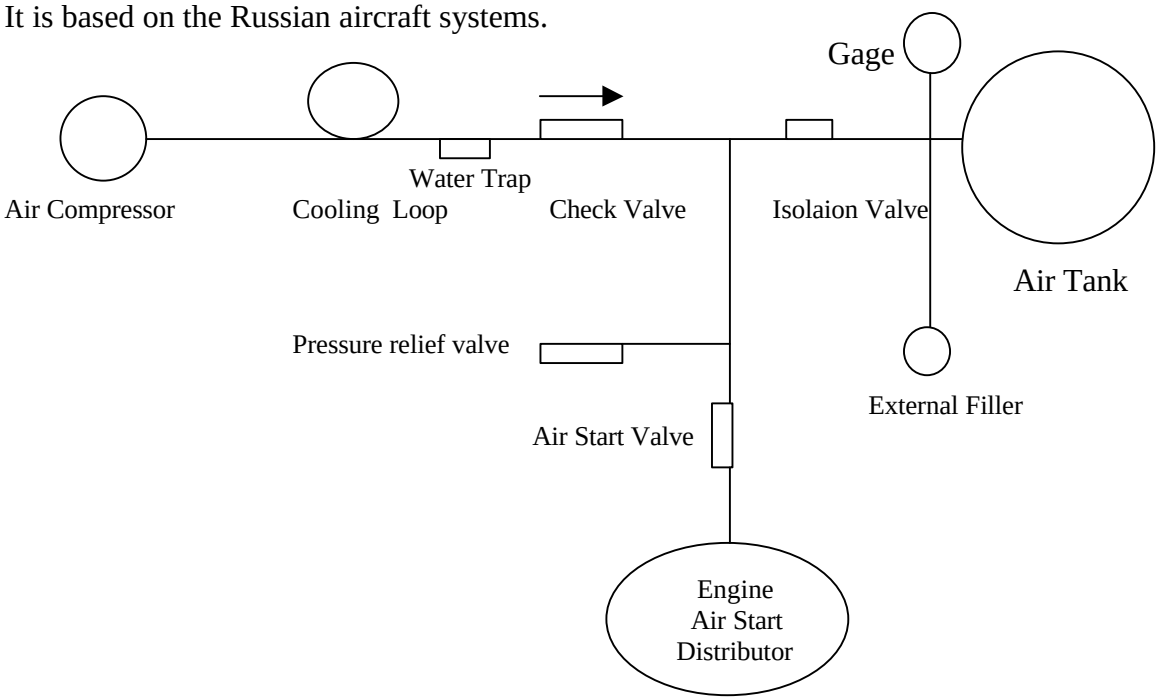
SUGGESTED SCHEMES FOR AIR START SYSTEMS

The following is the suggested parts for the air start system for the M14P and its variants. It is based on the Russian aircraft systems.



NOTES:

1. The cooling loop and all tubing should be rated to at least 1000PSI
2. The water trap should have its own drain valve. This drain valve either mechanical or electrical should be accessible from the cockpit. This allows you to open it after the system has re-charged and will allow the compressor to overboard the air. This is less work than having the compressor work against a pressure head and will overboard any moisture. This extends compressor life as well as uses less horsepower.
3. The isolation valve can be mechanical or electrical. If electrical, it is usually hooked to the master switch to activate (open). Is necessary so that when you return to the aircraft after several weeks you still have air to start.
4. The external filler is so you can fill the system when you are out of air. You need about 750 PSI so will need a scuba tank or something similar. Shop air will NOT hack it.
5. The air tank should be about 12 liters minimum for several tries at starting. Some people put a second tank with an isolation valve that can be used as a back up.
6. The pressure relief valve should be set at about 50 atmospheres (725 PSIG).
7. The air start solenoid should be connected to the starter button. You can use a mechanical pneumatic pushbutton here as the Sukhoi aircraft use.
8. The air start distributor puts the compressed air to each cylinder as it is just past top dead center. Additionally, it puts some air in the bottom cylinders while the exhaust valve is open so that it can clear any accumulated oil or fuel that could cause a hydro-lock.
9. DO NOT USE AEROSHELL 15W50 INTHESE ENGINES. There is an additive in the oil that will gum up the compressors in record time.
10 All fittings have to be “AIR TIGHT”