



# Operation and Maintenance Manual

Supplemental Information

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## **950K, 962K, 966K, 972K, 980K Wheel Loaders**

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FER 1-UP (Machine)  
Z4W 1-UP (Machine)  
PEM 1-UP (Machine)  
W7K 1-UP (Machine)  
GTZ 1-UP (Machine)  
TFS 1-UP (Machine)  
PBG 1-UP (Machine)  
FLL 1-UP (Machine)



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service information.



## 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.



**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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## **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

i06281646

## Safety Messages

### **SMCS Code: 7000**

There are several specific safety messages on these machines that are added for the Japanese regulations. The location of the messages and the description of the messages are reviewed in this section. Become familiarized with all safety messages.

Ensure that all of the safety messages are legible. Clean the safety messages or replace the safety messages if you cannot read the words. Replace the films if the illustrations are not legible. When you clean the safety messages, use a cloth, water, and soap. Do not use solvent, gasoline, or other harsh chemicals to clean the safety messages. Solvents, gasoline, or harsh chemicals could loosen the adhesive that secures the safety message. Loose adhesive will allow the safety message to fall.

Replace any safety message that is damaged, or missing. If a safety message is attached to a part that is replaced, install the required safety message on the replacement part. Any Cat dealer can provide new safety messages.

This supplemental safety information includes some safety messages which are required by law.

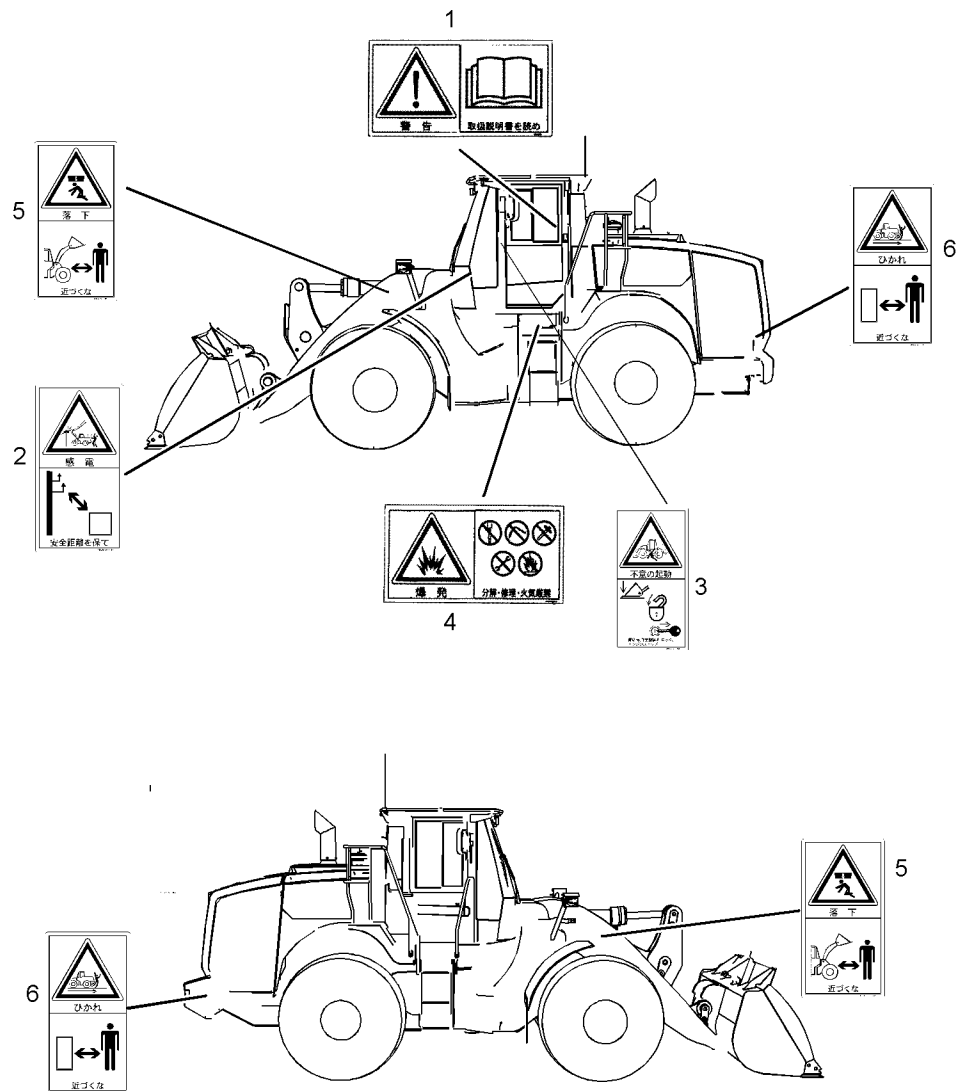


Illustration 1

g03316116

Location of Safety labels.

## Do Not Operate (1)

This safety message is located on the top surface of the hydraulic tank.



Illustration 2

g03229276

### ⚠ WARNING

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

## Electrical Power Lines (2)

This safety message is located on the left front ROPS post.

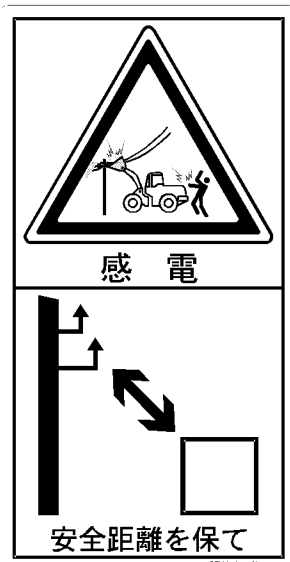


Illustration 3

g03094560

### ⚠ DANGER

**Electrocution Hazard!** Keep the machine and attachments a safe distance from electrical power. Stay clear 3 m (10 ft) plus twice the line insulator length. Read and understand the instructions and warnings in the Operation and Maintenance Manual. Failure to follow the instructions and warnings will cause serious injury or death

## Crushing Hazard (3)

This safety message is located in the cab on the left front ROPS post.

