



# Operation and Maintenance Manual

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## Trackwear Sensor

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HNK 1000-UP (D6)	D5M 1000-UP (D6 XE)
SA9 1000-UP (D6)	XEC 1000-UP (D6 XE)
SG6 1000-UP (D6)	HMH 1000-UP (D6 XE)
KMT 1000-UP (D6)	LRG 1000-UP (D6 XE)
LF9 1000-UP (D6)	LNC 1000-UP (D6 XE)
TB6 1000-UP (D6)	WGY 1000-UP (D6 XE)
KEW 1000-UP (D6)	
GZ9 1000-UP (D6)	
JJ6 1000-UP (D6)	
RBP 1000-UP (D6)	
RA9 1000-UP (D6)	
WH5 1000-UP (D6)	
RDC 1000-UP (D6)	
HR9 1000-UP (D6)	
KD5 1000-UP (D6)	
KTW 1000-UP (D6)	
AG9 1000-UP (D6)	
LB5 1000-UP (D6)	
HZL 1000-UP (D6 XE)	
TPL 1000-UP (D6 XE)	
B72 1000-UP (D6 XE)	
HFE 1000-UP (D6 XE)	
ES9 1000-UP (D6 XE)	
HLY 1000-UP (D6 XE)	

Language: Original Instruction



Scan to access the latest service information, purchase additional media, and buy genuine Cat® parts.



## Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards, including human factors that can affect safety. This person should also have the necessary training, skills and tools to perform these functions properly.

**Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.**

**Do not operate or perform any lubrication, maintenance or repair on this product, until you verify that you are authorized to perform this work, and have read and understood the operation, lubrication, maintenance and repair information.**

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the "Safety Alert Symbol" and followed by a "Signal Word" such as "DANGER", "WARNING" or "CAUTION". The Safety Alert "WARNING" label is shown below.



The meaning of this safety alert symbol is as follows:

**Attention! Become Alert! Your Safety is Involved.**

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

A non-exhaustive list of operations that may cause product damage are identified by "NOTICE" labels on the product and in this publication.

**Caterpillar cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. You must not use this product in any manner different from that considered by this manual without first satisfying yourself that you have considered all safety rules and precautions applicable to the operation of the product in the location of use, including site-specific rules and precautions applicable to the worksite. If a tool, procedure, work method or operating technique that is not specifically recommended by Caterpillar is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that you are authorized to perform this work, and that the product will not be damaged or become unsafe by the operation, lubrication, maintenance or repair procedures that you intend to use.**

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job. Cat dealers have the most current information available.

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### NOTICE

**When replacement parts are required for this product Caterpillar recommends using original Caterpillar® replacement parts.**

**Other parts may not meet certain original equipment specifications.**

**When replacement parts are installed, the machine owner/user should ensure that the machine remains in compliance with all applicable requirements.**

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**In the United States, the maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual of the owner's choosing.**

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## **Foreword**

### **Literature Information**

This manual should be stored in the operator's compartment in the literature holder or seat back literature storage area.

This manual contains safety information, operation instructions, and maintenance recommendations.

Some photographs or illustrations in this publication show details or attachments that can be different from your product.

Continuing improvement and advancement of product design might have caused changes to your product which are not included in this publication. Read, study and keep this manual with the product.

Whenever a question arises regarding your product, or this publication, please consult your Cat dealer for the latest available information.

### **Safety**

The safety section lists basic safety precautions. In addition, this section identifies the text and locations of warning signs and labels used on the machine.

### **Operation**

The operation section is a reference for the new operator and a refresher for the experienced operator. This section includes a discussion of gauges, switches, product controls, attachment controls, and programming information.

Photographs and illustrations guide the operator through correct procedures of checking, starting, operating and stopping the product.

Operating techniques outlined in this publication are basic. Skill and techniques develop as the operator gains knowledge of the product and its capabilities.

### **Maintenance**

The maintenance section is a guide to equipment care.

