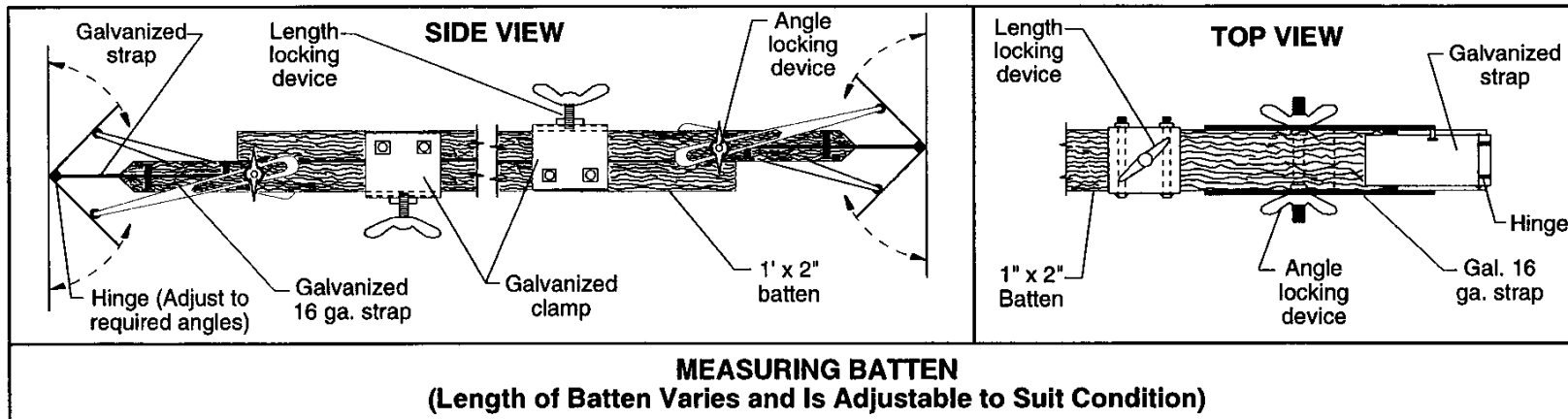
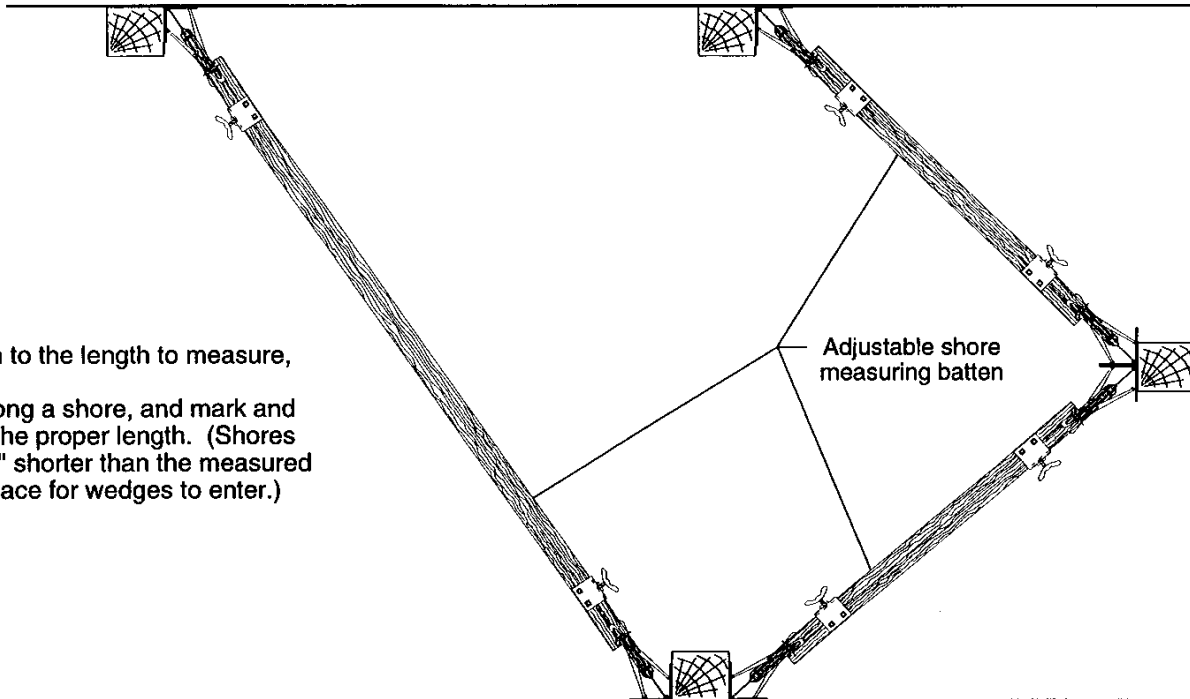


**DAMAGE CONTROL LAYOUT SKETCHES**  
**SECTION 13 – SHORING EVOLUTION**

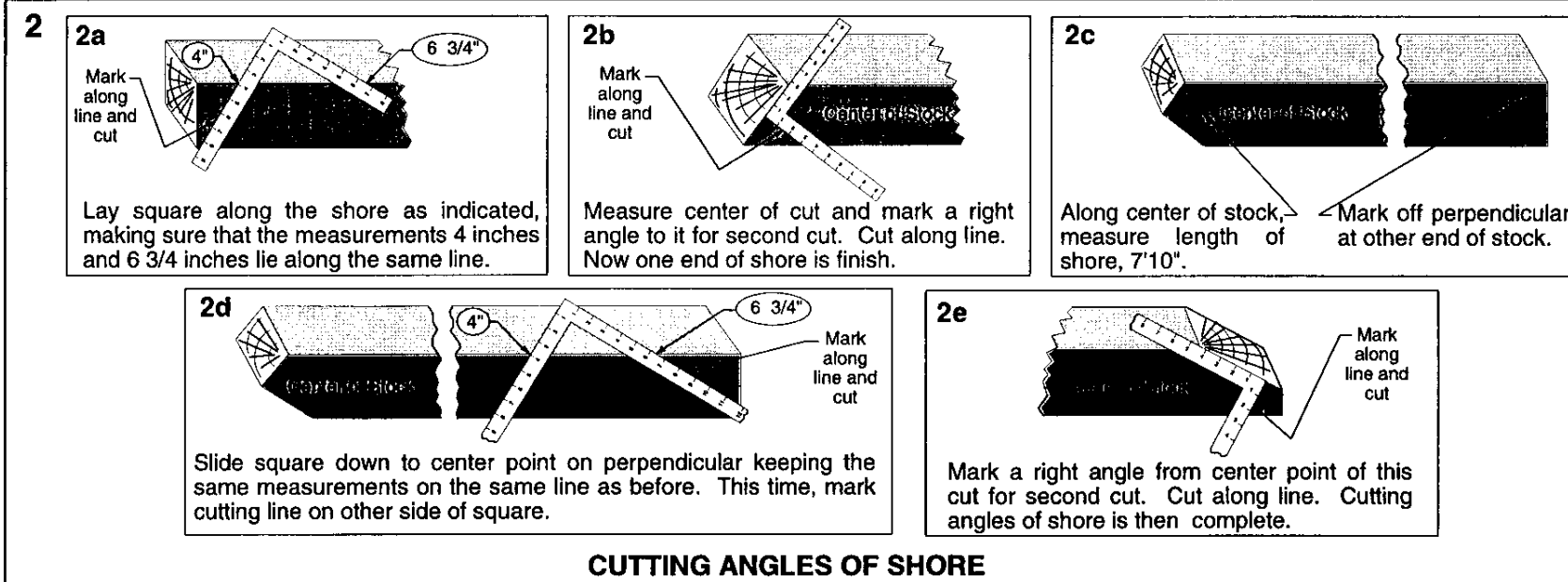
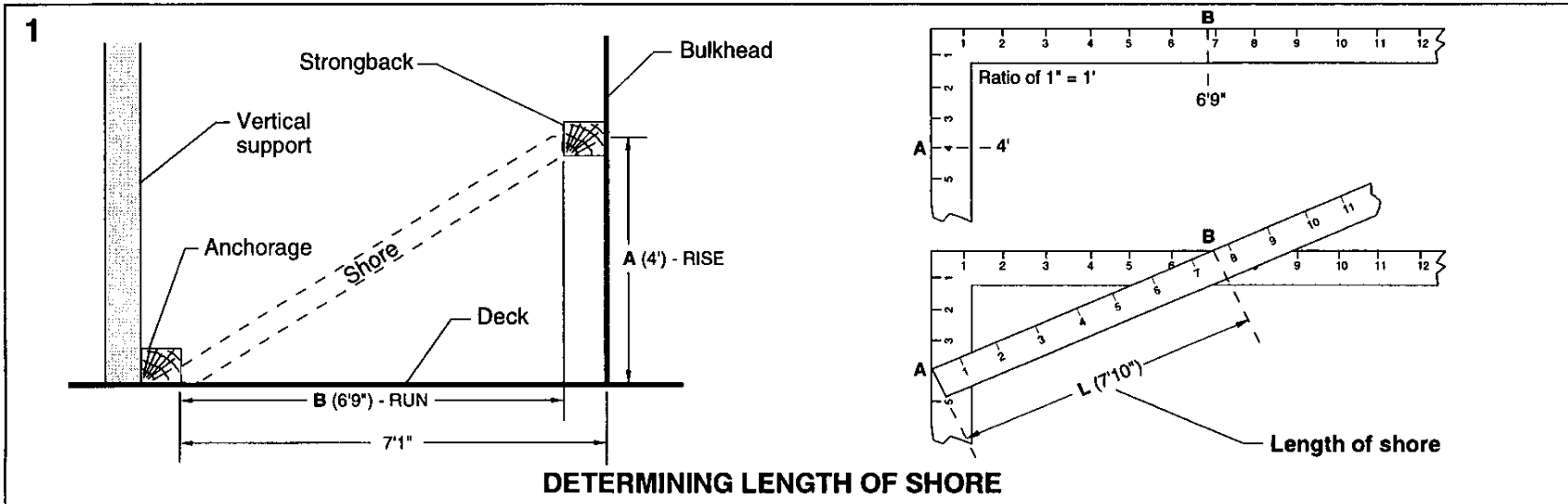
SKETCH NO.	TITLE OF SKETCH	SHEET NO.
001	Measuring Length and Angle of Shore Using Measuring Batten	13-2
002	Measuring and Cutting Shores Using Folding Rule or Steel Tape and Carpenter's Square	13-3
003	I-Type Shoring Using 3-5 Foot or 6-11 Foot Metal Shores	13-4
004	I and K-Type Shoring Using Wooden and Adjustable 6-11 Foot Metal Shores	13-5
005	I and K-Type Shoring Using Adjustable 3-5 Foot and 6-11 Foot Metal Shores	13-6
006	I-Type Shoring as Erected in Passage on USS SAMUEL B. ROBERTS (FFG 58)	13-7
007	Shoring Split Seam After Bulkhead of Auxiliary Machinery Room on USS SAMUEL B. ROBERTS (FFG 58)	13-8
008	K-Type Shoring Forward Bulkhead in CMBD SPLY DEPT STRM - USS SAMUEL B. ROBERTS (FFG 58)	13-9
009	H-Type Shoring with Wooden Shores	13-10
010	I-Type Shoring Using Wooden Shore to Support Sagging Overhead on Mine Warfare Class Ships	13-11
011	I-Type Shoring Using Multiple Combinations of 6-11 Foot Metal Shores and Wooden Shore to Support Overhead Deck or Load	13-12
012	I-Type Shoring on Watertight Door Using Wooden Shores	13-13
013	I-Type Shoring on Watertight Door Using Metal Shores	13-14
014	I-Type Shoring on Hatch with Scuttle Using Wooden Shores	13-15
015	I-Type Shoring on Hatch with Scuttle Using Metal Shores	13-16
016	K-Type Shoring	13-17
017	K-Type Shoring on Watertight Door Using Wooden Shores	13-18
018	K-Type Shoring on Watertight Door Using Metal Shores	13-19
019	Distributing Bulkhead Pressure Over Stiffeners with K-Type Shoring (Using Wooden or/and Metal Shores)	13-20
020	Compound Shoring	13-21
021	Shoring from Bulkhead to Hatch and Providing Support for Weakened Overhead on Mine Warfare Class Ships	13-22
022	General Rules for Shoring Against Horizontal Pressure	13-23
023	General Rules for Setting Correct Shoring Angles	13-24
024	Strengthening Shores	13-25



