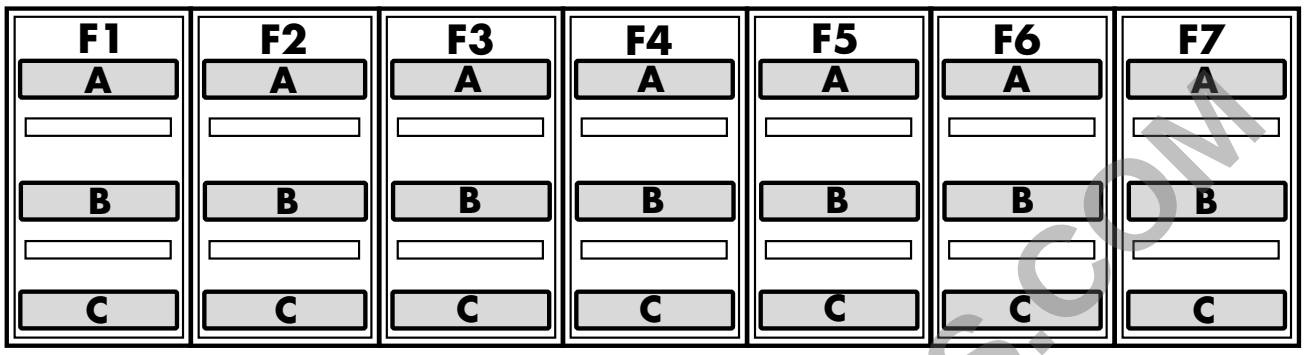
## 25.

• Equipment fuse decal

RWA17060

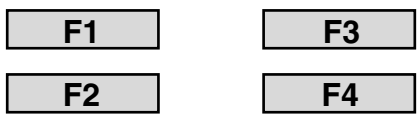



| POSITION | | COLOR | CAPACITY (A) | LED n° | INVOLVED CIRCUIT |
|---|---|---|---|---|---|
| F1 | A | Light blue | 15 | DL28 | Low beam |
| | B | Violet | 3 | DL8 | Rear right and front left parking light |
| | C | Violet | 3 | DL7 | Rear left and front right parking light |
| F2 | A | Red | 10 | DL10 | Electric lighter |
| | B | Brown | 7.5 | DL11 | Cab overhead lamp - Radio |
| | C | Red | 10 | DL12 | Emergency power supply |
| F3 | A | Brown | 7.5 | DL3 | Start enabling |
| | B | Brown | 7.5 | DL13 | Instruments - Switch lights |
| | C | Brown | 7.5 | DL27 | Optional equipment solenoid valve |
| F4 | A | Brown | 7.5 | DL14 | Differential lock solenoid valve |
| | B | Red | 10 | DL15 | Direction selector |
| | C | Light blue | 15 | DL29 | High beam |
| F5 | A | Light blue | 15 | DL17 | Heating |
| | B | Light blue | 15 | DL18 | Rear working lights |
| | C | Light blue | 15 | DL19 | Front working lights |
| F6 | A | Light blue | 15 | DL20 | Windshield wiper - Revolving light |
| | B | Brown | 7.5 | DL21 | Dimmer switch - Horn relay |
| | C | Red | 10 | DL22 | Direction indicators |
| F7 | A | Brown | 7.5 | DL23 | Monitor (if provided) |
| | B | Red | 10 | DL24 | Horn |
| | C | Brown | 7.5 | DL25 | Alternator excitation - Engine stop solenoid |

## 26.

• Engine fuse decal

RWA29200




| POSITION | COLOR | CAPACITY (A) | INVOLVED CIRCUIT |
|---|---|---|---|
| F1 | White | 80 | Glow plug preheating |
| F2 | Green | 30 | Engine stop |
| F3 | Blue | 60 | Engine start |
| F4 | White | 80 | Alternator |

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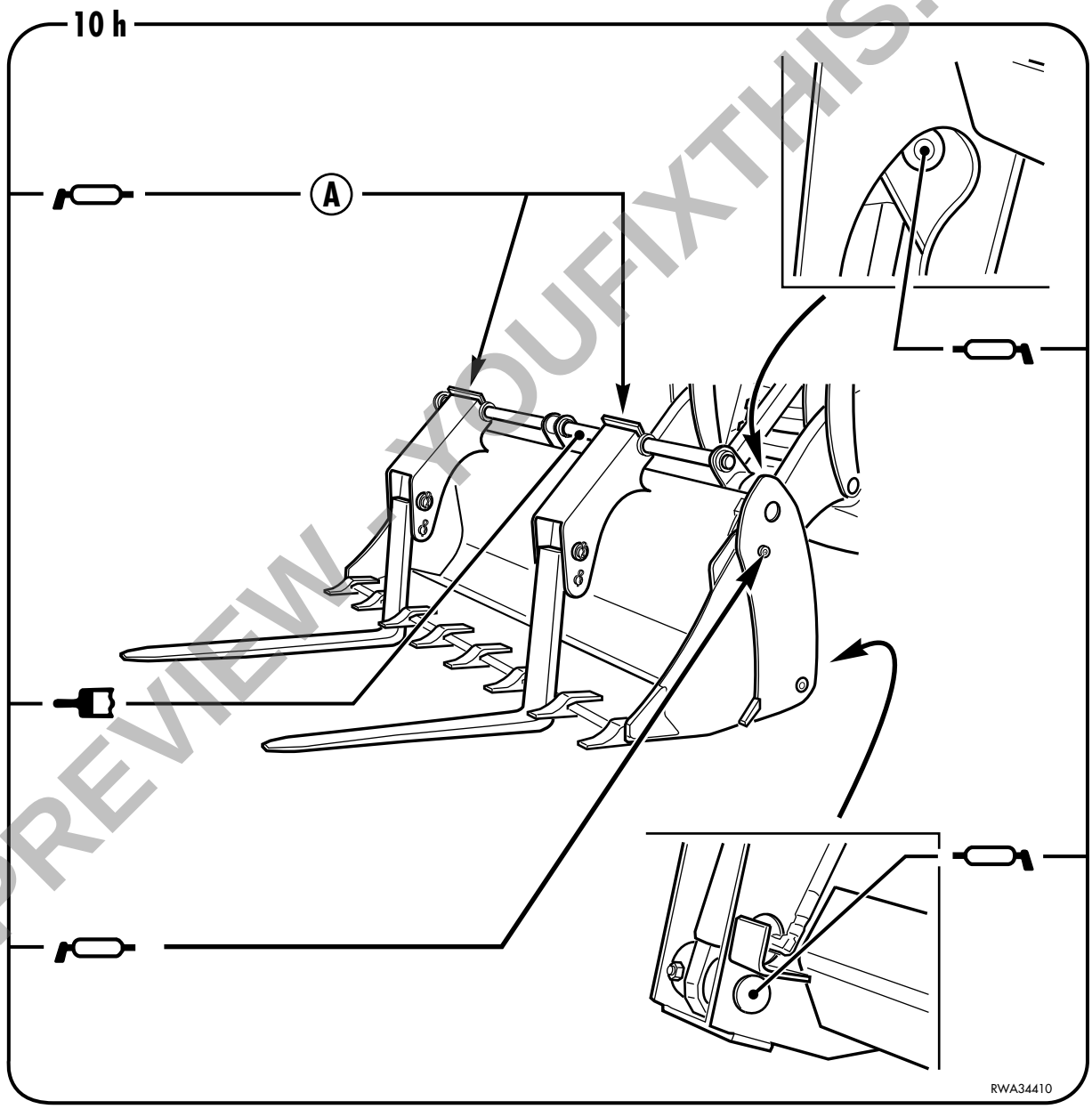


