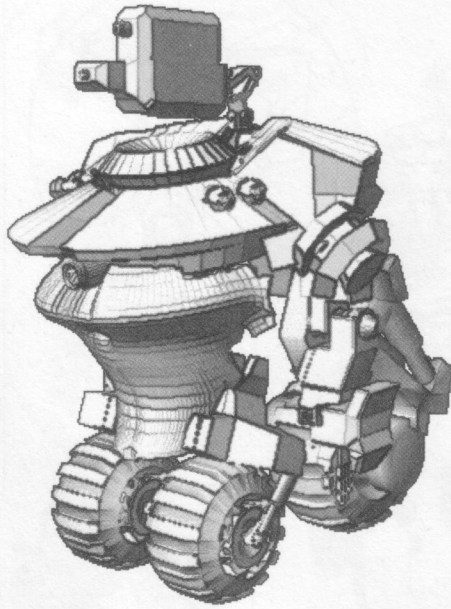
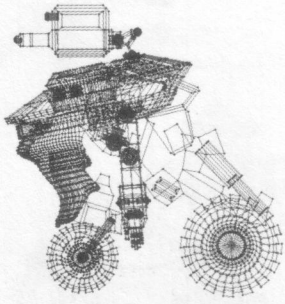


Tractor wheels connected to a foundation

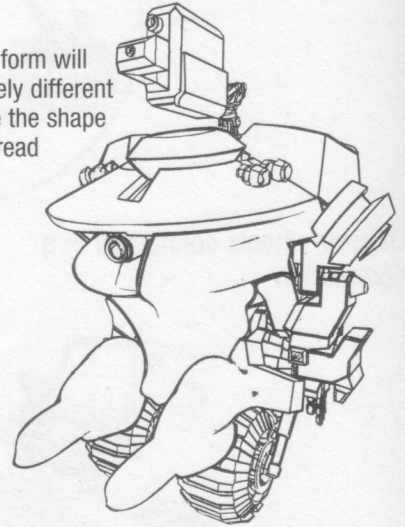


Robots with Tires

Leave the original head and arms. The robot will look like a completely different machine if you put armor on the body and make the lower body a tire mechanism.

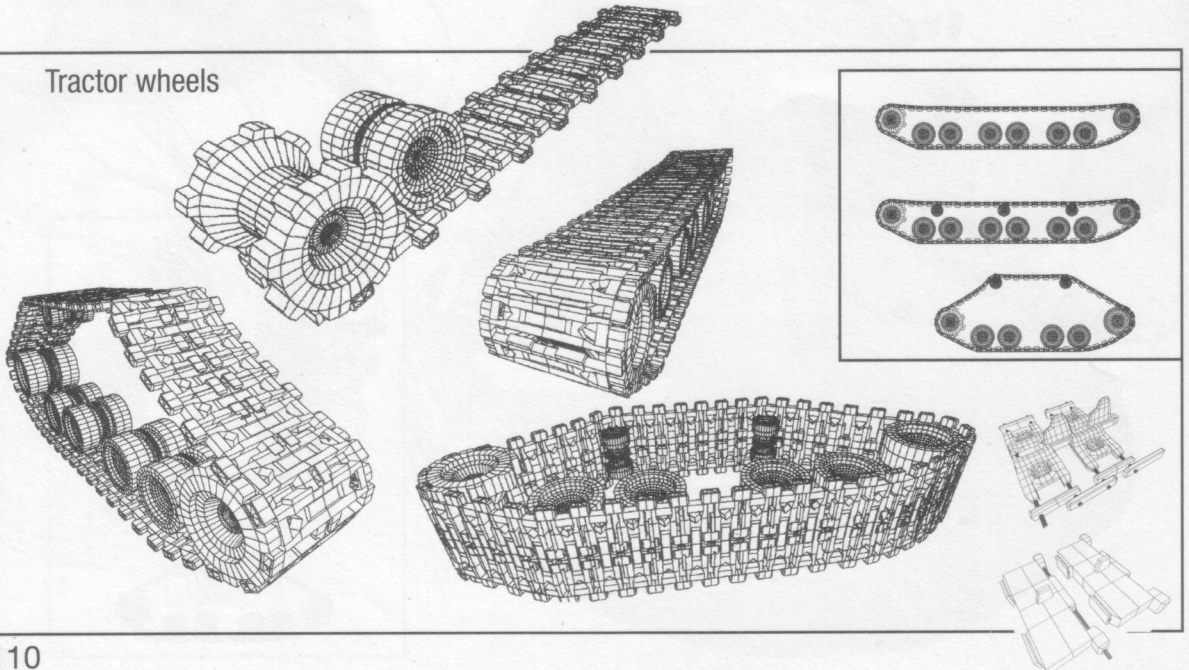


The overall form will be completely different if you make the shape of the tire tread unique.



Heavy-duty off-road tires based on dump truck or tractor tires.

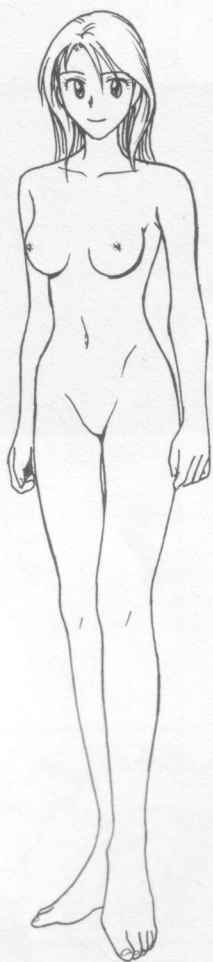
Tractor wheels



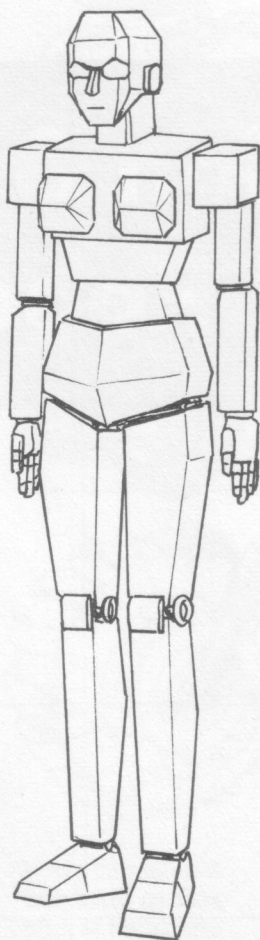
Section 3

Female Robots

There are two ways to approach deformation of physical characteristics.

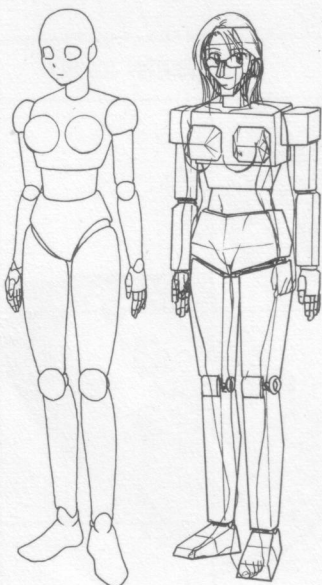
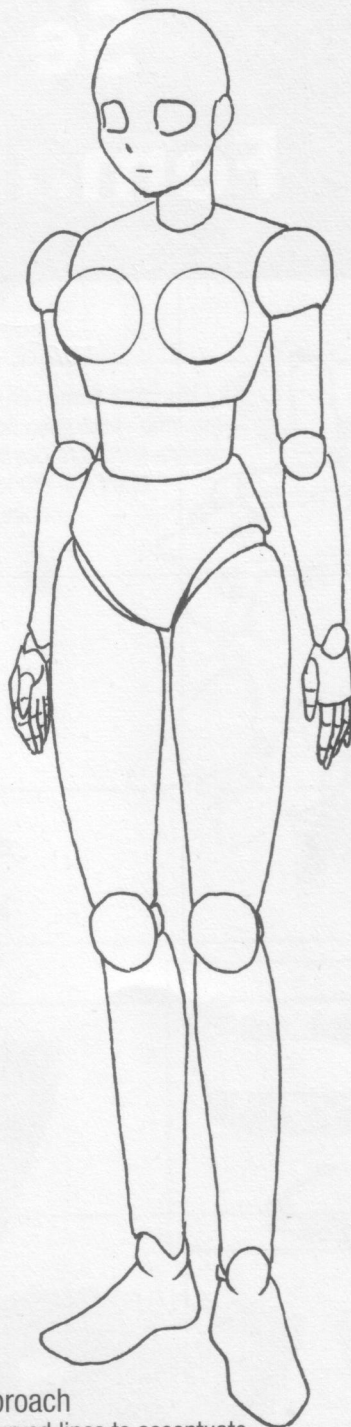


