



Operation and Maintenance Manual

Product Link™PLE601, PLE641, PLE631, PLE640, PL641, PL631, and G0100 Systems

PL6 1-Up (Machine Control & Guidance Products)



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.

A WARNING

When replacement parts are required for this product Caterpillar recommends using Cat replacement parts.

Failure to follow this warning may lead to premature failures, product damage, personal injury or death.

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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SEBU8832

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

🏠 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 Caterpillar dealer for replacement manuals. Proper care is your responsibility.



Improper operation of an access platform could result in injury or death. Operators must carry out their duties properly and follow all instructions and guidelines given for the machine and access platform.

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.

Safety Messages

The warning film in Illustration 1 can be found in a location such as the dash or control panel. The warning film is clearly visible to the operator during the normal operation of the equipment.



Illustration 1 Film

g03356592

🏠 WARNING

This equipment is equipped with a Cat[®] Product Link 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 Product Link communication device should be deactivated within the distance mandated under all 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.

The blast site is defined as the area that handles explosive material during loading. Included is the perimeter that is formed by the loaded blast holes.

If required, the following are suggested methods to disable the CaterpillarProduct Link communication device:

- Turn the Product Link radio disable switch to the OFF position.
- Disconnect the CaterpillarProduct Link communication device from the main power source. This action is performed by disconnecting the wiring harness at the Product Link radio.

Note: If no radio disable switch is installed and the equipment will be operating near a blast zone, a Product Link radio disable switch may be installed on the equipment. The switch will allow the CaterpillarProduct Link communication device to be shut off by the operator from the equipment control panel. Refer to Special Instruction, REHS7339, Special Instruction, REHS8850, and Special Instruction, REHS9111 for more details and installation instructions.

Other Films

The film in Illustration 2 can be found in a location such as the dash or control panel. The warning film is clearly visible to the operator during the normal operation of the equipment.



Illustration 2

g03356733

The film in Illustration 2 is intended to inform the operator that the equipment is equipped with a wireless transmitting device. Accordingly, data concerning this equipment, the condition of the equipment, and the operation of the equipment is being transmitted by the CaterpillarProduct Link communication device to Caterpillar and is communicated to customers and Caterpillar dealers by the user interface. The data is used to serve the customer better and to improve upon Caterpillar products and services. Transmission of information using a CaterpillarProduct Link communication device is subject to legal requirements that may vary from location to location.

Refer to the Operation and Maintenance Manual, SEBU8832, "Operation" and the Operation and Maintenance Manual, SEBU8832, "Regulatory Compliance" section for additional information. i05951990

General Hazard Information

SMCS Code: 7606

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 Caterpillar dealer for replacement manuals. Proper care is your responsibility.

Foreword

This document is a supplement to the Operation and Maintenance Manual for the equipment. Permanently attach this document to the Operation and Maintenance Manual for the equipment.

Introduction

This document provides information about the operation of the CaterpillarProduct Link communication device .

Operation of the equipment and the maintenance of the equipment must not occur unless the instructions and warnings in the Operation and Maintenance Manual for the equipment have been read and the instructions and the warnings are understood. The contents of this document must be understood before the equipment that is equipped with the CaterpillarProduct Link communication device is operated.

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Product Information Section

Identification Information

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Regulatory Compliance

SMCS Code: 7606

NOTICE

The transmission of information using a Caterpillar-Product Link communication device is subject to legal requirements. The legal requirements may vary from location to location, including, but not limited to, radio frequency use authorization. The use of a Caterpillar-Product Link communication device must be limited to those locations where all legal requirements for the use of the CaterpillarProduct Link communication device communication network have been satisfied.

If equipment outfitted with the CaterpillarProduct Link communication device is located in or relocated to a location where (i) legal requirements are not satisfied or (ii) transmitting or processing of such information across multiple locations would not be legal, Caterpillar disclaims any liability related to such failure to comply, and Caterpillar may discontinue the transmission of information from that equipment.

Consult your Cat dealer with any questions that concern the operation of the Product Link system in a specific country.

G0100 Radio Notices

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 the 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
- 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 may void the users authority to use this device.

Industry Canada Notice to Users

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. Refer to RSS-GEN 7.1.5.

PL631 Radio Notices

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 the 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
- 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 may void the users authority to use this device.

Industry Canada Notice to Users

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. Refer to RSS-GEN 7.1.5.

PL641 Radio Notices

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 the 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
- 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 may void the users authority to use this device.

Industry Canada Notice to Users

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. Refer to RSS-GEN 7.1.5.

PL601 Network Manager Notices

🔥 WARNING

Care must be taken in handling lithium batteries.

Lithium batteries are not a serviceable part.

Personal injury can result from battery exploding.

Caution must be used because there is risk of an explosion if the battery is replaced by an incorrect type.

Do not dispose of battery or batteries in a fire. The battery is capable of exploding and emitting caustic chemicals.

Dispose of used batteries according to federal and local laws.

