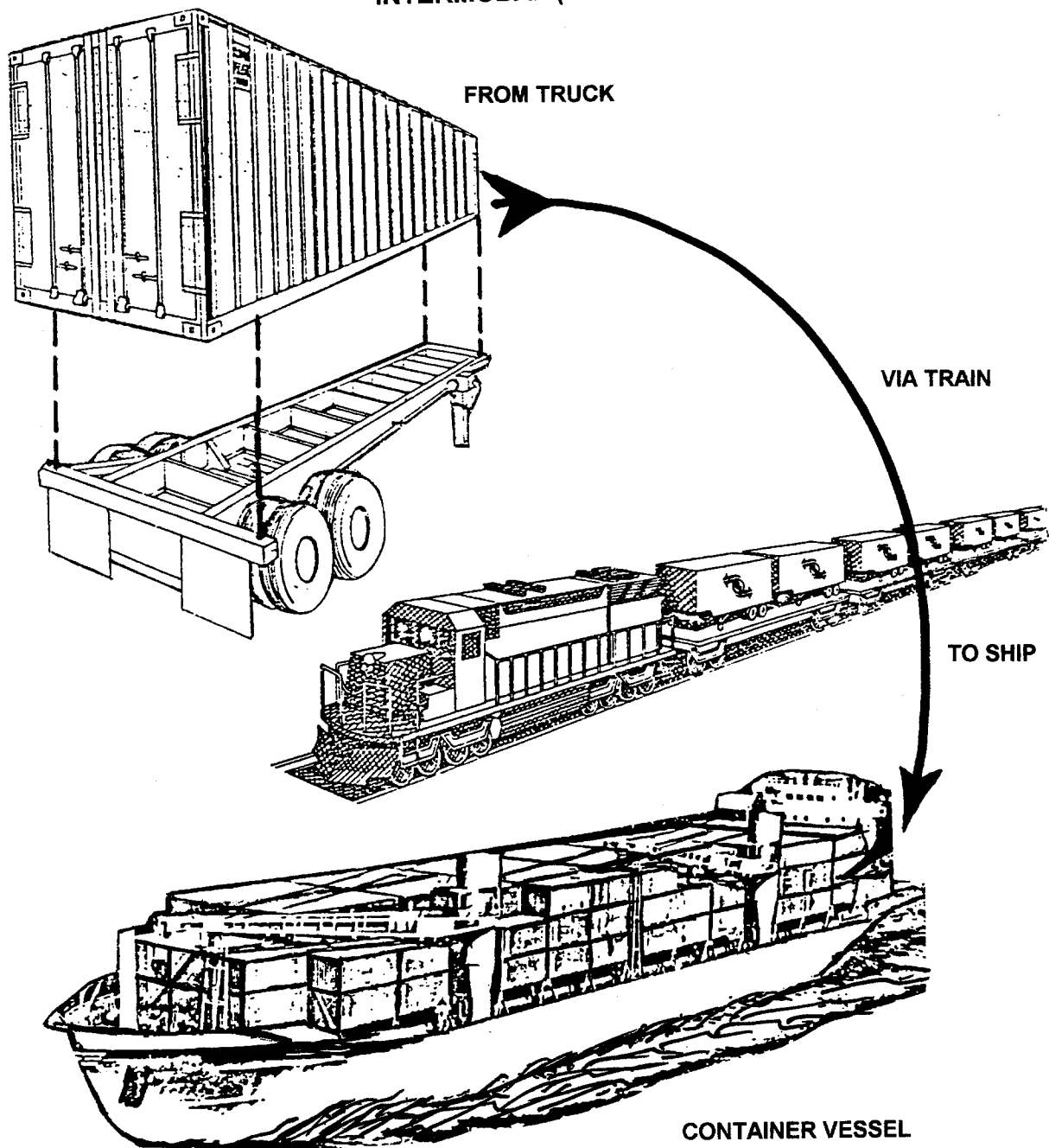


# APPENDIXES

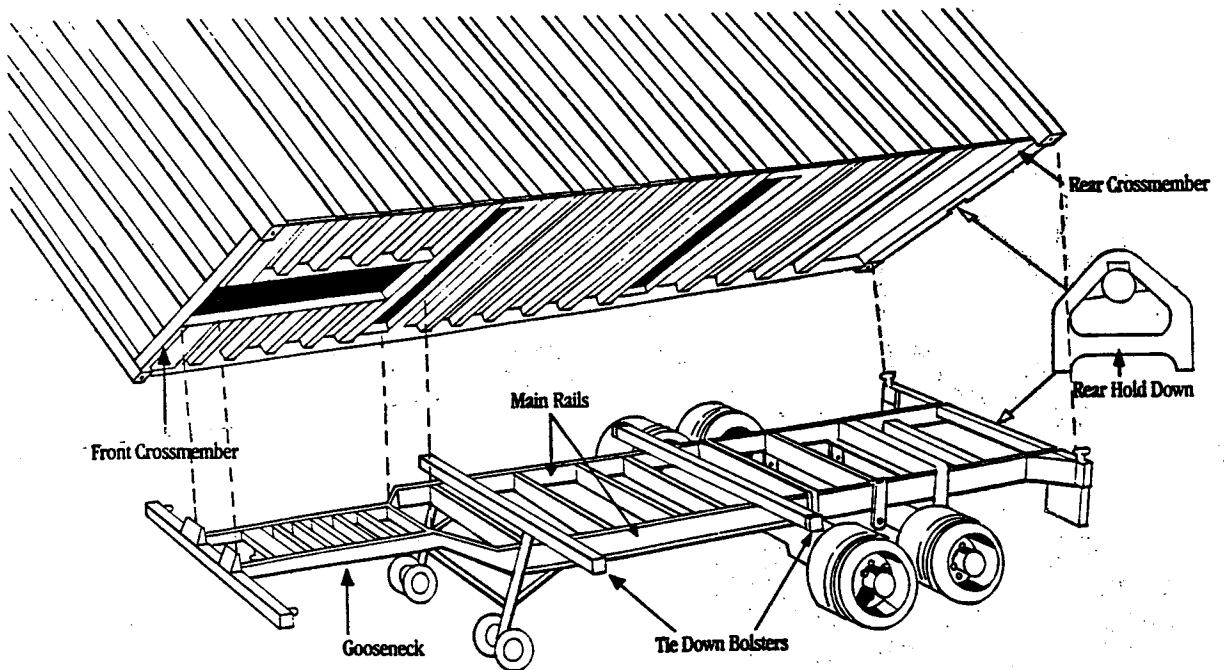
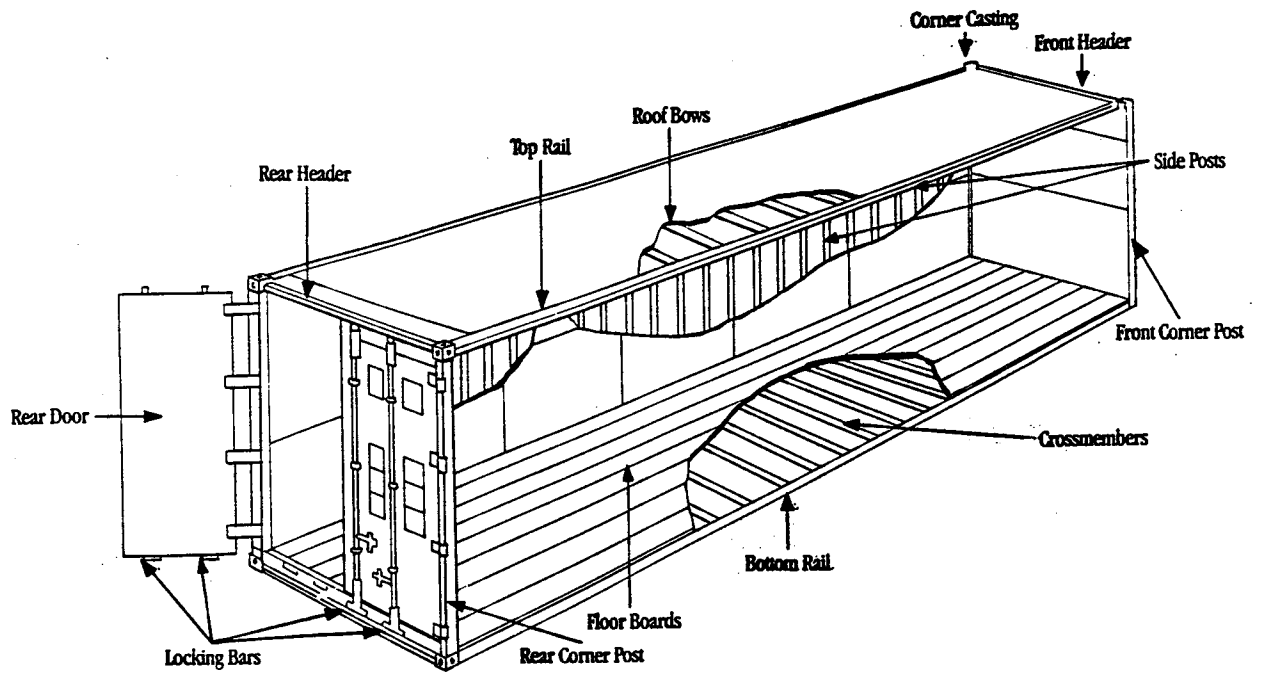
<b>A. CARGO PACKING</b>	
• INTERMODAL (MULTIMODAL) SHIPMENTS	Page 104
• PARTS OF A CONTAINER	Page 105
• CONTAINER TYPES	Page 106
• PACKAGE TYPES	Page 108
• A BASIC GUIDE TO PACKING	Page 112
<b>B. SEA LANGUAGE ARTICLES</b>	
• "SEA LANGUAGE WASHES ASHORE"	Page 127
• "WORDS that WALKED the PLANK"	Page 134
<b>C. TIME ZONES of the World</b>	
• Introduction	Page 140
• World Map	Page 141
<b>D. WEATHER WARNINGS</b>	
• BEAUFORT WIND SCALE	Page 142
• HURRICANE SCALE	Page 143
• WEATHER ADVISORIES	Page 143
<b>E. WEIGHTS AND MEASURES</b> and Conversion Tables	Page 144
<b>F. VESSEL TYPES AND DESCRIPTIONS</b>	Page 147
<b>G. CARGO TERMS OF SALE</b>	
• Three sets of Definitions	Page 175
• Comparison Chart of Various Definitions	Page 176
• American Foreign Trade Definitions -1941	Page 177
• Diagram of American Foreign Trade Definitions –1941	Page 178
• INCO Terms 2000	Page 180
• Diagram of INCO Terms 2000	Page 182

## APPENDIX A - CARGO PACKING

### INTERMODAL (MULTIMODAL) SHIPMENT

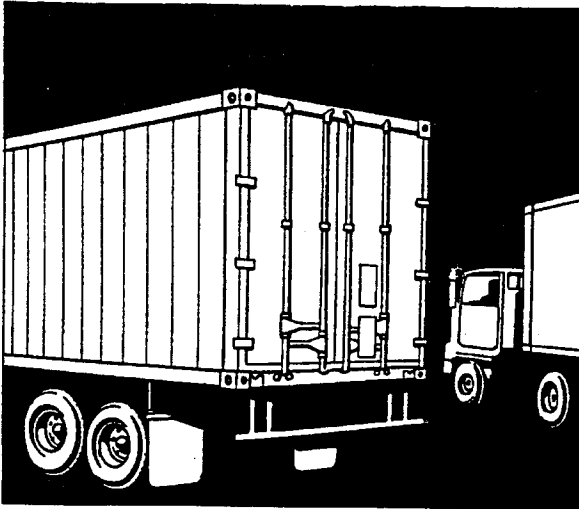


## PARTS OF A CARGO CONTAINER

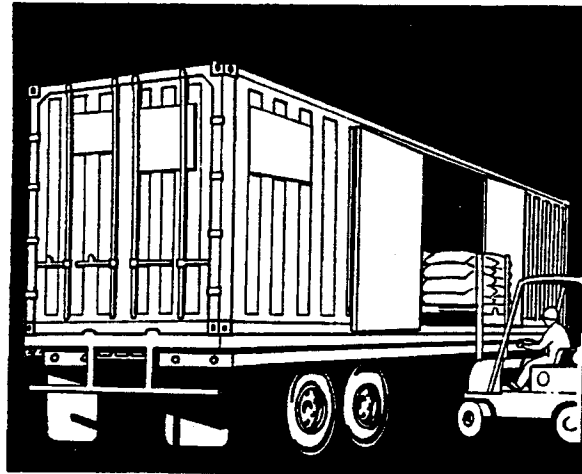


## PARTS OF A TRAILER / CHASSIS

## APPENDIX A (continued) - CONTAINER TYPES



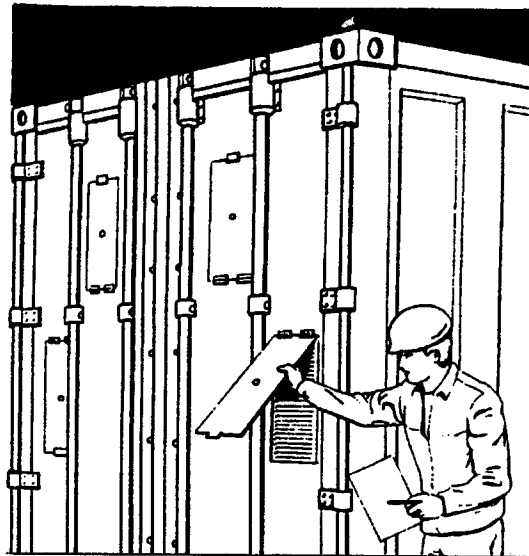
**End loading,  
fully enclosed**



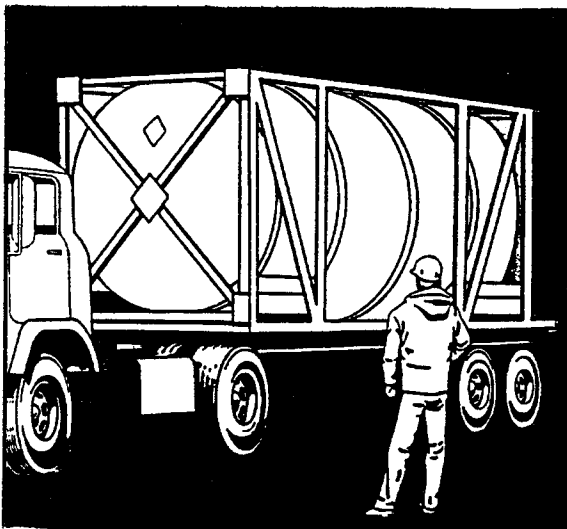
**Side loading,  
fully enclosed**



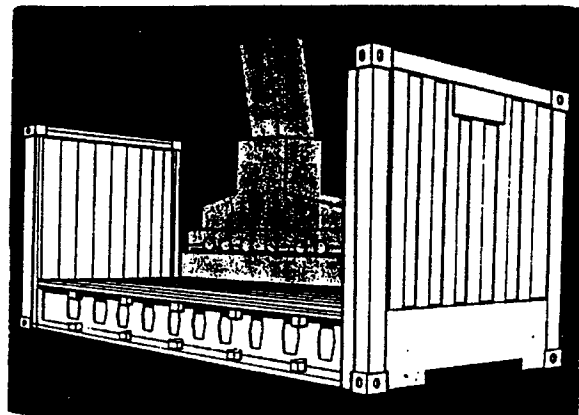
**Refrigerated**



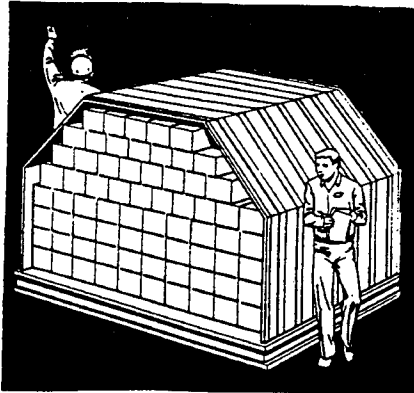
**Ventilated**



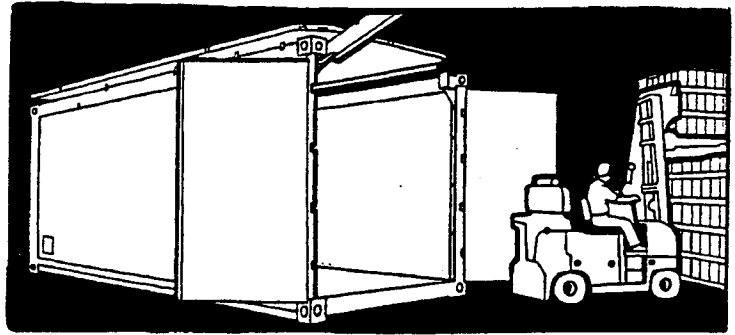
**Liquid bulk**



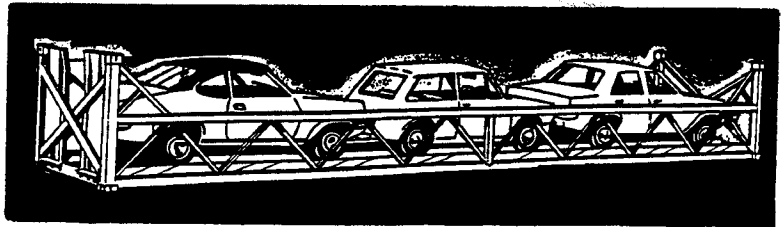
**Flat rack**



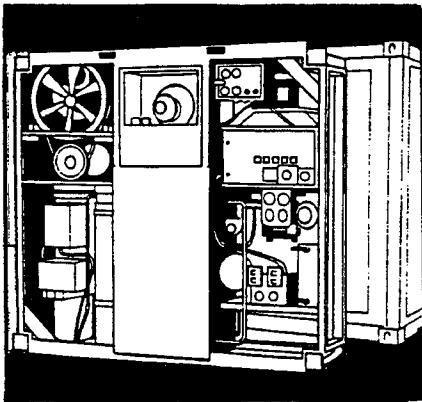
**Airline Igloo**



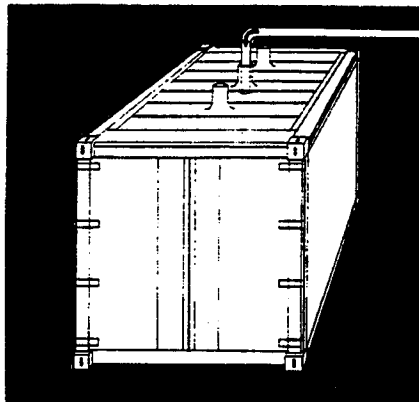
**Open top / hard top**



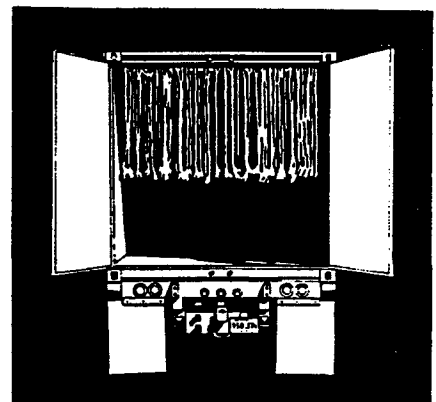
**Auto**



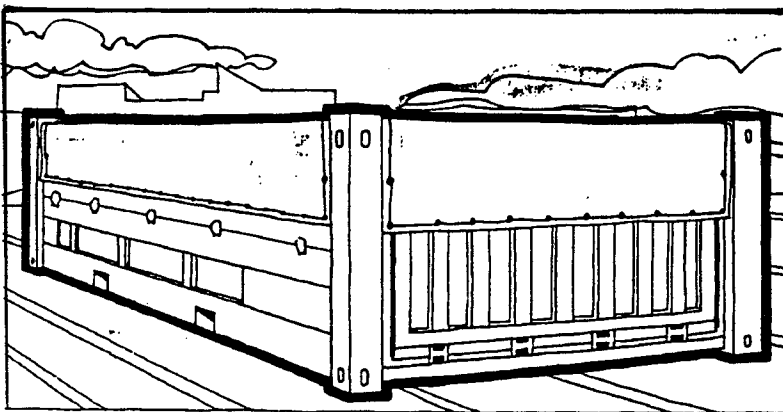
**Controlled atmosphere**



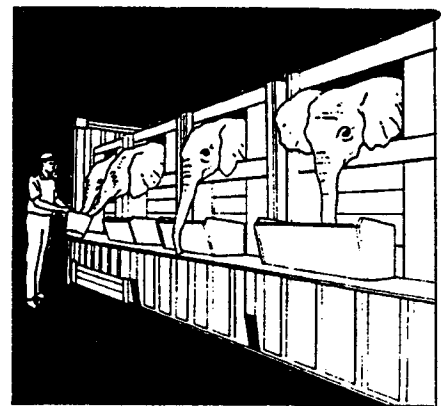
**Dry bulk**



**Garment**



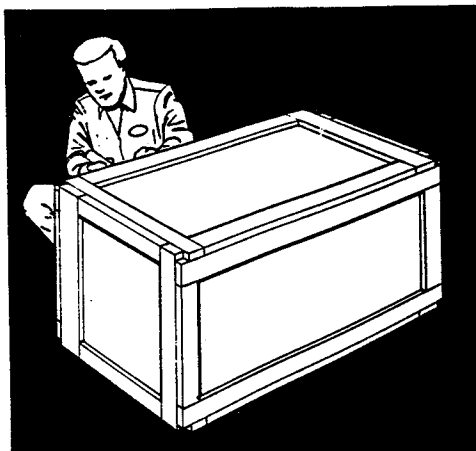
**Open top**



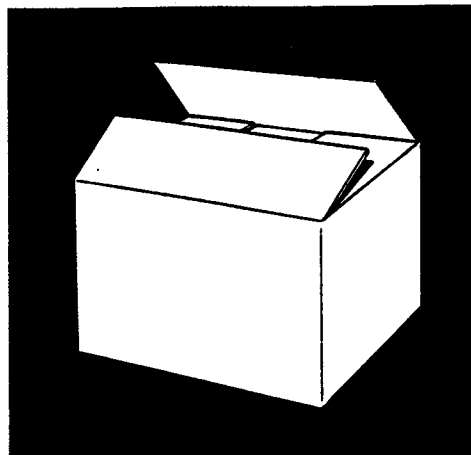
**Livestock**

## APPENDIX A (continued) - PACKAGE TYPES

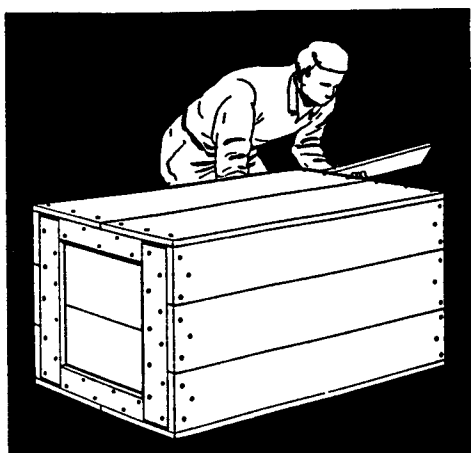
CLEATED  
PLYWOOD BOXES



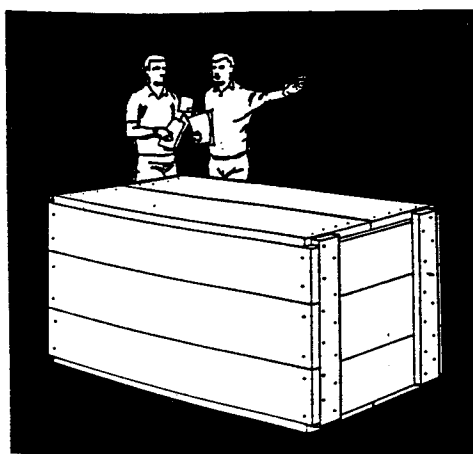
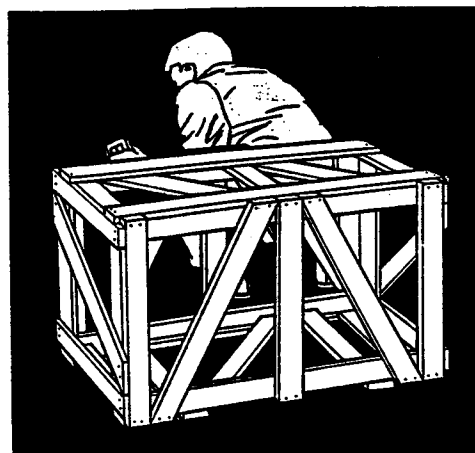
FIBREBOARD BOXES  
(CARTONS)



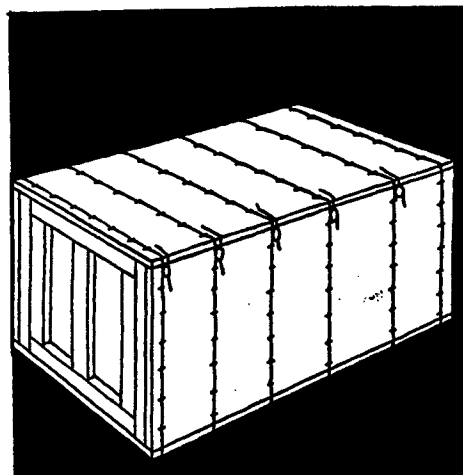
NAILED WOOD BOXES



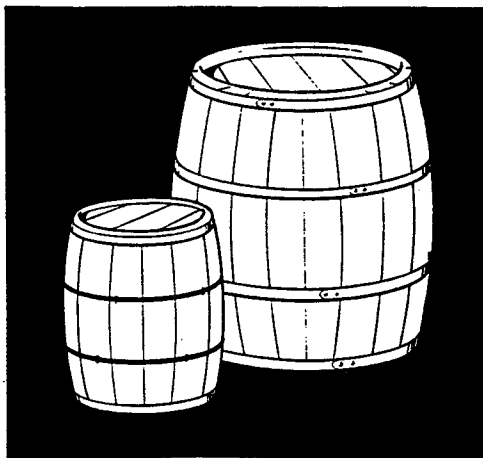
CRATES



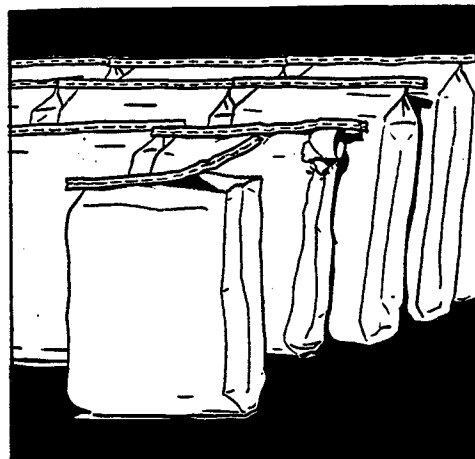
WIREBOUND BOXES  
AND CRATES



**BARRELS,  
CASKS OR KEGS**



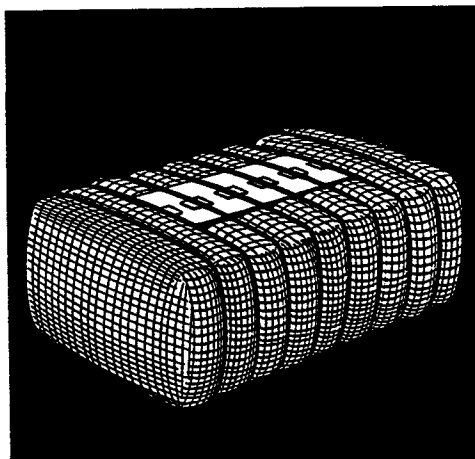
**MULTI-WALL  
SHIPPING SACKS**



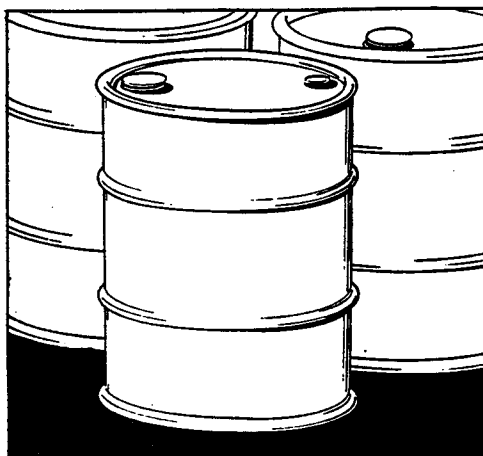
**FIBRE DRUMS**



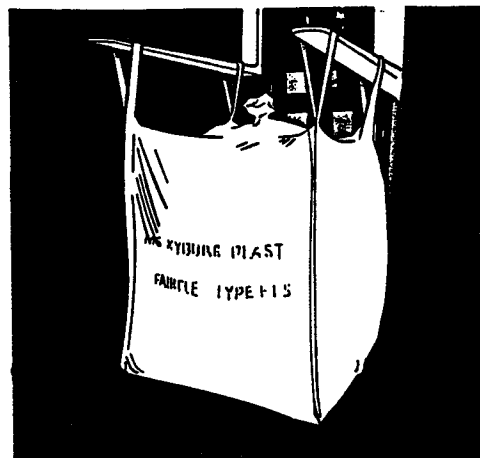
**BALES**



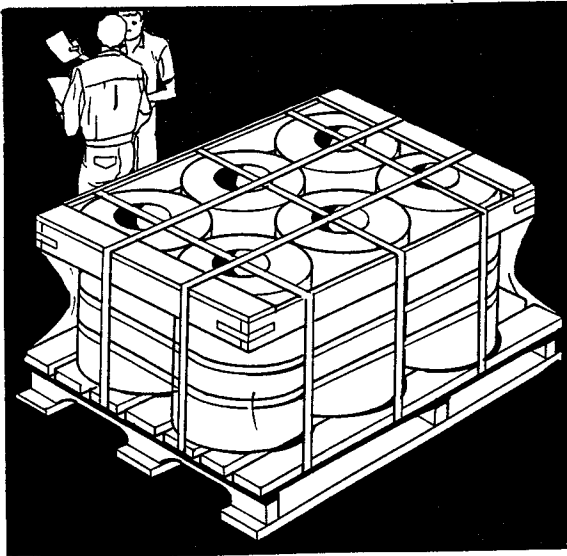
**STEEL DRUMS**



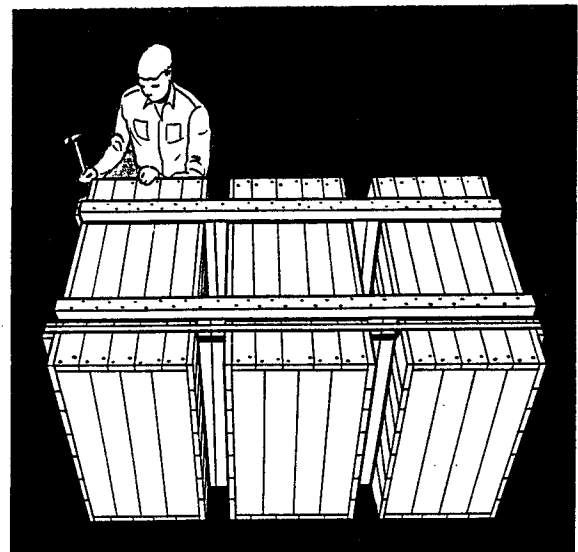
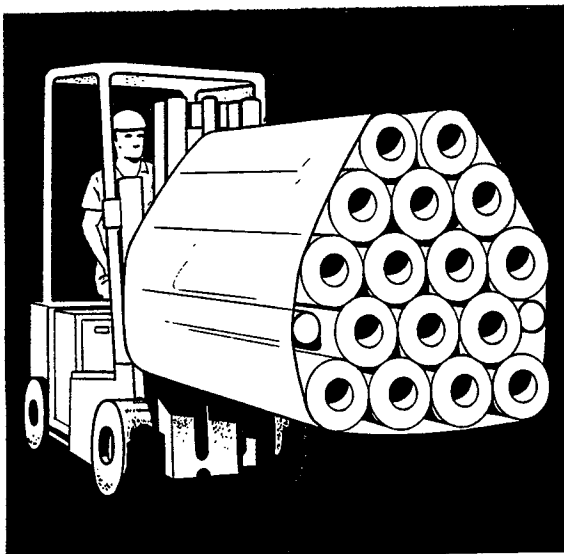
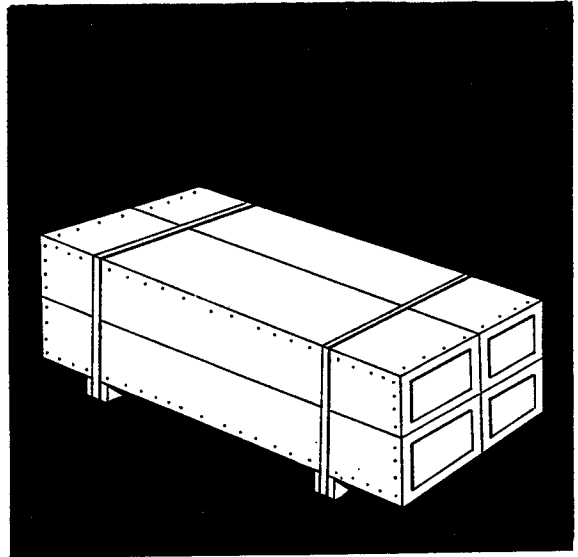
**Flexible intermediate bulk container**



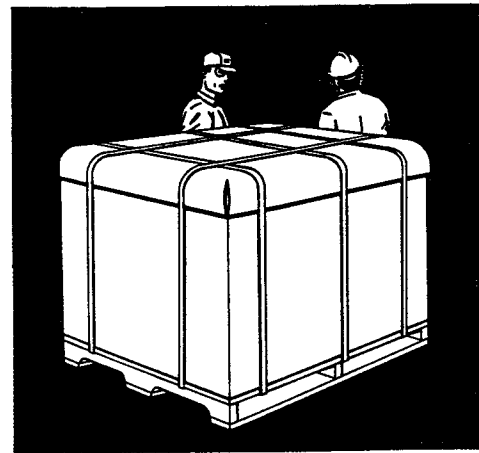
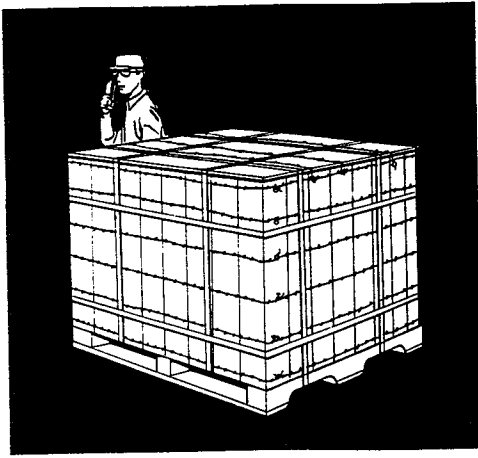
PALLETIZED & UNITIZED SHIPMENTS



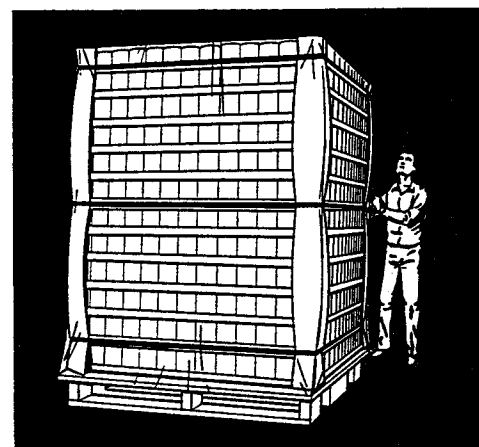
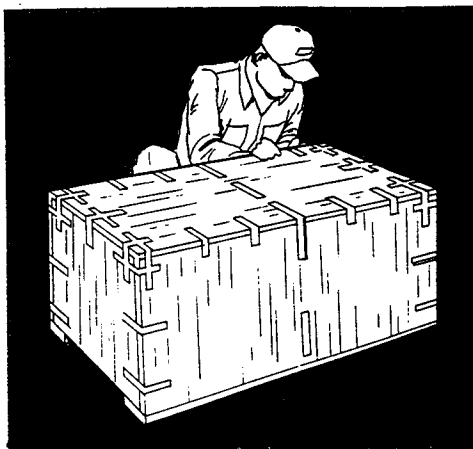
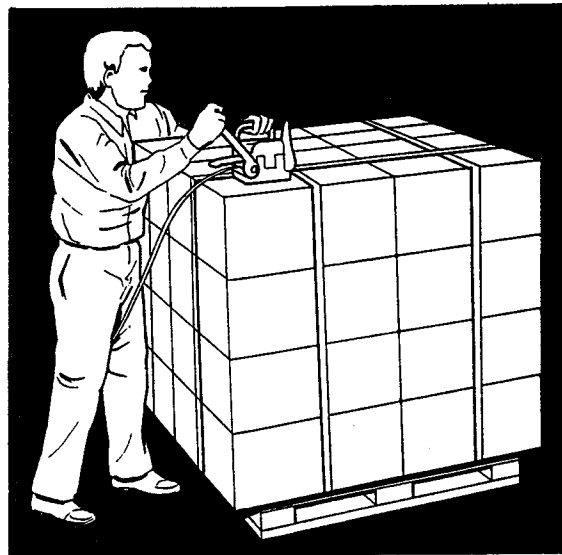
Shrink wrapped







**Palletized consolidation container**



**Shrink film overwrap of palletized load**

## APPENDIX A (continued) - A BASIC GUIDE TO PACKING

### PLAN THE STOW

#### OBSERVE WEIGHT LIMITATIONS

Do not exceed rated capacity of container or barge.