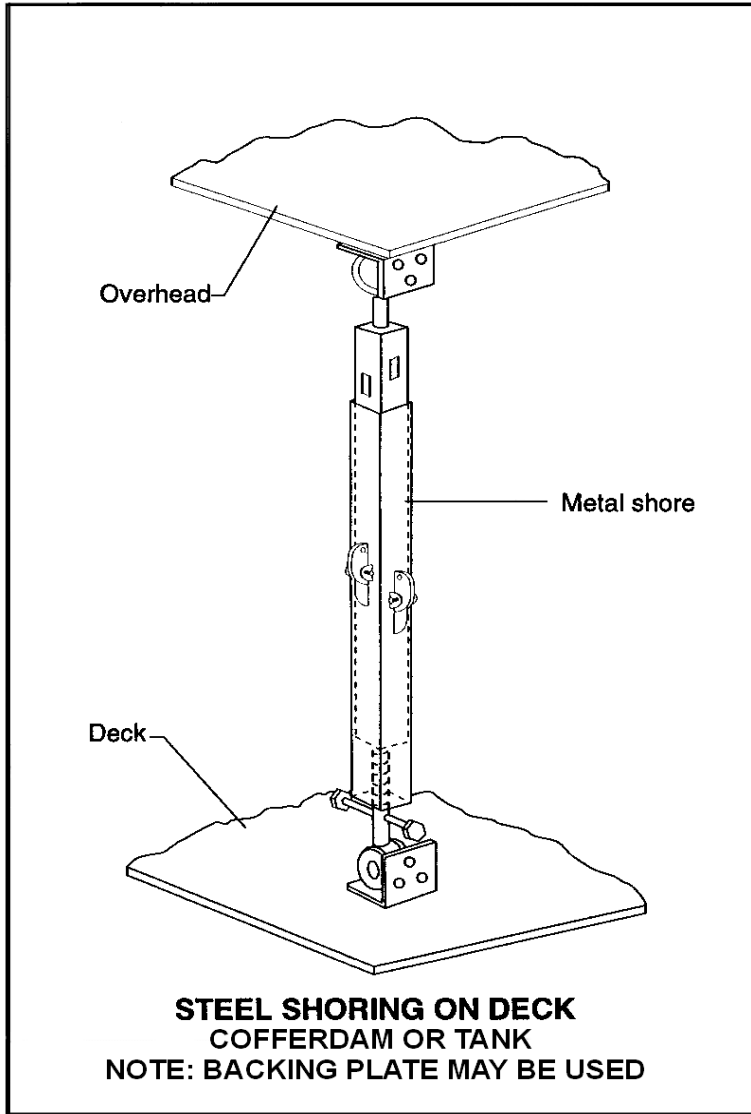
1. Extend the batten to the length to measure, and lock it.
2. Lay the batten along a shore, and mark and cut the timber to the proper length. (Shores should be cut 1/2" shorter than the measured length to allow space for wedges to enter.)



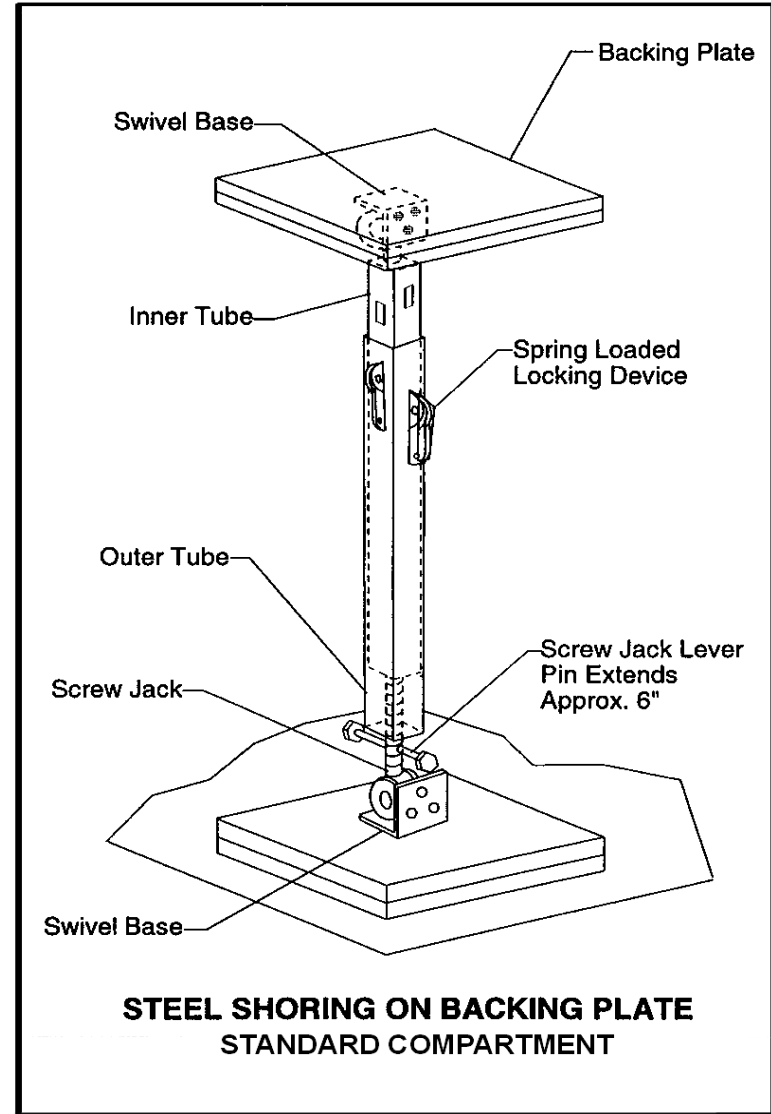
**SHORING EVOLUTION - SKETCH #001**  
Measuring Length and Angle of Shore Using Measuring Batten



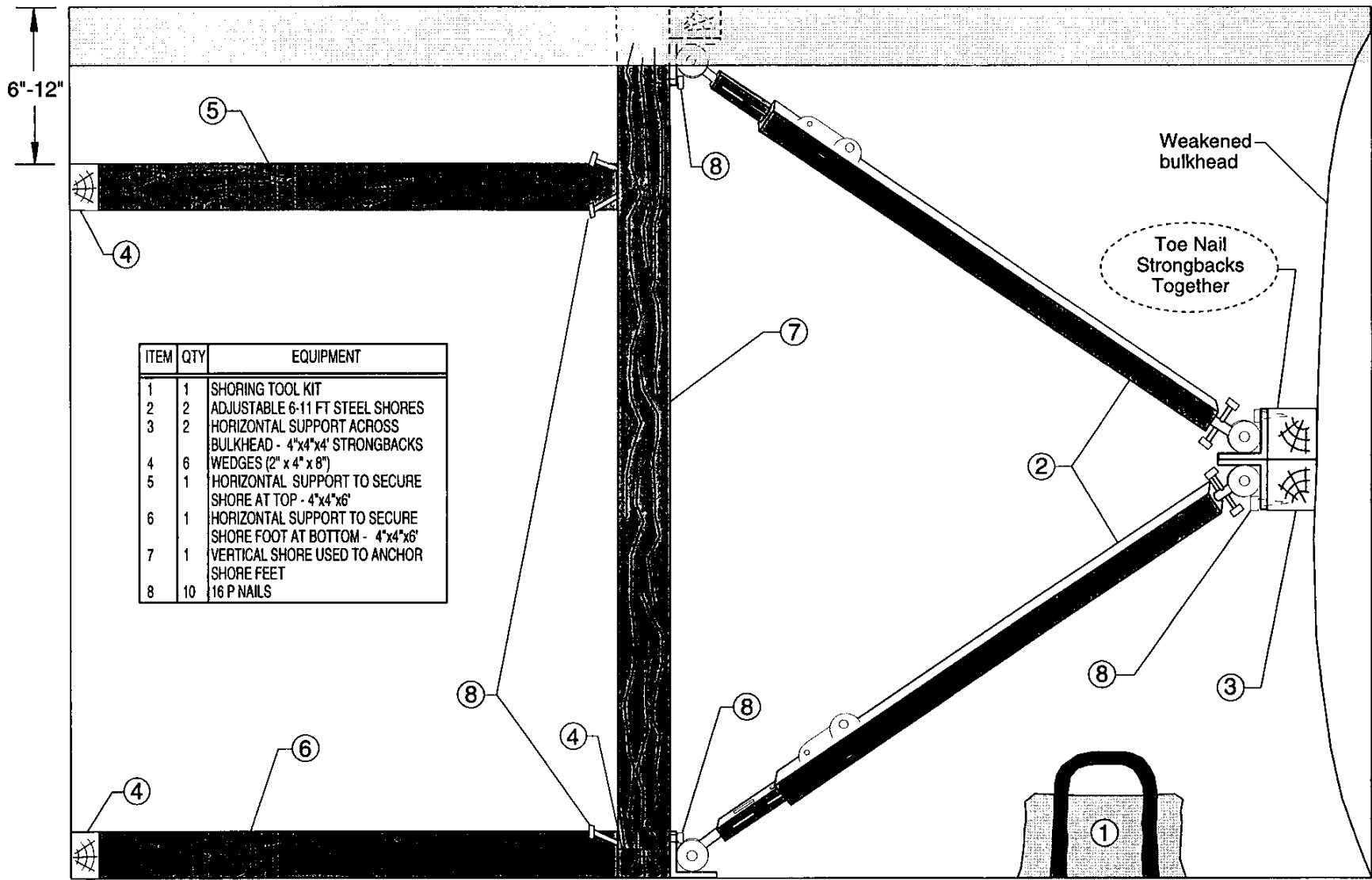
**SHORING EVOLUTION - SKETCH #002**  
**Measuring and Cutting Shores Using Folding Rule or Steel Tape and Carpenter's Square**



OR



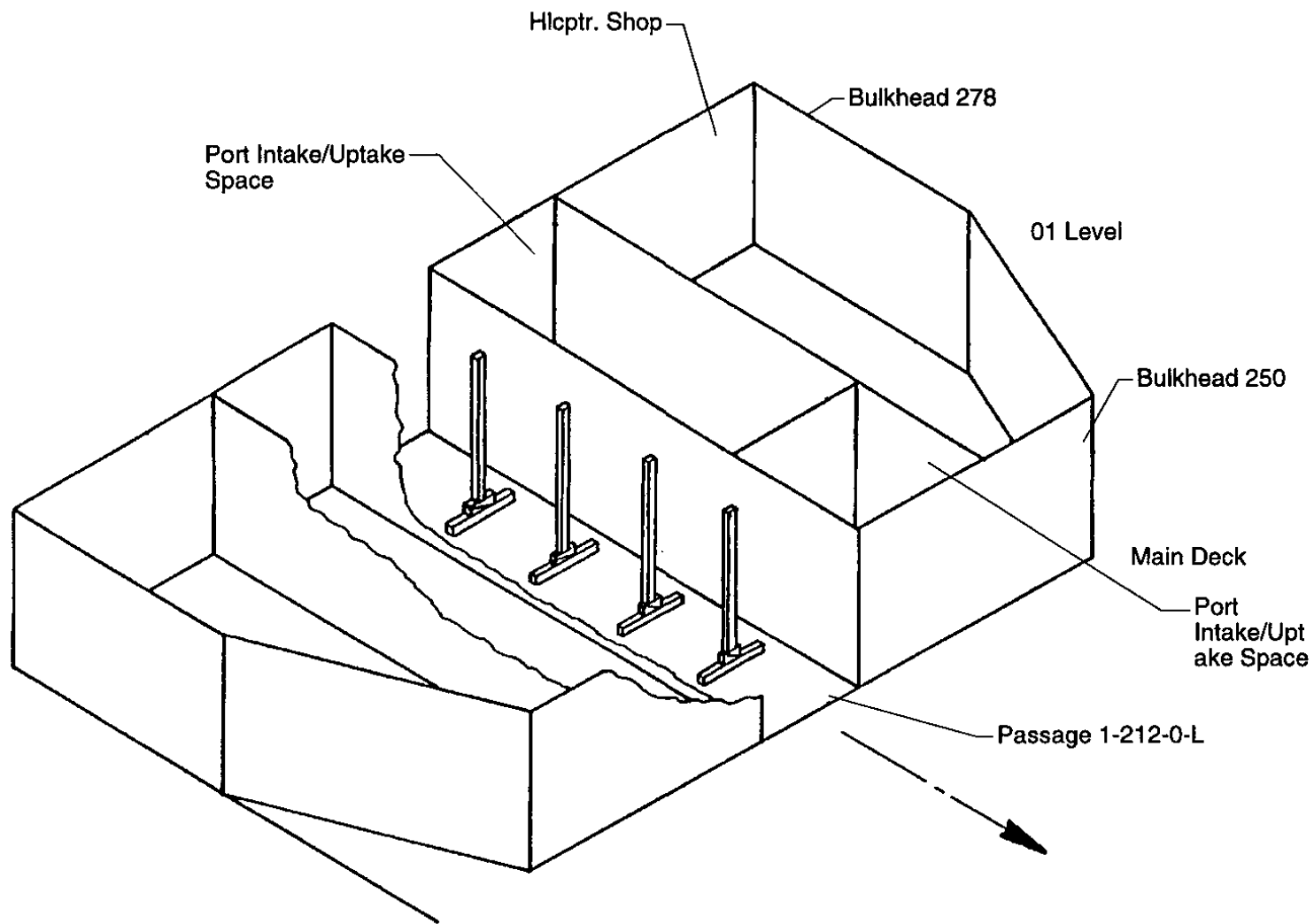
**SHORING EVOLUTION - SKETCH #003**  
**I-Type Shoring Using 3-5 Foot or 6-11 Foot Metal Shores**