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## 26.3 LUBRICATION DIAGRAM (multipurpose bucket and pallet forks)

☞ **IMPORTANT**

- **For the other greasing points, see "26.2 LUBRICATION DIAGRAM".**
- **The points indicated are symmetrical and must be lubricated every 10 hours.**
- **The fork sliding bars and the safety pins must be lubricated with grease only to protect them from oxidation.**
- **The fork joints (A) must be lubricated only if the forks are used.**




Grease

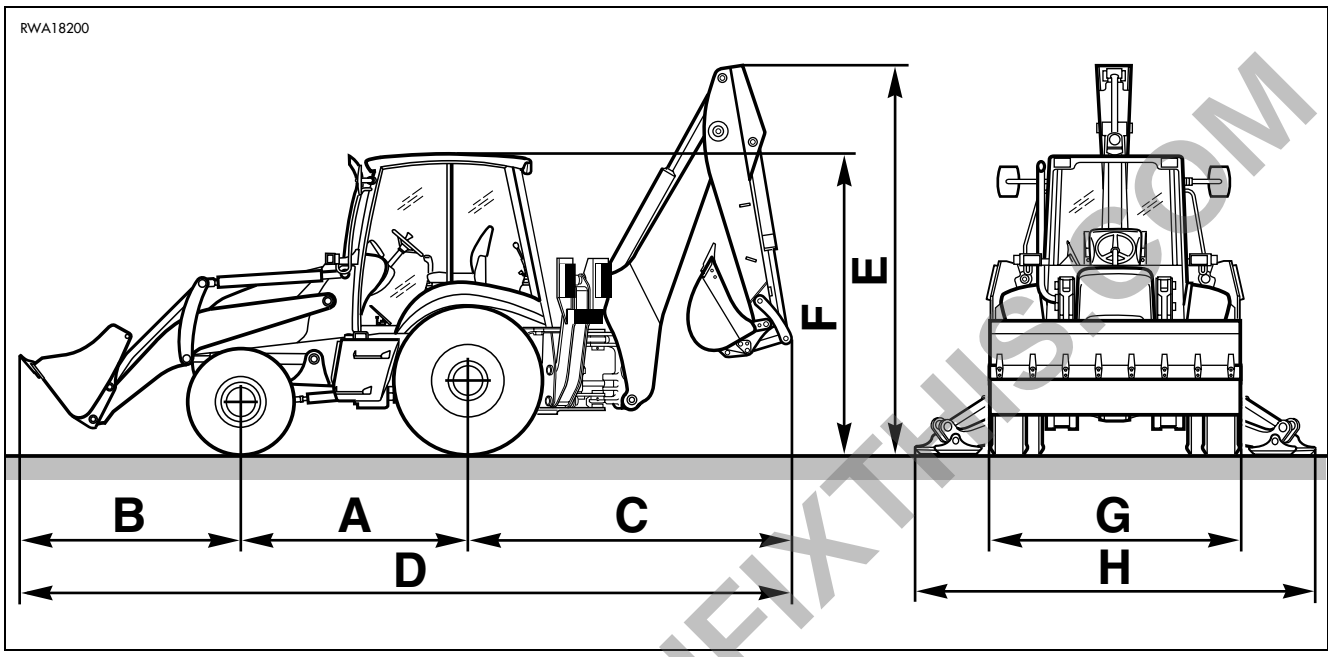
Grease



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# 9. TECHNICAL DATA

## 9.1 STANDARD OVERALL DIMENSIONS




| Pos. | WB140R-2 STANDARD | WB140R-2 TELESCOPIC ARM | WB150R-2 STANDARD | WB150R-2 TELESCOPIC ARM |
|---|---|---|---|---|
| **A** | 2175 (7’ 2’’) | 2175 (7’ 2’’) | 2175 (7’ 2’’) | 2175 (7’ 2’’) |
| **B** | 2080 (6’ 10’’) | 2080 (6’ 10’’) | 2080 (6’ 10’’) | 2080 (6’ 10’’) |
| **C** | 2945 (9’ 8’’) | 2940 (9’ 8’’) | 3015 (9’ 10’’) | 2940 (9’ 8’’) |
| **D** | 7200 (23’ 7’’) | 7195 (23’ 7’’) | 7270 (23’ 10’’) | 7195 (23’ 7’’) |
| **E** | 3625 (11’ 11’’) | 3630 (11’ 11’’) | 3625 (11’ 11’’) | 3630 (11’ 11’’) |
| **F** | 2750 (9’) | 2750 (9’) | 2750 (9’) | 2750 (9’) |
| **G** | 2320 (7’ 8’’) | 2320 (7’ 8’’) | 2320 (7’ 8’’) | 2320 (7’ 8’’) |
| **H** | 3780 (12’ 4’’) | 3780 (12’ 4’’) | 3780 (12’ 4’’) | 3780 (12’ 4’’) |

