



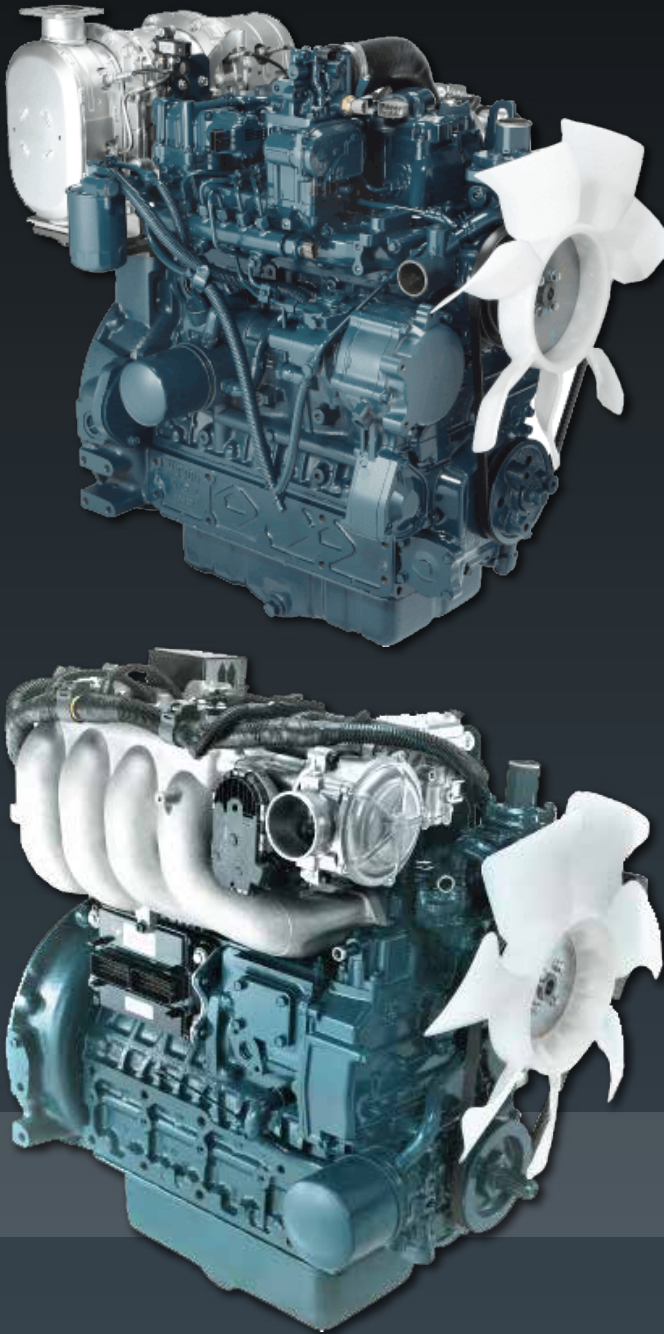
WE KNOW CLEAN™

Corporate Headquarters | 4713 Gettysburg Road | Mechanicsburg, PA 17055

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## POWERBOSS EXCLUSIVELY USES Kubota Gas, Diesel & LP Gas Engines

- **There are Kubota engines for all fuel types:**  
LPG, Gasoline, and Diesel
- **The engine accounts for up to 1/4 the cost of a cleaning machine** — Kubota engines are worth any added cost in the long run as they are unmatched in terms of reliability and lowest cost of operation
- **Designed specifically for use in industrial applications** — these are not just an adapted automotive design.
- **Internal protected and lubricated gear driven valve-train**
  - NO timing belt, pulleys, or tensioner
  - HIGH reliability
- **Non-interference design**
- **Cast iron engine block and head for less thermal stress and long-life**
- **Based on diesel design = Heavy Duty!**
- **Access to global parts and service support!**



# Kubota

Power | Reliability



# ENGINE FEATURE COMPARISON TABLE

| Engine Attribute   | PowerBoss with Kubota®  | Other Competitors  | Kubota Advantage   |
|--|---|--|--|
| Engine Valve Timing Mechanism - Coordination of motion of pistons and valves | Internally geared camshaft. Lubricated and protected from dirt and designed for the life of the engine.                   | External timing belt. Exposed to dirty application conditions that can compromise belt life. Periodic replacement is required, or there is a risk of catastrophic failure. | Higher reliability and uptime. Reduced maintenance. No risk of catastrophic damage to valves due to timing belt failure. Designed to run reliably in tough industrial applications.  |
| Potential for Pistons to Contact Valves - Interference Design                | Due to internal lubricated camshaft gears have minimal risk of valve train timing failure.                                | If timing belt slips or breaks, extensive damage to the valves, cylinder head, pistons, crankshaft, and bearings may occur, resulting in expensive repairs.                | Virtually no risk of unplanned and expensive engine down time and repair due to timing issues.   |
| Engine Head and Block Material -   | Cast iron block and head with comparable thermal expansion rates reducing stress on head gaskets and cylinder head bolts. | Cast iron block with aluminum cylinder head have differing thermal expansion rates, placing greater stress on the head gasket.   | A Kubota design cast iron cylinder head mated to the cast iron cylinder block is better suited to industrial applications for long-term durability. Whereas typical automotive-based engine designs are optimized for higher maximum power output, reduced weight, and minimal production cost (aluminum head/cast iron block). Kubota's use of common materials between the cylinder head and block reduces stresses in the gasketed joints resulting in long-life. This minimizes the likelihood of random head gasket failures and associated downtime in high hour usage applications. |
| Crankshaft Bearings and Cylinder Block                                       | High capacity crankshaft bearings and cylinder block designed for diesel engine loads for long life.                      | Crankshaft bearings and block optimized for lighter duty automotive usage of gasoline.   | Kubota main bearings are more heavy duty in design since they are based on the diesel platform; this provides greater reliability and longer life. More rigid engine structure on engine block (since borrowed from diesel) results in less radiated noise and vibration.  |
| Parts and Service Availability   | World renowned for their reliability and for their parts and service network when needed.                                 | Limited support network, but does not carry the same reliability nor service access reputation.  | Well established quality reputation and service network to stand behind their products.  |

A FAMILY COMPANY SINCE 1967



## WE KNOW CLEAN™



EQUIPMENT



PARTS



RENTALS



SERVICE



SUPPLIES

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