

# Timberjack 200A Series Skidder

CALIFORNIA  
Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

 **WARNING**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

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# Timberjack

## Section 1 - Safety Rules

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### **⚠ General Safety Precautions**

TIMBERJACK'S basic policy is to produce products that are safe and reliable. However, even when using well engineered equipment, there will always be an element of risk in heavy-duty equipment operation.

WHEN IT COMES TO SAFETY, NOTHING WILL EVER REPLACE A CAREFUL OPERATOR.

Therefore, study the following safety measures carefully and apply them on the job.

1. YOU MUST BE FULLY TRAINED to operate this piece of equipment.
2. Get to know the capabilities and limitations of the equipment and learn the most efficient operating techniques.
3. Use recommended protective clothing and safety devices such as gloves, safety boots, safety hat, goggles and ear protection when necessary.
4. Operate the machine only when physically fit and not under the influence of alcohol or drugs.
5. Keep floors, steps and running boards clean and free of oil, ice, mud and loose objects.
6. Carry no passengers. The vehicle is provided and approved with seating for the operator only.
7. Never remove any elements off the engine's exhaust system or any safety covers or devices from the operational machine.
8. Keep a comprehensive and complete First Aid Kit in an easily accessible place on the vehicle at all times.
9. Inspect the skidder daily for signs of damage, unusual wear, fluid leaks or faulty operation.
10. Comply with the instructions in this manual and your company's regulations for the operation of this vehicle.

### **⚠ Operating Safety Precautions**

1. Before starting the machine, make certain that the transmission lever, the emergency/parking brake control, as well as the hand throttle are positioned as specified in the starting instructions in this manual.
2. Prior to commencing work, check all equipment controls and ensure that the machine responds correctly.
3. The operator's seat is equipped with a seat belt. Use this belt at all times when operating the skidder.
4. Operate the skidder controls only from a seated position in the operator's seat.
5. Raise the dozer blade before moving the machine. When travelling, keep it high enough to clear stumps and other obstructions on the ground.
6. Never use the Emergency/Parking brake to slow down or stop the vehicle unless it is an emergency situation.
7. Maintain a safe operating distance between the equipment and other personnel and use only approved signalling practices.
8. When the engine is running, allow no personnel in between the wheels in the frame hinge area.
9. After parking the machine and shutting down the engine, set the electrical disconnect switch to the "Off" position.
10. When not in use, keep the rigging clear of the ground. Inspect the cables frequently and replace any broken and frayed cables immediately.
11. Use caution when operating the winch on sloping terrain. Avoid winching from the downhill side of the skidder. If possible, align the machine with the load to be winched in.
12. Do not overload the winch cable. A snapped cable is extremely dangerous when it

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2. Use first gear to set the vehicle in motion and where load and/or ground conditions prohibit driving in a higher gear. Use this gear also on steep downward slopes to obtain maximum engine braking power.
3. Shift to second gear when the vehicle speed approaches the limit of first gear and the load and ground conditions allow a higher travelling speed. Second gear should also be used for winching operations.
4. Shift to third gear when the vehicle speed approaches the limit of second gear and the load and ground conditions allow travelling at a higher speed.
5. Fourth gear is used when travel at maximum speed is required.

## IMPORTANT:

All four (4) gears may be used in both forward and reverse travel direction; however, when changing from one travel direction to the other, the vehicle **MUST** be brought to a complete stop before the transfer case forward/reverse lever is shifted. Failure to completely stop may cause damage to the transmission or other parts of the drivetrain.

## Operating the Transfer Case

To shift the transfer case high/low gears or the forward/reverse gears operate the shift levers as indicated in figure 2-7.

1. Before the forward/reverse or the high/low gear shift lever is shifted, the skidder **MUST** be brought to a complete stop and the clutch pedal fully depressed in order to disengage the transfer case.

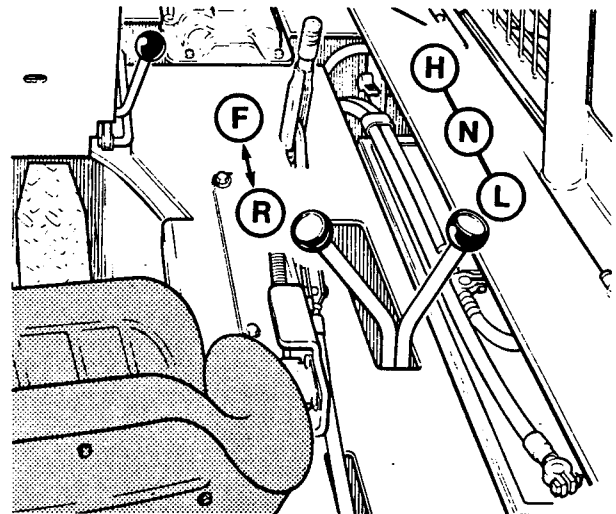
## NOTE:

The shifting mechanism is not synchronized, therefore the rotation of the gears in the transfer case must cease before gear shifts are performed.

