Inspection and Maintenance Table

△ : First time replacement or cleaning only

Section	Item for check	Operating hours						When Required	Page
		10	50	250	500	1000	2000		
Engine	Check Engine Oil Level	○							2.43
	Check Engine Coolant Level	○							2.45
	Check Warning Lamps	○							2.54
	Check Exhaust Gas	○							2.58
	Drain Water and Sediment from Fuel Filter	○							2.46
	Check Fuel Level	○							2.55
	Check Drive Belt	○							2.49
	Check Air Intake System	○							2.49
	Check Cooling Fan	○							2.50
	Drain Water and Sediment from Fuel Tank		○						3.21
	Replace Engine Oil and Oil Filter Cartridge			○					3.25
	Clean Fuel Prefilter				○				3.34
	Replace Fuel Filter Cartridge				○				3.32
	Inspect Automatic Belt Tensioner Pulley					○			3.40
	Clean Fuel Tank						○		3.45
	Check and Adjust Valve Lash Clearance						○		3.47
	Check Vibration Damper						○		3.46
	Clean or Replace Air Cleaner Element							○	3.10
	Clean Radiator / Air cooler / Hydraulic oil cooler Fins							○	3.11
	Clean or Replace Air Cleaner Element	After six cleanings or once a year ○							3.10
	Replace Coolant	Every 2 years or 3000 hours ○							3.14
Transmission & Torque Converter	Check Transmission Oil Level	○							2.55
	Replace Transmission Oil Filter Cartridge			△	○				3.30, 3.31
	Replace Transmission Oil					○			3.35
	Clean or Replace Transmission Breather					○			3.37

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Operating the Machine

⚠ WARNING

Stopping engine while machine is moving will cause loss of steering control which could cause serious injury or death.

Do not stop engine while machine is moving.

⚠ WARNING

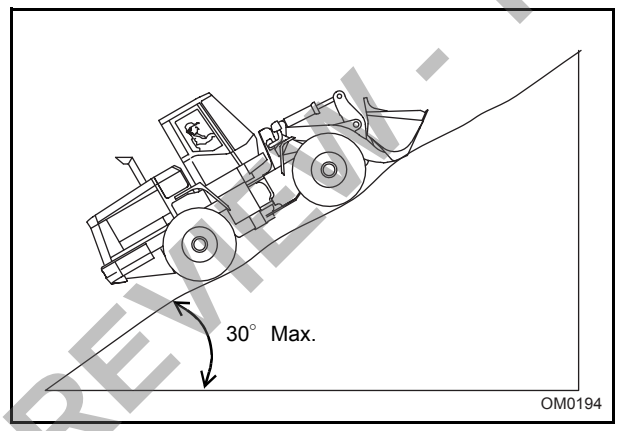
Moving machine in congested areas could result in death or serious injury.

Be sure area is clear of personnel and obstructions.

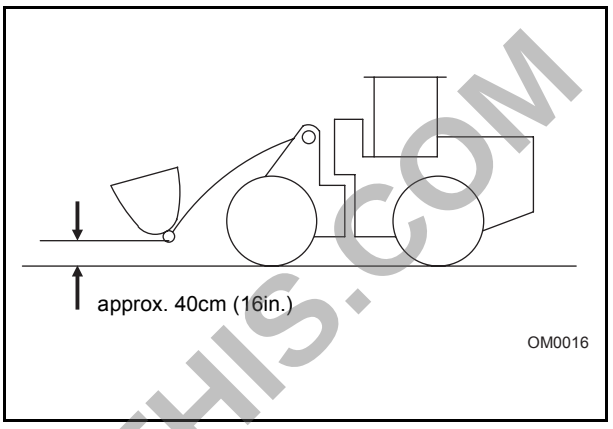
IMPORTANT

Operating machine on a grade may cause lack of lubrication resulting in severe engine or components damage.

