

# STARTER

## Cold Weather Starting

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Cold Weather Starting: 1. Move fuel ON-Off lever full forward to ON. 2. Move the manual throttle lever to maximum speed, go outside the machine and push in the excess fuel button (on side of fuel injection pump) in the pivot shaft for the fuel shut off lever. You should hear a click as the rack springs back past its normal max fuel delivery position. If you push the excess fuel button in and it does not "click" and stay in, that is a good indication that the rack is stuck in the "off" position. 3. Crank engine and IMMEDIATELY move manual throttle back to minimum speed. Failure to move throttle back can damage the turbo and other components due to lack of good oil flow. 4. If after three or four cranks you do not have good smoke from exhaust pipe then a few squirts of starting fluid into the breather could help. No smoke = it will not start

Bleeding fuel system after you replace the fuel filter:

First bleed the fuel filter. I would fill the filter with fuel before putting it on, but either way open the bleed nut on top of the filter and pump the fuel hand pump until you get fuel out the bleeder. Close the bleeder. Then remove two fuel lines at the injectors. Crank engine until you get fuel out these lines. Tighten, engine should now start.

Won't Start: The injector rack may be stuck in the shut off position. Move the throttle to maximum speed, push the excess fuel button in the pivot shaft for the fuel shut off lever, you should hear a click as the rack springs back past its normal max fuel delivery position. Sometimes you can free the rack by removing the injection pump side cover and push the rack rearwards with your fingers. Rearwards is more fuel; forward is fuel shut off. If this works, use some diesel fuel conditioner to clean up the system. If the rack is in full or excess fuel delivery position, the pump and filters are bled and still won't pump fuel up to the nozzles, there's something more seriously wrong with the pump.

Injector Problems: 1. The fuel delivery valve, a one-way check valve on top the injection pump, might be leaking back; it's supposed to hold a few hundred psi of residual fuel pressure in the high pressure line between the pump and the nozzle between successive plunger strokes. You need a special 36 point (serrated) socket to remove and reinstall the delivery valve (45 Lbs-ft.torque).