



JOHN DEERE JD310 AND JD410 BACKHOE LOADERS



JOHN DEERE

OPERATORS MANUAL JOHN DEERE JD310 AND JD410 BACKHOE LOADERS

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JOHN DEERE WERKE MANNHEIM
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ENGLISH








To the Purchaser


Your versatile new John Deere Backhoe Loader meets the exacting requirements of modern industry.

Operating ease and comfort, hydraulic power when and where you need it, the ability to match engine power and transmission speed to any job, outstanding economy and dependability, modern styling, and simplicity of lubrication and service are all special features of this backhoe loader.

Three types of arrows are used in this manual:

1. Identification 
2. Rotation 
3. Change of Direction 

At the time the machine was delivered, the John Deere dealer discussed with you its safe operating and proper care. However, before putting the machine to work, read this manual.

 This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

IMPORTANT: Your operator's manual contains the new SI metric measurements which have been standardized internationally.

Example:

| New | | Old |
|----------------------|---|----------------------|
| 10 N (Newton) | ≈ | 1 kp |
| 10 Nm (Newton-Meter) | ≈ | 1mkp |
| 1 bar | ≈ | 1 kp/cm ² |
| 1 kW | = | 1.36 PS (1.34 HP) |



L12001

All information, illustrations, and specifications contained in this operator's manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.



Supplement to Operator's –
Manual OM – L 32774
Edition E 7, English
Backhoe Loaders JD 310 and 410

Mechanical Front Wheel Drive for Backhoe Loader 410



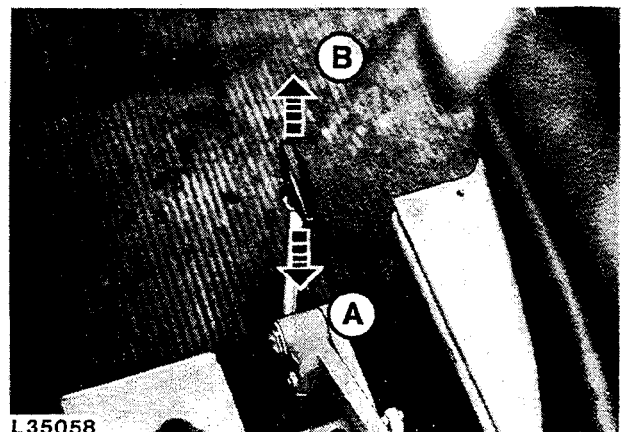
The 410 Backhoe Loader can be equipped ex factory with the mechanical front wheel (MFWD) drive option. This ensures optimum operation of the loader under difficult terrain conditions.

Operation of MFWD

IMPORTANT! Loader must be stopped to engage or disengage the MFWD.

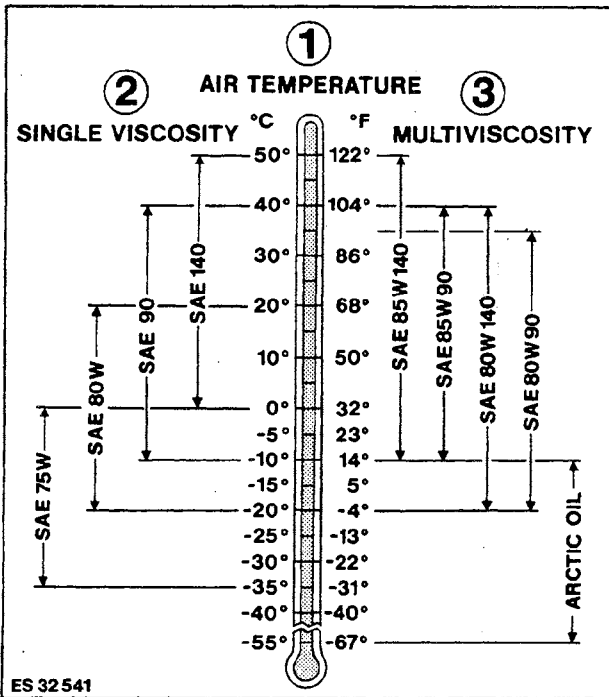
- A – Engage MFWD
- B – Disengage MFWD

NOTE: MFWD should be disengaged while driving loader on roads or at speeds over 10 km/h (6 mph) off roads.