Do not exceed permissible weight concentrations per square foot of deck.

Check highway weight-axle limitations on both sides of the ocean voyage because some containers have total capacities which exceed local permissible limits.

#### DISTRIBUTE WEIGHT EQUALLY

Avoid concentrating heavy weights at one side or one end.

Stow heaviest items on the bottom.

Heavy, dense items should be boxed, crated or placed on cradles or skids to distribute weight.

#### AVOID MIXING INCOMPATIBLE CARGO

Cargo which exudes odor or moisture should not be stowed with cargo susceptible to tainting or water damage.

Items with sharp projections or of awkward or unusual shape should be segregated from other cargo by boxing, crating, padding or use of partitions.

Cargo subject to leakage or spillage should not be stowed on the top of other cargo.

#### OBSERVE HAZARDOUS MATERIAL REGULATIONS

Consult with carrier for regulations and restrictions on shipping:

- combustibles
- explosives
- flammable liquids
- flammable solids
- gaseous material
- radioactive material
- magnetized material
- corrosives
- poisons
- oxidizers
- etiologic agents

After receiving information from carrier, proceed as follows:

Label and mark hazardous material properly. (See *Hazardous Materials* section.) Affix warning placards to container exterior. Note that placards vary throughout the world. What is acceptable at origin may not be in compliance with enroute or destination countries' regulations. Check before shipment to avoid embargo or delay.

Record the nature of the cargo on all shipping documents.

#### HAVE ALL CARGO AND MATERIALS READY BEFORE STOWAGE BEGINS

This facilitates proper placement, stacking, and weight distribution. Additionally, it precludes removal of cargo already stowed to accommodate unexpected items and permits installation of blocking, bracing and filling of voids as stowing operations progress.

#### PLAN FOR EASE OF UNLOADING

Stow cargo in reverse order of desired cargo discharge.

Be sure that cargo for multiple consignees is physically separated by partitions, dividers, or other suitable means.

Make sure that forklift openings in pallets or skids face doors.

Provide lift clearance at top of container for items to be handled by forklift.

Fill the voids, but avoid wedging or jamming cargo in container.

#### COSMETIC DAMAGE

The exterior packing of your commodity is often the first representative the consignee sees of your company. A package showing exterior damages, although perhaps only cosmetic in nature, can cause loss of market, poor shipper/consignee relationships, and more importantly cause the goods to be rejected and/or not paid for even though the commodities inside may arrive without damage. Repackaging commodities can be very costly as well as time consuming.

Cosmetic damages can be prevented by referring to the *Basic Packing Guide* section of this booklet. Remember, the appearance of your product is in many cases as important as the product itself.

### DUNNAGE AND STOWAGE MATERIALS

#### LUMBER

Should be clean and dry (not above 19 percent moisture content).

Most common sizes used as dunnage and for bracing are nominal 2" x 4" and 4" x 4".

Should be free from significant splits.

Use as filler, decking, blocking, bracing, and for constructing partitions/dividers.

#### PLYWOOD

Should be clean and dry.

Use for partition faces, dividers, auxiliary decking, and blocking in limited spaces.

#### INFLATABLE

Available in paper, fabric, rubber or plastic; in both reusable and disposable versions.

Use it for filling voids; light and medium duty bracing.

Be sure cargo facing inflatable dunnage will not cause punctures. Also, a check for sharp edges and/or protrusions of packaging, pallet or containers, etc. must be made.

#### PATENTED SYSTEMS

Various patented cargo control and dunnage systems are available. Pre-built partitions, shelves, straps, laminated liner board bulkheads, and dunnage bars facilitate stowage and securing of cargo.

#### FIBERBOARD

Available in sheets, rolls and in prescored structural shapes for light-duty bracing.

Use sheets for dividers, decks, partition facings and auxiliary decks.

Use rolled fiberboard sheets (solid or corrugated) for linings or facings and for filling voids.

#### STRAPPING

Heavy duty metal strapping is used to separate cargo units and for tying down heavy or awkward items.

Nonmetallic strapping is used to separate and tie down light cargo units.

Nonmetallic strapping has only a fraction of the strength of similar steel material and would not resist shearing on a sharp edge as well. Furthermore, it will stretch as much as nine percent under heavy loads.

Metal and plastic straps must be firmly anchored and properly tensioned. Be sure not to puncture container panels when attaching strapping anchors. The use of corner (anti-chafing) pads is recommended.

### STOWING THE CARGO

#### FIBERBOARD BOXES

Fiberboard boxes containing tightly packed, dense items which support sides and ends of the box are stowed using the "bonded block" method.

Fiberboard boxes containing lightweight or fragile items which provide little or no support to the box surfaces are stowed by stacking directly one atop the other. This method takes advantage of the vertical rigidity of the side walls and corrugations in each box.

Use plywood or lumber dunnage, or fiberboard dividers as auxiliary decking sheets to segregate tiers of different sized fiberboard containers.

Provide plastic or water-repellent shrouds over top and sides of load to protect against damage from water (ship's sweat or holed containers).

Use dunnage or pallets on the container deck to provide a condensate sump area, protecting lower tiers from moisture.

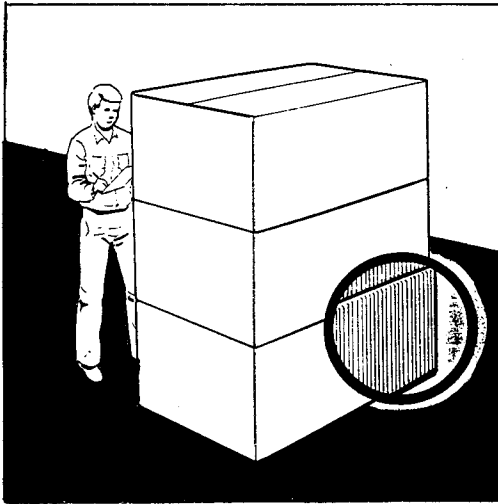
Fill all voids by bracing or using fillers to prevent sliding or shifting of cargo.

Fill end voids to prevent movement of cargo.

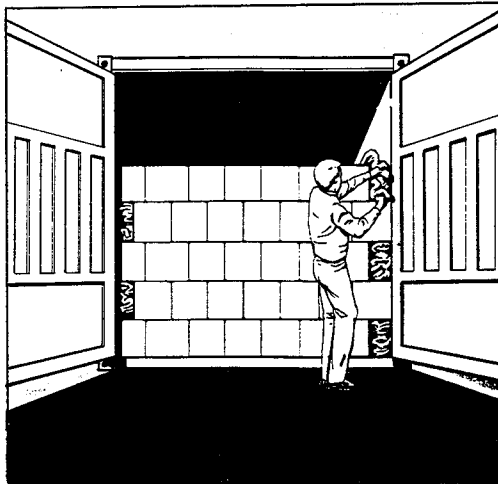
#### USE OF RETAINING OR DUNNAGE PAPER IN "BONDED BLOCK" STOWAGE

Use rough dunnage paper between stowage blocks of fiberboard containers with smooth exteriors to prevent sliding or shifting.

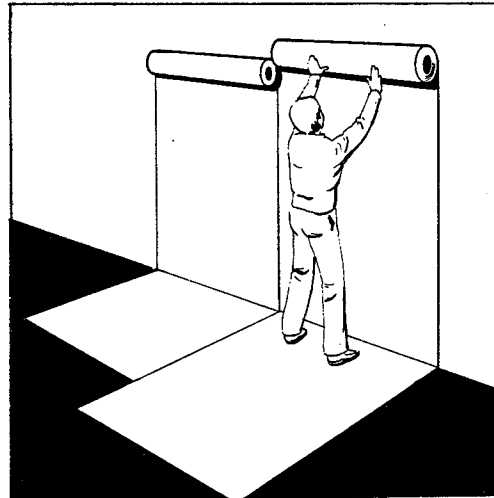
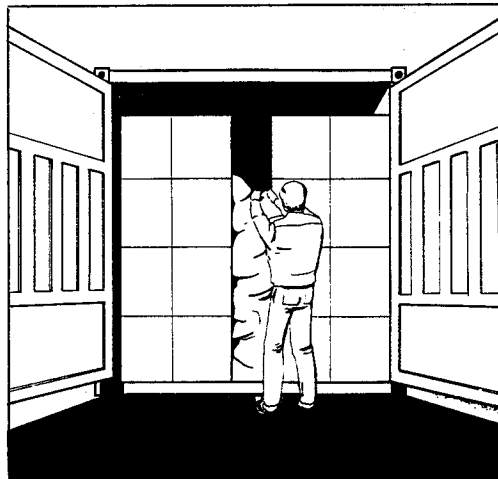
Vertical positioning of corrugated flutes provides best support for stacking.



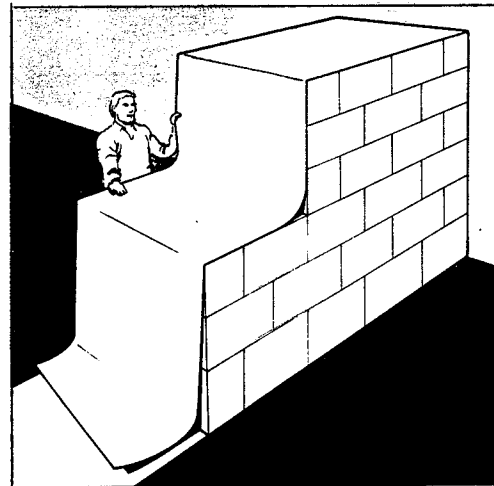
Fill end voids to prevent movement of cargo.



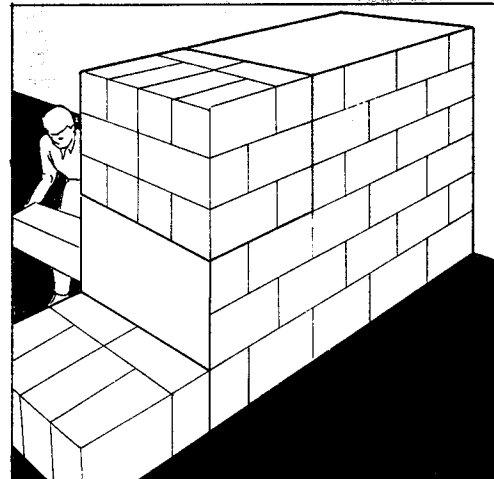
When stacking directly on top of lower boxes, keep voids at the center and immobilize by constructing partitions.



1. Roll paper along deck for a length equal to eight blocks of stowed boxes and then up end wall.



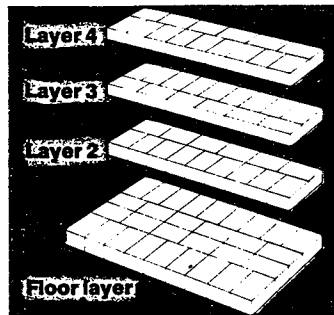
2. Stow first two blocks to full height of planned stow. Stow second two blocks to half-height. Release rolls and fold back over first two blocks; then down to and over second two blocks, and down to deck.



3. Complete stow of second two blocks; then anchor paper to deck by stowing third two blocks to half-height.

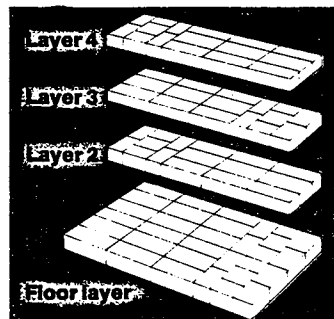
4. Repeat first, second, and third steps for continuation of load.

## BONDED BLOCK STOWAGE METHODS



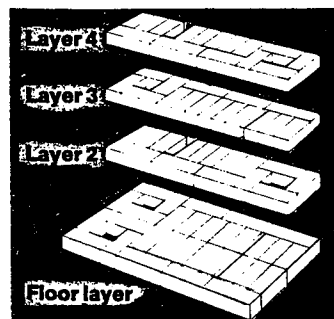
**PATTERN A**  
Alternating  
layers in each  
block are  
reversed.

Alternating  
blocks are  
reversed



**PATTERN B**  
Alternating  
layers are  
reversed

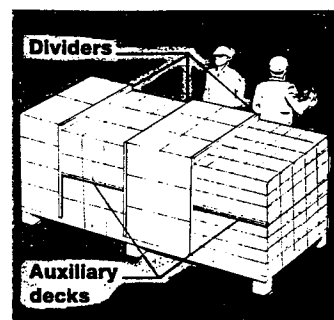
Blocks are  
identical



**PATTERN C**  
Alternating  
layers in each  
block are  
reversed.

"Chimney" is  
used to com-  
pensate for  
excess space,  
as are minor  
voids in each  
layer.

Alternating  
blocks less  
"chimney"  
end are  
reversed



Use of dividers  
and auxiliary  
decks to seg-  
regate cargo  
by type, size,  
or destination.

## WOOD CRATES

### WOOD BOXES AND CRATES

Crates of uniform size and weight should be stacked directly one atop another.

Separate groups of crates with different weights or dimensions by use of partitions, dividers, or auxiliary decking.

Fill voids at top, sides, or ends by use of partitions or fillers.

If large voids are present, block, brace, and tie down cargo to prevent movement in any direction.

When contents are susceptible to water damage, provide plastic or water-repellent paper shrouds over the top and sides of the load.

Use dunnage on container deck to provide sump area for condensate drainage if crates are not skidded.

When bracing crates, apply bracing to strength members only, not to panels or sheathing.

### MACHINERY AND HEAVY ITEMS

Distribute weight by proper placement and use of cradles or skids.

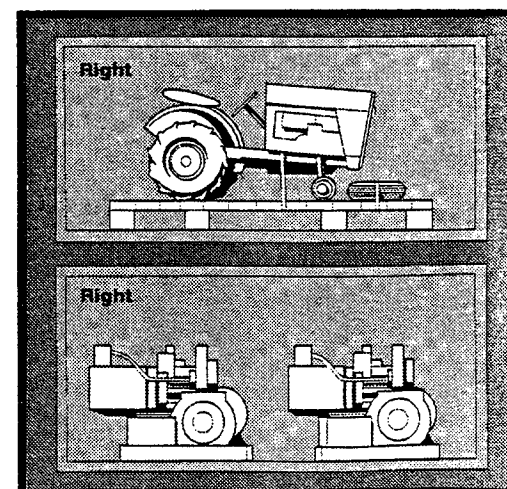
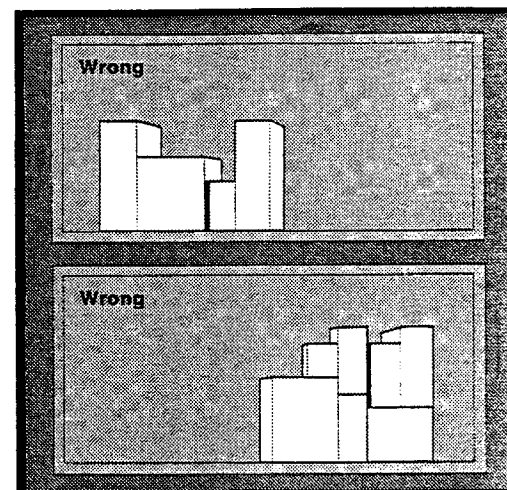
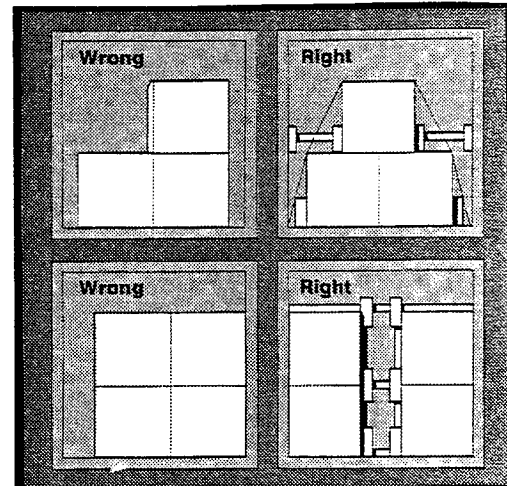
Use deck cleats and bracing to prevent lateral and fore-and-aft movement. Use the downs of metal strapping to prevent vertical movement.

Extremely heavy, dense items should be through bolted to the container deck. Consult with carrier or container leasing operator for approved method(s).

Top-heavy items should be shored and braced to prevent toppling. Do not brace against the side panels of the container. All bracing must bear on a structural member of the container.

Provide plastic or water-resistant paper shrouds over the top and sides of the item to prevent water damage.

Weight distri-  
bution—heavy  
loads.



### **BAGS, SACKS AND BALES**

Use "crosstier" method of stacking bags and sacks. (Refer to illustration.)

Use sufficient dunnage layer on container deck to provide sump area for condensate drainage.

Separate bags, sacks and bales from other cargo by using partitions or auxiliary decks.

When stowing bales, provide dividers between rows and tiers to prevent chafing and friction between metal bands or strapping.

### **LIQUID CARGO (DRUMS)**

Provide adequate dunnage on container deck to prevent leakage or spillage from damaging lower tiers.

Stow liquid cargo below the other cargo.

Separate liquid cargo from the other cargo by use of partitions and auxiliary decks.

Stow liquid cargo with containers full and bung holes up.

Use dividers to protect drum rims from chafing damage.

### **COMPLETING THE STOW:**

#### **Isolate Cargo From Container Doors**

Construct partition across rear of stowed cargo to prevent it from contacting doors and falling out when doors are opened.

**Provide Water Damage Protection**—Cover cargo adjacent to doors with plastic or waterproof paper sheets to protect cargo from possible leakage at door gaskets.

**Ventilated Cargo**—Be sure air flow in container is unrestricted and that vents are open and clear.

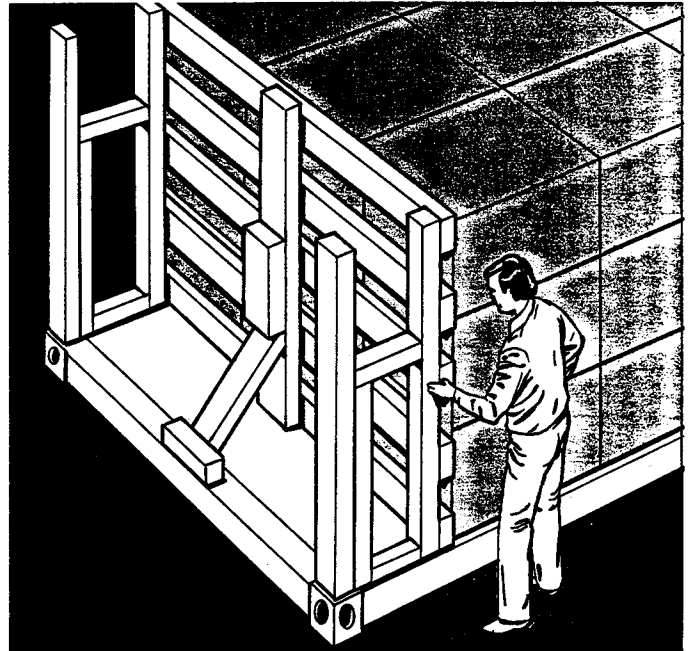
**Close and Seal Container**—Be sure all locking lugs are engaged.

Affix locks and seals. (On containers with side and end doors—be certain to check both.)

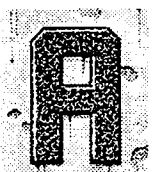
Record seal numbers and enter on shipping documents.



**Bags and sacks "crosstier" loading.**



**Bracing the completed load to prevent rearward movement.**



ir Cargo service has become more attractive to shippers as aircraft capacity, frequency of lifts, handling facilities, and the number of points served have been improved/increased.

Air cargo losses can be controlled with the shipper himself as the key figure in effective loss control. Recognition of the hazards involved, packing cargo to survive the toughest leg of the journey, and prudent selection of transportation services will assist the shipper in realizing successful, loss-free delivery of his goods.

Inadequate packing and improper marking of cargo are the leading causes of air cargo losses. It is these areas in which the shipper can effectively influence the sound arrival of his goods.

## THE AIR CARGO ENVIRONMENT HAZARDS:

### IN THE AIRCRAFT

**Acceleration/Deceleration**—Fore-and-aft pressures are exerted on cargo during takeoff and landing. Compression forces are exerted during rough landings.

**Turbulence**—Rough or “bumpy” flight conditions subject cargo to rapid alternating vertical movements, imposing heavier pressures one moment, and almost weightless conditions the next.

**Altitude**—As altitude increases, atmospheric pressure decreases, subjecting liquid cargo to leakage hazards and pressurized cargo to increased internal pressure.

**Temperature**—Aircraft cargo compartment temperatures normally range between 30°F and 70°F (–1°C and 21°C). If the aircraft is parked with cargo aboard in freezing or very hot weather, cargo will be subjected to unusual cold or heat conditions.

**Cargo Compartments**—The main cargo compartments of air freighters are normally well equipped for adequate stowage. Passenger aircraft belly compartments, however, are often loaded without provision for adequate restraint of cargo, permitting its movement during flight and inviting damage from adjacent cargo.

### IN TERMINALS

**Handling**—Many large terminals are equipped with conveyor systems and mechanical cargo handling gear, permitting rapid and safe movement within the terminal. Overcrowded conditions contribute to handling damage as facilities are overtaxed. Manual handling is common as cargo is stacked on pallets and in containers (“ig-loos”). In smaller terminal facilities, it is the rule.

**Storage**—Modern terminals are equipped with segregated security areas for high-value cargo, and some have cold storage (reefer) facilities for perishables. Terminals not so equipped are subject to increased theft, pilferage, and deterioration loss hazards. Overcrowded conditions may require storage of some cargo outdoors, exposed to the elements.

**Ramps**—Cargo is commonly exposed to the weather while enroute to loading ramps. If cargo transfer carts, pallets and containers are not adequately covered (tarped), water damage may result. High-value cargo is particularly susceptible to theft when not in the aircraft or the terminal.

**Security**—Security conscious carriers provide maximum physical measures to protect cargo from theft or pilferage. Restricting working areas to employees, applying modern locking and alarm devices, and enforcing strict cargo documentation procedures are examples. When these measures are not used, cargo security is jeopardized.

**Restricted Articles**—Only trained personnel should handle dangerous goods. Consult appropriate Hazardous Materials regulations, such as the IATA's Restricted Articles Guide.

### ON TRUCKS

Most cargo is delivered to both carrier and consignee by truck. Air carriers have only limited control over trucking firms providing these services.

Often, air cargo is stored in warehouses or on transfer docks before forwarding, increasing exposure to loss through theft, pilferage and handling damage.

“Hijackings”—the theft of entire truckloads of air cargo—continues as a serious problem in recent years.

### INSIST ON PROMPT PICKUP AND DELIVERY OF YOUR CARGO!

**This is the most effective means of reducing exposure to theft, pilferage and hijacking.**

### PREPARING CARGO FOR AIR SHIPMENT

**Pack For The Toughest Leg Of The Journey:** Truck or rail transport to air terminal, handling in terminals, stowing in aircraft, in flight, unloading aircraft, transfer to terminals, rail or truck transport to consignee.

**Cargo Should Be Packed To Withstand:** Stacking up to eight feet high, pressure from adjacent cargo, crushing action of tie-down straps, manual handling, exposure to the elements.

**Unitize, Palletize, Containerize to:** Minimize manual handling, reduce incidence of lost or stray items, limit exposure to theft and pilferage, minimize stowage damage, provide water-protective coverings which will accompany pallet and unit loads on entire journey.

### LIQUID CARGO

Do not fill containers completely—provide expansion space to compensate for temperature and/or pressure variations.

Be sure all caps, valves and seals are tightly closed.

Put orientation marks (arrows) on all sides of package.

### HAZARDOUS CARGO

Consult with your carrier to obtain the most recent regulations, restrictions, and labeling requirements. See *Hazardous Materials* section.

### LARGE, HEAVY, OR AWKWARD CARGO

Check with carrier to determine allowable aircraft floor weight concentrations.

Provide skids for ease of mechanical handling.

Check dimensions to be sure cargo will pass through aircraft loading doors.

Provide adequate locations for application of tie-down straps.

### WATER DAMAGE PROTECTION

Pack cargo in wooden crates with waterproof paper or polyethylene liners.

Line non-impregnated fiberboard boxes with waterproof paper or polyethylene.

Large items can be shrouded with polyethylene sheeting. Be sure there are drain holes in the base of the crate.

Use desiccants (moisture-absorbent materials) in conjunction with waterproof barrier wrapping when packing moisture-sensitive items. Use shrink wrap, stretch wrap or plastic shrouds on unit and pallet loads.

## PERISHABLE CARGO

Provide adequate package ventilation where required.

Furnish appropriate instructions (e.g., carrying temperatures, handling requirements, etc.) to carriers.

Use direct flights where possible.

Delivery and pick-up should be closely timed with aircraft departure and arrival.

## MARKING

Avoid marks and advertising which reveal that contents are of a valuable or desirable nature.

Apply appropriate coded identification marks to at least three sides of item.

Use international handling symbols.

Include handling instructions in both English and the language of the country of destination.

Use indelible inks and water-proof labels.

## AIR CARGO CONTAINERIZATION

Shippers can realize savings and minimize cargo loss by containerizing their air cargo shipments. Airlines encourage use of containers by providing special tariffs for containerized FAK (Freight-All-Kinds) shipments on many routes.

Certain commodities are excluded from air cargo FAK special rates. Consult with your carrier or forwarder for specifics on excluded items and on articles prohibited by IATA "Restricted Articles Regulations."

Air carriers prefer containerized shipments for a number of reasons:

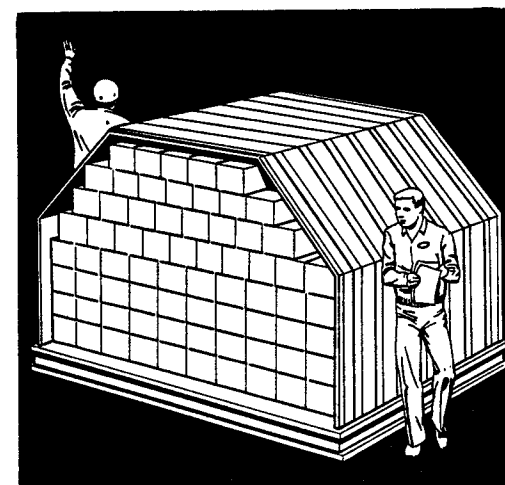
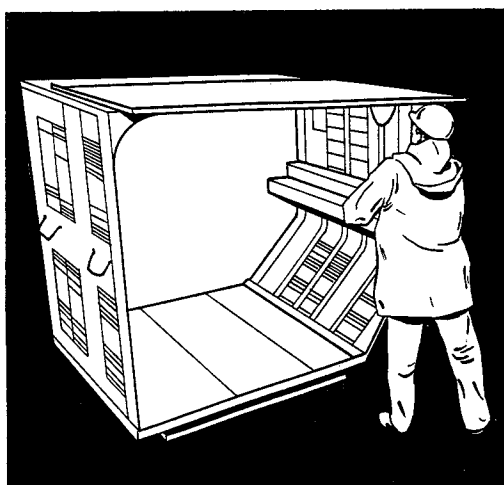
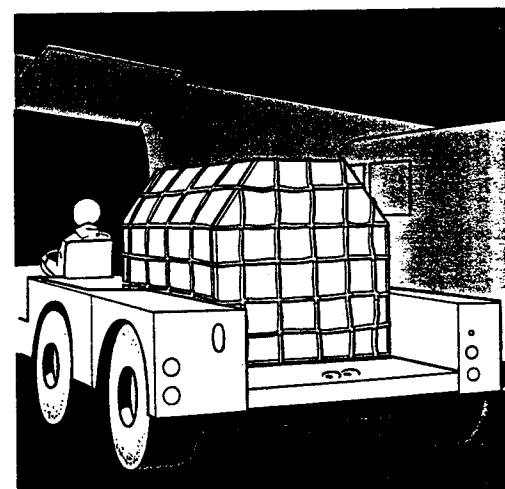
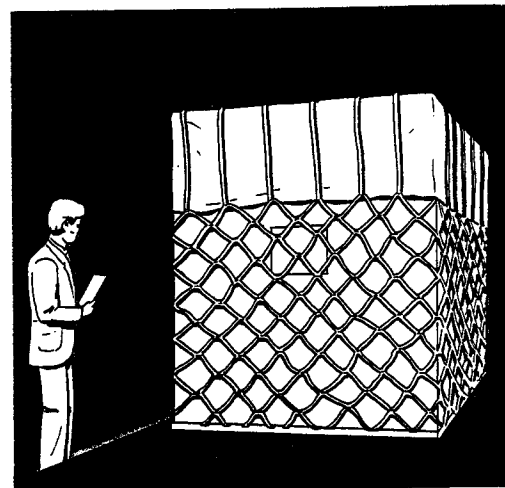
Reduces the number of individual pieces of cargo which must be handled in terminals.

Provides for most efficient use of cubic capacity of aircraft.

Permits use of mechanical handling systems and equipment to best advantage.

Speeds loading and unloading of aircraft.

Minimizes exposure of cargo to weather, theft, pilferage, and handling damage while in custody of the carrier.



## AIR CARGO CONTAINERS FALL INTO THREE BASIC CATEGORIES

**1. AIR CARGO PALLETS**—Designed for use with conveyor systems in terminals and in aircraft. The low-profile flat pallet is equipped with fittings for securing the pallet firmly to the aircraft deck.

Cargo is normally secured to the pallet by use of cargo nets, tightened over cargo by the application of tensioned straps.

Contoured, semi-structural covers called "igloos," "hulahuts," or "cocoon" are used with pallets to provide protection for cargo and keep cargo within safe dimensions for loading in aircraft. Igloos may be attached to the pallet by use of cargo nets over the exterior, or the igloo may be permanently attached to the pallet.

These containers may have one side (front) open, with cargo secured by nets or have metal or fiberglass removable doors which are capable of being sealed.

**2. LOWER DECK CONTAINERS**—Developed for use in the lower deck cargo spaces of high-capacity aircraft; they are fully structured and completely enclosed.

Cargo is loaded into the container which may be equipped with shelves for accommodation of small or irregularly shaped cargo.

The container doors of metal, fabric or a combination of both are closed and sealed.

Containers are locked directly into aircraft restraint systems

without need for nets or tie-downs.

Provide dunnage or shelving to prevent crushing of cargo into recessed end of lower deck container.

**3. BOX-TYPE CONTAINERS**—Developed in standard sizes to facilitate establishment of uniform shipping rates, they are used to consolidate shipments.

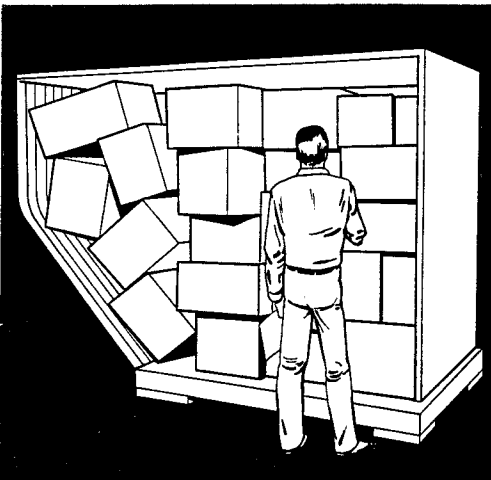
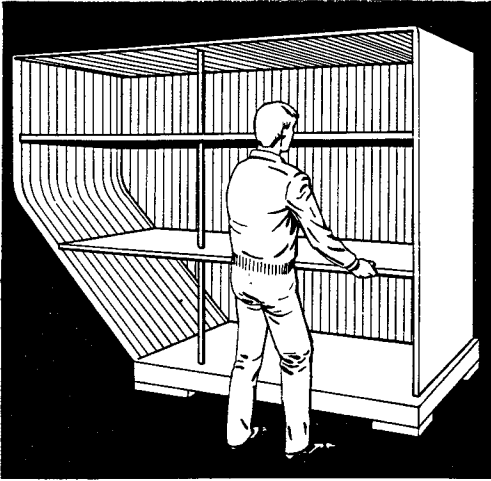
Available from various manufacturers, they may be purchased by the shipper or used by freight forwarders to consolidate the shipper's cargo into one easily handled and rated unit.

Constructed of wood, fiberglass, plywood, fiberboard, metal or combinations of these materials, all must conform to the basic standards prescribed by the Air Transport Association (ATA) for domestic use, or the International Air Transport Association (IATA) for international shipments.

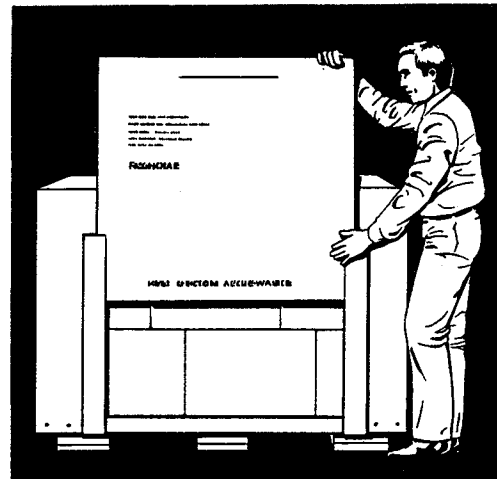
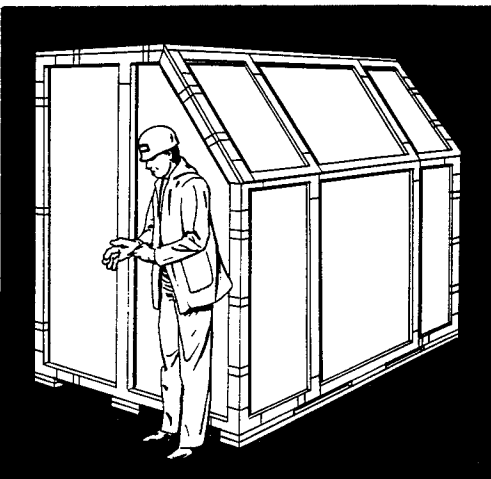
**Contoured Box**—(igloo configurations) are handled and loaded aboard aircraft in the same manner as the pallet-igloo combinations.

