OPERATOR'S MANUAL



LOADER
422ZX

EN - 9831/3150 ISSUE 4 - 05/2017

THIS MANUAL SHOULD ALWAYS STAY WITH THE MACHINE

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Safety

Safety - Yours and Others

All machinery can be hazardous. When a machine is correctly operated and maintained, it is a safe machine to work with. When it is carelessly operated or poorly maintained it can become a danger to you (the operator) and others.

In this manual and on the machine you will find warning messages, read and understand them. They inform you of potential hazards and how to avoid them. If you do not fully understand the warning messages, ask your employer or JCB dealer to explain them.

Safety is not just a matter of responding to the warnings. All the time you are working on or with the machine you must be thinking of what hazards there might be and how to avoid them.

Do not work with the machine until you are sure that you can control it.

Do not start any work until you are sure that you and those around you will be safe.

If you are not sure of anything, about the machine or the work, ask someone who knows. Do not assume anything.

Remember:

- Be careful
- Be alert
- Be safe.

Safety Warnings

In this manual and on the machine, there are safety notices. Each notice starts with a signal word. The signal word meanings are given below.

The signal word 'DANGER' indicates a hazardous situation which, if not avoided, will result in death or serious injury.

The signal word 'WARNING' indicates a hazardous situation which, if not avoided, could result in death or serious injury.

The signal word 'CAUTION' indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

The signal word 'Notice' indicates a hazardous situation which, if not avoided, could result in machine damage.

The safety alert system (shown) also helps to identify important safety messages in this manual and on the machine. When you see this symbol, be alert, your safety is involved, carefully read the message that follows, and inform other operators.

Figure 3. The safety alert system



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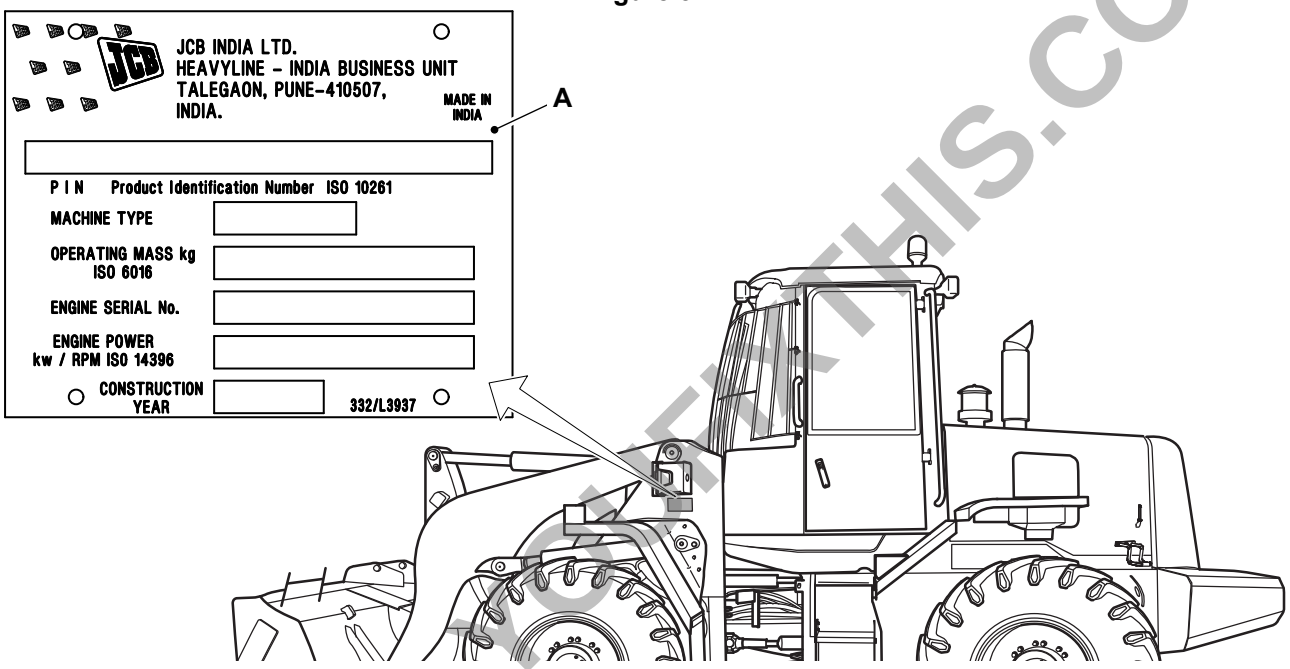
Product and Component Identification

