

# Operation & Maintenance Manual

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## **SKID STEER LOADER**

**440 Plus**

**460 Series**

**470 Plus**

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7.7.	Engine Lubrication .....	88
7.7.1.	General .....	88
7.7.2.	Draining Engine Oil .....	89
7.7.3.	Remove/Replace Engine Oil Filter .....	91
7.8.	Engine Cooling System .....	91
7.9.	Fan Belt .....	92
7.9.1.	Belt Tension .....	92
7.9.2.	Adjustment.....	92
7.10.	Two Stage Air Filter .....	93
7.10.1.	Removal-Primary Element .....	93
7.10.2.	Removal-Secondary Element .....	94
7.10.3.	Installation .....	94
7.11.	Spark Arrestor .....	94
7.11.1	General .....	94
7.11.2	Maintenance .....	95
7.12.	Battery .....	95
7.12.1.	Remove and Install .....	95
7.12.2	Jump Starting the Loader .....	96
7.13.	Fuel System/Filters .....	97
7.13.1.	Removal/Installation-Fuel Filter,Water Separater .....	98
7.13.2.	Fuel Tank Drain .....	99
7.14.	Priming the Fuel System .....	101
7.14.1.	Bleeding the Fuel System .....	101
7.14.2.	Draining the Water .....	103
7.14.3.	Cleaning Fuel Strainer.....	104
7.15.	Hydraulic System Maintenance .....	106
7.15.1.	Oil Level Indicator .....	106

## 2. SAFETY INFORMATION

The following section of this manual discusses some of the general and specific safety issues for your equipment. It gives you basic safety precautions. It also shows you where to find warning labels used on this equipment. The warnings themselves are reproduced here for you to read.

Before you operate or perform any maintenance on this equipment, read this Safety Information section carefully. Also carefully read the operation and other sections of this manual and heed all of the safety information they contain. Also locate, read, and understand the warning decals on the equipment itself.

### 2.1. Safe Operating Practices

Always use common sense and be alert for possible hazards. Most accidents happen because someone failed to follow basic safety

rules or take obvious precautions. Often you can avoid an accident by recognizing situations that might be hazardous. Furthermore, anyone who operates, maintains, or repairs this equipment should have the necessary training, skills, and tools.

Improper operation, maintenance, or repair of this equipment can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance, or repair on this equipment until you have read and understood the operation, maintenance, and repair information in this manual.

You will find safety precautions and warnings both in this manual and on the equipment itself. If you ignore these warnings, bodily injury or death could occur to you or to others.

### 2.4.3. Mounting and Dismounting

## CAUTION

### MOUNTING AND DISMOUNTING

- **NEVER** jump on or off the machine. **NEVER** get on or off a moving machine.
- When mounting or dismounting, always face the machine and use the handrails.
- Do not grasp or come in contact with any control levers when getting on or off the machine.
- Ensure safety by always maintaining at least three-point contact of hands and feet with the handrails and steps.
- Always remove any oil or mud from the handrails, steps and shoes.
- **NEVER** mount or dismount the machine with engine running.



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## 2.5.16. Precautions for Stopping the engine.

