

Engine Preheater Circuit Operation

Function:

To provide an added source of heat for the combustion chamber during starts.

Operating Conditions:

- Key switch must be in the START position.

Theory of Operation:

The ignition system is designed to inject diesel fuel into the piston cylinder where heat from compression ignites the fuel and air mixture.

When starting a cold engine, compression may not provide enough heat to ignite the fuel. An engine preheater is installed to provide added heat to the combustion chamber (4110) or the incoming combustion air (4115).

The preheater is energized (heated) when the key switch is placed in the START position.

When the key switch is in the START position, current is provided to the K2 preheater relay coil (terminal 1) through the 920 Blk/Red wire.

When the relay coil is energized, the relay contacts close and unswitched power (215 Wht/Grn wire - terminal 3) flows through the contacts and 926 Blk/Yel wire to the preheater.

With the proper ground (110, 100 Blk) for the preheater relay coil, the relay energizes and closes its contacts to provide current flow directly to the preheater (200 Wht, 215 Wht/Grn and 926 Blk/Yel wire).

The preheater circuit is protected by the F3 fuse.