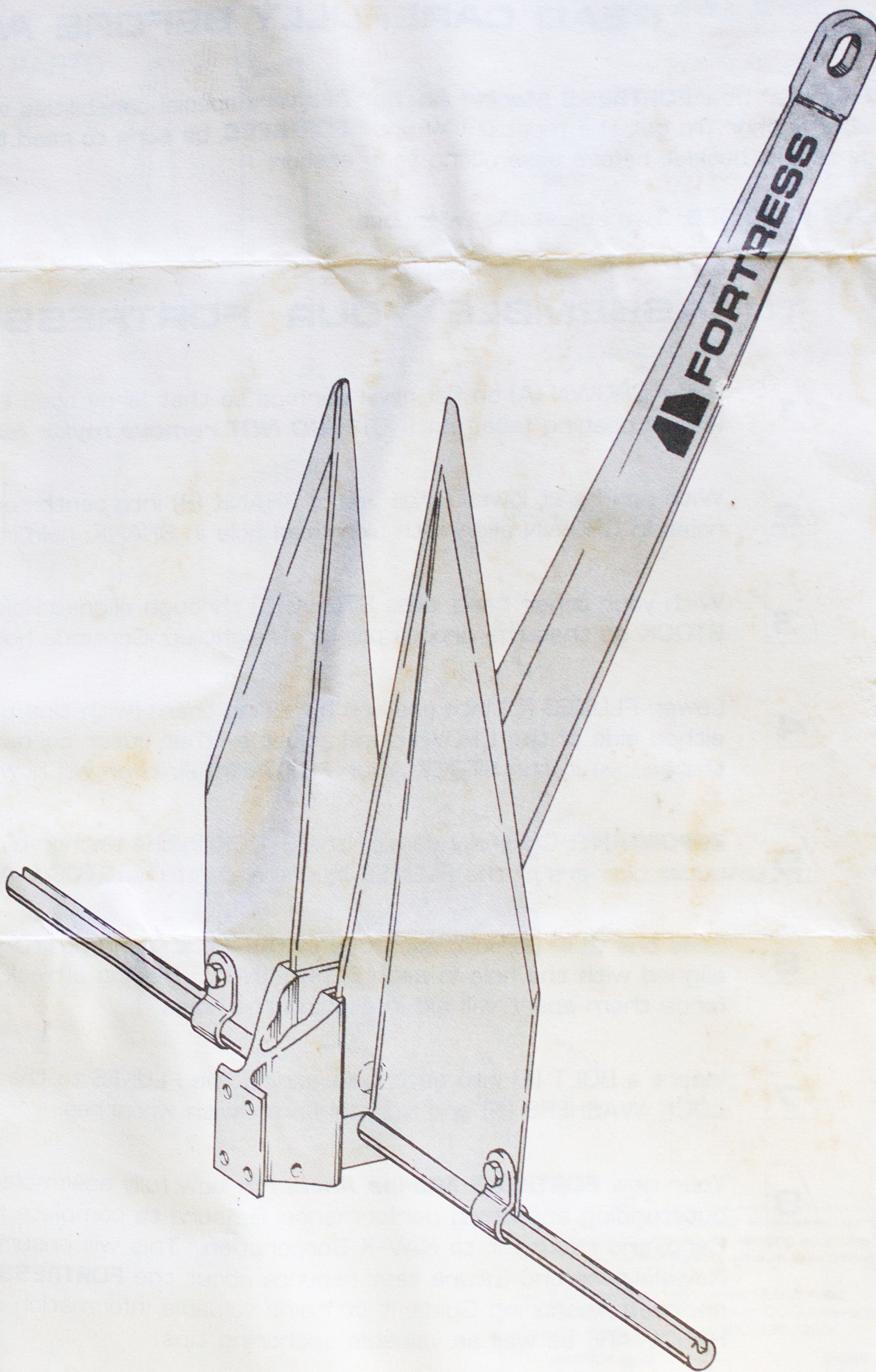
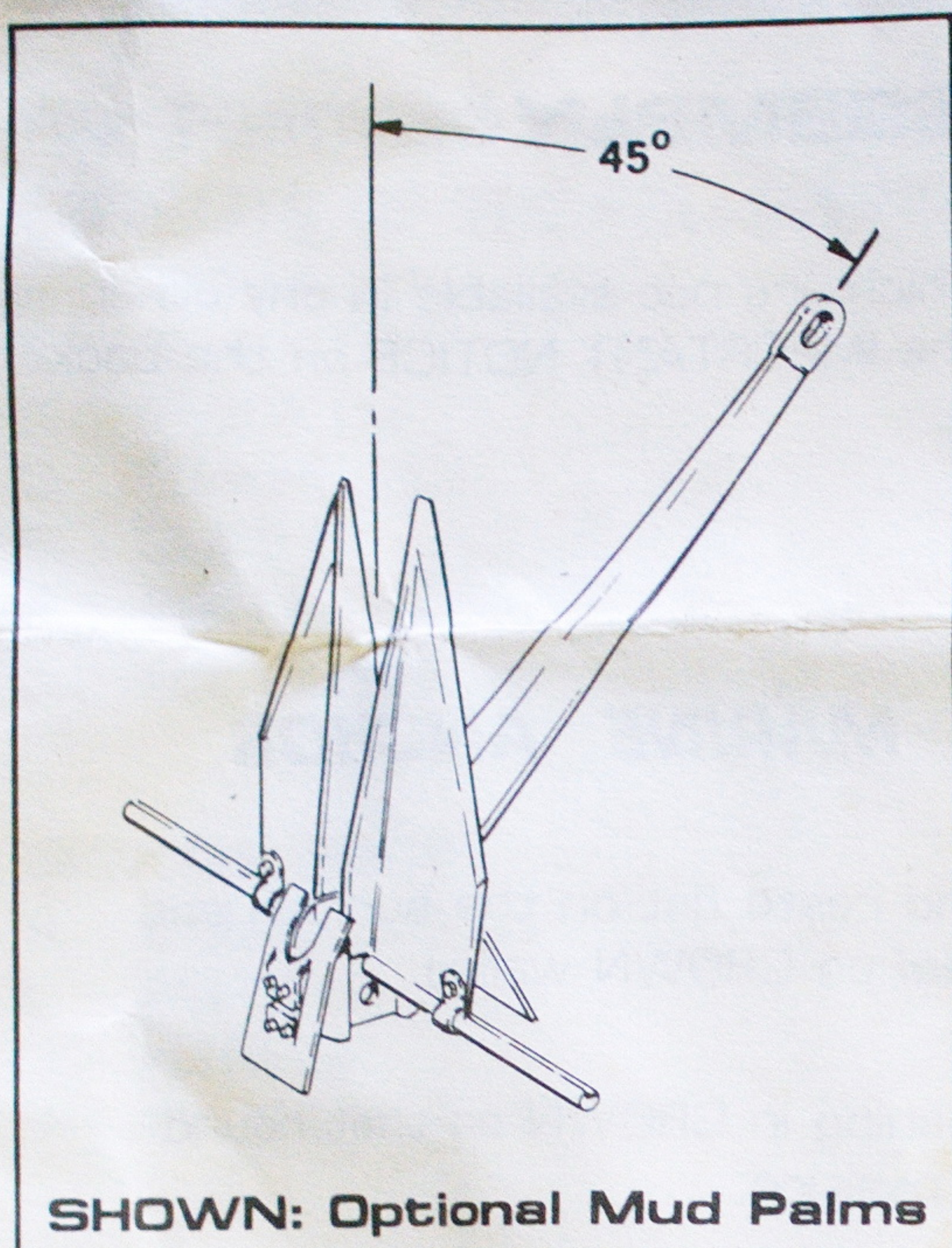


A

SSEMBLY INSTRUCTIONS



NOTE: The following manufacturers offer mounting systems designed specifically to fit your new **FORTRESS Anchor** they are available at better marine stores everywhere.

PERKO, INC.: Deck chocks

WINDLINE MARINE: Bow Rollers, Rail Mounts, Stanchion Mounts, etc.