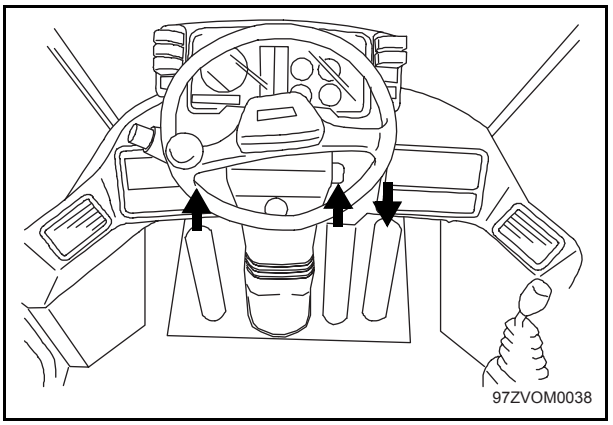
Do not operate machine on a grade over 30 º.



Starting the Machine



1. Raise the bucket to the carry position approximately 40cm (16in.) above the ground.
2. Depress the brake pedal.
3. Push the parking brake switch to release the parking brake.
4. Turn the transmission shift lever to the desired travel speed mode and then shift to the desired direction.



5. Release the brake pedal then depress the accelerator pedal to drive the machine.

⚠ WARNING

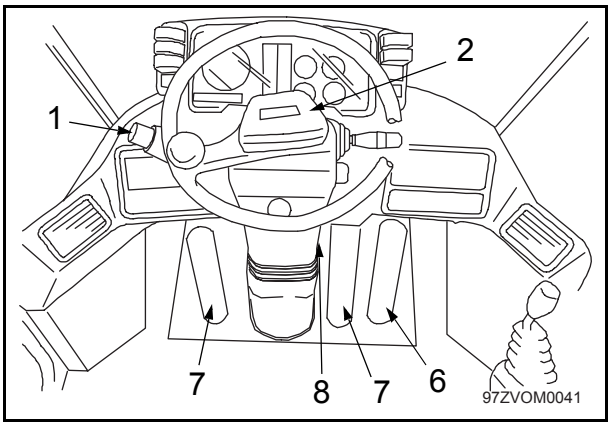
When parking brake is released, machine could roll on a grade unexpectedly causing injury or death.

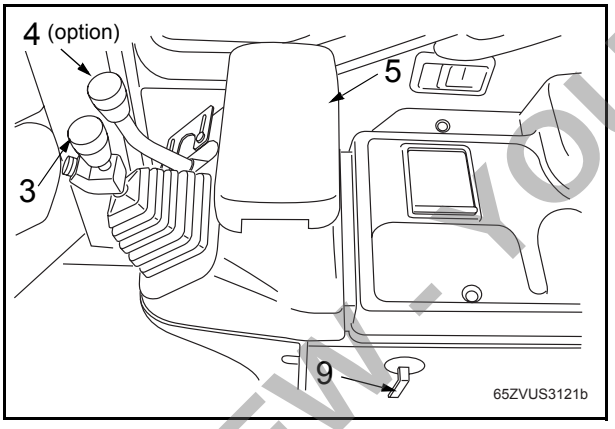
When starting machine on a grade, firmly depress brake pedal before releasing parking brake.

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OPERATOR'S AREA

Pedals and Levers



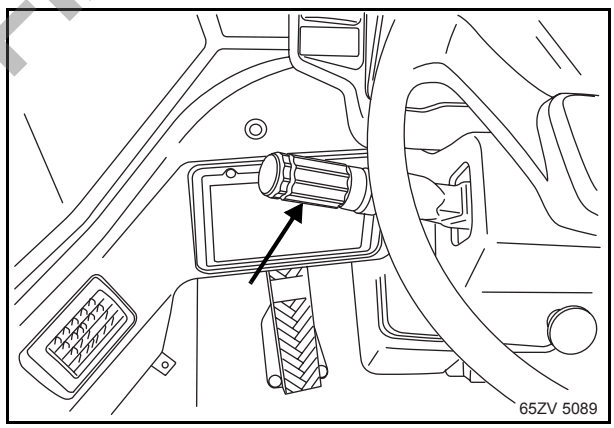


1. Transmission Shift Lever
2. Horn Button
3. Loading Control Lever
4. Auxiliary Attachment Control Lever (option)
5. Wrist Rest (adjustable)
6. Accelerator Pedal
7. Brake Pedals
8. Steering Column Telescopic Tilt Handle
9. Loading Control Lever Lock

1. Transmission Shift Lever

Transmission Shift Lever is used to control machine speed and direction.