**Air/Land Containers**—Introduction of the 747-class freighter has permitted adding the air dimension to the intermodal container. Lightweight 20- and 40-foot containers permit land and air freight transportation without rehaling or reloading.

Square-sided box-type containers are normally loaded on pallet-igloo combinations by the carrier for stowage aboard the aircraft.



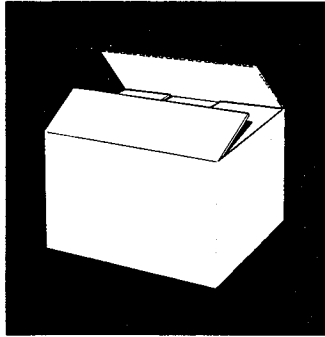
Provide dunnage or shelving to prevent crushing of cargo into recessed end of lower deck container.





## EXTERIOR CONTAINERS

### FIBERBOARD BOXES (CARTONS)



The most common economical container continues to be the fiberboard box. This is understandable as shippers seek efficient, but inexpensive and lighter weight containers.

It comes closest to fitting the description of the ideal shipping container, which is light in weight, of low cost, but able to withstand normal transportation hazards and protect the contents against loss or damage. The fiberboard box frequently measures up to most of these requirements in domestic transportation, but fails frequently in overseas movements when proper selection procedures are not followed. It must be recognized that all commodities cannot be suitably packed in fiberboard boxes. Moreover, all fiberboard boxes are not suitable overseas containers. This is particularly true because increases in moisture content of corrugated fiberboard adversely affect its stiffness and compressive strength.

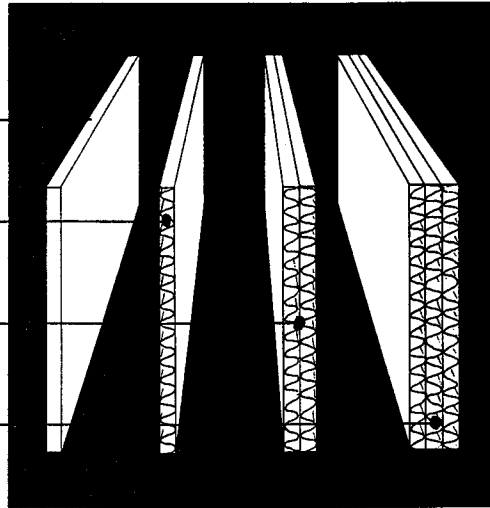
**NOTE:** Compressive strength may be reduced to approximately one-half normal strength by high humidity (90 percent r.h. +). Impregnation or coating of the fiberboard will delay but not completely prevent this loss.

**Solid Fiberboard**

**Double Faced Corrugated Fiberboard**

**Double Wall Corrugated Fiberboard**

**Triple Wall Corrugated Fiberboard**



#### ILLUSTRATIONS OF SOLID AND CORRUGATED FIBER CONSTRUCTION

First, the shipper must determine whether or not a fiberboard container is a suitable one for the particular commodity to be shipped, bearing in mind the item's vulnerability as well as the handling and transportation hazards to be encountered. If the answer is "Yes," he must then proceed to select the fiberboard container subject to the following:

1. The underlying factors in the selection of the fiberboard box are resistance to compression, resistance to puncture, strength on the score lines, and probably the most important—resistance to moisture absorption. Impregnated and multi-wall boxes are the most practical. Never use corrugated fiberboard boxes with a bursting test strength of less than 275 lbs. per square inch (for exporting).
2. Flaps should be stapled or glued with a water resistant adhesive applied to the entire area of contact between the flaps. For further protection, all seams can be sealed with a water resistant tape.
3. Keep weight of contents within load limits specified in the box maker's certificate which appears on the box.

4. Reinforce with two tension straps applied at right angles, and criss-crossing at top and bottoms, or with two girth straps of filament tape.

5. When the nature of the contents permits, the load should support the walls of the container. Otherwise, the container selected should have sufficient resistance to compression to prevent collapse when placed in the bottom tier of a pile of similar boxes. **NEVER OVERLOAD.**

6. Full height partitions should be utilized to separate fragile items within the same fiberboard box and/or to increase the stacking strength of the box.

7. Do not overlook economies and additional security offered by unitizing or palletizing, or by overpacking several fiberboard boxes in consolidation containers.

8. Remember, highly pilferable merchandise is rarely safe in fiberboard boxes.



The circular form of certification indicated applies only to those fiberboard boxes which are constructed and used in compliance with rule 41 of the Uniform Freight classification for rail shipments and item 222 of the National Motor Freight classification for truck shipments. We would recommend using only those fiberboard boxes made and certified to comply with the aforementioned rules.

**DO NOT** use fiberboard with a bursting test of less than 275 lbs. per square inch for export shipping containers:

#### NAILED WOOD BOXES

The nailed wood box is one of the most satisfactory containers for overseas shipment of moderate weight commodities.

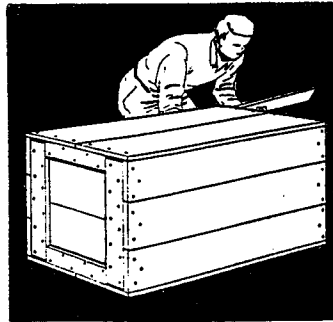
Among its particular advantages are: its ability to support superimposed loads, its ability to contain difficult loads without undue distortion or breaking open, the protection it affords contents from damage due to puncture, breakage or crushing and, finally, the fact that it permits interior blocking to hold the contents in place, thus allowing the container to be turned on its side or upside down. The following recommendations should be considered in selecting the nailed wood box:

1. Boxes should be made up of seasoned lumber with moisture content between 12 percent and 19 percent. Knots should not be over one-third the width of the

board and specifically should not interfere with nailing. Severe cross graining should also be avoided.

2. Consult appropriate tables for selection of proper sizes of lumber and nails. Boxes with two or four cleats on each end are particularly recommended for overseas shipment.

3. Many a well-designed box fails because the load is not properly fitted or secured in the container. If necessary, use proper blocking and bracing to adequately secure the board. A properly fitted or secured load should not move when the container is roughly handled.

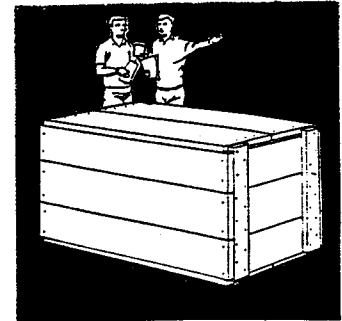


If the load must be kept upright, equip the box with lift handles, skids, top peaks or gables, or some similar device to assure the box being stowed and handled in an upright position. **AVOID OVERLOADING.**

4. Reinforce the boxes with adequate tension metal straps placed one-sixth of the distance from the ends, unless containers are in excess of 48 inches in length or over 250 pounds. Then, three or more straps should be used, with one for each additional 24 inches. Staples should be used to hold strapping in place when boards are five-eighths of an inch in thickness or greater.

5. **DO NOT USE SECOND-HAND BOXES.** They are deficient in strength and do not permit detection of pilferage.

6. Boxes should be equipped with corrugated fasteners or similar devices where contents are substantially valued and susceptible to pilferage.



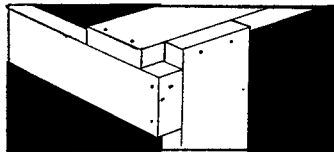
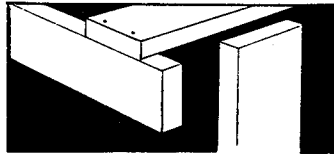
7. Boxes should be lined with a waterproof barrier material, sealed at the edges with a waterproof tape or adhesive, to protect both the contents and the interior packing material.

**Lumber and Nail Tables for Nailed Wood Boxes**

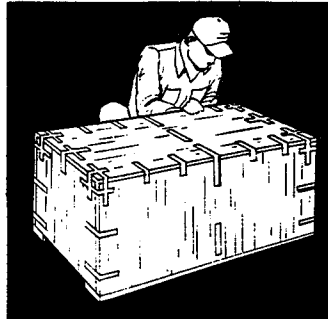
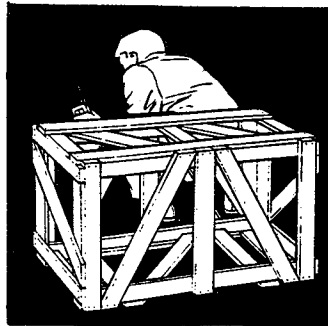
Measurements in inches

Weight of Contents (Pounds)		Number of End Cleats	Softwood			Hardwood		
			Thickness Sides, Top & Bottom	Thickness Ends	Thickness and Width of Cleats	Thickness Sides, Top & Bottom	Thickness Ends	Thickness and Width of Cleats
Over Less			Load Supports Container Walls					
0	50	2	3/8	5/8	5/8 x 1 3/4	3/8	5/8	5/8 x 1 3/4
		4	3/8	5/8	5/8 x 1 3/4	3/8	5/8	5/8 x 1 3/4
50	100	2	1/2	3/4	3/4 x 2 1/4	3/8	5/8	5/8 x 1 3/4
		4	1/2	3/4	3/4 x 2 1/4	3/8	5/8	5/8 x 1 3/4
100	250	2	5/8	3/4	3/4 x 2 1/4	1/2	3/4	3/4 x 2 1/4
		4	5/8	5/8	5/8 x 2 1/4	1/2	5/8	5/8 x 2 1/4
250	400	2	3/4	13/16	3/4 x 2 5/8	5/8	3/4	3/4 x 2 1/4
		4	3/4	13/16	3/4 x 2 5/8	5/8	3/4	3/4 x 2 1/4
400	600	4	13/16	13/16	13/16 x 2 5/8	5/8	3/4	3/4 x 2 1/4
600	800	4	13/16	1 1/16	1 1/16 x 3 1/4	13/16	1 1/16	1 1/16 x 3 1/4
800	1000	4	1 1/16	1 5/16	1 5/16 x 4 1/8	1 1/16	1 5/16	1 5/16 x 4 1/8
			Load Gives Little or No Container Support					
0	50	2	1/2	3/4	3/4 x 2 1/4	1/2	5/8	5/8 x 1 3/4
		4	1/2	5/8	5/8 x 2 1/4	1/2	5/8	5/8 x 1 3/4
50	100	2	1/2	3/4	3/4 x 2 1/4	1/2	5/8	5/8 x 1 3/4
		4	1/2	5/8	5/8 x 2 1/4	1/2	5/8	5/8 x 1 3/4
100	250	2	5/8	3/4	3/4 x 2 5/8	1/2	3/4	3/4 x 2 1/4
		4	5/8	3/4	3/4 x 2 1/4	1/2	5/8	5/8 x 2 1/4
250	400	2	3/4	1 1/16	1 1/16 x 3 1/4	5/8	13/16	13/16 x 2 3/4
		4	3/4	3/4	1 1/16 x 3 1/4	5/8	3/4	3/4 x 2 1/4
400	600	4	13/16	1 1/16	1 1/16 x 3 1/4	3/4	13/16	13/16 x 2 3/4
600	800	4	13/16	1 1/16	1 1/16 x 3 1/4	3/4	13/16	13/16 x 2 3/4
800	1000	4	1 1/16	1 5/16	1 5/16 x 4 1/8	7/8	1 1/16	1 1/16 x 3 3/8

3-WAY CORNER . . .  
THE STRONGEST,  
MOST RIGID  
CORNER  
CONSTRUCTION  
FOR A CRATE



CRATES



There are two general types of crates—the open or skeleton crate and the fully sheathed crate. Both types are dependent upon properly constructed frame works. While the drawings in this booklet illustrate the comparative strength of frame members of open crates under vertical compression, the same principles apply to sheathed crates, as they also require diagonal bracing to make them rigid. Keep in mind that sheathing is provided to protect the contents against exposure to the elements.

The open crate can be used where contents are virtually indestructible and packing is required only to facilitate handling and stowage. It also serves well as an overpack to consolidate fiberboard boxes or to provide unit pack stiffness to resist crushing. Three-way corner construction should be reinforced with diagonals.

RELATIVE STRENGTH UNDER  
DIAGONAL COMPRESSION

Consider these points in sheathed crate construction.

1. Provide a SUBSTANTIAL framework, i.e., corner posts or vertical end struts, edge or frame members, intermediate struts and diagonal braces.

2. Large crates are usually stowed in lower holds, hence must bear great superimposed weights. Insure top strength by frequent top joists under sheathing (never more than 30" apart). DON'T depend on end grain nailing ALONE to hold these joists. Provide joist support positioned directly under the joists' ends.

3. Reinforce floor at load-bearing points when between skids or sill members.

4. Design for vertical sheathing: sides and ends.

5. On skid type crates terminate end sheathing at flooring to permit entry of forklifts. Terminate side sheathing 1/2" short of skid bottoms to prevent tearing away of sheathing when crate is dragged sideways. The use of rubbing strips facilitates handling by forklift trucks.

6. On sill-type crates provide lengthwise rubbing strips at base to facilitate handling and prevent tearing adrift of sheathing when the crate is dragged.

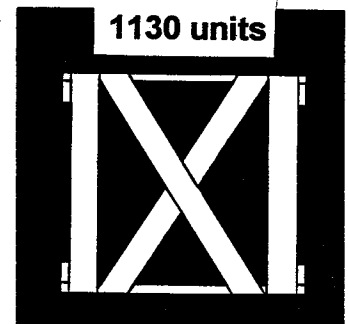
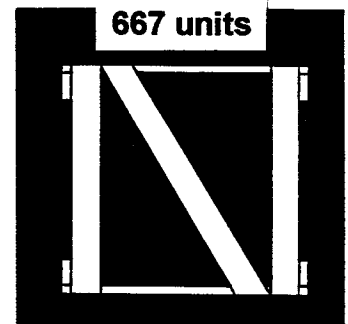
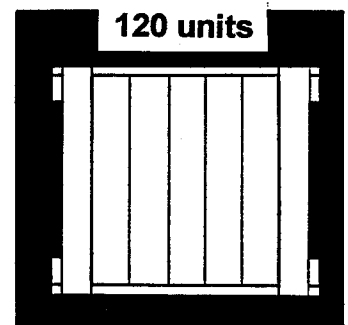
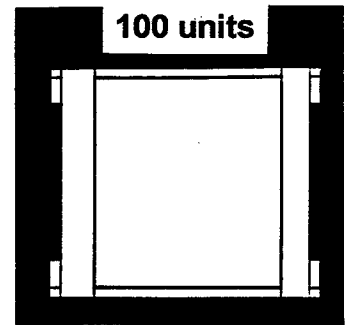
7. Where skids are used, be sure they are of sufficient dimensions and an adequate number provided. Skid ends should always be cambered, sling points provided and marked to facilitate loading aboard ship.

8. Reduce cube and interior bracing problems by providing maximum disassembly of the carried item. Spares and disassembled parts should be adequately secured to the crate interior. In so doing, aim at a low center of gravity.

9. Supplement weak end grain nailing of interior bracing by back-up cleats.

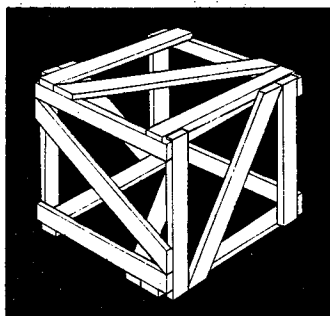
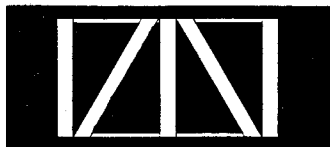
10. Line crate interiors (except bottom) with a good grade waterproof barrier material. Ventilate crates containing machinery or other items susceptible to damage from condensation with baffled vents or louver plates covering ventilation hole clusters at ends or sides. Also, space floor boards 3/8" apart. Consider use of crate top coating where open freight car or open storage may be encountered.

fled vents or louver plates covering ventilation hole clusters at ends or sides. Also, space floor boards 3/8" apart. Consider use of crate top coating where open freight car or open storage may be encountered.

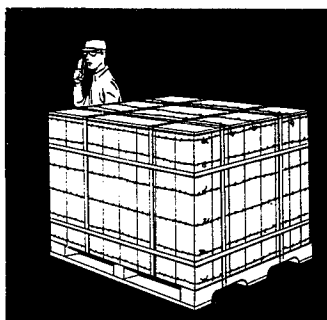


11. Corners of all crates should be reinforced with lengths of 1" flat nailed strapping applied so as to tie together all their faces at each corner.

12. Assure yourself that handling facilities are available for your crate at destination and at intermediate points. Provide consignee with opening instructions to reduce accidental damage during unpacking.



## WIREBOUND BOXES AND CRATES



Wirebound boxes and crates have shown themselves useful for a large variety of products not affected by minor distortions of the container. It is an ideal container for overpacks of solid or corrugated fiberboard boxes (cartons). If the wirebound container is not completely filled or if the contents may be affected by possible distortion of the container, properly applied interior blocking and bracing is recommended. The ends of wirebound containers should be reinforced to adequately resist the forces that may be applied during handling, thus preventing damage to contents.

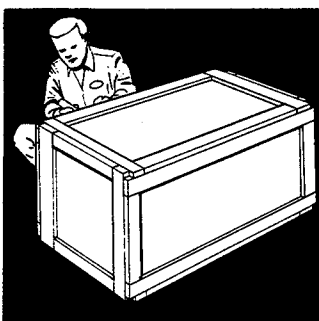
Shippers should **AVOID OVERLOADING** and should not use boxes too large for their contents. Other considerations are:

1. Veneer and cleats should be full thickness, straight grained and sound, free from knots, decay, mildew or open splits. Sound knots not more than 1-1/2" in diameter and less than one-third the width of the piece of veneer are allowable. Wire should be free from rust and scale.
2. Ideal staple spacing is 2-1/2" on crates; 2" on boxes. A minimum of two staples per slat is recommended.
3. Observe care in effecting closures to avoid wire fatigue. Use special closure tools.
4. Consult appropriate tables and your box supplier for export type container specifications.
5. Where contents are susceptible to pilferage or exceed 150 lbs., apply one tension strap around top, bottom, and ends. If over 250 lbs., apply two additional straps 3" from each

end around top, bottom and sides. Also consider applying straps over intermediate cleats.

6. Line box interior with good grade of waterproof barrier material, properly sealed.

## CLEATED PLYWOOD BOXES



Properly assembled and used, cleated plywood panel boxes have many uses in foreign trade. Their lightness and comparative strength particularly recommend them for air freight shipments. Shippers may abuse these containers, however, by using second-hand units, overloading, applying strapping improperly, allowing long unsupported panels or failing to properly nail the box closed. Thin panels invite damage to contents through punctures. Follow these points in plywood shipments.

1. Consult appropriate tables to avoid overloading, to determine proper nail spacing and to find correct dimensions of plywood and cleats.

## NEVER USE SECOND-HAND BOXES.

2. Reject rotted, split or otherwise defective cleats.
3. Apply intermediate cleats to all panels in excess of 24".
4. Apply strapping only over edge and/or intermediate cleats for maximum support. Strapping which spans unframed areas is easily broken; may injure handlers. Employ stapling to hold banding in place on the cleats.
5. Don't overlook lining with adequate waterproof or vapor-proof barrier material, where contents are susceptible to water damage.

## STEEL DRUMS



New steel drums are generally excellent for export. Second-hand drums, unless thoroughly reconditioned and tested, may give trouble because of fatigue caused by dents at the chime and previous damages to closures. Also consider the following:

1. Closures must be made as prescribed by the manufacturer. Back up friction type covers of drums, as well as cans or pails, with soldering or spot welding at three or more points.
2. Be sure adequate seals are used on locking levers and sealing rings of open end drums. Failure of seals may result in accidental opening of covers.
3. Consider use of tamperproof seals at filling and dispensing holes.
4. Make frequent spot checks of automatic filling machinery by weighing filled drums. Shortages may occur at the source.
5. Do not re-use single or one-trip containers.
6. For hazardous/dangerous goods, be sure the drums meet DOT/IMO/IATA-ICAO, or appropriate standard-making group specifications, and are properly labeled for carriage of the intended cargo.

## FIBER DRUMS



Fiber drums are gaining importance in the export picture. Before using, however, it should be determined that open storage enroute is not contemplated. Considerations for fiber drums include:

1. High density materials should not be packed into fiber drums.
2. Fiber drums should be filled to the top in order to add rigidity to the package. If contents are such that weight limits will be exceeded if filled to the top, smaller drums should be used. Avoid empty spaces at top of the drum.
3. It is advisable to settle or deaerate materials—particularly light fluffy powders—during the filling operations. Use of a vibrator or mechanical settler is recommended. Bag-lined drums can be deaerated simply by manually compressing the filled bag.
4. Keep size of drum compatible with weight of contents to avoid overloading.
5. Closures are important. Be sure sealing rings and locking levers are properly in place and will not be accidentally jarred or pulled loose.
6. Handle with mechanical equipment or roll on bottom chimes. Fiber drums are not designed to roll on sidewalls. Avoid cutting and chafing of sidewalls.
7. If possible, palletize fiber drums to facilitate mechanical handling in warehouses or on docks.
8. Never use a drum that has sidewall damage (cuts, dents) as stacking strength is lost.

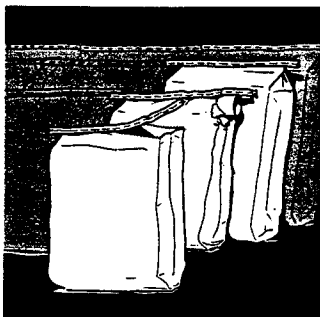
## BARRELS, CASKS OR KEGS



The wooden barrel has been a workhorse of overseas trade, dating back to ancient times. Selection of the wrong barrel for your product can result in leakage, contamination, breakage and many other headaches. The following are basic recommendations:

1. Tight (liquid) barrels should be stored bung up. Request stowage on bilges. Slack (dry) barrels should be stored on ends. Never store or ship slack barrels on their side.
2. Provide reinforcing head cleats running from chime to chime at right angles to headpieces. Cleat thickness should never be greater than chime depth.
3. Use tongue and groove staves with a suitable liner where contents, such as dry chemicals and powders, may sift. Make sure barrel wood and liner material will not contaminate contents.
4. Keep voids in slack barrels to a minimum. Use headliners (strips of coiled elm fastened inside chime) to give barrel heads added strength.
5. Where tight barrels are employed, hoops should be fastened with not less than three fasteners (dogs) per hoop. Provide for inspection at interim transit points, where practicable, to check for leakage. If contents are carried in brine, re-brining at interim points may save contents of leaking units.

## MULTI-WALL SHIPPING SACKS



Multi-wall shipping sacks or bags are being used more and more for packaging of powdered, granular and lump materials, particularly dry chemicals. These sacks are flexible containers generally made up from two walls or plies of heavy duty kraft paper to a maximum of six. Often, they are made in combination with special coating, laminations, impregnations, or even plies of textile material such as burlap to give them additional strength and added protection to their contents. Because of the flexibility of these containers, special attention must be given to the use of flexible waterproof or moisture-proof barriers in their construction.

There are several types of bags used, the most common being the pasted bottom or sewn bottom open-mouth, and the pasted valve or sewn valve. The pasted bottom and sewn bottom open mouth type bags are closed after filling, by sewing through all plies with a strip of tape incorporated into the sewn end in such a way that it folds over the end of the sack to control sifting. They can also be closed by gluing. The valve type bags are closed by manually folding over an external paper sleeve or by the check-valve action of an inner paper sleeve when the bags are full. The internal pressure of the contents causes this, and care must be taken that the bags are sufficiently filled to exert this pressure. It must be recognized that slight leakage will nevertheless occur, particularly when the bags are handled.

The use of these bags for overseas shipments should be limited. This type of container, more than any other, must be adapted to the requirements of the commodity they contain.

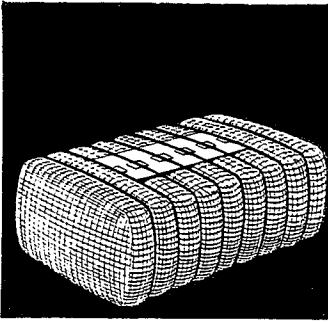
This requires careful research and intelligent selection. It is recommended that the loaded bag does not exceed 50 lbs. Consideration must be given to the value of the product as well as to its hygroscopic properties and chemical and physical characteristics. Utmost consideration must be given to intratransit hazards, such as atmospheric conditions or exposure to the elements, number of transfers and handlings, warehouse facilities, etc. Of major importance is the question as to whether the contents of the sack will be subjected to contamination if the bags are ruptured or if foreign matter can filter in through stitching holes.

A good practice for the shipper is to include a supply of open mouth refill or overslip sacks with each shipment.

The number of refill sacks should not be less than one percent of the number of sacks in the shipment and preferably three percent. The refill sacks should be imprinted with instructions for their use as well as identification of the commodity which they will carry. Overslip sacks should be slightly larger than the original sack and constructed of the same number and kind of plies.

Palletizing of a number of sacks, adequately shrink-wrapped and/or banded to the pallet, has been particularly effective in reducing damage and pilferage, and forces use of mechanical handling equipment.

## BALES



A well-made bale may be expected to outturn reasonably well in most export trades. Bear in mind, however, that all bales are subject to pilferage, hook holes and water damage. They are, therefore, not recommended for highly valued commodities. To minimize losses, follow these recommendations:

1. Where contents may be subject to damage from strapping pressure, use a primary wrap of fiberboard material.
2. Use an inner wrap of creped or pleated waterproof paper. This type paper is necessary to pro-

vide moisture protection and to give with bale distortions without tearing.

3. Provide heavy outer wrap of burlap or similar cloth able to withstand heavy abrasions in transit.

4. Provide "ears" at corners of small bales to facilitate handling without hooks. Bale weights under 300 lbs. are less apt to be handled with hooks.

5. A minimum of four flat tension bands should be used. Apply tightly at the maximum bale compression to avoid slipping of end bands.

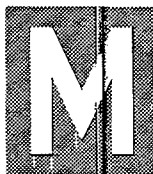
6. Stencil all shipping and cautionary marks on bale. Do not use tags.

## CUSHIONING

Fragile and brittle items must be suspended or protected against shock and vibration by a cushion that gradually increases resistance against item movement. Selection of the correct cushioning material depends on the item's size, weight, shape, surface finish and the built-in shock resistance.

### Cushioning Materials and Characteristics

Type Material	Cushioning Characteristics (1)						
	Abrasion Resistance	Resilience	Compression	Absorption	Water Resistance	Dusting (2)	Damping Quality (3)
Bound Fiber	Poor	High	Low	Low	High	High	Fair
Cellulosic	Good	Medium	High	(4)	(4)	High	Excellent
Fibrous Glass	(4)	High	Low	Low	High	Low	Fair
Wood Excelsior	Poor	Medium	High	High	(4)	High	Excellent
Hair Felt	(5)	Medium	Low	(5)	(5)	Low	Poor
Solid Fiberboard	Poor	Medium	Low	Low	High	Low	Poor
Wax Shredded Paper	Poor	Low	High	High	Low	High	Excellent
Wrapping Paperboard	Good	Low	High	High	Low	Low	Excellent
Cellular, Plasticized, Polyvinyl Chloride	(4)	High	Low	Nil	High	Low	Good
Rigid or Elastic Polyurethane Foam	(6)	(6)	(6)	(6)	Low	None	(6)
Chemically Blown Cellular Rubber	Good	High	Low	(6)	(6)	Low	Fair
Latex Foam Sponge Rubber	Good	High	Low	High	Low	Low	Fair
Paper Honeycomb	Energy dissipating medium only						
Corrugated Fiberboard	Used primarily as a die cut, cells, pads and trays						



Many products or commodities can be economically palletized or unitized to facilitate their

handling, stowage and protection. Often, packing costs can be significantly reduced by palletizing and unitizing. Pallet and unit loads offer the following additional advantages:

Requires use of mechanical handling equipment—reducing the manual handling damage hazard.

Eliminates the multiple handling of individual items—further reducing possible damage from manual handling.

Reduces opportunity for pilferage and theft and permits early detection of tampering.

Speeds loading and unloading of trailers, boxcars, intermodal containers, barges, ships and aircraft.

Facilitates application of waterproofing protection to the load: the overwrap applied accompanies the load for the entire journey.

Reduces incidence of lost or astray items.

Facilitates checking and inventory of shipment.

**PALLETIZING** is the assembly of one or more packages on pallet base and securing the load to the pallet.

**UNITIZING** is the assembly of one or more items into a compact load, secured together and provided with skids and cleats for ease of handling.

## PALLETIZING CARGO

There are four "standard" pallets that accommodate the various modal/intermodal containers presently used in international commerce. The nominal sizes, in inches, of these pallets are 54 x 45, 45 x 45, 49 x 41, and 48 x 40. In addition, other dimensions frequently utilized include 52 x 44, 44 x 44, 35 x 44, 33 x 44, 36 x 45, and 34 x 45.

Select the pallet that:

1. Best utilizes the space of the intermodal transportation to be used.
2. Best utilizes the uniform unit package dimensions of the item to be shipped.
3. Limits the weight of the palletized load to 2,200 pounds (1,000 kg).

Assemble the individual unit packages on the pallet base without an overhang. The load pattern should minimize voids and be interlocking.

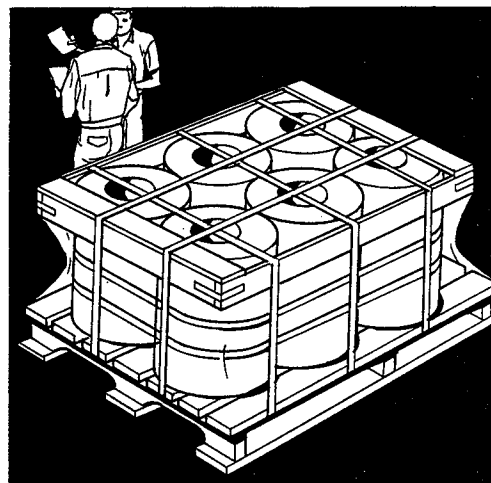
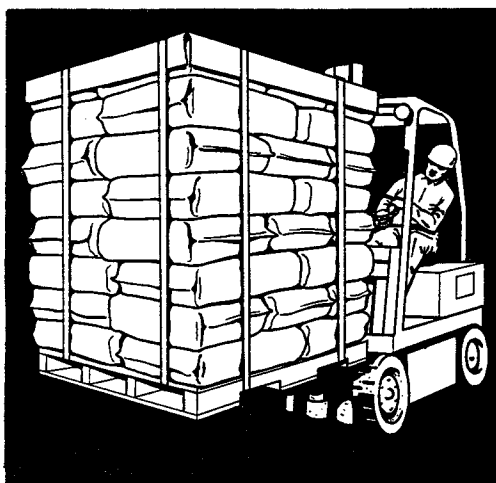
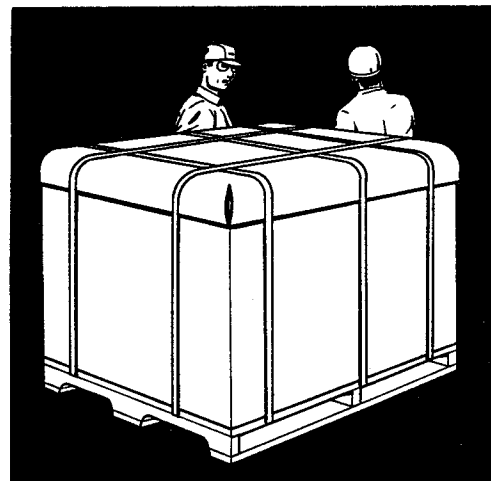
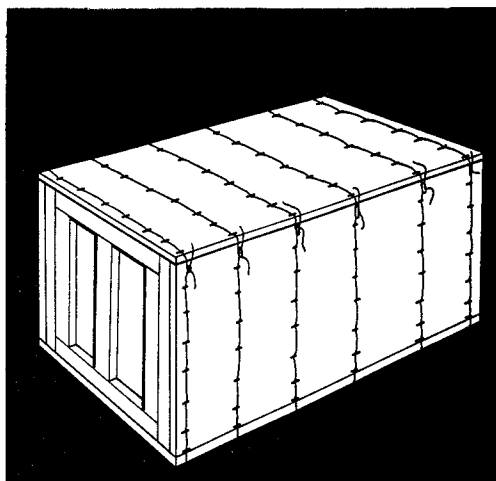
Insert spacers between the rows or layers of irregularly shaped items. Adhesives can be used between cartons in a uniform load.

Secure the load tightly and firmly by using horizontal and vertical strapping. Plastic shrink wrap can be used to stabilize and protect palletized loads.

Provide stacking protection to the top of the pallet by using a lumber, plywood or fiberboard cap. Loads that are susceptible to compression must also be supported with vertical framing.

Palletized loads susceptible to water damage can be protected by shrink wrap or stretch wrap, overwrapping with barrier material, or consolidated shipping in a weathertight container.

**Palletized consolidation container**



## UNITIZING CARGO

Assemble individual items into one unit by bolting, nailing, or strapping together.

Provide unit load with skids to facilitate handling by forklift.

Provide vertical cleats on sides of load to facilitate handling by cargo slings.

Provide water damage protection by using plastic shrink wrap or stretch wrap on individual items before assembly into unit load.

Apply shrink wrap or stretch wrap to entire load.

Use waterproof paper or plastic film overwrap.

The American National Standards Institute (ANSI) publishes a guide to aid manufacturers, consumers and the general public on unit-load and transport-package sizes to efficiently fit within the truck trailer, freight container or railroad boxcar. Unit load stacking patterns are also presented. ANSI can be contacted at 1430 Broadway, New York, NY 10018. Reference ANSI MH10.1M-1980.

## SUGGESTIONS FOR VALUABLE SHIPMENTS (AIR)

In planning the shipment of valuable cargo, seek a level of security comparable to the security you know you require for your own premises.

Select a tariff designed for the movement of valuable goods and abide by its recommendations.

Make advance booking with a carrier for shipment so consignees may be on alert for arrival.

Tender shipment to carrier not more than three hours prior to the scheduled departure of the flight for which advance arrangements have been made.

Notify the consignee to accept delivery of the shipment at destination within three hours after scheduled arrival time of flight.

Avoid shipping when consignment will arrive at destination on weekends or holidays. (Some carriers will refuse shipments tendered between 1 p.m. Friday and 8 a.m. Monday.)

When delays in acceptance of valuable merchandise are anticipated, e.g., when weekend or holiday arrivals are unavoidable, arrange for special handling such as transportation via an armored

vehicle or placement in a suitable repository such as provided by Purolator at Kennedy Airport. (Some carrier tariffs provide for special handling charges which are assessed against the shipment when consignee fails to pick up the shipment within three hours of scheduled arrival time of flight.)

Adhere to minimum package dimensions. Most tariffs provide for minimum package size of one cubic foot.

