

INDEX

electrical systems (*Cont.*):
load shedding, 173, 184–185,
 188–191
nickel-cadmium (NiCd) batteries,
 164–168, **165**, 192–194, 199
rating system, NiCd batteries, 165, 168
reversed polarity, explosion, 158
specific gravity (SPGR), 157–161,
 162, 163
temperature vs. performance,
 157–161, 162, 163
thermal runaway, 168
Bendix drive for starter motor, 183–184
bus, 176–178
circuit breakers (CB), 152, **153**, 174, 179
circuits, 152
coils, 180–181
conductors, 180–181
corrosion, 7
current, 154, 180–181
dc-to-ac conversion, 179
failure of electrical system, 187
field windings in coil, 181
fuses, 178–179
generators, 168–172
 (*See also* alternators)
ground power unit (GPU), 153–154
grounding, 176
grounding and safety when fueling,
 138
high-altitude operation/problems, 144
load shedding, 173, 184–185, 188–191
magnetic forces in a coil, 180–181,
 180, **182**
magneton (*see* magnetos)
master switch, 175
non-essential electrical use (*see* load
shedding)
overrunning clutch for starter motor,
 183–184
overvoltage protection, 174
parallel circuits, 152
power distribution points, **177**
preventive maintenance, 191–195
primary bus, 152, **153**
schematics of electrical system, 185,
 186
series circuits, 152
series-parallel circuits, 152
solenoid, starter motor activation, 181
starters, 179–184, **183**, 194–195,
 199–200

electrical systems (*Cont.*):
thermal runaway, 168
troubleshooting, 195–200
voltage regulators, 174
voltmeters, 174
electrochemical corrosion, 6–8
electrolytes, batteries, 157, 164
electrothermal propeller de-icing,
 258–262, **259**, **260**
elevators, airframe inspection, 4
emergency locator transmitter (ELT),
 20–23
 accidental activation problems, 22
 activation switches, rolamite switch vs.
 sliding mass, 21
 antennas, 25
 batteries, 22–23
 build-and-fade signals, 23, **24**
 frequency of transmission, 21, 23, 25
 installation, 21–22
 power of transmission, 23
 preflight inspection, 20–23
 problems with ELTs, 22–23
 regulations concerning use, 20–21
emergency procedures
 altimeter failure, substituting other
 devices, 34
 brake failure, 235
 emergency locator transmitter (ELT)
 procedures, 23
 failure of electrical system, 187
 load shedding (*see* electrical system
 failure)
 pressurization system failure, 250–251,
 252–254
 turbocharger failure, 150
engine cowling, airframe inspection, 4
engines, 77–113
 50-hour inspections, 111
 advance, 80, 87–88, 89
 air filters, 111
 alternators (*see* alternators)
 auto-ignition, 5
 booststrapping, 146
 borescopes, 111
 bottom dead center (BDC), 79, 87
 Bourdon tube temperature
 measurement, 96
 carburetor heaters, 82, 108
 carburetors, 79, 82, 97, 137, 138–139
 cleansing properties of oil, 116, 122
 compression stroke, 79, 80, 87, 144