

## RETRIEVING HARDWARE

### CHAIN CHASER AND GRAPNEL

Used in the recovery of anchors and mooring lines, J-type chain chasers, permanent chain chasers, and grapnels are manufactured as one-piece units from special cast steel which is annealed for maximum unit strength.

Retrieving hardware is designed for use with 2-3/4 to 3-1/2 in. mooring chain and anchors in the 30,000 to 45,000-lb. class. All hardware is manufactured with rated testing loads which vary from 150 to 250 tons.

All chasing equipment comes standard with welded hardfacing on contact areas to inhibit wear. Optional treatments include Rapid Solidification Plasma Deposition or R.S.P.D. For superior wear and corrosion resistance isolated areas or entire castings can be treated.

### J-TYPE CHAIN CHASER

The J-Type, chain chaser, complete with swivel shackle, is used to retrieve a rig's anchor when the pendant line is broken. It is a highly refined, stronger version of the conventional chain chaser originally developed for use in the North Sea. This unique design uses a sophisticated beam configuration in place of the usual T-type cross section to optimize quality and reliability.

### PERMANENT CHAIN CHASER

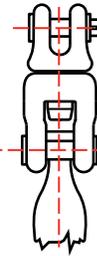
For rigs requiring a permanent-type chain chaser, it offers a stronger, better engineered version of the conventional chain chaser used in the North Sea. This type of anchor retrieval system eliminates the need for a pendant line buoy system. As with the J-type chaser, the permanent chaser incorporates a beam configuration that lessens the possibility of breaking with a significant decrease in eccentric bending.

### DETACHABLE CHAIN CHASER

Engineers have modified the conventional permanent chaser design to make the wear area detachable and replaceable. This innovative design allows the user to hook up easily and replace individual parts that are prone to wear, rather than replacing the entire chain chaser.

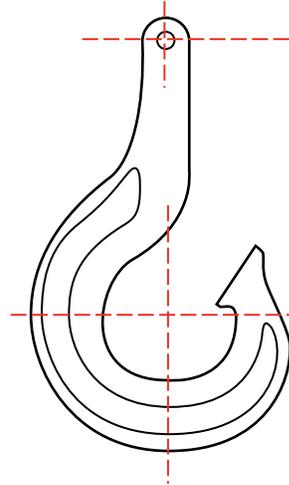
### GRAPNEL

In order to offer a total coverage for a variety of retrieving applications, we offer a four-prong grapnel. This unit is designed to recover lost anchors and mooring lines. The four-prong grapnel reduces the outfitting costs, since it is designed to accommodate the same connecting hardware as the permanent and J-type chain chasers.



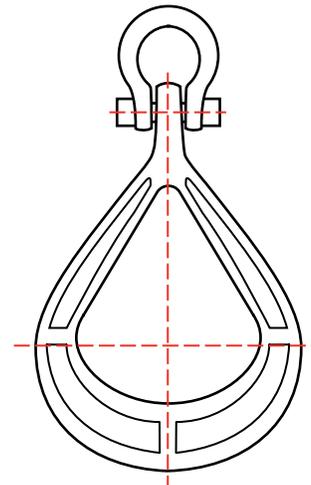
Recommended Standard Swivel Shackle

Alternate 3" Safety-Type Anchor Shackle



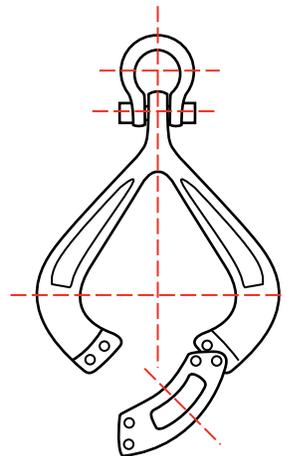
J-TYPE CHAIN CHASER

- Notes:
1. Weight - 3,200 lbs. (approx.)
  2. Test Load - 250 tons (500,000 lbs.) straight pull



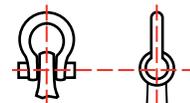
PERMANENT CHAIN CHASER

- Notes:
1. Weight - 2,600 lbs. (approx.)
  2. Test Load - 250 tons (500,000 lbs.) straight pull



DETACHABLE CHAIN CHASER

- Notes:
1. Weight - 2,610 lbs. (approx.)
  2. Test load - 250 tons (500,000 lbs.) straight pull
  3. Safe Working Load - 110 tons (220,000 lbs.)



FOUR-PRONG GRAPNEL

- Notes:
1. Weight - 4,000 lbs. (approx.)
  2. Test Load - 150 tons