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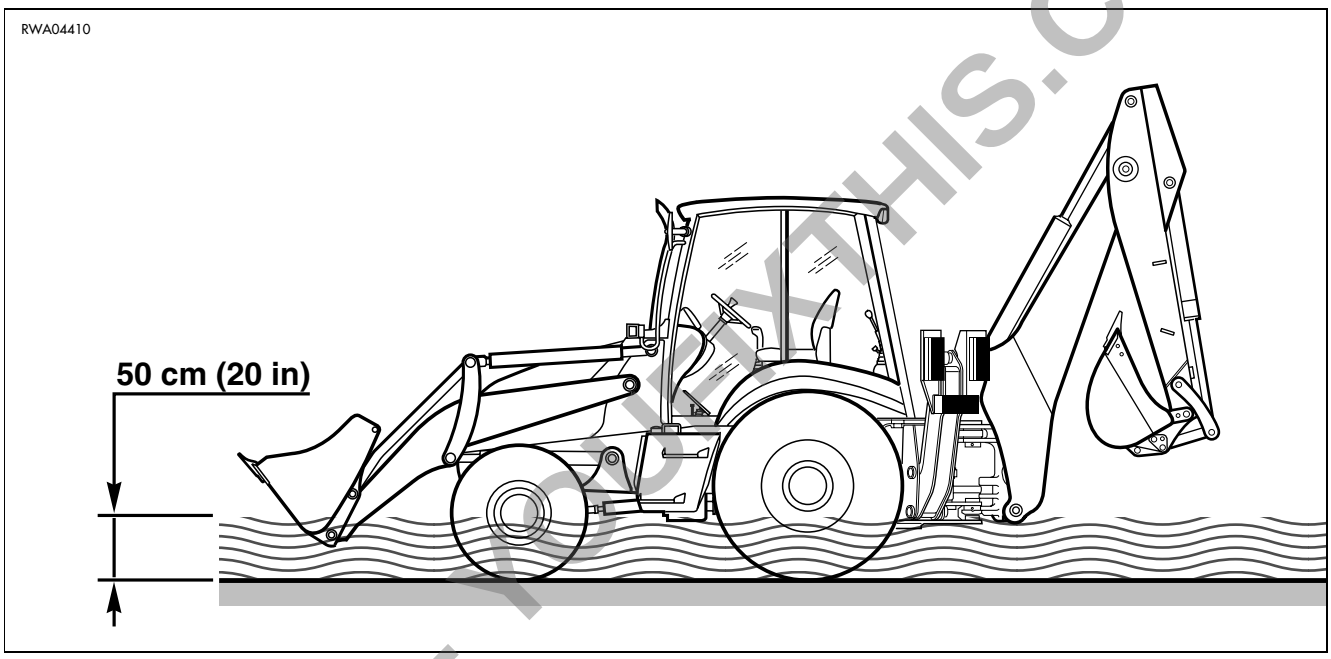
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## 15.5.4 MAXIMUM IMMERSION DEPTH

**WARNING**

- **If it is necessary to work with the machine immersed in water on on river banks or sea shores, always check the water depth and the current flow.**
- **Make sure that the surface on which you are working is sufficently firm.**

If it is necessary to work with the machine immersed in water, make sure that the maximum depth does not exceed 50 cm (20 in) and in any case that the engine cooling fan does not touch the water, since it may get damaged or even break.




**CAUTION**

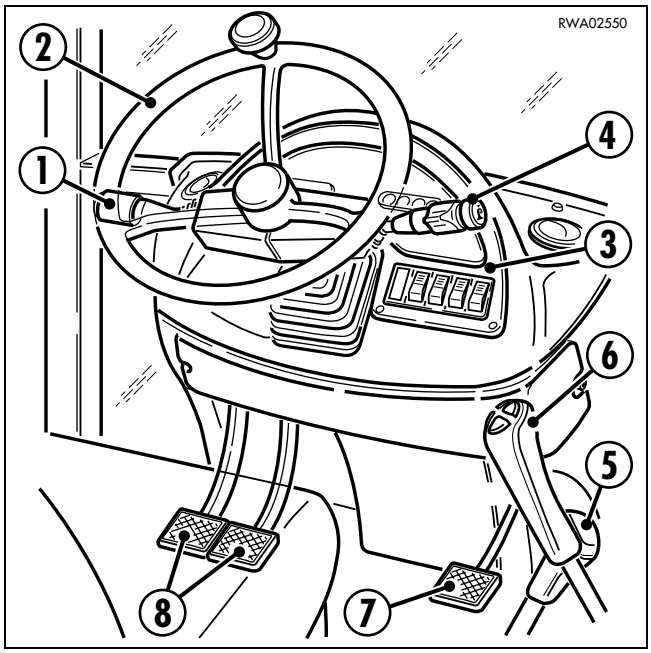
- **When working in water or on muddy ground, lubricate the articulations more frequently than usual.**
- **After work, remove any dirt or mud and lubricate the articulations.**