Lubricants

In addition to the lubricants specified in the Operator's Manual, the following lubricants, as specified below, are required:



TRANSMISSION OIL – MFWD FRONT AXLE

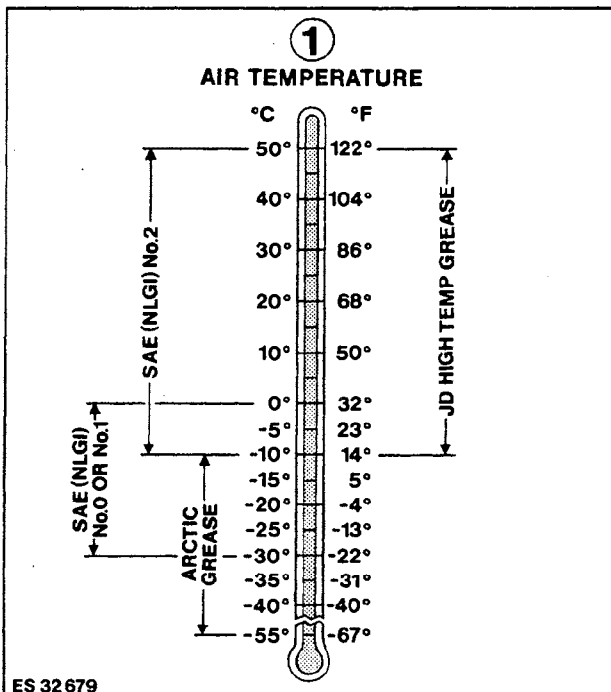
Use John Deere API GL-5 Transmission Oil for the MFWD front axle.

Other EP transmission oils can be used, if they fulfill the following specifications:

- API GL-5
- MIL-L-2105 B
- MIL-L-2105 C

If you operate your equipment at temperatures below -35°C (-32°F), use arctic oil (API-CC/SC, MIL-L-46167).

- 1 - Air temperature
- 2 - Single Viscosity Oil
- 3 - Multi-viscosity Oil



SAE EP-MULTI-PURPOSE GREASE

Use John Deere EP Multi-Purpose High Temperature Grease for all lubrication points, if available, or

- SAE EP Multi-Purpose Grease.

At temperatures below -30°C (-22°F) use arctic grease (MIL-G-10924 C).

- 1 - Air Temperature

Periodic Service

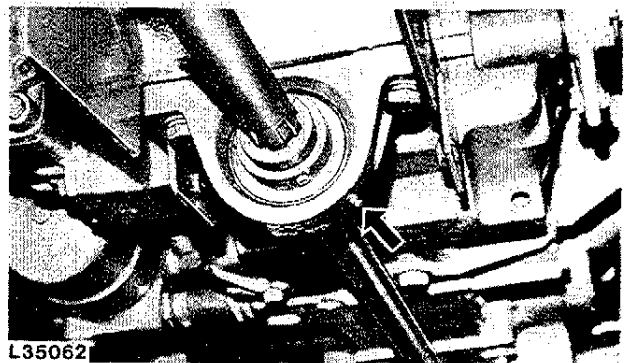
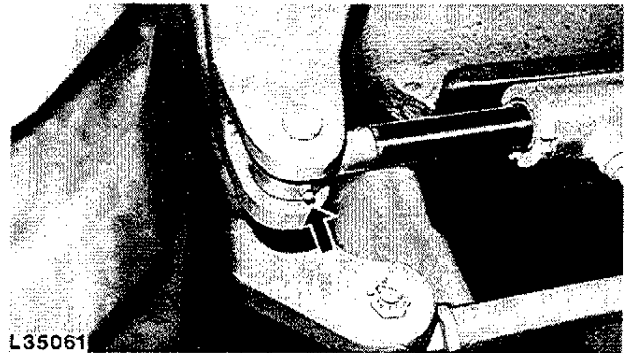
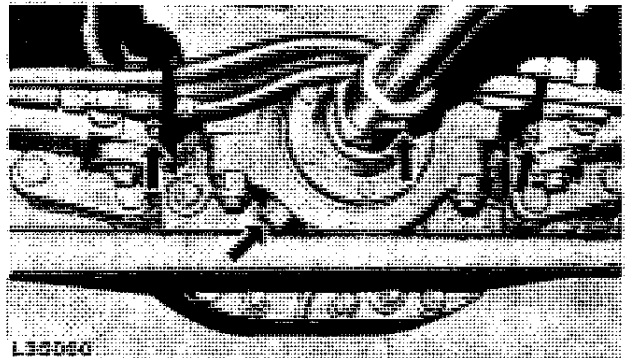
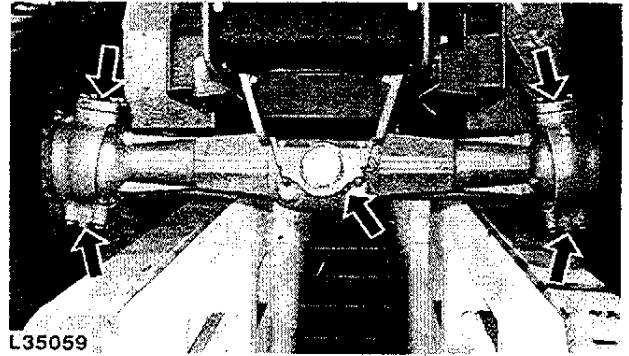
EVERY 200 HOURS

