

## INDEX

- hydraulic systems (*Cont.*):  
actuators, 274–275, **274**, 278  
air in hydraulic fluid, 277, 278–279  
brake systems, 230, 275, **276**  
cavitation of pump, 278  
contaminants in hydraulic fluid,  
272–273, 277, 278  
fluid control valves, 273–274  
fluid, 270–273  
heat damage to hydraulic fluid,  
277–278  
open vs. closed systems, 269–270  
overheating, 278  
pneumatics vs. hydraulics, 270  
preflight inspections, 276–277  
pressure control valves, 273  
preventive maintenance, 277  
principle of hydraulics, 269, **270**  
pump, 273  
reservoir for fluid, 273  
troubleshooting, 278–279  
water in hydraulic fluid, 277  
hydroplaning, tires and wheels, 228  
hysteresis, in altimeters, 34
- icing conditions  
(*See also* de-icing/anti-icing systems)  
airspeed indicators, 28  
carburetor, 82  
lights, icing lights, 12  
pitot tube blockage, 28, 36  
vibrations caused by ice, 5–6
- idling, 82, 108
- ignition systems, 80, 87–94  
advance, 89  
gapping spark plugs, 92–93  
magnetos, 80, 87, 88–89, **89**, 106–108,  
112, 153  
p-leads, magnetos, 89, 106  
preignition problems, 90–91  
spark plugs, 80, 87, 90–94, **91**, **92**, **94**,  
110, 122  
timing, 89  
unintentional starting, magneto safety,  
88–89
- impeller, turbocharger systems, 143
- induction fires, 5
- inflation pressure for tires, 226–227
- inspections, 62–63, 110
- intake manifold, 79
- intake stroke, 79, 80, 87, 144
- intake valves, 79
- interior cleanliness and organization,  
13–14
- Kollsman Windows, setting the altimeter,  
31
- laminated acrylic transparencies  
(windows), 16
- landing gear systems, 219–238, **220**  
amphibious landing gear system, **221**,  
221  
brake failure, 235  
brake pads, **234**  
brakes, 229–238, **231**, 275, **276**  
braking action, effect on tires,  
224–226  
chromed disc brakes, 232–233  
correct braking procedures, 236  
corrosion, 7  
deflection in aircraft tires, 222  
fluid, brake fluid, 234–235, 238  
heat damage to tires, 224–226  
hydraulic system for brakes, 230,  
234–235, 238  
hydroplaning, 228  
inflation pressure for tires, 226–227  
installing new brakes, 237  
lubrication of brakes, 237–238  
nonretractable gear systems, 219–220  
position switch, 220, 222  
preflight inspection of tires, 228–229  
preventive maintenance for brakes,  
237–238  
preventive maintenance for tires, 229  
single-disc brakes, 230–232, **233**  
tires, 222–229, **223**  
troubleshooting brakes, 235–236  
warning systems, 219, 220, 222  
wear in tires, 224–226
- landing lights, 12
- Langen, Eugen, engine development, 77
- lead, no-lead gasolines, 130
- lead-acid batteries, 154–164, 191–192,  
196–198
- leaks and drips, 2, 3, 105, 122, 150
- lighting systems, 8–13  
anticollision lights, 10–12, **11**  
icing lights, 12  
interference with navigational systems,  
12
- landing lights, 12  
position lights, **8**, **9**