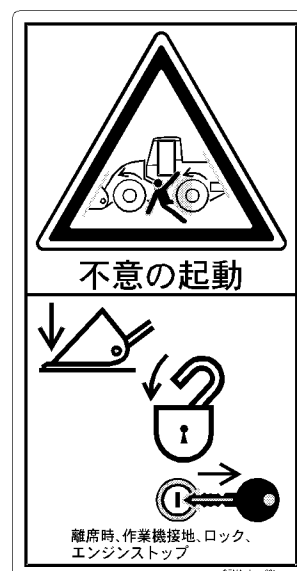


Illustration 4

g03094541

### ⚠ WARNING

**Crush Hazard!** A machine may move unexpectedly and without warning resulting in personal injury or death.

Before leaving the machine lower the work tool to the ground, lock operator controls, shut off the engine and remove the key.

## Explosion Hazard (4)

This safety message is located on the left side of the machine near the battery.



Illustration 5

g03229317

### **WARNING**

Personal injury can result from improper troubleshooting and repair procedures.

The following troubleshooting and repair procedures should only be performed by qualified personnel familiar with this equipment.

## Crushing Hazard (5)

This safety message is located on both sides of the lift arm.



Illustration 6

g03094656

### **WARNING**

Stay clear of the work tool during operation. Entanglement could result in personal injury or death.

## Crash Hazard (6)

This safety message is located on both sides of the counterweight.



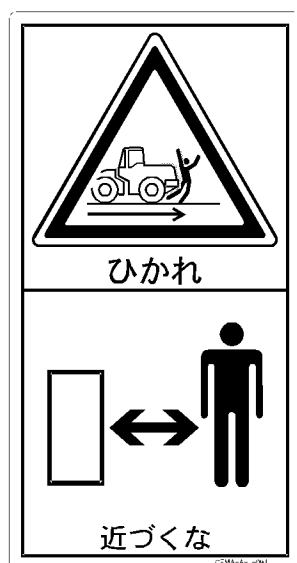


Illustration 7

g03094657

### **WARNING**

**Stay back a safe distance. No clearance for a person in this area when the machine turns. Severe injury or death from crushing could occur.**

i06282934

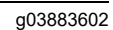
## Additional Messages

**SMCS Code:** 7000

There are several specific messages on this machine. The exact location of the messages and the description of the messages are reviewed in this section. Become familiarized with all messages.

Make sure that all of the messages are legible. Clean the messages or replace the messages if you cannot read the words. Replace the illustrations if the illustrations are not legible. When you clean the messages, use a cloth, water, and soap. Do not use solvent, gasoline, or other harsh chemicals to clean the messages. Solvents, gasoline, or harsh chemicals could loosen the adhesive that secures the messages. Loose adhesive will allow the messages to fall.

Replace any message that is damaged, or missing. If a message is attached to a part that is replaced, install a message on the replacement part. Any Cat dealer can provide new messages.



## Messages

### Clean Engine (1)



Illustration 9

g03146323

This message is located on the right side on the rear ROPS post in the cab. For fire prevention, clean combustible materials accumulated in the engine room. Refer to Operation and Maintenance Manual, "Fire Prevention and Explosion Prevention" for more information.

### Recycle HFC Refrigerant (2)



Illustration 10

g03883723

A similar message is located on the left front ROPS post in the cab. Consult your Caterpillar dealer for the maintenance of the air conditioning system.

### Emission Certification (3)



Illustration 11

g03094702

This message is located on the outside of the cab door. The certification label verifies that the machine conforms to the 2011 Japan Nonroad Special Motor Vehicle Exhaust Regulation.

Low Sound Certification (4)



Illustration 12 g03316436

This message is located on the outside of the cab door (only for 950 and 966K). If equipped, this certification label verifies that the Japan Ministry of Land, Infrastructure, Transportation, and Tourism (MLIT) designates the machine as a “Low Noise” type construction machine.

Specification Data Plate (5)

950K ホイールローダ		労働安全衛生法第42条 準則系建設機械電気設備に基づく表示	
単 位		3.3m <sup>3</sup> 製品積込用バケット (エッジ付き)	3.3m <sup>3</sup> 製品積込用バケット (エッジ付き)
項目		スタンダードリフト仕様 23.5R25 L-3 タイヤ付き	ハイリフト仕様 23.5R25 L-3 タイヤ付き
機械総重量	kg	25 100	25 100
最大積載重量	kg	5450	4850
平均接地圧	kPa	271	271
安 定 性	前方	15	16
	後方	30	28
	左方向	17	16
	右方向	17	16
機体重量	kg	13 900	
定格出力	kW	149	
最高走行速度	km/h	前進 38 後進 40	
備考	—	記載値は仕様 (作業装置、キャブ等) の違いにより変化する	
キャタピラージャパン株式会社			
		396-3168	

Illustration 13 g03249636

962K ホイールローダ		労働安全衛生法第42条 市間事故現場機械用途用車に準つて表示	
項目	単位	仕様	3.6m <sup>3</sup>
		製品積込用バケット (エッジ付き)  スタンダードリフト仕様 23.5R25 L-3 タイヤ付き	製品積込用バケット (エッジ付き)  ハイリフト仕様 23.5R25 L-3 タイヤ付き
機械総重量	kg	26 400	26 650
最大積載重量	kg	5800	5500
平均接地圧	kPa	285	288
安定性	前方	16	17
	後方	28	27
	左方向	18	15
	右方向	18	15
機体重量	kg	13 950	
定格出力	kW	164	
最高走行速度	km/h	前進 38 後進 40	
備考	-	記載値は仕様 (作業装置、キャブ等) の違いにより変化する	

