Both J2BP and PANDA tools verify compiled Java programs. By now, these tools are not able to process some programs with specific JVM bytecode instruction sequences in the correct way. We described these instruction sequences and proposed their transformations. We developed the new application, called BytecodeTransformer, based on these propositions. This application transforms compiled Java programs and replaces the problematic instruction sequences with some others. Usage of BytecodeTransformer enlarges the set of programs that can be verified by both J2BP and PANDA. We also evaluated BytecodeTransformer on several Java programs, including own tests and well-known open-source programs. These tests demonstrated the correct functionality of BytecodeTransformer.