Machine

Your machine has an identification plate. The PIN (Product Identification Number), weight, engine power, year of manufacture and serial number of the machine are shown on the identification plate.

The serial number of each major unit is also shown on the unit itself. If a major unit is replaced by a new one, the serial number on the identification plate will be wrong. Either get a replacement identification plate from your JCB dealer or simply remove the old number. This will prevent the wrong unit number being quoted when replacement parts are ordered.

Figure 5.



A Identification plate (location)

The machine model and build specification are indicated by the PIN. The PIN has 17 digits and must be read from left to right.

Table 1. Typical PIN

JCB	427	Z	S	C	02407001

Table 2. Explanation of the PIN

Digit	Description
1 to 3	World manufacturer identification. For example, JCB = UK Build, SOR = Sorocaba, Brazil.
4 to 6	Machine type and model
7	O = HT Loader End, Z = ZX Loader End
8	Designation: O = Non-Farmmaster, S = Farmmaster, I = India
9	Year of manufacture: F = 2015, G = 2016, H= 2017
10 to 17	Machine serial number

Engine

The engine data is shown on two identification plates one is attached to the rocker cover and one on the side of the engine as shown.

Part of the serial number is also stamped on the cylinder block.

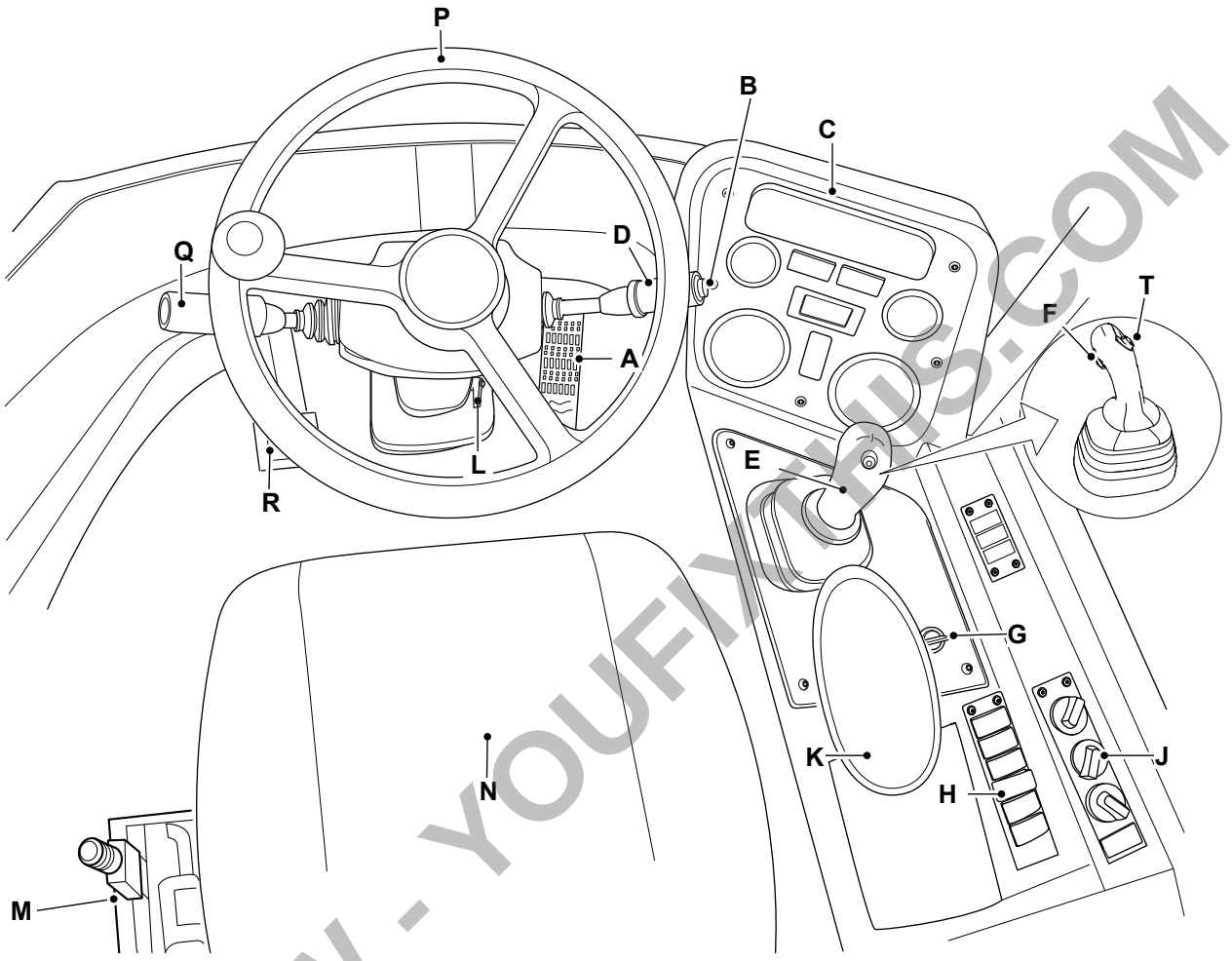
The data label includes the engine identification number.