Nude base



Removing roundness

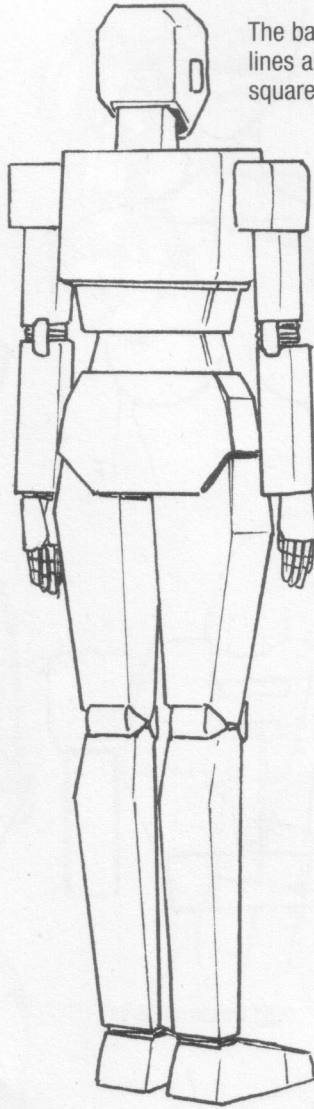
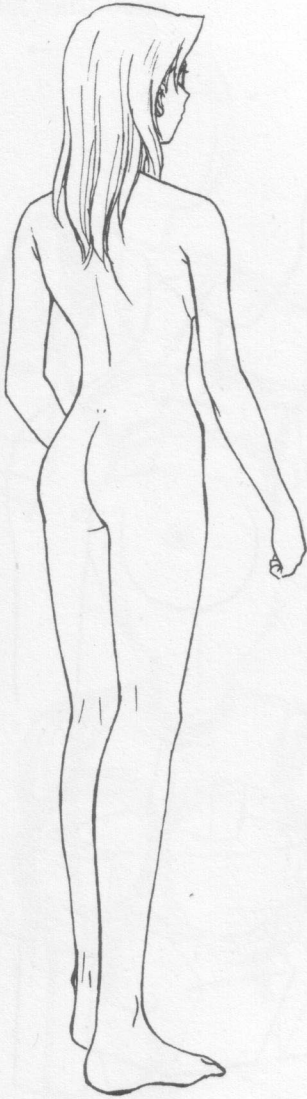
Straight line type. Draw as if the entire body was covered with a combination of iron plates. This creates the look of a classic robot.



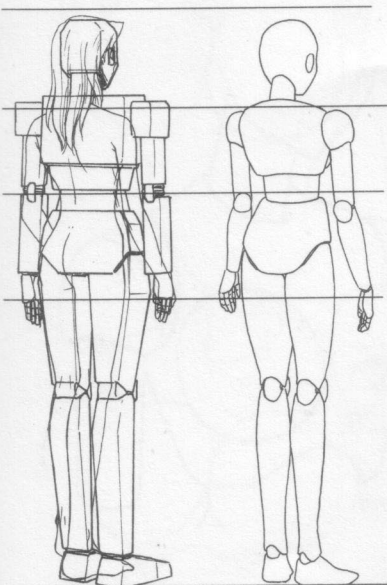
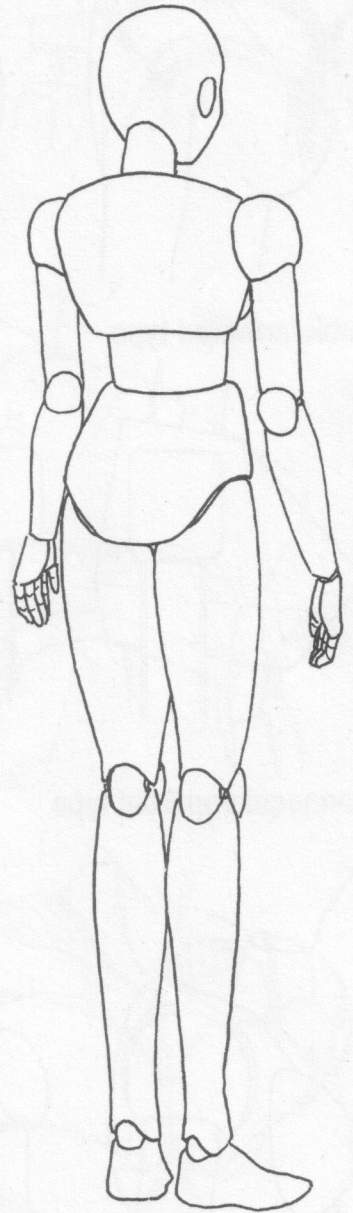
To improve the balance, draw the bust a little higher than it would be in real life.

Curved approach

Use mainly curved lines to accentuate the curved surfaces and roundness of the body. Look at mannequins or figurines for inspiration.



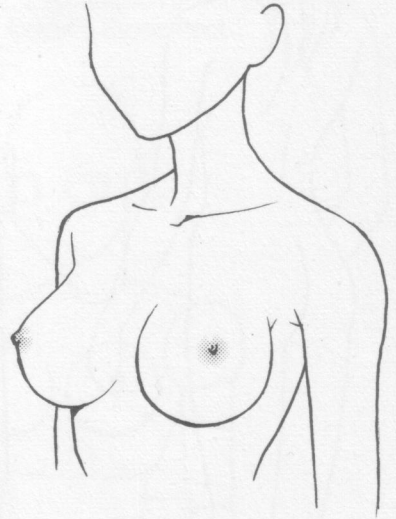
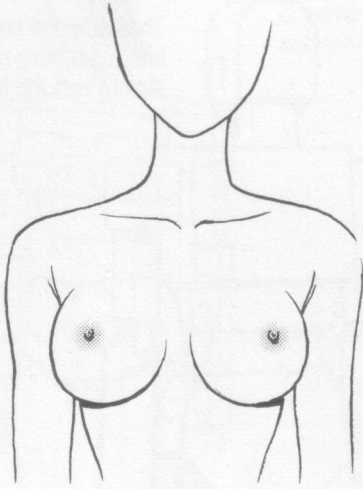
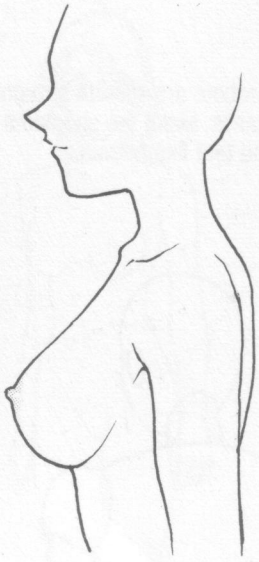
The back and bottom of robots drawn with straight lines also have no roundness. Make the shoulders square and the hands and feet like prisms.



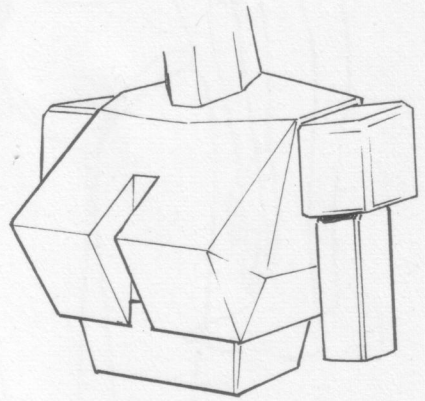
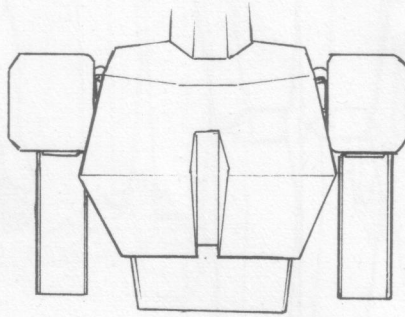
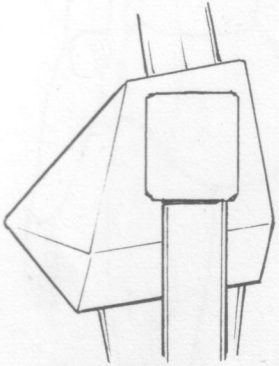
The head of a robot with no hair will look small, so raise the shoulders, hips and bottom to improve the balance.

The curved type resembles an artist's sketching mannequin. For a basic design, make the joints and movable parts simple spheres.