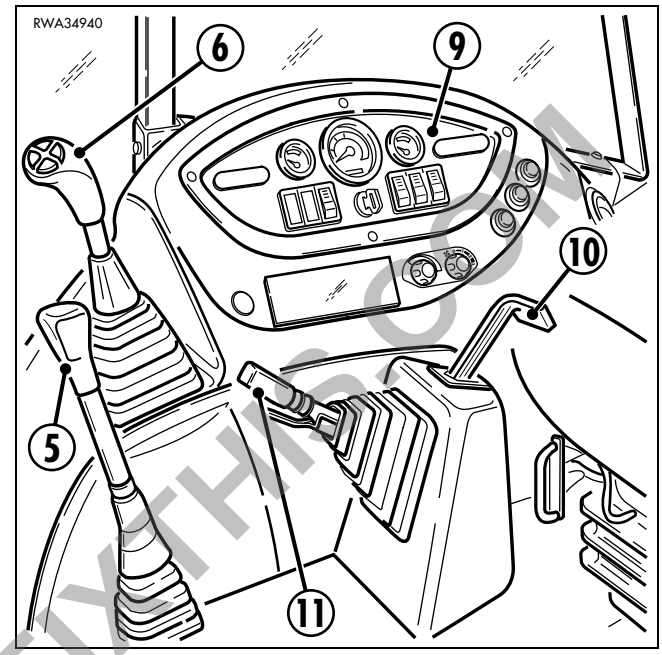
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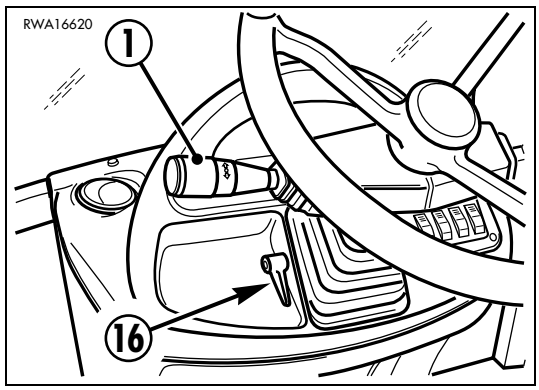
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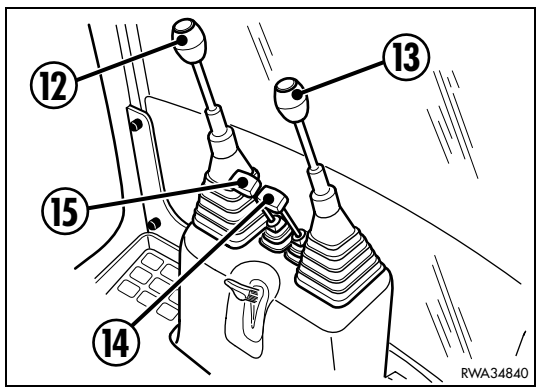
## 11.3 CAB INSIDE GENERAL VIEW




1 - Directional control lever
2 - Steering wheel
3 - Front dashboard
4 - Turn Signal- dimmer switch
5 - Gearshift lever
6 - Front loader control lever
7 - Accelerator pedal
8 - Brake pedals
9 - Side dashboard
10 - Hand accelerator
11 - Parking brake
12 - Arm and swing control lever (ISO system controls)
- Boom and swing control lever (Komatsu backhoe controls)
13 - Boom and bucket control lever (ISO system controls)
- Arm and bucket control lever (Komatsubackhoe controls)
14 - Right stabilizer control lever
15 - Left stabilizer control lever
16 - Steering wheel adjustment lock (optional)




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# 23.4 OTHER TROUBLES

(•): Always contact your Komatsu Dealer when you have to carry out this operation.

(•): If the anomaly or its cause are not included in the failures indicated below, contact your Komatsu Dealer for the necessary repair.

## 23.4.1 ELECTRICAL CIRCUIT

| TROUBLE | CAUSE | REMEDY |
|---|---|---|
| Lights do not work satisfactorily even with engine running at high speed: | • Faulty cables.<br>• Faulty fan belt tension. | (•) Check and repair any loose terminal and connection.<br>• Adjust fan tension (see “EVERY 250 HOURS). |
| Lights come on intermittently with engine running: | | |
| Alternator charge warning light does not go out with engine running and increasing speed: | • Faulty alternator.<br>• Faulty cables. | (•) Change.<br>(•) Check and repair. |
| Alternator emits an abnormal noise: | • Faulty alternator. | (•) Change. |
| Starter does not turn with key in START position: | • Faulty cables.<br>• Battery charge insufficient.<br>• Faulty engine start fuse. | (•) Check and repair.<br>• Charge battery.<br>• Change. |
| Starter pinion engages and then disengages: | • Battery charge insufficient. | • Charge battery. |
| Starter makes engine run slowly: | • Battery charge insufficient.<br>• Faulty starter. | • Charge battery.<br>(•) Change. |
| Starter disengages before engine has started: | • Faulty cables.<br>• Battery charge insufficient. | (•) Check and repair.<br>• Charge battery. |
| Engine oil pressure warning light does not come on when engine is stopped (ignition key in position «I»): | • Faulty bulb.<br>• Faulty pressure sensor. | (•) Change.<br>(•) Change. |
| Alternator charge warning light does not come on when engine is stopped (ignition key in position «I»): | • Faulty bulb.<br>• Faulty cables. | (•) Change.<br>(•) Check and repair. |