SHOWN: Standard Configuration

I

INSTRUCTIONS

READ CAREFULLY BEFORE ASSEMBLY

NOTE: Your new **FORTRESS Marine Anchor** has very special capabilities which are not available in any other type of anchor. To get the most out of your **FORTRESS**, be sure to read the IMPORTANT NOTICE on the back page of this booklet before assembling your anchor!

TOOLS REQUIRED: Two adjustable wrenches.

TO ASSEMBLE YOUR FORTRESS MARINE ANCHOR

- 1** Place CROWN (A) on flat, level surface so that large open end rests flat on the surface and angled opening faces up. (NOTE: **DO NOT remove mylar label** on CROWN walls.)
- 2** With one hand, lower large end of SHANK (B) into center opening in CROWN so that round holes in CROWN align with elongated hole in SHANK, hold in position.
- 3** With your other hand, slide STOCK (C) through aligned Holes in SHANK and CROWN. Rotate STOCK so that the groove points straight up. Continue holding SHANK in position.
- 4** Lower FLUKES (D) into position by sliding them (with tips pointed up) into the twin channels on either side of the CROWN, and adjust so that outer corners of FLUKES come to rest inside the groove in the STOCK. Your **FORTRESS Anchor** will now stand freely without support.
- 5** **IMPORTANT:** Carefully center the STOCK in the anchor by measuring equal distances from the outer corners of the FLUKES to the ends of the STOCK. Adjust as necessary.
- 6** Slide one CLIP (E) onto each end of the STOCK and position so that the hole in each CLIP is aligned with the hole in each FLUKE. (NOTE: Placing a block of wood firmly between the flukes to force them apart will aid in aligning the holes...)
- 7** Insert a BOLT (F) into each hole, joining the FLUKES to the CLIPS and STOCK. Attach NUTS and LOCK WASHERS (G) and tighten firmly with wrenches.
- 8** Your new **FORTRESS Marine Anchor** is now fully assembled and ready to provide years of outstanding anchoring performance. Be sure to complete the enclosed WARRANTY Registration Card, and return it to NAV-X Corporation. This will ensure that you receive occasional Newsletters and future test reports about the **FORTRESS Anchor**. Be sure to read the enclosed Anchoring Guide: It contains valuable information about the proper SUPPORT HARDWARE as well as valuable anchoring tips.
- 9** **OWNER SUPPORT:** We, at NAV-X Corporation, are committed to providing continuing technical support for our owners. If you ever have a problem, or questions about your **FORTRESS Anchor**, or about anchoring in general, feel free to contact us by mail, or through our toll-free telephone number: **800-825-NAVX**.

P

ARTS

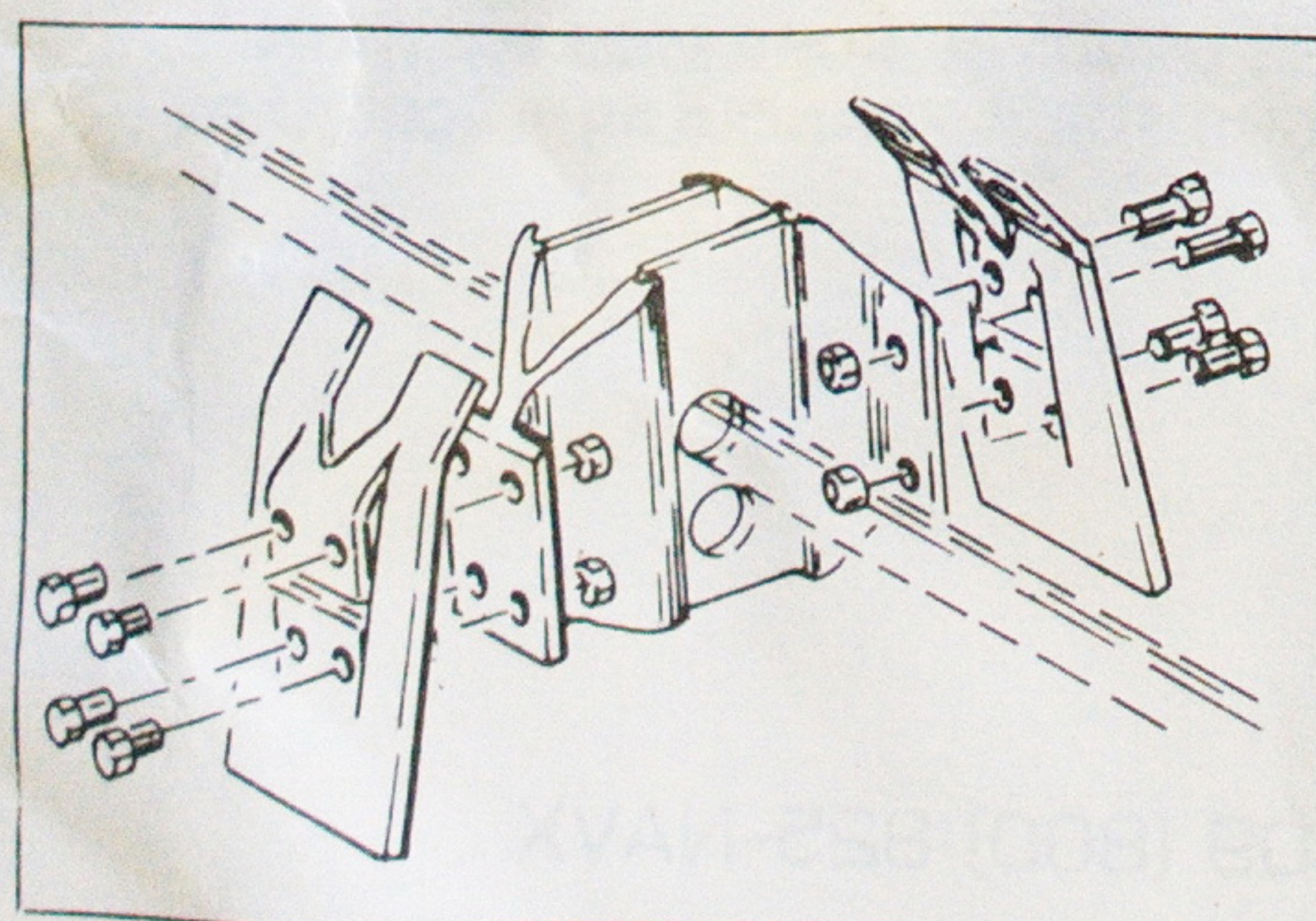
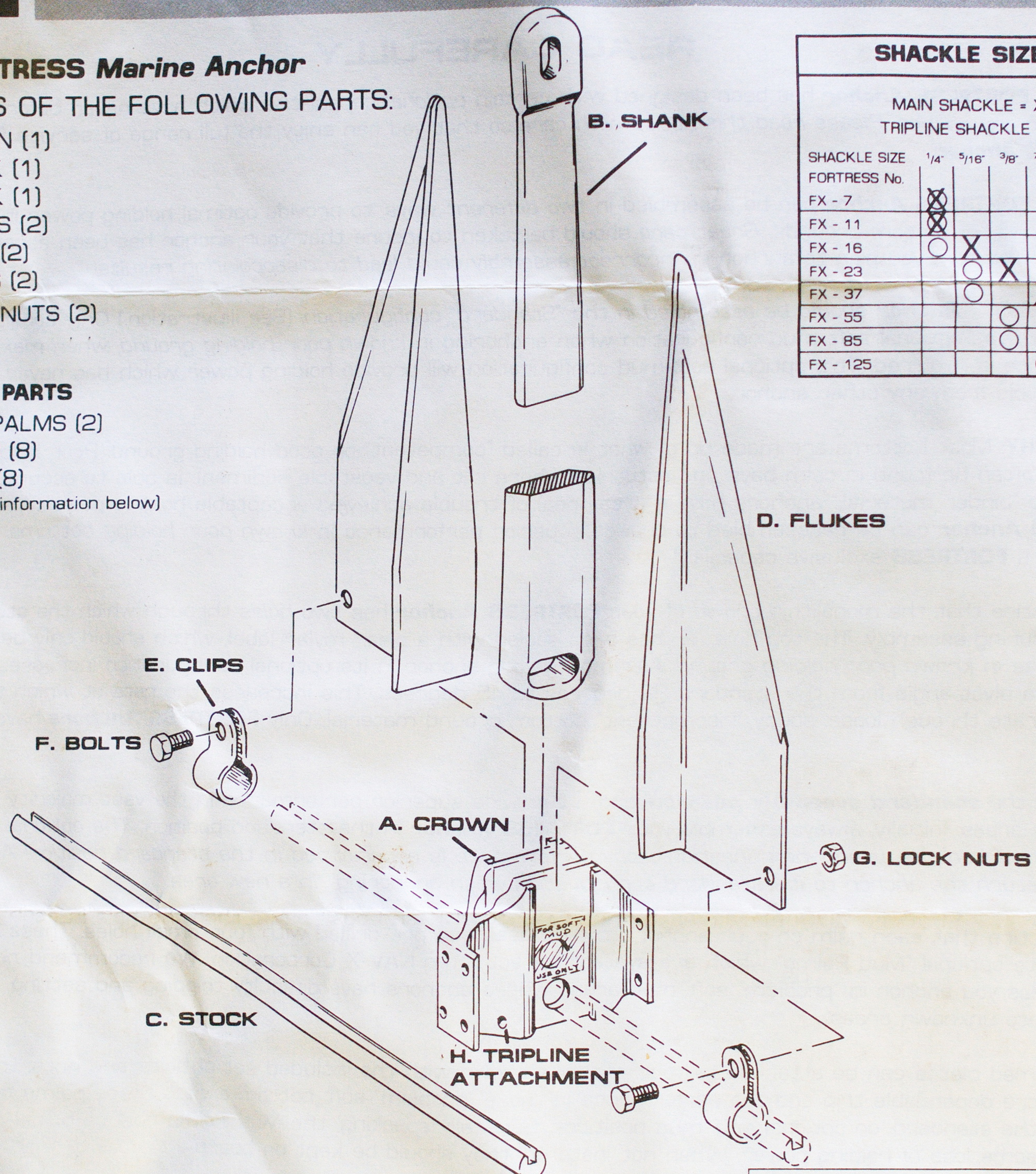
Your **FORTRESS Marine Anchor**
CONSISTS OF THE FOLLOWING PARTS:

- A. CROWN (1)
- B. SHANK (1)
- C. STOCK (1)
- D. FLUKES (2)
- E. CLIPS (2)
- F. BOLTS (2)
- G. LOCK NUTS (2)

OPTIONAL PARTS

- H. MUD PALMS (2)
 - I. BOLTS (8)
 - J. NUTS (8)
- (see ordering information below)

SHACKLE SIZES						
MAIN SHACKLE = X						
TRIPLINE SHACKLE = O						
SHACKLE SIZE	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"
FORTRESS No.						
FX - 7	X					
FX - 11	X					
FX - 16	O	X				
FX - 23		O	X			
FX - 37		O		X		
FX - 55			O		X	
FX - 85			O			X
FX - 125				O		X



SHOWN:
Optional Mud Palms for problem
soft mud anchorages.

You may order a set of optional "Mud Palms," complete with all needed hardware, by sending your check or money order for the correct amount (see below) plus \$2.00 shipping and handling, to:
NAV-X Corporation, 1386 West McNab Road,
Ft. Lauderdale, FL 33309. Rush, or C.O.D. orders can be placed by calling toll-free: 1-800-825-NAVX.

ANCHOR SIZE	PRICE
FX-7	\$6.10
FX-11	\$6.10
FX-16	\$6.10
FX-23	\$10.20
FX-37	\$13.75
FX-55	\$24.15
FX-85	\$30.15
FX-125	\$57.75



IMPORTANT NOTICE

READ CAREFULLY

Your new **FORTRESS Anchor** has been designed with certain *optional capabilities* which have never before been available in any anchor. *Please read this notice with care* so that you can enjoy the full range of service from your **FORTRESS Anchor**.

Your new **FORTRESS Anchor** can be assembled in *two different ways*, to provide optimal holding power in the widest variety of bottom grounds. *Great care* should be taken to insure that your anchor has been assembled for the type of bottom you plan to anchor in. *Incorrect assembly could lead to disappointing results!*

Your **FORTRESS Anchor** should be assembled in the "Standard" configuration. (See illustration.) Only consider changing to the optional soft mud configuration when anchoring in *known poor holding ground*, when maximum performance is required. This optional soft mud configuration will provide holding power which has never before been available from any other anchor.

HERE's WHY: Most bottoms are made up of what is called "competent" or good holding ground. Poor holding areas can most often be found in calm bays and estuaries where silt and vegetable sediment is able to accumulate. With little or no "binder material," anchors have a great deal of trouble achieving acceptable holding power. Your new **FORTRESS Anchor** can be reassembled to provide superior performance in *known poor holding bottoms*. This feature is a **FORTRESS** exclusive capability!

You will notice that the monolithic crown of your **FORTRESS Anchor** has *two holes* through which the stock can be inserted during assembly. The top hole, "2" has been sealed with a clear mylar label, which should only be removed prior to use in *known poor holding ground*. Assembling your anchor in its optional configuration increases the shank-fluke pivot angle from the standard 32 degrees to 45 degrees. This increases the rate at which the anchor can penetrate through loose, soupy "incompetent" bottom ground material. Only **FORTRESS Anchors** have this capability.

Hole "1" is the **standard assembly position**, and will provide superior performance in the vast majority of anchorage areas. Initially, always assemble your **FORTRESS Anchor** in the standard position. *The optional soft mud position should only be used when unsatisfactory performance is experienced in the standard position! Always be sure to return the anchor to it's standard configuration when anchoring in a new area.*

You will notice that each palm on your anchor's crown has been pre-drilled with four small holes. These holes will accomodate optional "Mud Palms" which are available direct from NAV-X Corporation. We recommend *not* installing them unless you anchor in "problem" soft mud areas where anchors have difficulty tripping and setting, or you are cruising into unknown areas.

These formed plates can be attached to your anchor's crown with the included set of bolts and nuts, to provide faster, more dependable trip and set performance in those "problem" soft bottom areas. These palms may be used in either the standard, or optional soft mud positions. Generally speaking, the Mud Palms reduce burial depth, and result in some loss of holding power. When not installed, they should be kept on board.

NOTE: ATTEMPTING TO ANCHOR IN GOOD HOLDING GROUNDS WITH YOUR ANCHOR ASSEMBLED IN THE OPTIONAL SOFT MUD POSITION COULD LEAD TO POOR ANCHOR PERFORMANCE. IF YOU HAVE ANY DOUBTS ABOUT THE BOTTOM GROUND FOR A PARTICULAR ANCHORAGE - ALWAYS USE THE STANDARD POSITION!



FORTRESS WARRANTY POLICY

Your FORTRESS Anchor is covered by the best warranty in the business! During the first 3 years you own your anchor, it is *fully covered* by our unconditional parts repair or replacement warranty. And when your warranty period has expired, FORTRESS Parts will still be available at a nominal charge!

Here's how to get repair or replacement service WORLDWIDE:

WITHIN CONTINENTAL U.S.:

- Dial (Toll-Free) 1-800-825-NAVX (8:30 A.M.through 5:00 P.M. Mon-Fri. (EST) to obtain a Returned Merchandise Authorization number.
- Ship damaged parts to us by any convenient means, with a bief note giving your name and shipping address (no P.O. Boxes, please)
- You pay for shipping to us, we'll pay for shipping to you.
- It is our policy to ship replacement parts within 24 hours of receipt of damaged goods. We ship via UPS Ground service. Overnight Air, and other alternatives are available at additional cost.

WORLDWIDE SUPPORT:

Your warranty is in effect worldwide through an International network of dedicated FORTRESS Distributors. Regardless of what country you purchased your anchor in, or where you are when replacement services are needed, help is only a phone call, (or two) away! Almost any Marine Equipment Chandler, worldwide, should be able to provide you with the name and telephone number of his countries' FORTRESS Distributor. One phone call to him should get the ball rolling. If you cannot locate our In-Country Distributor, call or write to us, we will put you in touch, or provide the support directly from the U.S. (you'll have to pay for International Shipping & Duties, however.)