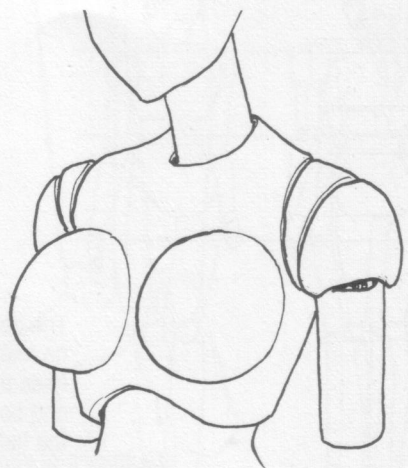
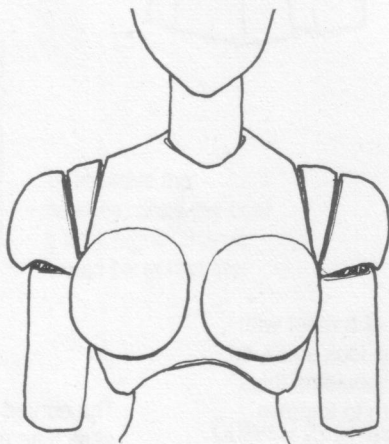
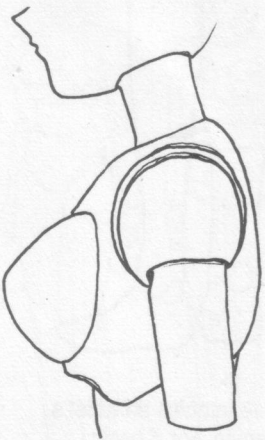
Human



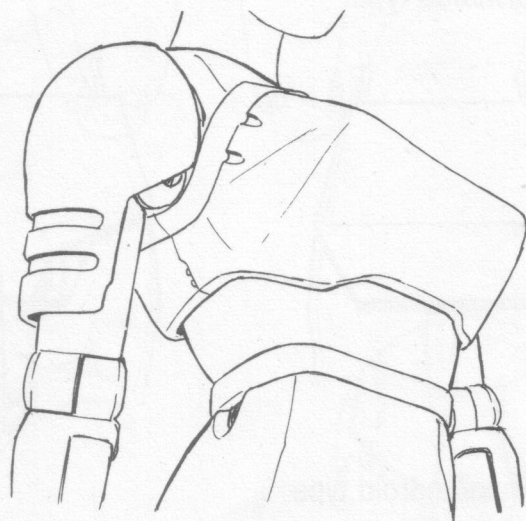
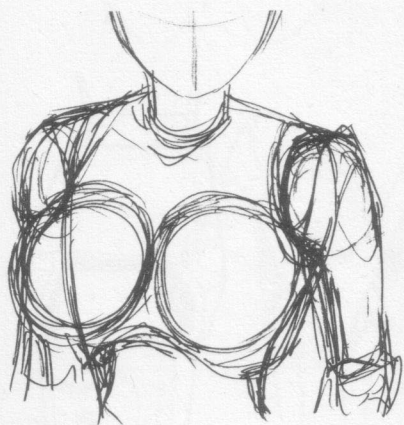
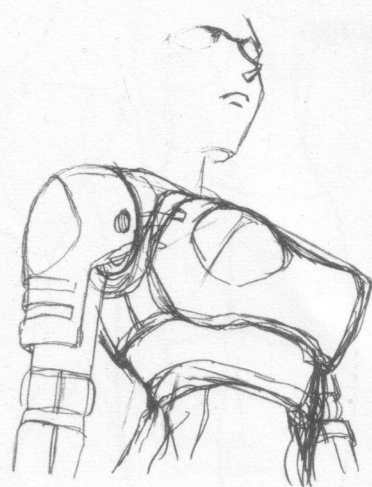
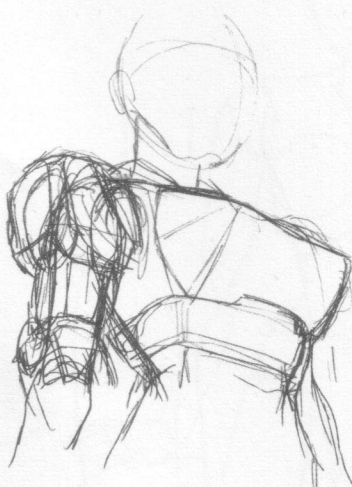
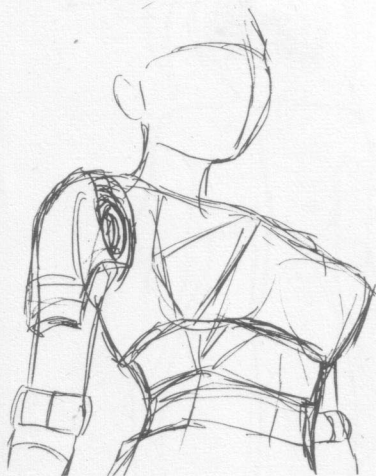
Cubic/armored type



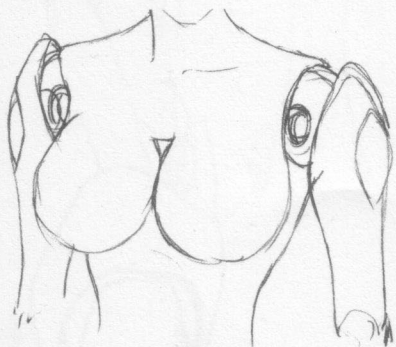
Mannequin/android type



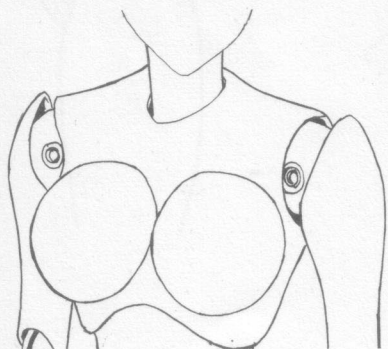
Bust Variations



Cubic/armored type



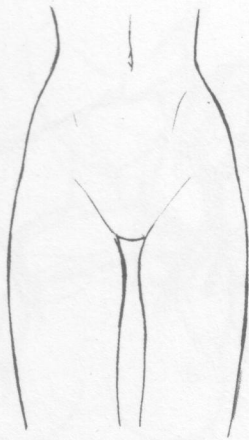
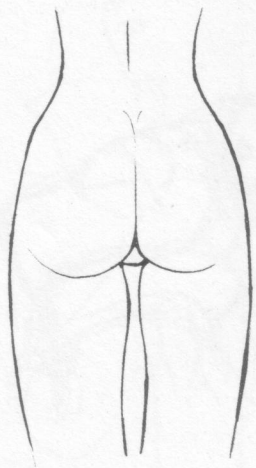
Muscled/biometallic type



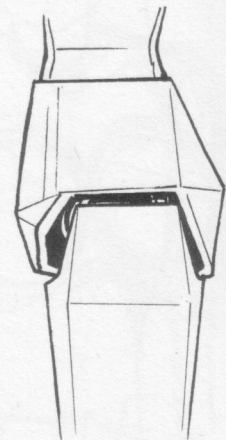
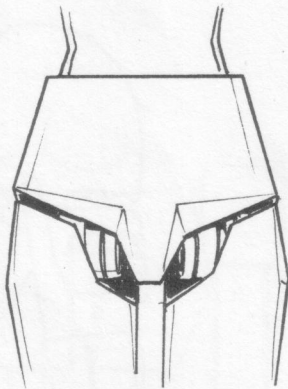
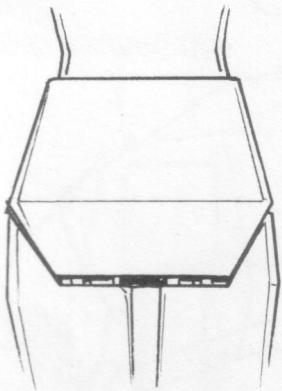
Simple mannequin type

Designing Bottoms

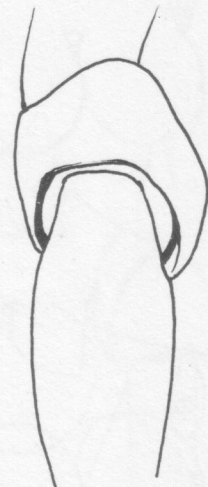
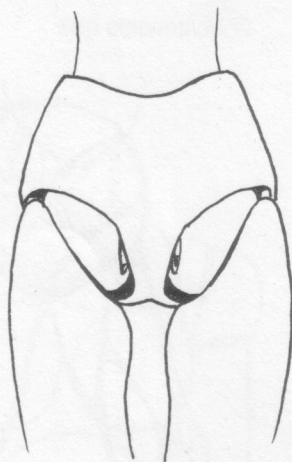
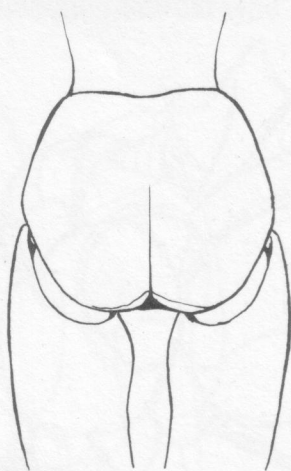
Human