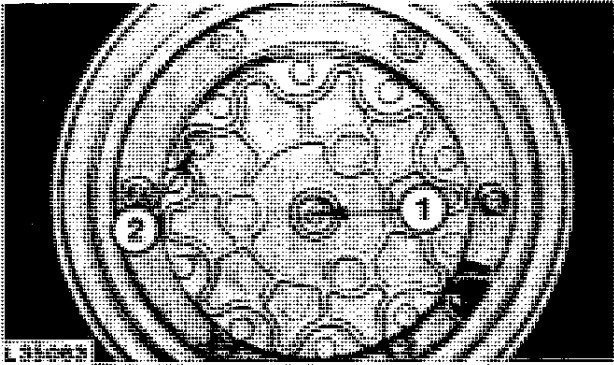
Service Items of MFWD

Lubricate the service points shown in the illustrations with EP-Multi-Purpose Grease (see 'Lubricants').

IMPORTANT! Carefully clean grease nipples before lubrication. Replace damaged grease nipples.

Relieve load on front axle for lubrication (for example, by raising tractor with loader boom).

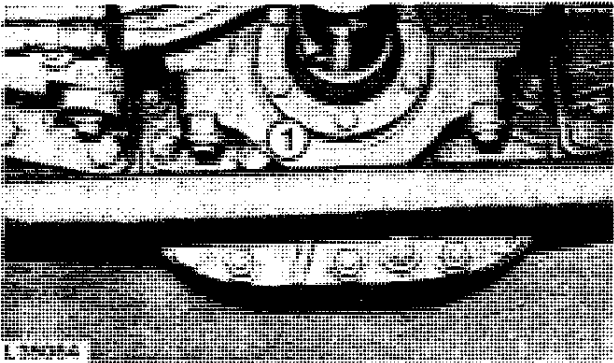




Check Oil Level – Wheel Hub

- 1 – Remove inspection plug. Oil level must reach up to plug opening.
- 2 – If necessary, fill to proper level.

Use an EP-Transmission Oil (see 'Lubricants').



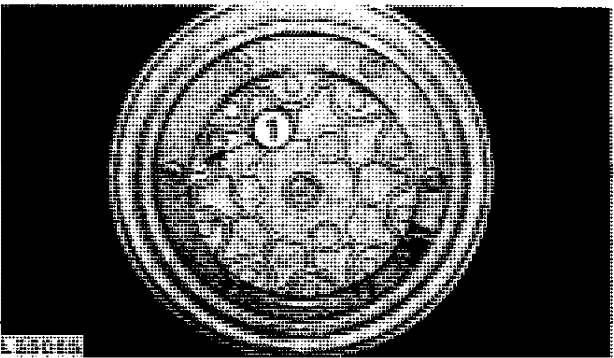
Check Oil Level – Differential Housing

- 1 – Remove inspection plug. Oil level must reach up to plug opening.