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Operator Station

Component Locations

Figure 9.



A Accelerator pedal Refer to: Accelerator Pedal.
B Horn
C Front display panel Refer to: Instruments.
D Multi purpose steering column switch Refer to: Multi-Purpose Switch.
E Proportional lever controls Refer to: Operating Levers/Pedals.
F Transmission kickdown switch Refer to: Transmission Kickdown Switch.
G Starter switch Refer to: Ignition Switch.
H Console switches Refer to: Console Switches.
J ATC (Automatic Temperature Control) panel or optional manual HVAC (Heating Ventilation Air Conditioning) controls Refer to: Air-Conditioning Controls.
K Armrest Refer to: Armrest.
L Steering column adjustment
M Park brake switch Refer to: Park Brake.
N Seat Refer to: Operator Seat.
P Steering wheel Refer to: Steering Wheel.
Q Transmission control Refer to: Drive Controls.
R Service brake pedal Refer to: Service Brake Pedal.
S Auxiliary power socketRefer to: Auxiliary Power Socket.
T Transmission disconnect switch

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Operation
Introduction

General

The aim of this part of the manual is to guide the operator step-by-step through the task of learning how to operate the machine efficiently and safely. Read the Operation section through from beginning to end.

The operator must always be aware of events happening in or around the machine. Safety must always be the most important factor when you operate the machine.

When you understand the operating controls, gauges and switches, practice using them. Drive the machine in an open space, clear of people. Get to know the 'feel' of the machine and its driving controls.

Do not rush the job of learning, make sure you fully understand everything in the Operation section. Take your time and work efficiently and safely.

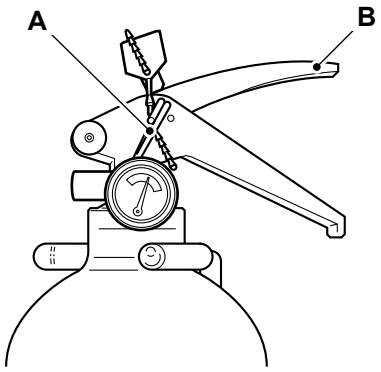
Remember:

- Be careful.
- Be alert.
- Be safe.

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Figure 45.



A Safety pin **B** Trigger

The fire extinguisher should be inspected daily. See Routine Maintenance, Fire Extinguisher (If fitted).