### CAUTION

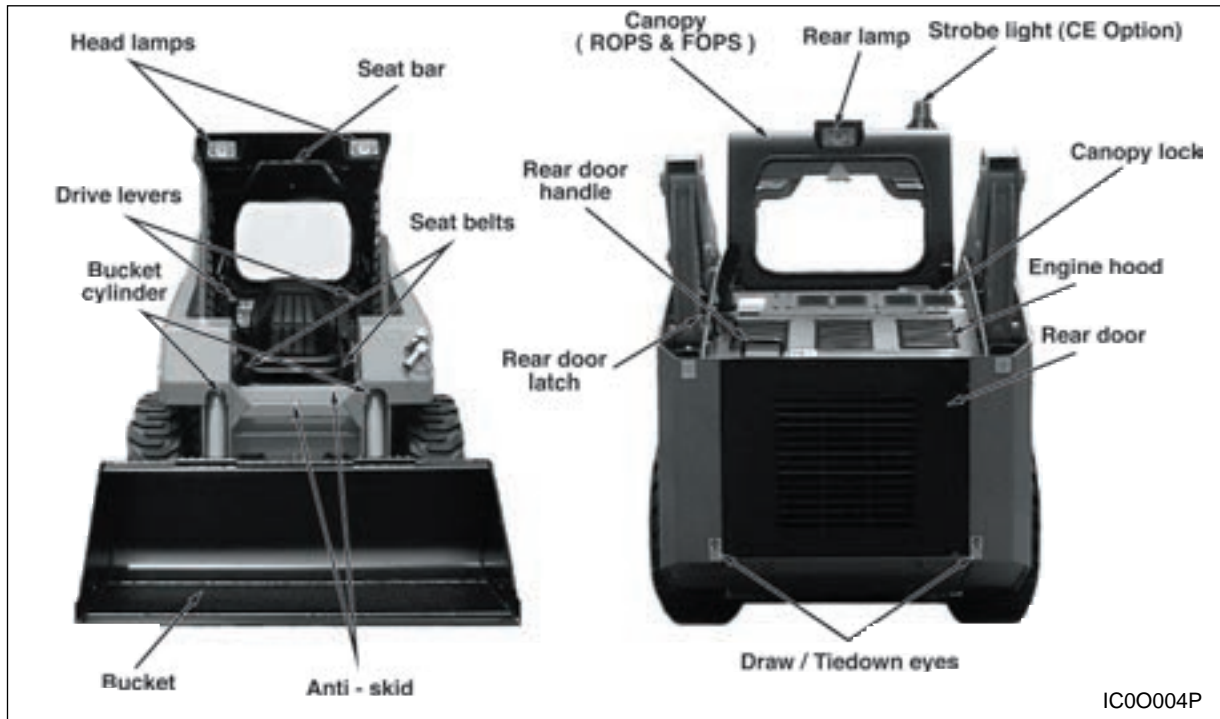
When the engine stops and the seat bar (pedal locking device/parking) is secured in place (lowered). if the pedal is depressed, then the boom or the bucket descends.

### CAUTION

When the pedal is kept depressing, then even though the seat bar (pedal locking device/parking) is raised, the boom or the bucket keeps moving regardless of engine's running or not.

## 4. MACHINE COMPONENTS

### 4.1. Identification of Machine Parts



IC00004P

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## 5.2.7. Seat Bar

- The seat bar is installed to help protect the operator.



Raised Position

**NOTE:** The pedals are locked if the seat bar is in the raised position. Lower the seat bar to operate the pedals.

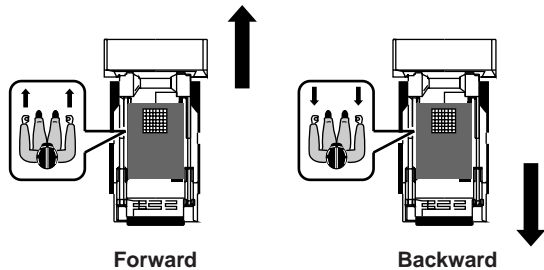


Lowered Position

**NOTE:** 440Plus, 460 Plus/460/470Plus are equipped with a seat bar safety interlock that sets the park brake with the seat bar raised. The seat bar must be lowered for travel.

## 6.4. Traveling and Steering

- (1) Push the throttle lever forward to raise the engine speed.
- (2) Operate the boom and bucket pedals to raise the bucket to 15-20 cm (6-8 in) above the ground.
- (3) Push left and right drive control levers simultaneously forward (or pull them backward) to make the vehicle travel forward (or backward).
- (4) To stop the vehicle, make the left and right drive control levers return to the neutral position slowly. *DOOSAN* skid steer loader is designed with drive control levers which return to neutral positions automatically, when the levers are released.

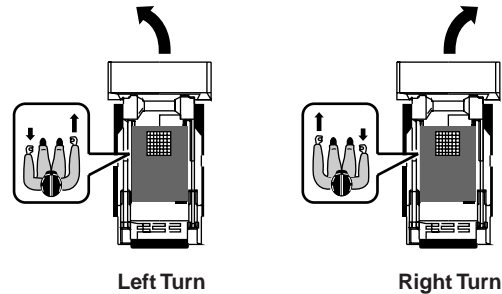


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- (1) Steering procedure is illustrated as follows:

- Gradual Turning

Push one lever farther forward than the other.

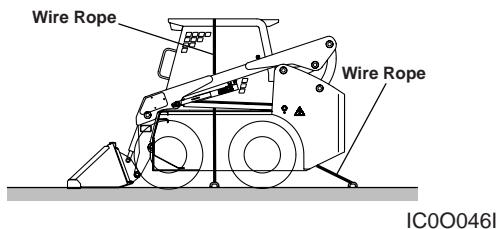


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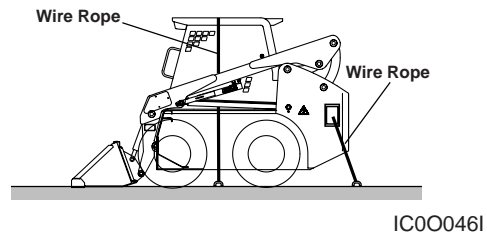
### **CAUTION**

When traveling or steering, always lower the boom to the carry position.