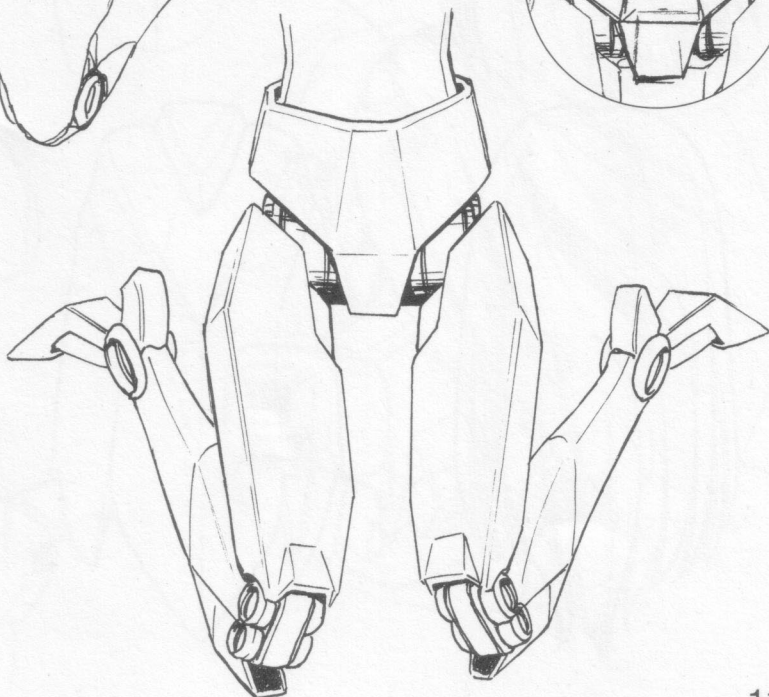
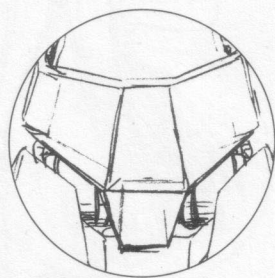
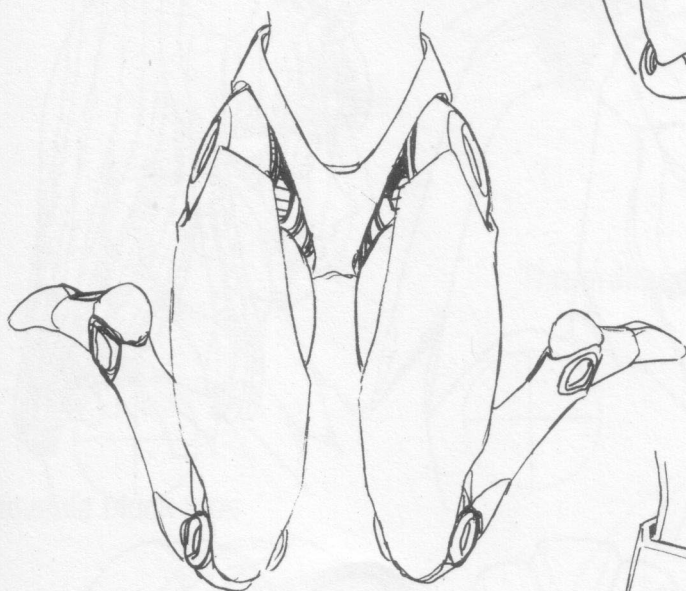
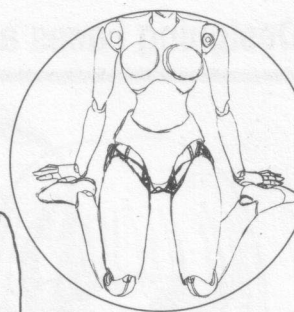
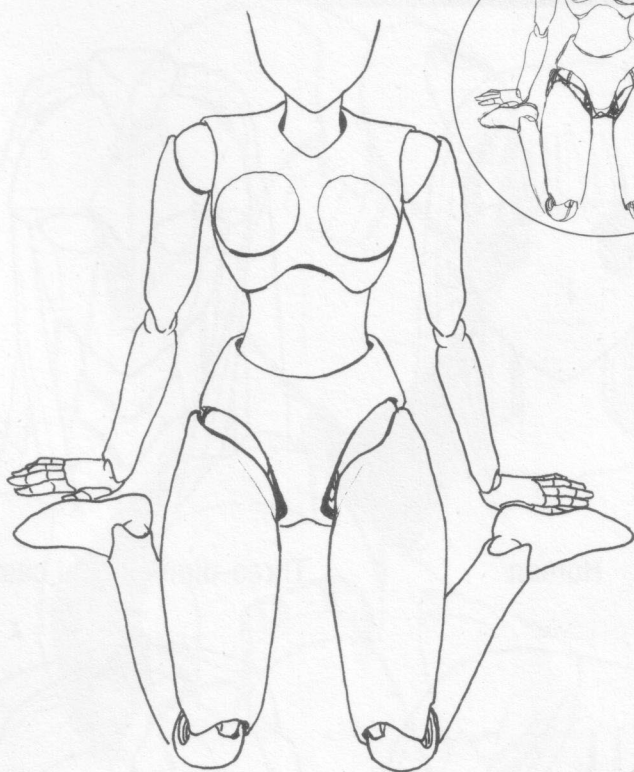