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Declaration of Conformity

SMCS Code: 7606

European Union EC Declaration of Conformity G0100

Table 1

An EC Declaration of Conformity document was provided with the machine if it was manufactured to comply with specific requirements for the European Union. In order to determine the details of the applicable Directives, review the complete EC Declaration of Conformity provided with the machine. The extract shown below from an EC Declaration of Conformity for machines that are declared compliant to "2006/42/EC" applies only to those machines originally "CE" marked by the manufacturer listed and which have not since been modified.

EC DECLARATION OF CONFORMITY OF MACHINERY					

Manufacturer: Caterpillar Inc., 100 N.E. Adams Street, Peoria, Illinois 61629, USA

Person authorized to compile the Technical File and to communicate relevant part (s) of the Technical File to the Authorities of European Union Member States on request:

Standards & Regulations Manager, Caterpillar France S.A.S 40, Avenue Leon-Blum, B.P. 55, 38041 Grenoble Cedex 9, France

I, the undersigned, Geoffrey Ginzel, hereby certify that the construction equipment specified hereunder

Description:	Generic Denomination:	Radio and Telecommunications Terminal Equipment	-
	Function:	Product Link	-
	Model/Type:	G0100	Part Number: 417 - 4723
	Serial Number:		-
	Commercial Name:	Product Link	-

Fulfills all the relevant provisions of the following Directives

Directives	Notified Body	Document No.
1999/5/EC	N/A	-
2006/95/EC	-	-
2004/108/EC	N/A	-

2011/65/EU

Harmonised Standards Taken Into Consideration: EN 60950-1 (ed.2), EN 301 511:v9.0.0, EN 300 440-2:V1.4.1:2010, EN 55022:2006 A1:2007, EN 63211:2008, EN 301 489-1:V1.8.1:2008, EN 61000-4-2:2008, EN 61000-4-3:2006, EN 61000-4-6:2008, ISO 13309:2010, CISPR 25 (2nd Edition 2002)

Date: - Name/Position -	Done at:			Signature
	Date:	-	-	Name/Position -

^{2004/104/}EC

Signature

Name / Position Geoffery Ginzel / Product Mgr. Software Technologies and Information Products

Illustration 3

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European Union EC Declaration of Conformity PL631

Table 2

An EC Declaration of Conformity document was provided with the machine if it was manufactured to comply with specific requirements for the European Union. In order to determine the details of the applicable Directives, review the complete EC Declaration of Conformity provided with the machine. The extract shown below from an EC Declaration of Conformity for machines that are declared compliant to "2006/42/EC" applies only to those machines originally "CE" marked by the manufacturer listed and which have not since been modified.

EC DECLARATION OF CONFORMITY OF MACHINERY					
-					

Manufacturer: Caterpillar Inc., 100 N.E. Adams Street, Peoria, Illinois 61629, USA

Person authorized to compile the Technical File and to communicate relevant part (s) of the Technical File to the Authorities of European Union Member States on request:

Standards & Regulations Manager, Caterpillar France S.A.S 40, Avenue Leon-Blum, B.P. 55, 38041 Grenoble Cedex 9, France

I, the undersigned, Geoffrey Ginzel, hereby certify that the construction equipment specified hereunder

Description:	Generic Denomination:	Radio and Telecommunications Terminal Equipment	-
	Function:	Product Link	-
	Model/Type:	PL631	Part Number: 442 - 7199
	Serial Number:		-
	Commercial Name:	Product Link	-

Fulfills all the relevant provisions of the following Directives

Directives	Notified Body	Document No.
1999/5/EC	N/A	-
2006/95/EC	-	-
2004/108/EC	N/A	-
2011/65/EU	-	

2004/104/EC

Harmonised Standards Taken Into Consideration: EN 60950-1:2006+A12:2011, EN 300 440-2:V1.4.1, EN 301 441: V1.1.1, EN301 489-1:V1.9.2, EN 301 489-20:V1.2.1, EN 63211:2008, ISO 13766:2006, ISO 14982:2009, ISO 13309:2010

Done at:			Signature
Date:	-	-	Name/Position -

Signature

Name / Position Geoffery Ginzel / Product Mgr. Software Technologies and Information Products

Illustration 4

g03724472

European Union EC Declaration of Conformity PL641

Table 3

Description:

An EC Declaration of Conformity document was provided with the machine if it was manufactured to comply with specific requirements for the European Union. In order to determine the details of the applicable Directives, review the complete EC Declaration of Conformity provided with the machine. The extract shown below from an EC Declaration of Conformity for machines that are declared compliant to "2006/42/EC" applies only to those machines originally "CE" marked by the manufacturer listed and which have not since been modified.