キャタピラージャパン株式会社

396-3169

Illustration 14 g03250203

966K ホイールローダ		約積容量を生産率42表 車庫系建機規格値に概ね基づく表示	
項目	単 位	4.2m <sup>3</sup> 製品積込用バケット (エッジ付き)	4.2m <sup>3</sup> 製品積込用バケット (エッジ付き)
		スタンダードリフト仕様 26.5R25 L-3 タイヤ付き	ハイリフト仕様 26.5R25 L-3 タイヤ付き
機械総重量	kg	31 450	33 150
最大積載重量	kg	7250	7250
平均接地圧	kPa	404	426
安定性	前方	15	17
	後方	32	28
	左方向	18	17
	右方向	18	17
機体重量	kg	17 200	
定格出力	kW	190	
最高走行速度	km/h	前進 34 後進 38	
備考	-	記載値は仕様 (作業装置、キャブ等) の違いにより変化する	
キャタピラージャパン株式会社			
396-6355			

Illustration 15 g03251547

972K ホイールローダ		労働安全衛生法第42条 車両系建設機械（移動式）の構造規格に基づく表示	
項目	単位	仕様	4.8m <sup>3</sup> 製品対応用バケット （ エッジ付き）  スタンダードリフト仕様 26.5R25 L-3 タイヤ付き
積付総重量	kg		33 700
最大積載重量	kg		7350
平均輪荷重	kPa		432
安定度	度	前方向	15
		後方向	30
		左方向	15
		右方向	15
機体重量	kg		17 550
定格出力	kW		203
最高走行速度	km/h		前進 35 後進 40
備考	-	記載値は仕様（作業装置、キャブ等）の違いにより変化する	
キャタピラー・ジャパン株式会社			
398-8356			

Illustration 16

g03271357

980K ホイールローダ		労働安全衛生法第42条 車両系建設機械（移動式）の構造規格に基づく表示	
項目	単位	仕様	5.3m <sup>3</sup> 製品標準用バケット （エッジ付き）  スタンダードリフト仕様 29.5R25 L-3 タイプ付き
		値	
機体総重量	kg		40 400
最大積載重量	kg		9500
平均輪荷重	kPa		478
安定度	度	前方向	15
		後方向	30
		左方向	17
		右方向	17
機体重量	kn		21 450
定格出力	kW		257
最高走行速度	km/h		前進 36 後進 40
備考	-	記載値は仕様（作業装置、キャブ等）の違いにより変化する	
キャタピラー・ジャパン株式会社			
398-8357			

Illustration 17

g03251779

A similar specification data plate is located in the articulation joint. The Japanese Industrial Safety and Health Act requires machine specifications to be displayed on a film that can easily be seen by the operator.

High Pressure Steering Hose (6)

この車両に使用されている  
全油圧形パワーステアリング用  
高圧ホースは2年毎に  
交換して下さい。

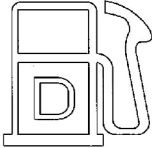
Illustration 18

g03146324

This message is located near the steering column (only for 950K and 962K).

Diesel Fuel (7)

軽油のみ  
Diesel Fuel



燃料は必ずJIS規格を満足する軽油を使用して下さい。  
軽油以外の燃料はエンジンに悪影響を及ぼす恐れがあり  
使用できません。

Illustration 19

g03146321

This message is located near the fuel fill cap. Use only specified diesel fuel.

## Manufacture Date (8)

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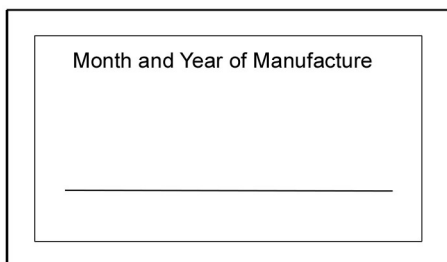


Illustration 20

g03094703

This plate is attached on the machine serial number plate located on the left side of the front frame (only for 950K and 962K).

i05793252

## General Hazard Information (Only Japanese market)

**SMCS Code:** 7000

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Illustration 21

g03253902

Attach a “Do Not Operate” , or a similar warning tag to the start switch or to the controls before you service or repair the equipment. These warning tags (Special Instruction, RJX88874) are available from your Cat dealer.

## Operation Section

## Machine Operation

i04902713

### Operator Controls

**SMCS Code:** 7300; 7301; 7451

This operation section is a reference for the Japanese operator. This section includes descriptions of controls that are unique to machines sold into Japan.

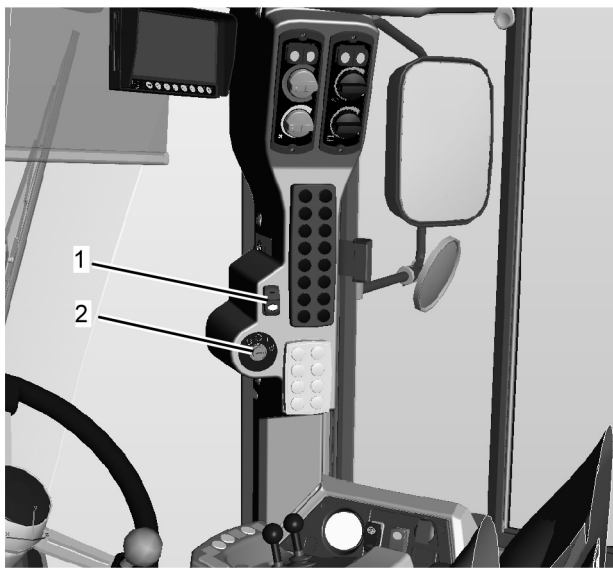


Illustration 22

g03234957

- (1) Parking Brake Switch  
(2) Ignition Key Switch

Refer to the Operation and Maintenance Manual for your machine for the proper usage of these controls.

i05361491

## Operation Information

**SMCS Code:** 7000

### Typical Examples

Carry a loaded bucket low so that the operator has good visibility and so that the machine has good stability.

