

Permanently-Rigged Preventer for “Offshore” Yachts:

Definition of permanently-rigged preventer:

A permanently rigged preventer is always operational and does not require detachment and reattachment in order to jibe. It allows control of the boom in a jibe and can stabilize the boom when the mainsail is furled in rough weather. Preventers that require reattachment for a planned jibe create a ‘window of opportunity’ for an accidental jibe and their employment may be imprudently procrastinated as wind speed increases. At the very beginning of a jibe there is very little force against the roach of the mainsail, but even in light air force rapidly builds as the boom and mainsheet accelerate through their arc across the beam of the boat.

Introduction (the reason for having a permanently-rigged preventer):

The immediacy and seriousness of such accidents became apparent to the CCA Fleet Surgeon during the 1989 Marion Bermuda Race when a pediatrician at the helm of a fellow neurosurgeon’s boat died after he was struck his head by the mainsheet as it whipped across the cockpit during an accidental jibe at night. The binnacle was also badly damaged. The incidence of injury from accidental or premature jibes is unknown but the problem is not insignificant. A surprising number of such accidents can be found among familiar racing venues, as indicated below, and there are many examples among coastal and offshore cruisers.

Racing Venues with Well Documented Fatal Accidental Jibes (mostly head injuries)

1979 SORC	boom injury
1981 Practice, USCG Academy Sailing Team	boom injury
1989 Marion Bermuda Race	mainsheet injury
1992 Cowe’s Week	mainsheet injury
1994 Governor’s Cup (Chesapeake)	?boom or mainsheet
1996 Antigua Race Week	mainsheet injury
1998 Ft. Lauderdale – Key West Race	boom injury
2007 Atlantic Rally for Cruisers (ARC).	?boom or mainsheet injury

(In addition, in 1990 a midshipman at the US Naval Academy was in coma after a head injury during an accidental jibe and his recovery was not good enough to return to school.)

Phil Garland, of Hall Rigging, designed a permanentl- rigged preventer that the CCA Fleet Surgeon has used on his Morris 46 in four Newport Bermuda Races and 2 roundtrip transatlantic passages. Accidental jibes can be avoided only if a preventer is always in place.

Equipment, set-up and operation of a permanently-rigged preventer (Phil Garland design)

Equipment

- a. A pad eye or bail on the undersurface of the boom aft of the vang (about 1/3 distance from gooseneck to boom end – but the exact location is not critical);

- b. 2 blocks on the deck, one on each side located in the vicinity of the shrouds (will vary with boat);
- c. 2 line stoppers, one each side, located by cockpit in easy reach of helmsman
- d. 2 lines long enough (about half the length of the boom plus the distance from the deck block to the line stopper plus several extra feet)

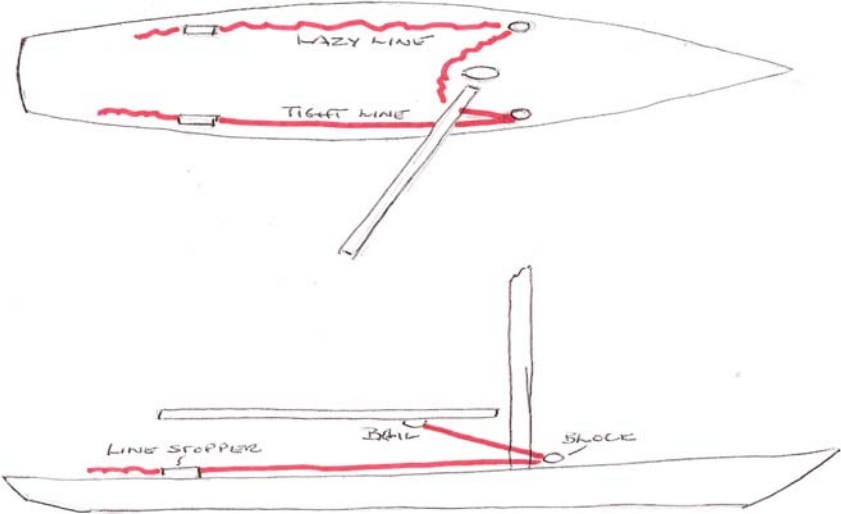
Set-up

Both preventer lines start at the pad eye or bail on the boom, one running forward to the block and then aft to the line stopper on the starboard side, the other running similarly on the port side. On our Morris 46, a piece of PVC tubing on the aft lower shroud prevents line chafe.

Operation

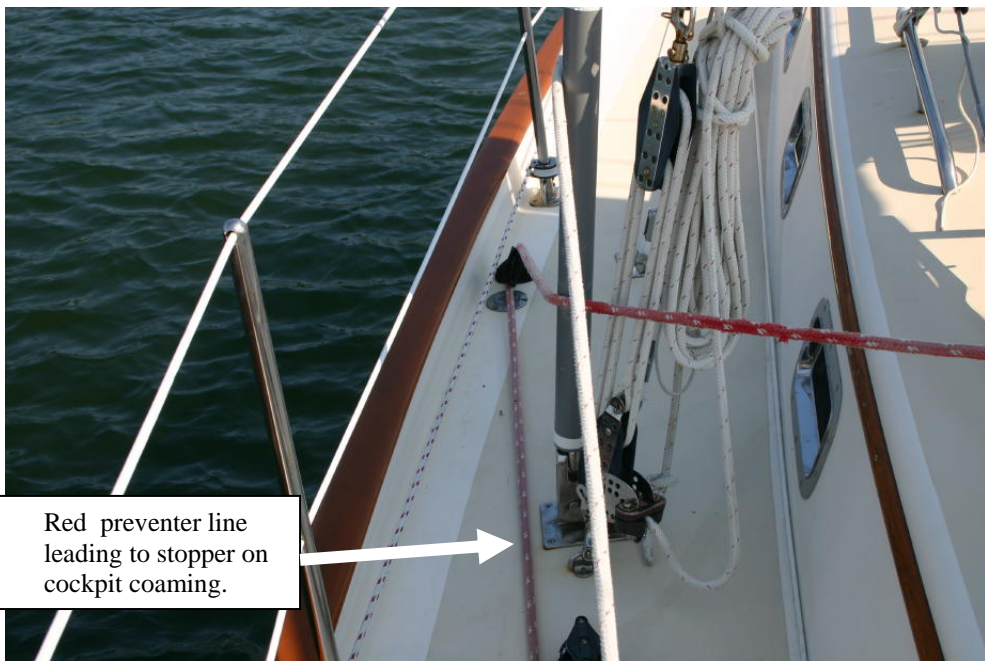
The entire system can be run by the helmsman: releasing the old leeward line from the stopper before or during the jibe and tightening the line in the stopper on the other side after the jibe. The helmsman can also trim the line as the mainsheet is let out or taken in. Occasionally, one of the lines hangs up on a Dorade. Upwind both lines are slack and do not need attention. The initial force of the jibe is minor compared to the full force of the jibe after the accelerating boom has crossed the centerline. The preventer is also used to stabilize the boom while furling the mainsail.

Diagram of permanently rigged preventer



PERMANENTLY - INSTALLED PREVENTER
(PHIL GARLAND DESIGN)

Preventer lines set-up on a Morris 46 (DIVA)



Red preventer line leading to stopper on cockpit coaming.