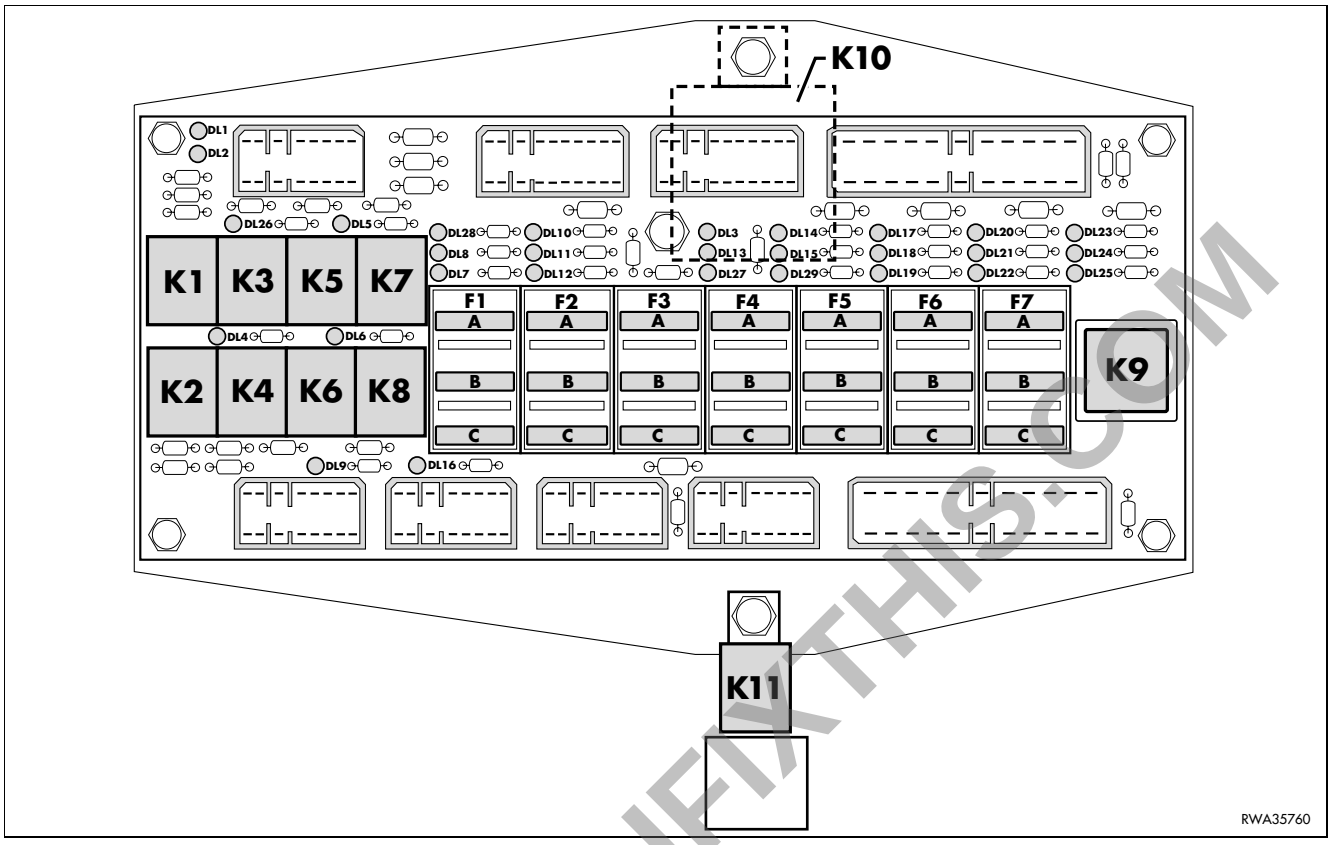
## 23.4.2 HYDRAULIC SYSTEM

| TROUBLE | CAUSE | REMEDY |
|---|---|---|
| Pump emits an abnormal noise: | • No oil in the tank.<br>• Faulty pump.<br>• Hydraulic oil unsuitable for the temperature. | • Top off.<br>(•) Repair or change.<br>• Change. |
| Equipment control levers do not return automatically to neutral position: | • Broken return spring or seized element. | (•) Change spring or distributor element. |
| Equipment moves only at low speed: | • Faulty pump.<br>• Max. pressure valves out of rating, or not closed due to impurities.<br>• Dirty drain filter. | (•) Repair or change.<br>(•) Calibrate or change.<br>• Change. |

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## FUSES

| POSITION | | COLOR | CAPACITY (A) | LED n° | INVOLVED CIRCUIT |
|---|---|---|---|---|---|
| F1 | A | Light blue | 15 | DL28 | Low beam |
| | B | Violet | 3 | DL8 | Rear right and front left parking light |
| | C | Violet | 3 | DL7 | Rear left and front right parking light |
| F2 | A | Red | 10 | DL10 | Electric lighter |
| | B | Brown | 7.5 | DL11 | Cab overhead lamp - Radio |
| | C | Red | 10 | DL12 | Emergency power supply |
| F3 | A | Brown | 7.5 | DL3 | Start enabling |
| | B | Brown | 7.5 | DL13 | Instruments - Switch lights |
| | C | Brown | 7.5 | DL27 | Optional equipment solenoid valve |
| F4 | A | Brown | 7.5 | DL14 | Differential lock solenoid valve |
| | B | Red | 10 | DL15 | Direction selector |
| | C | Light blue | 15 | DL29 | High beam |
| F5 | A | Light blue | 15 | DL17 | Heating |
| | B | Light blue | 15 | DL18 | Rear working lights |
| | C | Light blue | 15 | DL19 | Front working lights |
| F6 | A | Light blue | 15 | DL20 | Windshield wiper - Revolving light |
| | B | Brown | 7.5 | DL21 | Dimmer switch - Horn relay |
| | C | Red | 10 | DL22 | Direction indicators |
| F7 | A | Brown | 7.5 | DL23 | Monitor (if provided) |
| | B | Red | 10 | DL24 | Horn |
| | C | Brown | 7.5 | DL25 | Alternator excitation - Engine stop solenoid |

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# 27. NUT AND BOLT TIGHTENING TORQUES

