

# Contents

---

<b>1</b>	<b>GENERAL INFORMATION AND BOATING SAFETY</b>	<b>1-2</b> HOW TO USE THIS MANUAL	<b>1-11</b> SAFETY IN SERVICE
		<b>1-3</b> BOATING SAFETY	

---

<b>2</b>	<b>TOOLS AND EQUIPMENT</b>	<b>2-2</b> TOOLS AND EQUIPMENT	<b>2-11</b> FASTENERS, MEASUREMENTS AND CONVERSIONS
		<b>2-4</b> TOOLS	

---

<b>3</b>	<b>MAINTENANCE AND TUNE-UP</b>	<b>3-2</b> ENGINE MAINTENANCE	<b>3-28</b> WINTER STORAGE CHECKLIST
		<b>3-10</b> BOAT MAINTENANCE	<b>3-28</b> SPRING COMMISSIONING CHECKLIST
		<b>3-12</b> TUNE-UP	

---

<b>4</b>	<b>FUEL SYSTEM</b>	<b>4-2</b> FUEL AND COMBUSTION	<b>4-3</b> CARBURETED FUEL SYSTEM

---

<b>5</b>	<b>IGNITION AND ELECTRICAL SYSTEMS</b>	<b>5-2</b> UNDERSTANDING AND TROUBLESHOOTING ELECTRICAL SYSTEMS	<b>5-32</b> THUNDERBOLT® ELEC- TRONIC IGNITION SYSTEM
		<b>5-8</b> BREAKER POINTS (MAGNETO IGNITION)	<b>5-38</b> CAPACITOR DISCHARGE MODULE (CDM) SYSTEM
		<b>5-13</b> MOTOROLA® DISTRIBUTOR IGNITION	<b>5-45</b> CHARGING CIRCUIT
		<b>5-22</b> ELECTRONIC IGNITION SYS- TEMS UP TO 25 HP	<b>5-50</b> STARTING CIRCUIT
		<b>5-24</b> PRESTOLITE® ELECTRONIC IGNITION	<b>5-59</b> IGNITION AND ELECTRICAL WIRING DIAGRAMS