MUD PALMS ORDERING PROCEDURE:

If you experience problems setting your FORTRESS Anchor, or plan to cruise to unknown areas, we recommend carrying a set of FORTRESS Mud Palms. This FORTRESS accessory is available FREE OF CHARGE, directly from the factory. To order, just call or drop us a note giving your FORTRESS Model number. (IMPORTANT: Prior to ordering, or requesting warranty service, make a note of the color of the paint we used to fill the FORTRESS logo on your anchor's shank. This denotes the production series and tells us which parts, or palm set to supply...)

TECHNICAL ADVISE:

At NAV-X Corporation, we are always happy to hear from you! If you are experiencing problems, or have question related to anchoring in general, always feel free to contact us by telephone, Fax, or mail!

NAV-X Corporation
1386 West Mc Nab Road
Fort Lauderdale, Florida 33309 USA
ATTN: Dan Wolfe, Sales Manager
Phone Toll Free in Continental U.S.: 1-800-825-NAVX (6289)
Phone: Outside Continental U.S.: 1-(305) 978-9988
FAX: 1 (305) 974-5378

ANCHOR & SUPPORT GEAR
REFERENCE GUIDE

FORTRESS ANCHORS SPECIFICATIONS

FORTRESS MODEL	FX-7	FX-11	FX-16	FX-23	FX-37	FX-55	FX-85	FX-125
BOAT LENGTH (FT)	16'-27'	28'-32'	33'-38'	39'-45'	46'-51'	52'-58'	59'-68'	69' +
ANCHOR WEIGHT (LBS)	4	7	10	15	21	32	47	69
STEEL EQUIV.WEIGHT (LBS)	6-9	10-13	14-18	19-28	33-50	50-65	70-90	100-170
WORK LOAD (LBS)	700	900	1,250	2,000	3,000	4,000	5,250	6,750
32° HARD SAND HOLDING	2,800	3,600	5,000	8,000	12000	16000	21000	27000
45° SOFT MUD HOLDING	840	1,080	1,500	2,400	3,600	4,800	6,300	8,100
32° SOFT MUD HOLDING	420	540	750	1,000	1,800	2,400	3,150	4,050
"A" SHANK LENGTH (IN)	24"	27"	31"	36"	40"	46"	51"	56"
"B" FLUKE LENGTH (IN)	14"	16"	18"	21"	24"	27"	30"	33"
"C" STOCK LENGTH (IN)	19"	22"	25"	29"	32"	37"	41"	45"

- Note: For permanent mooring applications, use nylon rope at 11% of Break.
- Working Load rating for FORTRESS Anchors, chain, shackles and nylon rope is approximately 25% of breaking strength.
- Boat Size Recommendations are for "Working Anchor" applications in winds up to 30 knots, with fair holding ground, moderate protection from open seas, and adequate scope of at least 5:1.
- For storm conditions, select at least one size larger anchor and corresponding support gear. Always set two anchors when wind or current shifts are expected.
- We recommend using 6 to 12 feet of chain.
- Hard Sand Holding Power ratings given above represent loads actually acheived in controlled tests of production FORTRESS Anchors under horizontal pull conditions, without resulting in dragging, pulling out, or disabling structural deformations.
- FORTRESS Anchors are Type Certified by the American Bureau of Shipping (ABS)

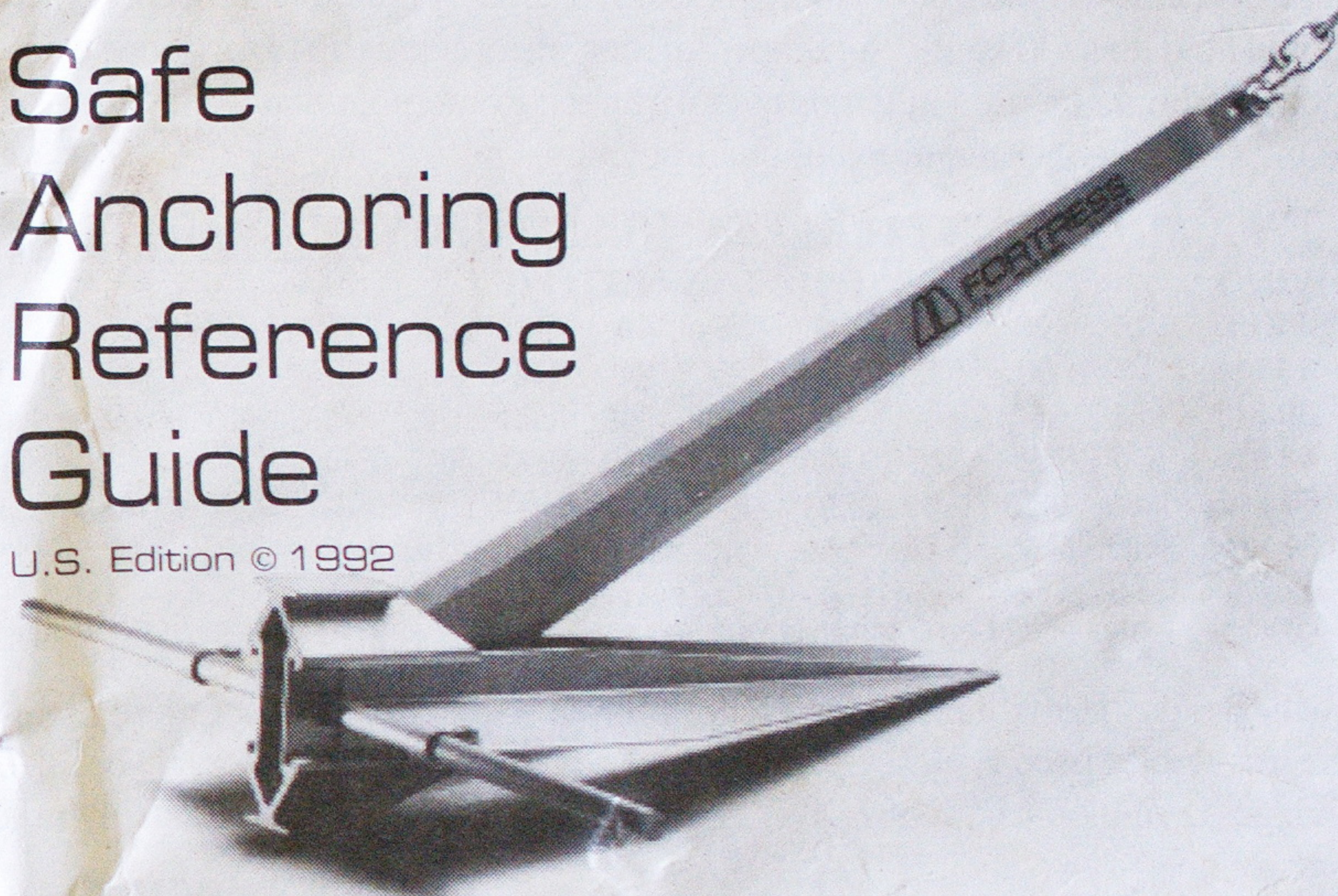
SUPPORT HARDWARE SELECTION GUIDE

FORTRESS MODEL	FX-7	FX-11	FX-16	FX-23	FX-37	FX-55	FX-85	FX-125
Proof Coil Chain (In.)	1/4"	1/4"	5/16"	3/8"	3/8"	1/2"	1/2"	5/8"
Working Load (Lbs.)	1,300	1,300	1,900	2650	2650	4,500	4,500	6,900
High Test Chain (In.)	1/4"	1/4"	1/4"	1/4"	5/16"	5/16"	3/8"	3/8"
Working Load (Lbs.)	2,600	2,600	2,600	2600	3,900	3,900	5,400	5,400
3 Strand Nylon Rope (In.)	3/8"	3/8"	7/16"	9/16"	3/4"	7/8"	1"	1-1/4"
Work Load @ 25% Break (lbs.)	925	925	1,250	2,000	3,550	5,000	6,250	9,375
Work Load @ 11% Break (lbs)	410	410	550	880	1,560	2,200	2,750	4,125
Shackles (In.)	1/4"	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	5/8"
Working Load (Lbs.)	1,000	1,000	1,500	2,000	3,000	4,000	6,500	6,500



