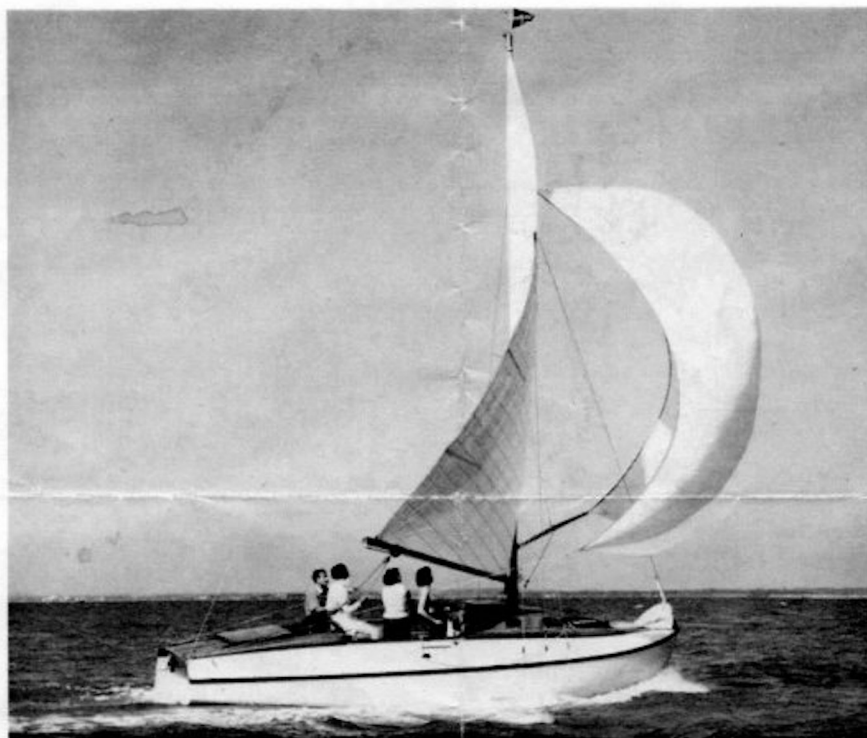


The S.P.M.

Variable Pitch, Reversing and Feathering Propeller

SIZES : 4 and 5



"Gambol," a Fairey Atalanta fitted with a S.P.M. Propeller

Features of the S.P.M. Stern Gear

Robust Construction
Fully Feathering
Reverse gear eliminated

Thrust bearing integral with
operating gear
Hub sealed against entry of water

Blade Diameters

4 size — 12" to 16" 5 size — 15" to 20"

Max. Torque Transmitted

4 size — 75 lbs. ft. 5 size — 120 lbs. ft.

SLACK & PARR (MARINE) LIMITED

Telex 37512

KEGWORTH, NEAR DERBY, ENGLAND

Phone Kegworth 306

DESCRIPTION OF PROPELLER MECHANISM

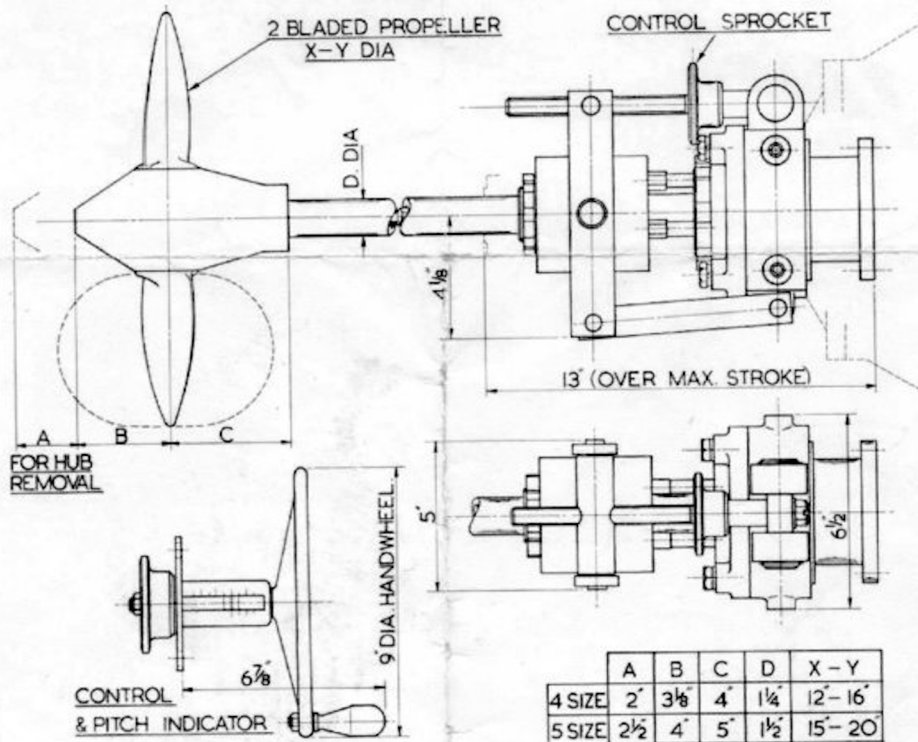
GENERAL: The S.P.M. propeller and operating mechanism is the result of years of design and development, construction being simple and robust, coupled with efficient blades having light operating loads.

PROPELLER: The hub consists of two high tensile manganese bronze castings bolted and dowelled together and having machined recesses in them, which locate the two blades. Formed integral with the base of each blade and off-set from the pitch change axis of the blade is a pin of generous proportions. This pin carries a rectangular block which is arranged to slide in an inclined groove in a crosshead located between the bases of the blades and sliding along the axis of the hub. Movement of the crosshead fore and aft is converted to a rotation of the blade about its axis through the sliding block and off-set pin. A synthetic rubber seal in each blade root excludes water and retains the lubricant which can be replenished from inboard. The propeller assembly is completely non-ferrous.

SHAFT: A thick walled tube of high tensile manganese bronze forms the shaft and houses an operating rod sliding in the bore.

PROPELLER OPERATING GEAR: A circular plate is attached to the forward end of the operating rod positioned inside the forward tailshaft coupling and connected to a sleeve sliding on the tailshaft by three rods passing through the shank of the coupling. This latter sleeve carries two taper roller bearings through which the operating loads are transmitted to a trunnion. Two levers either side of the trunnion are anchored by radius links at their lower ends and arranged so that the upper ends can be moved parallel with the axis of the tailshaft by means of a screw and barrel nut. The forward end of the screw is anchored by a housing either mounted on an extension of the engine bearers or carried off the engine bell housing. This housing may also be provided with a thrust bearing so that the propeller thrust and operating loads are not transmitted further forward in the shaft line.

CONTROL: Control of the pitch is effected by means of a sprocket mounted on the operating gear screw shaft and connected through roller chain to a wheel at the boat's control position. A pitch indicator is incorporated in the control unit.



ADVANTAGES RESULTING FROM THE INSTALLATION OF A VARIABLE PITCH PROPELLER

Boat speed can be held at any point between zero and maximum.

Full power is available at any boat speed irrespective of tow or displacement.

Higher thrusts for towing.

Bridge control and improved manoeuvring.

Reverse gears eliminated.

No declutching or reversing engine whilst manoeuvring.

Reduced risk of stalling engine at low boat speeds.

Wider speed range for engine driven winches.

Vibration periods can be avoided.

Blades are easily replaced.

Progressive increase of thrust increases life of towing ropes and nets.

Feathering for auxiliary craft.