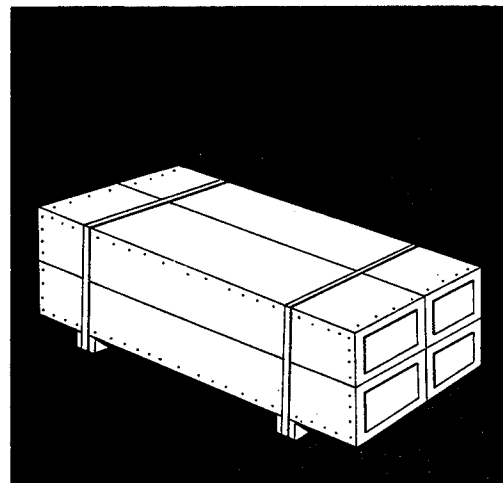
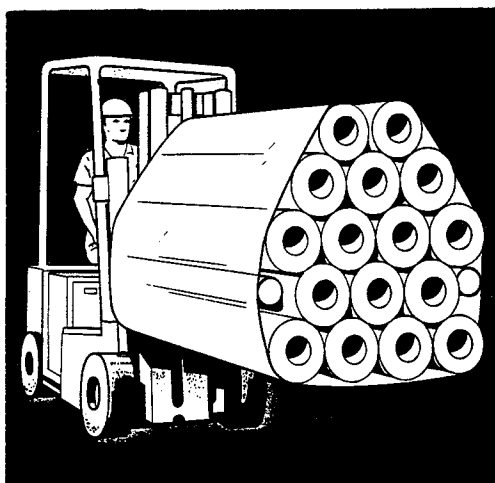
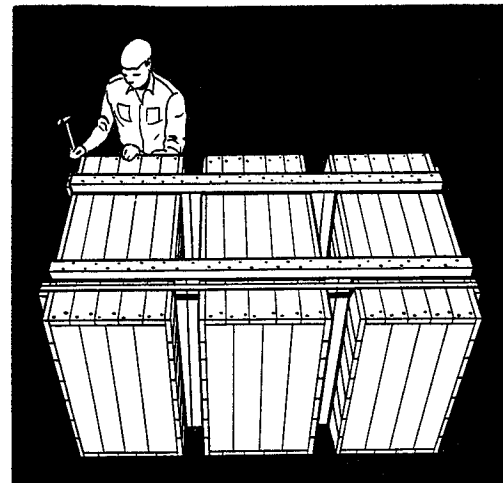
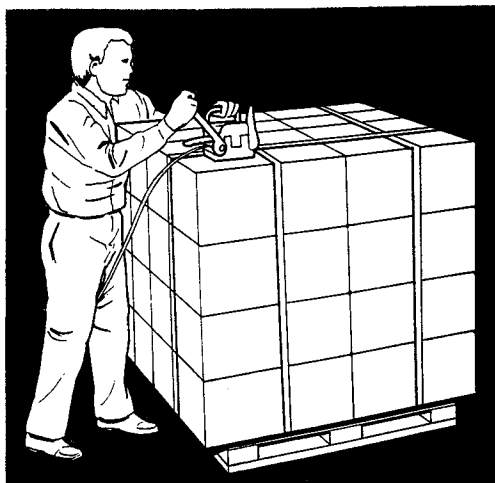
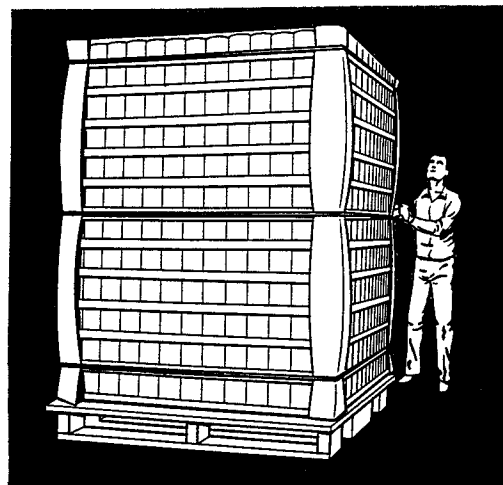
Use only new, well-constructed packaging for your product.

Clear and complete delivery and handling instructions should appear on at least three surfaces of the exterior shipping package.

Eliminate all product identification on the exterior of shipping package.

Avoid shipping on a routine schedule; report suspected theft quickly.

**Shrink film overwrap of palletized load—film unifies load, secures it to pallet, and provides water damage protection.**





## APPENDIX B – SEA LANGUAGE ARTICLES

### Sea Language Washes Ashore

Many expressions that had precise meanings for the sailor have become colloquial words and phrases in English that only hint of their maritime origins.

The rich colorful vocabulary of the sea from generations past is still a vibrant part of daily English language. Most persons do not know the origins of words and phrases that have become colloquial expressions, and time has changed or distorted the meanings.

What were precise directions or descriptions have become general phrases that hint at meaning. Yet, they retain the flavor and imply the discipline they once had-and the language of the sea emphasizes discipline. Going to sea - whether for sustenance, transportation, or war-was not a carefree business. The late dean of American maritime history, Samuel Eliot Morison, chastised the poet Allan Cunningham for his ballad:

*"O for a soft and gentle wind!  
I heard a fair one cry:  
But give to me the soaring breeze  
And white waves heaving high."*

#### **"baloney"**

Morison wailed, " Baloney! No real seaman likes high and heavy seas because they bring trouble and danger. His ideal is the trades - a good steady full-sail breeze..."

#### **"he let the cat out of the bag"**

Discipline has always been demanded by the taskmasters of the sea. " He let the cat out of the bag," said today is often followed by an expletive deleted. Six score years ago on board a square rigger, this utterance would have brought chills to the spine, for some poor soul had just committed an offense sufficiently grave to extract the cat-on-nine-tails from its canvas bag. The cat has been out of vogue since the early nineteenth century and needs an introduction. The cat was made of nine lengths of cord, each about 18 inches long with three knots at the tip, fixed to the end of a larger rope which was used as a handle. Flogging, at the very least, would cause severe wounds and could cripple or even cause death. Only Errol Flynn and fellow Hollywood mariners have been able to shrug off its effects. The United States Congress prohibited the use of the cat in 1850, and it was outlawed from the British Royal Navy in 1879. In fact, the cat had fallen into disuse in both fleets shortly after the War of 1812. This brutal instrument is also the basis of the expression " not enough room to swing a cat." Obviously, the two-foot cat, added to the length of the fully extended arm of the flogger, required a good measure of working room.

#### **"blue Monday"**

A sailor's misdeeds were recorded daily, and punishment was carried out on the following Monday; thus, the birth of the expression "blue Monday."

<b>"hands off"</b>	Sailors were considered a rough lot and not to be trusted by their superiors-the officers. Although armed to the teeth when the enemy was at hand, sailors were prohibited from having weapons at any other time. The one exception to this rule was the knife, for this was an essential tool for all seamen. Should, however, the sailor draw his knife in anger, he could lose his hand as specified by British Admiralty law - thus, the derivation of the expression "hands off."
<b>"scuttle butt"</b>	Maritime discipline was harsh: human rights were restricted and, as a result, specific shipboard havens developed. The term "scuttle butt" evolved from this background. There was a cask (butt) with a square hole (scuttle) cut in its bilge, kept on deck to hold water for ready use. On board ships where discipline was strictly enforced, merchant as well as war, the "scuttle butt" was one of the few places on deck where sailors were at liberty to talk; and, today, the term is synonymous with gossip.
<b>"the smoking lamp is lit"</b>	Discipline was the ounce of prevention in combating the ancient mariners' greatest fear-fire at sea. Today, "the smoking lamp is lit" frees an individual to "light up" wherever he might be. This interpretation does not bear the severe restriction originally intended. For aboard ship, this lamp was the only place
<b>"light up"</b>	where the sailor had access to fire, and the tobacco had to be smoked in its immediate vicinity, usually the galley (kitchen). To protect the weak-willed from the "cat," sailors were not permitted to carry flint-the match was not in general use until the middle of the nineteenth century. As iron and steel replaced wood as the primary building material for ships, additional precautions against fire were enforced on vessels carrying dangerous cargoes. For example, mariners were prohibited from wearing shoes using metal nails. A spark in the magazine of a warship or the hold of a merchantman loaded with nitrates or grains could be catastrophic.
<b>"round robin"</b>	At sea, the captain and the law were synonymous. Martyrdom was the only reward for the individual who opposed injustice. This is illustrated in American literature by Herman Melville's novel <i>Billy Budd</i> . However, the system could be challenged if there was strength through numbers, and if leaders could be protected by concealing their identity. Immunity was achieved by the "round robin." Signatures on a grievance petition would appear as a circular pattern of ribbons similar to the spokes of a wheel. The robin is derived from the French <i>ruban</i> , or ribbon. Hiding the identity of the leaders within the circle of
<b>"ringleader"</b>	signatures may be the origin of the term "ringleader" as well.
<b>"catting around"</b>	Going ashore was in fact as well as name, liberty, and sailors had the reputation of taking full advantage of the relaxed discipline. "Catting around" is a colloquial expression meaning frivolity. Richard Henry Dana wrote that 'cat' used as a verb means "to hoist the anchor tip to the cathead." In order to raise the anchor, hickory bars were inserted into a capstan, a spool-shaped cylinder; and like children on a merry-go-round, the men strained around this apparatus. This may be the origin of "catting around."

**“mind your  
P’s and Q’s”**

Mariners, being the chief patrons of seaport pubs, were often extended credit. A tally board was kept of the pints and quarts that a sailor consumed. The quartermaster of the ship, who was responsible for having a full crew for the next sailing, did well to remind his charges to “mind your P’s and Q’s,” since this equated to their consumption. And, of course, sailors would have to toast the drink with “down the hatch.”

**“down  
the hatch”**

**“three sheets  
to the wind”**

If a mariner consumed too much alcohol and became intoxicated, he would be “three sheets to the wind.” A sheet is a line used for trimming a sail to the wind. Three broken sheets would render a sailing ship uncontrollable.

**“Loaded to  
the gills,”**

Another nautical expression relating to drunkenness, infers that the individual “drank like a fish.”

There are other expressions relating to relaxing of discipline on board ship. A number of these utterances have lost both precise statement as well as meaning.

**“shake a leg”**

Consider “Shake a leg.” Originally, “show a leg,” was the cry of the boatswain’s mate as he turned out the new watch on board eighteenth- and nineteenth-century British warships. As an incentive to mariners not to desert, they were permitted to have women, ostensibly wives, on board while the ship remained in harbor. Showing a leg was a means of identification.

**“son of a gun”**

The practice of having women aboard Royal naval ships was not abolished until about 1840. Not surprisingly, the end result of this accommodation was a “son of a gun.” Below-decks in a warship was very crowded and the gangways (passage ways) had to be kept clear. The only place where a woman could give birth was between the guns. Such circumstances were the subject of sea chants:

*“Begotten in the galley and born under the gun.  
Every hair a rope yarn,  
Every tooth a marline spike,  
Every finger a fishhook,  
And his blood right good Stockholm tar.”*

Originally, the term “son of a gun” questioned the legitimacy of the birth of an individual.

**“flotsam and  
jetsam”**

Another colloquial expression which has unpleasant connotations is “flotsam and jetsam.” Flotsam are goods swept overboard and floating in the sea. Jetsam are goods deliberately thrown overboard when a ship was in imminent danger. Thus, together they are the undesirable elements of society.

**“between the  
devil and the  
deep blue sea”**

Utterances against the devil are wails of frustration. However, the mariner’s devil was not the anti-Christ, but was a particular seam, a narrow gap between planks, one on each side of the ship just above the waterline. This seam – christened the “devil’s seam” – was the most difficult and dangerous to caulk. A sailor would have to be lowered over the side and work in the dangerous location “between the devil and the deep blue sea.”

<b>the devil to pay</b>	"There'll be the devil to pay" has a similar derivation. Paying is the act of pouring hot pitch into a seam after oakum has been pounded in, commonly referred to as caulking. In bygone years, the complete utterance was, "There'll be the devil to pay and no hot pitch"; thus, not only damning the work location, but also cursing the lack of preparation, since no hot pitch was ready.
<b>"at loggerheads"</b>	Caulking was a frustrating job. Nerves became raw as the hot pitch was spread along the seams. A loggerhead was a tool used for this work. Fights would break out, and the tool would be used as a weapon. The seriousness of the affair was captured by the expression that the combatants were "at logger-heads." This term today describes an angry relationship between two individuals.
<b>"by and large"</b>	The principles of sailing a full-rigged ship are as mysterious to some as those of splitting an atom. And yet, the English language draws extensively upon the rich language barked out by captains and mates to sailors on deck and aloft during bygone days. A captain would be wise to give the order to sail "by and large" to an inexperienced helmsman (steerer). The ship would not be sailing directly toward its desired destination; but this command would not tax the ability of the helmsman. Colloquially, "by and large" means generally speaking, or lacking precise knowledge or skill.
<b>"taken aback"</b>	If the helmsman did make an error and the wind struck the face or front of the sails, the ship would be "taken aback." This term means to be stopped suddenly and bears the same significance today.
<b>"take the wind out of my sails"</b>	Should another ship come between a vessel and the wind, that ship would block out the breeze and "take the wind out of my sails." Colloquially, this saying denotes that someone has been out-performed.
<b>"carry on"</b>	An expression more commonly used in "British" English than in the Yankee provincial form is "carry on." Recall the series of British movie comedies, <i>Carry On, Nurse</i> and <i>Carry On, Teacher</i> . Aboard the square rigger, "carry on" was a specific order not to shorten sail, but to carry as much canvas as possible. A Yankee might bellow "full steam ahead," a nautical expression of a later era.
<b>"knows the ropes"</b>	An individual who "knows the ropes" today is an expert who knows what to do. A century-and-a-half ago, a novice sailor knew no more than the names and uses of the primary ropes, and his discharge papers were marked "knows the ropes."
<b>"listless."</b>	When the wind fills sails, a ship takes on a slight inclination or list. Accordingly, the only time the sailing ship is not listing is when there is no wind at all and the ship becomes "listless." Today, the word means dull or lifeless.
<b>"give me some leeway"</b>	On board a square rigger, to ask "give me some leeway" would be requesting the helmsman to leave adequate room between the ship and an object on the windward side. Colloquially, this is used commonly to request room to spare.

<b>"it's an ill wind... no good"</b>	To an experienced square-rig sailor, the meaning of "it's an ill wind that blows nobody any good" is apparent, for a sailing ship mariner will curse the calm. But to his way of thinking, a wind from any direction must be benefiting someone. William Shakespeare also appreciated this thought for he used it again and again with slight variation: "Ill blows the wind that profits nobody" and "Not the ill wind which blows no man to good."
<b>"under the weather"</b>	The sea can be demanding and many nautical expressions have grown out of man's confrontation with the elements. To be "under the weather" bears its original meaning today. "Overwhelm" is derived from the Saxon <i>whelmen</i> , which means "to bury in heavy seas."
<b>"carried away"</b>	Sailing ships are powered by the wind as it fills the sails. Should rigging break, a part would be carried away and control would be lost. When a person gets "carried away," he also loses control.
<b>"gone by the boards"</b>	If a mast should fall and pass over the bulwarks, the walls of the ship surrounding the main deck, it would have "gone by the boards." As implied in the colloquial meaning, the mast would be irretrievable.
<b>"Cut and Run"</b>	Decisions aboard sailing ships had to be prompt. Any order took time to execute. Sailing ships lying in poorly protected harbors were anchored with their bow toward the sea, for in bad weather they were safer at sea than pinned against the shore. If a storm arose, the captain could give the order to "cut and run." The anchor cable would be sliced and the ship put to sea immediately.
<b>"figureheads"</b>	The parts of a ship are often referred to in daily speech. Ornate "figureheads" enhanced the bows of most sailing ships: Originally there to ward off evil spirits, as sailors became less superstitious, the pragmatic value of this art gave way to its decorative appeal. Today, a person who is a "figurehead" is also ornamental.
<b>"the bitter end"</b>	"Bits" are two vertical beams through which the ship's anchor cable passes. If all of the anchor cable were run out, that which remained on board running through the bits would be "the bitter end."
<b>"the cut of his jib"</b>	The expression "I don't like 'the cut of his jib,'" warns to beware of a stranger. The jib is a triangular sail set in the stays of the foremast. Many regions of the world have recognizable ways of cutting and rigging a jib, thus revealing a stranger's identity.
<b>"booby hatch"</b>	Midway down the deck of a ship is a "booby hatch." Not found on many ships, this is a small opening used to facilitate movement to below-decks. The evolution to the current meaning has been lost. Deranged sailors were often confined below-decks and generally this hatch was the smallest and the least used. These facts may have influenced the current meaning, a mental institution. Until a few decades ago, sailors slept in hammocks and only a few officers on each ship had bunks. During the early nineteenth century, before passenger ships were in common use, packet ships plied regular routes. Packets were designed to carry mail, special cargoes, and passengers whose accommodations included small permanent sleeping berths known as "cribs."

<b>"lowering the boom"</b>	Most cargo ships are equipped with booms, which lift cargo on board. When loading is finished, the booms are lowered. Today, "lowering the boom" means to bring something to an end.
<b>"high and dry"</b>	Shipbuilding has also been the source of several common expressions to language. A beached ship, or one under repair, was considered "high and dry," much as the person who is out of his element.
<b>"greased the ways"</b>	To ease the launching of a vessel, grease - in the old days lard - was applied to the runners under a hull, hence "greased the ways." Now it means the path has been eased or smoothed.
<b>"no quarter given"</b>	Sea warriors have yielded rich additions to our vocabulary such as the expression "no quarter," a phrase meaning no mercy. During combat in medieval times, an officer could surrender and purchase his life for a quarter of his yearly earnings. The call "no quarter given" notified an opponent that the fight must be to the death.
<b>"long shot"</b>	Notwithstanding the superb marksmanship exhibited in the movies, sailing-ship cannon were effective only at ranges less than 50 yards, anything beyond that distance was considered to be a "long shot." Today, as yesterday, the expression means of great odds and is particularly associated with the race track.
<b>"fish or cut bait"</b>	The fisherman has also contributed to the rich nautical vocabulary. "Fish or cut bait" emphasizes that there is no room for an idler on these hard-working boats.
<b>"hook, line, and sinker"</b>	Have you ever "taken the bait?" Once you have, you are "hooked!" And if you become more deeply involved than reason would dictate, you have fallen "hook, line, and sinker."
<b>"A-1"</b>	Most people have unknowingly adopted the language created by the merchant mariner to express quality and honesty. "A-1" condition tells that the hull - the A rating - is in superior condition as is the gear - the "one" rating. This system, created by Lloyd's of London and is used by ABS in its shipping register <i>Record</i> .
<b>"posh"</b>	<i>Posh</i> accommodations were the most expensive available aboard the British P&O line, which sailed between England and India using the Suez Canal. The word, stamped on the ticket, was a composite of the first initial of the words "Port Out Starboard Home." This cabin arrangement placed the ticket holder on the shaded side of the ship for the entire voyage. This was particularly important as the ship passed through the boiling Red Sea.
<b>"fits the bill"</b>	Bills of lading are manifests listing goods entrusted to a ship's captain to be transported. The recipient of these goods would be a prudent man if he checked the merchandise to be sure that it "fits the bill."
<b>"clean bill of health,"</b>	And a ship's "bill of health" is a certificate signed by an authority stating the general health conditions in the port and on board the departing ship. A "clean bill of health," one without reservations, was highly desired. If plague were found on board, a ship would be "quarantined." The first case of isolating a ship for this reason occurred in Marseilles and the vessel was held for forty days, or <i>quarant</i> in French; thus the evolution of the term quarantine.

- “mark twain”** “Mark Twain!” was the cry of river men measuring the depth of water to determine if it was sufficient for safe passage for the vessel and is the pen name of Samuel Langhorne Clemens.
- “java”** Geographic names became synonymous with goods and events within the sailor’s vocabulary, and have been borrowed freely. “Java” is coffee, the logical reason that during past centuries the island then called Java were among the primary sources of coffee beans.
- “shanghaied”** Have you ever been “shanghaied” from some place? During the last century, sailors found life so good in that port they had to be tricked or bullied back to their ship.
- “windfall”** Luck also has its place in nautical expressions. In past centuries trees could not be cut on specified tracts of land in Great Britain. These forests were timber reserves for the Royal Navy - a critical national resource. However, if a tree blew down, the proprietor could use the timber for his own ends; thus a stroke of good fortune, or a “windfall.”
- “aboveboard”** No sea story is complete without pirates, and the language owes a debt to Blackbeard and Henry Morgan who plundered the Spanish Main four hundred years ago. “Aboveboard,” today meaning honesty, may have been derived from the pirate practice of hiding crews below-decks and trying to entice merchant ships to come close. Another method of deception employed by
- “false colors”** pirates, as well as by some ships of the line, was to “sail under false colors” or a different flag. Today this expression is used to describe an attempted deception.
- “buccaneer,”** These pirates had few havens ashore where they could obtain supplies. However, many of the Caribbean islands were populated by wild cattle and their meat became a primary staple for the pirates. The French word *boucan* is a grill for cooking meat. From this has evolved “buccaneer,” or one who eats dried meat.
- “stinkpot”** Recalling Robert Louis Stevenson’s character Long John Silver in *Treasure Island*, one can almost hear him refer to Jim Hawkins as a “stinkpot.” This term “stinkpot” well describes an incendiary bomb filled with combustibles used by eighteenth century privateers. This infernal device was thrown or dropped onto the decks of an opposing ship. The intolerable stench and smoke filled the decks causing tumult.
- On an evening when a breeze is soaring and the white waves heave high, think of other salty words and phrases that have added flavor to our speech and think too of the sailors who confront the seas and hope for a fair wind from the trades.

Robert L. Scheina

### **Surveyor**

Published quarterly by the American Bureau of Shipping  
November 1978  
Volume 12, Number 4

## APPENDIX B Continued – SEA LANGUAGE ARTICLES

### Words That Walked the Plank

Seafarers have left the English language a polyglot legacy of everyday words and phrases.

Did buccaneers ever make anyone **walk the plank**? Maybe. We do know that the name **buccaneer** derives from the boucan, a grill kept aboard ship to cook the meat of captured cattle. Those whose dietary **mainstay** was boucan-cooked beef became known as boucan-iers. On a sailing ship the mainstay is the principal rope of a ship's rigging (holding the mainmast in place), but ashore it denotes that which is a chief reliance.

Bouccaniers would often **fly under false colors** using the flag of a state friendly or neutral towards the targeted vessel long enough for the pirates to get within boarding range, at which point the pirate ship **showed its true colors**.

When apprehended, pirates were summarily hanged. In Elizabethan England, the hanging was often done at the desolate Thames tidewaters and the felon buried in mud "so that none may find his foul body nor account for his soul at the resurrection." Some think this is the source of the expression a **stick in the mud**, meaning someone deadly dull whose company is undesirable.

In the 17th-century, hangings were greatly streamlined by a Mr. **Derrick**, an enterprising hangman who invented a special angled beam, topped by a tackle arrangement, that pivoted off the main stalk of the gallows. It gave a production-line speed to the entire execution process. Today his invention - still bearing his name - has less grisly uses.

English is **chockablock** with words spawned at sea. Chockablock itself once denoted that two tackle blocks had been brought together and that no more slack could be taken on the rope. Today "chockablock," shortened to "chock," merely means "completely," as often used in the term "**chock full**."

#### Going Berserk

Reaching into the past for sea-language stories, one can easily go **overboard** or **get carried away**, phrases which today can be used in degrees of intensity impossible with their original meanings. (It is hard to imagine a sailor going slightly over the side of the ship, or of rigging breaking to the point where the ship became only a little uncontrollable). An extension of getting carried away is to be taken for a **Nantucket sleigh ride**, in which a small whaleboat whose harpoon has found its mark in a lively whale finds itself towed at a furious clip for miles.

In any case, getting carried away is better than going **berserk**. Or, more precisely, "bare-sark," sark being the Old Norse word for shirt, and bare-sark meaning the bold practice of facing foes bereft of chest armor, protected only by sword and strength. A sark is also found in the poetry of Robert Burns. One of his odes tells of a young witch who wore a cutty sark, or cut-down shirt. *Cutty Sark* became the name of one of the most famous of all sailing clippers - and later of whiskey labels. And so a mini-skirted Scottish witch secured a place in maritime history and popular culture.

The Viking culture had another interesting custom, that of setting a dead chief's corpse aboard his flagship, which was launched with steering lashed so that, set afire, it would head out towards the setting sun. This gives us the idiom **gone west**, meaning departed.



The Vikings began coining expressions for us around the seventh century. About a thousand years earlier, in 338 BC, the Romans captured an enemy fleet at Actium (later Anzio). To mark the event, the Romans removed the bronze rams capping the bows of the enemy ships, bringing them to Rome as decorations for the speaker's stage at the Forum. The name for this bowpiece, **rostrum**, eventually became a word describing the stage itself, and today means any stage for public speaking.

Those Roman sailors, by the way, set their sails to a sprit or yard called an **antenna**.

Sea battle has given us many words. During the Punic Wars, for example, a term arose to describe the fellows commanding the warring vessels: "Magestis Navis." Over the years it was shortened to simply **Master**. During the reign of Henry VIII of England (1509-47), as one "tale-spinner" tells it, the French burned the English town of Brighton. Henry dispatched ships commanded by one Admiral **Wallop** to deal them a reprisal, and the Admiral ravaged the French coast so thoroughly that his name soon became a synonym for any devastating blow.

### **Dutch Uncles**

In the heat of battle intrepid gunners would defy the enemy and **stick to their guns** while the crew retreated into a special armored keep whose doors had slots through which guns could be fired. This was **fighting in closed quarters**. Later, "closed" was changed to "close," and the term now means personal combat. John Paul Jones had his "decks painted red," (decks, bulwark and gun ports) so that "a new hand, unused to scenes of strife, might not grow faint at the sight of blood splashed nearby." Dutch captains would pass around genever (from which we get **gin**) to brace the flagging spirits of their men and thus give rise to the idea of **Dutch courage**.

English and Dutch being close language cousins, it is sometimes hard to tell who has borrowed what from whom. Today's English certainly contains many phrases that walked the boards of Dutch sailing vessels. One might say Dutch sailors left behind enough words and phrases to sink a ship. A ship to windward was "te loef" - today, a person closer to the wind than to his mates might be **aloof**. In Dutch a tree is a "boom," as are the rounded spars that, extended, hold studding sails that give the ship more speed, in which case she is said to be booming along, from which some say we derive the idea of **booming times**. The captain of a vessel is a "schipper" (pronounced as in **skipper**), he stands on deck, and when his boat moves rapidly it is said to "skoet" (**scoot**).

The Dutch word for a peg was "peil," and for lead was "loth." The name given to one who was so skilled in ship handling as to be able to bring a ship to port without the use of the lead line (at the end of which was a lead peg) for feeling depths was given the honorary nickname of "lead-peg" or "peil-loth," the tool his skill obviated. From this comes the title **Pilot**.

For one who ran war contraband, whose tactics enabled embattled survivors to carry on a fight and thus delay a combat loss, the Dutch used the word "vrijbuitter" (**freebooter**). The Spanish called the freebooter a "filibustero." Today, a dilatory tactic (often a continuous speech in the U.S. Congress lasting for days) employed to delay or prevent action by a legislative body (a political "combat loss" to its opponents) is called a **filibuster**.

### **Jolly Good Speech**

To **maintain an even keel** in this discussion, credit must be given the numerous Englishmen who set to sea and sent their lingo over the oceans. Once there was a privileged class of squires at sea who carried the banner, or ensign, of their lord and master into battle. When this class eventually received its commission, the name given the rank was that of "the flag," or **Ensign**.

The Ensign's master may well have been a senior officer, one of a group who often wore large wigs and so became known to the common seaman as **bigwigs**. One such bigwig was a certain Admiral Vernon, who habitually wore a long coat made of grosgrain (or grogam) -a blend of silk and wool - and was consequently referred to as "Old Grog." Vernon's great idea was that the Admiralty could save money by cutting the sailors' standard rum ration to 50% water. This was implemented and the men contemptuously referred to the new, inferior drink as grog, and to one who became inebriated on it as groggy.

Pubs, inns and taverns were not always the cleanest of places, and patrons in these establishments were often bothered by hovering insects. One method quickly adopted for protecting their liquor was to place a piece of toast atop the glass. From this practice we get the Spanish **tapas bar** (tapas = toast) and the English expression **to drink a toast**.

Taking the great English passenger lines to India, travelers found the most comfortable trip to be in cabins that were shaded during the hottest parts of the journey. These turned out to be portside to India and starboard on the return. The abbreviation stamped on the ticket was **POSH** - port out, starboard home - which soon became a synonym for "luxurious."

### **Top-Rate and a Big Cheese**

In India, the natives referred to sailors' britches as **dungarees**, which today means blue jeans. Blue jeans are made of **denim**, which was employed for French fishermen's pants long before Levi Straus sold it to prospectors during the American Gold Rush of 1849. The fabric's original name was serge de Nimes. Back in India, an important (or self-important) official with whom a captain might have to bargain for his ship's papers was, in one Indian dialect, a "chiz," begetting the Englishman's question "who's the **big cheese** (top guy) around here?"

When a ship was classed by Lloyd's of London as being top-rate, it was given the mark A-1, A for hull and 1 for machinery (as is used today in the ABS classification). Soon, **A-1** became an expression of honesty and quality.

Discussing the obscure origins of common words and phrases is a practice some enjoy and others honestly cannot **fathom**. "Fathom" originally meant to measure water depth in fathoms. It now means to penetrate and thus come to understand a problem or situation. "Fathom" meaning a depth unit equal to six feet supposedly derives from the Old English "faetm," which means "to embrace." According to one sea language chronicler, the English Parliament had been discussing the need to establish a small, standard unit of depth measure and came to a rather whimsical solution: since an embrace encompassed the distance between a man's hands when placed around his sweetheart - as in a sailor bidding her goodbye - and as that distance averaged about six feet, then six feet should become that standard unit.

### **Tie Me Up, Tie Me Down**

When not embracing sweethearts, old-time sailors had a whale of a time **spinning yarns**. The whale, of course, was the biggest creature a sailor had ever seen (outside of a few sea serpents), and so "**a whale of a ...**" became a superlative for anything large and important. But yarn spinning? That literally meant to make a spun-yarn rope. Two sailors had to operate a small winch-like device that twisted two or more rope yarns or fibers together. It was a long process, and to pass the time the sailors took to talking and story-telling.

How the old-time sailors found themselves aboard ship could be a story in itself - if they were **shanghied**. An unlucky gob might be knocked out in a bar, transported through a tunnel to a secret dock and forced to serve aboard a China-bound freighter (San Francisco is famous for this). Once aboard, discipline was severe, and crewmen often found themselves accused of **working Tom Cox's traverse**, meaning skillful loafing (though Tom's own story is long forgotten). They were punished for infractions (which they tried to keep secret) by a whipping with a cat o'nine tails (**to let the cat out of the bag**).

Tales abounded of Davy Jones, the goblin of the deep that personified the terror of the unknown. Only **Davy Jones' locker**, the sea floor itself (where all items gone overboard wind up, including the bodies of dead sailors), has become a fixture of shoreside mythology.

Tales of the **Flying Dutchman**, captain van Decken, condemned for impiety and venality to roam forever the waters off the Cape of Good Hope, also continue to haunt tellers of folklore worldwide.

Out on the golf course, a source of many tall tales itself, one encounters the fairway - but not the mariner's **fairway**, which is a straight course down a mild sea channel. From weather talk comes the idea of the **fair-weather sailor**, one whose competency lasts only as long as the calm weather, and later of the "fair-weather friend." Caught by a sudden shift of wind, the ship's sails might be pressed back flat against the masts and the ship would become unmanageable or **taken aback**, much as a person caught by surprise. Another way a sailing ship might become unmanageable would be to break three of the lines used to trim its sails to the wind. These lines are called "sheets," and so another synonym for drunkenness (with which sea-talk is heavily laden) developed: **three sheets to the wind**. Speaking of ship's cordage, there is an old saying that goes "There are only seven ropes on a ship. Most of them are lines." A novice sailor familiar with the names and functions of only the basic ropes was said to **know the ropes**.

To rig once meant simply to fit a vessel with sails and cordage. As a noun, **rig** later referred to a style of dress or to a horse-and-buggy (and today to a car or mechanical setup). Today, "to rig" commonly means to contrive ingeniously or to manipulate by dishonest means.

A number of expressions come from the sailor's rope-handling vocabulary. A seaman might call for more rope on a line, saying **cut me some slack**, or request the helmsman leave adequate room between the vessel and an object on the ship's windward side by yelling out "**give me some leeway**." Should one vessel sail windward of another it would block the breeze and thus **take the wind out its sails**. A ship could make forward progress against the wind by tacking (sailing at an angle to the breeze) and **taking a new tack** until the best approach was found. In calm weather a sailor was known to attempt to **raise the wind** (which now means to secure money or credit) by whistling (**whistle in the wind** now means talking to keep up one's courage).

### Windbags

To make the ship run before the wind, it was necessary to bring the yards around to a right angle with the keel. This was called **squaring away**, which today means to pay a debt or to get even. Before squaring away, it was always necessary to **see which way the wind blows**. If in a squall any yards, masts or sails were lost, they would fall into the sea and **go by the boards** or be completely lost. Sailors believed every wind was useful for some ship, somewhere, so "**it's an ill wind that blows nobody any good**." If a ship's papers weren't in order she couldn't leave port and would remain **tied up**. Should a storm approach a vessel at anchor, the captain would give orders to **cut and run** or make a quick escape by severing the anchor line. If the weather turned on a vessel at sea, the captain would seek whatever shelter, however meager, was available - **any old port in a storm**. Temporary spars and rigging contrived after a storm or accident were called **jury rigs**.

A butt was a barrel, and scuttlebut the barrel containing the day's freshwater rations. The **scuttlebut** (much like an office water fountain) became a center for conversation, and now means gossip. One seaman might tell another "**Sling your hook!**" (meaning "Get lost!"), although Shakespeare advised us: "Those friends thou hast and their adoption tried/grapple them to thy soul with hooks of steel."

## Curiosities

It seems that everybody has their favorite tall tales, and compilers of sea etymologies are no different. One source will "define" a word or phrase by reeling off a yarn, and another source might spin a tale equally long and call into question or even deny the definition. Sometimes "definitions" seem to border on the fanciful or wishful. For example, did "squid" originate in an ancient word "squit," meaning to squirt? Or the famous word **landlubber**: does it originate as a corruption of "land-lover" or as a descendent of the Middle English "looby" (awkward), which describes a novice seaman or land-lover at sea? And the expression "**to deep six**" something: does it refer to grave digging, or to the last fathom above Davy Jones' locker?

On some full-rigged ships, the topmost sail was a small one called the **skyscraper**. Whether it has anything to do with those tall buildings lining the streets of Manhattan is matter of debate. Similarly debatable is the **douse**, a seafarer's word meaning to abate or extinguish. Ashore it also means to drench. Word has it that the origin may lie in a very old synonym for the verb "to smite."

**To leave someone in the lurch** is to leave him in an unsupported or vulnerable position. This may derive from the sailor's favorite game, cribbage in which lurch (itself derived from Middle French "lourche" or deceived) refers to a decisive defeat in which an opponent wins by more than double the loser's score.

Workmen laboring from midnight to eight A.M. are said to be on the **graveyard shift**, from the sailor's graveyard watch, midnight to four A.M. Supposedly, this was once called the "gravy-eyed" watch because it was at the time of night when the eyes became sticky. Over the years, they say, gravy-eyed became the less graphic but more gothic graveyard.

## Imported From Afar

"There is a tide in the affairs of men," wrote Shakespeare, probably reflecting on the penetration of the sea into shoreside metaphor. Some stock phrases in English are: **to tide over**, meaning to sustain; "to turn the tide," meaning a (usually for the better) change of luck; **against the tide** (or current or flow), meaning contrary to popular trend and usually very difficult; **with the tide**, meaning to conform.

Rapidly recounting any long list is known as **reeling off** - a term that once referred to the ship's log. Today, a speed log aboard ship is a mechanical or electrical device. Originally, though, the **log** was just that - a piece of wood called a "log chip," tied to the end of a line wound onto a spinning reel. The log line was divided by marks called "knots." To measure speed, the log would be thrown overboard and the line would begin paying out as the ship sailed. After a definite number of seconds (timed by sandglass), the mariner could ascertain from the marks how far the ship had gone and from that number calculate its speed (in, **knots**). When the ship was booming along, the log reel would sound a humming note, from which the "reeling off" of speech derives.