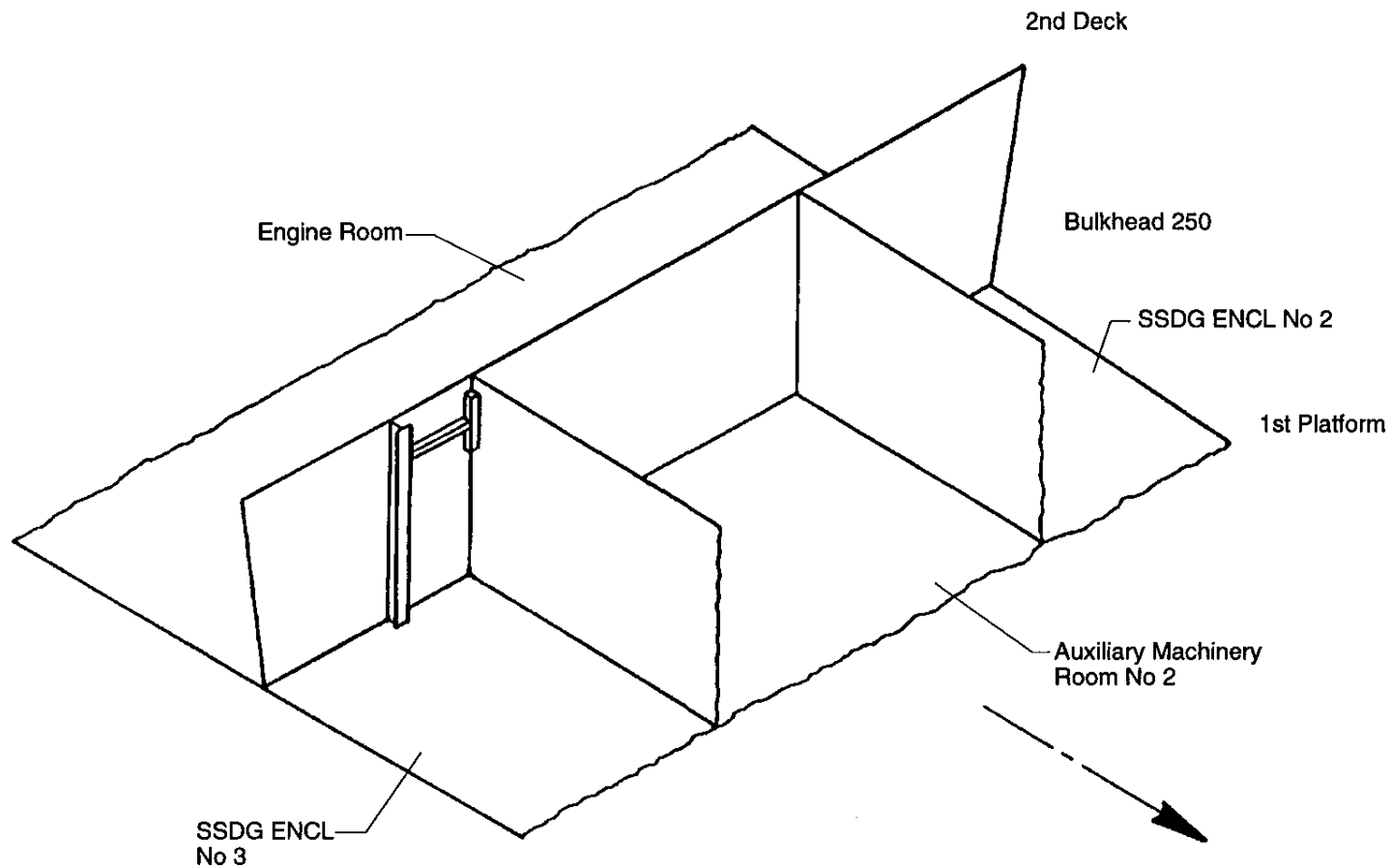
ITEM	QTY	EQUIPMENT
1	1	SHORING TOOL KIT
2	2	ADJUSTABLE 6-11 FT STEEL SHORES
3	2	HORIZONTAL SUPPORT ACROSS BULKHEAD - 4"x4"x4' STRONGBACKS
4	6	WEDGES (2" x 4" x 8")
5	1	HORIZONTAL SUPPORT TO SECURE SHORE AT TOP - 4"x4"x6"
6	1	HORIZONTAL SUPPORT TO SECURE SHORE FOOT AT BOTTOM - 4"x4"x6"
7	1	VERTICAL SHORE USED TO ANCHOR SHORE FEET
8	10	16 P NAILS

**SHORING EVOLUTION - SKETCH #004**  
**I and K-Type Shoring Using Wooden and Adjustable 6-11 Foot Metal Shores**



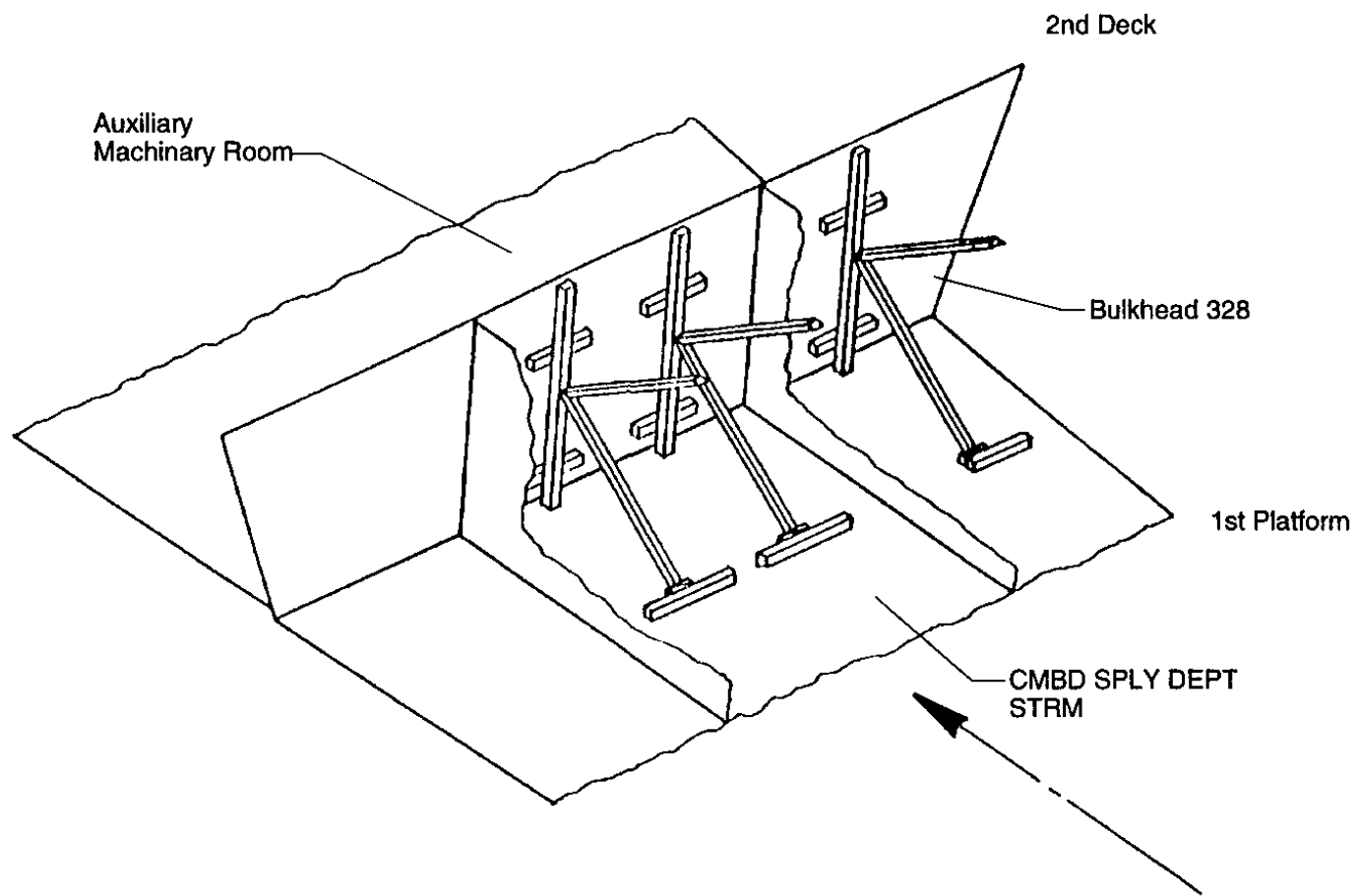


**SHORING EVOLUTION - SKETCH #006**  
**I-Type Shoring as Erected in Passage on USS SAMUEL B. ROBERTS (FFG 58)**

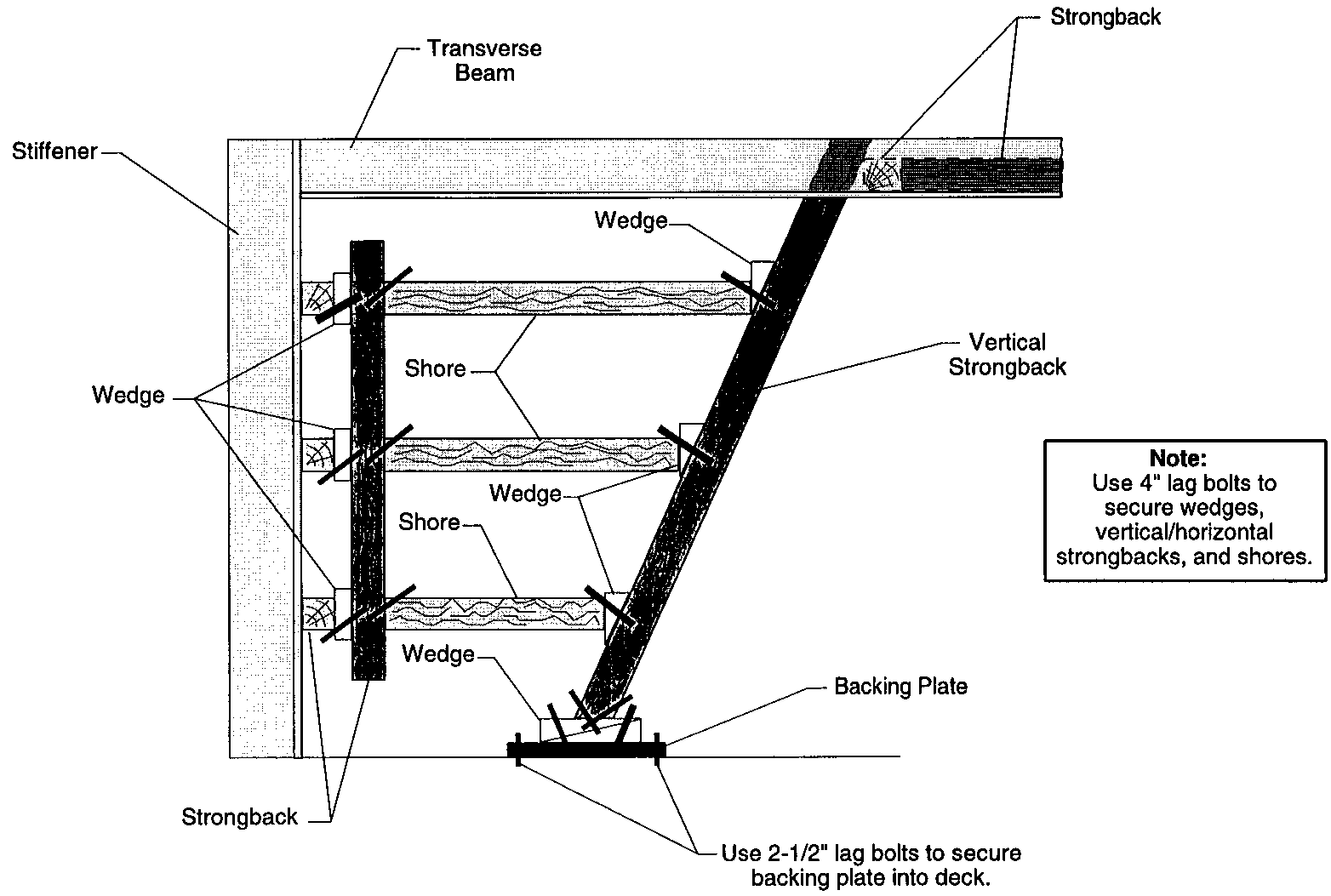


**SHORING EVOLUTION - SKETCH #007**  
**Shoring Split Seam After Bulkhead of Auxiliary Machinery Room on USS SAMUEL B. ROBERTS (FFG 58)**