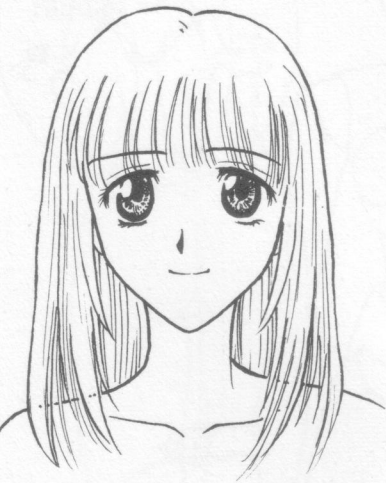
Cubic/armored type



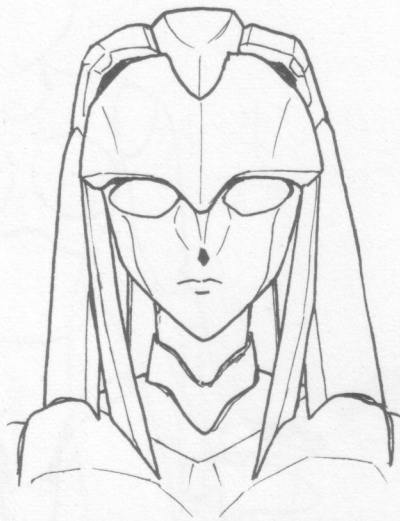
Mannequin/android type



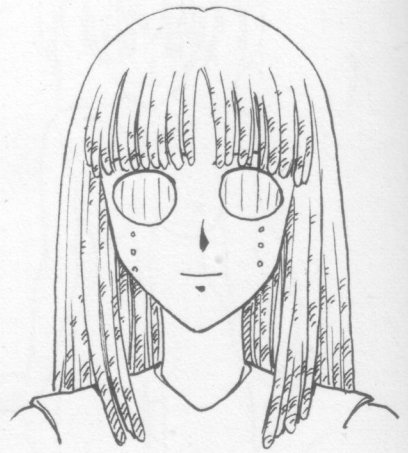




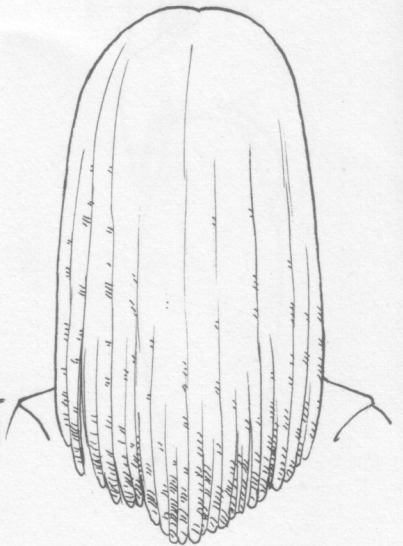
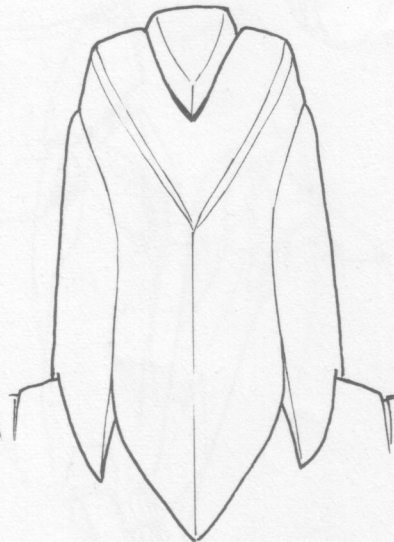
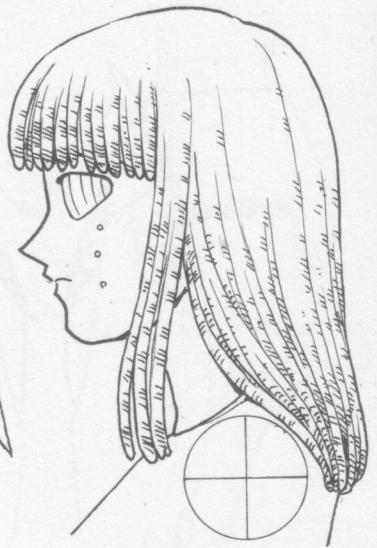
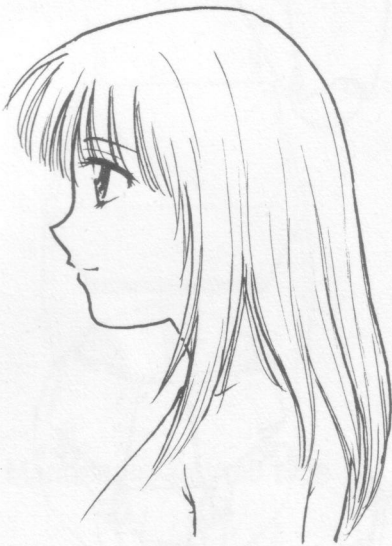
Human



Three-dimensional cast type



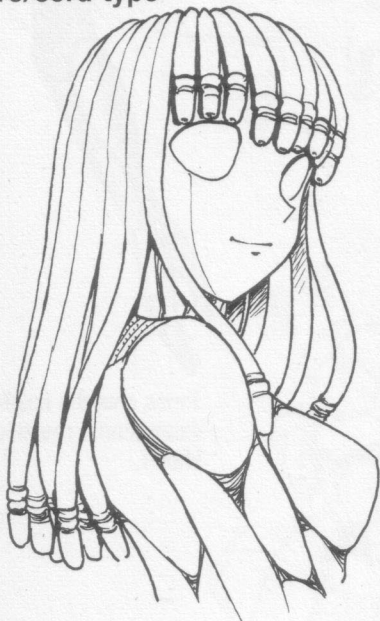
Wire/cord type



Human

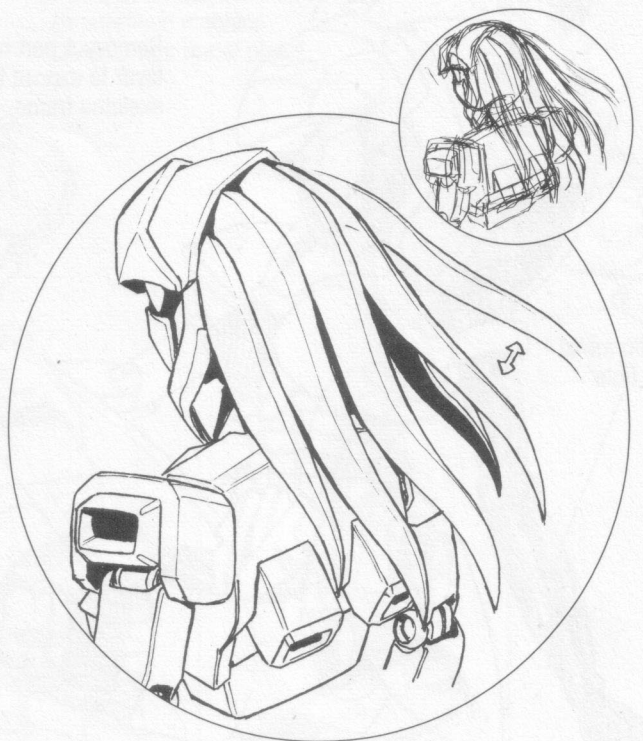


Wire/cord type



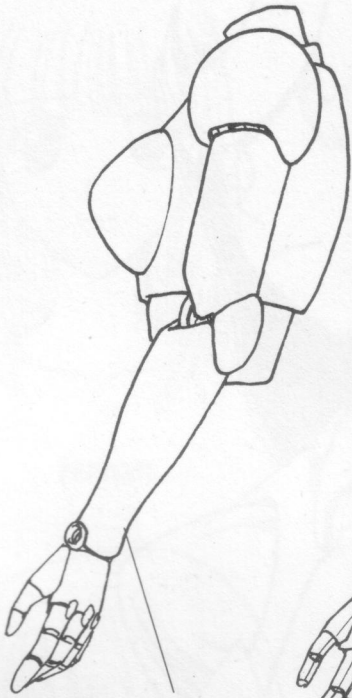
Three-dimensional cast type

Movable block type



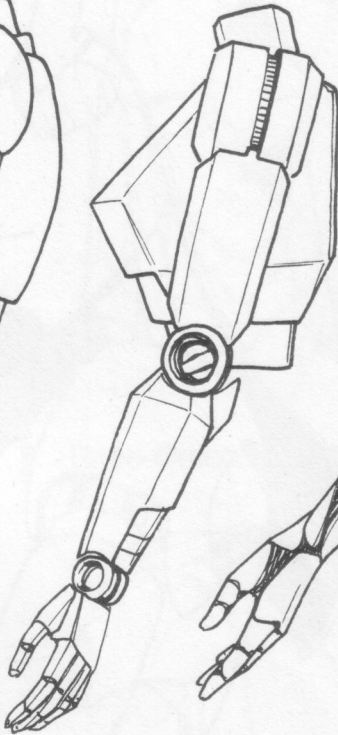
Designing Body Parts

Mannequin block type

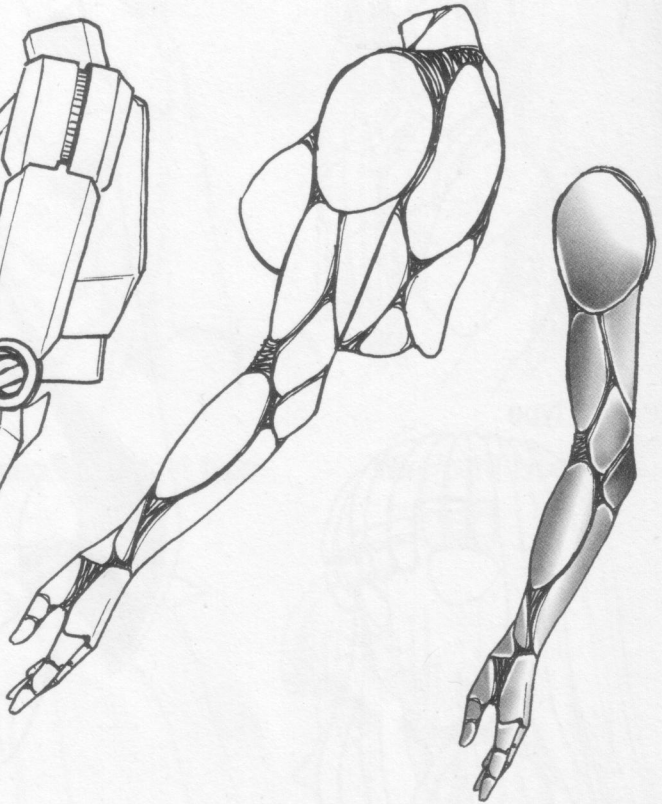


Think of a metallic cylinder.