EC DECLARATION OF CONFORMITY OF MACHINERY					
-					

Manufacturer: Caterpillar Inc., 100 N.E. Adams Street, Peoria, Illinois 61629, USA

Person authorized to compile the Technical File and to communicate relevant part (s) of the Technical File to the Authorities of European Union Member States on request:

Standards & Regulations Manager, Caterpillar France S.A.S 40, Avenue Leon-Blum, B.P. 55, 38041 Grenoble Cedex 9, France

I, the undersigned, Geoffrey Ginzel, hereby certify that the construction equipment specified hereunder

Generic Denomination:	Radio and Telecommunications Terminal Equipment	-
Function:	Product Link	Part Number: 440-2104
Model/Type:	PL641	Part Number: 440 - 2105
Serial Number:		-
Commercial Name:	Product Link	-

Fulfills all the relevant provisions of the following Directives

-		
Directives	Notified Body	Document No.
1999/5/EC	N/A	-
2006/95/EC	-	-
2004/108/EC	N/A	-
2011/65/EU	-	

2004/104/EC

Harmonised Standards Taken Into Consideration: EN 60950-1:2006+A12:2011, EN301 489-1:V1.9.2: 2011, EN 301 511: v9.0.2, EN 301 489-3:V1.4.1:2002, EN 300 440-2:V1.4.1:2010, EN 301 489-7:V1.3.1:2005, EN 301 908-1:V5.2.1 and V6.2.1, EN 301489-24:V1.5.1:2010, EN 301 908-2:V5.2.1 and V6.2.1, EN 63211:2008, ISO 14982:2009, ISO 13309:2010, ISO 13766:2006

Done at:			Signature
Date:	-	-	Name/Position -

Signature

Name / Position Geoffery Ginzel / Product Mgr. Software Technologies and Information Products

Illustration 5

g03724472

Operation Section

Operation

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System Overview

SMCS Code: 7606

Note: Your equipment may be equipped with the CaterpillarProduct Link communication device.

The Caterpillar Product Link communication device utilizes cellular and/or satellite technology to communicate equipment information. This information is communicated to Caterpillar, Cat dealers and Caterpillar customers. The CaterpillarProduct Link communication device contain Global Positioning System (GPS) satellite receivers.

The capability of two-way communication between the equipment and a remote user is available with the CaterpillarProduct Link communication device. The remote user can be a dealer or a customer.

Data Broadcasts

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

Caterpillar 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 Product Link system
- Monitoring the health of the equipment or performance
- Helping maintain the equipment and/or improve the efficiency of the equipment
- Evaluating or improving Caterpillar 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 of 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 Product Link Radios

🏠 WARNING

This equipment is equipped with a Cat[®] Product Link 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 Product Link communication device should be deactivated within the distance mandated under all 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.

Note: If using the previous version of Product Link radios (PL121SR, 522, 523, 420, or 421) refer to blast site requirements as stated in Operation and Maintenance Manual, SEBU8142, "Product Link - 121SR/321SR/420/421/522/523".

If required, the following are suggested methods to disable the CaterpillarProduct Link communication device:

- Turn theProduct Link radio disable switch to the OFF position.
- Disconnect the CaterpillarProduct Link communication device from the main power source. This action is performed by disconnecting the wiring harness at the Product Link radio.

Note: If no radio disable switch is installed and the equipment will be operating near a blast zone, a Product Link radio disable switch may be installed on the equipment. The switch will allow the CaterpillarProduct Link communication device to be shut off by the operator from the equipment control panel. Refer to Special Instruction, REHS7339, Special Instruction, REHS8850, and Special Instruction, REHS9111 for more details and installation instructions.

The following CaterpillarProduct Link communication device specifications are provided in order to aid in conducting any related hazard assessment and to ensure compliance with all local regulations:

Table 4

Radio Transmitter Specifications		
Radio Model (Maximum)	Transmitter Fre- quency Range	Transmitter Power
	824 MHz - 849 MHz	
	880 MHZ - 915 MHz	0.5W typical, 2W max
PL640	1710 MHz - 1755 MHz	
G0100	1850 MHz - 1910 MHz	
	1920 MHz - 1980 MHz	
	824 MHz - 849 MHz	0.5W typical, 2W max
	880 MHZ - 915 MHz	
PL641	1710 MHz - 1755 MHz	
	1850 MHz - 1910 MHz	
	1920 MHz - 1980 MHz	
PL631	1616 MHz - 1626.5 MHz	5.1W max

Consult your Cat dealer if there are any questions.

Information for the initial installation of the CaterpillarProduct Link communication device is available in Special Instruction, REHS7339, Special Instruction, REHS8850, and Special Instruction, REHS9111. Operation, configuration and troubleshooting information for the CaterpillarProduct Link communication device can be found in the Systems Operation, Troubleshooting, Testing and Adjusting, UENR3697, Systems Operation, Troubleshooting, Testing and Adjusting, UENR5823, and Systems Operation, Troubleshooting, Testing and Adjusting, UENR5824.

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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 Identific	cation Number:		
Engine Serial N	umber:		
Transmission			
Generator Seria	I Number:		
Attachment Seri	al Numbers:		
Attachment Info	rmation:		
Dealer Equipme	ent		
Dealer Inf	formation		
Name:		Branch:	
Address: —			
		_	
	<u>Dealer</u> <u>Contact</u>	<u>Phone</u> <u>Number</u>	<u>Hours</u>
Sales:			
Parts:			
Service:			



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