- Push the lever forward to move the machine forward.
- When the lever is in NEUTRAL, the machine should not move on level ground.
- Pull the lever backward to move the machine backward.
- The four forward and four reverse speed shifting modes are selected by rotating the shift lever.



[1]: 1st speed (fixed)

[2]: 2nd speed (fixed)

[3]: 3rd speed (fixed)

[A]: 2nd, 3rd and 4th speed is automatically selected for the machine running condition.

2. Horn Button

Horn Button is used to blow the horn.

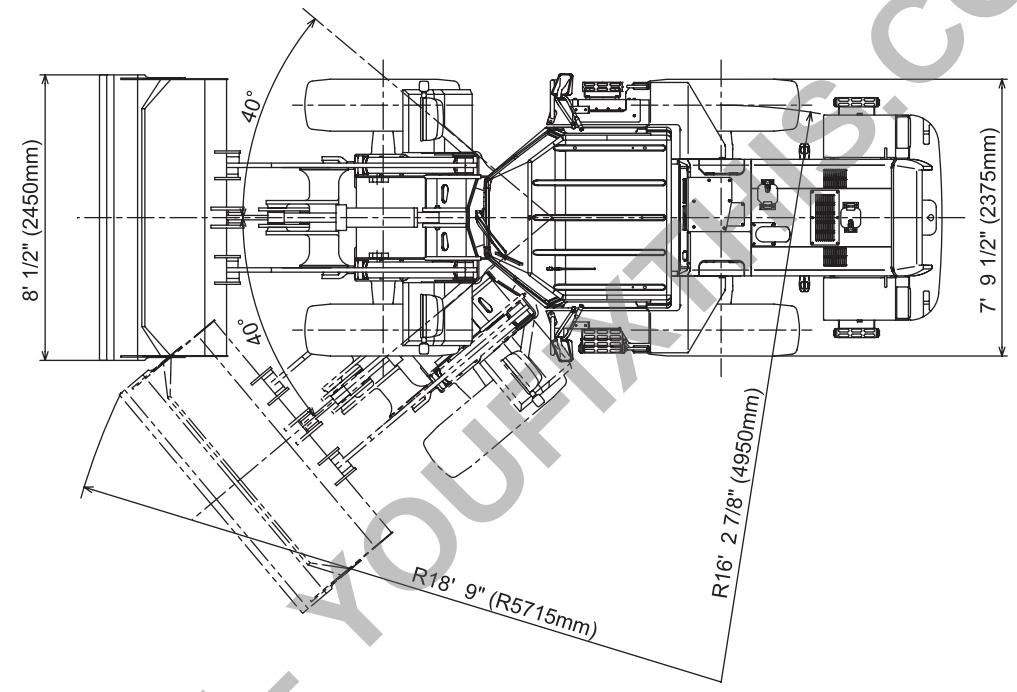
- Press the button in the center of the steering wheel to blow the horn.

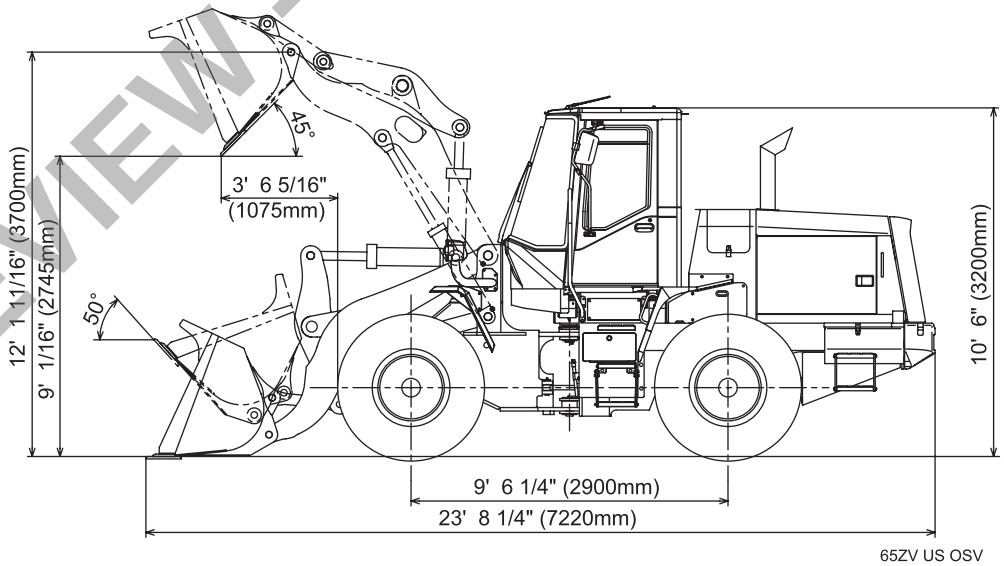
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SPECIFICATIONS