"Log" also refers to the ship's official diary of weather and events, usually kept by the chief officer. The book was originally called the ship's journal, but it got the name "logbook" from the log board, a slate on which speed readings from the log line were recorded. Thus, **to be logged** is to have ones derelictions reported, and to "log" anything has come to mean simply to write it down into a record. An old story goes that one mate, who had been three sheets to the wind and unable to write the ship's log, found the next day that the captain had assumed that duty and logged him as being drunk. The mate said nothing, but added at the end of the next day's log "captain sober today."

When asked to render a service, a mariner might reply "**No can do**" if it is not possible or "**Can do**" if it is. These and other expressions come from Pidgin English, a simplified version of the language chiefly spoken in the Orient. **Chop-chop** meant rapidly, and so a Pidgin English name for the Chinese eating utensils called "k'wai-tsze" (nimble ones) developed: **chop-sticks**. What one eats with chop-sticks was called chow (but not "chowder," which comes from the French word for cauldron, "chaudier").

### You Savvy Pidgin?

"Three piecee bamboo" described a three masted vessel. (**Three Sticks Bamboo**, a variation, was the title of a recent book about *Sealandia*, the first ocean-going ship propelled solely by diesel engines.) Expecting a ship to arrive, one might **makee look-see** or "have a look-see" meaning to reconnoiter or search for. A sailor might have asked a Chinese "**You savvy?**" meaning "You understand?," which derives from the Spanish word "sabe" (he knows). It is also used to mean possessing practical know-how.

In a kind of reverse-Pidgin English, another Levantine import could be the phrase **so long**, meaning goodbye, which is held by some to be the seaman's imperfectly understood version of the Eastern farewell "salaam."

The Swedish word "skaffning" (grub or food) metamorphosed into the term "skoff'm" (same meaning) and now shows up as the slang verb **skoff**, meaning to devour or to seize. When it's time to **chow down** (eat heartily), one dish sailors love to "skoff up" is **curry**, whose name comes from the Tamil-Malawayan word "kari." Over in Berlin, Germans had for centuries loved to take their little sailing craft out for a wild ride on that city's windy river, the Spree. Today, **going out on a spree** refers to any unrestrained indulgence, such as a sailor ashore on a liberty trip engaging in a drinking bout. As long as no bones were broken, everything was **hunky-dory**, a term of approval that supposedly comes from the name of a Japanese port street - hunki dori - that catered especially to sailors.

At the opposite end of the spectrum from hunky-dory we find the terror of the early seafarer, scurvy. Originally it was a condition resulting from a lack of Vitamin C, marked by spongy gums, loosening of the teeth and bleeding into skin and mucous membranes. Today, **scurvy** describes anything as contemptible or disgustingly mean - as in "a scurvy trick." A companion to such a thought may be the phrase "**there'll be Hell to pay**," meaning a time for comeuppance is drawing near.

As some folks tell it, "Hell" was the name of the wooden hull seam just above the waterline, because repairing it at sea was extraordinarily difficult and dangerous. ("Pay" here means filling the seam with hot pitch after caulking.) The original phrase is "**Hell to pay and no pitch hot!**" and probably led to the thought of being **between the Devil and the deep blue sea**.

### The Last Word

Collecting sea-born etymologies can become a tall tale itself after awhile, full of so many colorful characters and episodes that it could outlast the spinning of many yarns or occupy many nights in a smoky bar. For example, there are the two sailors who were so desperate for a drink that they drove a spigot into the alcohol-filled casket carrying the body of an old Admiral back to England for burial. Thus arose the expression "**to tap the Admiral**," for the desire to drink any liquor at all (no matter how bad). This bit of nautical English does not seem to have survived the era of Prohibition.

Some even say crewmen twisted the Middle English "yea" into the familiar **aye**. But in the end, asks an old joke, who has the last word at sea, the officers or the crew? The answer: The crew, of course - "Aye, aye, sir."

(JOE EVANGELISTA)

Reprinted from **Surveyor**  
Volume 24, Number 1 March 1993

## **APPENDIX C - TIME ZONES OF THE WORLD**

Noon is the time at which the sun is directly overhead any given location, but this would mean that noon is a constantly moving point and different cities would be 15 minutes or 25 minutes apart, depending on their location. As travel and communications became more universal, it became apparent that a standard of time was needed between different locations. An international conference was held in Washington In 1884, to decide the matter.

Since there are 24 hours in a day, it was decided to divide the world into 24 time zones of 1 hour each. Since the earth is 360 degrees, that meant that each time zone was about 15 degrees of longitude or about 900 miles wide - which is about the distance the sun appears to travel in one hour. For convenience, each time zone uses the average time of that zone and Greenwich, England was decided to be the reference point and called the "prime meridian." Each time zone is labeled starting to the east of prime with "A" and circling the world. Pacific Standard Time is "R" and Greenwich is "Z" (or Zulu in the military phonetic alphabet). ("I" and "O" were not used.)

Where the time switches from being "before" prime (i.e. before the sun rises at Greenwich) to "after" prime is called the International Date Line which is the point at which the day is arbitrarily changed to the next day. This point is located exactly opposite Greenwich, which turns out to be in a virtually uninhabited part of the Pacific Ocean, so it inconveniences no one. Local variations are made to avoid splitting cities in two and alignments are often made with state lines to minimize confusion.

Daylight Saving Time is an arbitrary adjustment to give people more daylight in the evening hours in the summer and has nothing to do with the sun.

DATE CHANGE LINE

165 East 150 135 120 105 90 75 60 45 30 15 West 0 East 15 30 45 60 75 90 105 120 135 150 165

West East West East

MONDAY  
MONTAG  
LUNDI

LUNES  
LUNEDI  
MAANDAG

SUNDAY  
SONNTAG  
DIMANCHE

DOMINGO  
DOMENICA  
ZONDAG

165 East 150 135 120 105 90 75 60 45 30 15 West 0 East 15 30 45 60 75 90 105 120 135 150 165

West East West East

165 East 150 135 120 105 90 75 60 45 30 15 West 0 East 15 30 45 60 75 90 105 120 135 150 165

West East West East

## APPENDIX D - WEATHER WARNINGS

### The Beaufort Wind Scale

Named after Sir Francis Beaufort, a British Admiral who developed it in 1805, the Beaufort Scale is a universal method of describing wind and sea states according to the descriptions supplied:

---- Wind ----					
Force	M.P.H	Knots	Wave Ht.	Name	Description
0	Under 1	Under 1	0 ft.	Calm	Sea like glass, smoke rises vertically.
1	1-3	1 - 3	.3	Light Air	Ripples on water with appearance of scales.
2	4-7	4 - 6	.5	Light Breeze	Leaves rustle, feel wind on face, small wavelets on water.
3	8-12	7 - 10	.75	Gentle Breeze	Smoke, but not wind vanes, shows direction of wind. Large wavelets, scattered whitecaps on water.
4	13 - 18	11 - 16	1 - 2	Moderate Breeze	Leaves in constant motion on trees, flag flutter; Large wavelets, many whitecaps begin to form.
5	19- 24	17 - 21	3 - 4	Fresh Breeze	Small trees sway. Moderate waves with whitecaps and spray.
6	25 - 31	22 - 27	5 - 6	Strong Breeze	Large branches in motion on trees. Large waves begin to form. Whitecaps and spray everywhere on the water.
7	32 - 38	28 - 33	7 - 9	Moderate Gale	Whole trees in motion. Sea heaps up. White foam from breaking waves blows in streaks along the direction of the wind (scud).
8	39 - 46	34 - 40	10 -15	Gale	Wind breaks twigs off trees; difficult to walk against the wind. Waves long with well-marked white streaks on surface.
9	47 - 54	41 - 47	15 - 20	Strong Gale	Shingles blown off roofs. High waves, rolling seas, streaks everywhere. Visibility reduced due to heavy spray.
10	55 - 63	48 - 55	20 - 30	Storm	Trees uprooted, structural damage to buildings. Very high waves with overhanging crests. Visibility difficult. Sea white & tumbling.
11	64 - 72	56 - 64	30 - 40	Violent Storm	Extremely high waves. Small ships lost to view between waves. Sea completely covered with long white patches of foam and froth.
12	73+	65+	40' +	Hurricane	Air completely filled with foam and driving spray



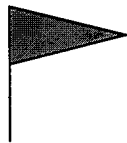
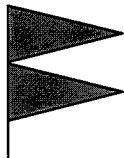

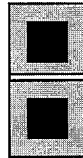

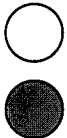


## **Hurricane Scale** (Saffir - Simpson - U.S. Weather Service)

---- Wind ----				
Category	M.P.H	Knots	Wave Surge	Description
I	74 - 95	64 - 82	+ 4' - 5'	Damage to lightly constructed buildings and signs. Some coastal flooding.
II	96 - 110	83 - 95	+ 6' - 8'	Some roof damage on buildings. Considerable damage to trees and shrubs. Coastal flooding and small craft breaking loose from moorings.
III	110 - 130	96 - 113	+ 9' - 12'	Some structural damage to buildings. Large trees blown down. Severe rain. Low lying areas flooded. Evacuation recommended.
IV	131 - 155	114 - 135	+ 13' - 18'	Extensive damage to buildings and trees.
V	155 +	135 +	18' +	Buildings blown away. Torrential rain and flooding.

See "Storms" in main Glossary for description of the way storms are named.

## **Weather Advisories** (U.S. Weather Service)

Storm advisories are displayed at selected U.S. marinas, Coast Guard Stations and harbor locations.

	<b>Small Craft</b> 20 - 38 mph	<b>Gale</b> 39 - 54 mph	<b>Storm</b> 55 - 73 mph	<b>Hurricane</b> 74 + mph
Day signals (flags)				
Night signals (lights)	 red over white light	 white over red light	 two red lights	 red white red

# APPENDIX E - WEIGHTS & MEASURES

## LENGTH CONVERSIONS

U.S.		=	METRIC		=	U.S.
inches	x 2.54	=	centimeters	x .3937	=	inches
feet	x 30.48	=	centimeters	x .03281	=	feet
yards	x .9144	=	meters	x 1.0936	=	yards
statute miles	x 1.609344	=	kilometers	x .62137	=	statute miles
nautical miles	x 1.852	=	kilometers	x .53996	=	nautical miles

### US SYSTEM

12 inches	=	1 foot
3 feet	=	1 yard
5.5 yards	=	1 rod
40 rods	=	1 furlong
8 furlongs	=	1 statute mile
5,280 feet	=	1 statute mile
6 feet	=	1 fathom
120 fathoms	=	1 cable length
6,076.12 feet	=	1 nautical mile
3 statute miles	=	1 statute league
1.1508 statute leagues	=	1 nautical league

### METRIC SYSTEM

10 millimeters	=	1 centimeter
10 centimeters	=	1 decimeter
10 decimeters	=	1 meter
10 meters	=	1 decameter*
10 decameters*	=	1 hectometer
10 hectometers	=	1 kilometer

\*also dekameters

\*\*\*\*\*

## VOLUME CONVERSIONS

U.S.		=	METRIC		=	U. S.
teaspoons	x 5	=	milliliters	x .2	=	teaspoons
tablespoons	x 15	=	milliliters	x .06667	=	tablespoons
fluid ounces	x 29.57	=	milliliters	x .0338	=	fluid ounces
cup (8 ounces)	x .236588	=	liters	x 4.219	=	cups
pints (liq.)	x .473176	=	liters	x 2.1134	=	pints (liq.)
quarts (liq.)	x .94635	=	liters	x 1.0567	=	quarts (liq.)
gallons (liq.)	x 3.7854	=	liters	x .26417	=	gallons (liq.)
cubic inches	x 16.3871	=	milliliters	x .0610237	=	cubic inches
cubic feet	x .02831687	=	cubic meters	x 35.3147	=	cubic feet
cubic yards	x .7645549	=	cubic meters	x 1.30795	=	cubic yards

### U.S. SYSTEM

#### LIQUID MEASURE

4 fluid ounces	=	1 gill
2 gills	=	1 cup
2 cups	=	1 pint
2 pints	=	1 quart
4 quarts	=	1 gallon
31.5 gallons	=	1 barrel
2 barrels	=	1 hogshead
42 gallons oil	=	1 barrel oil

### METRIC SYSTEM

1 cubic centimeter	=	1 milliliter
1,000 cc	=	1 liter
.001 cubic meter	=	1 liter
10 milliliters	=	1 centiliter
10 centiliters	=	1 deciliter
10 deciliters	=	1 liter
10 liters	=	1 decaliter*
10 decaliters*	=	1 hectoliter
10 hectoliters	=	1 kiloliter

\*also dekaliters

### DRY MEASURE

2 pints	=	1 quart
8 quarts	=	1 peck
4 pecks	=	1 bushel
128 cubic feet	=	1 cord (wood)

## AREA CONVERSIONS

U.S.	=	METRIC	=	U.S.
sq. inches x 6.4516	=	sq. centimeters x .155	=	sq. inches
sq. feet x .0929	=	sq. meters x 10.7639	=	sq. feet
sq. yards x .8361	=	sq. meters x 1.19599	=	sq. yards
sq. miles x 2.58999	=	sq. kilometers x .3861	=	sq. miles
acres x .404687	=	hectares x 2.471	=	acres

### U.S. SYSTEM

144 sq. inches	=	1 sq. foot
9 sq. feet	=	1 sq. yard
30.25 sq. yards	=	1 sq. rod
160 sq. rods	=	1 acre
640 acres	=	1 sq. mile
1 sq. mile	=	1 section
36 sections	=	1 township

### METRIC SYSTEM

100 sq. millimeters	=	1 sq. centimeter
10,000 sq. centimeters	=	1 sq. meter
1,000,000 sq. millimeters	=	1 sq. meter
100 sq. meters	=	1 are
100 ares	=	1 hectare
100 hectares	=	1 sq. kilometer
1,000,000 sq. meters	=	1 sq. kilometer

\*\*\*\*\*

## WEIGHT CONVERSIONS

U.S.	=	METRIC	=	U.S.
ounces (Avoir.) x 28.3495	=	grams x .03527	=	ounces (Avoir.)
pounds (Avoir.) x .45359	=	kilograms x 2.20462	=	pounds (Avoir.)
short tons x .907185	=	metric tons x 1.1023	=	short tons
long tons x 1.01605	=	metric tons x .98421	=	long tons

### U.S. SYSTEM

#### TROY

(used in gold, silver & jewels)	
.0648 grams	= 1 grain
3.0865 grains	= 1 carat
24 grains	= 1 pennyweight
20 pennyweights	= 1 ounce
12 ounces	= 1 pound

### APOTHECARIES

(used in pharmacy)

.0648 grams	= 1 grain
20 grains	= 1 scruple
3 scruples	= 1 dram
8 drams	= 1 ounce
12 ounces	= 1 pound

### AVOIRDUPOIS

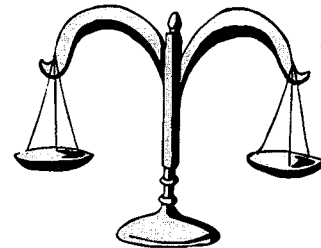
(for all other uses)

.0648 grams	= 1 grain
27.3437 grains	= 1 dram
16 drams	= 1 ounce
16 ounces	= 1 pound
100 pounds	= 1 hundredweight (cwt) short
20 hundredweights	= 1 short ton
2,000 pounds	= 1 short ton
2,240 pounds	= 1 long ton

### METRIC SYSTEM

10 milligrams	= 1 centigram
10 centigrams	= 1 decigram
10 decigrams	= 1 gram
10 grams	= 1 decagram*
10 decagrams*	= 1 hectogram
10 hectograms	= 1 kilogram
1,000 kilograms	= 1 metric ton

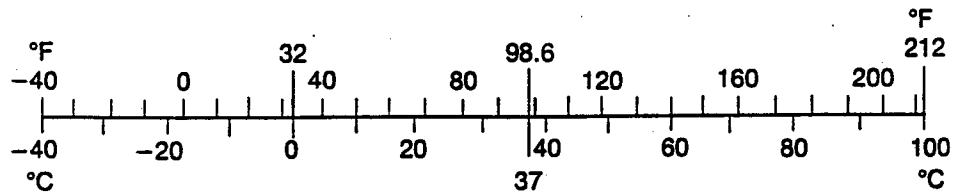
\*also dekagrams



## TEMPERATURE CONVERSIONS

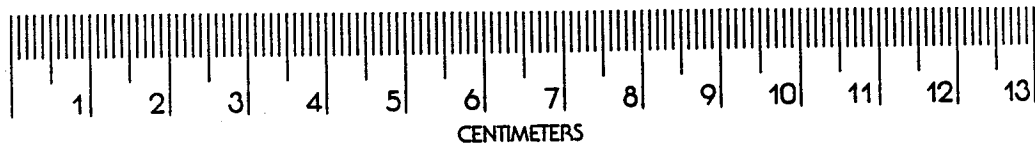
$$\begin{aligned} \text{FAHRENHEIT} &= \text{CELSIUS}^* = \text{FAHRENHEIT} \\ ^\circ\text{F} - 32 \times .5556 &= ^\circ\text{C} \times 1.8 + 32 = ^\circ\text{F} \end{aligned}$$

\*same as Centigrade



\*\*\*\*\*

## LENGTH MEASUREMENTS



(rulers are for comparison use only - are not accurate)

## APPENDIX F - VESSEL TYPES AND DESCRIPTIONS

The following is a partial list of common types of vessels. There are many specialized vessels used in the fishing industry as well as sailing vessels, naval or military vessels, and private yachts that are too numerous or specialized to mention here. Some vessels have a combination of uses such as container and refrigerated cargo or passengers and cargo.

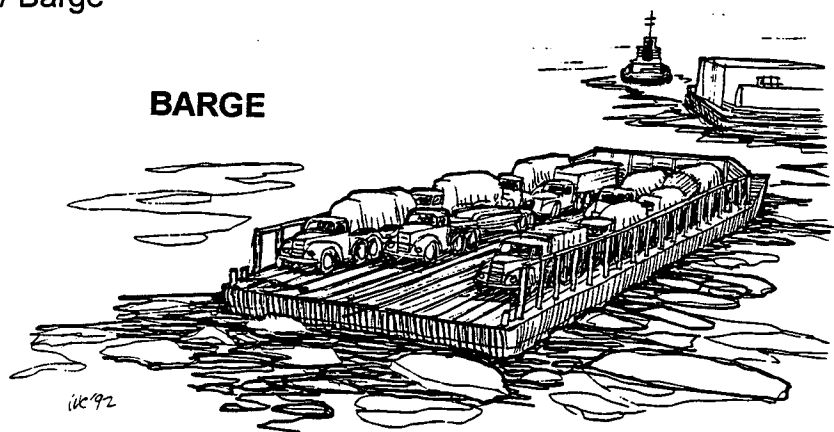
**ANCHOR BARGE** — A small barge usually fitted with an A-frame that is used to pick up anchors set by derrick barges or dredges.

**ARTICULATED TUG/BARGE (ATB)** — A tug and barge combination in which the tug connects to a specially designed stern notch of the barge. This allows the tug to maintain closer control over the barge allowing better sea-keeping ability except in unusually rough weather. Generally, the combined unit will be able to maintain better than average speeds and lower fuel consumption compared with conventional towing or pushing arrangements. There are several variations on the design including some with hydraulic rams in the notch. The unit is also known as an Integrated Tug and Barge.

**BARGE** — A flat-bottom open-deck vessel that usually is towed or pushed by a tug. It is mainly used in the rough trades, carrying bulky cargo such as coal, ore, lumber, etc. Sometimes referred to as a "dumb barge" because it has no propulsion of its own but gets pushed or pulled by a tug. There are also "self-propelled barges" (which is something of a contradiction of terms) referring to large flat-deck cargo-carrying vessels (such as a Landing Craft) that do have propulsion of their own. See "Deck Barge" for a Tandem Tow.

Some specialized types of barges are:

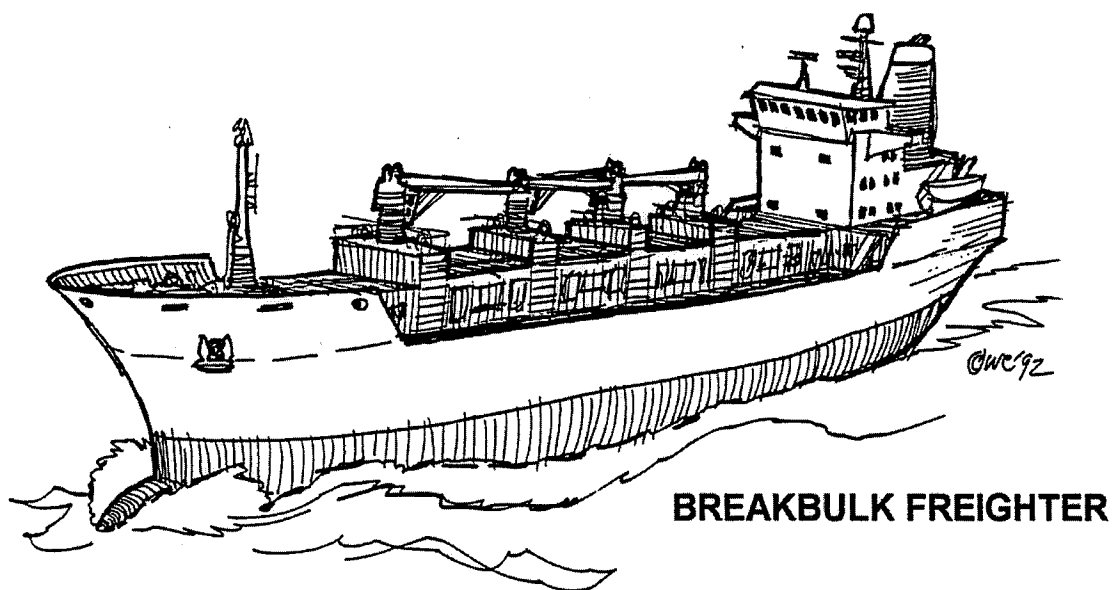
- Anchor Barge
- Articulated or Integrated Tug / Barge  
(ATB or ITB)
- Crane Barge
- Deck Barge
- Derrick Barge
- Dump Scow
- Fuel Barge
- Hopper Barge
- Lighter
- Pile Driver
- Railcar Barge
- Scow
- Tank Barge



**BARGE CARRIERS** — Vessels designed to carry barges. Some are fitted to act as full container vessels and can carry a varying number of barges and containers at the same time. Two common types are LASH (Lighter Aboard Ship) and Sea Bee vessels.

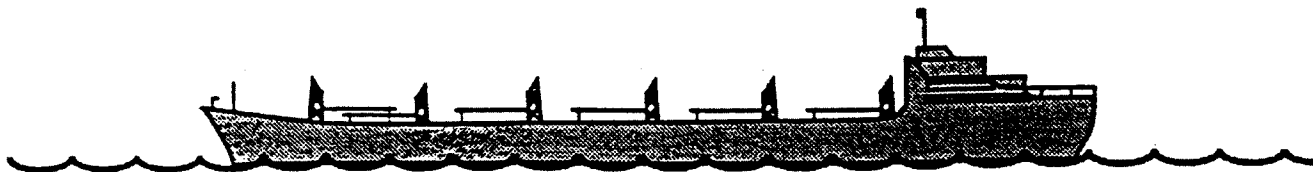
**BLUE WATER** — A term used to distinguish ocean-going vessels from vessels used on inland or coastal waters (referred to as "Brown Water"). Blue water vessels are generally larger and more strongly built to endure the open ocean without the benefit of shelter, unlike brown water vessels that can seek a safe harbor when a storm is forecast.

**BREAKBULK FREIGHTER** — A vessel using its own tackle to load and discharge non-containerized cargo of various types and kinds.



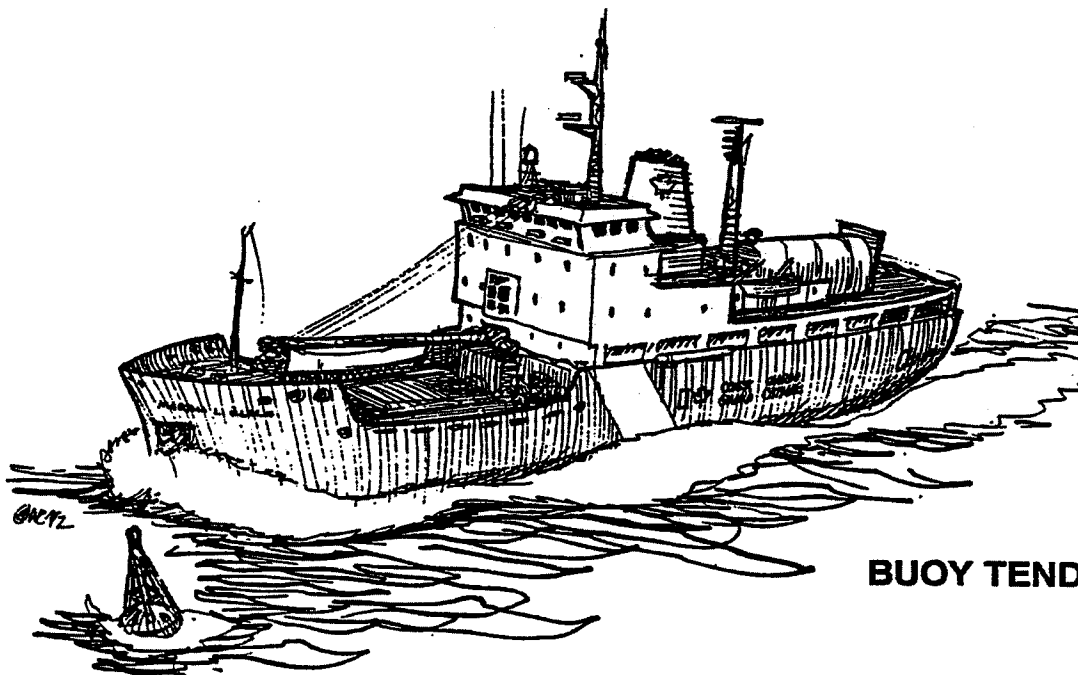
**BROWN WATER** — A term used to describe vessels, e.g. tugs and barges, working on inland rivers or coastal waters, as opposed to vessels on the ocean. See "Blue Water."

**BULK-CARRIER** — A vessel designed to carry dry cargoes such as grain, fertilizers, coal, or ore shipped in bulk without packaging. The vessel may be loaded or unloaded using cranes with scoops or by a conveyor belt system.



**BULK CARRIER**

**BUOY TENDER** — A vessel dedicated to the upkeep and repair of buoys; usually a government vessel.

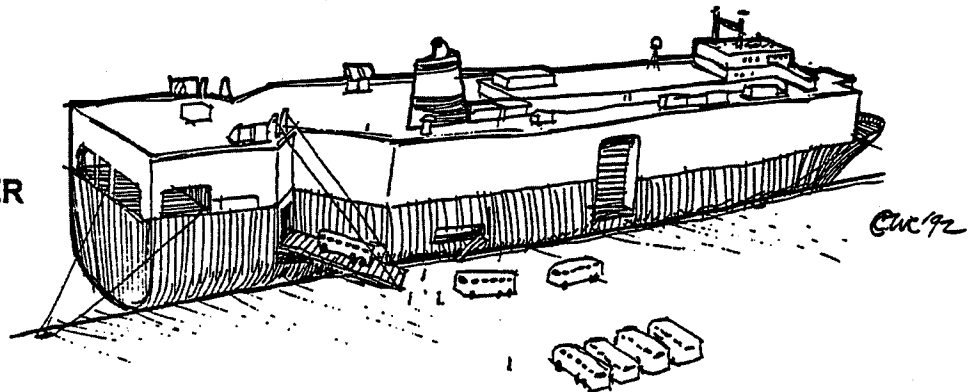


**BUOY TENDER**

**CABLE SHIP** — A vessel specially fitted with a large reel for laying and repairing underwater telephone cable.

**CAR CARRIER** — An ocean-going box-shaped vessel designed to transport new vehicles. The vehicles are driven on and off the vessel and are stowed on multi-deck levels connected by ramps.

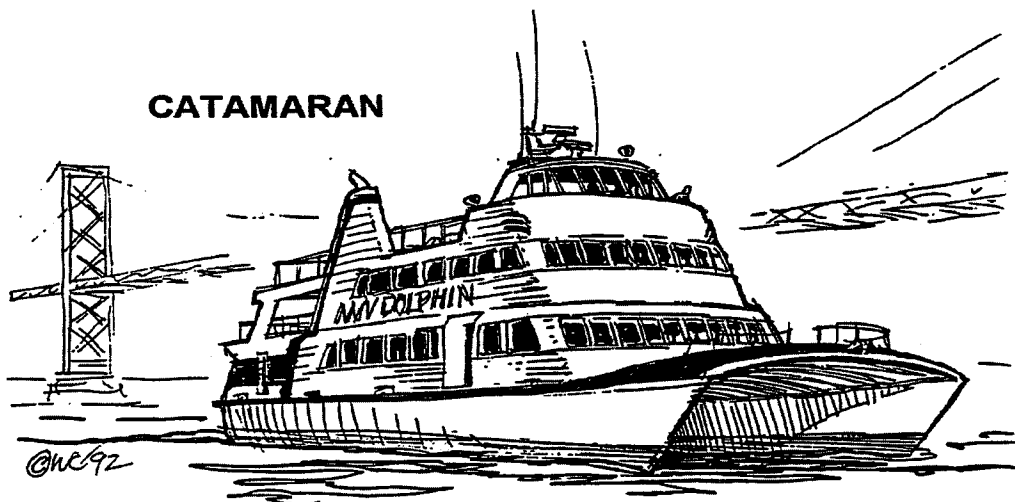
**CAR CARRIER**



**CARGO SHIP** — The traditional vessel operating in a berth line or tramp service providing container or break-bulk cargo carriage. Smaller loads are normally stowed between decks and to fill voids. Containers are generally carried in the square of the hatch in the lower holds or on deck with the aid of deck fittings, customized tie-downs, and special supports.

**CATAMARAN** — A vessel with twin hulls; often used for ferry boats (power) or pleasure boats (usually sail). The low displacement and shallow draft make the vessels very fast. See "Monohull" and "Trimaran."

**CATAMARAN**

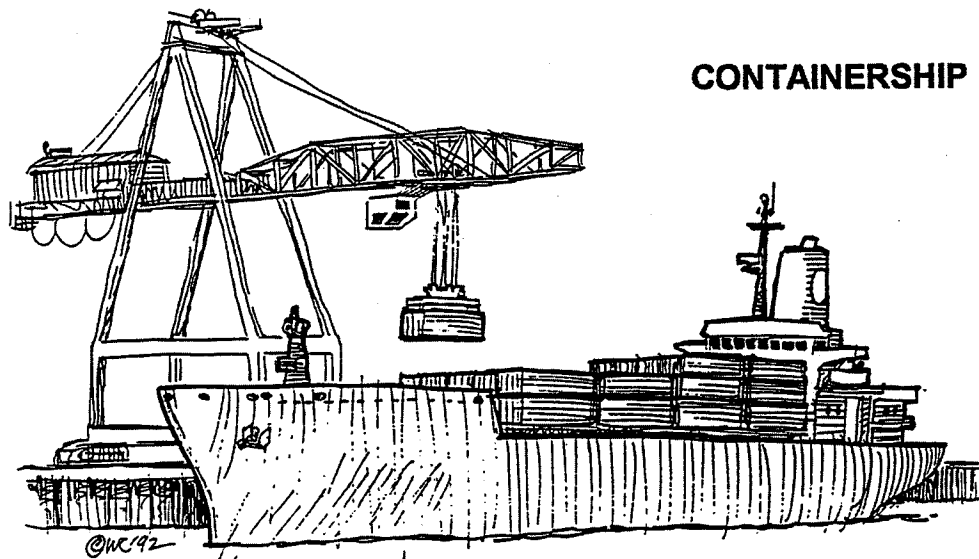


**CLIPPERSHIP** — A fast sailing ship with a long slender hull, tall masts, and a large sail area. Also known as "tall ships."



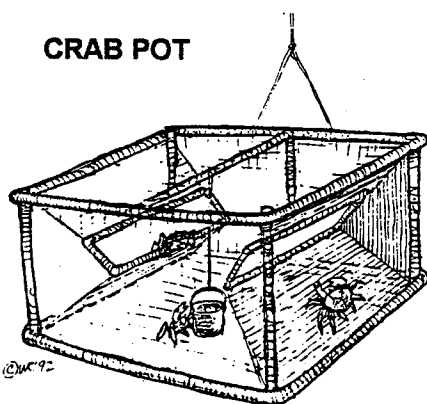
**COASTWISE** —Vessels operating along the coast; also known as "Brown Water."

**CONTAINERSHIP** — A vessel equipped with a grid system of cells for carrying standard sized cargo containers (usually 40 feet in length). The containers are loaded and unloaded by shoreside cranes.

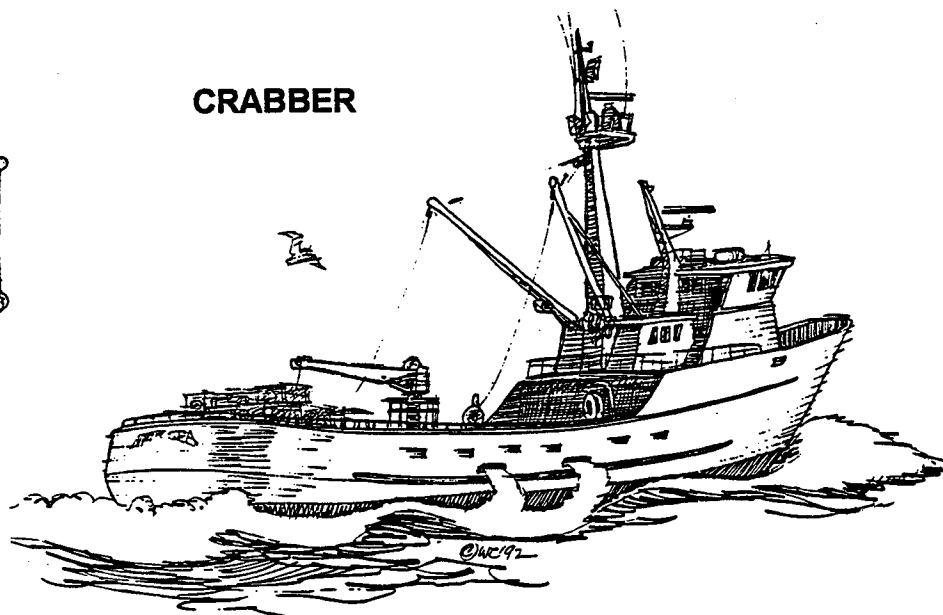


**CONTAINERSHIP**

**CRABBER / CRAB BOAT**— A fishing boat outfitted for dropping crab pots overboard and retrieving them.



**CRAB POT**

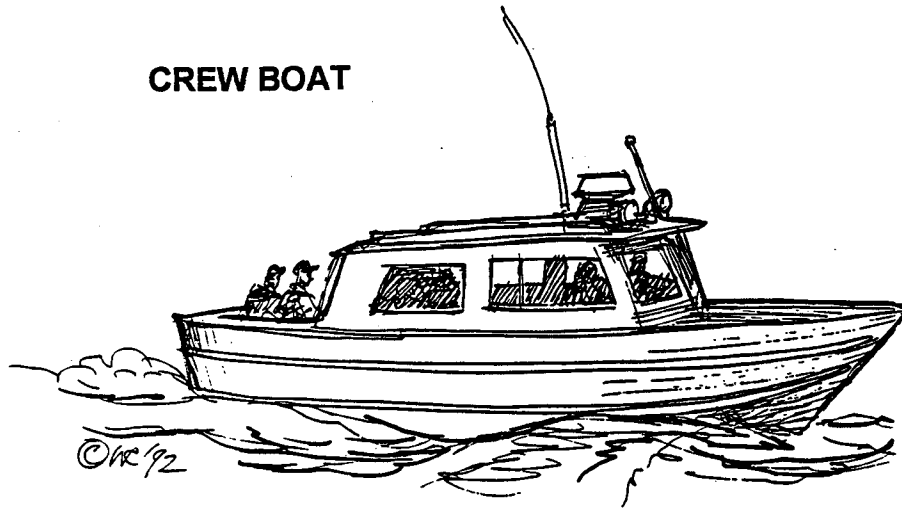


**CRABBER**

**CRANE BARGE** — See "Derrick Barge."

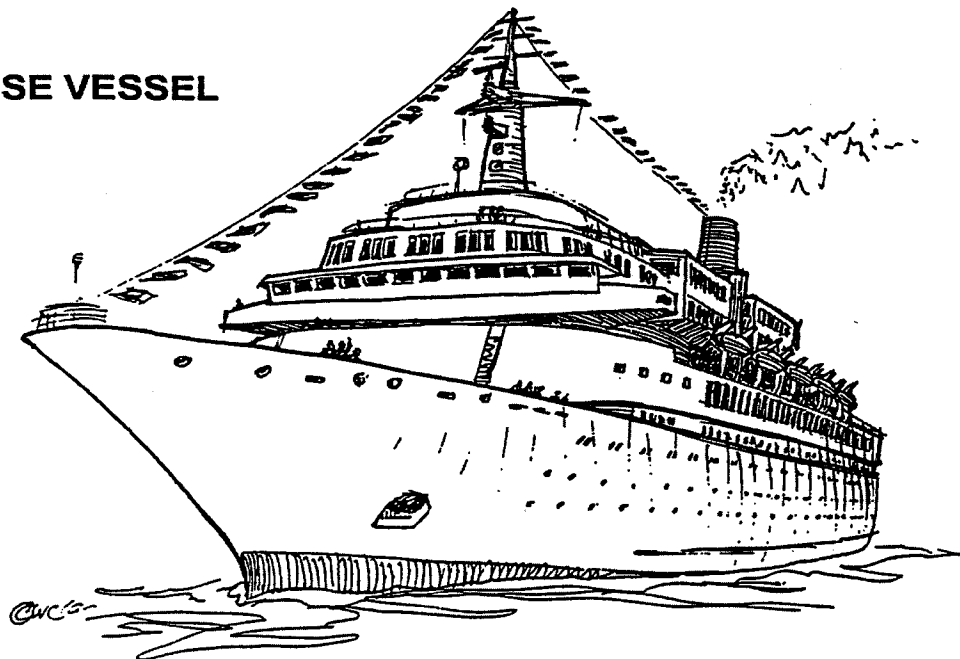
**CREW BOAT** — A small boat designed to transport crews or individuals; a taxi boat.