---

<b>6</b>	<b>LUBRICATION AND COOLING</b>	<b>6-2</b> COOLING SYSTEM	<b>6-10</b> WARNING SYSTEMS

---

# Contents

**7-2** ENGINE MECHANICAL  
**7-8** POWERHEAD RECONDITIONING

**7-22** POWERHEAD EXPLODED VIEWS  
**7-29** TORQUE SEQUENCE DIAGRAMS

POWERHEAD AND  
POWERHEAD OVERHAUL

**7**

**8-2** LOWER UNIT  
**8-7** LOWER UNIT OVERHAUL

LOWER UNIT

**8**

**9-2** MANUAL TILT  
**9-3** CENTER MOUNTED PISTON TRIM/TILT SYSTEM

**9-11** SINGLE RAM INTEGRAL POWER TILT/TRIM SYSTEM

TRIM AND TILT

**9**

**10-2** REMOTE CONTROL BOX  
**10-11** TILLER HANDLE

REMOTE CONTROLS

**10**

**11-2** HAND REWIND STARTER  
**11-2** OVERHEAD TYPE STARTER

**11-11** BENDIX TYPE STARTER

HAND REWIND STARTER

**11**

**11-17** GLOSSARY

GLOSSARY

**11-19** INDEX

MASTER INDEX

# 11-20 MASTER INDEX

- TESTING 5-12
- CONNECTING RODS 7-17
  - GENERAL INFORMATION 7-17
  - INSPECTION 7-17
- CONVERSION FACTORS 2-14
- COOLING SYSTEM 6-2**
- COURTESY MARINE EXAMINATIONS 1-11
- CRANKSHAFT 7-18
  - GENERAL INFORMATION 7-18
  - INSPECTION 7-18
- CYLINDER BLOCK AND HEAD 7-11
  - GENERAL INFORMATION 7-11
  - INSPECTION 7-12
- CYLINDER BORES 7-13
  - GENERAL INFORMATION 7-13
  - INSPECTION 7-13
  - REFINISHING 7-13
- CYLINDER HEAD TEMPERATURE SENSOR 6-10
  - REMOVAL & INSTALLATION 6-10
  - TESTING 6-10
- DESCRIPTION AND OPERATION (CAPACITOR DISCHARGE MODULE SYSTEM) 5-38
- DESCRIPTION AND OPERATION (CARBURETED FUEL SYSTEM) 4-3
  - BASIC FUNCTIONS 4-3
  - CARBURETOR CIRCUITS 4-4
  - FUEL & AIR METERING 4-3
  - FUEL PUMP 4-5
- DESCRIPTION AND OPERATION (CENTER MOUNTED PISTON TRIM/TILT SYSTEM) 9-3
- DESCRIPTION AND OPERATION (CHARGING CIRCUIT) 5-45
- DESCRIPTION AND OPERATION (COOLING SYSTEM) 6-2
- DESCRIPTION AND OPERATION (ELECTRONIC IGNITION SYSTEMS UP TO 25 HP) 5-22
- DESCRIPTION AND OPERATION (HAND REWIND STARTER) 11-2
- DESCRIPTION AND OPERATION (MANUAL TILT) 9-2
  - SERVICING 9-2
- DESCRIPTION AND OPERATION (MOTOROLA® DISTRIBUTOR IGNITION) 5-13
- DESCRIPTION AND OPERATION (PRESTOLITE® ELECTRONIC IGNITION) 5-24
- DESCRIPTION AND OPERATION (REMOTE CONTROL BOX) 10-2
- DESCRIPTION AND OPERATION (SINGLE RAM INTEGRAL POWER TRIM/TILT SYSTEM) 9-11
- DESCRIPTION AND OPERATION (STARTING CIRCUIT) 5-50
- DESCRIPTION AND OPERATION (THUNDERBOLT® ELECTRONIC IGNITION SYSTEM) 5-32
- DESCRIPTION AND OPERATION (TILLER HANDLE) 10-11
- DESCRIPTION AND OPERATION (WARNING SYSTEMS) 6-10
- DETERMINING POWERHEAD CONDITION 7-8