Specifications shown are for a machine equipped with standard features. Some options or special attachment will change the specifications shown. Specifications subject to change without notice.





65ZV US OSV

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TROUBLESHOOTING

This troubleshooting section is not intended to cover every condition, however many of the common possibilities are listed.
Following are example of problems and their solutions.
Contact your local Kawasaki dealer for the items marked with kawasaki or your local authorized CUMMINS ENGINE dealer for the items marked with CUMMINS to repair.

ENGINE

PROBLEM	POSSIBLE CAUSES	SOLUTIONS	PAGE
Engine oil pressure warning lamp lights up, and buzzer sounds	Low engine oil level	Add oil	2.43
	Wrong grade oil for weather conditions	Change oil	3.25
	Clogging oil filter element	Change filter and oil	3.25
	Defective alarm switch Oil leakage from pipe or joint Clogging suction strainer Excessive engine wear Defective oil pump	kawasaki or CUMMINS	
Coolant temp. warning lamp lights up	Low engine coolant level	Add coolant	2.45
	Fan circuit pressure or flow too low	kawasaki	
	Clogging radiator fins	Clean	3.11
	Scale or mineral build up inside radiator	Flush or professionally clean	3.14
	Defective alarm switch (gauge is in green) Low water pump flow Thermostat stuck or missing	kawasaki or CUMMINS	
Engine does not start when the starter motor is turning (Also see ELECTRICAL TROUBLESHOOTING)	Fuel filter element clogging	Replace fuel filter	3.32
	Starter motor speed too low	Booster Battery may be used	2.74
	Defective engine shut off solenoid Fuel pump failure Incorrect fuel injection timing Compression pressure too low Defective injectors	kawasaki or CUMMINS	
Unstable (rough) idling	Air in fuel lines	Tighten fuel connections and filter	3.32
	Fuel filter element clogging	Replace fuel filter	3.32
	Fuel pump failure Incorrect fuel injection timing	kawasaki or CUMMINS	

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Every 50 Hours or 1 Week

⚠ WARNING

Improper inspection or maintenance could result in death or serious injury.

Read, understand, and follow all warnings and instructions contained in "Safe Maintenance" page 1.11 before performing any inspection or maintenance procedures.

Every 50 hours or 1 week, whichever comes first, perform the following inspection and maintenance in addition to the "Daily Inspection and Maintenance".

