

## Starters

The garden leaf blower is a good unit for spinning up the engine at start, just "plug" it into the turbo inlet and force air thru the compressor, combustor and turbine, probably better on larger turbos as the smaller ones may be a bit restrictive and cause flow problems for the leafblower. Smaller turbos might better be started with the exhaust from a domestic vacuum cleaner. Very high pressure air blown across the compressor blades is another start method. Mechanical connection of a very high speed electric motor to the compressor nut by means of a socket fitted to the electric motor to spool the engine up works as well, once up to speed just pull the starter away. There could be "dynamics" problems concerning the shafts stability with anything other than the "leaf blower" type start method. Leaf blowers are also used to blow cooling air thru the engine at shutdown in conjunction with the oil supply continuing, to cool the turbo down and stop heat soakback into the bearings from causing coking problems, unlike in the turbos original use where cooldown is achieved by idling the engine for a few minutes when shutting down from high power and heat settings, we shut our GT engines down from relatively high temps and rpm, even at idle.