  - COMPRESSION TEST 7-8
- DIRECTIONS AND LOCATIONS 1-2
- DISTRIBUTOR 5-15
  - ASSEMBLY 5-19
  - CLEANING & INSPECTION 5-19
  - DISASSEMBLY 5-17
  - REMOVAL & INSTALLATION 5-16
  - TESTING 5-15
- DO'S 1-11
- DON'TS 1-12
- ELECTRICAL COMPONENTS 5-2
  - GROUND 5-2
  - POWER SOURCE 5-2
- ELECTRONIC IGNITION SYSTEMS UP TO 25 HP 5-22**
- EMERGENCY STOP SWITCH (LANYARD) (REMOTE CONTROL BOX) 10-6
  - REMOVAL & INSTALLATION 10-6
  - TESTING 10-6
- EMERGENCY STOP SWITCH (LANYARD) (TILLER HANDLE) 10-14
- REMOVAL & INSTALLATION 10-14
- TESTING 10-14
- ENGINE MAINTENANCE 3-2**
- ENGINE MECHANICAL 7-2**
- ENGINE STOP SWITCH 10-13
  - REMOVAL & INSTALLATION 10-14
  - TESTING 10-13
- EQUIPMENT NOT REQUIRED BUT RECOMMENDED 1-10
  - ANCHORS 1-10
  - BAILING DEVICES 1-10
  - FIRST AID KIT 1-10
  - SECOND MEANS OF PROPULSION 1-10
  - TOOLS & SPARE PARTS 1-11
  - VHF-FM RADIO 1-11
- FASTENERS, MEASUREMENTS AND CONVERSIONS 2-11**
- FIBERGLASS HULL 3-12
- FLYWHEEL (BREAKER POINTS IGNITION) 5-10
  - INSPECTION 5-11
  - REMOVAL & INSTALLATION 5-10
- FLYWHEEL (CAPACITOR DISCHARGE MODULE SYSTEM) 5-40
  - INSPECTION 5-41
  - REMOVAL & INSTALLATION 5-40
- FLYWHEEL (ELECTRONIC IGNITION SYSTEMS UP TO 25 HP) 5-22
  - INSPECTION 5-24
  - REMOVAL & INSTALLATION 5-22
- FLYWHEEL (MOTOROLA® DISTRIBUTOR IGNITION) 5-14
  - INSPECTION 5-15
  - REMOVAL & INSTALLATION 5-14
- FLYWHEEL (PRESTOLITE® ELECTRONIC IGNITION) 5-25
  - INSPECTION 5-27
  - REMOVAL & INSTALLATION 5-25
- FLYWHEEL (THUNDERBOLT® ELECTRONIC IGNITION SYSTEM) 5-34
  - INSPECTION 5-35
  - REMOVAL & INSTALLATION 5-34
- FLYWHEEL TIMING MARKS 7-20
  - ALTERNATE METHOD 7-21
  - USING THE FACTORY TIMING GAUGE 7-20
- FUEL 4-2
  - ALCOHOL-BLENDED FUELS 4-2
  - HIGH-ALTITUDE OPERATION 4-2
  - OCTANE RATING 4-2
  - RECOMMENDATIONS 4-2
  - VAPOR PRESSURE 4-2
- FUEL AND COMBUSTION 4-2**
- FUEL FILTER 3-5
  - RELIEVING FUEL SYSTEM PRESSURE 3-6
  - REMOVAL & INSTALLATION 3-6
- FUEL LINES 4-26
- FUEL PRIMER 4-22
  - TESTING 4-23
- FUEL PUMP 4-23
  - OVERHAUL 4-24
  - REMOVAL & INSTALLATION 4-23
  - TESTING 4-23
- FUEL/WATER SEPARATOR 3-7
  - DRAINING 3-7
  - SERVICE 3-7
- GENERAL ENGINE SPECIFICATIONS 3-30
- GENERAL INFORMATION (LOWER UNIT) 8-2
- HAND REWIND STARTER 11-2**
- HAND TOOLS 2-5
  - ELECTRONIC TOOLS 2-9
  - GAUGES 2-10
  - HAMMERS 2-8
  - OTHER COMMON TOOLS 2-8
  - PLIERS 2-8
  - SCREWDRIVERS 2-8
  - SOCKET SETS 2-5