Clean the work area during waiting periods and level the work area during waiting periods.

Maintain traction by avoiding excessive downward pressure on the bucket.

Travel in reverse when you carry a load down a steep incline. Travel forward when you go uphill.

When you are working in hard material, use bucket teeth or bolt-on cutting edges.

Make sure that the bucket that is being used is appropriate for the work that is being performed. Exceeding the machine limits will reduce the service life of the machine.

### Bulldozing

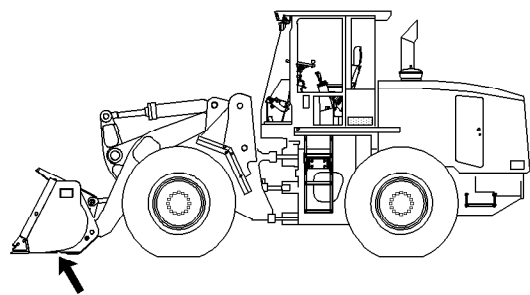


Illustration 23

g00991176

Keep the bottom of the bucket parallel to the ground when you are bulldozing.

### Dumping

To control dumping, move the tilt control lever to the DUMP position. Then, return the tilt control lever to the HOLD position. Repeat this procedure until the bucket is empty.

Dump the bucket when the wind is moving toward the front of the machine. This will help to keep dust away from the engine. This will also help to maintain visibility.

To achieve the maximum angle for dumping, use the bucket stops.

### NOTICE

Striking the stops unnecessarily and repetitively can result in accelerated wear and high maintenance cost of the loader linkage.

## Excavating with Bucket



Illustration 24

g00100569

1. Lower the bucket to the ground. Position the bucket for a slight digging angle.
2. Apply downward pressure to the bucket as the loader starts forward. Return the lift lever to HOLD when sufficient penetration is obtained.
3. Maintain level cuts while you move forward by raising the bucket and lowering the bucket.
4. When the bucket is loaded, tilt the bucket backward against the stops. Carry the loaded bucket for approximately 40 cm (15 inch) above the ground when you move to the dump area.

### CAUTION

Excavating large rocks or firm hard material until the rear of the machine rises up applies great force on the loader linkage and areas of the chassis. Repeating such operation an excessive amount will result in bending or tearing of the loader linkage or the chassis, and increase repair costs.

### CAUTION

Using the corner of a bucket to excavate large rocks or firm hard material applies uneven force on the loader linkage. Repeating such operation an excessive amount will result in bending or tearing of the loader linkage, and increase repair costs.

## Loading with a Bucket from a Stockpile



Illustration 25

g00101768

1. Position the bucket parallel to the ground. The bucket should barely skim the ground. Drive the bucket straight into the pile.
2. Move the bucket lift lever to the detented RAISE position as the forward movement slows. Return the bucket lift lever to the HOLD position for additional crowding power.
3. To load a heaped load, operate the bucket tilt lever back and forth. This action is called pumping.
4. When the bucket is loaded, move the bucket tilt lever to the TILT BACK position.
5. When the bucket tilt lever is released to the HOLD position, the bucket will rise.
6. Raise the bucket high in order to pass over the material that is being loaded. Shift the transmission into REVERSE.
7. Carry the loaded bucket approximately 40 cm (15 inches) above the ground level.



8. When you reach the dump area, move the bucket lift lever to the detented RAISE position. The lift kickout will automatically return the bucket lift lever to the HOLD position.

## Bucket Loading Hauling Units

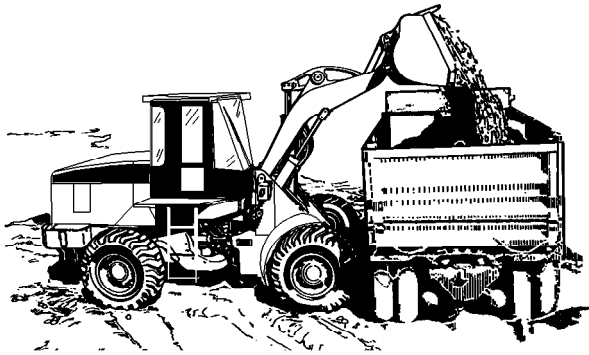


Illustration 26

g00101770

1. To reduce the loader turning and the travel distance, position the hauling unit at an angle to the material that is being loaded.
2. The travel distance should be long enough so that the bucket can reach the lift height without slowing the movement of the loader.
3. Position the loader in order to dump the load in the center of the hauling unit body. If the length of the hauling unit body is two times the length of the bucket, load the material into the hauling unit body from the front to the rear.
4. Push the bucket tilt lever forward in order to dump the load from the bucket.
5. Shake the bucket in order to loosen sticky material. Move the bucket tilt lever back and forth in quick motions. Allow the tilt arms to strike the stops.

### NOTICE

Striking the stops unnecessarily and repetitively can result in accelerated wear and high maintenance cost of the loader linkage.

6. Move the bucket tilt lever to the TILT BACK detent position.
7. Before you lower the bucket, make sure that the hauling unit is not under the bucket.