## Safety Section

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### Safety Signs and Labels

SMCS Code: 7606

This manual has important instructions for the safe operation of the Cat® Trackwear Sensor. These instructions must be followed during installation and maintenance. The installation and use of this product must comply with all applicable national and local electrical safety codes.

#### WARNING

Do not operate or work on this equipment unless you have read and understand the instructions and warnings in the Operation and Maintenance Manuals. Failure to follow the instructions, or heed the warnings, could result in injury or death. Contact your Cat dealer for replacement manuals. Proper care is your responsibility.

#### WARNING

Accidental engine starting can cause injury or death to personnel working on the equipment.

To avoid accidental engine starting, disconnect the battery cable from the negative (-) battery terminal. Completely tape all metal surfaces of the disconnected battery cable end in order to prevent contact with other metal surfaces which could activate the engine electrical system.

Turn the battery disconnect switch to the OFF position and lockout the battery disconnect switch with a safety lock.

Place a Special Instruction, SEHS7332, "Do Not Operate" tag at the start switch and battery disconnect location to inform personnel that the machine is being worked on.

#### WARNING

This equipment is equipped with a Cat® Trackwear Sensor communication device. When electric detonators are being used for blasting operations, radio frequency devices can cause interference with electric detonators for blasting operations which can result in serious injury or death. The Bluetooth technology radio device on this equipment cannot be deactivated, therefore the equipment should always be kept at a safe distance from electronic detonators or equivalent devices as mandated by applicable national or local regulatory requirements. In the absence of any regulatory requirements Caterpillar recommends the end user perform their own risk assessment to determine safe operating distance.

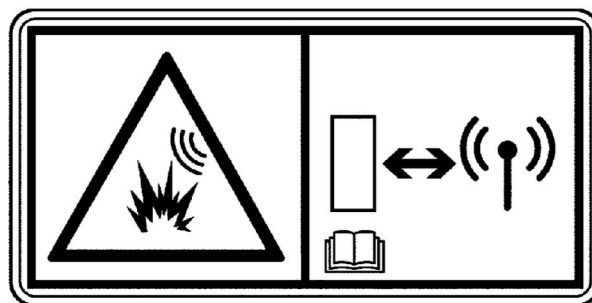


Illustration 1

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Explosive materials are handled during loading in the blast site. The blast site area includes perimeter that is formed by the loaded blast holes.



Illustration 2

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Illustration 2 indicates that the equipment is equipped with a wireless transmitting device. The Cat<sup>®</sup> Trackwear Sensor device transmits data, concerning the equipment, the condition of the equipment, and operation of equipment to customers and Cat dealers.

# Regulatory Compliance Information

## Radio Frequency Components

### Wireless Device (Trackwear Sensor (TWS) - If Equipped)

SMCS Code: 7008; 7600-ZM

#### sDoC

(Simplified Declaration of Conformity)

#### European Union



Caterpillar Inc. 100 NE Adams Peoria, IL  
61629 USA

Hereby, Caterpillar Inc. declares this radio equipment is in compliance with directive "2014/53/EU". The full text of the European Declaration of Conformity is available at the following web address:

<https://www.cat.com/radio-compliance>

#### Great Britain



Caterpillar Inc. 100 NE Adams Peoria, IL  
61629 USA

Hereby, Caterpillar Inc. declares this radio equipment is in compliance with the relevant statutory requirements. The full text of the Great Britain Declaration of Conformity is available at the following web address:

<https://www.cat.com/radio-compliance>

**Caterpillar suggests that the Declaration of Conformity is obtained shortly after purchase.**

### Specifications

The following Cat® Trackwear Sensor specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

Table 1

Radio Transmitter Specifications		
Model	Transmitter Frequency Range	Transmitter Power
Trackwear Sensor (Bluetooth transmitter Cat® brand, model TWS)	2.4 - 2.48 GHz	2.5 mW

Table 2

Radio Transmitter Specifications		
Model	Voltage	Maximum Current
Trackwear Sensor (Bluetooth transmitter Cat® brand, model TWS)	3.6 VDC (Internal Battery)	<5 mA

### Certification Notices

#### Canada Notice to Users

This device complies with Industry Canadas license exempt RSSs. Operation is subject to the following two conditions:

- This device may not cause interference
- This device must accept any interference, including interference that may cause undesired operation of the device.