- SPECIAL TOOLS 2-8
- WRENCHES 2-6
- HOW TO USE THIS MANUAL 1-2**
- IDLE SPEED AND MIXTURE ADJUSTMENT 3-18
  - ENGINES WITH A SINGLE CARBURETOR AND TILLER HANDLE 3-18
- IDLE SPEED ADJUSTMENT 3-18
  - ENGINES WITH FACE PLATE MOUNTED CONTROLS 3-18
- IGNITION AND ELECTRICAL WIRING DIAGRAMS 5-59**
- IGNITION COIL (BREAKER POINTS IGNITION) 5-13
  - REMOVAL & INSTALLATION 5-13
  - TESTING 5-13
- IGNITION COILS (ELECTRONIC IGNITION SYSTEMS UP TO 25 HP) 5-24
  - REMOVAL & INSTALLATION 5-24
  - TESTING 5-24
- IGNITION COILS (MOTOROLA® DISTRIBUTOR IGNITION) 5-21
  - REMOVAL & INSTALLATION 5-21
  - TESTING 5-21
- IGNITION COILS (PRESTOLITE® ELECTRONIC IGNITION) 5-31
  - REMOVAL & INSTALLATION 5-31
  - TESTING 5-31
- IGNITION COILS (THUNDERBOLT® ELECTRONIC IGNITION SYSTEM) 5-37
  - REMOVAL & INSTALLATION 5-38
  - TESTING 5-37
- IGNITION MODULE (MOTOROLA® DISTRIBUTOR IGNITION) 5-21
  - REMOVAL & INSTALLATION 5-22
  - TESTING 5-21
- IGNITION MODULE (PRESTOLITE® ELECTRONIC IGNITION) 5-32
  - TESTING 5-32
- IGNITION SWITCH 10-6
  - REMOVAL & INSTALLATION 10-6
  - TESTING 10-6
- IGNITION SYSTEM 3-17
- IGNITION SYSTEM SPECIFICATIONS 5-44
- INTRODUCTION (TUNE-UP) 3-12
- LOWER UNIT 8-2**
- LOWER UNIT (ENGINE MAINTENANCE) 3-3
  - DRAINING LOWER UNIT 3-4
  - FILLING LOWER UNIT 3-4
  - OIL RECOMMENDATIONS 3-3
- LOWER UNIT (LOWER UNIT) 8-4
  - REMOVAL & INSTALLATION 8-4
- LOWER UNIT OVERHAUL 8-7**
- 1984-91 70 TO 150 HP 8-19
  - ASSEMBLY & SHIMMING 8-24
  - CLEANING & INSPECTION 8-22
  - DISASSEMBLY 8-19
- 1991-95 70 TO 150 HP 8-27
  - ASSEMBLY 8-37
  - CLEANING & INSPECTION 8-33
  - DISASSEMBLY 8-27
  - SHIMMING 8-35
- 1995-99 70 TO 120 HP 8-42
  - ASSEMBLY 8-47
  - CLEANING & INSPECTION 8-45
  - DISASSEMBLY 8-42
  - SHIMMING 8-49
- UNITS UP TO 7.5 HP 8-7
  - ASSEMBLY 8-12
  - CLEANING & INSPECTION 8-10
  - DISASSEMBLY 8-7
- LUBRICATION POINT/FREQUENCY 3-5
- LUBRICATION POINTS 3-7
  - INSPECTION & LUBRICATION 3-7
- MAINTENANCE INTERVALS 3-29
- MAINTENANCE OR REPAIR? 1-2
- MANUAL TILT 9-2**
- MEASURING TOOLS 2-10
  - DEPTH GAUGES 2-11
  - DIAL INDICATORS 2-10
  - MICROMETERS & CALIPERS 2-10
  - TELESCOPING GAUGES 2-11
- MOTOROLA® DISTRIBUTOR IGNITION 5-13**
- NEUTRAL START SWITCH 10-5
  - REMOVAL & INSTALLATION 10-5
  - TESTING 10-5
- OVERHEAD TYPE STARTER 11-2**
- PISTON PINS 7-15
  - GENERAL INFORMATION 7-15
  - INSPECTION 7-15
- PISTON RINGS 7-16
  - GENERAL INFORMATION 7-16
  - INSPECTION 7-16
- PISTONS 7-14
  - GENERAL INFORMATION 7-14
  - INSPECTION 7-14
- POWERHEAD 7-2
  - REMOVAL & INSTALLATION 7-2
- POWERHEAD EXPLODED VIEWS 7-22**
- POWERHEAD OVERHAUL TIPS 7-9
  - CAUTIONS 7-10
  - CLEANING 7-10
  - REPAIRING DAMAGED THREADS 7-10
  - TOOLS 7-9
- POWERHEAD PREPARATION 7-11
- POWERHEAD RECONDITIONING 7-8**
- PRESTOLITE® ELECTRONIC IGNITION 5-24**
- PROFESSIONAL HELP 1-2
- PROPELLER (ENGINE MAINTENANCE) 3-8
- PROPELLER (LOWER UNIT) 8-3
  - REMOVAL & INSTALLATION 8-3
- PROTECTIVE DEVICES 5-3
  - CONNECTORS 5-4
  - LOAD 5-4
  - SWITCHES & RELAYS 5-3
  - WIRING & HARNESSSES 5-4
- PURCHASING PARTS 1-3
- RECIRCULATING SYSTEM 4-26
- RECTIFIER (CHARGING CIRCUIT) 5-46
  - REMOVAL & INSTALLATION 5-47
  - TESTING 5-46
- RECTIFIER/REGULATOR (CHARGING CIRCUIT) 5-47
  - REMOVAL & INSTALLATION 5-48
  - TESTING 5-47
- REED VALVE 7-6
  - INSPECTION & CLEANING 7-8
  - REMOVAL & INSTALLATION 7-6
- REGULATIONS FOR YOUR BOAT 1-3
  - CAPACITY INFORMATION 1-4
  - CERTIFICATE OF COMPLIANCE 1-4
  - DOCUMENTING OF VESSELS 1-4
  - HULL IDENTIFICATION NUMBER 1-4
  - LENGTH OF BOATS 1-4
  - NUMBERING OF VESSELS 1-4
  - REGISTRATION OF BOATS 1-4
  - SALES & TRANSFERS 1-4
  - VENTILATION 1-4
  - VENTILATION SYSTEMS 1-5
- REMOTE CONTROL BOX 10-2**
- REMOTE CONTROL BOX 10-2
  - ASSEMBLY 10-4
  - CLEANING AND INSPECTION 10-4
  - DISASSEMBLY 10-2
  - REMOVAL & INSTALLATION 10-2
- REMOTE CONTROL CABLES 10-5