## 27.1 STANDARD TIGHTENING TORQUES

**★ Nm (Newton metre): 1 Nm = 0.102 kgm (0.738 lb ft)**

| Thread diameter (mm) | Pitch (mm) | wrench size (mm) | 8.8 | | | 10.9 | | |
|---|---|---|---|---|---|---|---|---|
| | | | kgm | Nm | lb ft | kgm | Nm | lb ft |
| 6 | 1 | 10 | 0.96 ± 0.1 | 9.5 ± 1 | 7 ± 0.74 | 1.3 ± 0.15 | 13.5 ± 1.5 | 10 ± 1 |
| 8 | 1.25 | 13 | 2.3 ± 0.2 | 23 ± 2 | 17 ± 1.5 | 3.2 ± 0.3 | 32.2 ± 3.5 | 24 ± 2.6 |
| 10 | 1.5 | 17 | 4.6 ± 0.5 | 45 ± 4.9 | 32 ± 3.6 | 6.5 ± 0.6 | 63 ± 6.5 | 47 ± 4.8 |
| 12 | 1.75 | 19 | 7.8 ± 0.8 | 77 ± 8 | 57 ± 5.9 | 11 ± 1 | 108 ± 11 | 80 ± 8 |
| 14 | 2 | 22 | 12.5 ± 1 | 122 ± 13 | 90 ± 9.6 | 17.5 ± 2 | 172 ± 18 | 127 ± 13 |
| 16 | 2 | 24 | 19.5 ± 2 | 191 ± 21 | 141 ± 15 | 27 ± 3 | 268 ± 29 | 198 ± 22 |
| 18 | 2.5 | 27 | 27 ± 3 | 262 ± 28 | 194 ± 21 | 37 ± 4 | 366 ± 36 | 270 ± 26 |
| 20 | 2.5 | 30 | 38 ± 4 | 372 ± 40 | 275 ± 30 | 53 ± 6 | 524 ± 57 | 387 ± 42 |
| 22 | 2.5 | 32 | 52 ± 6 | 511 ± 57 | 377 ± 42 | 73 ± 8 | 719 ± 80 | 531 ± 59 |
| 24 | 3 | 36 | 66 ± 7 | 644 ± 70 | 475 ± 52 | 92 ± 10 | 905 ± 98 | 668 ± 72 |
| 27 | 3 | 41 | 96 ± 10 | 945 ± 100 | 698 ± 74 | 135 ± 15 | 1329 ± 140 | 980 ± 103 |
| 30 | 3.5 | 46 | 131 ± 14 | 1287 ± 140 | 950 ± 103 | 184 ± 20 | 1810 ± 190 | 1336 ± 140 |

☞ **IMPORTANT**

- **This driving torque table is not valid for screws or nuts that must lock nylon parts or alike onto wash-**

## 27.2 SPECIFIC TIGHTENING TORQUES

| ITEM | DESCRIPTION | kgm | Nm | lb ft |
|---|---|---|---|---|
| Cab | Front support screws<br>Rear support screws | 20 ± 1<br>20 ± 1 | 196 ± 9.8<br>196 ± 9.8 | 145 ±7.4<br>145 ±7.4 |
| Wheels | Front<br>Rear | 35.7 ± 1<br>51 ± 1 | 350 ± 9.8<br>500 ± 9.8 | 258 ± 7.4<br>369 ± 7.4 |
| Front bucket | Teeth | 14.5 ± 1 | 143 ± 9.8 | 106 ± 7.4 |
| Backhoe bucket | Central teeth<br>Side teeth | 14.5 ± 1<br>14.5 ± 1 | 143 ± 9.8<br>143 ± 9.8 | 106 ± 7.4<br>106 ± 7.4 |
| Engine and transmission | Front support central screw<br>Rear support central screw | 20 ± 1<br>20 ± 1 | 196 ± 9.8<br>196 ± 9.8 | 145 ±7.4<br>145 ±7.4 |

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## 9.2 TECHNICAL CHARACTERISTICS WB140R-2 (ASPIRATED ENGINE)

### TOTAL MASS

| | |
|---|---|
| Minimum total mass | kg 7400 (16314 lb) |
| Maximum total mass | kg 8800 (19400 lb) |

### STANDARD BUCKET CAPACITY

| | |
|---|---|
| Front bucket capacity (SAE) | cu.m 1.03 (1.30 cu.yd.) |
| Backhoe bucket capacity (SAE) | cu.m 0.20 (0.26 cu.yd.) |

### ASPIRATED ENGINE

| | |
|---|---|
| Komatsu diesel engine model | 4D106-1FA |
| Maximum power (2200 rpm EEC 80-1269) | kW 61 (81.8 HP) |
| Maximum torque (1500±100 rpm EEC 80-1269) | Nm 310 (229 lb.ft.) |

### ELECTRICAL SYSTEM

| | |
|---|---|
| Alternator | 12V |
| Electrical output | 80 A |
| Earthing | negative |
| Battery | 155 Ah - 12V |
| Starter | kW 3.0 |

### TRAVEL SPEEDS

**(calculated with 18.4/26 tires and engine at 2200 rpm)**

| | FORWARD | | | | REVERSE | | | |
|---|---|---|---|---|---|---|---|---|
| **GEARS** | **1** | **2** | **3** | **4** | **1** | **2** | **3** | **4** |
| km/h | 6 | 11 | 21 | 39 | 6 | 11 | 21 | 39 |
| MPH | 3.8 | 6.8 | 13 | 24.2 | 3.8 | 6.8 | 13 | 24.2 |