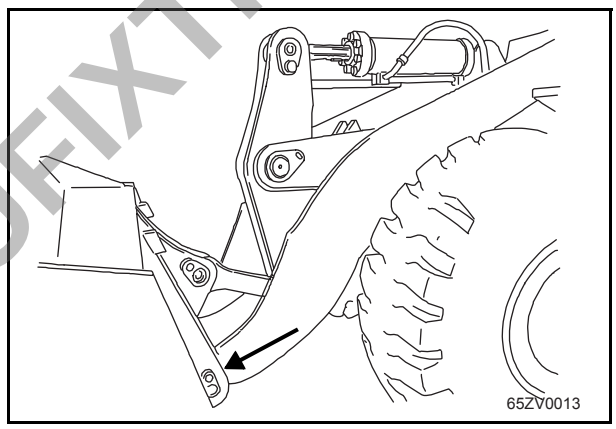
Greasing

1. Park the machine on level ground, apply the parking brake, lower the attachment to the ground, and stop the engine.

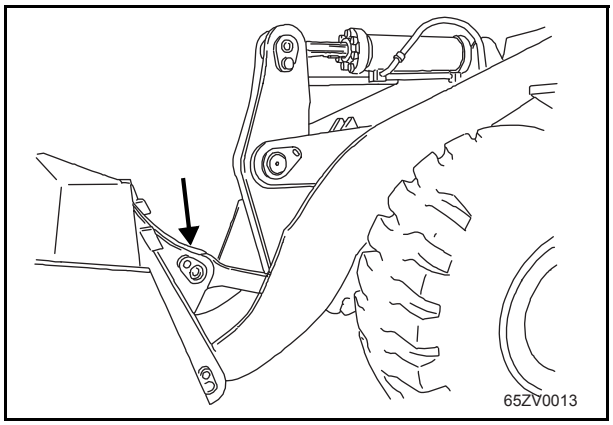
2. Lubricate fittings on the following components. Wipe and clean all fittings before greasing.

   Lubricate until fresh grease is seen at each joint. Immediately replace or report any broken or defective grease fittings.

   Refer to "Recommended Lubricants" page 3.50 for the correct grease.



- Bucket-Boom (two places)

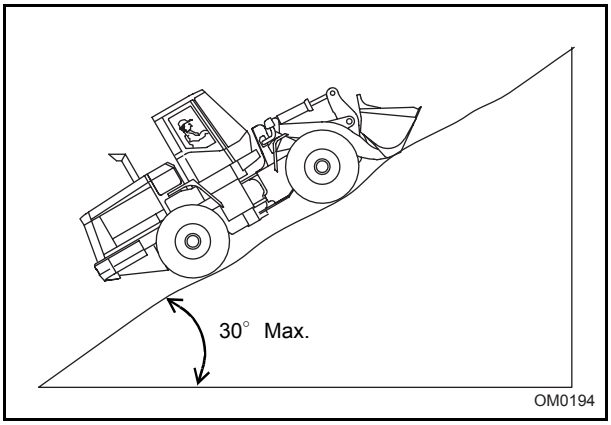


- Bucket-Rod (one place)

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Operating Techniques



IMPORTANT

Operating machine on a grade may cause lack of lubrication resulting in severe damage on engine or other components.

Do not operate machine on a grade over 30 º.

Loading

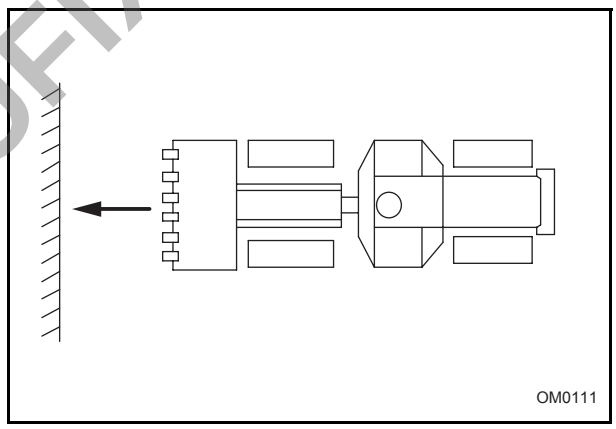
IMPORTANT

Machine damage may result from improper loading procedures.

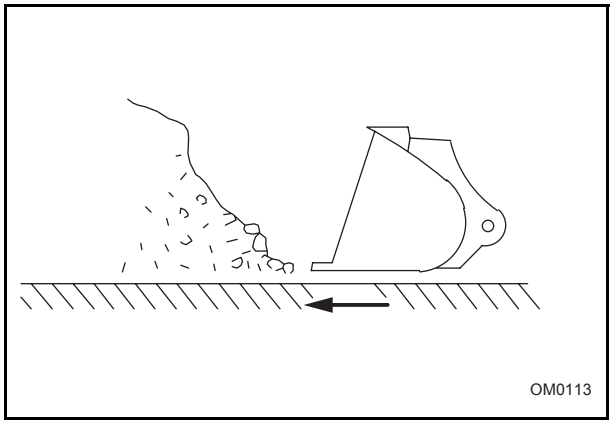
- Do not dig or scoop with machine frame articulated.
- Do not drive machine into material at high speed.