8. Lower the bucket while you position the loader for the next load.

## Loading with a Bucket from a Bank

### WARNING

Personal injury or death can result from falling material.

Remove any overhang and watch for sliding material.



Illustration 27

g00101771

1. Start at the base of the bank in order to load the bucket and follow the face upward.
2. Raise the bucket slightly and move away from the bank.

## Multipurpose Bucket Operation

### Loading with a Bucket

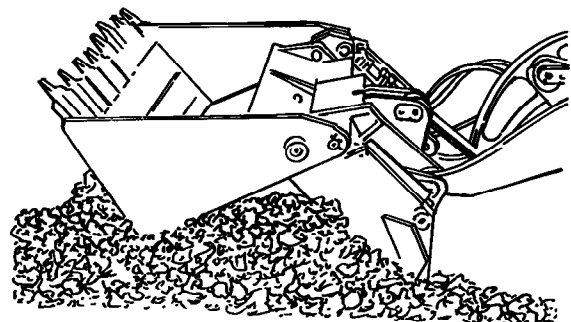


Illustration 28

g00104393

Open the bowl and position the bucket over the material that will be loaded. Lower the bucket and close the bowl.

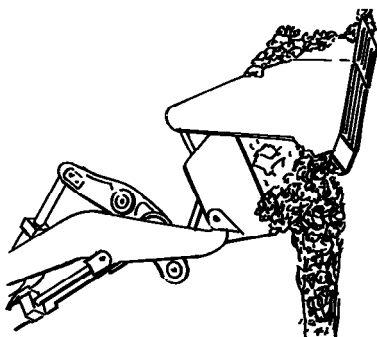


Illustration 29

g00104391

The multipurpose bucket can be used when increased dump height is desired or when you are unloading sticky material. Position the bucket over the dump area and open the bowl.

## Dozing

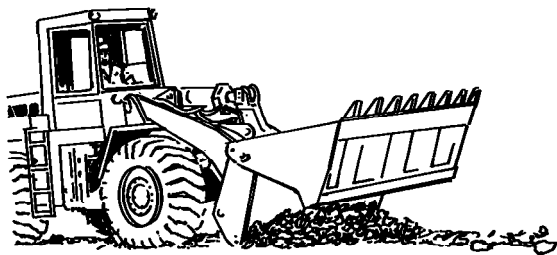


Illustration 30

g00104392

To use the bucket for dozing, open the bowl. Maintain a level cut.

## Scraping

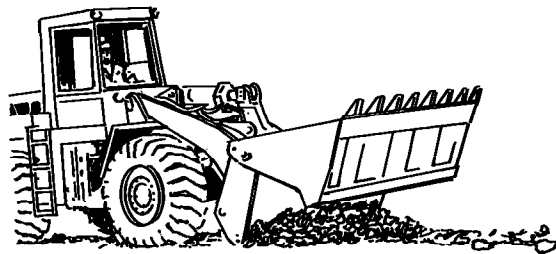


Illustration 31

g00104392

To use the bucket for scraping, raise the bowl slightly and position the bucket as if the bucket is used for dozing. When the bucket is loaded, tilt back the bucket and close the bowl. The bucket is dumped in the normal TILT FORWARD position.

## Pallet Forks

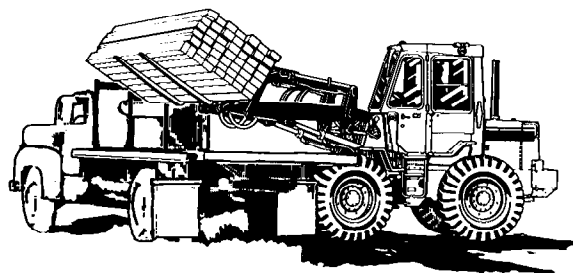


Illustration 32

g00104348

1. Slowly, move the machine into position and engage the load. The machine should be square with the load. Space the forks as far as possible from each other.
2. Move the machine forward until the load touches the carriage.
3. Push the kickout control to the OFF position in order to disable the lever detents. This will prevent the lever from being pulled into the DETENT position when you are handling delicate loads.
4. Lift the load carefully.
5. Operate the machine in reverse until the load is clear enough to lower.

**6. Lower the load to the travel position.**

Travel with the load as low as possible while you still maintain ground clearance.

Travel with the load uphill on upgrades and on downgrades.

For better visibility, travel in reverse with bulky loads.

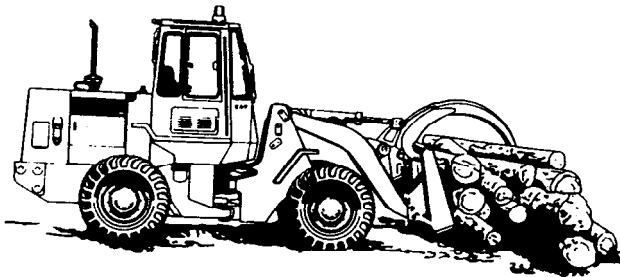
**Logging Fork Clamp**

Illustration 33

g00291587

1. Open the top clamp. Position the fork in the center of the load.
2. Close the top clamp. Tilt the forks backward in order to hold the load against the uprights on the forks.
3. For the best operator vision and stability for the loader, carry the load as low as possible to the ground.



Illustration 34

g00100578

4. Position the load over the loading area. Tilt the fork downward and raise the clamp in order to release the load.

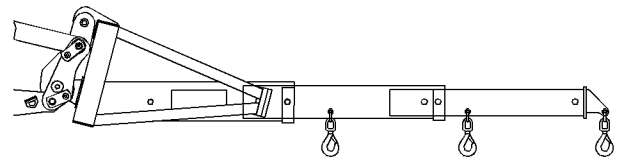
**Material Handling Arm**

Illustration 35

g03394737

Remove the retainer pins from the arm in order to extend the arm or retract the arm.

