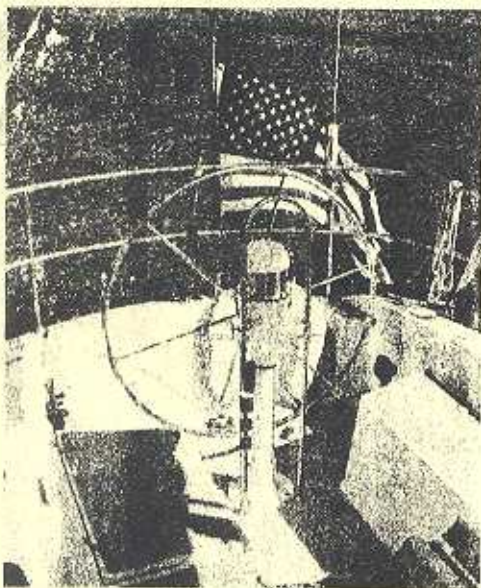
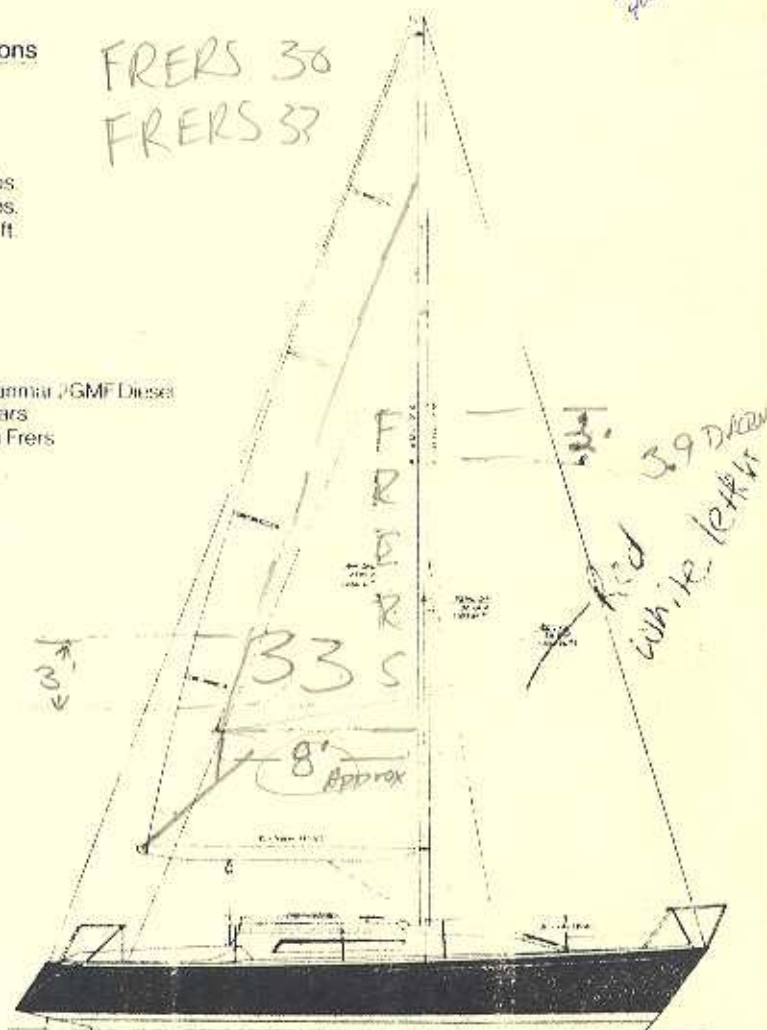


FRERS 33



Specifications

LOA	33' 3"
LWL	26' 6"
Beam	11' 3"
Draft	6' 3"
Ballast	4,000 lbs.
Displacement	9,000 lbs.
Sail Area	500 sq. ft.
(100% Dacron)	
Rig Dimensions	
I	45' 00"
J	13' 33"
P	39' 12"
E	13' 12"
Auxiliary	18HP Yamaha 2GMF Diesel
Rig	Hall Spars
Designer	German Frers



Builder's Comments

CARROLL MARINE LTD. is committed to building fast, seaworthy sailing yachts that maintain their value over time. The association between Carroll Marine Ltd. and GERMAN FRERS has been a happy one, because we share a common idea of what defines the proper yacht. The majority of our clients are competitive by nature, and successful by talent and hard work. They appreciate the design genius of German Frers, and our painstaking method of building yachts. The interaction between builder and client produces a unique yacht, never quite the same as those that have gone before, never to be repeated again. The owner of a Frers 33 from Carroll Marine Ltd. knows he can race with confidence, cruise in comfort and safety, and smile with pride as he looks at her on a mooring.

Barry C. Carroll

Specifications are subject to change without notice or obligation to update existing boats.



CARROLL MARINE LTD.

