



FEDERAL EMISSION CONTROL SYSTEM WARRANTY STATEMENT

Manufacturer's warranty coverage

On behalf of the original engine manufactures of the engines identified below, KOBELCO Construction Machinery warrants to the original owner, and to each subsequent owner, of a new diesel engine that the emission control system of your engine:

1. Was designed, built, and equipped so as to conform at the time of sale with all applicable regulations of the U.S. Environmental Protection Agency.
2. Is free from defects in material and workmanship which will cause such engine to fail to conform with applicable regulations for a warranty period in hours and years of engine operation listed below, whichever occurs first.

Warranty period in hours and years of engine operation, whichever occurs first:

YANMAR CO., LTD or YANMAR POWER TECHNOLOGY CO., LTD. hereafter referred to as YANMAR, engine models 3TNV 88F-E & 4TNV 88C-PYB and Isuzu Motors America LLC hereafter referred to as Isuzu, engine model AR-4JJ1XASK-02.

If your engine is certified as	And its maximum power is	And its rated speed is	Then its warranty period is
Variable speed or constant speed	kW < 19	Any speed	2,000 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	$19 \leq \text{kW} < 37$	3,000 rpm or higher	2,000 hours or two (2) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of two (2) years.
Constant speed	$19 \leq \text{kW} < 37$	Less than 3,000 rpm	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed	$19 \leq \text{kW} < 37$	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.
Variable speed or constant speed	$\text{kW} \geq 37$	Any speed	3,000 hours or five (5) years whichever comes first. In the absence of a device to measure the hours of use, the engine has a warranty period of five (5) years.

The warranty period shall begin:

On the date the machine is delivered to the first retail purchaser or otherwise used for its intended purpose.

The emission control systems of the YANMAR 3TNV 88F-E, 4TNV 88C-PYB and Isuzu model AR-4JJ1XASK-02 engines were designed, built, and tested using genuine parts, and the engines are certified as being in conformity with Federal emission control regulations. Accordingly, it is recommended that any replacement parts used for maintenance, repair or replacement of emission control systems be KOBELCO Original Equipment Manufacture (OEM) parts. Repairs and service covered by the warranty will be performed by an authorized KOBELCO distributor or dealer with no charge for parts or labor, including diagnosis, using KOBELCO OEM parts for any part of the emission control system covered by the warranty and found defective.

The owner may elect to have maintenance, replacement or repair of the emission control components and systems certified by US Environmental Protection agency performed by any repair establishment or individual and may elect to use parts other than KOBELCO parts for such maintenance, replacement or repair without invalidating this warranty.

Use of replacement parts which are not of equivalent quality may impair the effectiveness of emission control systems. If other than KOBELCO (OEM) parts are used for maintenance, the owner should obtain assurance that such parts are warranted by their manufacturer to be equivalent to genuine KOBELCO parts. However, the use of other than KOBELCO replacement parts does not invalidate the warranty unless such parts cause damage to warranted parts.

The emissions control parts covered by the Emission Control System Warranty are listed under What is Covered by the Emission Control System Warranty. You are responsible for the performance of all scheduled maintenance or repairs on your new KOBELCO equipment. KOBELCO may deny a warranty claim if your failure to perform maintenance resulted in the failure of a warranted part. Receipts covering the performance of regular maintenance should be retained in the event questions arise concerning maintenance. The receipts should be transferred to each subsequent owner of the machine with the emission warranted engine.

Customer Assistance

KOBELCO wishes to help assure that the Emission Control Systems Warranty is properly administered. In the event that you do not receive the warranty service to which you believe you are entitled under the Emission Control Systems Warranty, you should contact KOBELCO at the address below for assistance.

If you need additional assistance or information concerning the Emission Control System Warranty, contact:

KOBELCO Construction Machinery USA
22350 Merchants Way
Katy, TX 77449
Telephone: 281-888-8430
Fax: 281-506-8713

What is Not Covered by the Emission Control System Warranty

This warranty does not cover:

1. Malfunctions in any part caused by any of the following: misuse, abuse, improper adjustments, modifications, alteration, tampering, disconnection, improper or inadequate maintenance, or use of fuels not recommended for the engine as described in the Operator's Manual.
2. Damage resulting from accident, acts of nature or other events beyond the control of KOBELCO.
3. The replacement of expendable maintenance items such as exhaust system, filters, hoses, belts, oil, thermostat, and coolant made in connection with scheduled maintenance services once these parts have been replaced.
4. Add on parts or modified items which are not approved by KOBELCO.
5. Consequential damage as loss of time, inconvenience, loss of use of machine, engine or commercial loss.
6. Any machine on which the hour meter has been disconnected or the hour record has been altered so the actual usage cannot be readily determined.
7. Engines operated outside the United States or Canada.

What is Covered by the Emission Control System Warranty

The following is a list of items that are considered a part of the Emission Control Systems and are covered by the Emission Warranty when installed as original equipment by KOBELCO on engines which were built to conform to Environmental Protection Agency regulations:

IMPORTANT! This may not include expendable maintenance items. Emission related parts requiring scheduled maintenance are warranted until their first scheduled replacement point for that part.

- Fuel Metering System
 - Fuel Supply Pump
 - Fuel Common Rail

- Fuel Injector
- Fuel Injection Pipe
- Air Induction System
 - Intake Manifold
 - Turbocharger
 - Charge Air Cooler
 - Air Inlet Duct (MAF Sensor Mount)
- Exhaust Gas Recirculation (EGR) System
 - EGR Valve
 - EGR Cooler
- Thermal Reactor System
 - Exhaust Manifold
 - Muffler and Exhaust Piping
- Particulate Controls
 - Diesel Particulate Filter (DPF)
 - Diesel Oxidation Catalyst (DOC)
- Electronic Control Units
 - Engine Control Module (ECM)
 - Reductant Dosing Control Module (RDCM)
 - Turbocharger Controller
- Selective Catalytic Reduction (SCR) System
 - SCR Catalyst
 - Reductant Dosing Module
 - Reductant Supply Module
 - Reductant container and piping
 - SCR Engine Coolant Control Valve
 - SCR Engine Coolant Lines
- Positive Crankcase Ventilation (PCV) System
 - PCV
- Emission Control Label
- Sensors
 - Engine Coolant Temperature (ECT) Sensor
 - Intake Manifold Temperature (IMT) Sensor
 - Boost Pressure Sensor
 - Barometric Pressure Sensor
 - Intake Air Temperature (IAT) Sensor
 - Mass Air Flow (MAF) Sensor
 - Reductant Level and Quality Sensor
 - Exhaust Gas Temperature Sensors (all)
 - Engine Speed Sensor (Ne)
 - DPF Differential Pressure Sensor
 - Common Rail Pressure Sensor
 - Cylinder Detection Sensor
 - Fuel Temperature Sensor
 - NOx Sensor
- Miscellaneous Items Used in Above Systems
 - Wiring harnesses, hoses, belts, connectors, assemblies, clamps, fittings, tubing, sealing gaskets or devices, and mounting hardware.
 - Any other part with the primary purpose of reducing emissions or that can increase emission during failure without significantly degrading engine performance.