# 11-22 MASTER INDEX

- ADJUSTMENT 10-5
- REMOVAL & INSTALLATION 10-5
- REQUIRED SAFETY EQUIPMENT 1-5
  - FIRE EXTINGUISHERS 1-5
  - PERSONAL FLOTATION DEVICES 1-6
  - SOUND PRODUCING DEVICES 1-8
  - TYPES OF FIRES 1-5
  - VISUAL DISTRESS SIGNALS 1-8
  - WARNING SYSTEM 1-6
- SAFETY IN SERVICE 1-11**
- SAFETY TOOLS 2-2
  - EYE & EAR PROTECTION 2-2
  - WORK CLOTHES 2-3
  - WORK GLOVES 2-2
- SERIAL NUMBER IDENTIFICATION 3-2
- SHIFTING PRINCIPLES 8-2
  - STANDARD ROTATING UNIT 8-2
- SHIM CHART—DRIVESHAFT 8-35
- SINGLE RAM INTEGRAL POWER TRIM/TILT SYSTEM 9-11**
- SPARK PLUG WIRES 3-16
  - REMOVAL & INSTALLATION 3-17
  - TESTING 3-16
- SPARK PLUGS 3-13
  - INSPECTION & GAPPING 3-16
  - READING SPARK PLUGS 3-15
  - REMOVAL & INSTALLATION 3-14
  - SPARK PLUG HEAT RANGE 3-14
  - SPARK PLUG SERVICE 3-14
- SPECIFICATIONS CHARTS**
- CAPACITIES 3-32
- CARBURETOR SPECIFICATIONS 3-32
- CONVERSION FACTORS 2-14
- GENERAL ENGINE SPECIFICATIONS 3-30
- IGNITION SYSTEM SPECIFICATIONS 5-44
- LUBRICATION POINT/FREQUENCY 3-5
- MAINTENANCE INTERVALS 3-29
- SHIM CHART—DRIVESHAFT 8-35
- TUNE-UP SPECIFICATIONS 3-31
- SPRING COMMISSIONING CHECKLIST 3-28**
- STANDARD AND METRIC MEASUREMENTS 2-13
- STARTER (BENDIX TYPE) 11-11**
- STARTER (HAND REWIND) 11-2**
- STARTER (OVERHEAD TYPE) 11-2**
- OVERHAUL 1-CYLINDER POWERHEAD 11-2
  - ASSEMBLY 11-5
  - CLEANING & INSPECTION 11-5
  - DISASSEMBLY 11-3
  - REMOVAL & INSTALLATION 11-2
- OVERHAUL 2 AND 3-CYLINDER POWERHEADS 11-6
  - ASSEMBLY 11-10
  - CLEANING & INSPECTION 11-9
  - DISASSEMBLY 11-7
  - REMOVAL & INSTALLATION 11-6
- STARTER MOTOR 5-51
  - ASSEMBLY 5-57
  - CLEANING & INSPECTION 5-54
  - DISASSEMBLY 5-53
  - REMOVAL & INSTALLATION 5-52
  - TESTING 5-55
- STARTER RELAY 5-58
  - REMOVAL & INSTALLATION 5-58
  - TESTING 5-58
- STARTING CIRCUIT 5-50**
- STATOR 5-45
  - REMOVAL & INSTALLATION 5-46
  - TESTING 5-45
- SWITCH BOX 5-38
  - REMOVAL & INSTALLATION 5-38
- TESTING 5-38
- SYNCHRONIZATION AND TIMING 3-17