If necessary, use EP-Transmission Oil (see 'Lubricants') for refill.

EVERY 1000 HOURS

IMPORTANT! First oil change of wheel hub and differential housing after 100 hours, then after every 1000 hours.

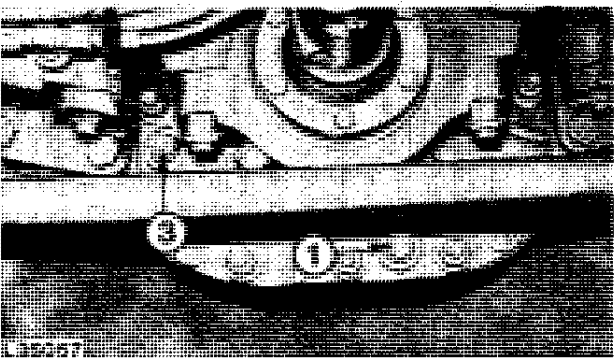


Oil Change – Wheel Hubs

- 1 – Turn wheel until drain plug is in its lowest position. Remove plug and drain oil.
- 2 – Turn wheel by 180° and refill oil through plug opening (approx. 1.75 l; 0.5 US gal.).
- 3 – Check oil level (see above). Replace and tighten drain plug.

Oil Change – Differential Housing

- 1 – Remove drain plug and drain oil.
- 2 – Replace drain plug and tighten.
- 3 – Remove fill plug and refill oil (approx. 5.5 l; 1.50 US gal.) until oil level reaches fill opening. Replace fill plug.