NOTE

- When loading rocks or hardpacked material, the use of bucket teeth is recommended.
- For loose stockpile material replaceable bolt-on cutting edges should be used.



1. Move the machine forward to the material.
2. Steer the machine in a straight ahead position when entering the material.

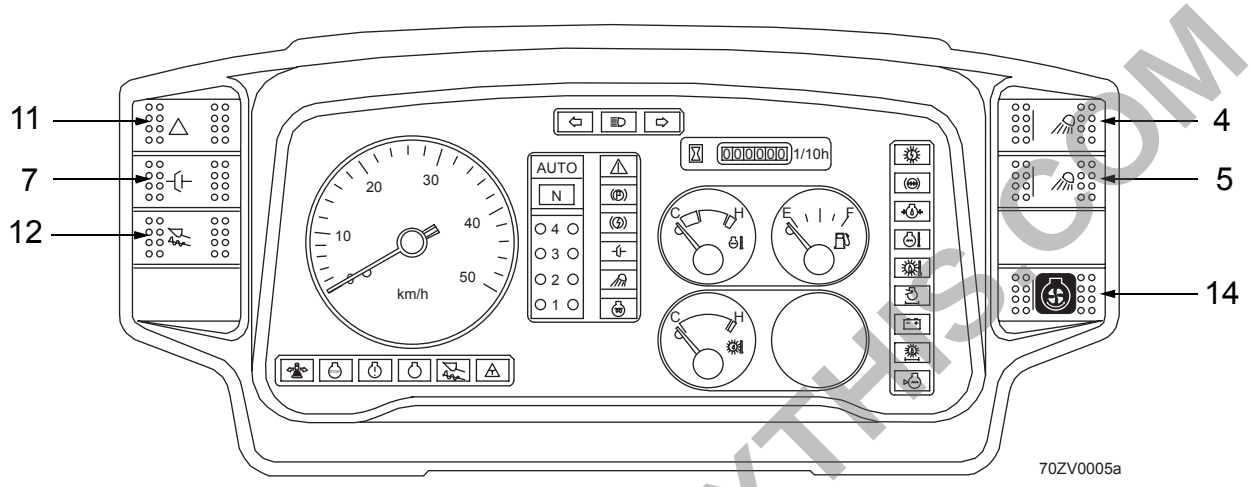


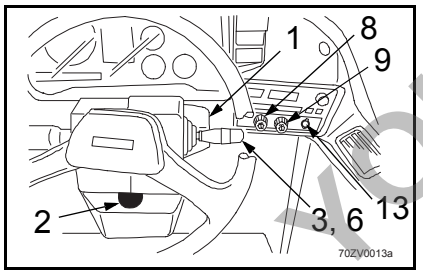
3. Lower the bucket parallel to the ground.

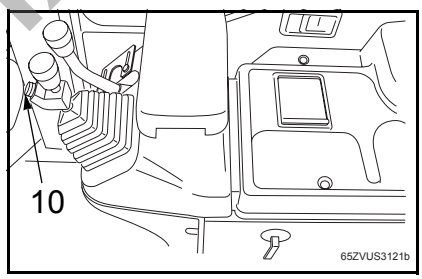
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Switches







1. Starter Switch
2. Parking Brake Switch
3. Light Switch
4. Front Working Light Switch
5. Rear Working Light Switch
6. High-Low Beam Lever / Turn Signal Lever (option)
7. Transmission Cut-Off (Declutch) Switch
8. Front Wiper Switch
9. Rear Wiper Switch
10. QUAD (Quick Up And Downshift) Switch
11. Four-way Flasher Switch (option)
12. Ride Control Switch (option)
13. 12 Volt Power-outlet Socket (S/N 5257~)
14. Reversal Fan Switch (option)