500 WOOD STREET / BRISTOL, RHODE ISLAND 02809 / (401) 253-1264

GERMAN FRERS

ESTUDIO TECNICO NAVAL

GUIDO 1926-1° PISO - 1119 BUENOS AIRES

Tel. 801-0423 - TELEX 17034 - CABLES FRERSAIL

DESIGN NO. 889

This new yacht has been designed for CARROLL MARINE LTD. specifically to compete under the new IMS Rule and the PHRF handicapping system. The design is meant to excel in the moderate conditions typically found in North America.

At 33' 6" L.O.A., with a beam of 11' 3", the FRERS 33 is a big, powerful 33. The parameters of the new rule have allowed me to create a well balanced, fair and fast hull without the typical distortions required by the old IOR Rule. She has moderate displacement, a healthy 45 percent ballast to weight ratio, and ample sail area.

I have employed our latest thinking in keel and rudder shapes for maximum upwind performance with minimum wetted surface and drag. The elliptical planform has proven to be superior, and should perform well under all conditions. The elliptical rudder will have significantly less tip drag, and should be a joy to steer with either tiller or wheel.

The rig is masthead for power and ease of short-handed sailing. The masthead rig is easier to tune over a broader range of conditions for the "non-professional" sailor. The actual mast is a stiff "D" section with double tapered spreaders and in-plane lowers. Pre-bend takes the place of a midstay to speed tacking and decrease wear and tear on composite headsails. With running backstays, complete mast control can be achieved in all conditions. The cruising sailor will not need to use the runners except in rough offshore conditions.

The deck features a large cockpit with an eye toward maximum sailing efficiency. A great deal of care has been taken to insure proper access to winches and control lines. Subtle features such as contoured coamings and recessed cleats are incorporated to make the seating more functional while heeled. The deck house provides full standing headroom below, even in the head and vee-berth. The builder has kept the deck weight to a minimum by using balsa cored biaxial glass construction. An attractive yet lightweight headliner system has been engineered to provide a yacht-like interior at minimum weight.

The interior is the classic single quarter berth, vee-berth arrangement which has proven its merit in many of our past designs. This arrangement strikes a nice balance between the demands of racing and cruising, and is still one of the most functional at sea. Racing sailors who anticipate a lot of overnight sailing, may opt for pilot berths in the main cabin for the off watch. The vee-berth is a large comfortable double that quickly converts to sail storage for around the bouys racing.

The FRERS 33 represents our latest definition of the modern racer-cruiser. Built with the care and attention to detail her builder has exercised in constructing her successful older sister, the F-36, she should acquit herself well on the race courses of the world.

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Carroll Marine Ltd. is proud to announce the latest creation from designer German Frers: the Frers 33. During the early design conferences between designer and builder, a list of parameters was laid down which would guide the development of the yacht from conception to launch.

Nothing was to compromise the all around sailing performance of the boat.

The majority of today's sailors in this size boat compete under the PHRF rating system. The PHRF system encourages a faster boat for a given length than the I.O.R. More Bang For The Buck!

While aiming at PHRF racing, the design should stay within the M.H.S. parameters for displacement length ratios and sail area to weight ratios. For the sailor who wishes to compete at the regional level in M.H.S., the Frers 33 will be a potent weapon.

Most competitive sailors still enjoy the subtle pleasures of performance cruising with family and friends. A boat that has a well thought out, comfortable interior provides more varied use to her owner, and retains value over time.

A performance yacht should be kept as light as possible while retaining sufficient displacement for rugged construction and a comfortable interior.

A sailboat, race or cruise, should be stiff upwind, track well, and be light and responsive to the helm, or it's not worth building.

The construction techniques necessary to build strong, light hulls with complete interiors do not lend themselves to the "chopper gun" mentality of mass production systems. As in aircraft construction, high strength and light weight are only achieved through expert engineering and painstaking construction.

A yacht should make her owner smile with pride as he looks at her on a mooring, or she is not worth having.

The association between German Frers and Carroll Marine Ltd. has been a happy one because we share a common idea of what defines the proper yacht. Success in any endeavor begins with a clear sense of purpose, and the talent, skill and effort to realize that goal.

We invite your review of the SPECIFICATIONS.

FRERS 33
SPECIFICATIONS

LOA ... 33' - 3"	DISPLACEMENT ... 9,000 LBS.	SAIL AREA ... 560 S.F.
LWL ... 26' - 6"	BALLAST ... 4,000 LBS.	(100% FORE)
BMAX ... 11' - 3"	DRAFT ... 6' - 3"	
BWL ... 8' - 6"		

CONSTRUCTION

HULL

MOLDED FIBERGLASS Balsa CORED HULL COMPRISED OF ALTERNATING LAYERS OF BIAxIAL AND UNIDIRECTIONAL E-GLASS WITH CAREFUL ATTENTION PAID TO PROPER FIBER ORIENTATION. POLYESTER LAMINATING RESIN IS USED WITH AN EXTERIOR SURFACE OF NPG GEL GOAT.