Robot-like prism type

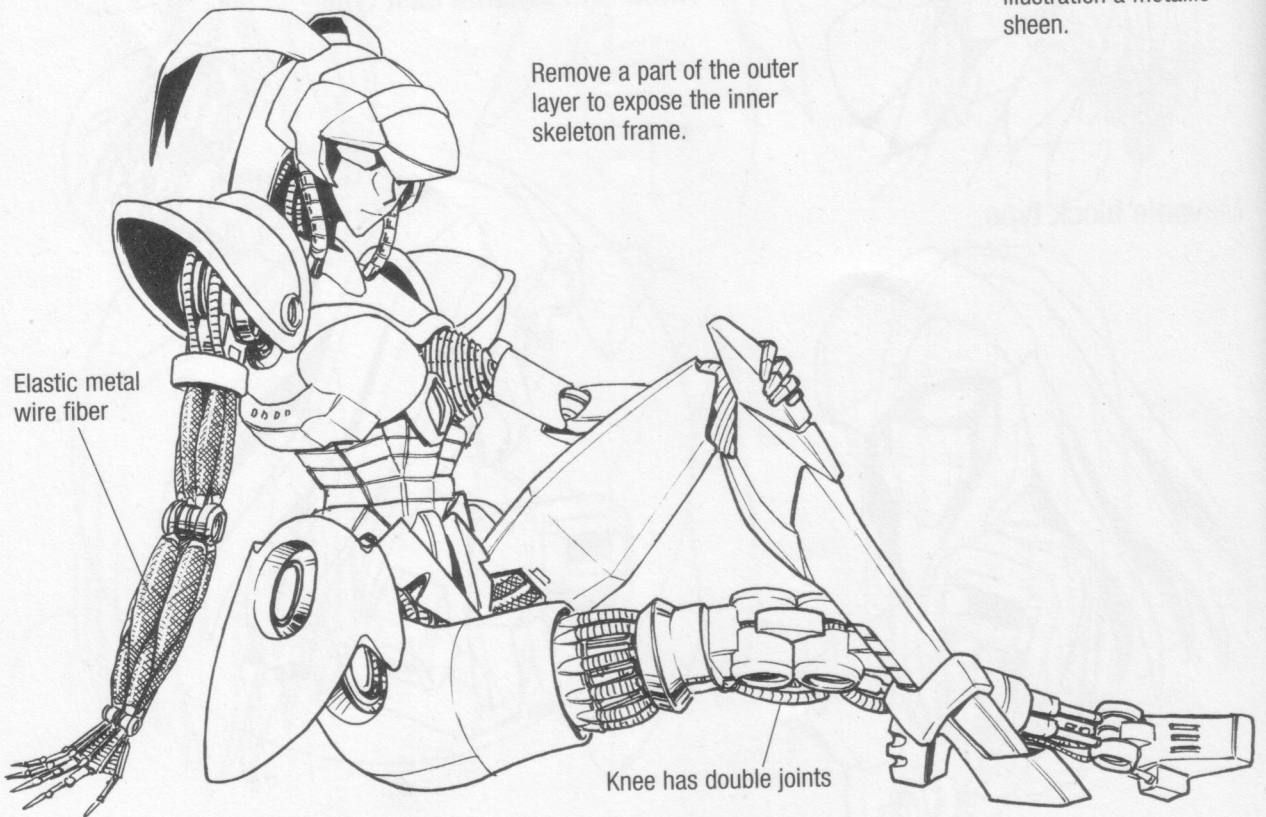


Metallic muscle type



Tones give the finished illustration a metallic sheen.

Remove a part of the outer layer to expose the inner skeleton frame.

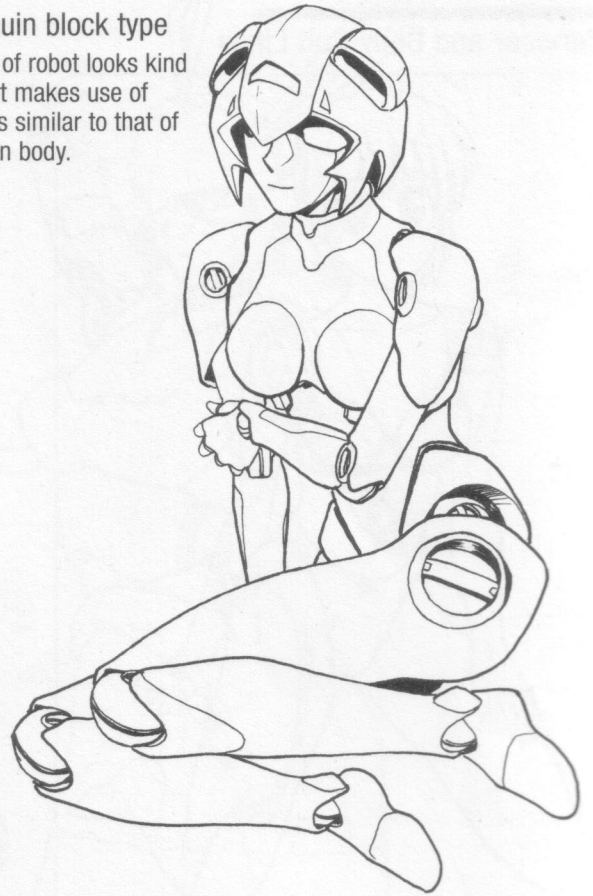


Elastic metal wire fiber

Knee has double joints



Mannequin block type
This type of robot looks kind because it makes use of roundness similar to that of the human body.

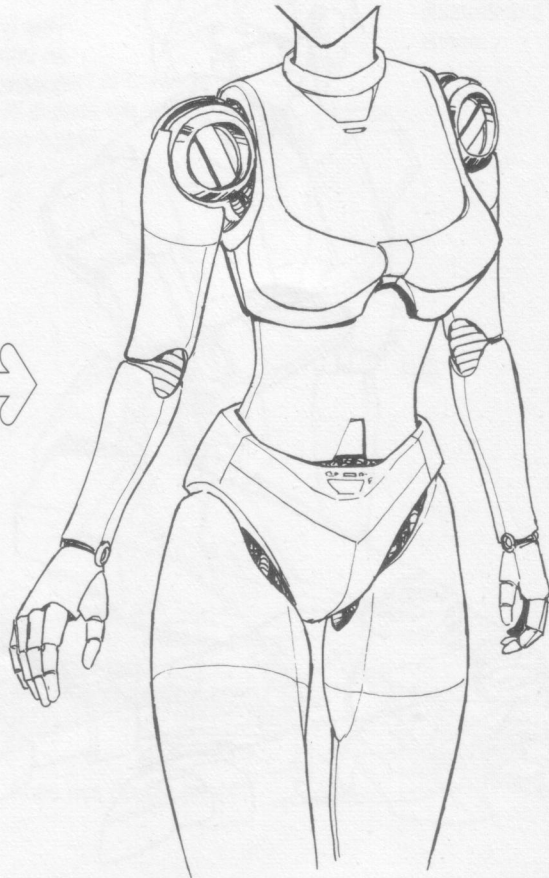
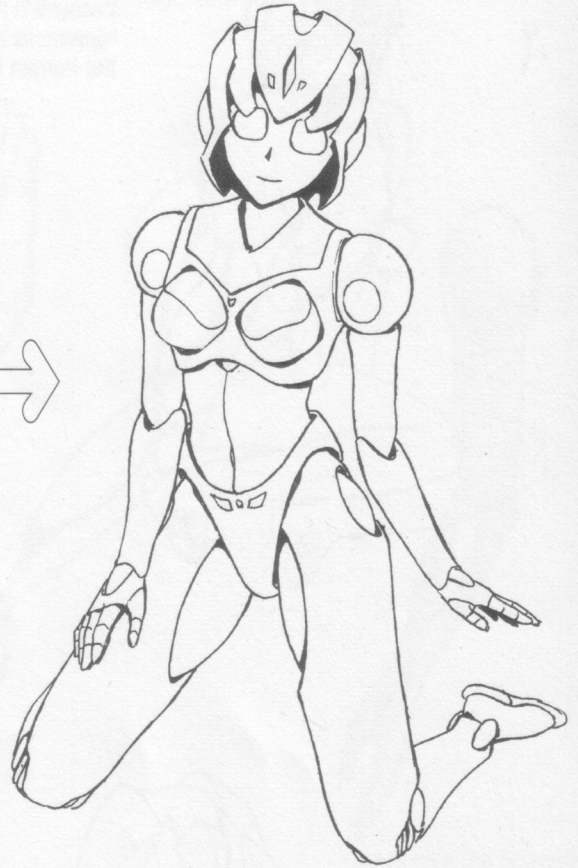


Robot-like prism type
This type of robot looks like an unrefined machine covered with metal plates.

