

15

MARINE DIESEL ENGINES

By J. F. HECKING

PREFACE: THE DIESEL ENGINEER	15- iii
I. INTRODUCTION	15- 3
II. OPERATING PRINCIPLES	15- 9
III. MODERN MARINE DIESEL ENGINES	15- 35
IV. INDICATOR DIAGRAMS	15-194
V. AUXILIARY SYSTEMS	15-221
VI. DIESEL ENGINE FUEL OILS	15-251

16

MODERN MARINE REFRIGERATION

By EARL S. SHULTERS

I. MARINE REFRIGERATION	16- 3
II. FREON-12 REFRIGERATING PLANTS	16- 45
III. CARRIER CENTRIFUGAL REFRIGERATION SYSTEM	16- 79
IV. BRUNSWICK-KROESCHELL AMMONIA RE- FRIGERATION SYSTEM	16-139

17

HEATING

By JOHN H. CLARKE

I. GENERAL INTRODUCTION—TYPES OF HEATING SYSTEMS	17- 3
II. DESIGN OF STEAM HEATING SYSTEMS	17- 11
III. DESIGN OF FORCED-CIRCULATION WATER HEATING AND COOLING SYSTEMS	17- 59
IV. ELECTRIC HEATING	17-105
V. OPERATION OF EQUIPMENT	17-106

18

VENTILATION

By JOHN W. MARKERT

VENTILATION DEFINED	18- 3
VENTILATION REQUIREMENTS	18- 4
GENERAL VENTILATION TREATMENT	18- 8
RELATION OF VENTILATION AND HEATING	18-11
INSULATION AND ITS RELATION TO VENTILATING AND HEATING	18-12
DUCTS	18-17
EQUIPMENT	18-37
TESTING	18-46
SPECIFIC PROBLEM	18-49

19

INSULATION

BASED ON BEST PRACTICE OF LEADING MANUFACTURERS

APPLICATION	19-3
-----------------------	------

20

STEERING GEAR AND DECK MACHINERY

By FRANK C. MESSAROS

I. STEERING GEAR	20- 3
II. WINDLASSES, CAPSTANS AND WINCHES	20-49
III. TOWING MACHINES	20-79
IV. WINCHES	20-83

21

MODERN MARINE ELECTRICITY

By P. DE W. SMITH

I. INTRODUCTION	21- 3
II. LIGHT AND POWER	21- 29
III. GENERATORS	21- 44

IV. MOTORS	21- 66
V. MOTOR STARTING AND CONTROL EQUIPMENT	21- 80
VI. OPERATION OF MOTORS AND GENERATORS	21-103
VII. ELECTRIC PROPULSION	21-119
VIII. ELECTROMAGNETIC SLIP COUPLINGS	21-153
IX. INTERIOR COMMUNICATION	21-164
X. MAINTENANCE	21-183
XI. TABLES AND OTHER USEFUL INFORMATION	21-251

22

INSTRUMENTS

Contributing Editors: ALAN OSBOURNE; W. H. ROBINSON

GAGES	22- 3
FLOW METERS	22-15
TEMPERATURE-INDICATING INSTRUMENTS	22-16
CALIPER	22-30
VERNIER	22-33
PLANIMETER	22-35
OTHER INSTRUMENTS	22-37

23

PROPELLERS AND PROPULSION

By ALAN OSBOURNE

I. PROPELLER AND PROPULSION FUNDAMENTALS	23- 1
II. CARE OF PROPELLERS	23-29

24

TESTS AND TRIALS

TESTS	24- 3
TRIALS	24-28
SPEED TABLES	24-32

25

TABLES

Contributing Editors: ALAN OSBOURNE; W. H. ROBINSON

WEIGHTS AND MEASURES	25- 3
METRIC SYSTEM	25- 6
CONVERSION TABLES	25- 8
AREAS OF CIRCLES	25-13
NATURAL TRIGONOMETRIC FUNCTIONS	25-14
PHYSICAL CONSTANTS OF ELEMENTS	25-20
STANDARD GAGE SIZES	25-21
SPECIFIC GRAVITIES AND VISCOSITIES	25-22
THREADS, TAP DRILLS, GAGES	25-24
CLEARANCE TABLES	25-26
AIR AND WATER DATA	25-39
DISTANCES BY WATER FROM NEW YORK CITY	25-51

INDEX