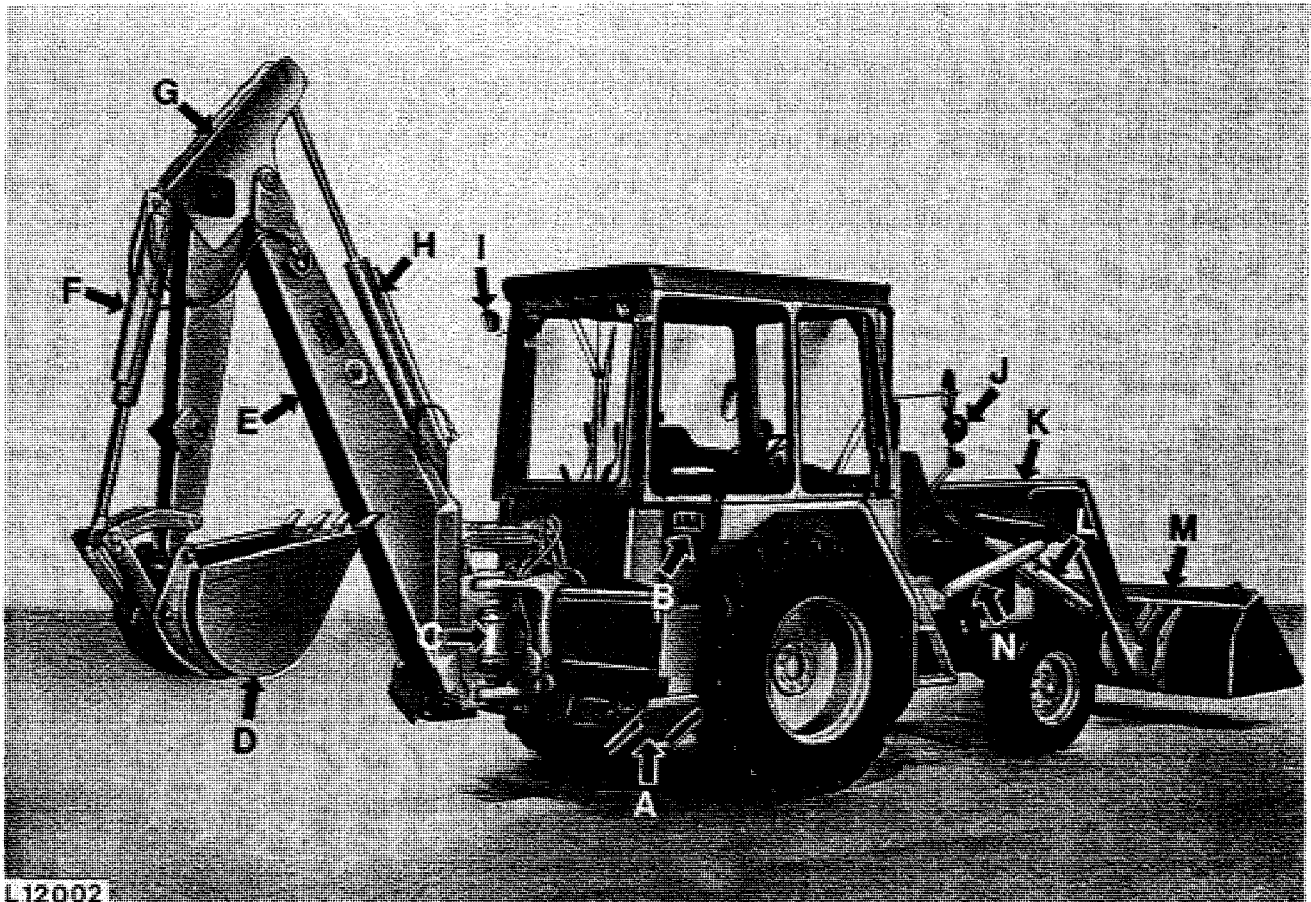


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Backhoe Loader Components



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- A — Backhoe stabilizer
- B — Tail, stop and indicator lights
- C — Backhoe swing cylinder
- D — Backhoe bucket
- E — Backhoe boom
- F — Bucket cylinder
- G — Backhoe dipperstick

- H — Crowd cylinder
- I — Work lights
- J — Headlights
- K — Loader boom
- L — Bucket cylinder
- M — Loader bucket
- N — Loader boom cylinder



Safety Rules

Only qualified people should operate the backhoe loader.

Provide a first-aid kit for use in case of an accident.

Mount a fire extinguisher on backhoe loader in an easily accessible position and be familiar with its proper use.

Become familiar with all controls, indicators, warning lights, and warning plates before operating backhoe loader.

Wear safety equipment when operating.

CAUTION: Always lock reverser control lever in "neutral" position before leaving machine or when operating backhoe to prevent unintentional movement of the machine.

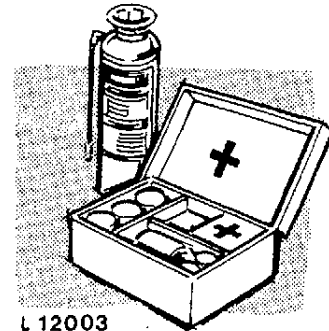
Shift control lever to neutral position and turn over neutral latch so that it is held in position by locking pin.

- A – Reverser control lever
- B – Neutral latch
- C – Locking pin

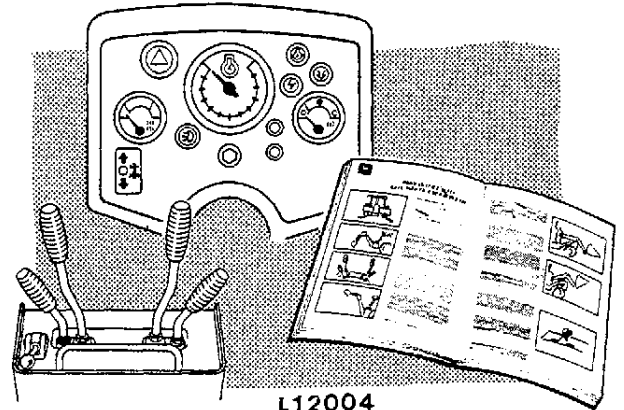
AVOID ENGINE STARTING HAZARD

Do not start engine by shorting across starter terminals. Machine will start in gear and move if normal starting circuitry is bypassed.