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ELECTRICAL

PROBLEM	POSSIBLE CAUSES	SOLUTIONS	PAGE
Charge lamp lights up	Broken or slipping alternator belt Defective battery Alternator failure Defective wiring Defective wiring to ground (short)	Adjust or replace belt Replace battery kawasaki or CUMMINS	2.49
Starter motor does not turn when starter switch key is turned to "START"	Transmission not in NEUTRAL Insufficient battery charge Starter switch failure Defective wiring Starter motor failure	Shift to NEUTRAL Battery charge or booster kawasaki kawasaki or CUMMINS	1.23 2.74
Starter motor turns engine slowly	Hydraulic control levers not in NEUTRAL Insufficient battery charging Engine oil viscosity too high (thick) Poor connection at batteries or ground Defective wiring Starter motor failure Steering valve failure	Move levers to NEUTRAL Battery charge or booster Replace oil Clean and tighten all terminals kawasaki kawasaki or CUMMINS kawasaki	2.4 2.74 3.25

STEERING

PROBLEM	POSSIBLE CAUSES	SOLUTIONS	PAGE
Hard steering	Tires are underinflated Severe conditions (over loaded, deep mud, etc.) Oil pressure too low Steering valve failure Steering cylinder failure Defective Orbitrol® Pump failure	Check/adjust tire pressure Change operation kawasaki	3.22
Will not steer	Articulation stopper in locked position Excessive load on steering Steering valve failure Orbitrol® failure Pump failure Relief valve failure Steering cylinder failure Blocked screen filter	Move articulation stopper to "STORED" position Reduce load kawasaki Clean filter	1.22 3.48
Steering Drift	Excessively cold oil / wrong grade oil Steering control valve failure Steering pilot valve failure	Warm oil / Replace oil with proper viscosity for temperature kawasaki	3.50

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SAFETY NOTICE

Whenever you see the symbols shown below in this manual or on the machine, read and understand their messages.

⚠ DANGER

This danger symbol identifies special warnings or procedures which, if not strictly observed, will result in death or serious injury.

⚠ WARNING

This warning symbol identifies special warnings or procedures which, if not strictly observed, could result in death or serious injury.

⚠ CAUTION

This caution symbol identifies special instructions or procedures which, if not strictly observed, may result in minor or moderate injury.

IMPORTANT

This important symbol identifies special instructions or procedures which, if not correctly followed, may result in serious machine damage.

Always follow safe operating and maintenance practices.
Kawasaki cannot anticipate every possible circumstance, use, or misuse of the machine that might involve a potential hazard. The warnings in this Operation & Maintenance Manual and on the machine are therefore not all inclusive.
If an operation or maintenance procedure is not performed as specifically recommended by Kawasaki, you must satisfy yourself that it is safe for you and others. You should also ensure that the machine will not be damaged by the operation or maintenance procedure you choose.

Kawasaki makes every effort to supply machines which conform to every regulation applicable in your country / state. However, if your machine is not supplied through the authorized Kawasaki dealer, it may not be equipped as the regulations require. Kawasaki cannot be responsible for anything on that kind of machine. Also, some local agencies or certain job sites may require special equipment that has not been provided. Contact your nearest Kawasaki dealer for further information or assistance.

No liability can be accepted for any inaccuracies or omissions in this publication, although every possible effort has been made to ensure it as complete and accurate as possible.

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FOREWORD

Congratulations on your purchase of the Kawasaki Wheel Loader 65ZV.
This manual contains safety, operation, transportation, maintenance and troubleshooting information. Read and understand the information in this manual carefully before operating or performing any maintenance of the machine. Failure to do so could result in personal injury or equipment failure. The safety of yourself and others depends upon your care and judgement in the operation and maintenance of this machine. Keep the manual with this machine at all times.

Kawasaki pursues a policy of continuing improvement in design and performance of this machine. The right is therefore reserved to vary specifications without prior notice or obligation.

This machine gives you, our customer, the maximum in performance and durability, state of the art technology and safety. Should you have any question regarding this machine or manual, please contact the Kawasaki dealer in your area during regular business hours. A satisfied customer is our goal.

For additional details, for safe and efficient operation and maintenance of your Cummins engine, please refer to your Cummins operation & maintenance manual.

There may be an optional supplemental operation & maintenance manual, and this also should be referred to when operating machines that are equipped with special packages.

This manual is compiled for persons who understand English. If an operator or maintenance person does not understand English, please translate what said in this manual into his mother language.

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