- MULTIPLE CARBURETOR ENGINES WITH MOTOROLA® DISTRIBUTOR IGNITION 3-21
  - CHOKE ROD ADJUSTMENT 3-21
  - IDLE SPEED ADJUSTMENT 3-24
  - IGNITION TIMING ADJUSTMENT 3-24
  - THROTTLE ROD ADJUSTMENT 3-22
  - TIMING BELT ADJUSTMENT 3-23
- MULTIPLE CARBURETOR ENGINES WITH NO DISTRIBUTOR 3-24
  - CHOKE ROD ADJUSTMENT 3-25
  - IDLE SPEED ADJUSTMENT 3-27
  - IGNITION TIMING 3-27
  - THROTTLE ROD ADJUSTMENT 3-26
- 9.9 HP AND LARGER ENGINES WITH A SPLIT GEARCASE 8-12
  - ASSEMBLY 8-17
  - CLEANING & INSPECTION 8-16
  - DISASSEMBLY 8-13
  - SHIMMING 8-19
- 1984-89 ENGINES WITH A SINGLE CARBURETOR AND REMOTE CONTROL 3-19
  - CHOKE ROD ADJUSTMENT 3-19
  - IDLE SPEED & MIXTURE ADJUSTMENT 3-19
  - IGNITION TIMING ADJUSTMENT 3-20
  - THROTTLE ROD ADJUSTMENT 3-19
- 1990-99 ENGINES WITH A SINGLE CARBURETOR AND REMOTE CONTROL 3-20
  - CHOKE ROD ADJUSTMENT 3-20
  - IDLE SPEED ADJUSTMENT 3-21
  - IGNITION TIMING ADJUSTMENT 3-21
  - THROTTLE ROD ADJUSTMENT 3-20
- TEST EQUIPMENT (UNDERSTANDING AND TROUBLESHOOTING ELECTRICAL SYSTEMS) 5-5
  - JUMPER WIRES 5-5
  - MULTIMETERS 5-6
  - TEST LIGHTS 5-5
- THERMOSTAT 6-9
  - REMOVAL & INSTALLATION 6-9
- THUNDERBOLT® ELECTRONIC IGNITION SYSTEM 5-32**
- TILLER HANDLE 10-11
  - REMOVAL & INSTALLATION 10-11
- TILLER HANDLE 10-11**
- TILT/TRIM CYLINDER 9-15
  - CLEANING & INSPECTION 9-17
  - REMOVAL & INSTALLATION 9-15
- TILT/TRIM MOTOR 9-13
  - CLEANING & INSPECTION 9-14
  - REMOVAL & INSTALLATION 9-13
  - TESTING 9-13
- TILT/TRIM RELAY 9-18
  - TESTING 9-18
- TILT/TRIM SWITCH 9-18
  - TESTING 9-18
- TOOLS 2-4**
- TOOLS AND EQUIPMENT 2-2**
- TORQUE (FASTENERS, MEASUREMENTS AND CONVERSIONS) 2-13
- TORQUE SEQUENCE DIAGRAMS 7-29**
- TRIGGER COILS (CAPACITOR DISCHARGE MODULE SYSTEM) 5-42
  - REMOVAL 5-42
  - TESTING 5-42
- TRIGGER COILS (PRESTOLITE® ELECTRONIC IGNITION) 5-29
  - REMOVAL & INSTALLATION 5-30
  - TESTING 5-29
- TRIGGER COILS (THUNDERBOLT® ELECTRONIC IGNITION SYSTEM) 5-36
  - REMOVAL & INSTALLATION 5-36
  - TESTING 5-36
- TRIM/TILT CYLINDER 9-8