Safe
Anchoring
Reference
Guide

U.S. Edition © 1992



In test after independently verified test, from Coast to Coast, and around the World, boaters and experts agree: **"No other anchors set faster or match the incredible holding power of FORTRESS Marine Anchors."**

SANDY BOTTOM ANCHOR TESTS

Anchor Weight:	Test Load:	
44 lbs	1883 lbs	Bruce
30 lbs	2200 lbs	Danforth Deepset HT
45 lbs	3350 lbs	CQR
35 lbs	3700 lbs	Danforth Hi-Tensile
18 lbs	3900 lbs	Guardian
19 lbs	7580 lbs	FORTRESS

Verified Tests conducted Biscayne Bay, Florida. February, 1990. Guardian tested same location Aug 1991

MUDDY BOTTOM ANCHOR TESTS

Anchor Weight:	Test Load:	
44 lbs	2200lb	Bruce
45 lbs	440 lbs	CQR
35 lbs	725 lbs	Danforth Hi-Tensile
30 lbs	725 lbs	Danforth Deepset HT
18 lbs	735lbs	Guardian
19 lbs	2175 lbs	FORTRESS

Verified Tests conducted San Francisco Bay, CAL. April, 1990. Guardian tested same location Aug 1991

Safe Anchoring Tips

1: DETERMINE YOUR HOLDING REQUIREMENTS.

Be sure that your anchors can give the performance you need. A "Lunch Hook" should be able to hold your boat in a 15 knot breeze. A main or "Working Anchor" should hold up to 30 knots. A "Storm Anchor" is for winds up to 42 knots. Multiple anchors should be used in winds over 42 knots. Remember that as the wind speed doubles, the holding requirement quadruples!

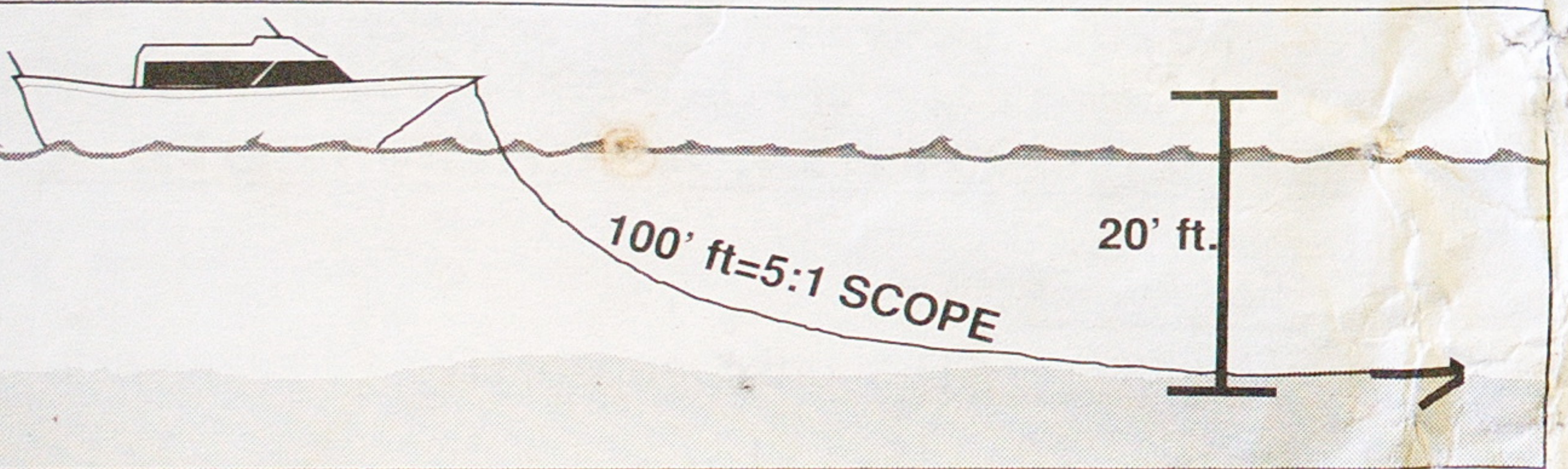
TYPICAL GROUND TACKLE DESIGN HORIZONTAL LOADS TABLE*

WIND SPEED	15	20	25	30	35	40	50	60	70	80	90	100
15 kts.	60	90	125	175	225	300	400	500	675	900	1200	1600
30 kts.	250	360	490	700	900	1200	1600	2000	2700	3600	4800	6400
42 kts.	500	720	980	1400	1800	2400	3200	4000	5400	7200	9600	12,800
60 kts.	1000	1440	1960	2800	3600	4800	6400	8000	10,800	14,400	19,200	25,600
120 kts.	4000	5760	7840	11,200	14,400	19,200	25,600	32,000	43,200	57,600	76,800	102,600

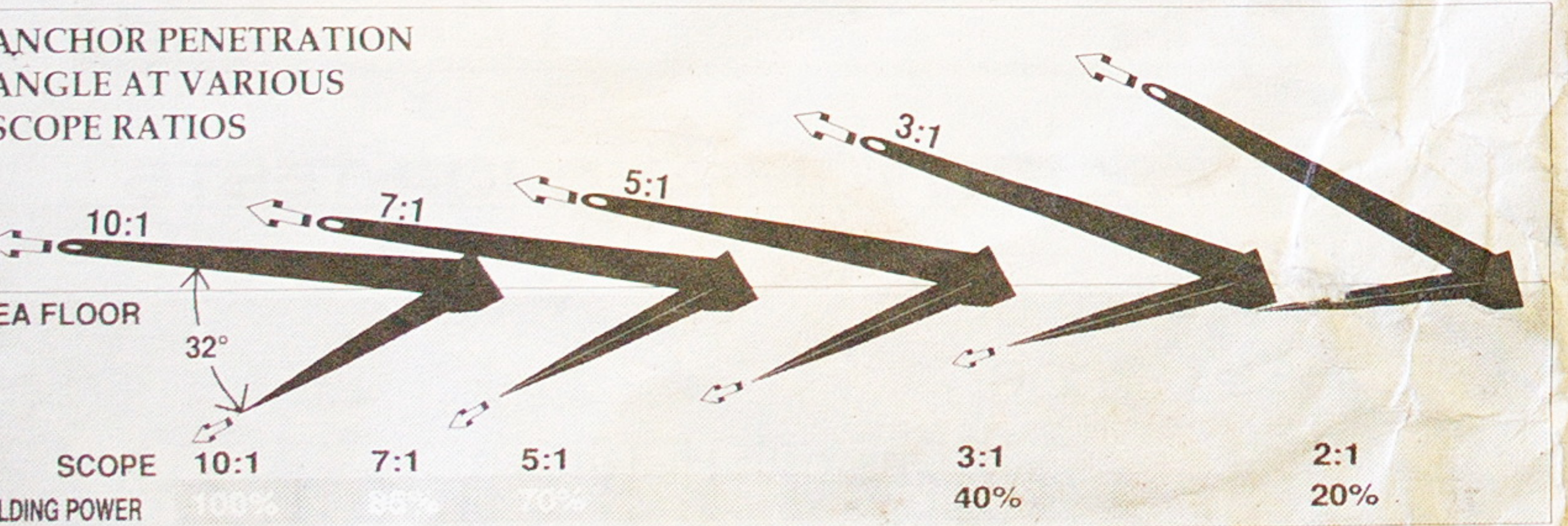
* Reprinted by permission of the American Boat and Yacht Council. Loads in above Table represent minimum holding requirements, in pounds, for vessels of average beam and windage.

Use the handy "Horizontal Loads Table," above, to determine your requirements in different wind speeds. NOTE: This tables assumes boats of average beam and windage. If your boat has above average beam or windage, refer to loads for the next boat size up.

2. USE ADEQUATE SCOPE: Scope is the length of anchor line relative to the distance from your boat's deck to the sea bottom. We recommend 5:1 minimum.