DECK

MOLDED FIBERGLASS DECK WITH Balsa CORE AND MARINE PLYWOOD (IN AREAS OF HIGH STRESS). AS IN THE HULL, CAREFUL ATTENTION IS PAID TO PROPER ORIENTATION OF THE BIAxIAL AND UNIDIRECTIONAL GLASS FIBERS. THE DECK IS THROUGH BOLTED AND BONDED TO THE HULL AT THE SHEER. ALL MAJOR BULKHEADS ARE FIBERGLASSED TO THE DECK.

STRUCTURAL GRID

AN INTERIOR STRUCTURAL GRID SYSTEM CARRIES KEEL, RIG, AND HULL LOADS. THE GRID IS COMPRISED OF E-GLASS, CARBON FIBER, AND ALUMINUM BONDED INTO THE HULL WITH MULTIPLE PLIES OF WOVEN ROVING AND POLYESTER RESIN.

RUDDER

MOLDED UNIDIRECTIONAL E-GLASS WITH UNIDIRECTIONAL CARBON FIBER REINFORCEMENT AND A HIGH DENSITY FOAM CORE. THE RUDDER STOCK IS STAINLESS STEEL WITH A LAMINATED MAHOGONY TILLER REINFORCED WITH EPOXY AND CARBON FIBER AT THE LAMINATE SEAMS. AN ADJUSTABLE LADDER TYPE HIKING STICK IS INCLUDED.

WHEEL STEERING IS OPTIONAL.

KEEL

4,000 LBS. OF LEAD ALLOYED WITH 4% ANTIMONY FOR HARDNESS; BONDED WITH EPOXY AND FASTENED WITH STAINLESS STEEL BOLTS. EACH KEEL IS FAIRED AND PRIMED.

DECK HARDWARE

BOW PULPIT IS DOUBLE RAIL WELDED STAINLESS STEEL WITH INTEGRAL U.S.C.G. APPROVED NAVIGATION LIGHTS.

STERN PULPIT IS DOUBLE RAIL WELDED STAINLESS STEEL WITH U.S.C.G. APPROVED STERN LIGHT.

STANCHIONS ARE TAPERED STAINLESS STEEL WITH UPPER AND LOWER VINYL COATED LIFELINES.

CUSTOM STAINLESS STEEL I.O.R. STYLE STEMHEAD.

TWO BOW CHOCKS.

FORWARD MOORING CLEAT, 8".

INBOARD GENOA TRACKS.

TWO LOW LEAD GENOA CARS WITH FULL LENGTH ADJUSTMENT.

TEAK TOE RAIL FORWARD.

ALUMINUM TOE RAIL AFT WITH TWO ADJUSTABLE SLIDE CARS.

TEAK HANDRAILS ON CABIN TOP.

HALYARDS AND CONTROLS LEAD AFT THROUGH ORGANIZERS TO ROPE CLUTCHES.

HARKEN ROLLER BEARING TRAVELLER WITH 3:1 CROSSHAUL SYSTEM.

TWO AFT MOORING CLEATS, 8".

DIAPHRAGM BILGE PUMP IN COCKPIT.

STANDARD WINCH PACKAGE

PRIMARY	2 EACH	LEWMAR 43 ALUMINUM
HALYARDS/CONTROLS	2 EACH	LEWMAR 30 ALUMINUM
HANDLE	2 EACH	LEWMAR 10" STANDARD
HANDLE POUCH	2 EACH	

MAST

DOUBLE SPREADER, TAPERED AERODYNAMICALLY DESIGNED SECTION WITH TRI-SECT MASTHEAD. WHITE PAINT STANDARD. INTERNAL CONDUIT FOR WIRING, WITH COMBINATION BOW/FOREDECK LIGHT.

BOOM

ALUMINUM EXTRUSION WITH INTERNAL 5:1 OUTHAUL, 2-REEFS, TOPPING LIFT, TACK HOOKS, AND LOCK-OFFS FOR REEFS. A HEAVY DUTY VANG LUG IS STANDARD.

STANDING RIGGING

NAVTEC STAINLESS STEEL SOLID ROD RIGGING.

INTERNAL TANGS.

IN-PLANE UPPER AND LOWER SHROUDS BROUGHT DOWN TO DECK (CONTINUOUS).

RUNNING BACKSTAYS OF 1 X 19 SS WIRE WITH 4:1 HARKEN BLOCK AND TACKLE.

EXTENDED NAVTEC BACKSTAY TURNBUCKLE FOR EASE OF CONVERSION TO HYDRAULIC BACKSTAY.