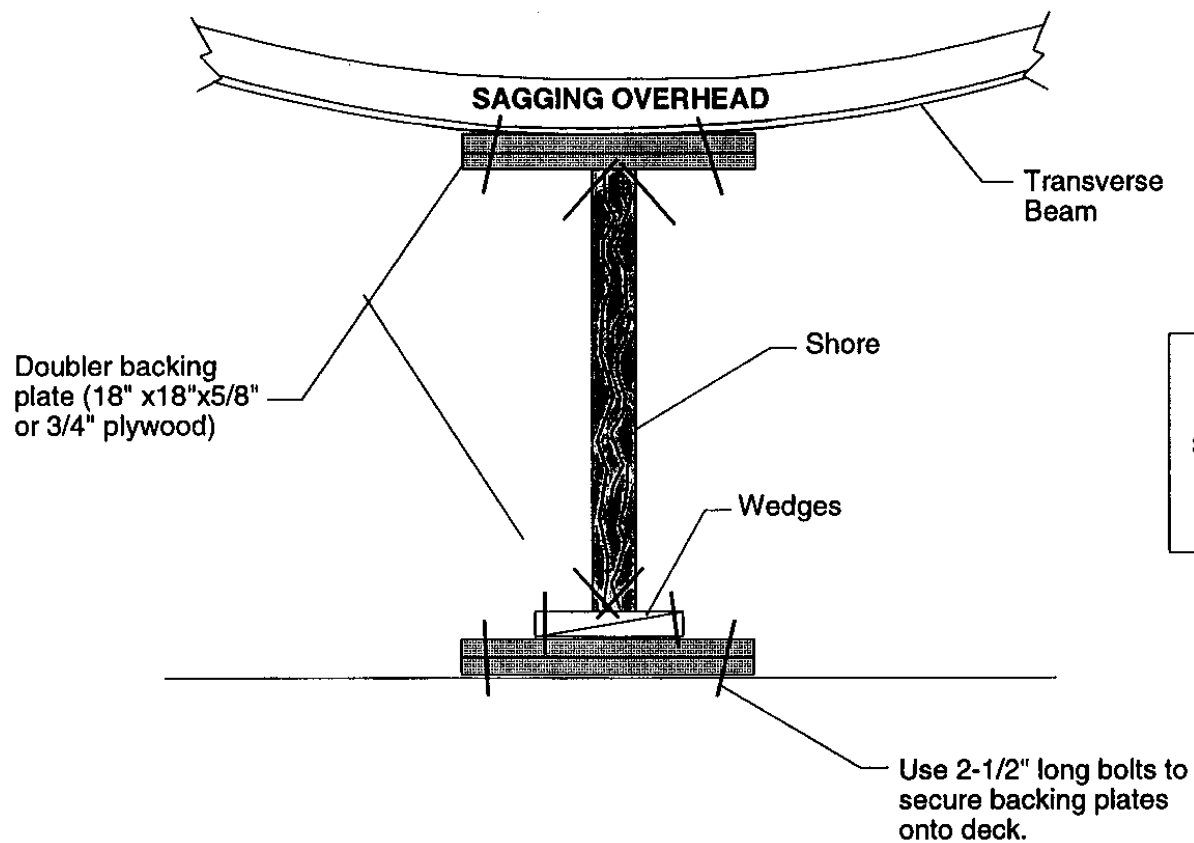




**SHORING EVOLUTION - SKETCH #008**  
**K-Type Shoring Forward Bulkhead in CMBD SPLY DEPT STRM - USS SAMUEL B. ROBERTS (FFG 58)**