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Transporting the Machine

General

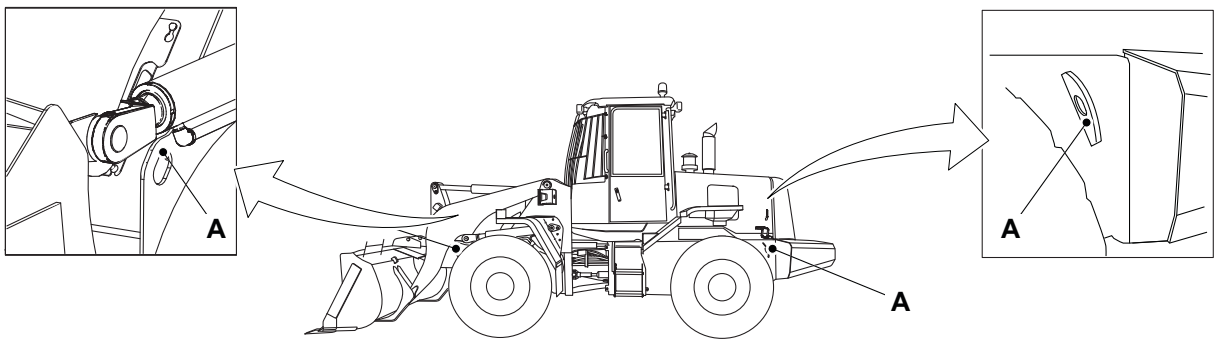
⚠ **WARNING** The safe transit of the load is the responsibility of the transport contractor and driver. Any machine, attachments or parts that may move during transit must be adequately secured.

CAUTION Before moving the machine onto the trailer, make sure that the trailer and ramp are free from oil, grease and ice. Remove oil, grease and ice from the machine tracks. Make sure the machine will not foul on the ramp angle.

Make sure that the transporting machine is suitable for the dimensions of your machine. Refer to: Static Dimensions.

1. Put the trailer in position:
   1.1. If the machine is serviceable, use any available position.
   1.2. If the machine is unserviceable, you must align the trailer with the rear of the machine.
2. Put the chocks at the front and rear of the trailer wheels.
3. Make sure that the ramps onto the trailer are in the correct position and are attached securely.
4. Set the loader arm to the road travel position.
   Refer to: Preparing for Road Travel.
5. Move the machine onto the trailer:
   5.1. Carefully reverse a serviceable machine onto the trailer.
   5.2. Lift an unserviceable machine into position on the trailer.
6. Engage the park brake and set the transmission to the neutral position. Put blocks at the front and rear of all four tyres.
7. Put blocks at the front and rear of all four tyres of the machine.
8. When the machine is safely in position, lower the attachment onto the trailer, then stop the engine.
9. Install the articulation lock.
   Refer to: Articulation Lock.
10. Make sure the total height of the load is within regulations, adjust the height if necessary.
11. Put a cover on the exhaust stack.
12. Use the tie-down points to secure the machine to the trailer with suitable chains or restraints.
    12.1. Make sure the chains or restraints are arranged at the correct angles.
    12.2. Measure the maximum height of the machine from the ground. Make sure the driver knows the clearance height before driving away.

Figure 52.



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Pre-start Cold Checks, Service Points and Fluid Levels

Table 18.