**CREW BOAT**



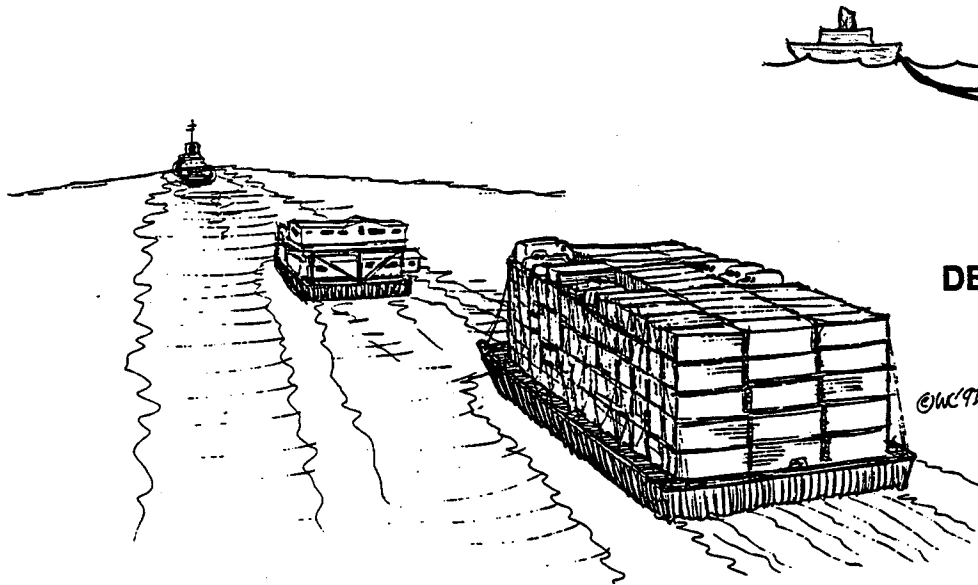
**CRUISE VESSEL** — A vessel designed to carry passengers on a specified itinerary for a period of time — much like a floating hotel. It is different from "passenger liner vessels" (such as the QE2) which transport passengers from one specific port to another, e.g. New York to Southampton, England.

**CRUISE VESSEL**



**CUTTER** — A small, armed vessel in government service, e.g. Coast Guard Cutter.

**DECK BARGE** — A barge that carries cargo on deck.



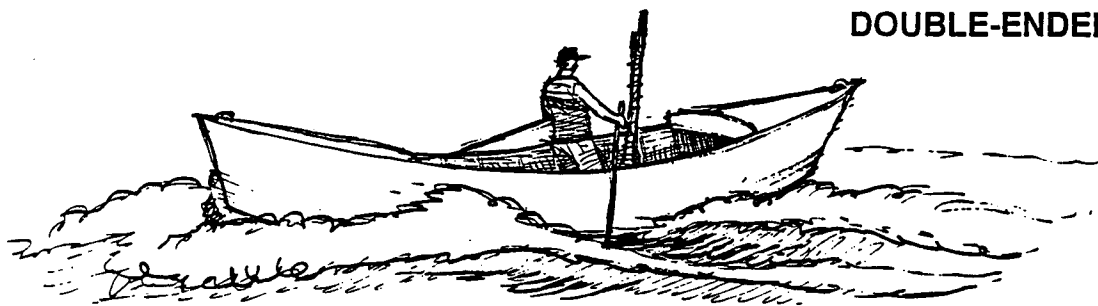
**DECK BARGES IN TANDEM TOW**

(Ocean)

**DERRICK BARGE** — A barge fitted with a crane. Derrick barges are usually fitted with winches that allow it to anchor while operating; often used alongside a ship to offload cargo.

**DINGHY** — A small open boat powered by oars, outboard motor, or occasionally sail. It is used primarily as a tender to carry crew or passengers between vessel and shore.

**DORY** — A flat-bottomed rowing boat with a pointed bow, raked or V-shaped stem, and high, flaring sides commonly used for fishing.



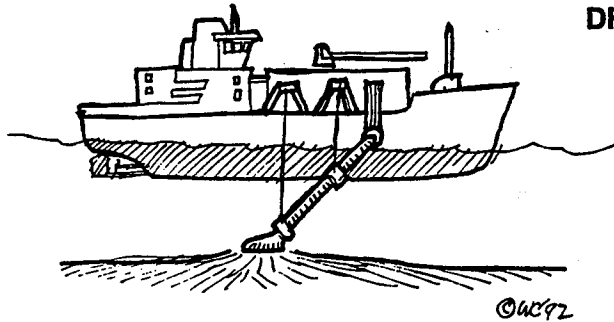
**DOUBLE-ENDED DORY**

**DOUBLE-ENDED** — A type of vessel in which the stern is shaped similar to the bow, such as a canoe. Ferryboats are often double-ended vessels so they do not have to turn around to dock as they shuttle back and forth between two ports.

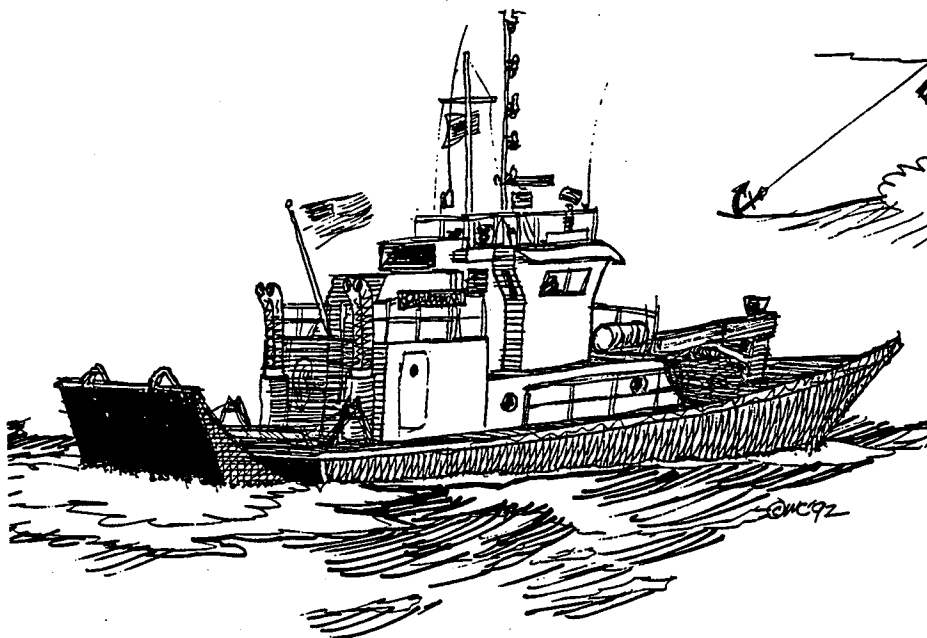
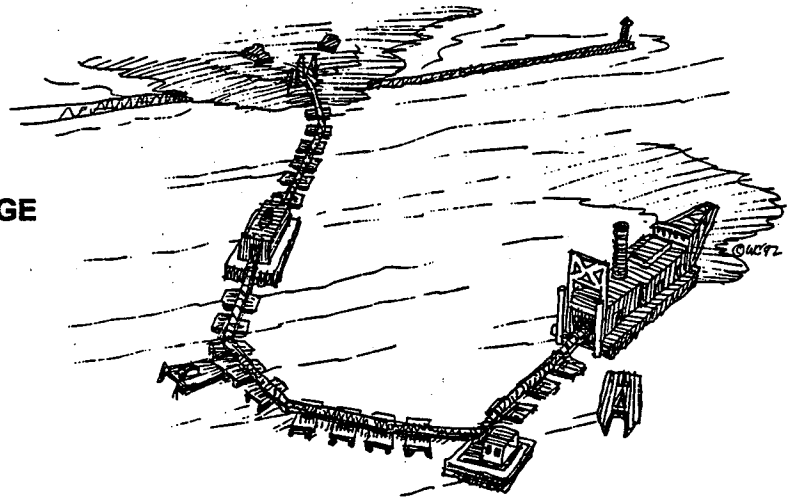
**DREDGE** - A vessel used to dig or deepen channels and clear silt. Some load the dredged sand or mud (called "spoil") into barges alongside for disposal ashore or at some other location. Another type deposits the spoil in its own holds and then the entire vessel moves to a remote location where doors in the bottom of the vessel's holds are opened and the spoils dumped.

There are three major types of dredges:

- **SUCTION DREDGE** — Puts a scoop over the side and sucks up mud into onboard tanks with large pumps.
- **CLAM SHELL**— Uses a grab bucket with an on-board crane to dig one scoop of mud at a time and deposit it onto a barge alongside.
- **HOPPER DREDGE** — A barge-like vessel outfitted with dredging equipment; spoils are stored in the hoppers which can be dumped or unloaded from the bottom.



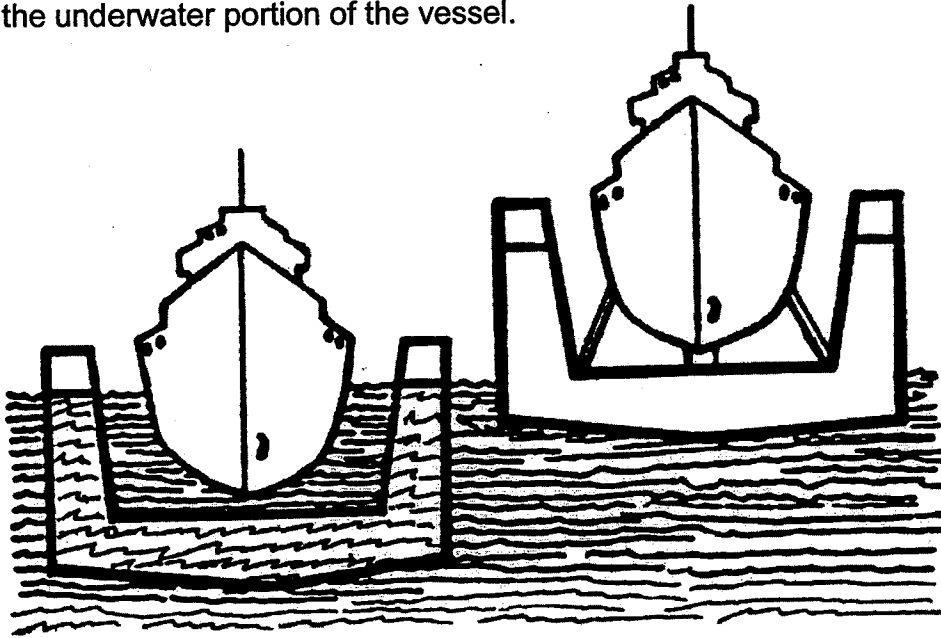
**DREDGE**



**HOPPER DREDGE**

**DRY DOCK** - A structure that raises and supports a vessel out of the water for construction or repair of the vessel. There are two major types:

- **FLOATING DRY DOCK**— A floating structure -like a tank -large enough for a vessel to enter, with integral tanks capable of submerging. When the dock is submerged, a vessel positions itself in the open section of the dry dock. When the water is pumped out of the tanks, the dry dock raises the vessel out of the water and provides a solid platform for working on the underwater portion of the vessel.



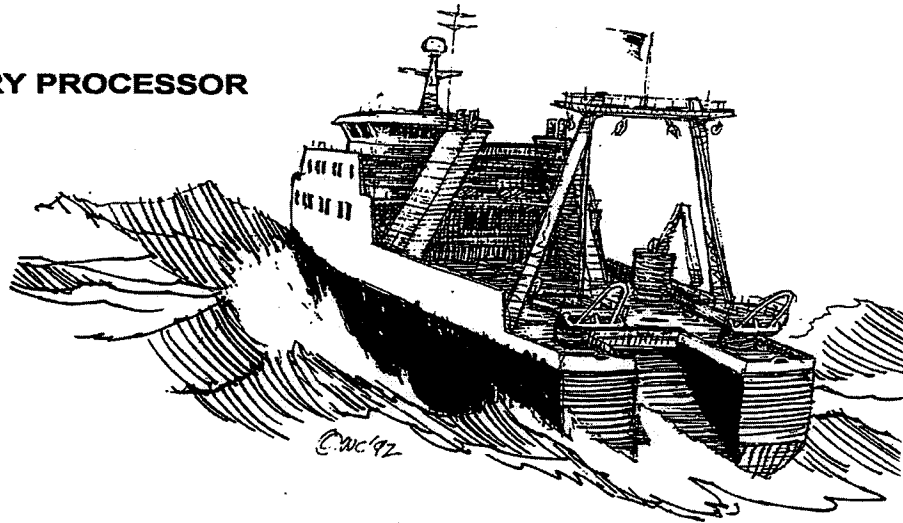
**FLOATING DRY DOCK**

- **GRAVING DOCK**—A non-floating stationary dry dock built into the land at the water's edge. Water is kept out by a caisson gate with integral tanks. When the caisson gate is removed, a vessel can enter the dry dock. The caisson gate is then repositioned, sealing the mouth of the dry dock. Water is pumped out of the dry dock allowing the vessel to rest on blocks for working on the underwater portion of the vessel.

**DUMP SCOW** — A barge with a hopper section that can be opened at the bottom to dump the material it carries. It is usually used in conjunction with a dredge to remove dredge spoils and deposit them at a different location. See "Dredge."

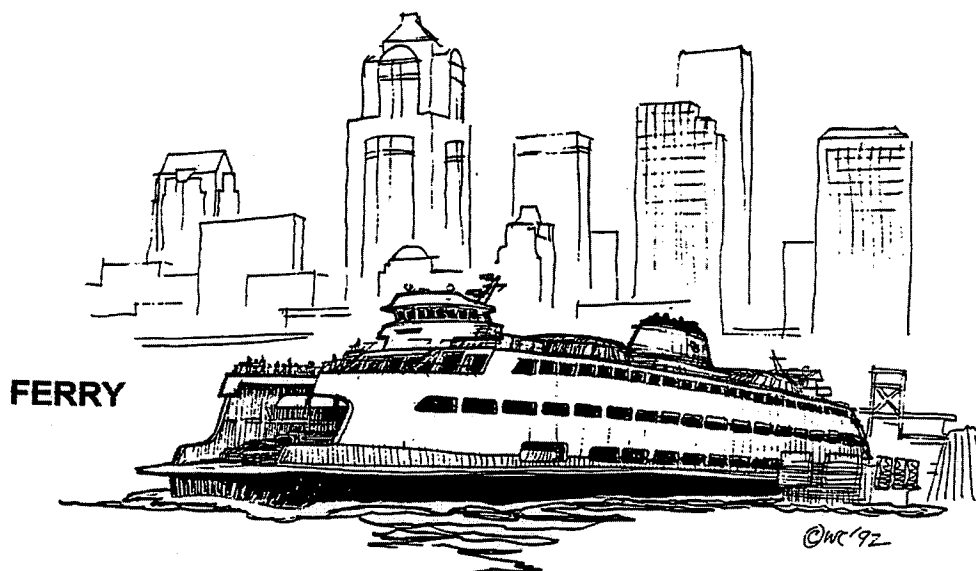
**FACTORY PROCESSOR or FACTORY SHIP** — A large vessel on which fish are cleaned and frozen or processed while still fresh. Some factory processors can both catch and process fish.

**FACTORY PROCESSOR**

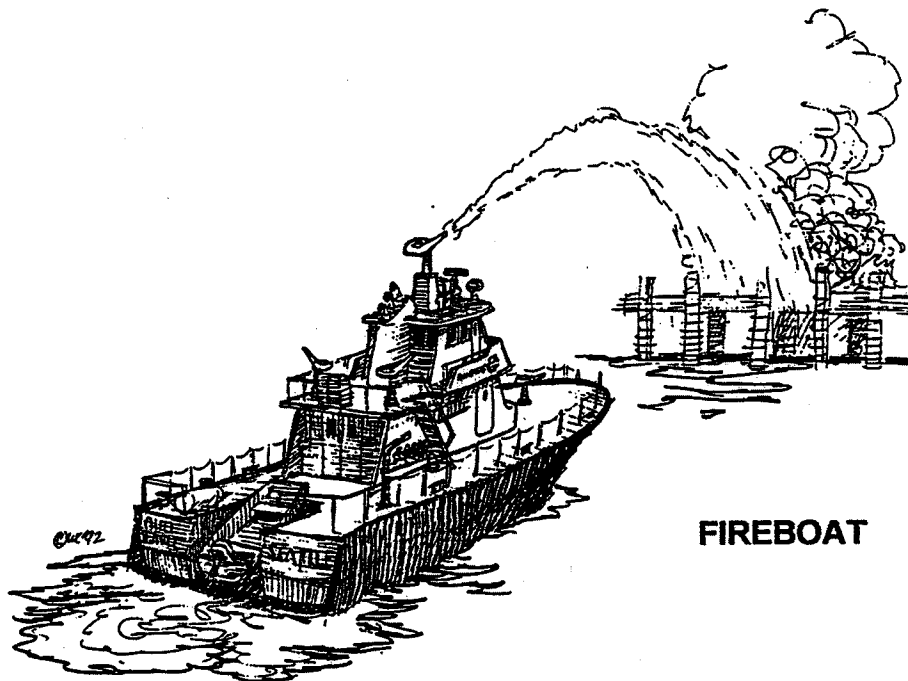


**FEEDER VESSEL** — A small coastal barge or other vessel used to shuttle cargo and/or containers between outlying ports and an ocean-going vessel at a major port.

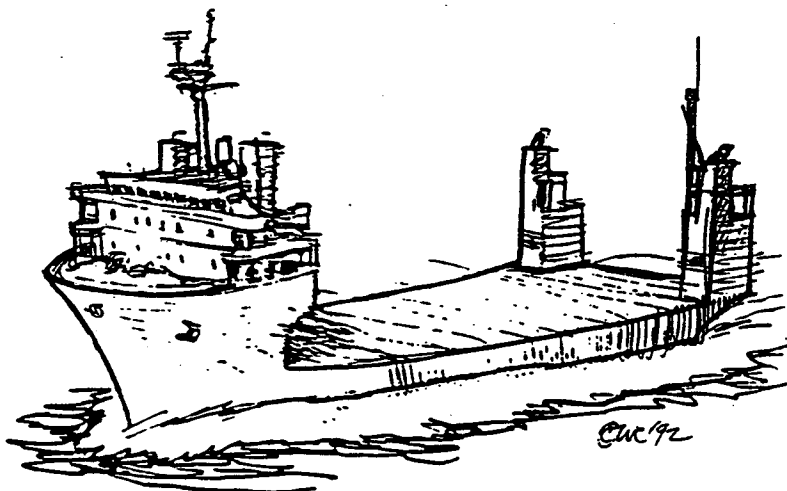
**FERRY** - A vessel for carrying passengers and vehicles. It often has a ramp at each end for driving vehicles aboard. It is often double ended so the vessel can dock from either end without having to turn around to reverse direction.



**FIREBOAT** — A boat equipped with large capacity pumps used to fight close-to-the-shore fires with water pumped from the body of water in which it is floating.



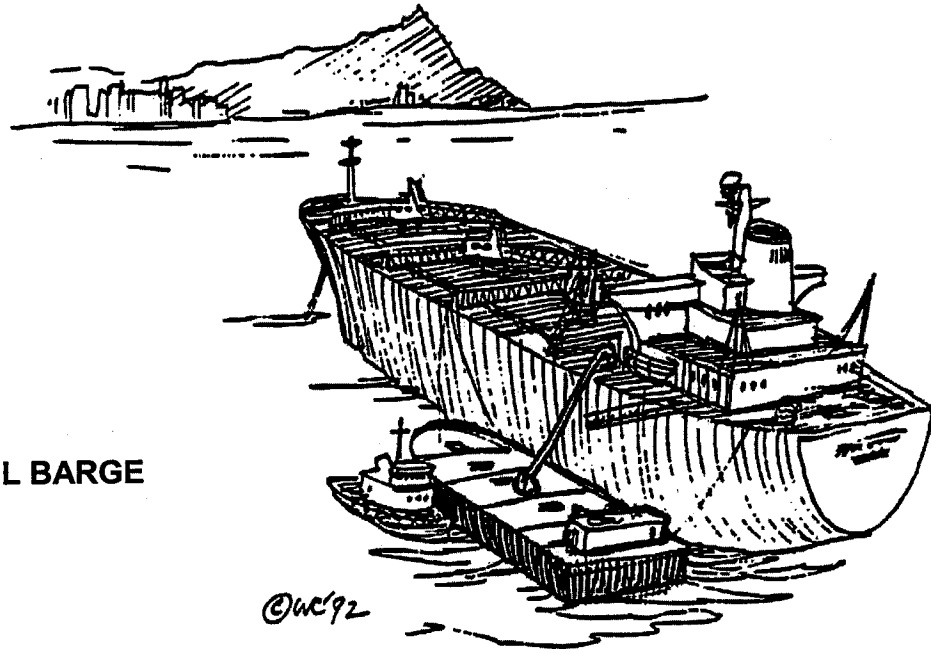
**FLOAT ON - FLOAT OFF** — A heavy deck semi-submersible vessel designed to carry oversized cargo — such as drilling rigs or platforms — by ballasting the vessel until its deck is submerged allowing the drill rig to be floated into position and then deballasting the vessel to raise the drill rig on deck for carriage across the ocean. At destination, the vessel is again partially submerged and the heavy cargo floated off.



**FREIGHTER** — A general term for vessels with cargo-carrying capabilities such as breakbulk vessels (both refrigerated and non-refrigerated), containerships, partial containerships, roll on/roll off vessels, and barge carriers.

**FUEL BARGE** — A barge with tanks for carrying fuel.

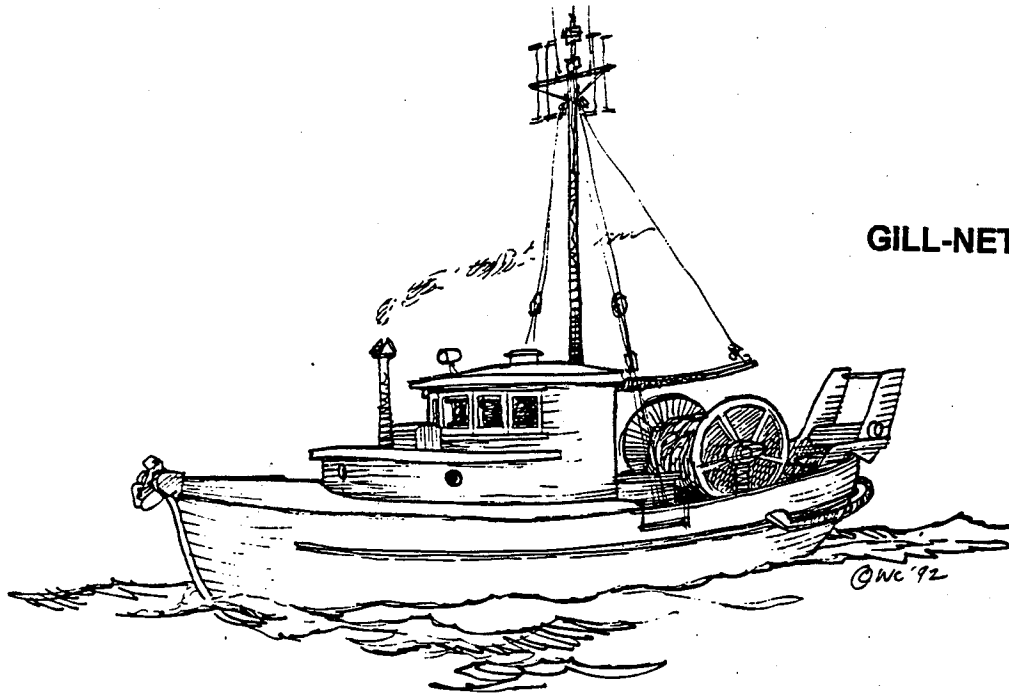
**FUEL BARGE**



**GENERAL CARGO CARRIER** — E.g. Breakbulk freighters, car carriers, cattle carriers, pallet carriers and log carriers.

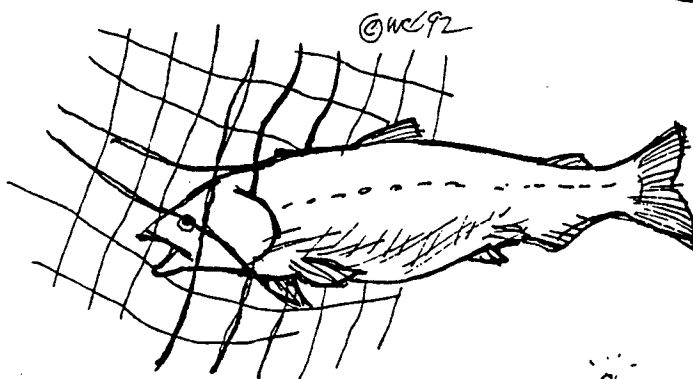
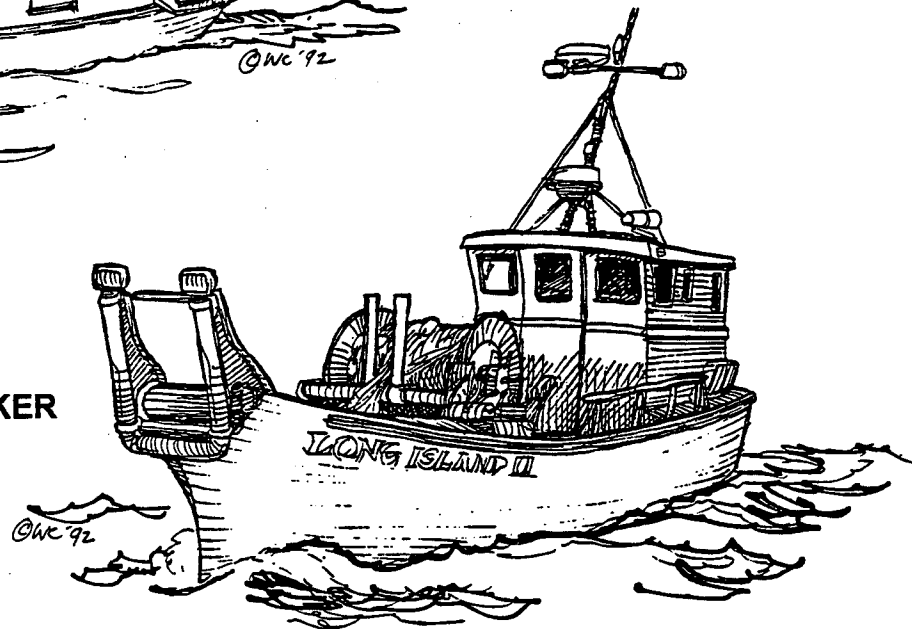


**GILL-NETTER** — A fishing boat using gill nets to catch fish.

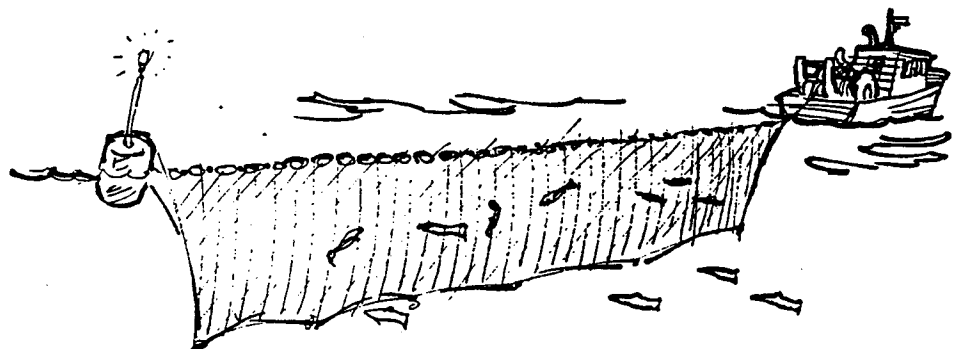


**GILL-NETTER**

**GILL-NETTER BOWPICKER**



**GILL NET**

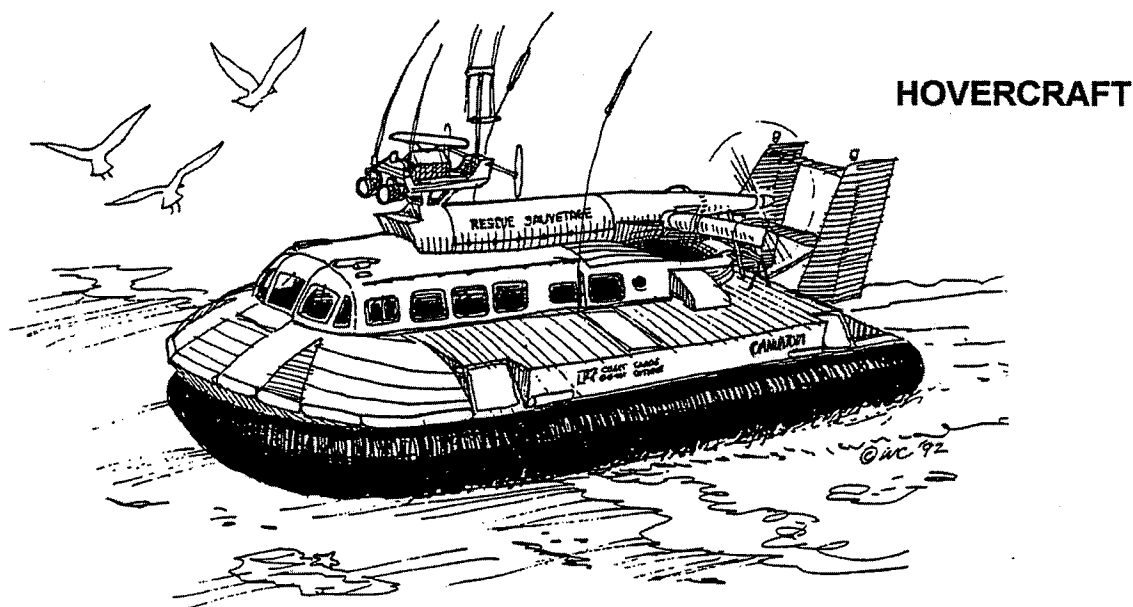


**GRAVING DOCK** — See "Dry dock."

**HEAVY LIFT VESSEL** — A vessel with heavily reinforced decks, holds, and cranes and cargo handling equipment to carry large heavy loads such as locomotives and generators. See also "Float On - Float Off."

**HOPPER BARGE** — A barge that has a hopper section built into the hull to carry bulk cargo. The hopper can be opened at the bottom (called the "doors") to dump the cargo or dredge spoils at a desired location. The barge may be equipped with hatch covers to protect certain types of cargoes from getting wet. See also "Dredge."

**HOVERCRAFT** — A vessel that operates on a cushion of air created by powerful fans. The air blown under the vessel by the fans is confined by a rubberized skirt that wraps around the entire vessel lifting it above the water so it skims over the surface.



**HYDROFOIL** — A vessel with foils or blades mounted on struts that enable the vessel to rise up on the foils at cruising speed, thus reducing the hull drag and increasing vessel speed.

**ICEBREAKER** — A vessel with a heavily reinforced bow used for breaking through ice.

**INBOARD-OUTBOARD** — A permanently mounted inboard engine connected through the transom of a vessel to an outboard propeller drive assembly that both propels the vessel and is used to steer the vessel by turning from side to side. This form of engine eliminates the need for a rudder, rudder post, shaft log, stuffing box, stern bearing, coupling, and conventional propeller shaft. Inboard-Outboard is also known as "stern drive."

**INTEGRATED TUG-BARGE (ITB)** — See "Articulated Tug-Barge."

**L.A.S.H. (Lighter Aboard Ship)** — A transportation system using a specially constructed vessel with its own overhead crane to lift specially designed barges loaded with cargo and stow them into cellular slots aboard the vessel.

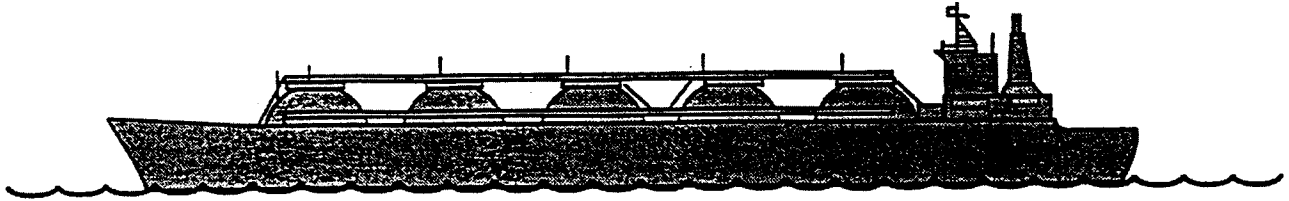
**LIBERTY SHIP** — A prefabricated merchant cargo vessel mass-produced during WW II. They were of a very simple design because they were only expected to make one trip due to the submarine wolf packs in the Atlantic during the war. The standard gross tonnage was 10,500 and the top speed was 10 knots. The *Jeremiah O'Brien* at the San Francisco Maritime Museum is one of the few remaining of the 2300 such ships built. See also "Victory Ship."