### FRONT TIRES

| SIZE | | MAKE | INFLATION PRESSURE |
|---|---|---|---|
| 14-17.5 NHS | PR 10 | GOOD YEAR | bar 3.2 (46 psi) |

### REAR TIRES

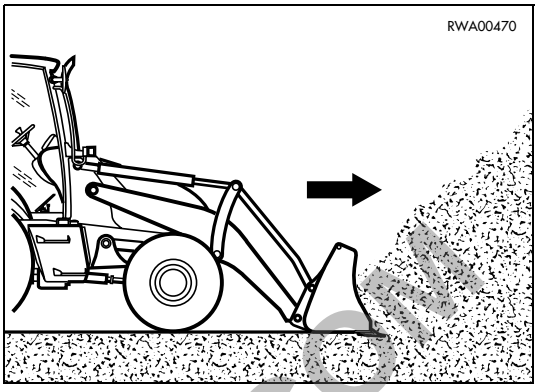
| SIZE | | MAKE | INFLATION PRESSURE |
|---|---|---|---|
| 19.5 L24 | PR 10 | GOOD YEAR | bar 2.2 (32 psi) |

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## 21.2.1 LOADING HEAPED AND LEVEL MATERIAL

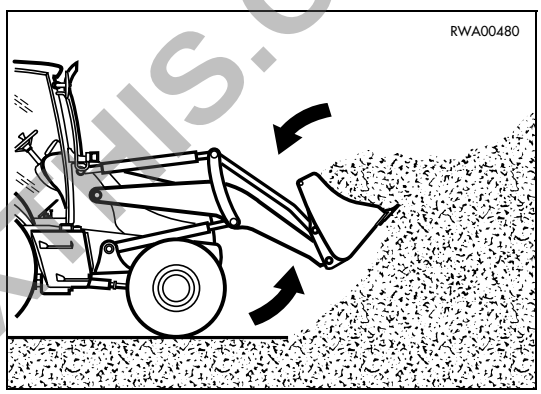



The efficiency of the bucket depends on how the operator starts loading; proceed as follows:

1 - Start moving and direct the bucket towards the heap base.

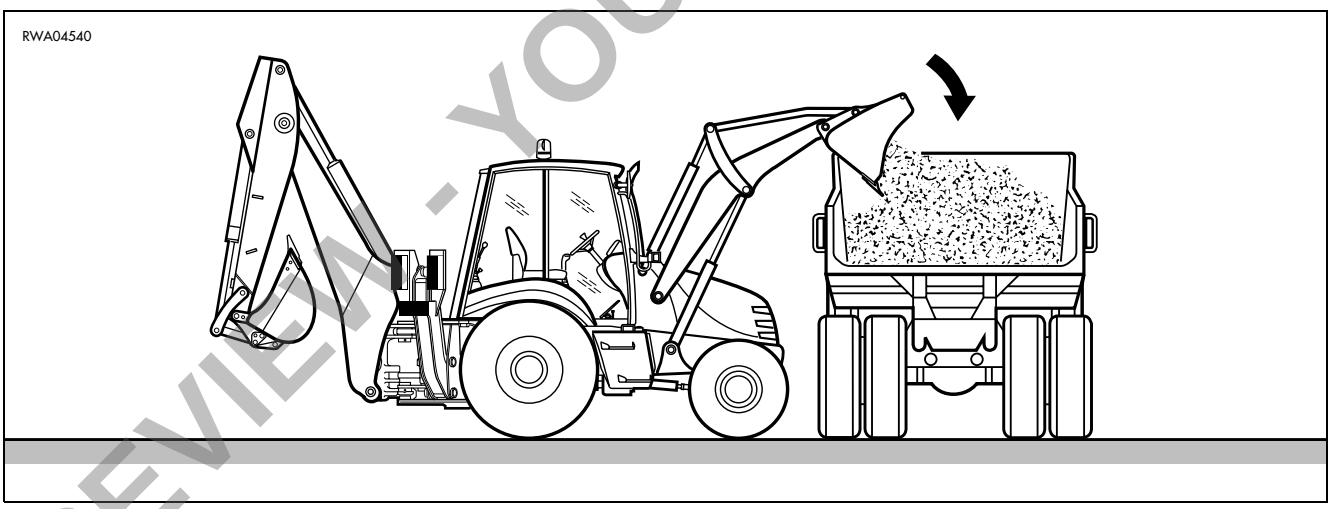
2 - While the upper material falls down filling the bucket, raise the arms gradually and at the same time retract the bucket to the end of its stroke.

3 - Reverse the motion of the machine and dump the bucket on the truck. After unloading the material on the truck, use the "return to dig" device of the loader hydraulic system to accelerate the operations. Once the device has been connected, it lowers the arm completely and at the same time brings the bucket in perpendicular position with respect to the ground. This is particularly useful for the operator, since in this way the machine is ready for the successive loading phase. For the correct use of the "return to dig" device, see "12.6 MACHINE CONTROLS Pos. 4".




**IMPORTANT**

- **Start loading the truck from the cab side and, if the material is sufficiently homogeneous, dump from the maximum height in order to increase the compaction of the material and its distribution on the loading platform.**




## 21.2.2 LOADING OPERATIONS ON SLOPES

**WARNING**

- **Travel uphill with the bucket directed forward; the same rule must be followed when loading.**
- **Travel downhill in reverse with the loader directed forward and lowered bucket.**
- **Move changing direction very slowly, with the bucket as low as possible.**
- **Avoid any transverse position with respect to the slope direction.**
- **Sudden movements of the bucket and dangerous positions may cause the machine to overturn and lead to serious accidents or even death.**