RUNNING RIGGING

MAIN HALYARD	1 EACH INTERNAL LEAD AFT
GENOA/SPINNAKER HALYARD	2 EACH INTERNAL LEAD AFT
MAIN BOOM TOPPING LIFT	
GENOA SHEETS	2 EACH
MAIN SHEET	1 EACH WITH HARKEN 6:1 HEXARATCHET
TRAVELLER CROSSHAUL	2 EACH
CUNNINGHAM	1 EACH LEAD AFT
REEFS	2 EACH INTERNAL LEAD AFT
OUTHAUL	1 EACH 5:1 INTERNAL

HATCHES AND VENTILATION

FORWARD HATCH	19" X 19" ALUMINUM
VENT HATCH IN HEAD	13" X 7" ALUMINUM
VENT HATCH MAIN CABIN	12" X 15" ALUMINUM
MAIN COMPANION WAY	
OPENING PORT INTO QUARTER BERTH	
FIXED PORTS IN MAIN CABIN P & S	

MECHANICAL

YANMAR 2GMF 18 HP DIESEL
 FRESH WATER COOLED
 TRANSMISSION: 2:1 STRAIGHT DRIVE
 INSTRUMENT PANEL WITH TACHOMETER, WARNING LIGHTS AND BUZZER
 SEAWATER STRAINER
 BLOWER
 PROPELLER: 2-BLADE FIXED (FOLDING PROPELLER OPTIONAL)

ELECTRICAL

12 VOLT DC SYSTEM
 MAIN DISTRIBUTION PANEL WITH CIRCUIT BREAKERS
 BATTERY CONDITION METER
 MAIN BATTERY SWITCH
 PROVISIONS FOR TWO 150 AMP BATTERIES
 COLOR CODED WIRING TO ABYC SPECIFICATIONS

TANKAGE

FUEL:	15 GALLONS
WATER:	30 GALLONS

GALLEY

TWO BURNER STAINLESS STEEL ALCOHOL STOVE WITH OVEN
 STAINLESS STEEL DEEP SINK
 PRESSURE WATER
 ICEBOX MOLDED FRP WITH SHELVES AND PUMP-OUT
 STORAGE FOR DISHES AND CONSUMABLES

HEAD

MARINE HEAD WITH Y-VALVE AND HOLDING TANK
 OVERBOARD DISCHARGE (SUBJECT TO U.S.G.C. REGULATIONS)
 VANITY SINK WITH PRESSURE WATER
 LAUNDRY HAMPER
 MIRROR
 TOWEL RACK

INTERIOR LIGHTING

READING LIGHTS OVER BERTHS
 NAVIGATOR'S SPOT LIGHT
 OVERHEAD AND INDIRECT LIGHTING AS NECESSARY

CARROLL MARINE LTD.

FRERS 33

OPTION LIST

EXTERIOR

HULL COLOR	\$ 375	SPLIT BOOT TOP	\$ 188
(OTHER THAN WHITE)		MOLDED COVE STRIP	110
DECK COLOR	313	TWO TONE DECK COLOR	438
(OTHER THAN WHITE)			

RIGGING

SPINNAKER GEAR	1,750	VANG, HARKEN 6:1	175
VANG, SOLID, HALL SPAR	575	BACKSTAY ADJUSTER, INTEGRAL ...	875
BACKSTAY ADJUSTER & VANG ...	2,313	ROLLER HEADSTAY, HARKEN	1,875

STEERING AND DECK HARDWARE

EDSON PEDESTAL STEERER		NON-STANDARD WINCHES	P.O.A.
WHEEL BRAKE, GUARD		SPINNAKER WINCHES, LEWMAR 40...	406 EA.
40" WHEEL	2,000	LIFELINE GATES	181 EA.
HARKEN GENOA TRACK	1,063	MAN OVERBOARD TUBE	300

MECHANICAL AND PLUMBING

FOLDING PROPELLER, MARTEC...	406	HOT & COLD PRESSURE WATER	1,000
SHOWER IN HEAD	281	CNG 2-BURNER STOVE/OVEN	750
ELECTRIC BILGE PUMP	219	(IN LIEU)	

ELECTRICAL

SHOREPOWER 110 VAC	550	MASTHEAD LIGHT	125
VHF CABLE IN MAST	125		

MISCELLANEOUS

BOTTOM PAINT		CEDAR CEILINGS	
PRIMED, 2 COATS MICRON 33..	688	V-BERTH / Q-BERTH	938
VARNISHED INTERIOR	1,000	DATAMARINE PACKAGE	
STERN LADDER	188	SPEEDOMETER, DEPTH SOUNDER,	
BATTERIES 90 AMP MARINE	119 EA.	WIND SPEED/DIRECTION	2,250
FREIGHT AND COMMISSIONING			
CML YARD IN RHODE ISLAND...	1,200		

11/30/85