4500 MRC-S
"Whole Tree" Processor

OPERATOR'S MANUAL
4500 MRC-S Whole Tree Processor
F304595

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.

WARNING

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

Worldwide Construction and Forestry Division

English

1. Introduction

.5 Unapproved Field Product Changes (continued)

Timberjack Machinery LLC disclaims responsibility for any situation that may arise as a result of unauthorized changes to it's products. Any person or organization contributing in any way to unauthorized modification shall be deemed to have assumed the risks involved with such modification and, further, may be deemed negligent in creating a dangerous situation resulting from such actions.

Where changes are made without official approval, as described above, and Timberjack Machinery LLC becomes involved in suit arising out of such changes, Timberjack Machinery LLC will protect it's interests by taking whatever action is appropriate.

Failure to adhere to this policy nullifies and voids both the product warranty and the certification on any safety items installed on the modified equipment. Further, unapproved product changes also nullify warranties given to Timberjack Machinery LLC by it's component manufacturers.

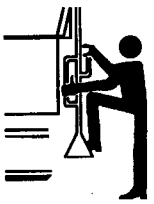
3. Safety

.8 Post-Operation

The following precautions highlight both general and specific measures the Operator should be familiar with and adhere to for proper shutdown after equipment operation Specific measures are preceded by pictograms.

- **ALWAYS** observe proper shutdown procedures.
- **ALWAYS** lower the booms and grapple into a securely supported position before stopping operation.
- **ALWAYS** stop the engine and relieve hydraulic system pressure when ceasing operation.
- **ALWAYS** place the Master Disconnect Switch to **OFF** if the equipment will be left unattended.

- **ALWAYS** check for slippery steps and handholds **BEFORE** dismounting the equipment.
- **NEVER** dismount from moving equipment.



- **ALWAYS** use handrails and steps provided when dismounting equipment.
- **ALWAYS** face the equipment while dismounting.
- **NEVER** jump from the equipment.

4. Description

.1 Overview

The Model 4500 "Whole Tree" Processor is a totally self-contained, trailer-mounted, radio-controlled delimber, topping saw, and slasher system.

The use of this processor system allows the Loader Operator to "Master Control" the entire landing site from the cab of the Loader. Delimbing, topping, merchandising saw logs, and truck loading can all be performed by one Operator from the comfort of the Loader Cab.

The system is based on proven products currently operational in the field.

- Model 4700 Delimber/Topping Saw
- Forty Inch or fifty-eight inch MLT-T Slasher Saw

The Model 4500 "Tag-Along" trailer is utilized as the base frame. This trailer employs a double-beam design with dual wheels and air brakes.

Fitted to the trailer is a steel cover to protect the engine and other accessories. The cover is mated to an electric-hydraulic lift pump for tilting to allow clearance for maintenance and accessibility. A hand-operated pump is utilized as a backup.

The Model 4700 Delimber/Topping Saw is mounted atop the rear of the trailer by the standard heavy-duty "Ball-Ring" mount. This mount provides rigidity and ease of rotation required for efficient delimbing. Additionally, this mount allows routing of the hydraulic lines through it's center, where they are protected from limbs and debris encountered during operation. The Model 4700 Delimber/Topping Saw is Covered in detail in a separate Timberjack publication (F304630).

The Forty Inch Slasher Saw is fitted with a swing-arm mount attachment to the trailer. This mounting utilizes two pivot points and two rotating points allowing the saw to be easily placed on the ground, on either side of the trailer, for use, or loaded onto the trailer for transporting. These pivot and rotational points provide the flexibility required by the unit for operation, even on uneven ground, without the need additional outriggers to level the unit.

The Radio Control unit allows the Loader Operator the facility to operate the delimber, topping saw, or slasher directly from the cab of the loader without any physical connections. Operation may be performed from switches mounted on the radio transmitter, or switches on the loader joysticks may be wired to the transmitter for a more permanent installation.

5. Operation (continued)

.2 Engine (continued)

.3 Start-Up (continued)

B. Cold Weather (Below 0 Degrees C [32 Deg F])

The actual start-up procedure is the same as outlined for Normal Weather, with the exception of the following considerations:

Oil pan or coolant heaters, as well as liquid starting aids may be used to assist cold-weather start-up. Refer to **Figure 5-2.** Turn **OFF** and disconnect any such heaters prior to initiating the start-up sequence.