At 10:1 the holding power will double, and at less than 3:1 you will give up a significant amount of holding power, and may experience problems setting your anchor.



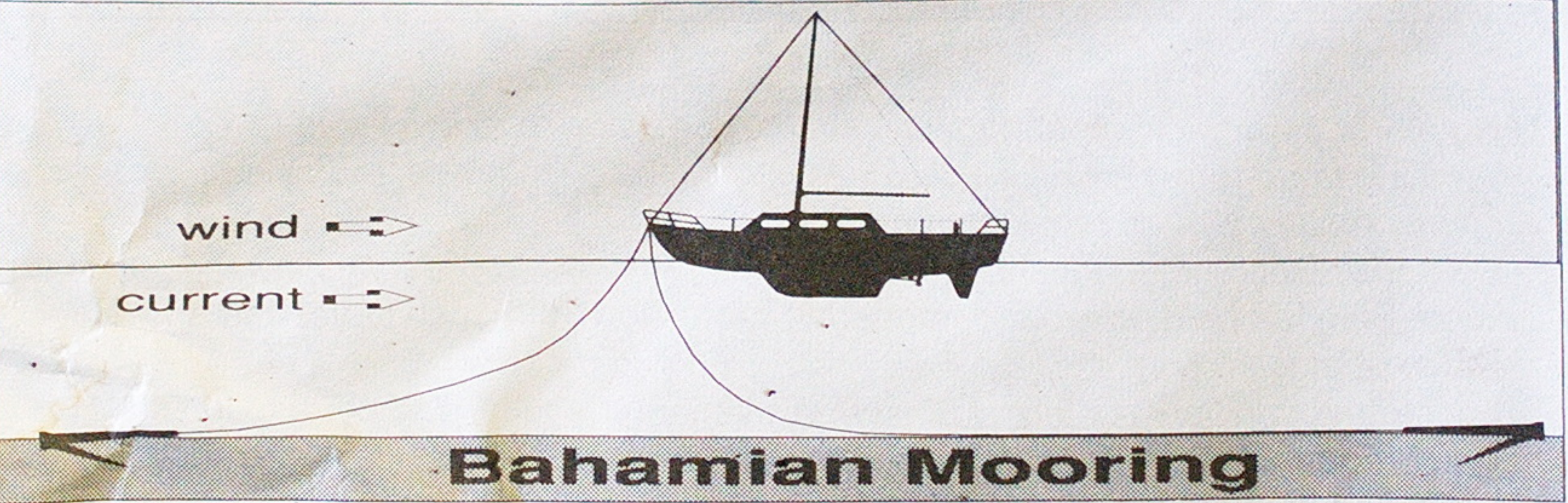
In crowded anchorages "Power Set" your anchor at 5:1 scope then shorten scope as required. Remember that your depth sounder may be giving you the water depth under your keel, rather than from the true waterline, in which case you need to add your draft plus the height of your deck to the depth reading.

3: POWER SET YOUR ANCHOR: Know that your anchor is properly set! Back down very, very slowly. Then, as the anchor begins to set, very slowly increase the load. Backing down at any speed at all may not give your anchor a chance to dig in and bury itself.

Shaft Horsepower:	15	25	50	75	100	150	200	300	400	500
True Displacement Hulls										
Est. Pull (Shaft Hp X 20) Lbs	300	500	1,000	1,500	2,000	3,000	4,000	6,000	8,000	10,000
Semi Displacement Hulls										
Est. Pull (Shaft Hp X15) Lbs	225	375	750	1,125	1,500	2,250	3,000	4,500	6,000	7,500
Fast, Planing Hulls										
Est. Pull (Shaft Hp X10) Lbs.	150	250	500	750	1,000	1,500	2,000	3,000	4,000	5,000

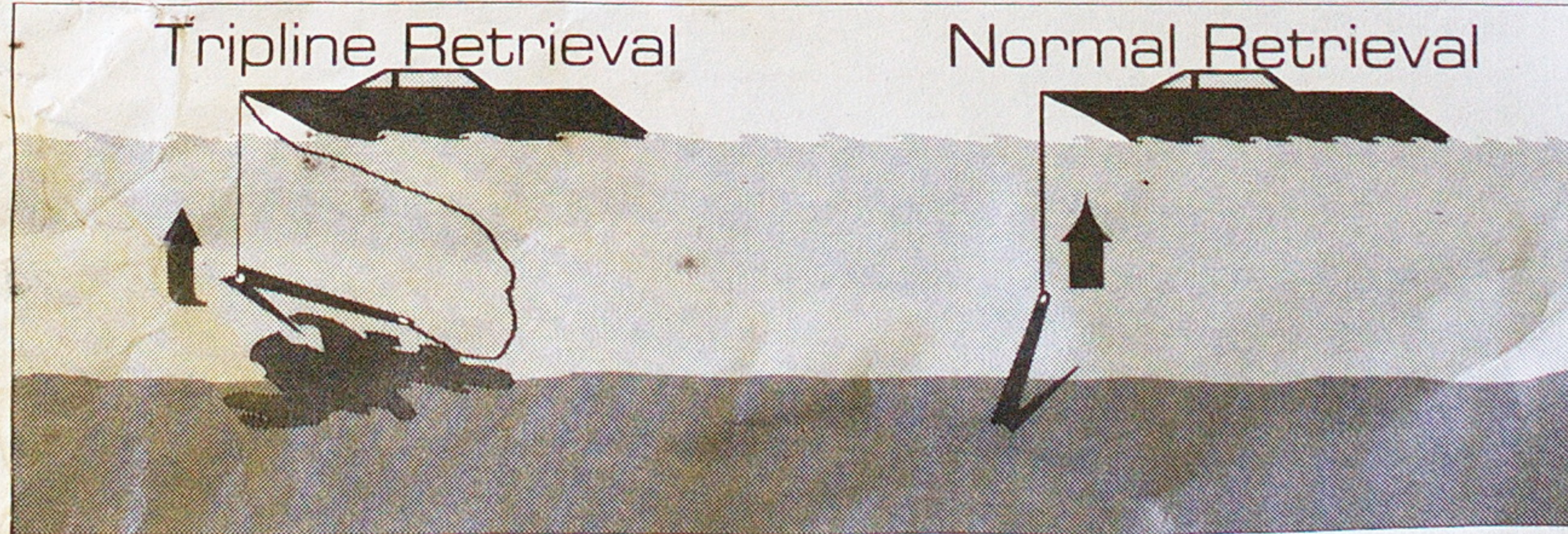
You can simulate the force of the wind by using your engine's thrust to set your anchor to a predetermined load. Match your boat's total maximum horsepower, and hull type in the table above to estimate how hard your boat can "Power Set" your anchors.

4. RE-SETTING: In areas of changing tide or winds, set two anchors off the bow in opposite directions. Any anchor can occasionally fail to re-set once it has been pulled out of the sea bed.