- Fix the skid loader tightly to the transport truck bed with an approved securing device. The machine has 3 fixing points, i.e. 1 holes in front upper frame and 2 holes in lower rear frame.
- Use wheel blocks to prevent vehicle from moving during transportation.



**440 Plus**



**460 Plus/460  
470 Plus**

## 6.11. Bucket and Attachments

The loader is equipped with a Universal Attachment System (Quick-Tach) in front of the vehicle for rapid replacement of bucket or various attachments.

### (1) Installation



<Figure 1>

- (1) Pull up both handles.
- (2) Tilt the Quick-Tach forward slightly and drive forward to the bucket until the upper

## 7.4. Service Schedule

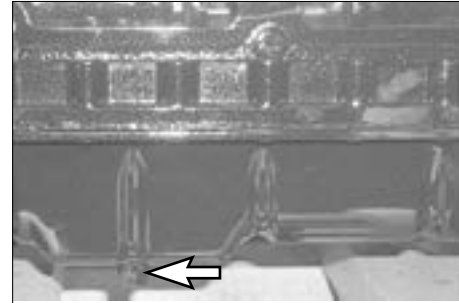
This maintenance schedule was designed for you to receive optimum performance and reliability from your SKID STEER LOADER under typical working conditions. Failure to follow a

scheduled maintenance program can lead to premature wear and component failure. Adverse conditions (e.g., excessive dust or corrosive vapors, etc.) may require more frequent service.

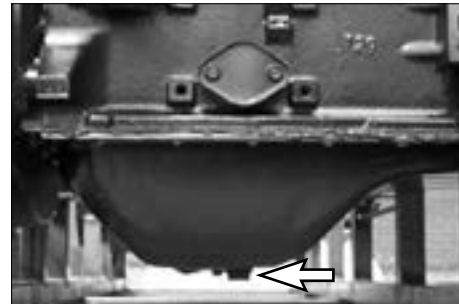
SERVICE SCHEDULE		HOURS					
ITEM	SERVICE REQUIRED	every day	every 50	every 100	every 250	every 500	every 1000
Engine Oil	Check the oil level and fill oil as needed.	○					
	Replace the oil.		○ (First time)		○ (440Plus)	○ (460Plus)	
	Replace the oil filter.		○ (First time)		○ (440Plus)	○ (460Plus)	
Fuel System	Clean and replace fuel filter element.			○ (Replace First time)	○ (Clean)	○ (Replace)	
	Priming the fuel system	○	○ (First time)				
Engine Cooling System	Check cooling level and add as needed. Check for leaks		○				
	Check and adjust the tension of fan belt	○			○		
Air Cleaner	Check the indicator. (Clean or replace the outer element when the red ring shows.) Clean the dust cover.	○					
	Replace the outer element. (Replace the inner element every third time the outer element is replaced).				○ (Clean)		○ (Replace)

## 7.7.2. Draining Engine Oil

Remove the four bolts from the access plate located on the left bottom corner of the chassis. Remove the drain plug by either reaching through the opening between the radiator and the chassis or through the access plate. Drain oil into an approved waste oil receptacle. Inspect drain plug gasket and if serviceable, replace drain plug. If gasket is deformed or torn, replace gasket and re-install drain plug. Discard oil in accordance with local environmental rules and regulations.



440Plus



460Plus/460  
470Plus

### 7.13.2. Fuel Tank Drain

The fuel tank drain plug is located directly behind the 440Plus ( right ), 460Plus/460, 470Plus ( left ) rear tire on the chassis. Fuel drained should be disposed of into an approved waste oil container. Discard the fuel in accordance with local/federal environmental rules and regulations.



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440Plus



IC00039P

460Plus/460  
470Plus

## 7.16. Chain Case Drain and Refill

### 1. Chain case drain plugs



### 2. Fill cover



### TO DRAIN CHAIN CASE:

- 1) Remove drain plugs and drain case oil into an approved waste oil container.

### TO REFILL CHAIN CASE:

- 1) Re-install and tighten case drain plugs.
- 2) Open cab and secure with safety latches.
- 3) Remove covers  
( left side shown-right in mirror position )
- 4) Locate chain case filter necks.

**NOTE:** Recommended fluid is DEXRON III

- 5) Refill is 440Plus : 1.7 gal/side, 460Plus/460, 470Plus : 1.85 gal/side or until level is within 1/2" of inspection cover plug.
- 6) Replace and tighten inspection cover.
- 7) Close and secure cab.

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