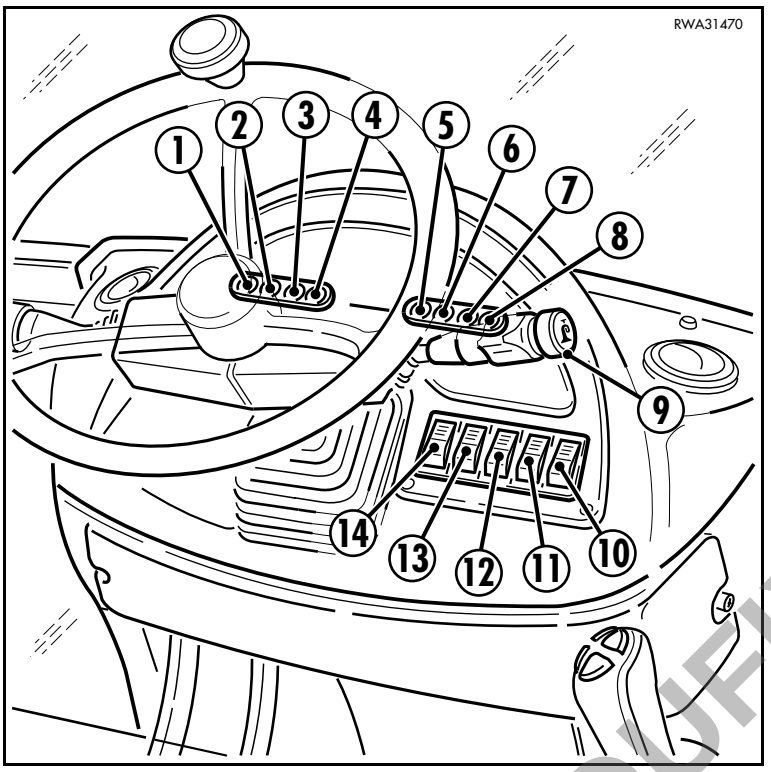
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# 12. INSTRUMENTS AND CONTROLS

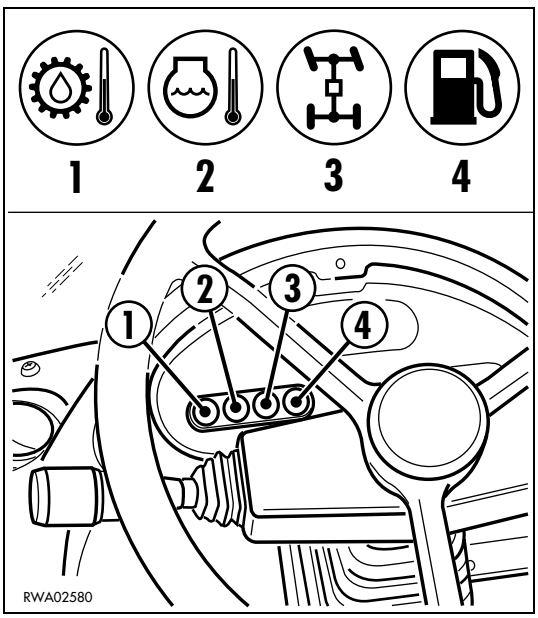
## 12.1 FRONT INSTRUMENTS




1 - Transmission oil temperature warning light
2 - Engine coolant temperature warning light
3 - Four-wheel drive engagement warning light
4 - Low fuel warning light
5 - Direction indicator warning light
6 - High beam warning light
7 - Parking brake and brake oil level warning light
8 - Differential locking warning light
9 - Turn Signal, rotary switch, horn, light flashing
10 - Four-wheel drive switch
11 - Front windshield wiper - washer switch
12 - Front working light switch
13 - Emergency switch (HAZARD)
14 - Electric safety valve switch (if installed)

### 1 - TRANSMISSION OIL TEMPERATURE WARNING LIGHT

This warning light comes on, together with the acoustic alarm, when the transmission oil exceeds the maximum temperature allowed; when it comes on, immediately stop the machine, select the neutral gear and let it cool down with the engine running at about 1200 rpm until the warning light goes out. If thisoccurs repeatedly, have the machine checked and if necessary repaired by an authorized repair shop.




### 2 - ENGINE COOLANT TEMPERATURE WARNING LIGHT

This warning light comes on, together with the acoustic signal, when the engine coolant exceeds the maximum temperature allowed; when it comes on, let the engine idle with minimum acceleration (1200 rpm) until the warning light goes out. If this occurs again, make sure that the radiator is clean.

### 3 - FOUR-WHEEL DRIVE ENGAGEMENT WARNING LIGHT

It comes on when the four-wheel drive is engaged.

### 4 - LOW FUEL WARNING LIGHT

This warning light comes on when about 17 l (4.5 US gal) fuel are left in the tank and therefore it is necessary to refuel as soon as possible.

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## 23.4.3 BRAKING SYSTEM

| TROUBLE | CAUSE | REMEDY |
|---|---|---|
| Braking not regular for both wheels: | • Brake discs worn.<br>• No oil in brake pump.<br>• Air in braking circuit. | (•) Change.<br>(•) Top off and bleed circuit.<br>(•) Bleed circuit. |
| Braking not regular on one side only: | • Air in braking circuit.<br>• Brake disc worn. | (•) Bleed circuit.<br>(•) Change. |

## 23.4.4 TORQUE CONVERTER SYSTEM

| TROUBLE | CAUSE | REMEDY |
|---|---|---|
| Low pressure in the clutch: | • Oil level.<br>• Clutch pressure adjusting valve locked open.<br>• Faulty delivery pump.<br>• Clutch shaft or piston rings.<br>• Leakages due to clutch piston pump locked open. | • Top off.<br>(•) Clean element and seat.<br>(•) Change.<br>(•) Change rings.<br>(•) Clean valve carefully. |
| Pump delivery insufficient: | • Oil level.<br>• Suction filter clogged.<br>• Faulty pump. | • Top off.<br>• Clean filter.<br>(•) Change. |
| Overheating: | • Damaged rings.<br>• Faulty pump.<br>• Oil level.<br>• Dirty heat exchanger.<br>• Damaged heat exchanger. | (•) Remove, disassemble and reassemble the unit.<br>(•) Change.<br>• Top off.<br>• Clean.<br>• Change. |
| Noisy converter: | • Faulty pump.<br>• Damaged bearings. | (•) Change.<br>(•) Remove and change. |
| Lack of power: | • Low engine rpm causes stall speed.<br>• Defect as if due to overheating. | (•) Check and set up engine governor.<br>• See remedies in case of overheating. |

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