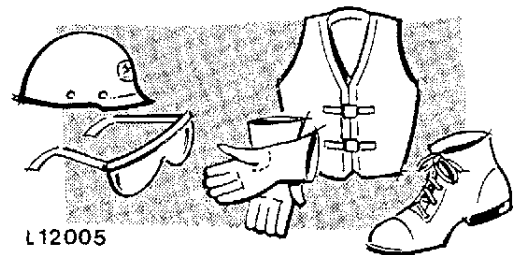
Start engine only from operator's seat with transmission in neutral or park. NEVER start engine while standing on ground.



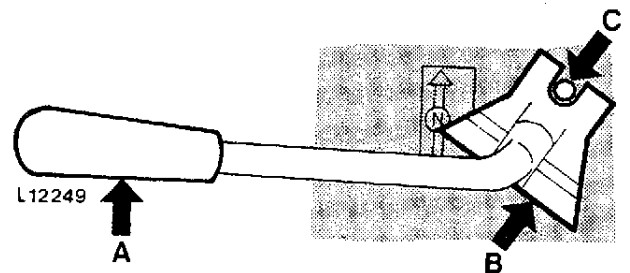
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4 Safety Rules



When equipped with operator's cab or roll-over protective equipment, always use a seat belt.

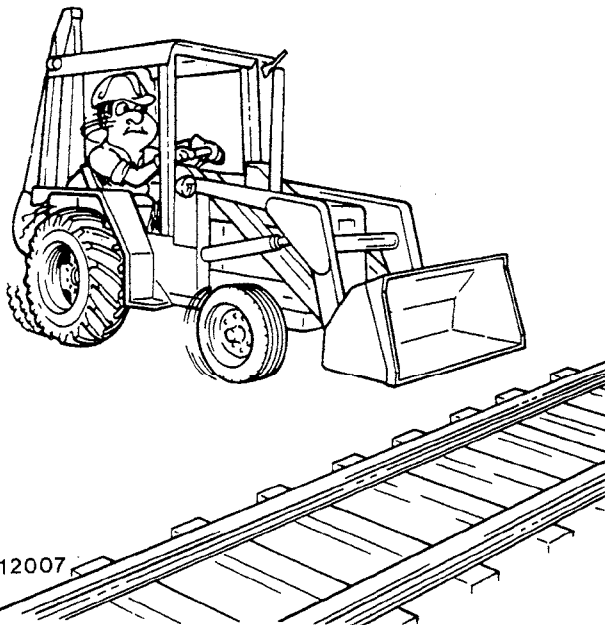
Do not use a seat belt without operator's cab or roll-over protective equipment.

Never leave the machine unattended with the engine running.

Lower equipment (loader, backhoe, etc.) to the ground before leaving the operator's platform.

After stopping the engine, relieve the pressure in the hydraulic system by moving the control levers back and forth.

Apply handbrake and place chocks against driving wheels when parking on slopes.



When in operation, only one person, the operator, should be allowed on the machine.

Never attempt to start or operate the backhoe loader except from the operator's station.

Do not drive too close to the edge of a ditch or excavation.

Travel slowly and carry bucket as low as possible when moving over rough ground.

Use care when crossing ridges, curbs, logs or railroad tracks.

Do not use loader or backhoe bucket as a battering ram.

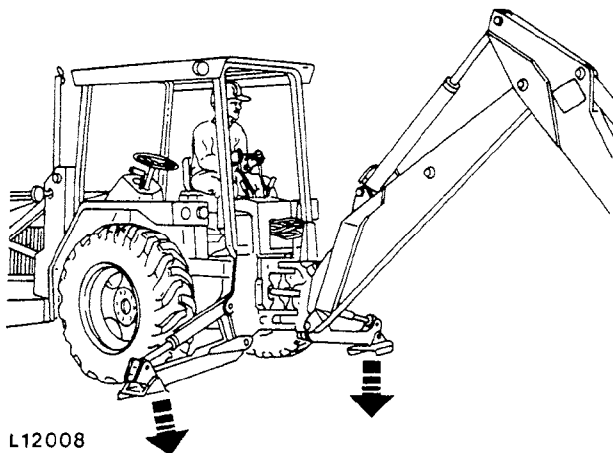
Always carry the bucket low when working on slopes.