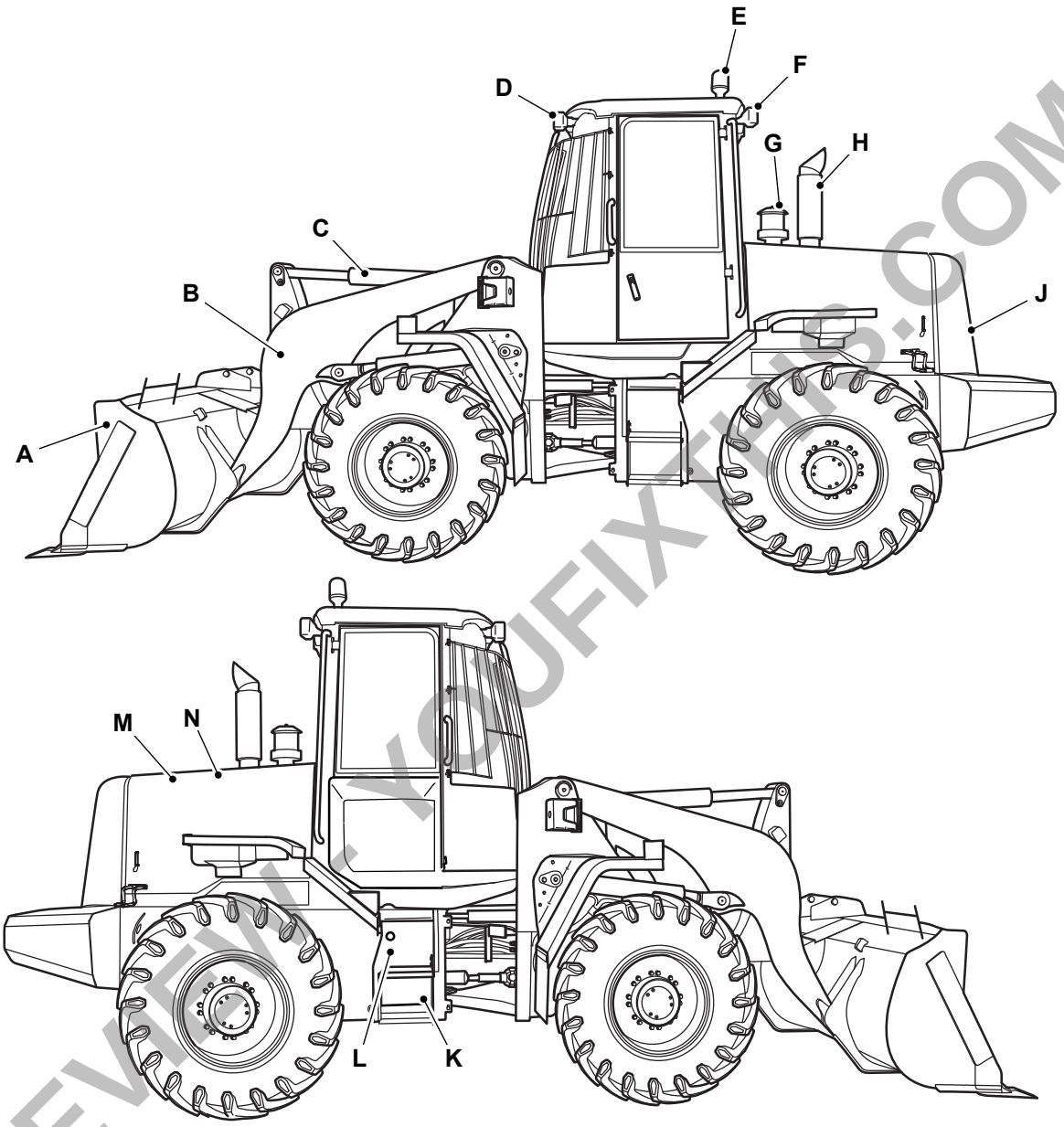
	Task	10	50	100[1]	100	500	1,000	2,000
Engine								
Oil Level	Check	O	O	□	□	□	□	□
Oil and Filter	Change[2]					□	□	□
Coolant	Change							□
Coolant Level	Check	O	O	□	□	□	□	□
Coolant Strength and Condition	Check					□	□	□
Air Cleaner Dust Valve	Clean[3]			□	□	□	□	□
Air Cleaner Outer Element	Change[4]					□	□	□
Air Cleaner Inner Element	Change							□
Fuel System for Leaks and Contamination	Check	O	O	□	□	□	□	□
Fuel Filters- Water Seperators	Drain		O	□	□	□	□	□
Fuel Filters	Change					□	□	□
Drive Belt Condition[5]	Check			□		□	□	□
Valve Clearances	Check/Adjust							□
External Oil Leaks	Check	O	O	□	□	□	□	□
Radiator	Clean					□	□	□
All Hoses for Condition and Security	Check			□		□	□	□
Rocker Cover and Injector Seals[6]	Check							□
High Pressure Fuel Lines[7]	Check							
Transmission and Axles								
Transmission Oil Level	Check	O	O	□	□	□	□	□
Differential Oil Level	Check			□		□	□	□
Differential Oil[8]	Change					□	□	□
Hub Oil Level	Check			□		□	□	□
Hub Oil[8]	Change					□	□	□
Axle Breathers	Clean					□	□	□
Tyre Pressures and Condition	Check	O	O	□	□	□	□	□
Wheel Nut Security	Check	O	O	□	□	□	□	□
Axle Mount Security	Check			□			□	□
Driveshaft Security	Check			□			□	□
Driveshaft and Universal Joints[9]	Replace			□		□	□	□
Transmission Mount Security	Check			□			□	□