To lock the arm into position, replace the retainer pins after the arm has been extended or retracted.

Push the kickout control to the OFF position in order to disable the lever detents. This will prevent the lever from being pulled into the DETENT position when you are handling delicate loads.

Lift the load close to the machine for best stability. Move the machine slowly in order to avoid excessive load swing.

Do not apply side loads on the hook and on the shackle. Check the condition of the hook, of the shackle, and of any lifting chains. Replace any worn parts.

i07592588

## Product Link

**SMCS Code:** 7606

**Note:** Your machine may be equipped with the Cat® Product Link™ system.

The Cat 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 Cat Product Link communication device uses Global Positioning System (GPS) satellite receivers.

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

## Data Broadcasts

Data concerning this machine, the condition of the machine, and the operation of the machine is being transmitted by Cat Product Link to Caterpillar and/or Cat dealers. The data is used to serve the customer better and to improve upon Cat products and services. The information transmitted may include: machine serial number, machine 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 machine
- Checking or maintaining Cat Product Link equipment
- Monitoring the health of the machine or performance
- Helping maintain the machine and/or improve the efficiency of the machine
- 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 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.**

Refer to your products Operation and Maintenance Manual Supplement, "Regulatory Compliance Information" for more information.

For information regarding the methods to disable the Cat Product Link communication device, please refer to your specific Cat Product Link manual listed below:

- Operation and Maintenance Manual, SEBU8142, "Product Link - 121SR/321SR/420/421/522/523"
- Operation and Maintenance Manual, SEBU8832, "Product Link PLE601, PL641, PL631, PL542, PL240, PL241, PL141, PL131, PL161, and G0100 Systems"
- Operation and Maintenance Manual, M0088349, "Product Link PL042 and PLE702 Systems"

**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 Cat Product Link communication device to be shut off by the operator from the equipment control panel. For more details and installation procedures, refer to the following:

- Special Instruction, "Installation Procedure for Product Link PLE640 Systems" REHS7339

- Special Instruction, "Installation Procedure for the Elite Product Link PLE601, PLE641, and PLE631 Systems" REHS8850
- Special Instruction, "Installation Procedure for the Product Link PL131, PL141, and PL161 Systems" SEHS0377
- Special Instruction, "Installation Procedure for the Pro Product Link PL641 and PL631 Systems" REHS9111

Reference Information  
Section

Reference Materials

i07544340

Regulatory Information  
(Japan)

SMCS Code: 7000

Vehicle Inspection

Vehicle inspection certification is required to operate a machine on public roads. This inspection includes driving on as well as crossing public roads. For details, consult your Cat dealer.

Qualifications for Machine  
Operation

The following qualifications are required for the operation of this machine:

Excavation and Loading

Completion of the construction machines (for land leveling, hauling, loading, and excavation) operation skill training course. (Qualification by the Industrial Safety and Health Act)

Demolition

Completion of the construction machines (for demolition) operation skill training course. (Qualification by the Industrial Safety and Health Act)

Mining Jobs

Certification by the Director General or Deputy Director General of Bureau of Mine Safety after completion of the safety training course. (Qualification by the Mine Safety Act)

Crane Slinging for the Bucket with a Hook

Completion of the special slinging training for the crane for loads weighing less than 1 ton. (Qualification by the Industrial Safety and Health Act)

Trailer Transportation

In principle, this machine should be transported by a trailer. Select the appropriate trailer regarding the machine weight and measurements shown in the major specifications in the specification part of this manual. Be aware machine weight and transportation measurements differ depending on the various types of attachments.

- In the event heavy items are to be transported. Observe the related laws such as Road Traffic Law, Road Laws, Road Transportation Vehicle Laws, and Vehicle Restriction Laws.
- Conduct prior investigation of the road width, ground clearance of road/railway bridges, weight restrictions and so on, of the planned transportation route. To confirm the viability of the transportation execution.

Load

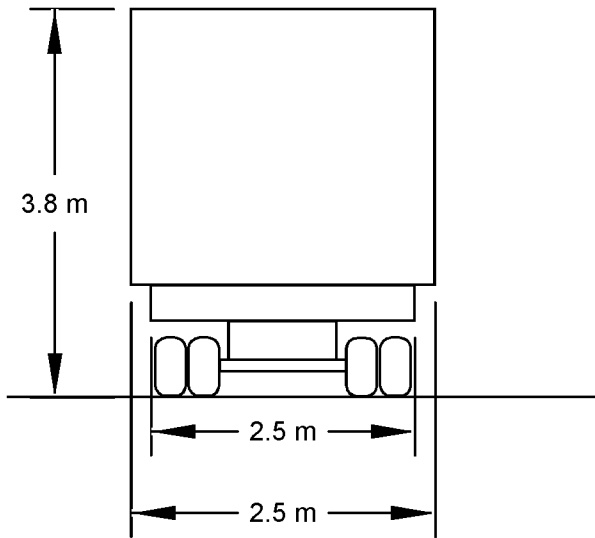


Illustration 36

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- Not more than 3.8 m (12 ft 6 inch)
- Not more than 2.5 m (8 ft 2 inch)(Safety Standard)
- Not more than 2.5 m (8 ft 2 inch) (Vehicle Restriction Laws)
- Items that protrude out are not allowed. (Government ordinance for Road Traffic Laws)

Transportation weight and measurements are restricted by the Vehicle Restriction Laws. If the actual weight/measurements exceed the limitation figures, submit the restriction relaxation request to the pertinent governmental agencies. For details, consult your Cat dealer.