**LIGHTER** — A barge used to carry cargo back and forth between the pier and a vessel which anchors in deep water away from the pier.

**LIGHTSHIP** — A ship with a large light beacon on board that acts as a navigational aid and can be moored or anchored near a hazard to navigation or entrance to a harbor (such as San Francisco). Most lightships have been replaced by large unmanned buoys.

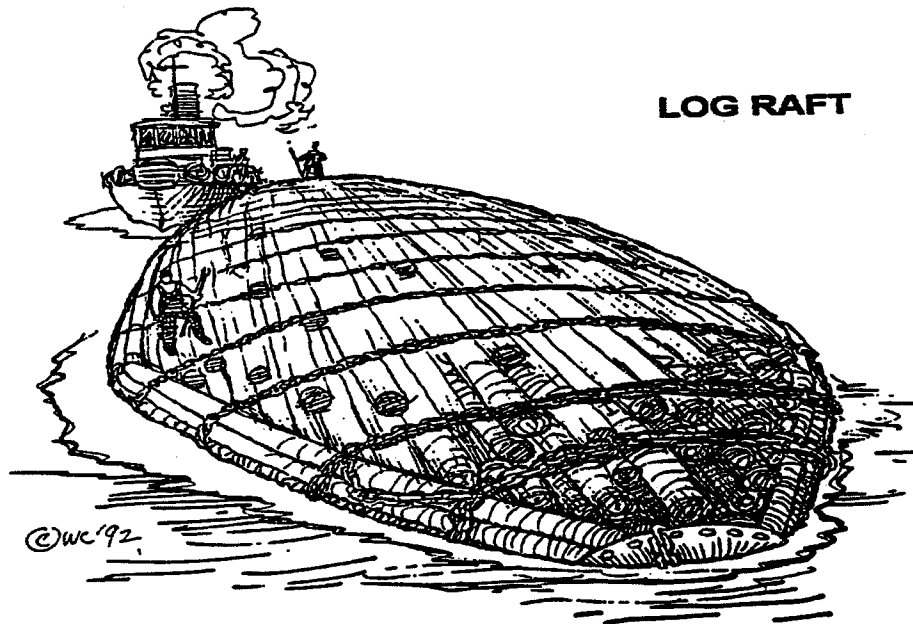
**LINER** — A cargo or passenger vessel maintaining a regular schedule of ports of call; unlike a "tramp" vessel.

**LNG / LPG** — "Liquefied Natural Gas" carrier or "Liquid Petroleum Gas" carrier. A vessel used to carry liquid gases in special tanks at very low temperatures and under pressure.

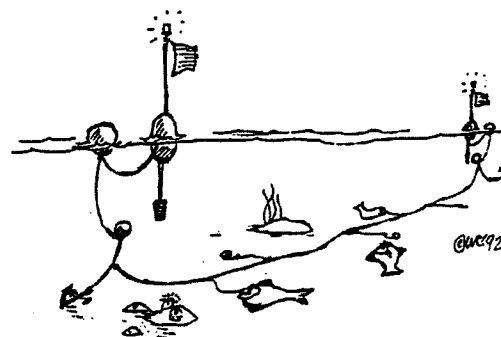
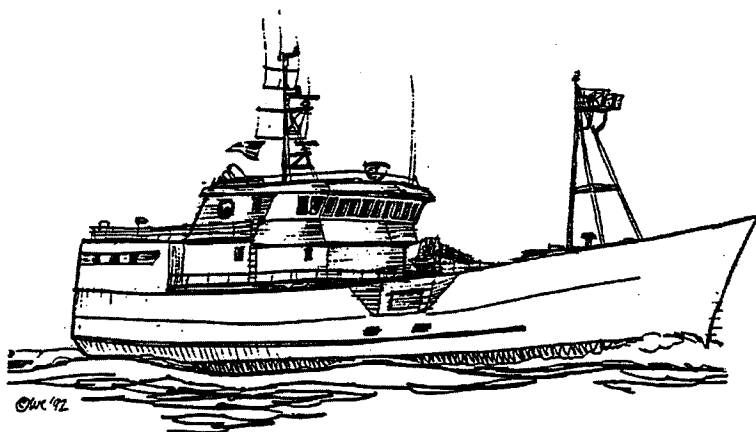


**LIQUEFIED NATURAL GAS (LNG) CARRIER**

**LOG BOOM / LOG RAFT** — Logs bundled together for towing by a tug.



**LONG LINER** — A fishing boat that catches fish by many hooks on a long line (can be up to a mile or more long).

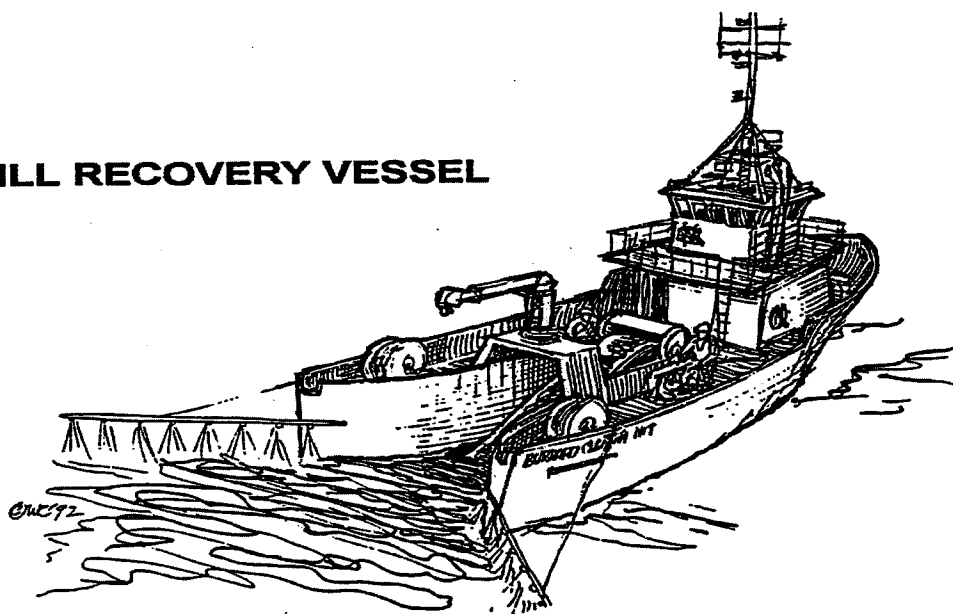


**LONG LINER**

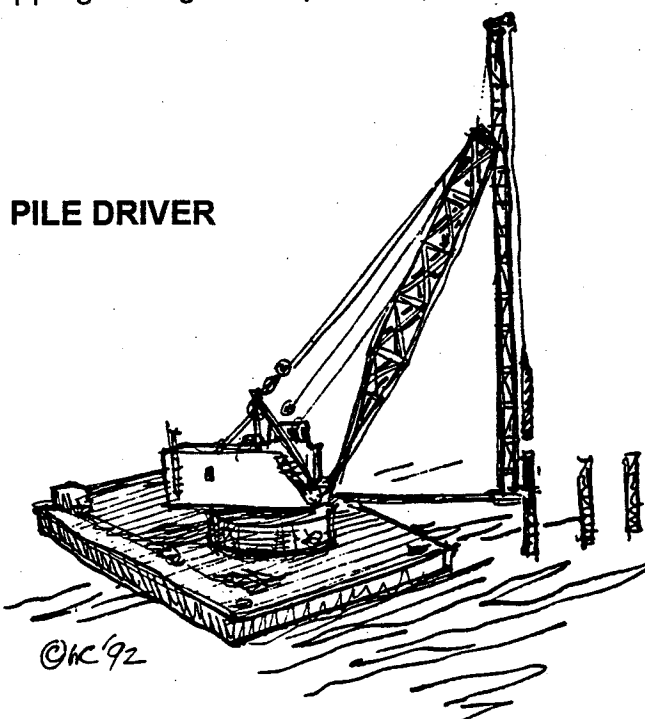
**MONOHULL** — A single hulled vessel. See also "Catamaran" and "Trimaran."

**OIL SPILL RECOVERY VESSEL** — A vessel specially equipped with skimmers or other devices used to suck spilled oil into a holding tank aboard the vessel.

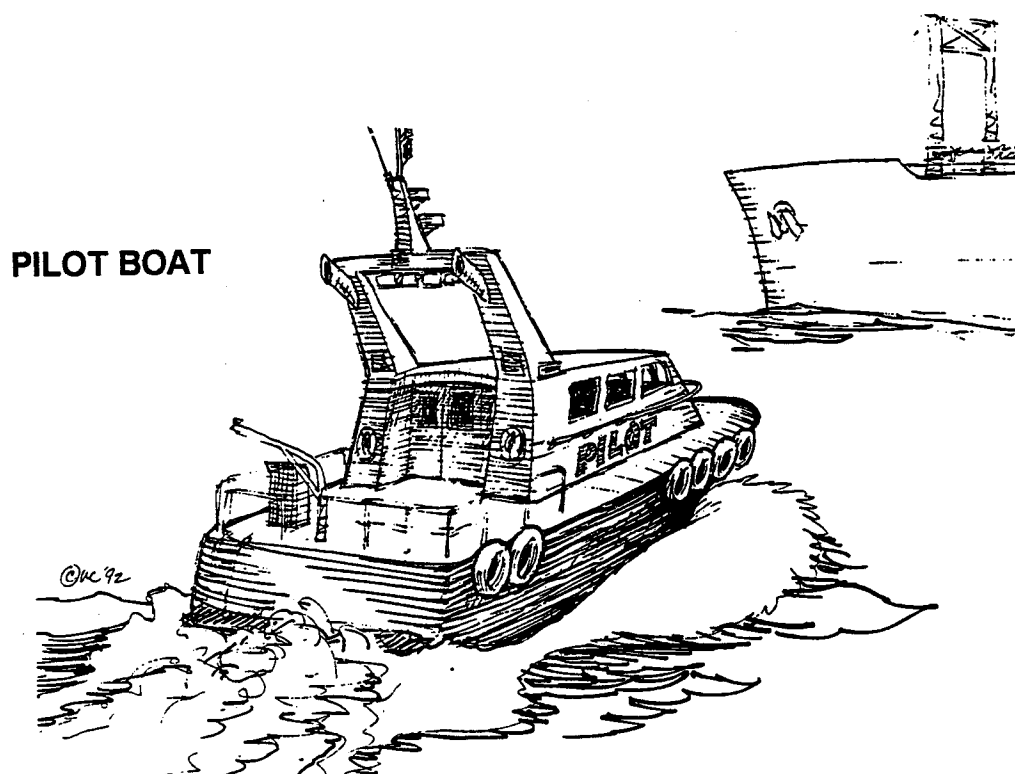
**OIL SPILL RECOVERY VESSEL**



**PILE DRIVER** — A barge with a pile driving crane mounted on it to drive pilings into the seabed by repeatedly raising and dropping a weight on top of the piling.

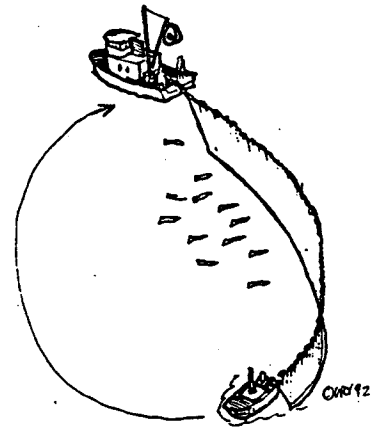
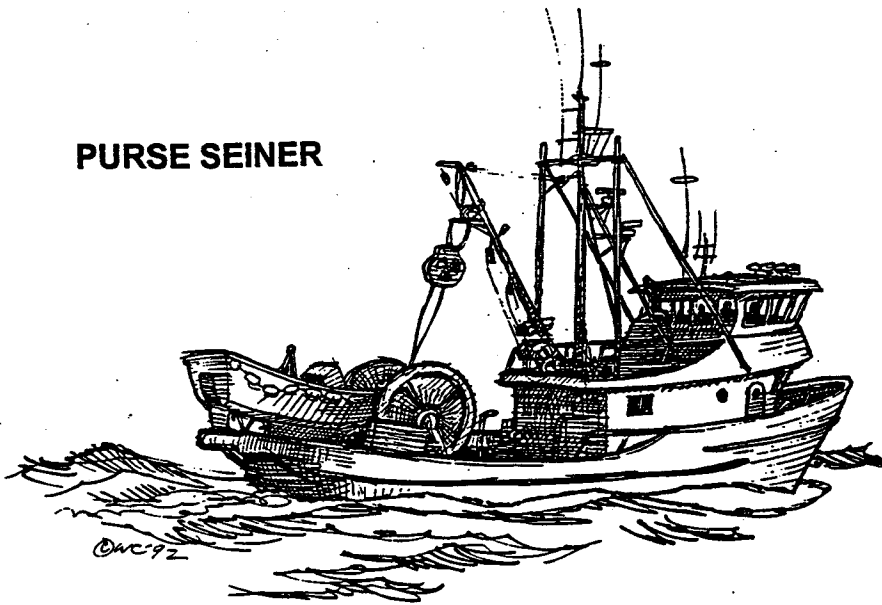


**PILOT BOAT** — A vessel used to transport a marine pilot to and from an ocean-going vessel before it enters and after it leaves port.



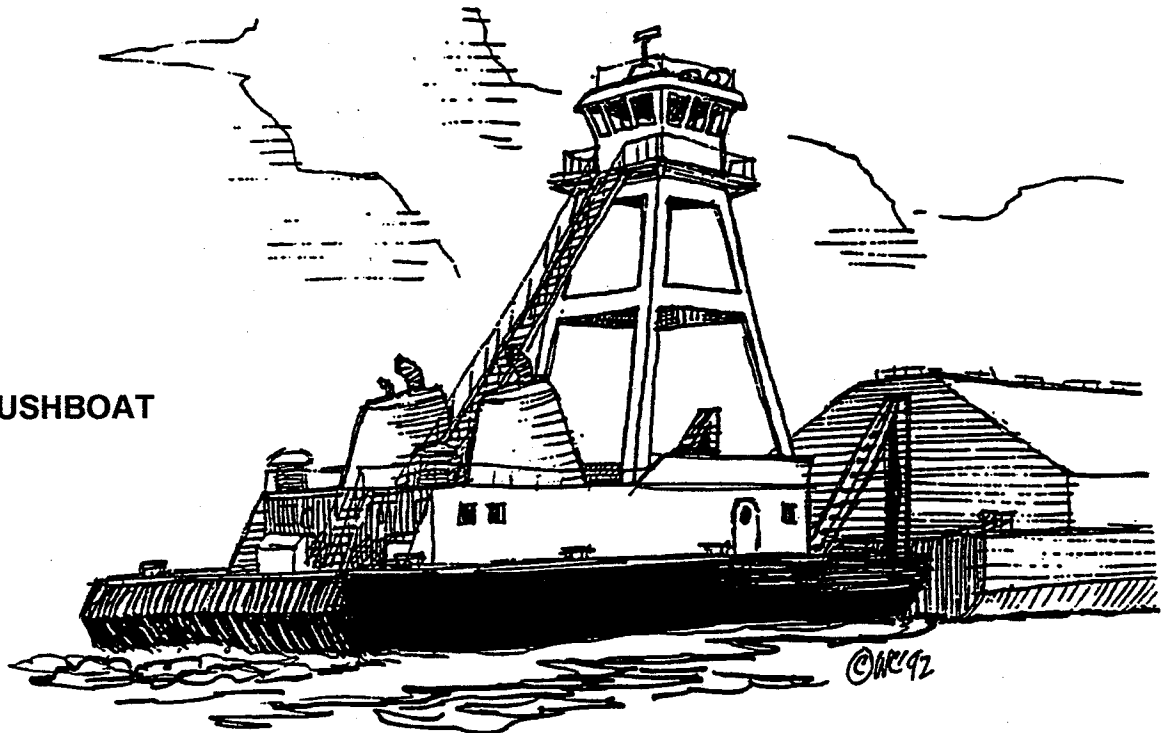
**PURSE SEINER** — A fishing boat that catches fish by encircling a large area with a net and pulling the net like the strings of a purse with the fish into the boat.

**PURSE SEINER**



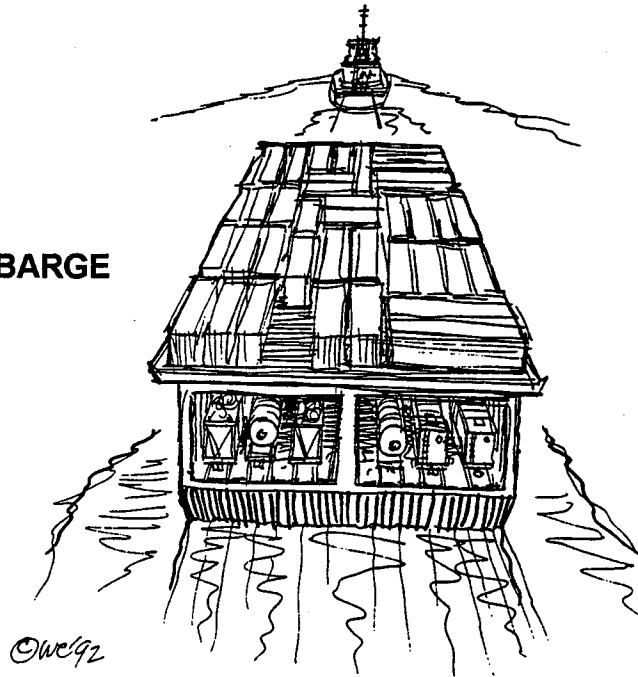
**PUSHBOAT** — A tug that pushes rather than pulls its barges; often seen on the Mississippi River.

**PUSHBOAT**



**RAILCAR BARGE** — A barge with railroad tracks laid into the deck so as to transport railcars in bays and inland waters.

**RAILCAR BARGE**

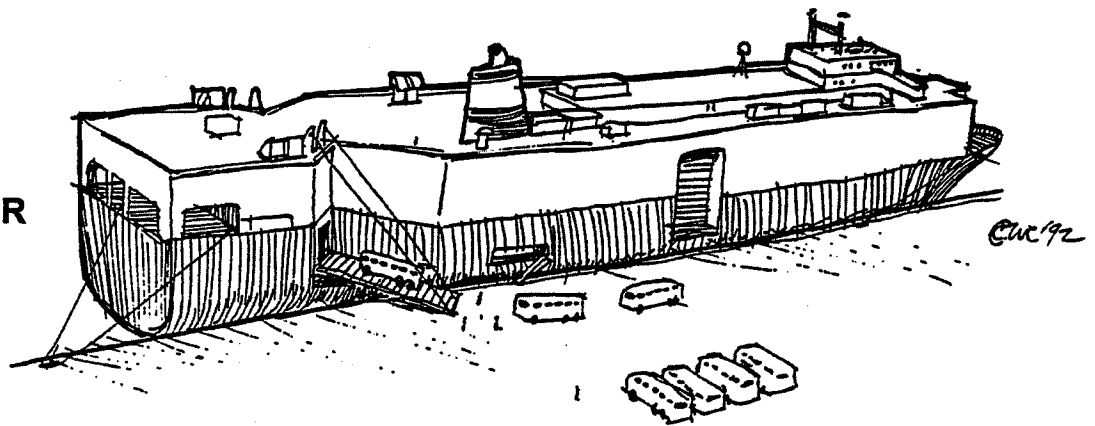


**REEFER / REFRIGERATED CARGO SHIP** — A vessel equipped with refrigeration equipment.

**RIVERBOAT** — Another name for a towboat or pushboat used on a river.

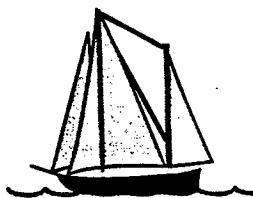
**RO RO (Roll On / Roll Off )** — An ocean-going vessel specially constructed with large open decks designed to carry vehicles or trailers that can be driven aboard on ramps under their own power, much like a ferry boat. A car carrier is one example of a Ro Ro.

**CAR CARRIER**

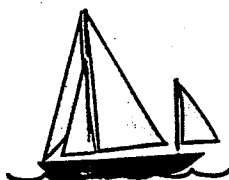




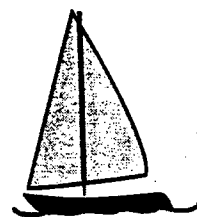
## SAILING VESSEL TYPES



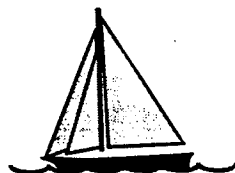
ketch (two masts)



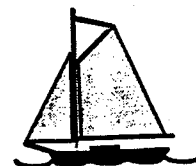
yawl (two masts)



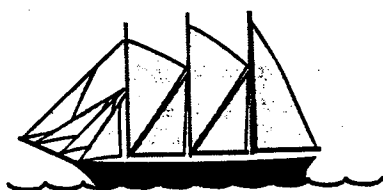
Marconi rigged sloop (one mast)



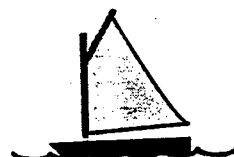
cutter (one mast)



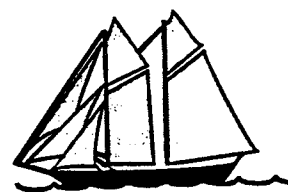
gaff-rigged sloop (one mast)



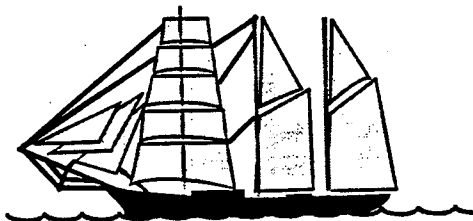
staysail schooner  
(two to four masts)



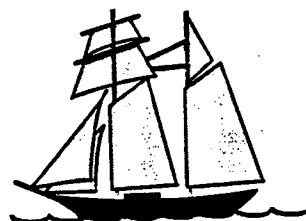
catboat (one mast)



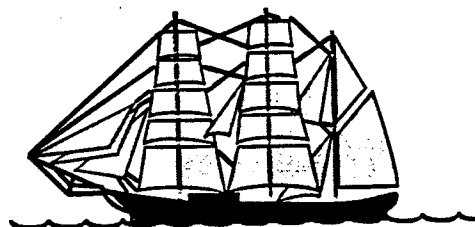
gaff-topsail schooner  
(two to seven masts)



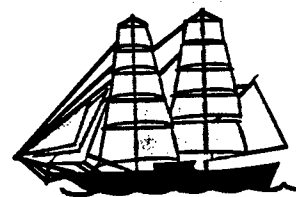
barkentine (three or four masts)



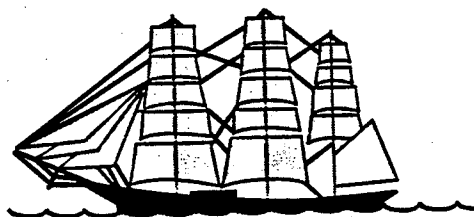
square-topsail schooner  
(two to five masts)



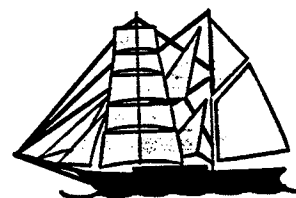
bark (three to five masts)



brig (two masts)



full-rigged ship (three to five masts)



brigantine (two masts)

**SCOW** — An open flat-bottomed boat used to carry sand, mud, gravel, dredge spoils, garbage, or similar bulk materials; a small barge.

**SEA-BEE** — See "L.A.S.H." vessel.

**SEINER** — See "Purse Seiner."

**SEMI-SUBMERSIBLE**—See "Float on - Float off."

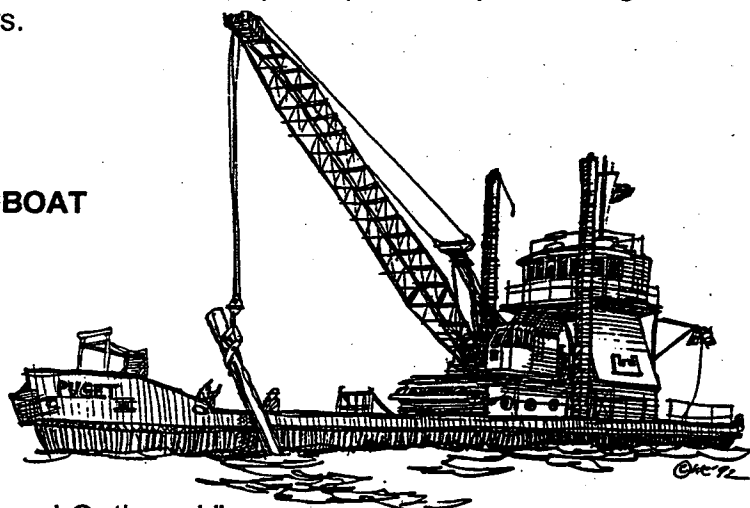
**SKIFF** — A small, light rowboat. See "Dinghy."

**SKIMMER** — See "Oil Spill Recovery Vessel."

**SLOOP** — A type of sailboat with a single mast and two or more sails.  
See "Sailing Vessel Types."

**SNAG BOAT** — A boat with a crane used to pick up and dispose of logs and other debris found in bays and inland waters.

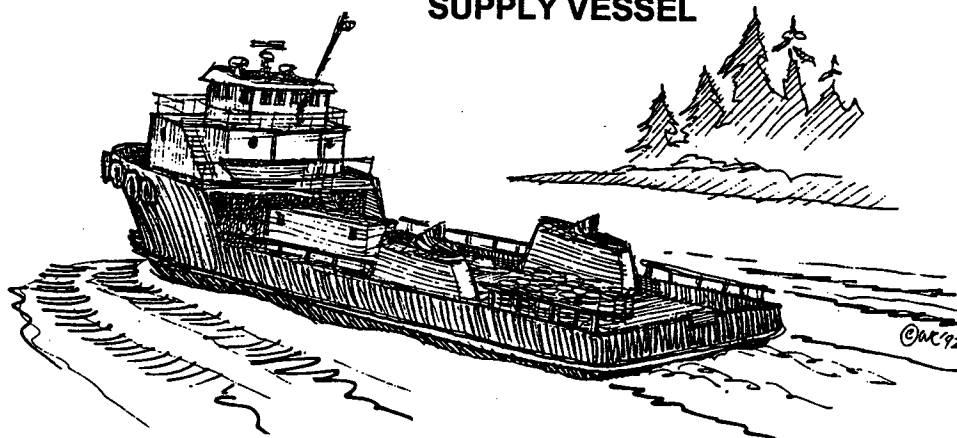
**SNAGBOAT**



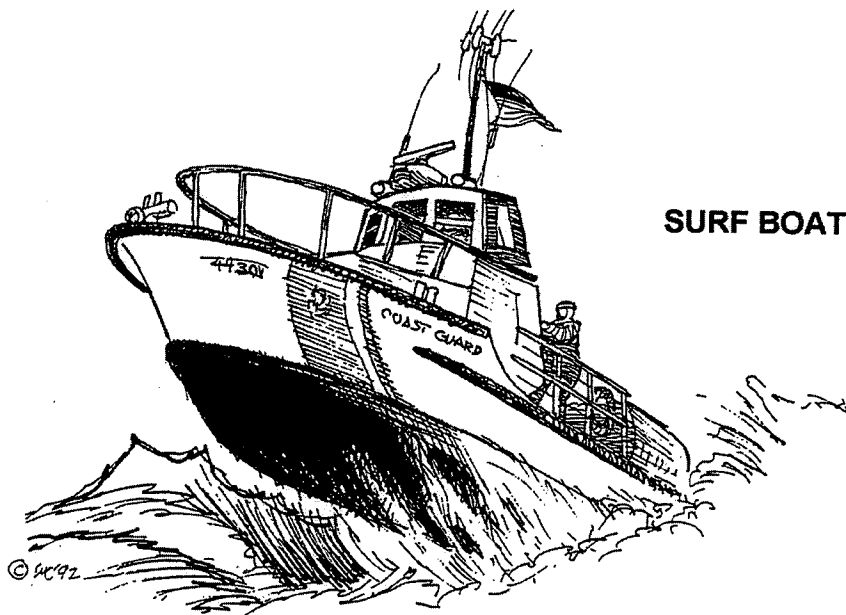
**STERN DRIVE** —See "Inboard Outboard."

**SUPPLY VESSEL** — A large open-deck workboat that carries supplies, water, and people to other vessels, isolated villages, and offshore oil platforms.

**SUPPLY VESSEL**



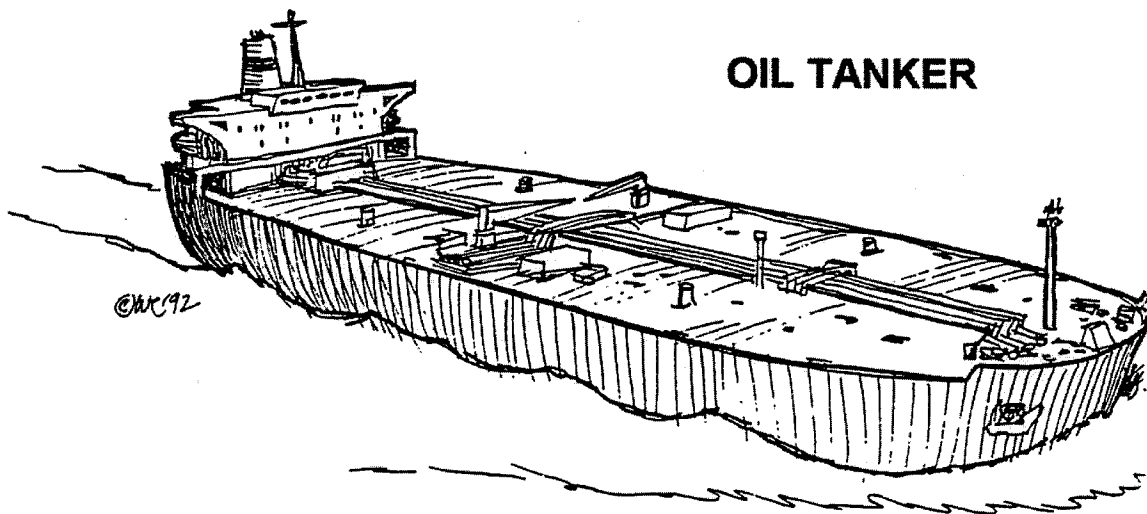
**SURF BOAT** — Boats designed for rescuing people in heavy seas close to shore.



**SURF BOAT**

**TANK BARGE**—A barge with tanks for carrying fuel or other liquid products. See "Fuel Barge."

**TANKER** — Vessels with tanks to carry liquid cargoes such as crude petroleum, oil, gasoline, chemicals, wine, and similar liquid products.

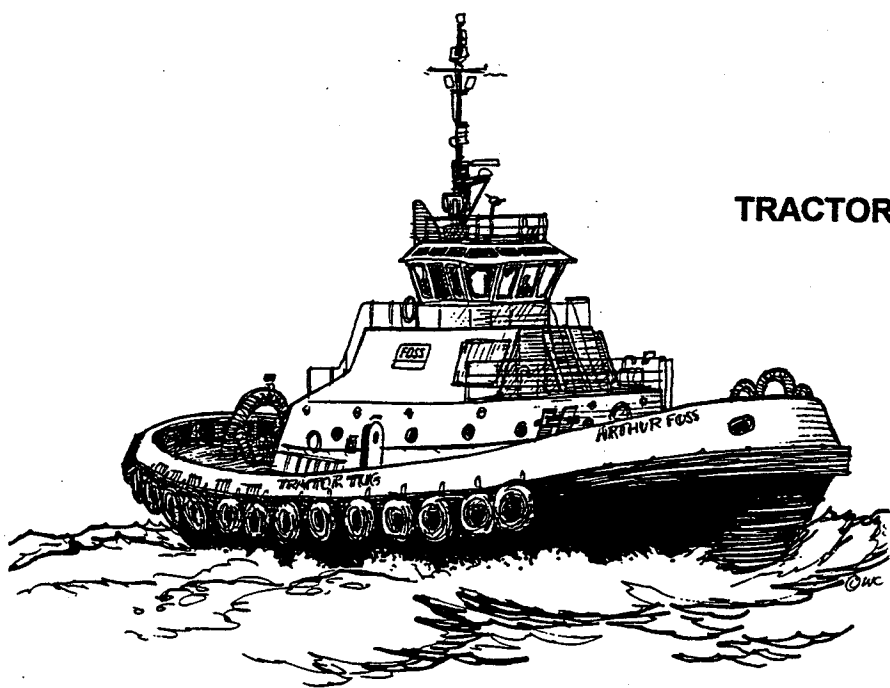


**OIL TANKER**

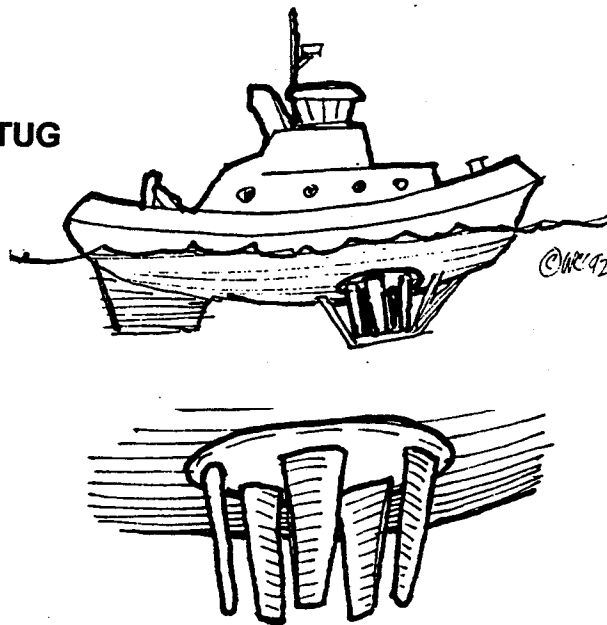
**TENDER** — A boat of any size used to transport passengers and supplies and provide communications between a larger vessel and the shore.

**TOWBOAT** — See “Tug / Tugboat / Towboat.”

**TRACTOR TUG** — A tug with either a nozzle or a Z drive replacing the propeller, allowing the vessel to rotate 360 degrees on its axis. It is very maneuverable for harbor assistance in docking large vessels. Most significantly, it has the same pulling power in any direction; a conventional tug only has maximum pulling power dead ahead.