Verify that the engine oil viscosity and the diesel fuel grade are correct for operating conditions before proceeding. Refer to **Section 6** in this manual for the proper fuel and lubrication grades.

.4 Warm-Up

To ensure proper lubrication, operate the engine at 1,200 RPM with no load for three to five minutes when the ambient temperature is above freezing and for, at least, five minutes when the ambient temperature is below freezing.

.5 Idling

Avoid unnecessary engine idling. Prolonged idling may cause coolant temperature to drop below normal, causing incomplete combustion, oil dilution, and sludge build-up.

- **NEVER idle the engine for more than ten (10) minutes at a time!**
- **ALWAYS idle the engine for at least two (2) minutes at 1,000-1,200 RPM prior to shut-down to allow adequate turbocharger cooling.**

6. Lubrication & Maintenance

.2 Procedures (Scheduled) (continued)

3) Check Engine Coolant Level

⚠ DANGER

Liquid cooling systems build pressure as the engine heats. Before removing the radiator cap, stop the engine and let the engine cool. Remove the radiator cap ONLY after the system has cooled.

⚠ CAUTION

Check fluid levels ONLY when the equipment is parked on level ground.

Check the coolant level **ONLY** when the engine has cooled to the ambient temperature!

- Coolant level should be at the bottom of the radiator filler neck: Add coolant as required.
- Coolant should be a 50-50 solution of antifreeze and distilled water.

4) Check Fuel/Water Separator

Check the Fuel/Water separator for contamination.

- Remove the drain screw and drain the element into a suitable container if any contaminants are found.
- Replace the drain screw securely.

5) Check Hydraulic Fluid Level

⚠ CAUTION

Check fluid levels ONLY when the equipment is parked on level ground.

- Using the sight glass on the side of the Main Hydraulic Tank, check the fluid level: Add fluid if required.
- Refer to **Section 6.4** for the proper fluid type.

6. Lubrication & Maintenance

.4 Fluids & Lubricants

Table 6-3 Hydraulic Fluids

			AMBIENT OP TEMP			
			MIN		MAX	
ISO GRADE	SUPPLIER	BRAND NAME	C	F	C	F
68	ESSO	UNIVIS N32	-2	28	46	115
	TEXACO	RANDO DZ 32				
46	ARCO	DURO AW46	-7	19	46	115
	CHEVRON	HYD AW46				
	PETRO CANADA	HARMONY AW46				
	GULF	HARMONY AW 46				
	MOBIL	DTE 15M				
	SHELL	TELLUS 46				
	TEXACO	RANDO HDZ 46				
32	AMSOIL	SYNTHETIC HYDRAULIC FLUID	-18	0	46	115
	ESSO	UNIVIS N32				
	PETRO CANADA	HARMONY HVI 36				
	GULF	HARMONY HVI 36				
	MOBIL	DTE 13M				
	SHELL	TELLUS T32 (TELLUS 32)				
	TEXACO	RANDO SUPERFLO AZ (RANDO HDZ 32)				
22	ESSO	UNIVIS N22	-26	-15	43	109
	PETRO CANADA	HARMONY HVI 22				
	GULF	HARMONY HVI 22				
	SHELL	TELLUS T22				
	TEXACO	RANDO SUPERFLO T22 (RANDO HDZ 22)				
15	ESSO	UNIVIS N15	-34	-29	29	84
	PETRO CANADA	HARMONY ARCTIC 15				
	GULF	HARMONY ARCTIC 15				
	MOBIL	DTE 11M				
	SHELL	TELLUS T15				
	TEXACO	RANDO SUPERFLO T15 (RANDO HDZ 15)				