Table 1

Total Length	Not more than 12 m (39 ft 4 inch)
Total Width (A)	Not more than 2.5 m (8 ft 2 inch)

(continued)

(Table 1, contd)

Total Height (B)	Not more than 3.8 m (12 ft 6 inch) when loaded on the trailer.
Total Weight	20 to 25 ton (depending on road, axle, and vehicle length)

**Note:** If the size or weight exceeds what is listed, an accommodation application is required. Contact your Cat dealer for more information.

## Operation of Construction Equipment and the Governing Laws and Regulations

### NOTICE

**Various laws and regulations, including Industrial Safety and Health Act, are enforced to ensure prevention of injuries on and around construction equipment and safe and comfortable operation of equipment. Please be sure to obey them.**

### NOTICE

**The notices regarding machine operation, inspection, maintenance, and safety contained in this manual are applicable only to cases in which the machine is used for the specified jobs. It is impossible for this manual to cover every operation. Therefore, the content of this manual does not necessarily explain all possible cases. Be sure to pay careful attention also to the items not covered by this manual and confirm the safety before starting jobs to prevent human injury and machine damage accidents.**

## Prohibition of Working Lights Usage on a Public Road

Working lights are defined as "lights which are not used while driving" by safety standard article 42 (restriction of light color, etc), and turning on the working lights on a public road is prohibited, since it disturbs other traffic operation.

## Qualification of Operators

Operation of construction equipment is limited to operators who have any of the following licenses by law.

**Note: Employers will face imprisonment up to a maximum of 6 months or a fine of up to a maximum of five hundred thousand yen if they let unqualified personnel operate equipment. Unqualified operators will also be fined up to a maximum of five hundred thousand yen.**

- One who completed an operating skill course for vehicle-type construction equipment at a registered training institution.
- One who passed the construction equipment and technologies license examination (Type 1-3) defined by the Construction Industry Law.
- One who completed an operating training course for construction equipment defined by the Vocational Training Law.
- One who took a special training (rules and skills) at a registered training institution to operate equipment weighing less than 3 tons.
- With an auto-drivers license which is conformed to each model, an operator does not need to complete an operating skill course for construction equipment to operate equipment on the roads that apply to the rules of the Road Traffic Act. However, the operator needs to complete the course to engage in snow clearing or excavating on the roads.
- Operator needs to be qualified under the Mine Safety Act to operate construction equipment in a mine.

## Acquisition of the Qualifications

The company offers training courses for construction machine operation, in addition to other skills. For details, contact the company dealer in your area.

Regarding machine operation qualifications, also refer to the laws related to the construction machines shown at the end of this manual.

## Operation of Construction Equipment and the Governing Laws and Regulations

### NOTICE

**Information of operating skill course for vehicle-type construction equipment (for ground leveling, transporting, loading, excavating)**

**Industrial Safety and Health Act requires operators of construction equipment weight 3 tons and over to acquire a certificate of completion of an operating skill course. Registered with and authorized by the respective directors general of the regional labor bureaus, we offer operating skill courses for vehicle-type construction equipment and special trainings.**

## Caterpillar Operating Training Center

Head Office:

Address: Fukuoka Prefecture Chikushino city  
Chibi Shoto East 3 - 6 No. 1 No.  
Tel: (092) 924-1211  
Website: <https://www.cat-kyushu.co.jp/>

Training centers registered with the respective directors general of the regional labor bureaus and special training sites:

Types of equipment that an operator is permitted to operate with the certificate of operating skill course:  
Visit Website: <http://cot.jpncat.com> and contact your local training center for detailed information.

1. Ground leveling, transporting, and loading equipment:
  - a. Bulldozers
  - b. Motor graders
  - c. Tractor shovels
  - d. Muck loaders
  - e. Scrapers
  - f. Scrape dozers
  - g. Equipment which is defined by the ordinance of the Ministry of Health, Labor, and Welfare and falls into any of the categories 1.a. through 1.f.
2. Excavating equipment:
  - a. Power shovels
  - b. Drag shovels
  - c. Draglines
  - d. Clamshells
  - e. Bucket excavators
  - f. Trenchers
  - g. Equipment which is defined by the ordinance of the Ministry of Health, Labor, and Welfare and falls into any of the categories 2.a. through 2.f.

## Request for Periodical Self-Inspection

### Self-inspection of Equipment

Laws require that users should regularly inspect equipment to operate under good conditions at all times.

Inspections are classified into three types:

- before-work inspection
- monthly inspection
- annual inspection

The respective inspection items are specified by law. It is also required to retain the inspection record. Customers are recommended to conduct regular self-inspections as they are keys to increase the life of equipment and to use it efficiently.

### Rules of Periodical Self-Inspection

The employer shall, as provided for by the Ordinance of the Ministry of Health, Labor and Welfare, conduct self-inspection periodically and keep the records of the results in respect to construction equipment such as tractor shovels and power shovels, etc., specified by Cabinet Order. (from Article 45, Industrial Safe and Health Act)

### Ordinance on Industrial Safety and Hygiene

#### Periodical self-inspections Article 167

(1) The employer shall, as regards a vehicle type construction machine, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of a vehicle type construction machine, which is not used for a period exceeding 1 year.

(2) The employer shall, as regards a vehicle type construction machine set forth in the proviso of the preceding paragraph, carry out self-inspection for abnormalities in each part of a construction machine before resuming the operation.

#### Periodical self-inspections Article 168

(1) The employer shall, as regards a vehicle type construction machine, carry out self-inspections for the following matters periodically once every period within a month. However, this shall not apply to the non-use period of a vehicle type construction machine, which is not used for a period exceeding one month:

- (i) Abnormalities in a brake, a clutch, a controlling device, and working devices.
- (ii) Damage in a wire, rope, and a chain
- (iii) Damage in a bucket, a zipper, etc.