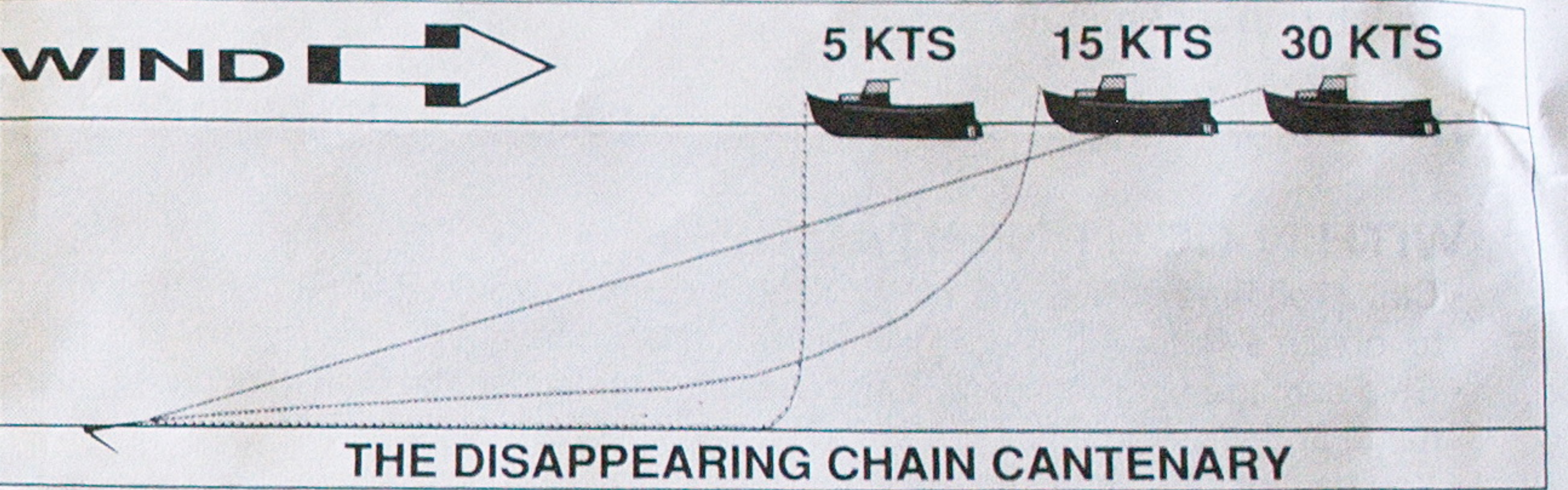
Don't be fooled by manufacturer's claims about any anchor's ability to dependably reset 100% of the time. Set two anchors if you expect a change in wind or current!

5: ANCHOR RETRIEVAL: Slowly move the boat to a position directly over the anchor, pulling in the line as you go. Then snub the rode on a cleat, and power backwards slowly to pull the anchor out of the bottom. Do not power forward because that will require more energy than powering backwards, and puts very heavy loads on the anchor.



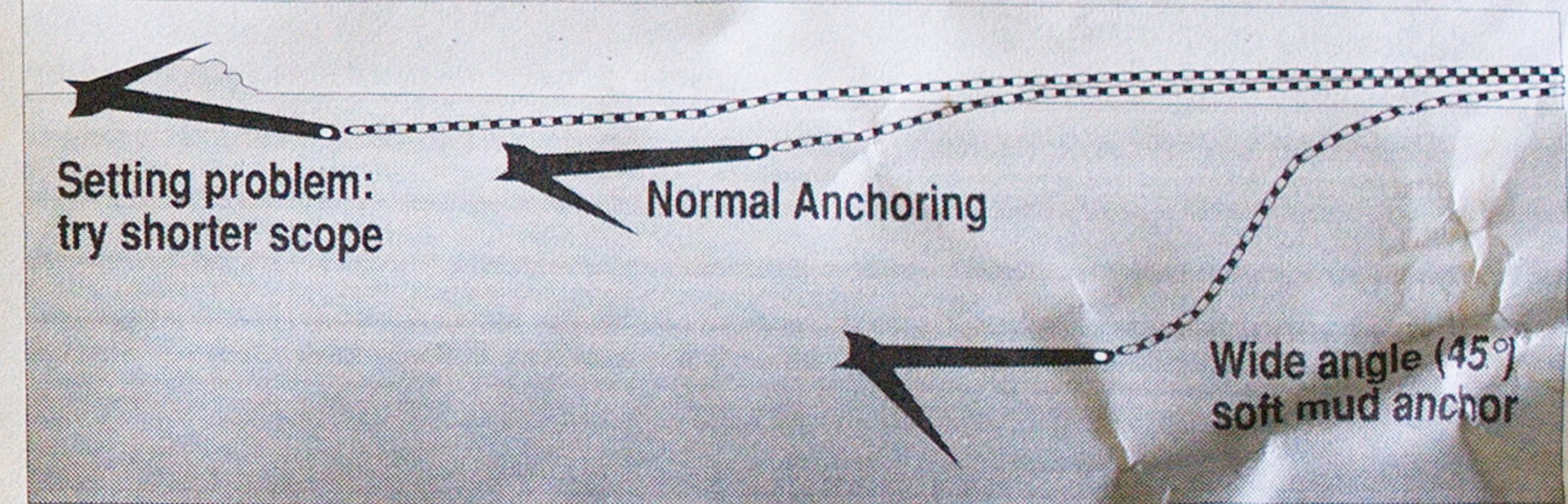
6: SUPPORT HARDWARE: Remember, your anchor system includes shackle, rope, chain and deck cleats. Every item must be able to deliver the strength you need!

7: ANCHOR RODE: Use a short length of chain and three strand nylon line. The nylon is very elastic and greatly reduces the shock load on your boat and anchoring system. The chain protects the line against chafe from the sea bed, and also helps provide a horizontal pull on the anchor when it is initially beginning to set. If you regularly anchor in 25' of water or less, use 6' feet of chain. For greater depths, add 6' for each additional 25' feet of water depth. (i.e.: use 24' feet of chain if you normally anchor in 100' of water.

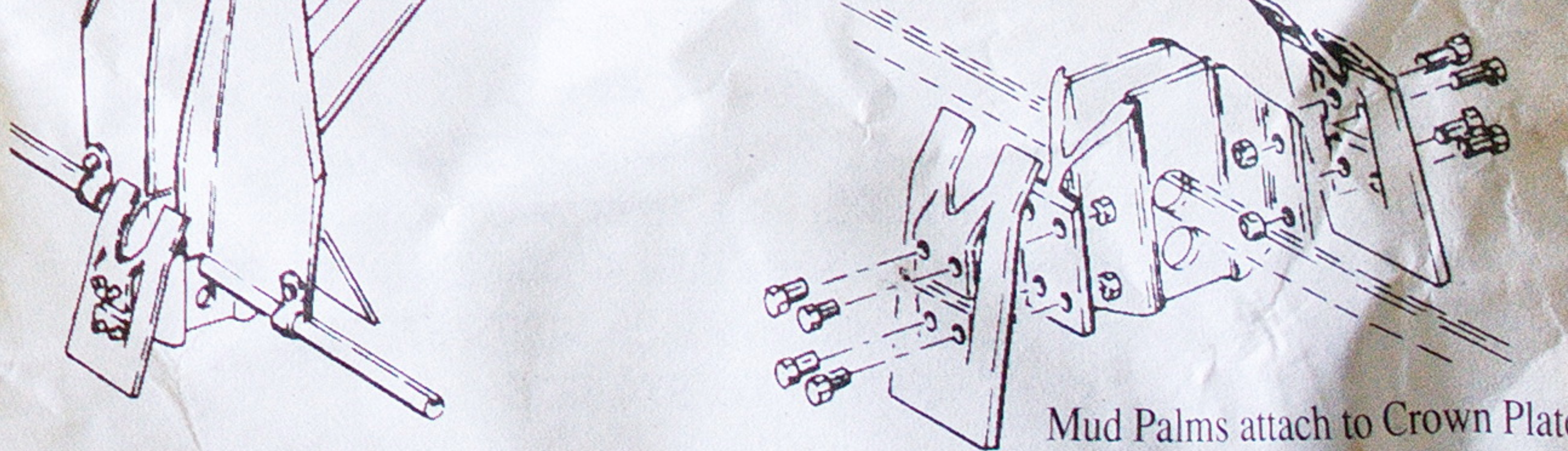


All-chain anchor rodes lack the shock absorbing ability of nylon rope when the wind pipes up!

8. SOFT MUD BOTTOMS: All soft mud bottoms offer greatly reduced holding power, so be sure your anchor can provide the holding power you need. Some soft bottoms offer as little as just 15% of the holding available in firmer bottoms!



Some soft mud bottoms have a sticky consistency which makes them difficult to set an anchor in. If soft mud setting problems occur, try setting the anchor initially at very short scope, like just 2:1. Then increase scope to at least 5:1 and "Power Set" the anchor. "Mud Palms" are available for both Fortress and Guardian anchors to aid setting in soft mud. We recommend them if you regularly anchor in these problem soft mud bottoms. (See Reverse side for ordering information)





ANCHOR HOTLINE

TOLL-FREE (Within Continental U.S.)