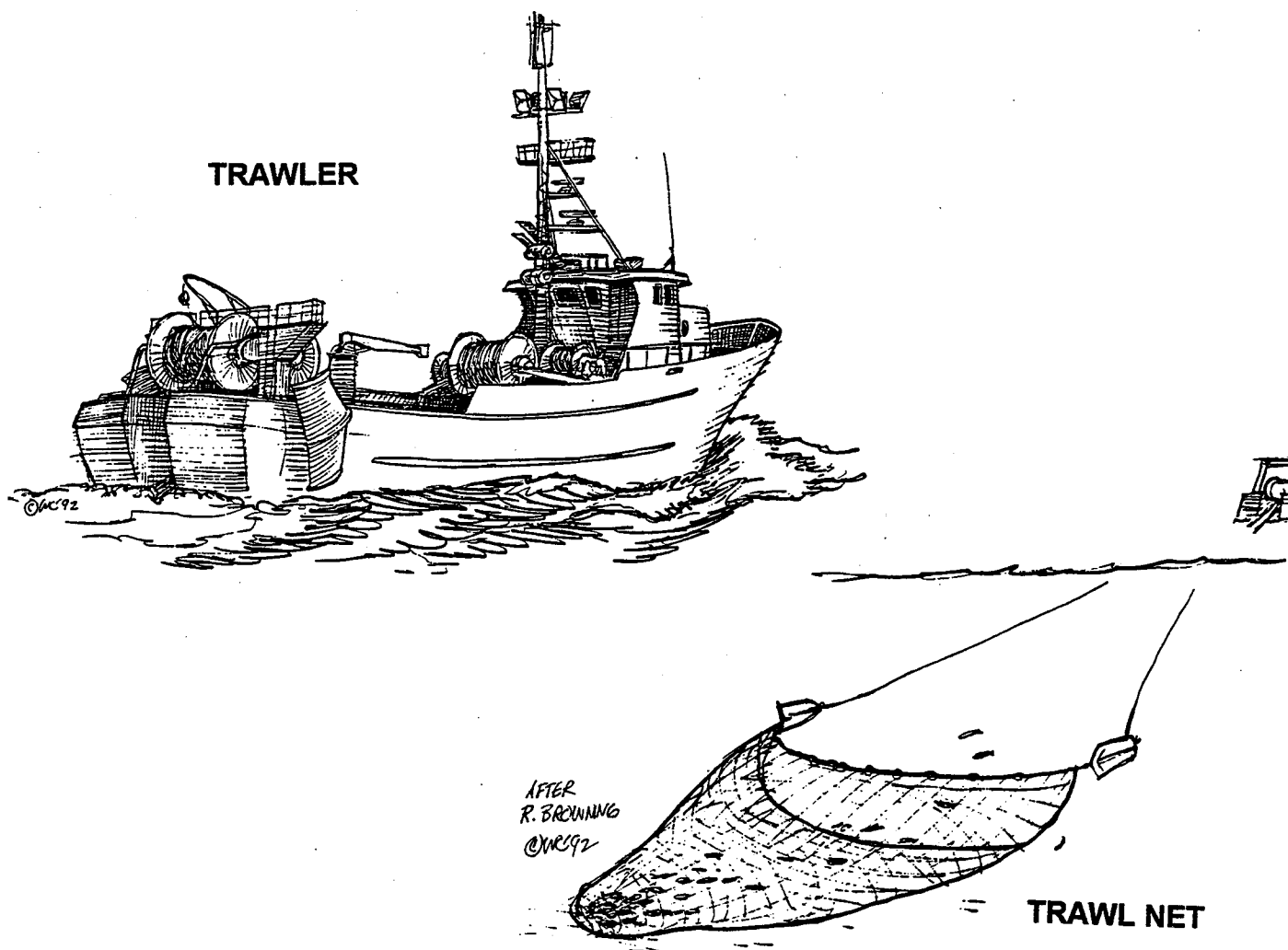


**TRACTOR TUG**



**TRAMP** — A vessel that does not maintain a regular schedule of ports of call. A tramp carries whatever cargo may be available to whatever port the owner wants it delivered.

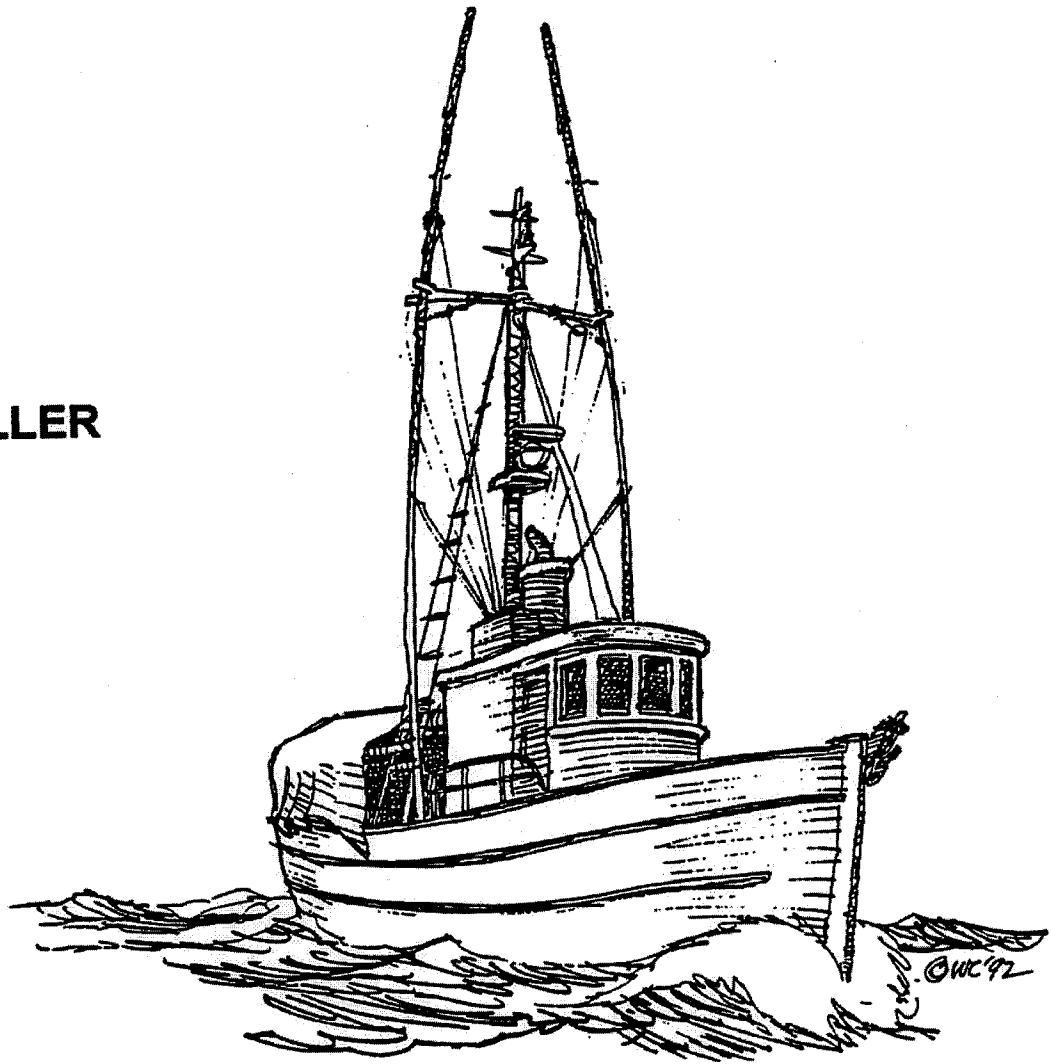
**TRAWLER** — A fishing boat that drags or tows weighted trawl nets on the bottom to catch fish. This differs from a "troller" which trolls or drags fishing lines with hooks at varying depths above the bottom. See also "Troller."



**TRIMARAN** — A vessel with 3 hulls: a main center one and one on either side to support the vessel. These vessels are shallow draft and do not displace much water and are therefore capable of going fast. The design is often used in ferry boats and sailing craft. See "Catamaran" and "Monohull."

**TROLLER** — A boat that fishes by trailing hooked lines at varying depths above the bottom. See also "Trawler."

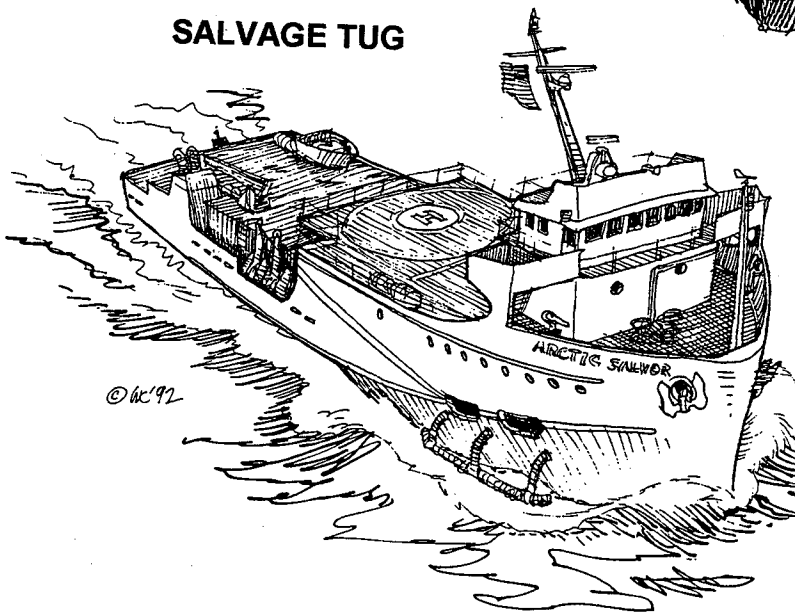
## TROLLER



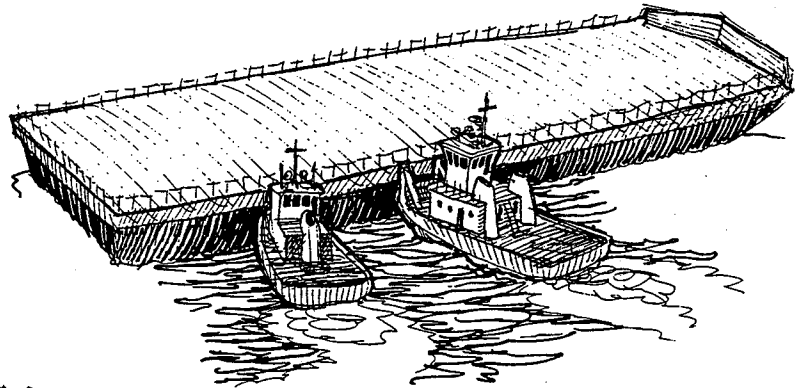
## **TUG / TUGBOAT / TOWBOAT**

A powerful boat used for pushing or pulling barges, log rafts, or other vessels through the water. There are also specialized vessels such as Salvage Tugs specially equipped to raise sunken vessels and rescue stranded vessels, and Harbor Tugs for assisting a vessel within a harbor to dock or undock. See "Barge," and "Deck Barge."

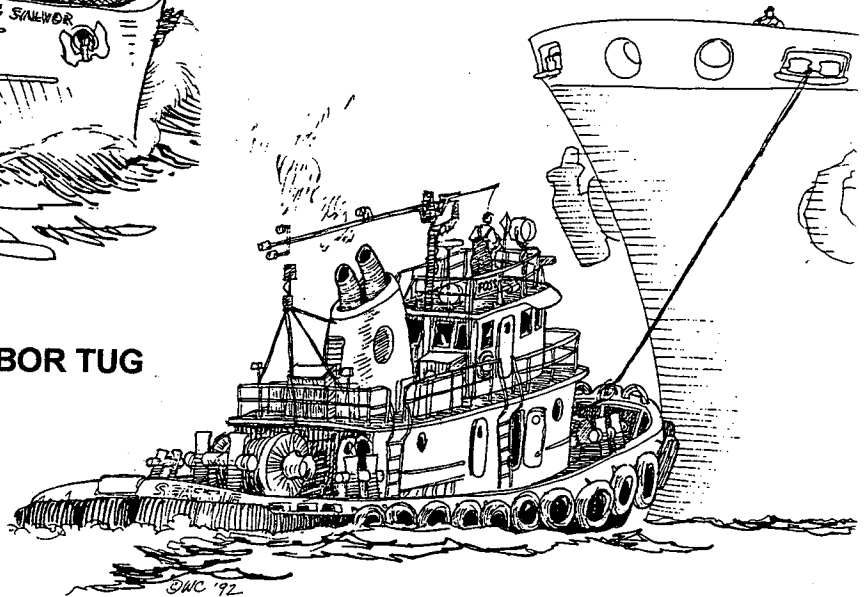
**SALVAGE TUG**



**SHALLOW DRAFT TUGS & BARGE**



**HARBOR TUG**



**ULCC** (Ultra Large Crude Carrier) — As a guideline, a tanker of 400,000 deadweight tons or more. See also "VLCC."

**VICTORY SHIP** — A merchant cargo vessel mass-produced during WW II of later design than the Liberty Ship. The standard gross tonnage was 15,200 and the top speed was 16 knots. See also "Liberty Ship."

**VLCC** (Very Large Crude Carrier) — As a guideline, a tanker of 160,000 to 400,000 deadweight tons. See also "ULCC."

**YACHT** — A vessel for private pleasure use. The word can be traced to the 16<sup>th</sup> century Dutch word "jaghtschip" for fast boat or chase ship.

**Z DRIVE** — A combined steering and propulsion system that can turn the vessel in any direction. See "Tractor Tug."

**ZODIAC** — A trademarked name for an inflatable boat.



## APPENDIX G - CARGO TERMS OF SALE

The commercial sales invoice is the contract between the buyer and the seller. It indicates the Terms of Sale and the point at which the seller has fulfilled its obligations, so the goods in a legal sense are delivered to the buyer. The Terms of Sale are shorthand expressions setting out the rights and obligations of each party, when it comes to transporting and insuring the goods.

There are three sets of Terms of Sale definitions commonly used in international trade: the International Chamber of Commerce (ICC) Incoterms 2000, the American Foreign Trade Definitions 1941, and the Uniform Commercial Code (UCC). These three sets of definitions have several comparable definitions; see page 176 for a comparison chart.

None of these definitions have any legal status unless they are incorporated into the sales invoice by specific law, court decisions, or by the buyer and seller themselves. Reference to a specific Term of sale in the sales invoice by the buyer and the seller clearly defines the obligations of each party and reduces the risk of misinterpretations and legal complications.

- **Incoterms 2000** is the current version of the original 1936 International Chamber of Commerce (ICC) rules for interpreting terms of sale and facilitating foreign traders in conducting international trade. The ICC's Commission on International Commercial Practice draws its members from all parts of the world and all trade sectors.
- **American Foreign Trade Definitions 1941** is the current revision of the original 1919 version for clarifying and simplifying foreign trade practice and assisting the foreign trader in handling international trade. The definitions were adopted by a Joint Committee representing the Chamber of Commerce of the United States of America, the National Council of American Importers, Inc., and the National Foreign Trade Council, Inc.
- **Uniform Commercial Code (UCC)** is a uniform legislative model drafted by the National Conference of Commissioners on Uniform State Laws governing commercial transactions, such as sales of goods, commercial paper, bank deposits and collections, letters of credit, bulk transfers, warehouse receipts, bills of lading, investment securities, and secured transactions. The UCC model has been adopted and modified by all of the states except Louisiana.

## CARGO TERMS OF SALE: COMPARISON CHART

INCOTERMS 2000:	AMER.FOR.TR.DEF. 1941:	UNIFORM COM. CODE:
<b>EXW (Ex Works)</b> Point of Origin, Exporting Country	<b>EX (Point of Origin)</b> Point of Origin, Exporting Country	<b>FOB (Free On Board)</b> Place of Shipment Exporting Country
<b>FCA (Free <u>C</u>arrier)</b> Inland Conveyance, place, Exporting Country	<b>FOB (Free On Board)</b> Inland Conveyance, place, Exporting Country	<b>FOB (Free On Board)</b> Inland Conveyance, place, Exporting Country
<b>FAS (Free Along Side)</b> Vessel, Port of Loading, Exporting Country	<b>FAS (Free Along Side)</b> Vessel, Port of Loading, Exporting Country	<b>FAS (Free Along Side)</b> Vessel, Port of Loading, Exporting Country
<b>FOB (Free On Board)</b> Vessel, Port of Loading, Exporting Country	<b>FOB (Free On Board)</b> Vessel, Port of Loading, Exporting Country	<b>FOB (Free On Board)</b> Vessel, Port of Loading, Exporting Country
<b>CFR (Cost &amp; <u>F</u>reight)</b> Port of Discharge, Importing Country	<b>C &amp; F (Cost &amp; Freight)</b> Port of Discharge, Importing Country	<b>C &amp; F (Cost &amp; Freight)</b> Port of Discharge, Importing Country
<b>CIF (Cost, Insurance, &amp; Freight)</b> Port of Discharge, Importing Country	<b>CIF (Cost, Insurance, &amp; Freight)</b> Port of Discharge, Importing Country	<b>CIF (Cost, Insurance, &amp; Freight)</b> Port of Discharge, Importing Country
<b>CPT (Carriage Paid To)</b> Final Destination, Importing Country	No comparable term	No comparable term
<b>CIP (Carriage &amp; Insurance Paid To)</b> Final Destination, Importing Country	No comparable term	No comparable term
<b>DAF (Delivered At Frontier)</b> Named inland place, Importing Country	No comparable term	No comparable term
<b>DES (Delivered Ex Ship)</b> Port of Discharge, Importing Country	No comparable term	<b>EX SHIP</b> Port of Discharge, Importing Country
<b>DEQ (Delivered Ex Quay, Duty Paid)</b> Port of Discharge, Importing Country	<b>EX DOCK</b> Port of Discharge, Importing Country	No comparable term
<b>DDU (Delivered Duty Unpaid)</b> Final Destination, Importing Country	No comparable term	No comparable term
<b>DDP (Delivered Duty Paid)</b> Final Destination, Importing Country	<b>FOB (Buyer's Warehouse)</b> Final Destination, Importing Country	<b>FOB (Free On Board)</b> Final Destination Importing Country

## **AMERICAN FOREIGN TRADE DEFINITIONS - 1941**

### **CARGO TERMS OF SALE**

**EX WORKS**, Point of Origin (Place of Shipment)

The cargo is delivered by the Seller to the Buyer when the Seller places it at the disposal of the Buyer at the Seller's premises or another named place, i.e. works, factory, warehouse, etc., not loaded on the conveyance. The Seller pays no costs and bears no risks of loss or damage after it is placed at the disposal of the Buyer at the Seller's premises, etc., not loaded on the conveyance.

**FOB (Free On Board Inland Conveyance)**, Named Place

The cargo is delivered by the Seller to the Buyer when the Seller gives it to the carrier at the named place. If the named place is the Seller's premises, the Seller pays the costs of loading it on the conveyance and bears the risks of loss or damage until it is loaded.

**FAS (Free Alongside Ship)**, Port of Loading (Port of Shipment)

The cargo is delivered by the Seller to the Buyer when it is placed alongside the vessel at the port of loading (port of shipment). The Seller pays the costs and bears the risks of loss or damage until it is placed alongside the vessel at the port of loading (port of shipment).

**FOB (Free On Board Vessel)**, Port of Loading (Port of Shipment)

The cargo is delivered by the Seller to the Buyer when it passes the ship's rail at the port of loading (port of shipment). The Seller pays the costs and bears the risks of loss or damage until it passes the ship's rail at the port of loading (port of destination).

**C&F (Cost and Freight)**, Port of Discharge (Port of Destination)

The cargo is delivered by the Seller to the Buyer when it passes the ship's rail at the port of loading (port of shipment). The Seller pays the costs and freight to the port of discharge (port of destination). The Seller bears the risks of loss or damage until it passes the ship's rail at the port of loading (port of shipment).

**CIF (Cost, Insurance, and Freight)**, Port of Discharge (Port of Destination)

The cargo is delivered by the Seller to the Buyer when it passes the ship's rail at the port of loading (port of shipment). The Seller pays the costs, freight, and marine insurance to the port of discharge (port of destination). The Seller bears the risks of loss or damage until it passes the ship's rail at the port of loading (port of shipment).

**EX DOCK**, Port of Discharge (Port of Destination)

The cargo is delivered by the Seller to the Buyer when it is placed at the disposal of the Buyer on the pier at the port of discharge (port of destination). The Seller pays the costs and bears the risks of loss or damage to the port of discharge (port of destination) until it is unloaded.

**FOB (Free On Board Warehouse)**, Final Destination

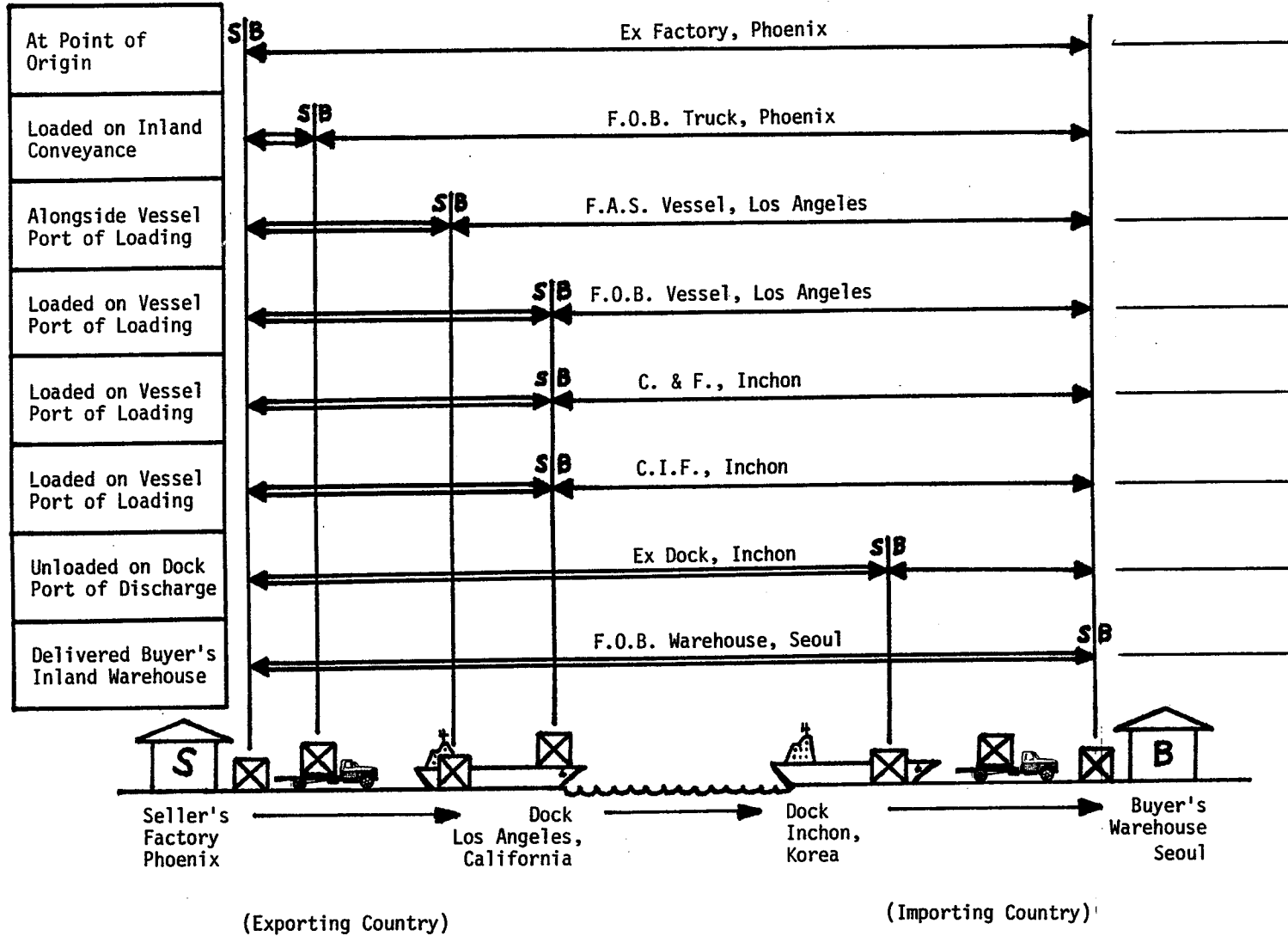
The cargo is delivered by the Seller to the Buyer when it is placed at the Buyer's final destination. The Seller pays the costs (including duty) and bears the risks of loss or damage to the final destination.

# AMERICAN FOREIGN TRADE DEFINITIONS – 1941

## CARGO TERMS OF SALE

RISK OF LOSS (& Need for Insurance)  
TRANSFERS from Seller to Buyer  
WHEN GOODS ARE:

### SEA EXAMPLES



TERMS OF SALE:

INVOICE PRICE INCLUDES:

Cost of Goods  
at Point of Origin

Loading Onto  
Inland Conveyance

Transportation to  
Dock (Port of Loading)

Loading Onto  
Vessel

Ocean Freight  
Charges

Ocean Marine  
Insurance

Unloading at  
Port of Discharge

Transportation to  
Final Warehouse

Ex (Named Point of Origin) Ex Factory, Ex Warehouse, Ex Mill, Ex Mine	<b>S</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>
F.O.B. (Free on Board) Inland Conveyance, Named Inland Point, Exporting Country	<b>S</b>	<b>S</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>
F.A.S. (Free Alongside) Vessel, Named Port of Loading	<b>S</b>	<b>S</b>	<b>S</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>
F.O.B. (Free On Board) Vessel, Named Port of Loading	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>
C. & F. (Cost & Freight) Named Port of Discharge	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>B</b>	<b>B</b>	<b>B</b>
C.I.F. (Cost, Insurance, Freight) Named Port of Discharge	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>B</b>	<b>B</b>
Ex Dock Named Port of Discharge	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>B</b>
F.O.B. Buyer's Warehouse Named Inland Point, Importing Country	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>

# INCOTERMS 2000\* - CARGO TERMS OF SALE

## **GROUP E: Main Freight Is Not Paid by Seller-not included in Seller's invoice price**

---

### **EXW EX WORKS, Point of Origin (Place of Shipment)**

The cargo is delivered by the Seller to the Buyer when the Seller places it at the disposal of the Buyer at the Seller's premises or another named place, i.e. works, factory, warehouse, etc., not loaded on the conveyance. The Seller pays no costs and bears no risks of loss or damage after it is placed at the disposal of the Buyer at the Seller's premises, etc., not loaded on the conveyance.

## **GROUP F: Main Freight Is Not Paid by Seller-not included in Seller's invoice price**

---

### **FCA FREE CARRIER, Named Place**

The cargo is delivered by the Seller to the Buyer when the Seller gives it to the carrier at the named place. If the named place is the Seller's premises, the Seller pays the costs of loading it on the conveyance and bears the risks of loss or damage until it is loaded.

### **FAS FREE ALONGSIDE SHIP, Port of Loading (Port of Shipment)**

The cargo is delivered by the Seller to the Buyer when it is placed alongside the vessel at the port of loading (port of shipment). The Seller pays the costs and bears the risks of loss or damage until it is placed alongside the vessel at the port of loading (port of shipment).

### **FOB FREE ON BOARD, Vessel, Port of Loading (Port of Shipment)**

The cargo is delivered by the Seller to the Buyer when it passes the ship's rail at the port of loading (port of shipment). The Seller pays the costs and bears the risks of loss or damage until it passes the ship's rail at the port of loading (port of shipment).

## **GROUP C: Main Freight Is Paid by Seller – is included in Seller's invoice price**

---

### **CFR COST AND FREIGHT, Port of Discharge (Port of Destination)**

The cargo is delivered by the Seller to the Buyer when it passes the ship's rail at the port of loading (port of shipment). The Seller pays the costs and freight to the port of discharge (port of destination). The Seller bears the risks of loss or damage until it passes the ship's rail at the port of loading (port of shipment).

### **CIF COST, INSURANCE, AND FREIGHT, Port of Discharge (Port of Destination)**

The cargo is delivered by the Seller to the Buyer when it passes the ship's rail at the port of loading (port of shipment). The Seller pays the costs and freight to the port of discharge (port of destination), and the cost of marine insurance to the final destination. The Seller bears the risks of loss or damage until it passes the ship's rail at the port of loading (port of shipment).

Continued on the next page

\*International Commercial Terms = INCO Terms  
International Chamber of Commerce, New York, NY

**GROUP C: Main Freight Is Paid by Seller (Continued)**

---

**CPT CARRIAGE PAID TO, Named Place (Destination)**

The cargo is delivered by the Seller to the Buyer when the Seller gives it to the carrier at the named destination (place of destination). The Seller pays the costs and freight to the named destination (place of destination). The Seller bears the risks of loss or damage until it is given to the first carrier.

**CIP CARRIAGE AND INSURANCE PAID TO, Named Place (Destination)**

The cargo is delivered by the Seller to the Buyer when the Seller gives it to the carrier at the named destination (place of destination). The Seller pays the costs and freight to the named destination (place of destination), and the cost of marine insurance to the final destination. The Seller bears the risks of loss or damage until it is given to the first carrier.

**GROUP D: Main Freight Is Paid by Seller – is included in Seller's invoice price**

---

**DAF DELIVERED AT FRONTIER, Named Place**

The cargo is delivered by the Seller to the Buyer when it is placed at the disposal of the Buyer still loaded on the arriving conveyance at the frontier at the named place, in either the exporting or the importing country. The Seller pays the costs and bears the risks of loss or damage to the frontier at the named place before it is unloaded.

**DES DELIVERED EX SHIP, Port of Discharge (Port of Destination)**

The cargo is delivered by the Seller to the Buyer when it is placed at the disposal of the Buyer still loaded on board the ship at the port of discharge (port of destination). The Seller pays the costs and bears the risks of loss or damage to the port of discharge (port of destination) before it is unloaded.

**DEQ DELIVERED EX QUAY, Port of Discharge (Port of Destination)**

The cargo is delivered by the Seller to the Buyer when it is placed at the disposal of the Buyer on the pier at the port of discharge (port of destination). The Seller pays the costs and bears the risks of loss or damage to the port of discharge (port of destination) until it is unloaded.

**DDU DELIVERED DUTY UNPAID, Final Destination**

The cargo is delivered by the Seller to the Buyer when it is placed at the Buyer's final destination, still loaded on the arriving conveyance. The Seller pays the costs (except duty) and bears the risks of loss or damage to the final destination, before it is unloaded.

**DDP DELIVERED DUTY PAID, Final Destination**

The cargo is delivered by the Seller to the Buyer when it is placed at the Buyer's final destination, still loaded on the arriving conveyance. The Seller pays the costs (including duty) and bears the risks of loss or damage to the final destination, before it is unloaded.

# CARGO TERMS OF SALE - INCOTERMS 2000 \*

## MAIN

### CONVEY- ANCE:

### TERMS OF SALE INCOTERMS\* 2000:

<u>Sea</u> , Road, Air, or Rail	<b>EXW</b> Ex Works, Factory, Warehouse, Point of Origin
<u>Sea</u> , Road, Air, or Rail	<b>FCA</b> Free Carrier Named by Buyer, Place Named by Buyer
<u>Sea</u> ONLY	<b>FAS</b> Free Alongside Ship, Port of Loading
<u>Sea</u> ONLY	<b>FOB</b> Free on Board Vessel, Port of Loading
<u>Sea</u> ONLY	<b>CFR</b> Cost & Freight, Port of Discharge
<u>Sea</u> ONLY	<b>CIF</b> Cost, Insurance & Freight, Port of Discharge
<u>Sea</u> , Road, Air, or Rail	<b>CPT</b> Carriage (Freight) Paid to, Final Destination
<u>Sea</u> , Road, Air, or Rail	<b>CIP</b> Carriage & Insurance Paid to, Final Destination
Road or Rail	<b>DAF</b> Delivered at Frontier, Place at Frontier
<u>Sea</u> ONLY	<b>DES</b> Delivered Ex Ship, Port of Discharge
<u>Sea</u> ONLY	<b>DEQ</b> Delivered Ex Quay, Duty Paid, Port of Discharge
<u>Sea</u> , Road, Air, or Rail	<b>DDU</b> Delivered Duty Unpaid, Final Destination
<u>Sea</u> , Road, Air, or Rail	<b>DDP</b> Delivered Duty Paid, Final Destination

## Sea EXAMPLES:

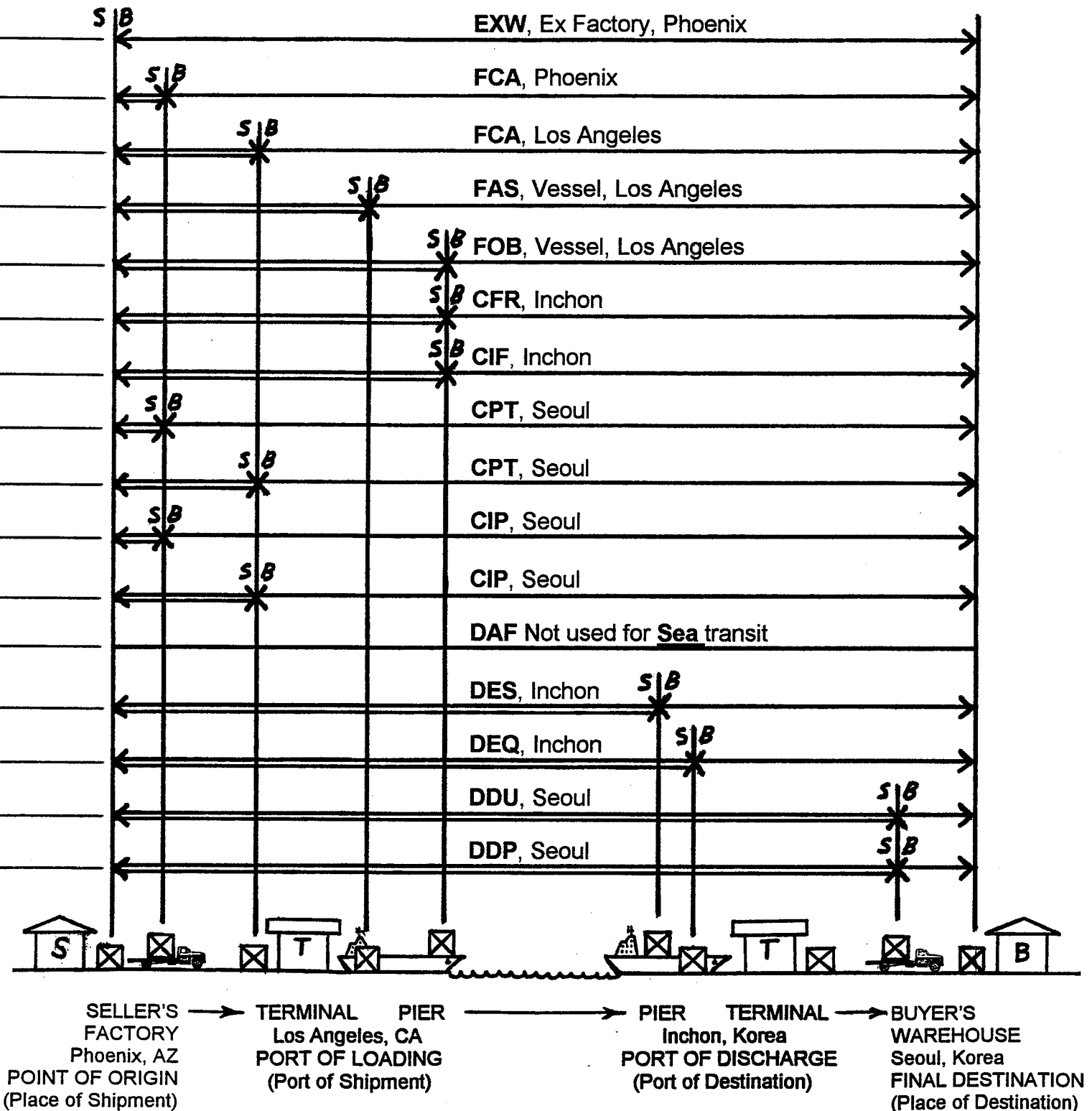
### RISK OF LOSS (& Need for Insurance) TRANSFERS from Seller to Buyer WHEN GOODS ARE:

Available to Buyer at Seller's Point of Origin	
A. In Trucker's Custody, Point of Origin	
B. In Ocean Carrier's Custody, Port of Loading	
Alongside Vessel, Port of Loading	
Loaded on Vessel, Port of Loading	
Loaded on Vessel, Port of Loading	
Loaded on Vessel, Port of Loading	
A. In Trucker's Custody, Point of Origin	
B. In Ocean Carrier's Custody, Port of Loading	
A. In Trucker's Custody, Point of Origin	
B. In Ocean Carrier's Custody, Port of Loading	
Delivered at Frontier at Country Border	
Loaded on Vessel, Port of Discharge	
Unloaded on Pier, Port of Discharge	
Delivered at Buyer's Final Destination	
Delivered at Buyer's Final Destination	

\* International Commercial Terms = INCO Terms  
International Chamber of Commerce, New York, NY



## Sea EXAMPLES:



EXPORTING COUNTRY

IMPORTING COUNTRY