#### FCC Notice

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna

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Regulatory Compliance Information  
Trackwear Sensor (TWS) - If Equipped

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- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/tv technician for help

Changes or modifications to this device without the express approval of Caterpillar may void the users authority to use this device.



# Operation Section

## Operation

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### System Overview

**SMCS Code:** 7606

**Note:** Your equipment may be quipped with a Cat<sup>®</sup> Trackwear Sensor (TWS).

The Cat<sup>®</sup> Trackwear Sensor utilizes Bluetooth technology to communicate the various levels of wear the track link has experienced. This information may be communicated to Caterpillar and Cat dealers.

**Note:** The Cat<sup>®</sup> Trackwear Sensor has an internal antenna and all devices with an associated transmitting antenna must be located more than 200 mm (7.8 inch) from the machine operator to comply with FCC regulations for RF human body safety

### Data Broadcasts

Data concerning this equipment, the condition of the equipment, and the operation of the equipment is being transmitted by the Cat Trackwear Sensor communication device to Cat and is communicated to customers and Cat dealers by the user interface. The data is used to serve the customer better and to improve upon Cat products and services. The information transmitted may include: equipment serial number, equipment location, and operational data, including but not limited to: Track link wear, fault codes, emissions data, fuel usage, service meter hours, software, and hardware version numbers and installed attachments.

Cat and/or Cat dealers may use this information for various purposes. Refer to the following list for possible uses:

- Providing services to the customer and/or the equipment
- Checking or maintaining Trackwear Sensor system
- Monitoring the health or performance of the equipment
- Helping maintain the equipment and/or improve the efficiency of the equipment
- Evaluating or improving Cat products and services
- Complying with legal requirements and valid court orders

- Performing market research
- Offering the customer new products and services

Caterpillar may share some or all the collected information with Caterpillar affiliated companies, dealers, and authorized representatives. Caterpillar will not sell or rent collected information to any other third party and will exercise reasonable efforts to keep the information secure. Caterpillar recognizes and respects customer privacy. For more information, please contact your local Cat dealer.

### Operation in a Blast Site for Trackwear Sensor

If required, the following are suggested methods to disable the Cat Trackwear Sensor:

- remove the equipment a safe distance from the blasting site.

The following Cat Trackwear Sensor specifications are provided to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

to a safe distance from blasting site.

Table 3

Radio Transmitter Specifications		
Radio Model (Maximum)	Transmitter Frequency Range	Transmitter Power
Trackwear Sensor (Bluetooth transmitter Cat <sup>®</sup> brand, model TWS)	2.4 GHz - 2.48 GHz	2.5 mW

Table 4

Operating Voltage and Current Draw		
Model	Voltage Range	Maximum Current Draw Range
Trackwear Sensor (Bluetooth transmitter Cat <sup>®</sup> brand, model TWS)	3.6 VDC (Internal Battery)	<5 mA

Consult your Cat dealer for any further queries.

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# Product and Dealer Information

Note: For product identification plate locations, see the section “Product Identification Information” in the Operation and Maintenance Manual.

Delivery Date: \_\_\_\_\_

## Product Information

Model: \_\_\_\_\_

Product Identification Number: \_\_\_\_\_

Engine Serial Number: \_\_\_\_\_

Transmission Serial Number: \_\_\_\_\_

Generator Serial Number: \_\_\_\_\_

Attachment Serial Numbers: \_\_\_\_\_

Attachment Information: \_\_\_\_\_

Customer Equipment Number: \_\_\_\_\_

Dealer Equipment Number: \_\_\_\_\_

## Dealer Information

Name: \_\_\_\_\_ Branch: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

	<u>Dealer Contact</u>	<u>Phone Number</u>	<u>Hours</u>
Sales:	_____	_____	_____
Parts:	_____	_____	_____
Service:	_____	_____	_____

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