1-800-825-"NAVY"

Outside U.S. Call: (305) 978-9988

FAX: (305) 974-5378

Please call us with your questions and comments about
FORTRESS - or about anchoring problems in general.
When it comes to anchors, NAV-X Corporation has the answers!

SAVE THIS PORTION!!!

PLEASE DETACH AT PERFORATION BEFORE MAILING

PLACE
POSTAGE
HERE



NAV-X Corporation
1386 West McNab Road
Ft. Lauderdale, FL 33309

Attn: WARRANTY Registration Department!



Warranty Registration Card

YOUR NAME: _____ AGE? _____ PHONE: (_____) _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

NAME OF DEALER: _____ CITY: _____ STATE: _____

DATE PURCHASED: _____ FORTRESS MODEL NO: FX- _____ PRICE PAID: \$ _____

PLEASE TELL US ABOUT YOUR BOAT: TYPE: ☐ SAIL? ☐ POWER? _____ BUILDER: _____ YEAR: _____

BOAT LENGTH: _____ APPROX VALUE: \$ _____ SALT ☐ OR FRESH ☐ WATER?

HOW DO YOU USE YOUR BOAT? DAYTIME ONLY: ☐ OVERNIGHT CRUISING: ☐ FISHING: ☐ WATERSKIING: ☐ DIVING: ☐ RACING: ☐

DID YOU BUY A GUARDIAN ANCHOR FOR A: MAIN ANCHOR? ☐ SPARE ANCHOR? ☐ OTHER: _____

WHAT FEATURE INFLUENCED YOUR PURCHASE: PRICE? ☐ LIGHTWEIGHT? ☐ DISASSEMBLES? ☐ RUSTPROOF? ☐ HOLDING POWER? ☐

WHAT BRAND WOULD HAVE BEEN YOUR SECOND CHOICE? DANFORTH? ☐ U.S. ANCHOR? ☐ GUARDIAN? ☐ HOOKER? ☐ OTHER: _____

HOW DID YOU LEARN ABOUT FORTRESS ANCHORS? WORD OF MOUTH: ☐ MAGAZINE ARTICLE OR AD: ☐ STORE DISPLAY: ☐ CATALOG: ☐

OTHER: (PLEASE DESCRIBE) _____

Thank you! This information will be of great help to us in making future improvements!

PLEASE DETACH AT PERFORATION BEFORE MAILING

Let's Keep In Touch!

Please complete and return the attached card!

We have three reasons for wanting to know who you are,
and what you think of our anchors:

Engineering, Product Update Notification, and Marketing.

1: **Engineering:** Anchor research and development never ends at NAV-X Corporation! Occasionally we send out "performance surveys" to boaters, like yourself, to ask what improvements you'd like to see in future anchor development. Sharing this long term "real world" experience has a direct relationship to "improving the breed."

2: **Product Updates:** We would like to be able to share our ongoing research with you. When we learn something that could be of interest to you, we would like to mail you a free newsletter. We also plan to publish an "Anchoring Handbook" in the future. When we do, every owner of **FORTRESS** anchors - *who we know about* - will receive a free copy by mail. (a \$10.00 value!)

3: **Marketing:** The valuable information you can give on the attached postcard lets us know more about who our customers are. That way we can better understand your needs, and make suggestions to Engineering for new products, and improvements to existing ones!

PLACE
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HERE

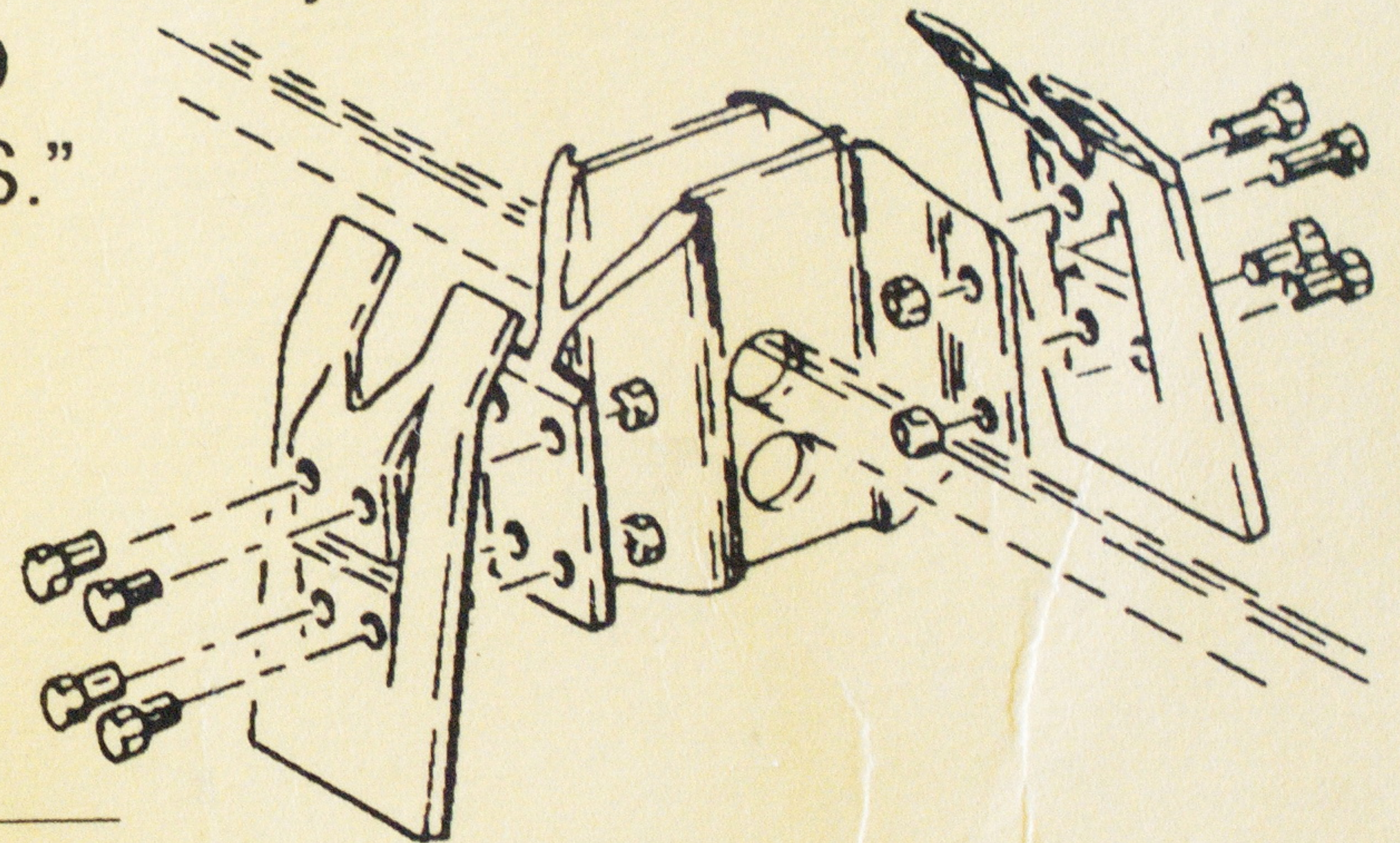


NAV-X Corporation
1386 West Mc Nab Road
Fort Lauderdale, Florida 33309
USA

FREE MUD PALM SET ORDER CARD

If you cruise into unfamiliar waters, or anchor regularly in problem soft mud bottoms, we recommend that you install a set of free FORTRESS MUD PALMS. These formed plates attach to the pre-drilled holes in your anchor's crown, and include all nuts and bolts. In certain soft mud bottoms, mud palms will help your FORTRESS to *set faster*. They can be left installed permanently, and can be used in all bottoms, or when the anchor is adjusted to either the 32° or 45° shank-fluke angles. BE SURE TO READ THE ENCLOSED "SAFE ANCHORING TIPS."

**YES! Please send one set of
FORTRESS MUD PALMS:**



NAME: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

FORTRESS MODEL NUMBER: FX- _____ (VERY IMPORTANT)

PURCHASED FROM: _____ DATE: _____

BOAT LENGTH: _____ POWER: ☐ SAIL: ☐