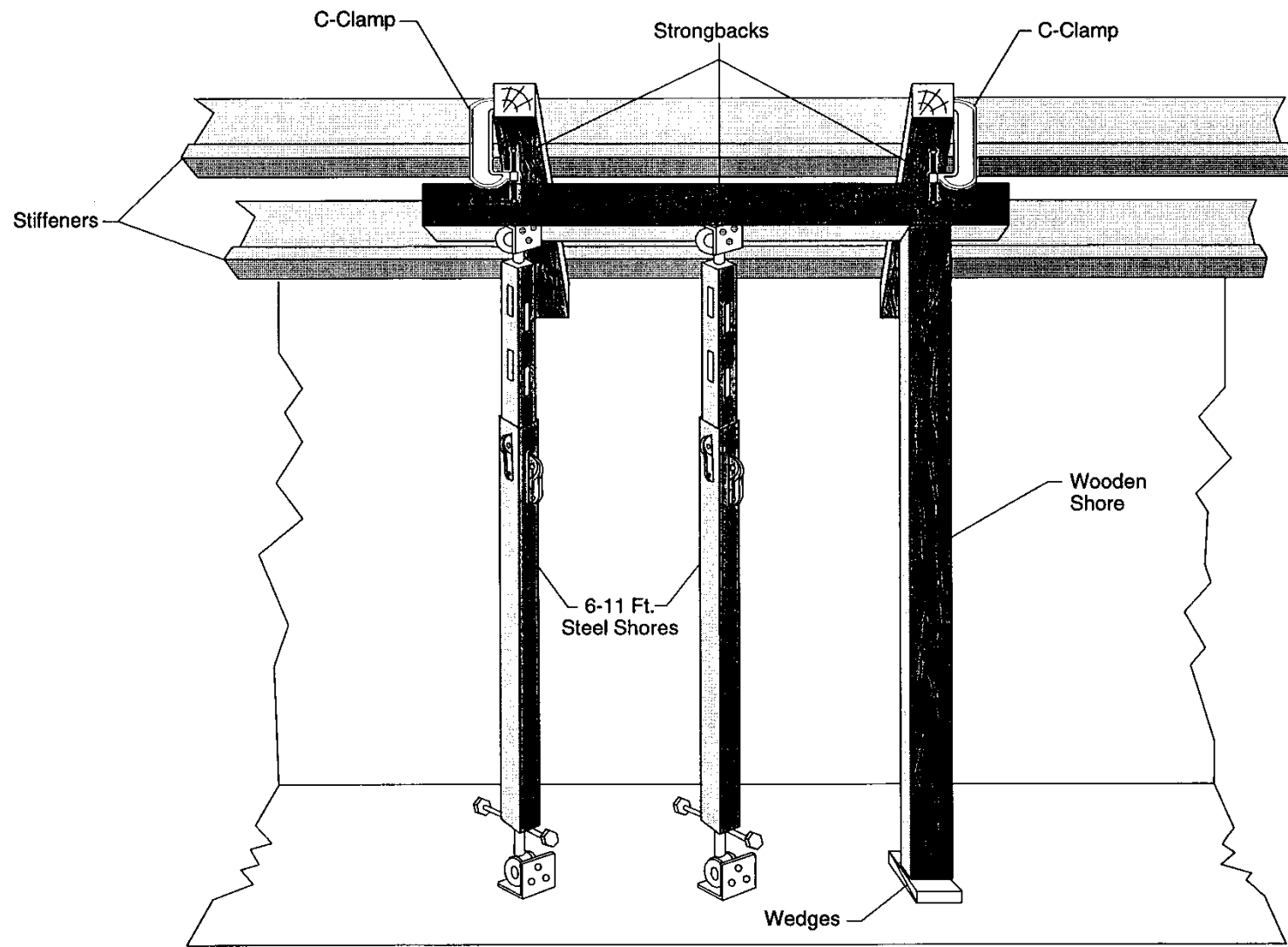


**SHORING EVOLUTION - SKETCH #009**  
**H-Type Shoring with Wooden Shores**

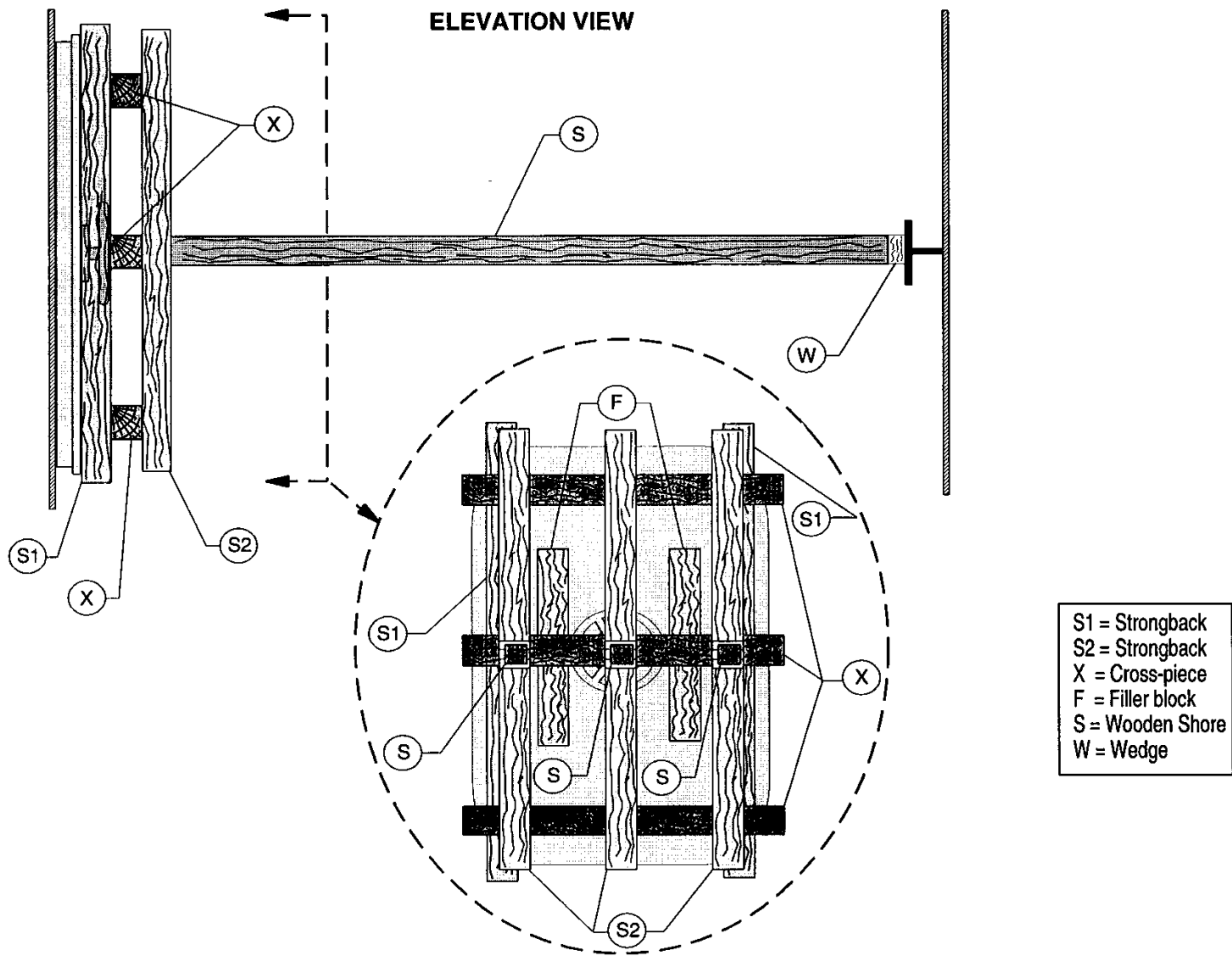


**NOTE:**  
 Use 4" long bolts to secure wedges and shore onto backing plates.

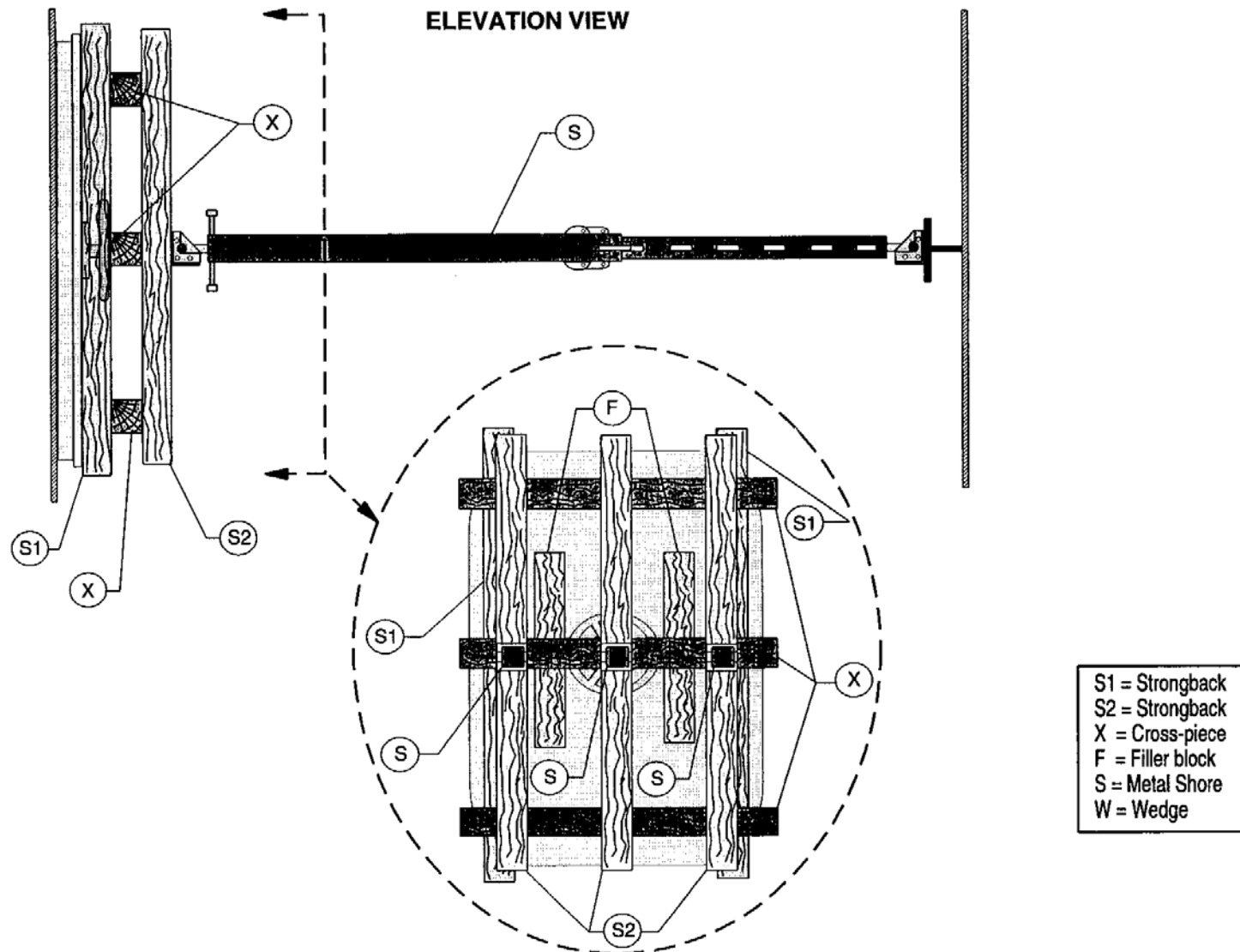
**SHORING EVOLUTION - SKETCH #010**  
**I-Type Shoring Using Wood Shore to Support Sagging Overhead on Mine Warfare Class Ships**



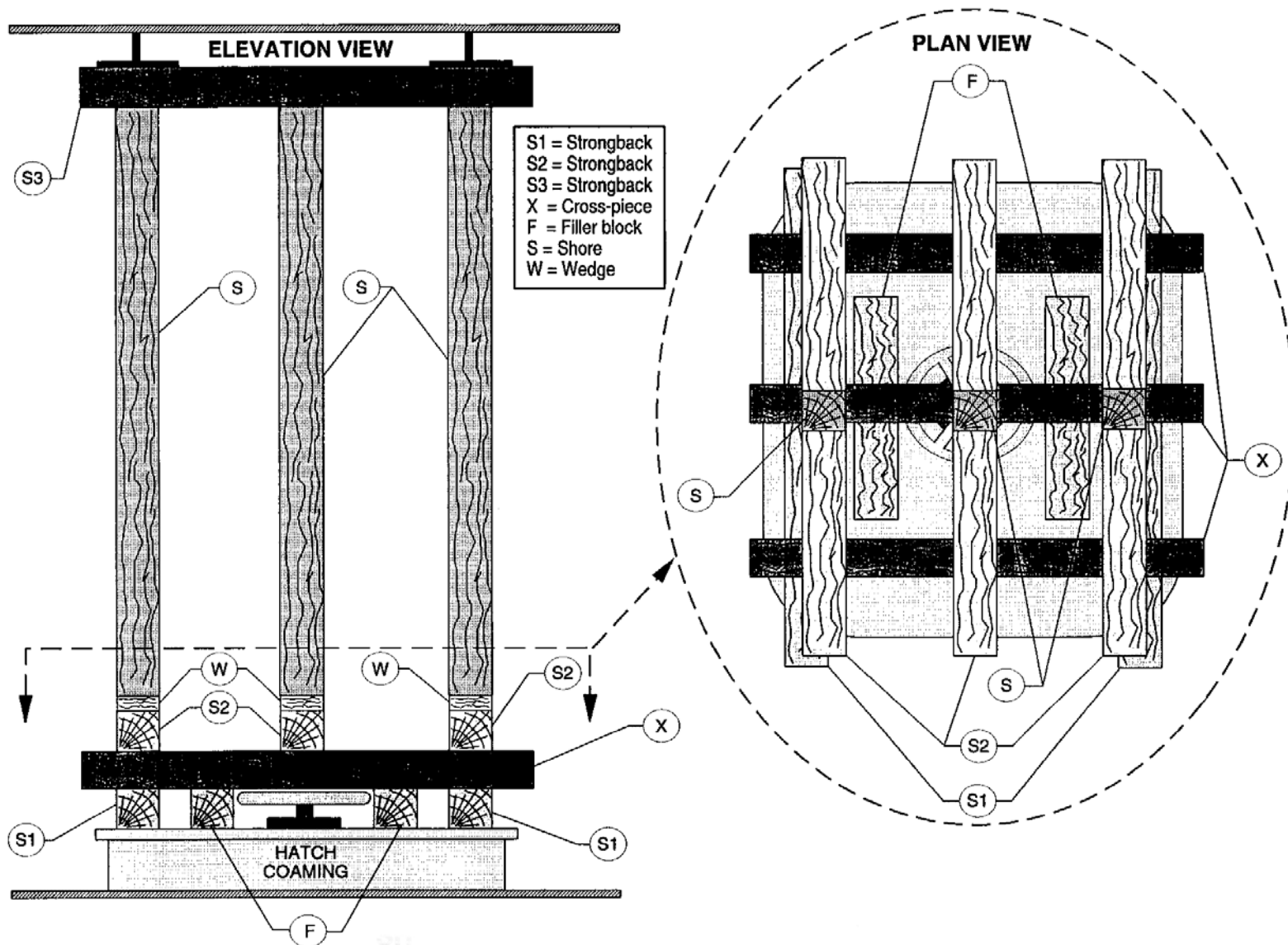
**SHORING EVOLUTION - SKETCH #011**  
**I-Type Shoring Using Multiple Combination of 6-11 Foot Metal Shores and Wooden Shore to Support Overhead Deck or Load**



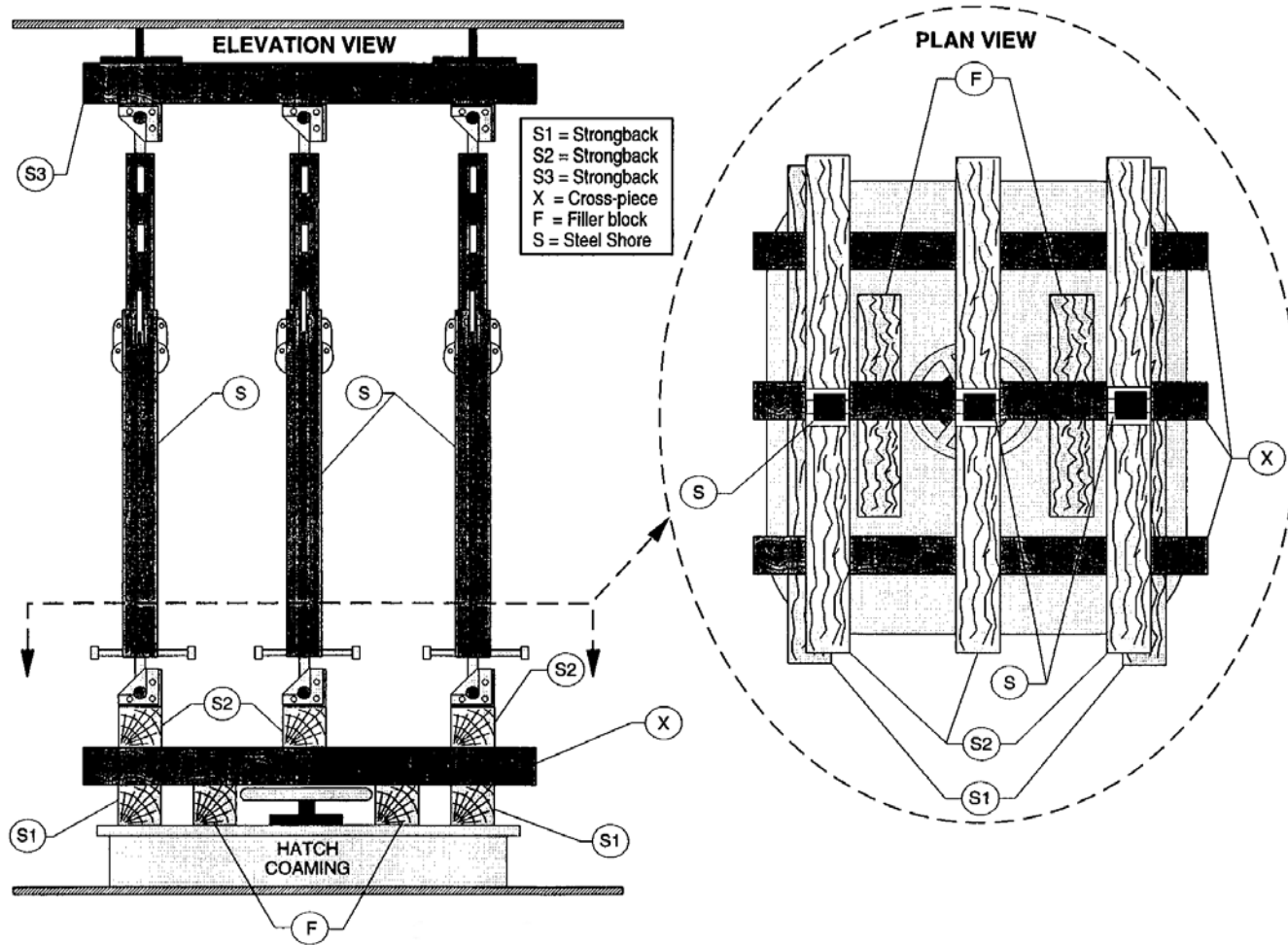
**SHORING EVOLUTION - SKETCH #012**  
**I-Type Shoring on Watertight Door Using Wooden Shores**



**SHORING EVOLUTION - SKETCH #013**  
**I-Type Shoring on Watertight Door Using Metal Shores**

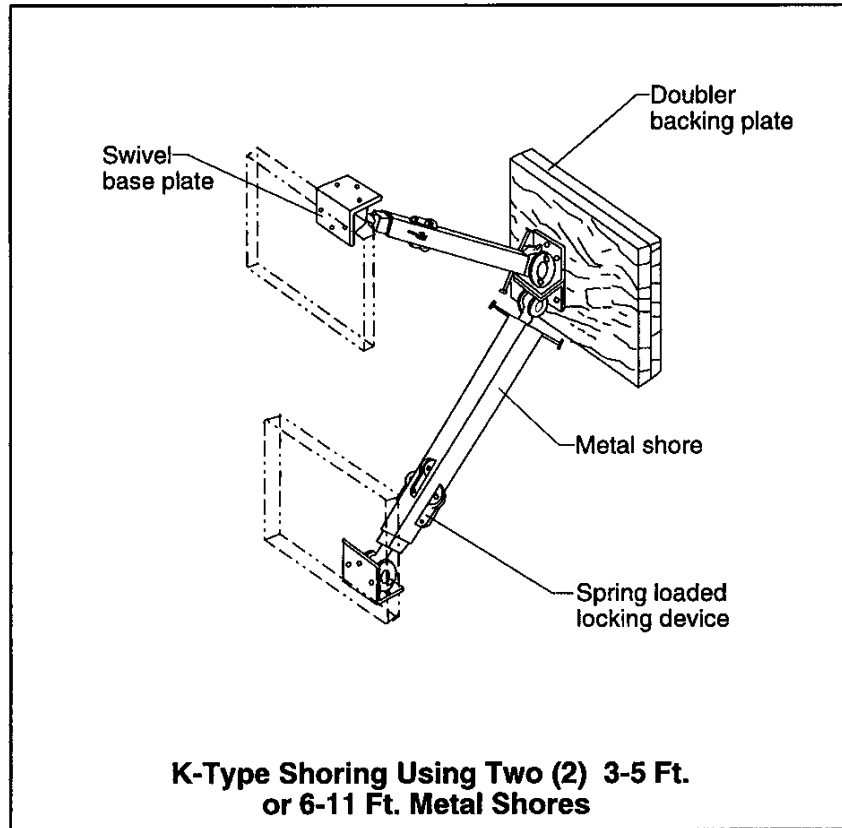
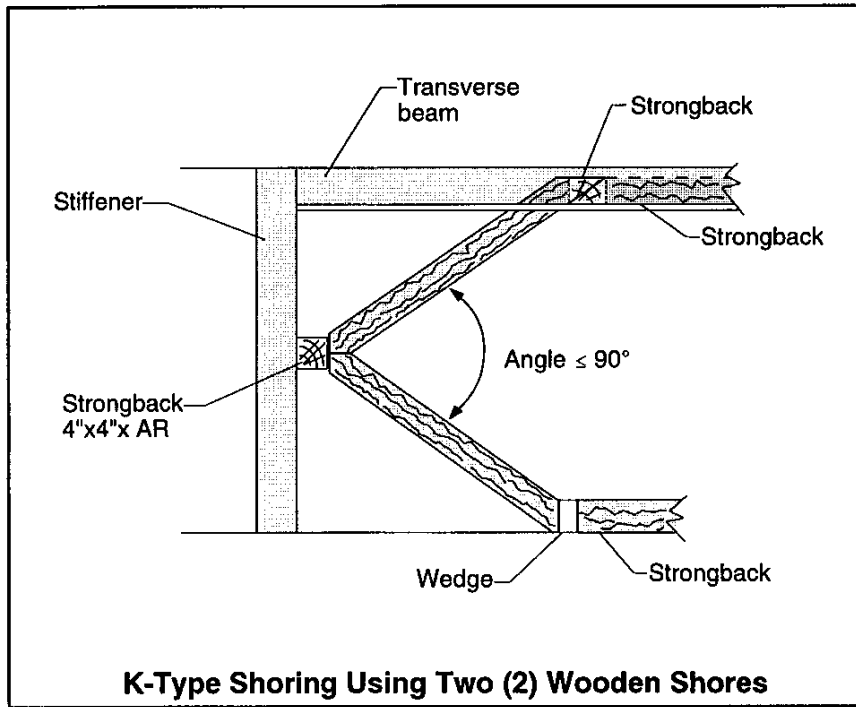


