

# CALCULATING A PERSONAL INCREMENT NUMBER (PIN)

Only you can determine the style of cruising to which you would like to become accustomed.

The following table helps you to calculate the weight penalty. To use it, select all those items you intend to have onboard, and tally the weight to derive your PIN. Use the PIN to modify published displacement numbers to derive a more accurate one as you will use any given boat. You can complete the squares bordered in blue and red and the results will auto-calculate for you.

Remember, some equipment may be included in the published displacement number for one boat but not for another, so a certain amount of sleuthing is necessary to derive reasonably accurate half-load and full-load displacement numbers.

## Nominal Light-Ship Weight Estimate

Published Displacement

Payload included in displacement over and above light ship (source: designer/builder/importer) ( )

## Nominal Light-Ship Weight

### Weight corrections and upgrades to boat

**Deck and hull fittings** includes dodger, bimini, cockpit table, wind-vane steering

**Rig** includes roller reefing, in-mast or in-boom reefing, additional mast-mounted winches, electric winches, downwind and spinnaker poles.

**Propulsion** includes additional filters, bow thruster.

**Systems** includes powered windlass, saltwater washdown pump, watermaker, refrigeration upgrade (especially cold plates, which are heavy), air conditioning, trash compactor.

**Electrical** includes additional batteries, inverter, alternator upgrades, additional cabling, wind generator, solar panels, microwave, A generator.

**Electronics** usually includes all electronics, radar.

**Ship's outfit** includes ground tackle, mooring lines, fenders, dinghies, outboards, safety gear (including a life raft), barbecue grill.

### Total Corrections and Upgrades to Boat

### Half-Load Payload

Additional Sails (light wind and storm)

Optional Outfit (eg tools, spares)

Owner's Outfit (eg books, charts, manuals)

Miscellaneous (eg snorkel and dive gear)

Crew (160lb / 73kg per person)

Crew Effects (50lb / 23kg per person)

Crew's Outfit (50lb / 23kg per person) includes bedding, dishes and cutlery, pots and pans.

### Sub-total

### Half of Consumables

Food and beverages (6lb / 2.7kg per person per day times half endurance)

Galley stores (4lb / 1.8kg per person per week times half endurance)

Stove fuel (5lb + 1lb / 2.3kg + 0.5 kg per person per week times half endurance)

Ship's stores (eg cleaners, finishes, and other)

Freshwater (8.33lb per gal / 1kg per lt times half tankage)

Diesel (7.13lb per gal / 0.86kg per lt times half tankage)

### Sub-total

**Half-Load Payload** (sub-totals combined)

**Half-Load PIN** (Weight Corrections and Upgrades plus Half-Load Payload)

**Full-Load PIN** (Half-Load PIN plus remaining half of consumables)

**Half-Load Displacement** (Half-Load PIN plus nominal light-ship weight)

**Full-Load Displacement** (Full-Load PIN plus nominal light-ship weight)