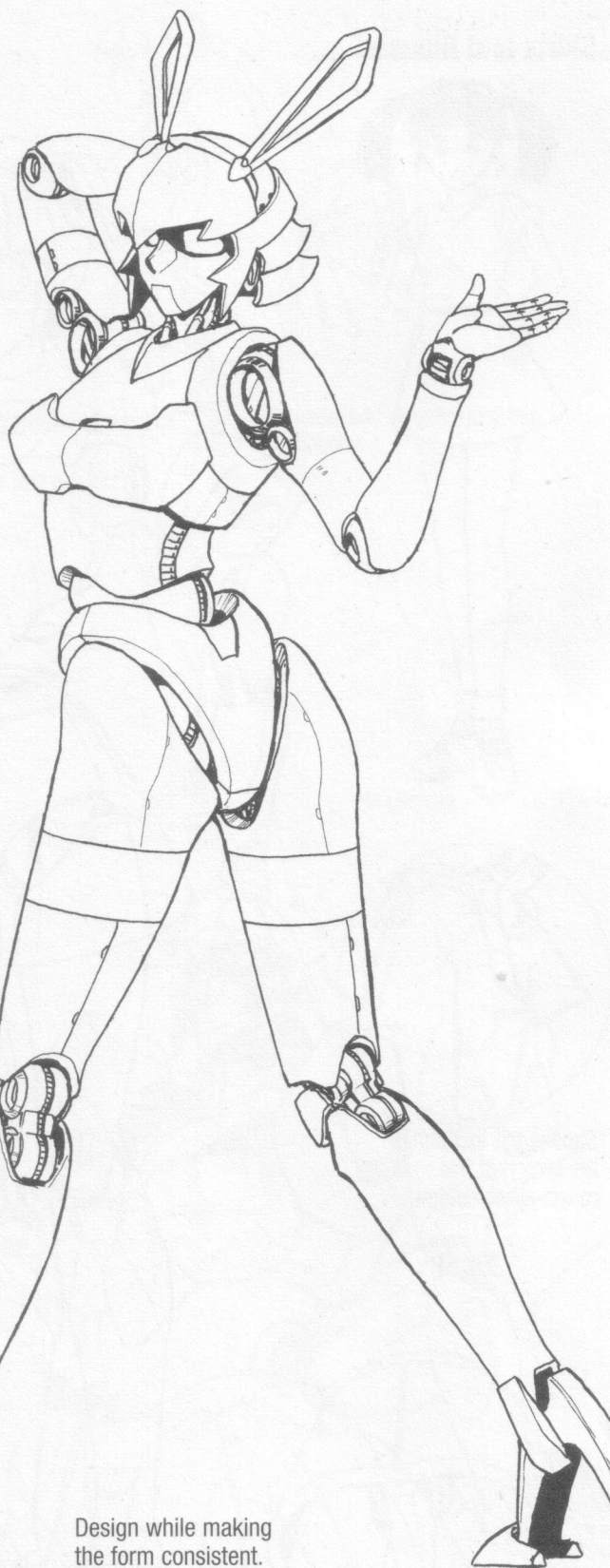
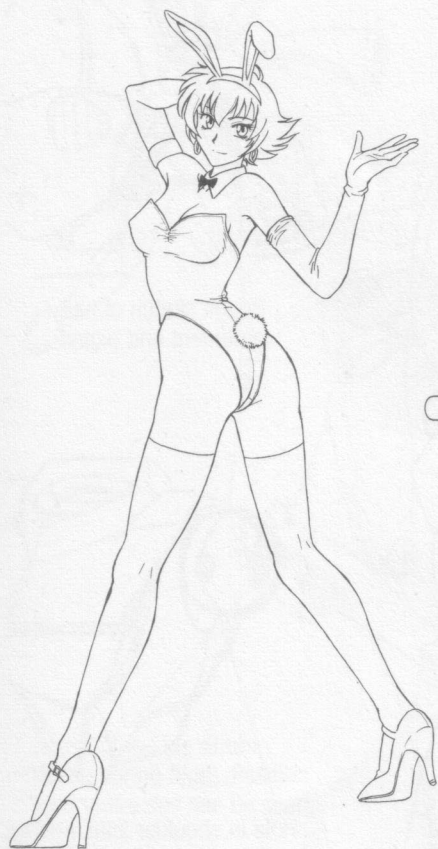


Design Based on Fashion

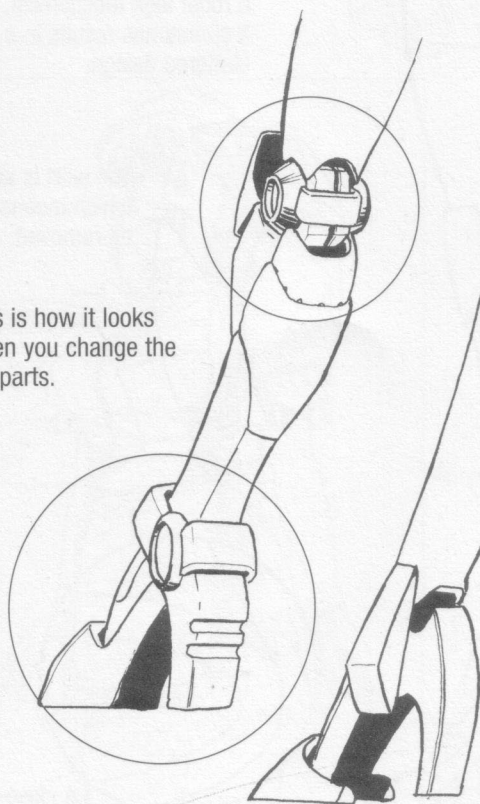
Underwear and Body Suit Lines



Bunny Girl Motif

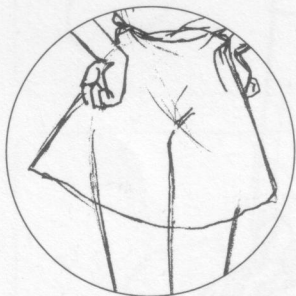
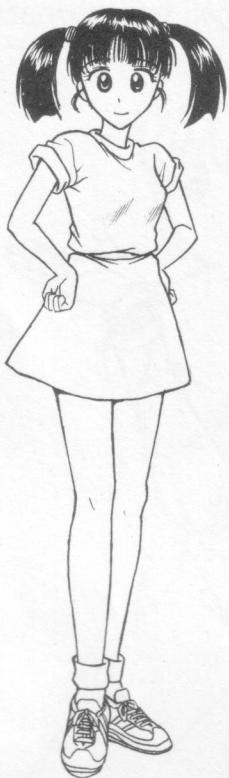


This is how it looks when you change the leg parts.

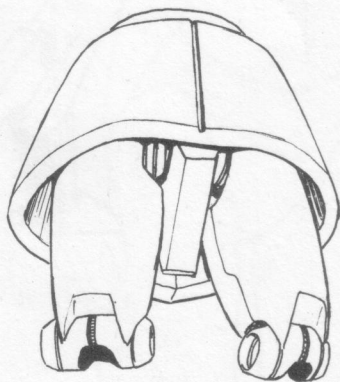


Design while making the form consistent.

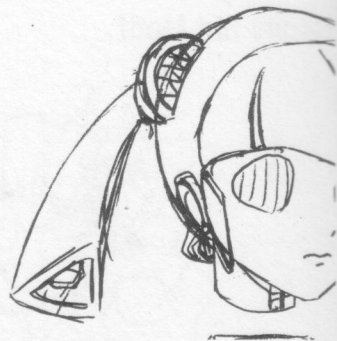
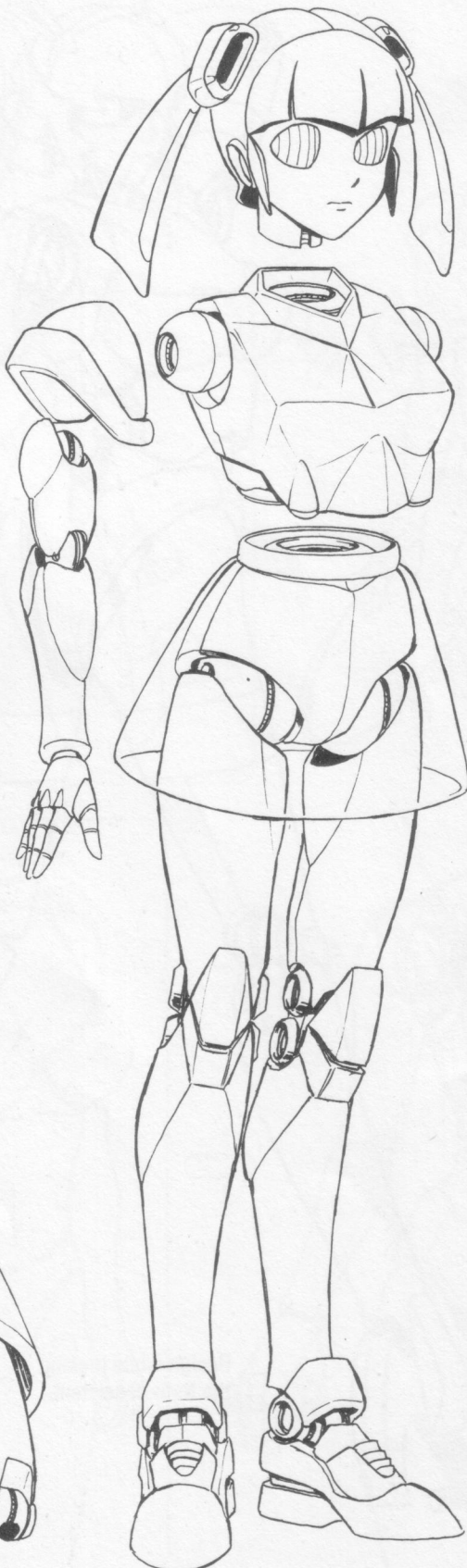
Skirts and Blouses



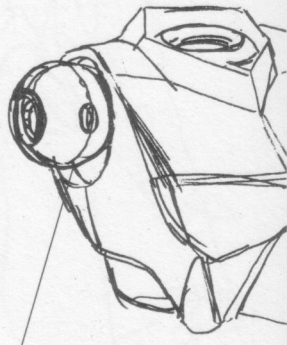
Choose the location of the crotch at the rough-sketch stage.