2. Select the transfer case high/low shift lever in neutral whenever the skidder is "parked on the job" and operation of the winch is required.

## **⚠** WARNING:

THE FORWARD/REVERSE SHIFT LEVER MUST BE FULLY ENGAGED IN FORWARD OR REVERSE GEAR AND THE HIGH/LOW LEVER PUT IN NEUTRAL BEFORE WINCH OPERATION IS INITIATED WHEN THE MACHINE IS PARKED AND THE OPERATOR OR ANY OTHER PERSON IS WORKING BEHIND THE MACHINE. IF THE TRANSFER CASE GEARS ARE NOT SELECTED AS DESCRIBED ABOVE, HAZARDOUS SITUATIONS WITH RISK OF FATAL INJURY MAY OCCUR.



OPERATING THE TRANSFER CASE  
FIGURE 2-7

## Steering the Skidder

When operating the skidder, steer the vehicle as shown in figure 2-8.

With the steering system being hydraulic, the engine **MUST** be running in order to make the system operational.

## Emergency Steering

On skidders equipped with an emergency steering system, the skidder can be steered without engine power. The emergency steering system is powered by an electric motor driven hydraulic pump which supplies hydraulic pressure and flow to the regular steering cylinder and control valve. The emergency steering is operated using the regular steering lever shown in figure 2-8; however, capacity and reaction time of the emergency system is substantially less than the regular system.

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## Maintenance Schedule

### EVERY 8-10 HOURS (DAILY)

1. Check engine oil level.
2. Check (clean) air filter pre-cleaner. \*
3. Check (clean) engine air filter. \*\*
4. Check engine coolant level.
5. Drain fuel/water separator.
6. Check (clean) engine radiator fins.
7. Check hydraulic fluid level.
8. Check function of gauges.
9. Check function of brakes.
10. Check fuel level.
11. Lubricate steering hinge pins and walking beam. (Central lubrication manifold)
12. Lubricate frame hinge pins.
13. Clean dirt and debris from external surfaces and engine compartment.

#### NOTE:

\* More frequent cleaning may be required in extremely dusty environments.

\*\* The cleaning frequency may be extended from daily to 50 hours depending on the environmental dust conditions.

### EVERY 50 HOURS

14. Lubricate transfer case seals.
15. Check transmission oil level.
16. Check transfer case oil level.
17. Check function of steering system including emergency steering.
18. Check brake master cylinder fluid level.
19. Check oil levels in planetary hubs and axle differentials.
20. Check (clean) axle breathers.
21. Check tire condition and pressure.
22. Check fire extinguisher pressure.
23. Check winch oil level.
24. Lubricate winch shaft bearing (T20 winch).
25. Lubricate driveshaft fittings.\*\*\*
26. Lubricate dozer blade pivots.\*\*\*
27. Inspect machine for loose fasteners, oil leaks, unusual wear and damage.

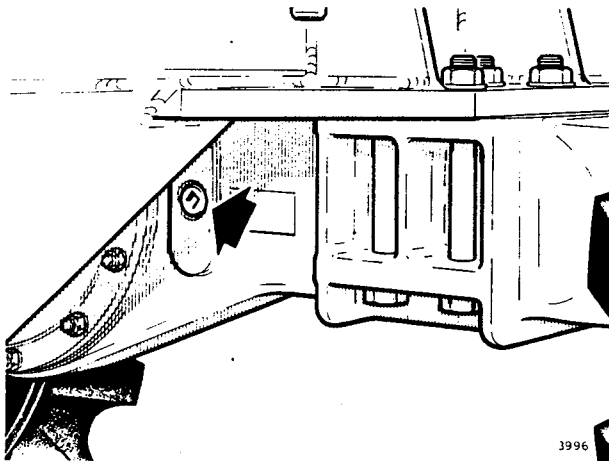
\*\*\* Under very wet and muddy conditions, more frequent lubrication is required.