**SHORING EVOLUTION - SKETCH #014**  
**I-Type Shoring on Hatch with Scuttle Using Wooden Shores**

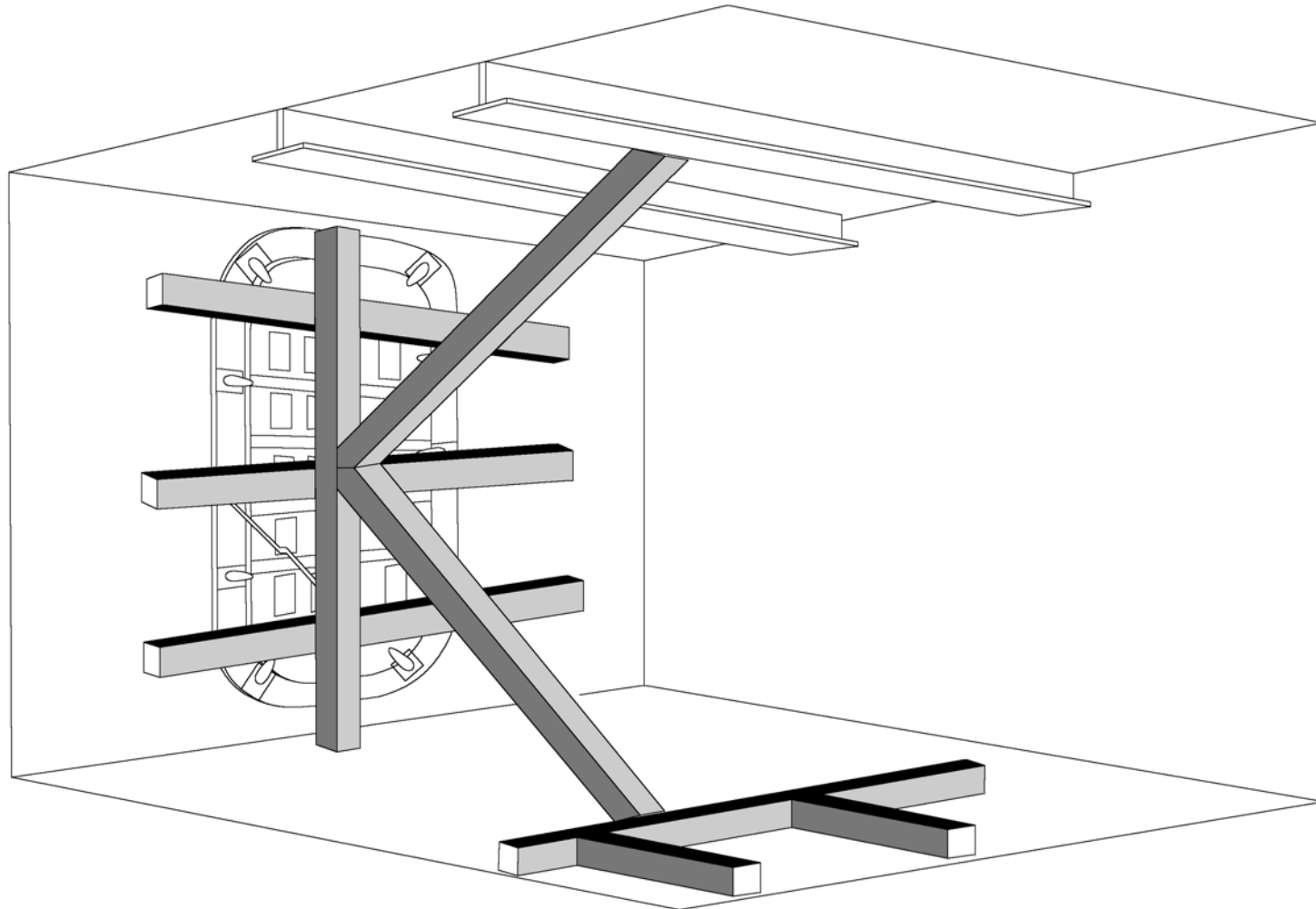


**SHORING EVOLUTION - SKETCH #015**  
**I-Type Shoring on Hatch with Scuttle Using Metal Shores**

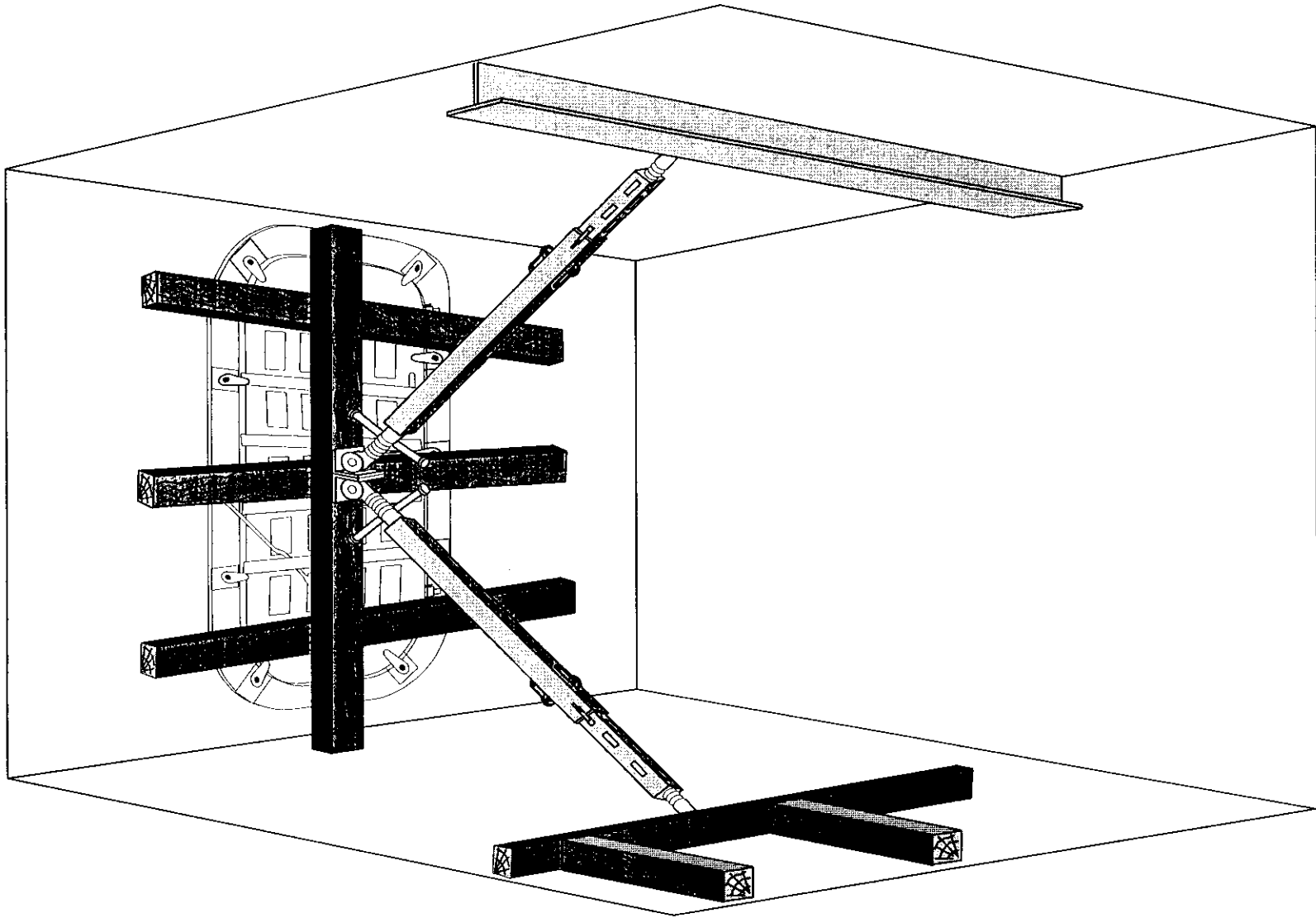




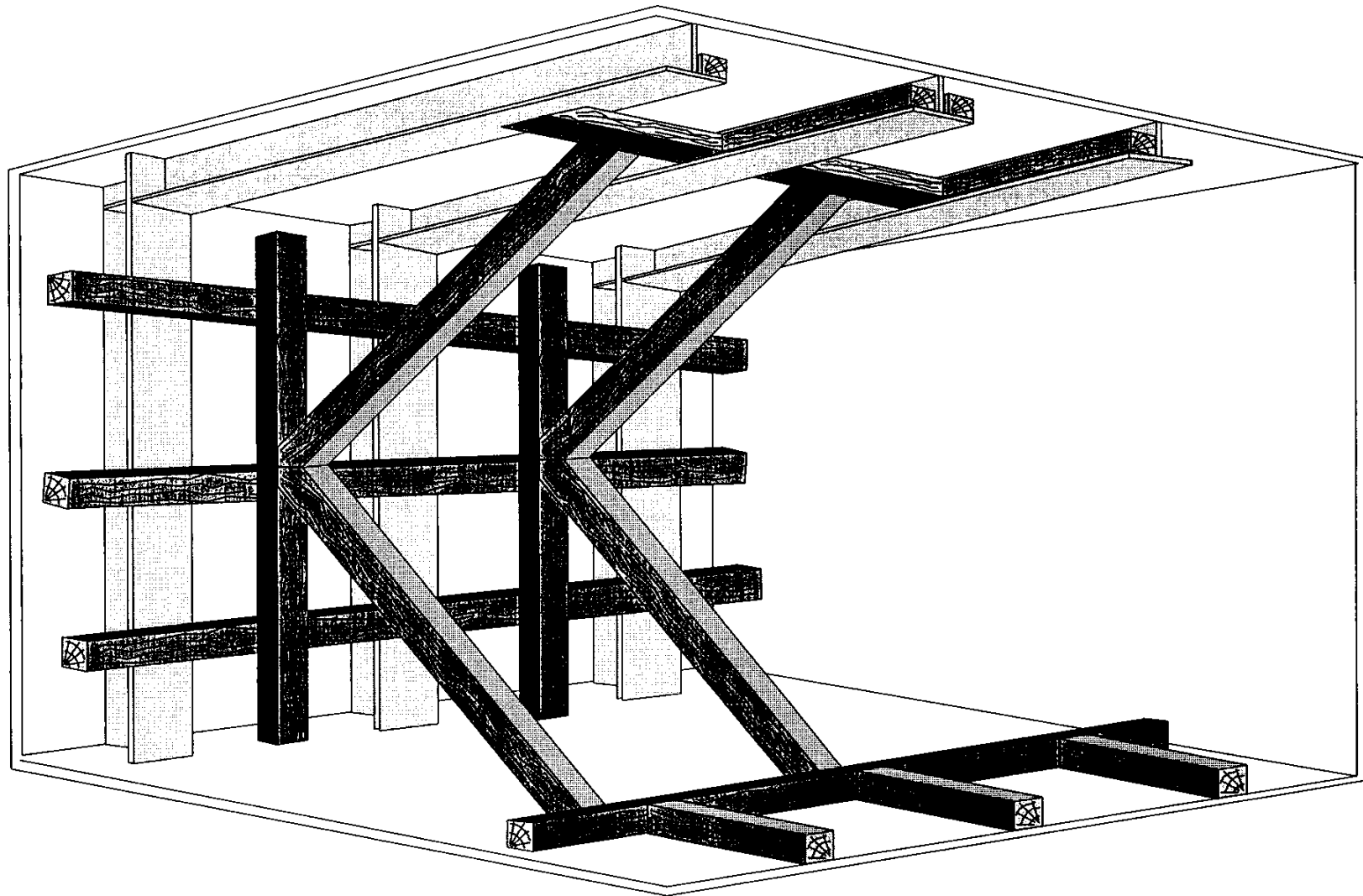
**SHORING EVOLUTION - SKETCH #016**  
**K-Type Shoring**