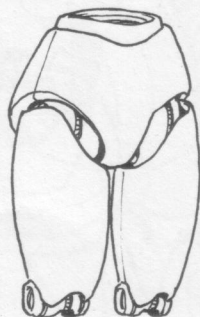
In this type the skirt and hips are solid.



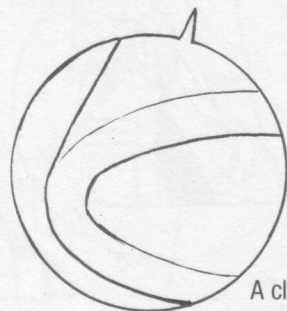
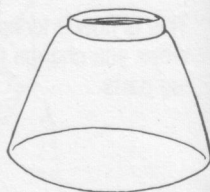
Rough sketch of hair ornament and pigtail



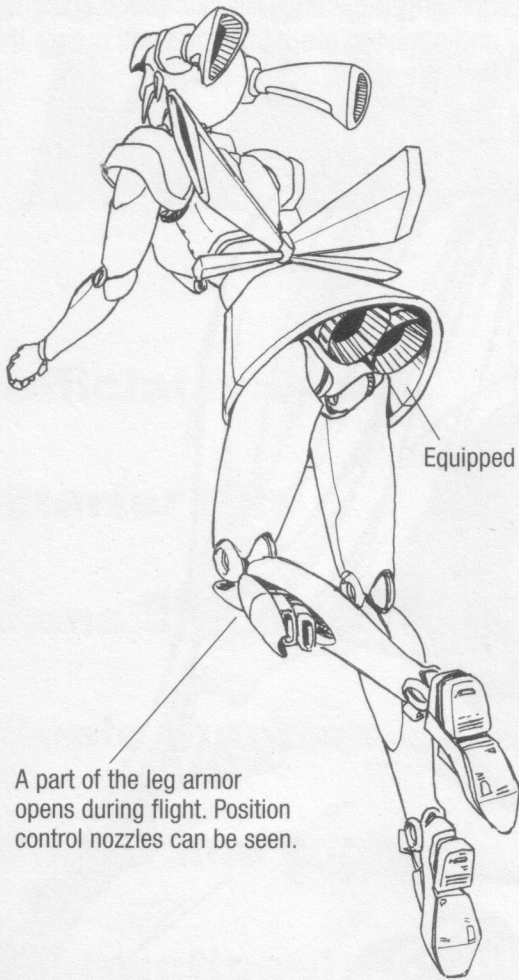
Hole in shoulder joint. Adding holes is a technique to make a robot look mechanical, but it sometimes results in a cluttered design.



The skirt is an option, which means it can be removed.

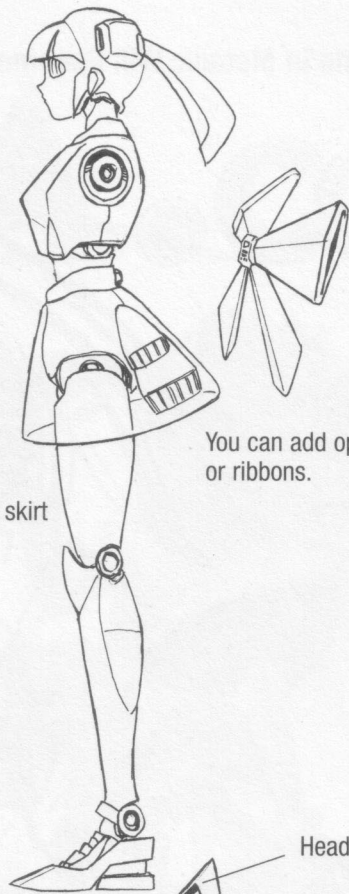


A close-up reveals the thickness of the metal.



A part of the leg armor opens during flight. Position control nozzles can be seen.

Equipped with jets in skirt



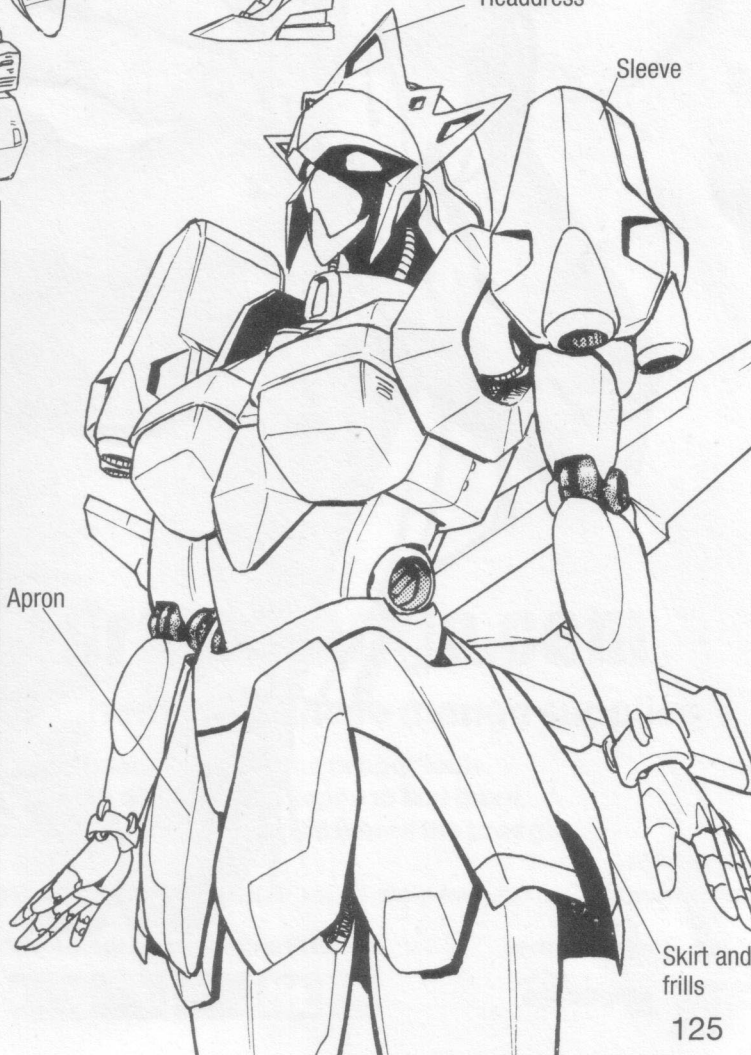
You can add optional pigtails or ribbons.

Headdress

Sleeve



A robot based on a maid outfit will become a maid robot.



Apron

Skirt and frills

A Character Done in Metallic Will Become a Robot. Drawing reflections on skin (solid shading) and applying gradation tone will create the feel of a robot.



Original illustration



HOW TO DRAW MANGA.COM

Official books

Starter kits

Pens and nibs

Copic markers

Tones and tools

Instructional videos

Japanese manga paper

Artists' bulletin board



www.howtodrawmanga.com

Your official source for authentic Japanese manga supplies

To master the art of manga, you need the proper tools.
But you don't have to travel all the way to Japan to find them.
Shop online at www.howtodrawmanga.com. It's where the pros go.

2-8-102 NAKA-CHO, KAWAGUCHI-SHI, SAITAMA 332-0022 JAPAN • PHONE/FAX +81-48-259-3444 • EMAIL sales@japanime.com

Guaranteed Worldwide Delivery



We Accept All Major Credit Cards



Secure Online Shopping





www.howtodrawmanga.com