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oil level in each differential housing should be flush with the bottom of the check hole. If required, replenish with oil of appropriate type and viscosity as specified in table 3-1.

## **!** WARNING:

BEFORE WORKING UNDER THE MACHINE, ENSURE THAT IT IS PARKED ON LEVEL GROUND WITH THE PARKING BRAKE ENGAGED AND THE ENGINE STOPPED.



AXLE DIFFERENTIAL OIL CHECK  
FIGURE 3-20

## ITEM 20.

Check and, if necessary, clean the front and rear axle breathers. Also clean the area around each breather.

Breathers are installed to equalize the pressure inside the axle housings with the outside environment. Failure to keep the breathers and surrounding areas clean may result in oil seal leakage.

Both front and rear axle breathers are located on top of the axles close to the differentials. At the front, the breather is accessible from the right hand side of the machine and at the rear, the breather can be reached from the left hand side between the axle and the frame.

## ITEM 21.

Check the tire condition and pressure. Early detection of cuts and other damage may easily

be repaired and thereby prolong tire life or prevent a possible tire change in a rough working environment. Check the tire pressure and inflate as required.

## **!** WARNING:

MAKE SURE THE TIRES AND RIMS ARE UNDAMAGED AND CORRECTLY ASSEMBLED. USE SAFETY CABLES OR OTHER SAFETY DEVICES WHEN INFLATING THE TIRES. FAILURE TO OBSERVE APPROPRIATE SAFETY PRECAUTIONS CAN RESULT IN SERIOUS PERSONAL INJURIES.

Make sure the valve stem protective caps are reinstalled on all wheels when checks and inflating procedures are completed.

## ITEM 22.

Check the fire extinguisher pressure. A waterproof pressure gauge on the fire extinguisher indicates the charge pressure of the unit. Normally, this pressure is 175 lb. (1200 kPa) and is indicated in the white band on the gauge. If the pressure drops, due to leakage or use so that the indicator drops into the red band area, the fire extinguisher must be recharged to be efficient in an emergency situation.

When inspecting the fire extinguisher, observe that the hose, nozzle and valve are undamaged and ready for use. Check also the securing strap, ensure that the locking mechanism works smoothly and can be opened quickly if required.

## NOTE:

To ensure that the dry compound contained in the extinguisher is loose and will exit the nozzle without clogging, tap the bottom of the cartridge with a rubber mallet and shake it vigorously until movement of the compound can be felt.

## ITEM 23.

Check the winch oil level. The check plug on both the T20 and the optional T30 winch is accessible from the left hand side of the skidder as shown in figure 3-21, item (1).

The skidder must be parked on level ground when the winch oil level is checked.