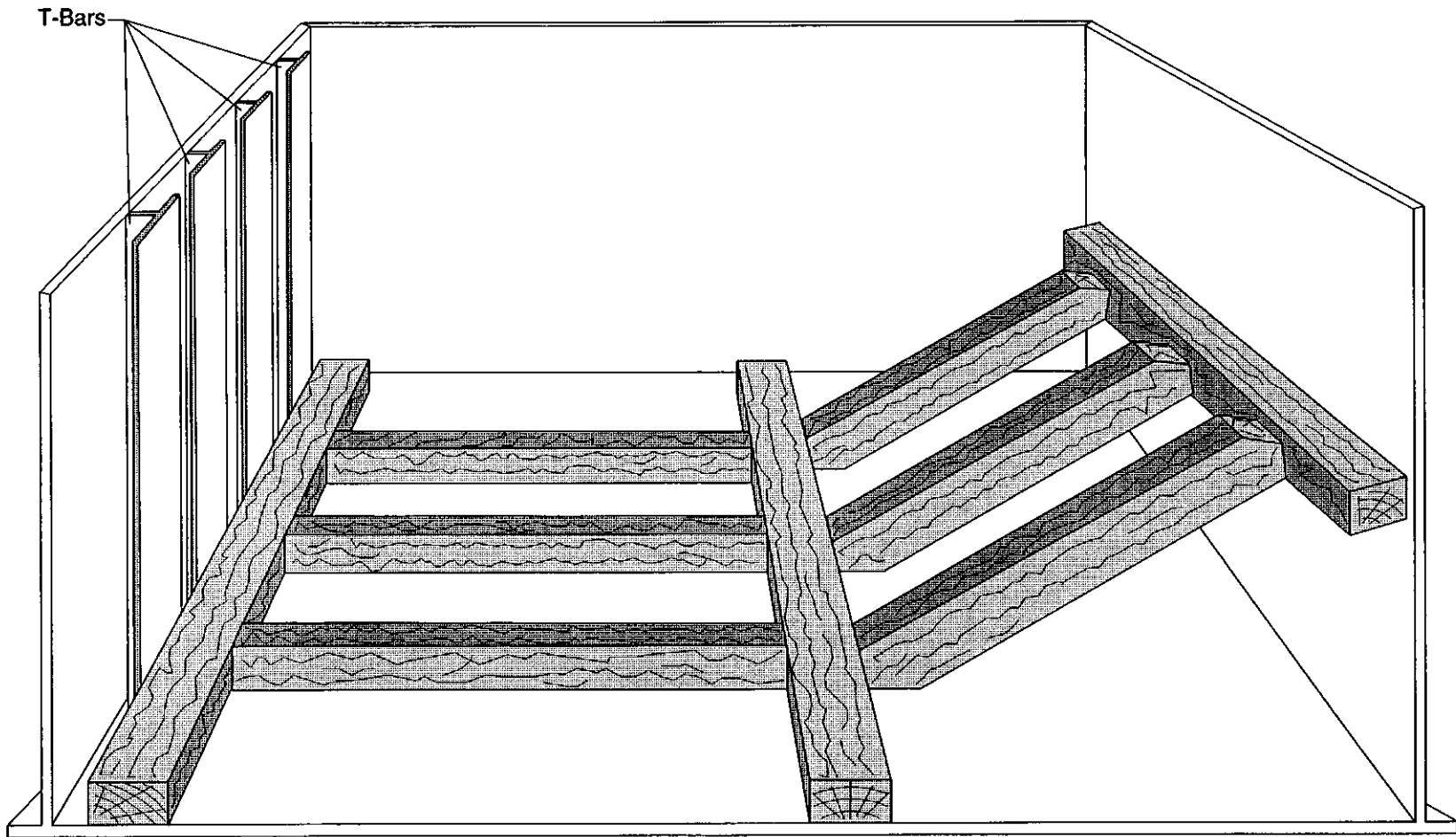
**SHORING EVOLUTION - SKETCH #017**  
**K-Type Shoring on Watertight Door Using Wooden Shores**



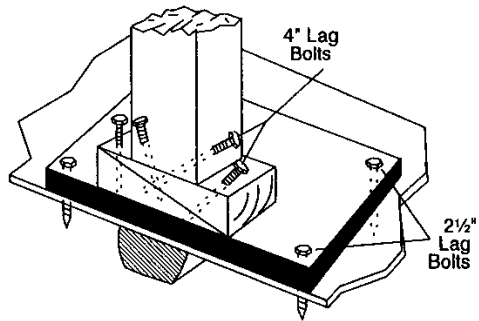
**SHORING EVOLUTION - SKETCH #018**  
**K-Type Shoring on Watertight Door Using Metal Shores**



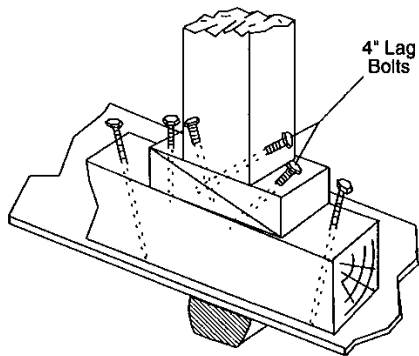
**SHORING EVOLUTION - SKETCH #019**  
**Distributing Bulkhead Pressure Over Stiffeners with K-Type Shoring**  
**(Using Wooden or/and Metal Shores)**



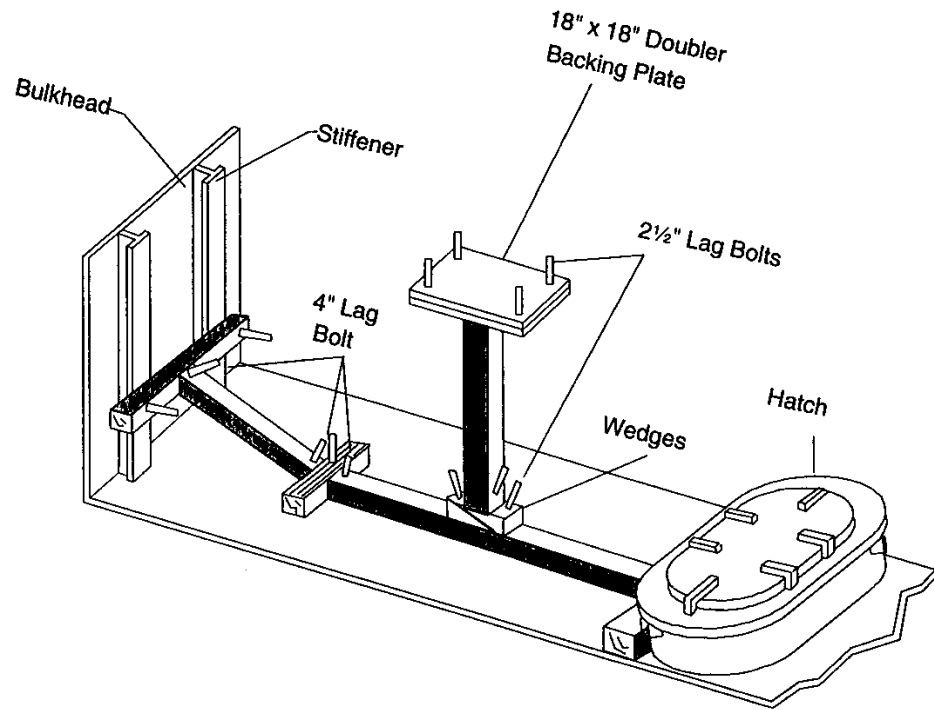
**SHORING EVOLUTION - SKETCH #020**  
**Compound Shoring**



SHORING PRACTICE INVOLVING USE OF PAIR OF WEDGES BENEATH A SHORE, SECURED WITH 4" LAG BOLTS THROUGH WEDGES INTO DECK AND SECURING SHORE TO WEDGES.

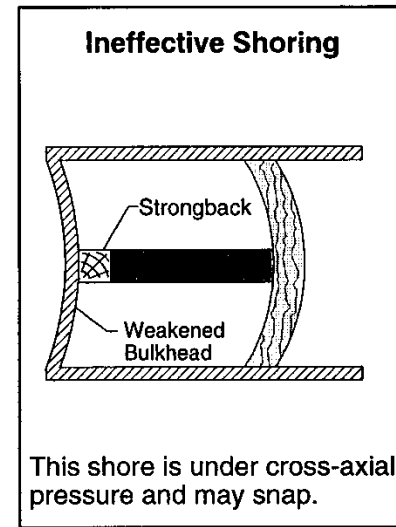
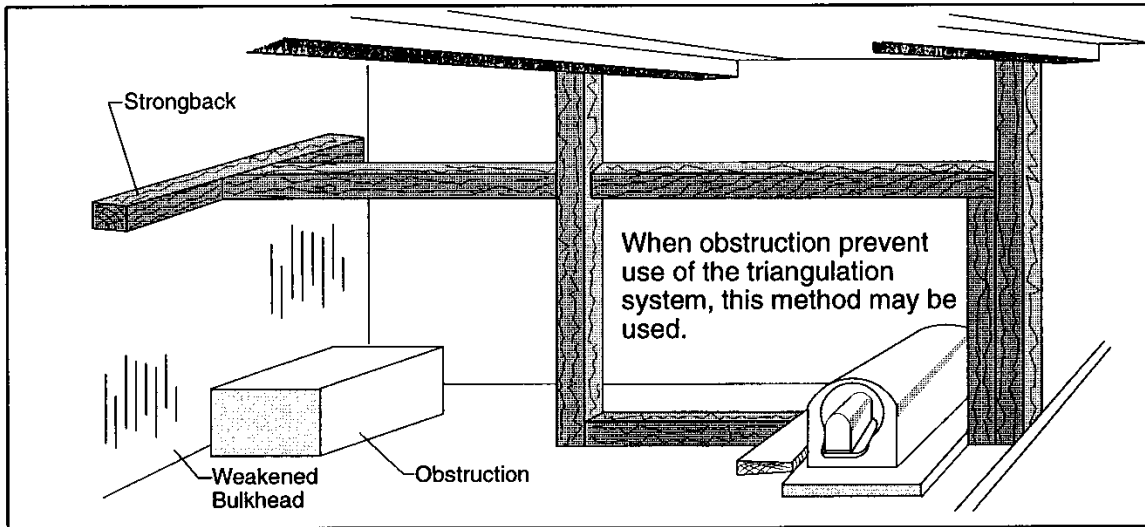
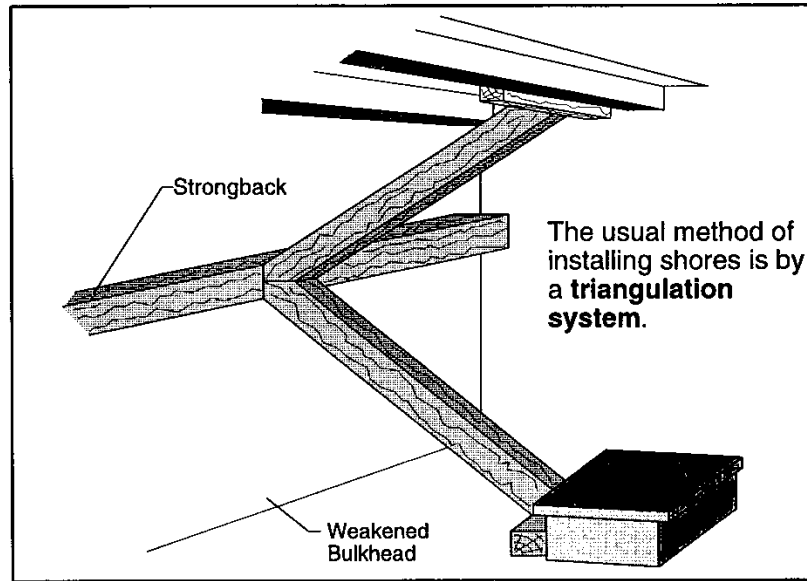
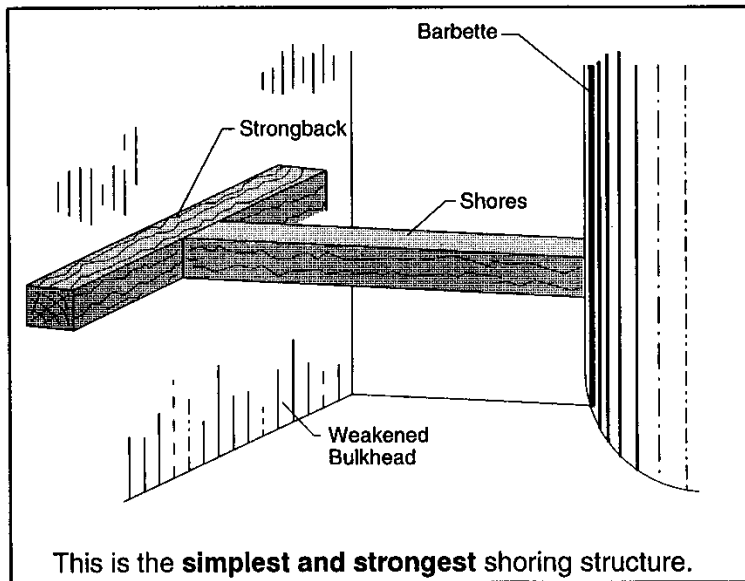


SHORING PRACTICE INVOLVING USE OF PAIR OF WEDGES BENEATH A SHORE, SECURED WITH 4" LAG BOLTS THROUGH WEDGES INTO BACKING PLATE AND SECURING SHORE TO WEDGES, BACKING PLATE WITH 2-1/2" LAG BOLTS.