(2) The employer shall, as regards to the vehicle type construction machine set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

#### Record of Periodical Self-Inspections Article 169

The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the results and retain the records for 3 years.

#### Specified Self-Inspection Article 169-2



The specified self-inspection pertaining to the vehicle type construction machine shall be the self-inspection (prescribed by Article 167) and carried out by qualified personnel. The employer shall, when having carried out the specified self-inspection pertaining to a vehicle type construction machine, affix an inspection sticker stating the month and year when the said specified self-inspection was carried out at a readily visible location of the said machine.

- Caterpillar Japan has a supporting program for self-inspection as a registered inspection agency. Qualified personnel and inspection equipment are available to help customers who do not conduct internal inspections or do not have time to conduct the specified self-inspections. Please contact a Cat dealer near you for details.
- Maintenance and inspection record book for a record-saving purpose can be purchased at Caterpillar Japan.
- Penalty: Employer who fails to carry out self-inspections and to record the results will face a fine of up to five hundred thousand yen.

#### Checkup before Commencing the Work Article 170

The employer shall, when carrying out the work using a vehicle type construction machine, check functions of a brake and a clutch before commencing the work for the day.

#### Other Rules

Besides qualification for operating equipment and self inspections, the following obligations are set forth in the Industrial Safety and Health Act:

- To conduct health and safety training for new recruits and shop foremen.
- To appoint the operation leader or supervisor, and establish health and safety management system.
- To inform employees of a chain of command at the worksite, communication and signal rules, traveling route of equipment, speed limits, signs of restricted areas, etc. for securing safety in the workplace.

Industrial Safety and Health Act further also sets obligations related to mechanical structures and rental activities of equipment.

**Safety comes before anything else. Please establish a workplace where no injuries occur by observing the governing laws and by referring to this manual, specifically the descriptions on safety.**

## Construction equipment and environmental laws

### Prohibition of Emissions and Obligations to Recover Fluorocarbons

Fluorocarbons Emissions Restraining Law April 1, 2015 being emitted into the atmosphere, fluorocarbons, used as refrigerants of air conditioning. Destroy the ozone layer and accelerate the global warming as a cause of environmental destruction. Please follow the instructions below required by law when handling air conditioners to protect the global environment.

1. Do not arbitrarily emit the encapsulated refrigerant installed on the product into the atmosphere.
2. Please recover the encapsulated refrigerant when disposing of the product.

**Note:** Violators of the law will face a maximum one-year imprisonment or a fine up to a maximum of five hundred thousand yen.

When you need to fill, recover a refrigerant or dispose of a product with an encapsulated refrigerant installed, please ask a filling-recovery operator registered with the government of the local prefecture as "class-1 filling-recovery operator." Please carry out the simple inspection of air conditioner and keep the record. Class-1 Specified Product sold after October 1, 2015 shall have the label inside of the cab showing the type and quantity of refrigerant, GWP (Global Warming Potential) and precautions for use.

## Information of Japan Construction Equipment Manufacturers Association

Dear Customers

Japan Construction Equipment Manufacturers Association

Standard Certificate of Transfer

Issued by the Japan Construction Equipment Manufacturers Association

**Standard Certificate of Transfer issued by the Japan Construction Equipment Manufacturers Association proves the ownership of your equipment. Please request us to issue the certificate as a proof of transfer of ownership.**

Commercial transactions of construction equipment are generally made on a long-term installment plan basis with a special provision of reservation of ownership that the seller retains the ownership of the sold equipment until the buyer completely pays off the installments.

Ownership of some construction equipment can be proved with a vehicle inspection certificate, but the certificate is not issued for most of the equipment. Therefore, the buyer will need to present a third party with a proof of ownership of the sold equipment.

Japan Construction Equipment Manufacturers Association launched a system of standard certificate of transfer in 1971 to normalize trading in construction equipment and establishes a business practice relating to transfer of ownership. Customers are kindly requested to understand the intent of the system and request your seller to issue a certificate of transfer.

#### 1. About the standard certificate of transfer

- a. Japan Construction Equipment Manufacturers Association (hereinafter referred to as CEMA) sets the rules and form of standard certificate of transfer (hereinafter referred to as certificate of transfer), and members of the CEMA issue the certificate of transfer. A certificate of transfer proves the ownership of equipment.

#### 2. Purpose of issuance

- a. A certificate of transfer will be issued for clarifying the ownership of equipment and preventing misconduct such as trades of stolen equipment or fraud.

#### 3. Issuer

- a. A certificate of transfer will be issued by a distributor (Primary transferor) who sells new construction equipment and is authorized by the CEMA.

#### 4. Eligibility

- a. A certificate of transfer will be issued for the equipment, which is sold by CEMA-member distributors and defined as construction equipment by the CEMA

#### 5. Issuance

- a. A certificate of transfer will be issued and directly given to a buyer upon the buyer's request when he/she buys eligible equipment from an issuer.
- b. A certificate of transfer may not be issued for the equipment, which was sold as new merchandise more than 10 years ago.
- c. A certificate of transfer is not permitted to substitute a vehicle inspection certificate.

#### 6. Prohibition of reissuance

- a. Certificate of transfer should safely be stored as it will not be reissued under any circumstances.

#### 7. In case a certificate description runs out of space

- a. Discretionary page/s to the certificate will be valid with a tally seal of the issuer at the joint of two pages.

**Please contact CEMA-member companies or distributors for more details of the system.**

### Specified jobs

This machine should mainly be used for the following jobs:

- Excavation
- Trenching
- Loading
- Land leveling
- Demolition

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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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