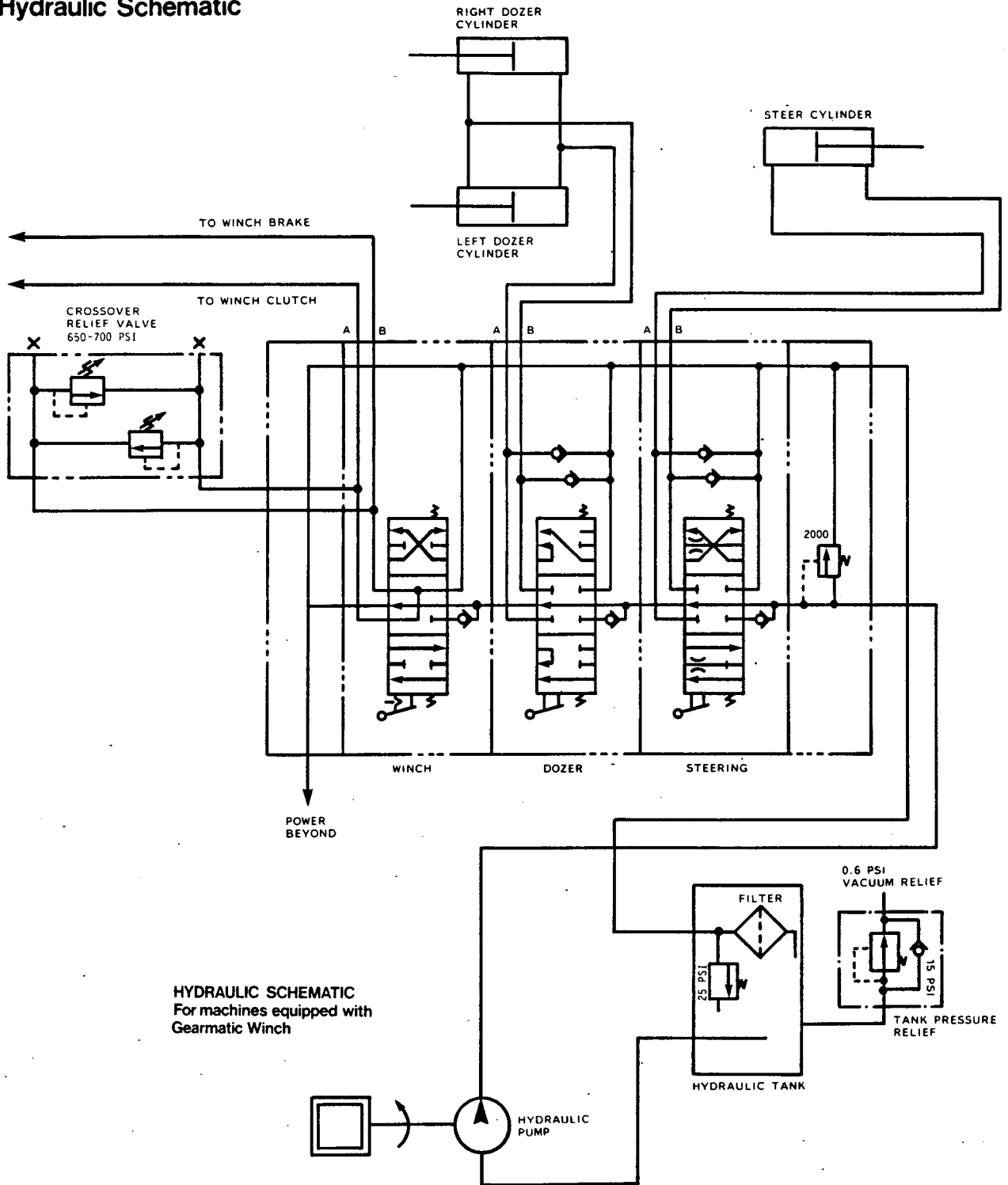
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LOCATION	RECOMMENDED LUBRICANT	CAPACITY
Engine Crankcase	<p>Lubrication oil meeting specifications outlined in table 3-2.</p> <p>Refer to Table 3-3 for applicable SAE grades.</p>	<p>8.3 Imp. Quarts 10 US. Quarts 9.5 litres (Incl. Filter)</p>
Transmission	<p>Gear oil meeting MIL-L-2105C specifications (API GL-5 service designation).</p> <p>Refer to Table 3-3 for applicable SAE grades.</p>	<p>4.5 Imp. Gal. 5.6 US. Gal. 5.2 litres</p>
Transfer Case	<p>Gear oil meeting MIL-L-2105C specifications (API GL-5 service designation).</p> <p>Refer to table 3-3 for applicable SAE grades.</p>	<p>3.5 Imp. Quarts 4.0 US. Quarts 4.0 litres</p>
Winch	<p>Use EP gear oil meeting MIL-L-2105C specifications (API GL-5 service designation)</p> <p>Refer to table 3-5 for applicable viscosity grades.</p>	<p><u>T20</u> 3.2 Imp. Quarts 3.9 US. Quarts 3.6 litres</p> <p><u>T30</u> 12 Imp. Quarts 14.4 US. Quarts 13.6 litres</p>
Axle Differentials	<p>Use only EP gear oils meeting MIL-L-2105C specifications (API GL-5 service designation)</p> <p>Refer to Table 3-4 for applicable viscosity grades.</p>	<p>16.6 Imp. Quarts 20 US. Quarts 18.9 litres</p>
Planetary Hubs	<p>EP gear oil meeting MIL-L-2105C specifications (API GL-5 service designation)</p> <p>Refer to Table 3-4 for applicable viscosity grades.</p>	<p>3.2 Imp Quarts 3.9 US. Quarts 3.6 litres</p>

FLUID AND LUBRICANT SPECIFICATIONS  
TABLE 3-1

# Timberjack

## Hydraulic Schematic



5067/1

OPERATOR MANUAL  
200 SERIES POWERSHIFT SUPPLEMENT

SUPPLEMENT IS APPLICABLE ONLY TO  
200 SERIES SKIDDERS SUPPLIED WITH POWERSHIFT TRANSMISSION

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0200PS1

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