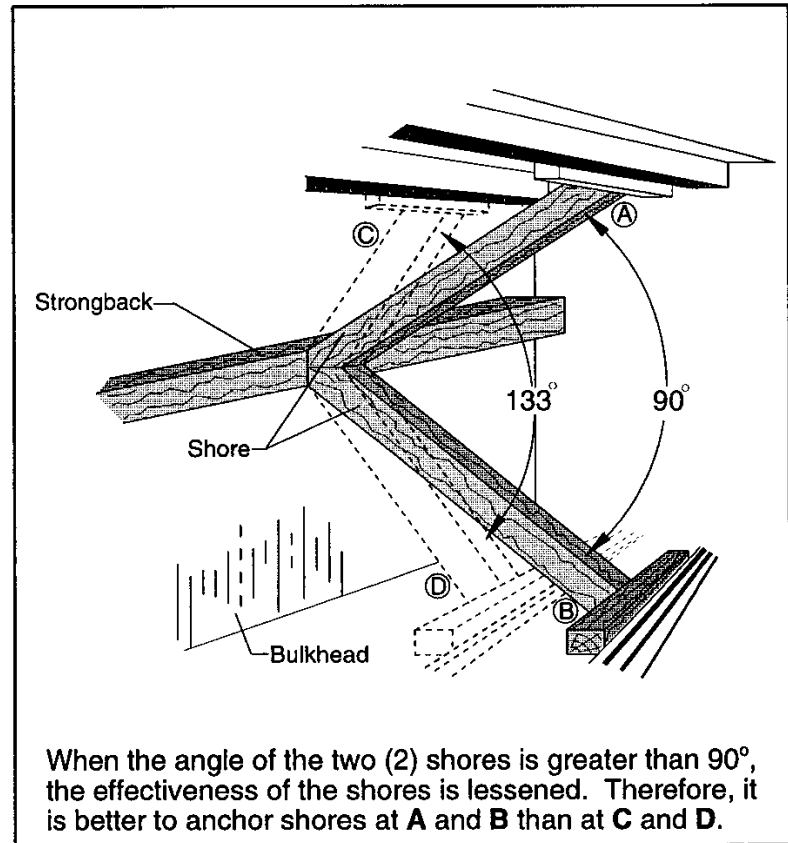
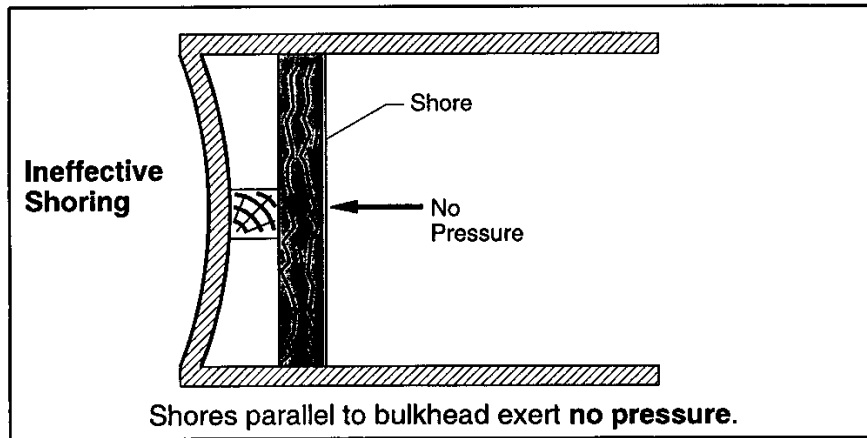
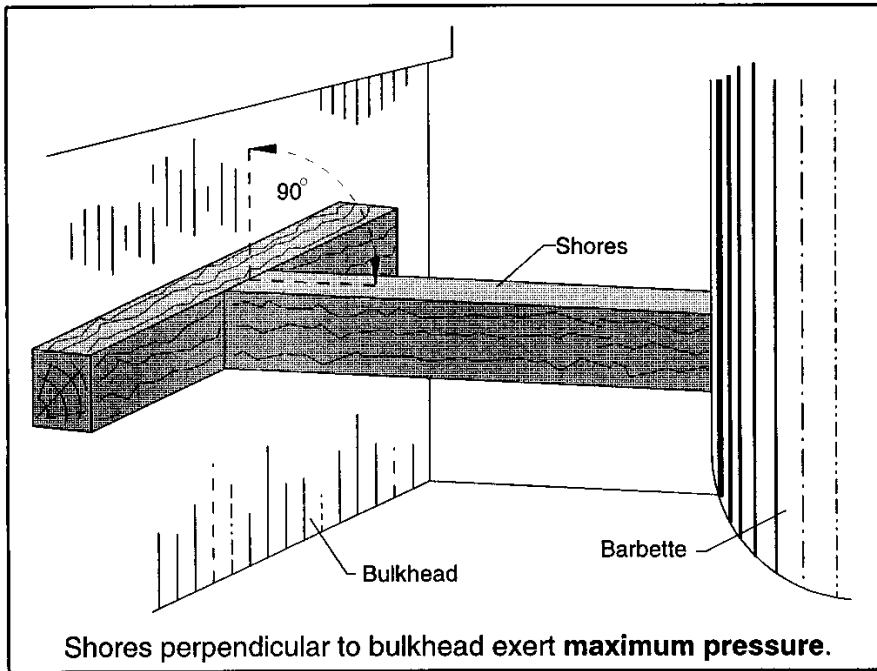


### SHORING EVOLUTION - SKETCH #021

Shoring from Bulkhead to Hatch and Providing Support for Weakened Overhead on Mine Warfare Class Ships

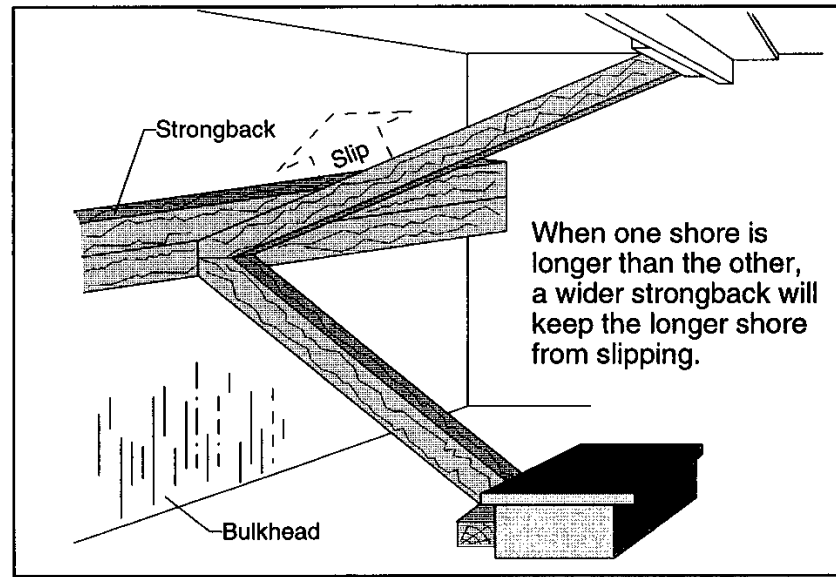
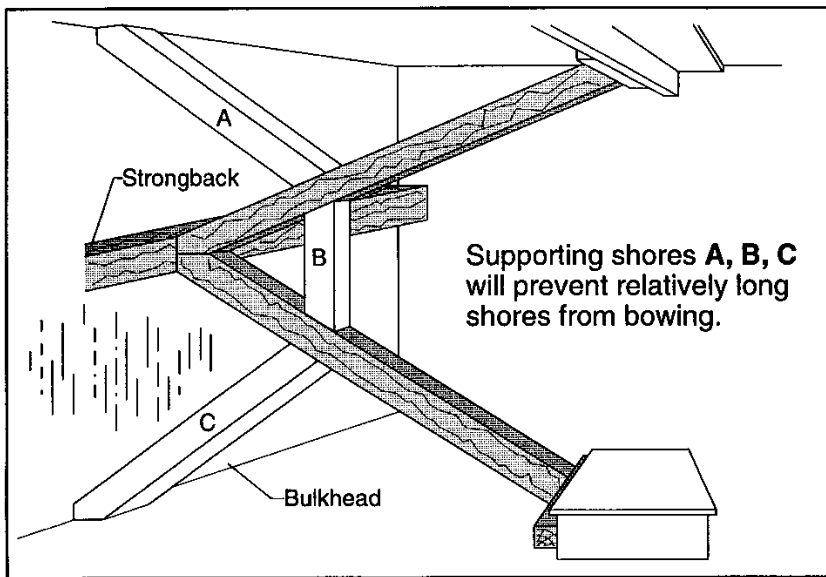
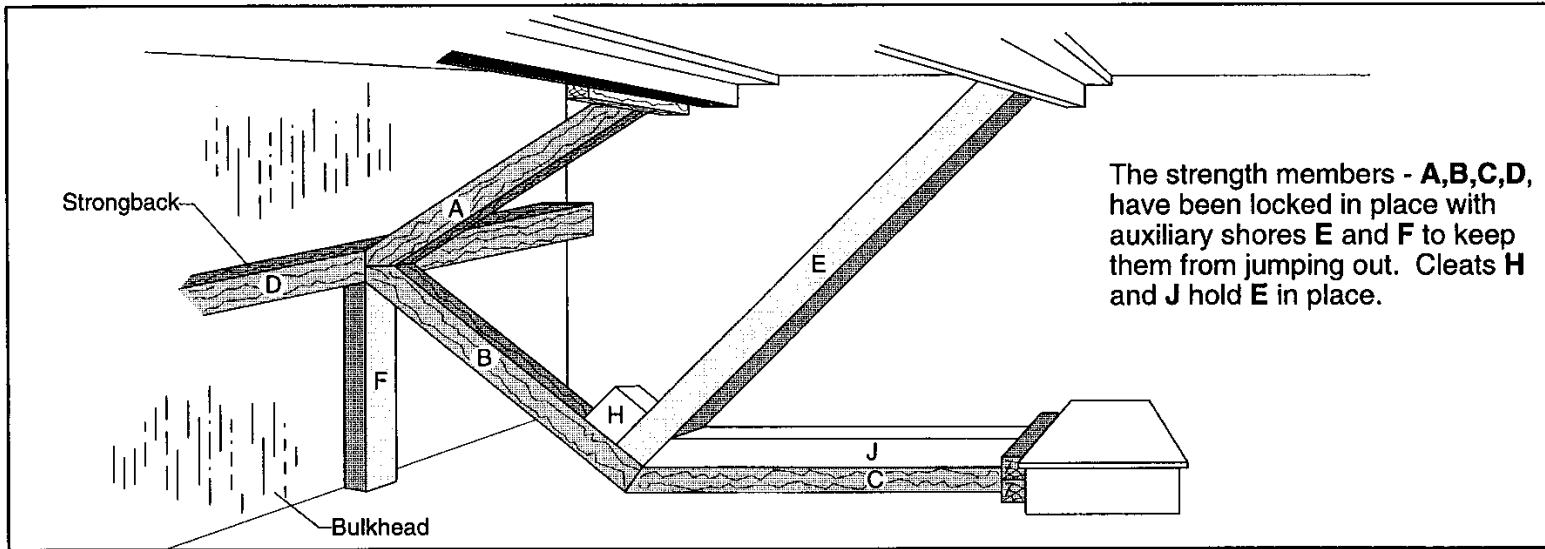


**SHORING EVOLUTION - SKETCH #022**  
**General Rules for Shoring Against Horizontal Pressure**



**SHORING EVOLUTION - SKETCH #023**  
**General Rules for Setting Correct Shoring Angles**





**SHORING EVOLUTION - SKETCH #024**  
**Strengthening Shores**