- ASSEMBLY 9-10
- CLEANING & INSPECTION 9-10
- DISASSEMBLY 9-9
- REMOVAL & INSTALLATION 9-8
- TESTING 9-8
- TRIM/TILT MOTOR 9-6
  - ASSEMBLY 9-7
  - CLEANING & INSPECTION 9-7
  - DISASSEMBLY 9-7
  - REMOVAL & INSTALLATION 9-7
  - TESTING 9-6
- TRIM/TILT PUMP (CENTER MOUNTED PISTON TRIM/TILT SYSTEM) 9-4
  - ASSEMBLY 9-6
  - CLEANING & INSPECTION 9-6
  - DISASSEMBLY 9-5
  - REMOVAL & INSTALLATION 9-5
  - SYSTEM BLEEDING 9-6
  - TESTING 9-4
- TRIM/TILT PUMP (SINGLE RAM INTEGRAL POWER TRIM/TILT SYSTEM) 9-11
  - HYDRAULIC SYSTEM BLEEDING 9-12
  - REMOVAL & INSTALLATION 9-11
- TRIM/TILT RELAY 9-11
  - REMOVAL & INSTALLATION 9-11
  - TESTING 9-11
- TRIM/TILT SWITCH 9-10
  - TESTING 9-10
- TRIM/TILT SYSTEM (CENTER MOUNTED PISTON) 9-3**
- TROUBLESHOOTING ELECTRONIC IGNITION SYSTEMS UP TO 25 HP 5-22
- TROUBLESHOOTING THE BREAKER POINTS (MAGNETO) IGNITION 5-9
- TROUBLESHOOTING THE CDM SYSTEM 5-39
- TROUBLESHOOTING THE CENTER MOUNTED PISTON TRIM/TILT SYSTEM 9-4
- TROUBLESHOOTING THE CHARGING SYSTEM 5-45
- TROUBLESHOOTING THE COOLING SYSTEM 6-2
- TROUBLESHOOTING THE ELECTRICAL SYSTEM 5-6
- OPEN CIRCUITS 5-7
- RESISTANCE 5-7
- SHORT CIRCUITS 5-8
- VOLTAGE 5-6
- VOLTAGE DROP 5-7
- TROUBLESHOOTING THE FUEL SYSTEM 4-5
  - COMBUSTION RELATED PISTON FAILURES 4-7
  - COMMON PROBLEMS 4-6
- TROUBLESHOOTING THE HAND REWIND STARTER 11-2
- TROUBLESHOOTING THE LOWER UNIT 8-2
- TROUBLESHOOTING THE MOTOROLA® DISTRIBUTOR IGNITION 5-14
- TROUBLESHOOTING THE PRESTOLITE® ELECTRONIC IGNITION 5-25
- TROUBLESHOOTING THE REMOTE CONTROLS 10-2
- TROUBLESHOOTING THE STARTING SYSTEM 5-51
- TROUBLESHOOTING THE THUNDERBOLT® ELECTRONIC IGNITION SYSTEM 5-32
- TROUBLESHOOTING THE TILLER HANDLE 10-11
- TROUBLESHOOTING THE WARNING SYSTEMS 6-10
- TWO-STROKE CYCLE 7-2
- TWO-STROKE OIL 3-2
  - OIL RECOMMENDATIONS 3-2
  - PRE-MIXING FUEL 3-2
- TUNE-UP 3-12**
- TUNE-UP SPECIFICATIONS 3-31
- UNDERSTANDING AND TROUBLESHOOTING ELECTRICAL SYSTEMS 5-2**
- WARNING BUZZER 10-7
  - REMOVAL & INSTALLATION 10-7
  - TESTING 10-7
- WARNING SYSTEMS 6-10**
- WATER PUMP 6-3
  - CLEANING & INSPECTION 6-9
  - REMOVAL & INSTALLATION 6-3
  - SERVICE CAUTIONS 6-3
- WHERE TO BEGIN 1-2
- WINTER STORAGE CHECKLIST 3-28**
- WIRE AND CONNECTOR REPAIR 5-8