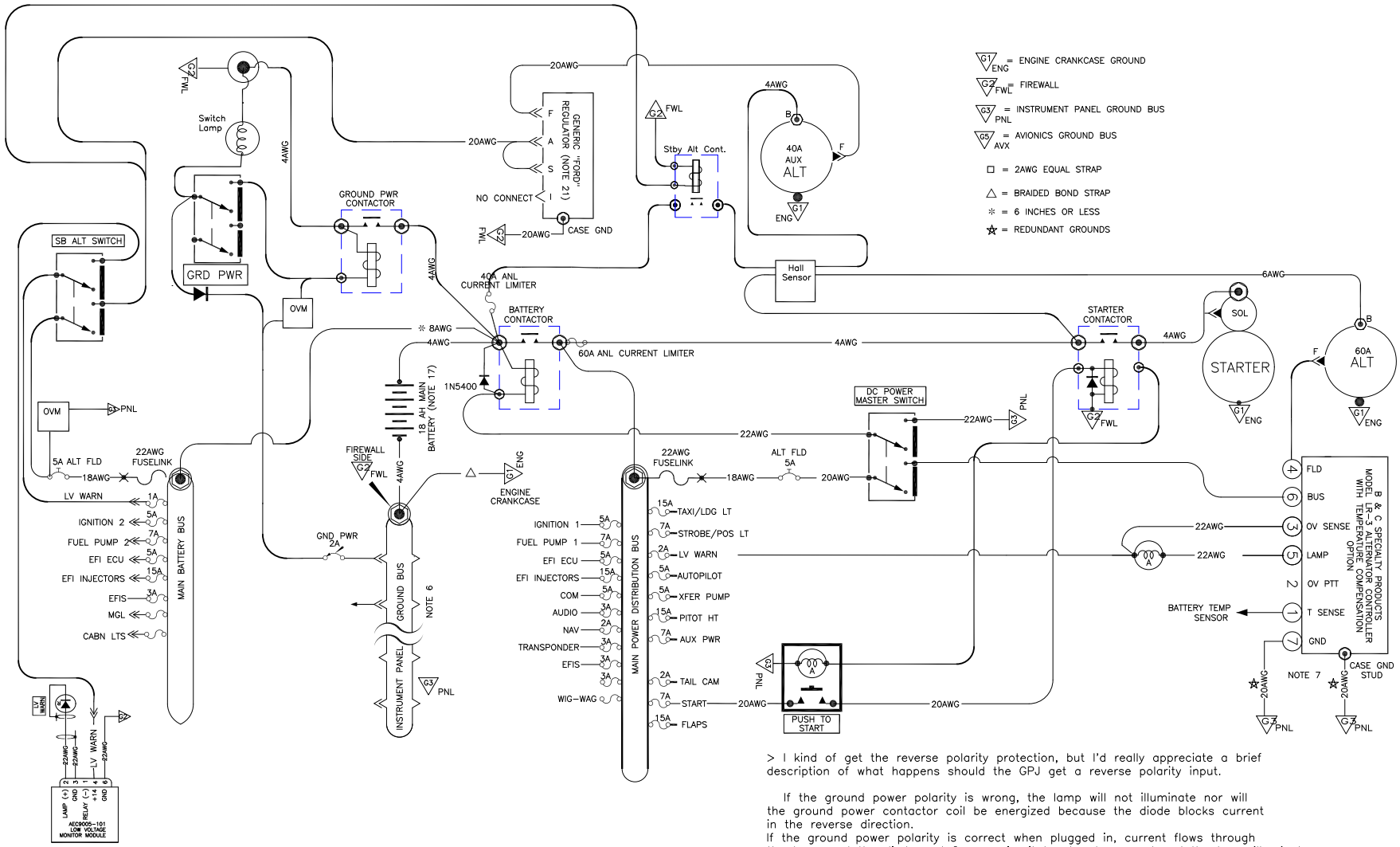

> I kind of get the reverse polarity protection, but I'd really appreciate a brief description of what happens should the GPJ get a reverse polarity input.

If the ground power polarity is wrong, the lamp will not illuminate nor will the ground power contactor coil be energized because the diode blocks current in the reverse direction.
If the ground power polarity is correct when plugged in, current flows through the lamp and the diode and 2 amp circuit breaker to ground and the lamp illuminates. Then if the switch is closed, the contactor coil is energized by current flowing from the ground power plug to the contactor, through the coil, and switch, and diode, and 2 amp circuit breaker to ground.

Now that the contactor coil is energized, it will hold and stay energized even if the ground power is unplugged. Current flows from the aircraft battery (unless it is completely dead) through the already closed ground power contactor contacts, through the coil and switch and diode and 2 amp circuit breaker to ground. The ground power switch should be shut off whenever the ground power is disconnected.