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Main Component Locations

Figure 4.



A Shovel
B Loader arms
C Ram
D Front work lights
E Beacon (option)
F Rear work lights
G Rain cap (air filter system) Pre-air cleaner
H Exhaust stack
J Rear grille
K Tool box
L Hydraulic oil level sight glass
M Engine cover
N Coolant filler cap - access point

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Safety Label Identification

Figure 8.

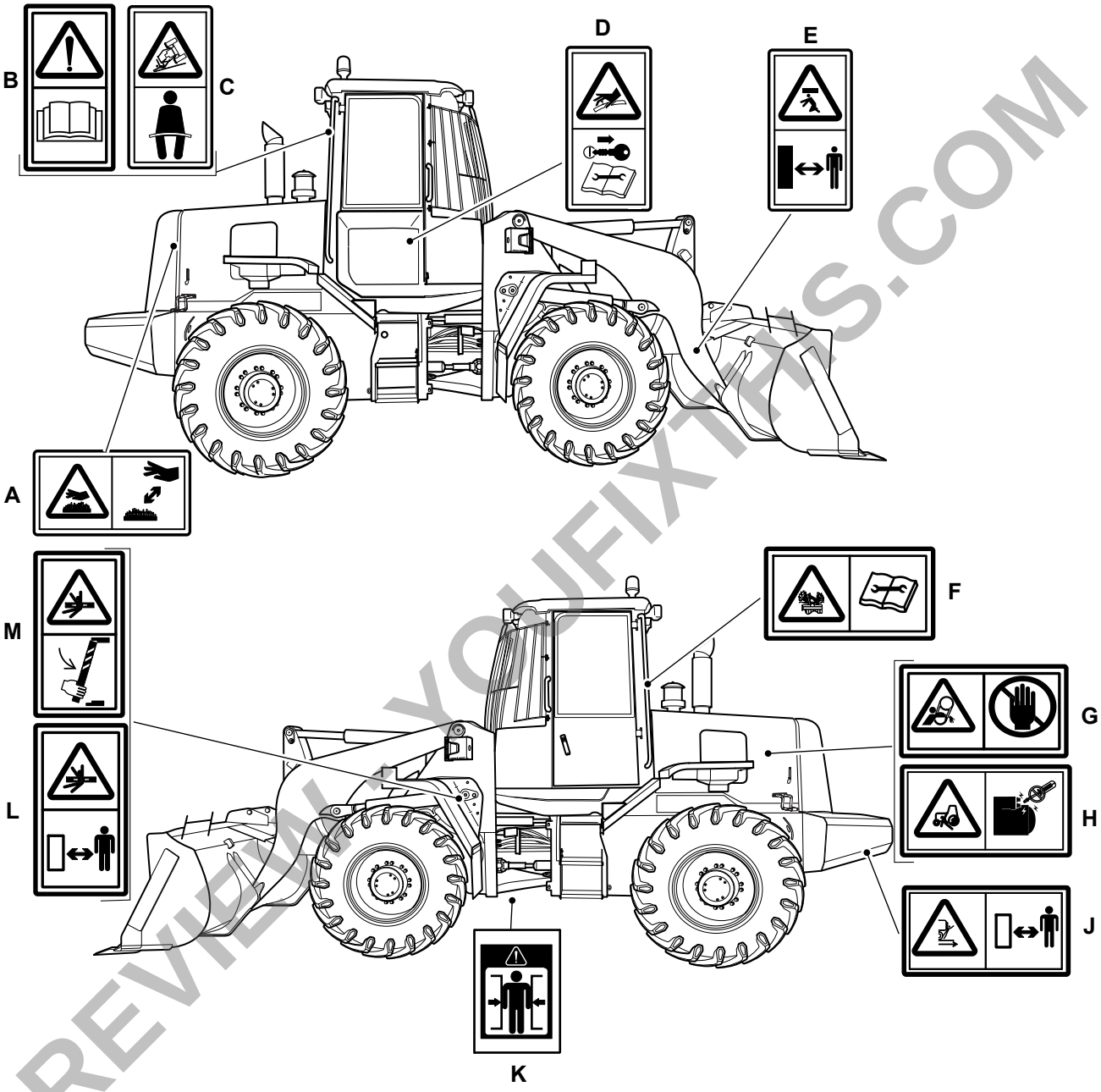


Table 3. Safety Labels

Item	Part No.	Description	Qty.
A	332/P7128	Burns to fingers and hands. Stay a safe distance away.	2
B	817/70014	Warning. Read the Operator's Manual before you operate the machine.	1
C	817/70029	Crush hazard. Wear seat belt.	1
D	817/70002	Pressure hazard. Stop the engine, remove the starter key and consult the Service Manual before you complete any service or maintenance work.	1
E	817/70008	Crushing of whole body. Keep a safe distance from machine.	2
F	332/P7131	Pressure hazard. Read the Service Manual.	1
G	332/P7134	Entanglement hazard. Do not touch.	2

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N	Water Temperature High (Red)	Audible/Indicator illuminates if the engine coolant temperature rises too high.
P	Engine Oil Pressure Low (Red)	Audible/indicator illuminates if the engine oil pressure falls too low. The light should go off when the engine is started.

Digital Display for Transmission

Faults List

If a fault is detected, the display shows a spanner symbol (g) for a fault. The display shows the fault code, if the gear selector is on neutral position. If more than one fault is detected, each fault code is shown for about 1 second.