Never work under a raised loader or backhoe bucket unless it is correctly supported.

Don't dig under the stabilizers of backhoe loader.

Be sure bystanders are clear of the machine before lowering stabilizers or moving the boom.

Be sure the stabilizers are properly set before operating backhoe.



When operating on a slope, avoid swinging the bucket in the downhill direction, if possible. This will reduce the stability of the machine. Always dump on the uphill side.

Before moving to another site, prepare backhoe for transport. Make sure swing lock and boom lock pins are correctly installed.

Always maintain brakes in excellent condition and adjustment. Brake pedals must be coupled together by means of the pedal coupler when driving on public roads.

Always keep the loader in gear and never disengage the clutch when driving downhill.

Watch for overhead electrical cables. Never touch cables with any part of the backhoe loader.

Take extreme care when operating backhoe in vicinity of underground electric cables and water mains.

When driving out of a ditch, gully, or up a steep hillside, engage the clutch slowly and be prepared to disengage the clutch promptly should the front wheels rise off the ground. These same precautions must also be taken if the rear wheels become mired in soft ground or drop into a hole. Back out of these situations if at all possible.

Do not oil, grease, or adjust the loader while it is in motion.

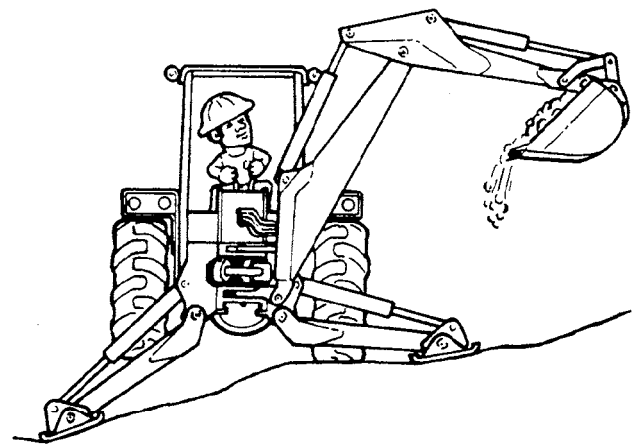
Use caution in handling fuel. Never refuel when the engine is hot or running. Do not smoke while filling the fuel tank or servicing the fuel system.

Never operate the loader engine in a closed building.

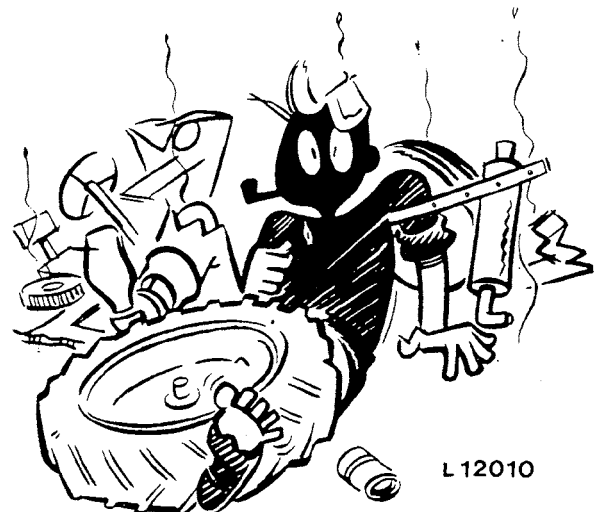
Add coolant to the radiator only when the engine is stopped or slowly idling. To avoid being scalded when the pressure-type filler cap is being removed, turn the cap slightly to the stop to relieve pressure before removing the cap.

Since loose clothing might catch in moving parts, always keep sleeves, jackets, or other clothing relatively tight and belted.

Before making adjustments on engine or electrical system, disconnect battery ground cable from battery. This prevents sparks which create a dangerous fire and explosion hazard and may cause damage or personal injury.



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L 12010

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