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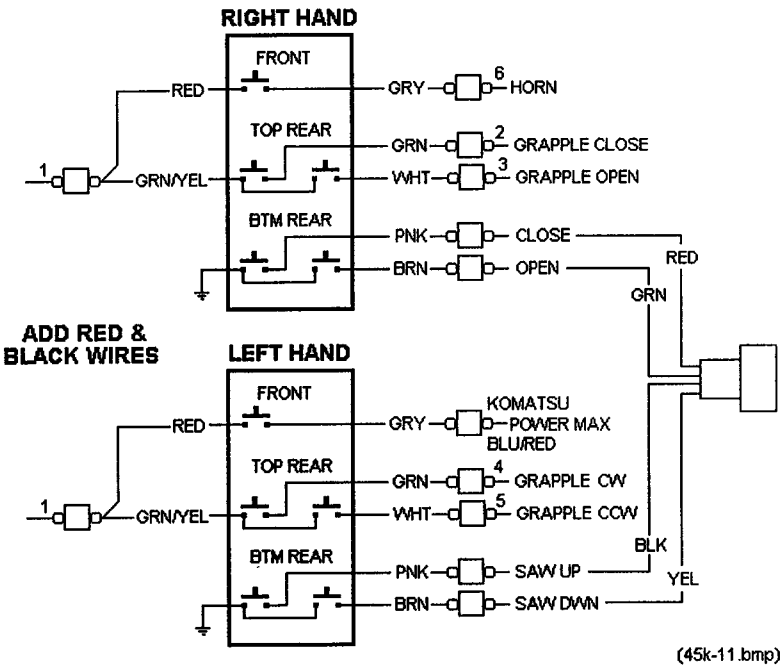
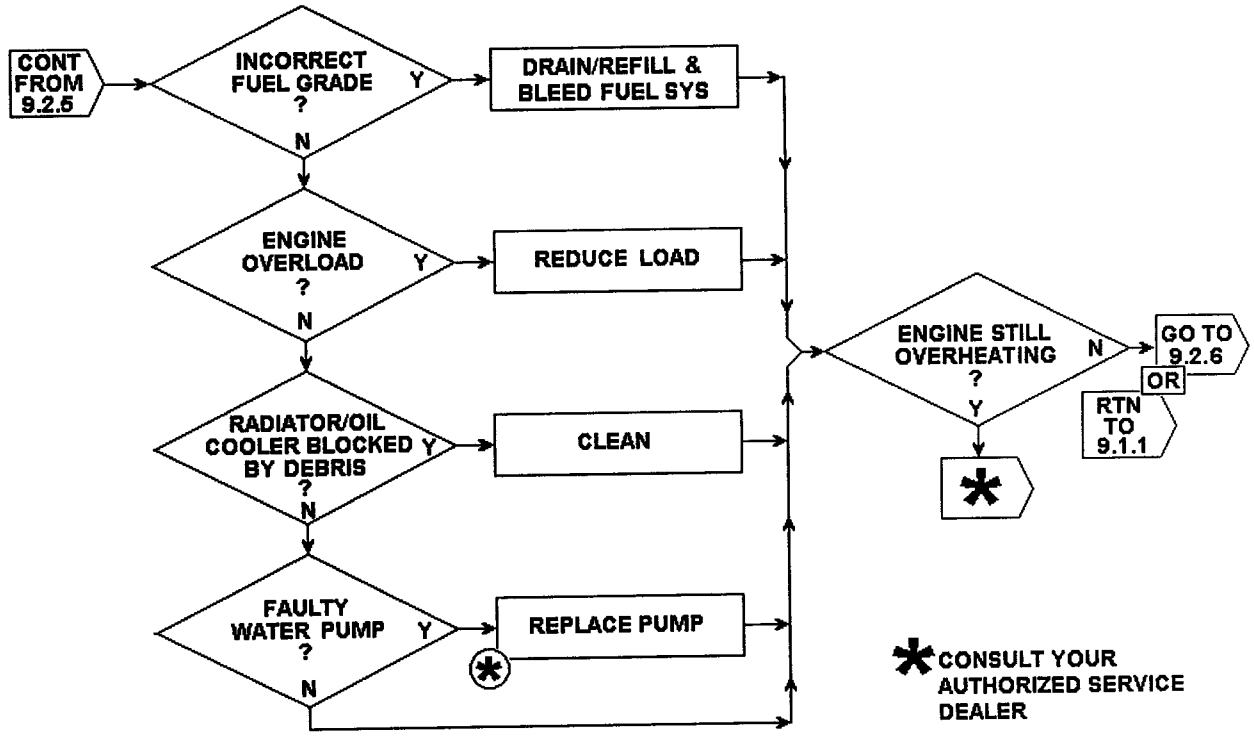
.8 Electrical

.5 Remote Control Unit / Transmitter (635 Adaptation) – Komatsu Handle Modification



9. Troubleshooting

.2.5a Engine Overheating (continued)



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