Table 11. Display during Operation

Symbol	Meaning	Remarks
1F, 1R	Actual gear and direction. Left digit shows actual gear and right digit shows actual direction	
2F, 2R		
3F, 3R		
4F		
5F		
6F		
LF, LR	Limp home gear	
F or R, no gear	Clutch Cutoff	
F or R flashing	Direction F or R selected while turbine speed is too high	CAUTION: Gear will engage if turbine speed drops
NN	not neutral, waiting for neutral after power up or a severe fault	To engage a gear, first move shift selector to neutral position and again to F or R position
**	Oil temperature too low, no gear available	Warm up engine / transmission
*N	Oil temperature low, only one gear available	Warm up engine / transmission
1 bar (special symbol)	Manual mode 1st gear	
2 bars	Manual mode 2nd gear	
3 bars	Manual mode 3rd gear	
4 bars	Manual mode 4th gear and also 5th and 6th gear in 6WG	
4 bars and 2 arrows	Automatic mode	
Bars flashing	6 WG - Converter lockup clutch open	Difference of engine and turbine speed above a certain limit and lockup clutch not activated
	4 WG - Downshift mode active	
Spanner	At least one fault active	Select neutral to get fault code displayed
Fault code	See fault code list	
WS	Warning sump temperature	Changes between actual gear/direction while driving, in neutral only displayed if no fault is detected (spanner)
WR	Warning torque converter temperature	Changes between actual gear/direction while driving, in neutral only displayed if no fault is detected (spanner)
WT	Warning torque converter temperature	Changes between actual gear/direction while driving, in neutral only displayed if no fault is detected (spanner)

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