



# The Factory Authorized Parts Difference

## Control Boards

### Factory Authorized Parts Training Guide

Factory Authorized Parts are designed to meet exact Carrier® Corporation specifications, ensuring optimum system performance, proven reliability, easy installation and maintenance and safe system operation.

**FACTORY  
AUTHORIZED  
PARTS**

	Issue	Carrier HK42FZ034 (and 325878-751)	Generic Furnace Board
System Performance	Heat Pump defrost operation	HK42FZ034 shuts off blower when the igniter is energized and then brings it back on when the igniter turns off. This reduces nuisance trips of the high switch in heat pump applications.	Some generic boards will shut off the blower when the igniter is energized, but do not bring it back on at the factory-engineered optimum time.
	Noise generation	HK42FZ034 board performs quietly during all phases of operation.	Some generic boards make a noticeable high frequency noise whenever the gas valve is energized.
System Reliability	Blower on-delay operation	HK42FZ034 is designed to run at several different blower on-delay times depending on the product type and vintage it is installed in. Use of the correct blower on-delay can significantly extend heat exchanger life.	Generic boards may have just one blower on-delay time.
	Additional wear on igniter	HK42FZ034 shuts off the igniter the moment flame is sensed. This improves igniter life.	Some generic boards keep the igniter energized after flame is present.
Installation and Serviceability	Limited nuisance trips when flame is lost mid-cycle	HK42FZ034 shuts down and completes the blower off-delay when flame is lost. After the blower off-delay is completed a new heating cycle will begin. For certain installations, this will prevent nuisance trips.	Some generic boards will shut the blower off and immediately try to reignite when flame is lost. This kind of operation could lead to a needless service call.
	Polarity sensing	HK42FZ034 polarity sense works whether the furnace is grounded or not.	On some generic boards polarity sense only works when the furnace is grounded.
	Fuse fault indication	HK42FZ034 has an indication for a faulty fuse meaning that service can avoid replacing the board when only the fuse is bad.	Some generic boards do not have an indication for faulty fuse.
Safety	Combustion air starvation lockout	HK42FZ034 has a flame rollout detection algorithm which shuts off the furnace when starved for combustion air.	Some generic boards do not lockout when the furnace is starved for combustion air.
	Stuck gas valve relay operation (gas valve input is ON and should not be).	Based on specific criteria, the HK42FZ034 will turn the inducer off to see if the pressure switch will remove power from the gas valve. In this case, it will prohibit un-ignited gas from spilling until the lack of heat is noticed.	Some generic boards will not turn the inducer off under the same scenario.
	Dead blower situation (condensing furnace, downflow position)	HK42FZ034 locks out unit for designated period of time in a dead blower situation, helping to ensure the integrity of the flue pipe.	Some generic boards may continue to cycle heat on and heat off without locking out for several hours.
	UL & CSA Qualified	Both the Carrier Furnace and the HK42FZ034 are UL & CSA qualified. Using HK42FZ034 board maintains UL and CSA qualification of the furnace  	Even if a generic board is UL & CSA qualified, the furnace will not be qualified using the generic board as a replacement.

