

MORBARK, INC.

BRUSH CHIPPER

START – UP PROCEDURE FORM

Customer: _____ Date: _____

Address: _____ City/State/Zip: _____

Machine Model: _____ Machine S/N: _____ New __ Used ____

Engine Model: _____ Engine S/N: _____

Technician: _____ Customer/Operator: _____

During start-up of this machine, each item must be initialed by the technician performing the start-up and by the Customer/Operator being instructed as each item is covered. Upon completion of the start-up, the Customer/Operator and the technician shall confirm with their signatures that all procedures were reviewed and completed.

TECHNICIAN AND CUSTOMER/OPERATOR MUST INITIAL EACH ITEM AS IT IS EXPLAINED OR COMPLETED. DO NOT INITIAL ANY ITEM ON THIS FORM UNLESS YOU PERSONALLY EXECUTE OR RECEIVE INSTRUCTION ON THE FUNCTION.

| | Technician | Customer/ Operator |
|---|------------|-----------------------|
| 1. Do a walk-around inspection of the complete machine to ensure it arrived in good condition. | _____ | _____ |
| 2. Deliver Safety Operator's and Parts Manuals and review with the Customer/ Operator, the safety procedures prior to start-up. | _____ | _____ |
| 3. Show the Customer/Operator where and how to check engine oil, coolant level, Hydraulic fluid, and fuel level. | _____ | _____ |
| 4. Show the Customer/Operator the gauges on the panel and explain the function that goes with each gauge. | _____ | _____ |
| 5. Show the Customer/ Operator proper sequences for starting engine. Show how the hood safety switch affects starting. | _____ | _____ |

STRESS NEVER TO BY-PASS ANY SAFETY DEVICE

| | | |
|---|-------|-------|
| 6. Show how to raise feed wheel and lock into secured position. _____ Show how to set anvil to correct tolerance. _____ Show how to change knives and torque to 400 ft. lb's. Show how to put a back grind on the knives with a file. Explain how this will increase knife life. Turn Chipper drum or disc backwards after adjustment is made to make sure the knives do not come in contact with the anvil. _____ Close hood and pin securely. | _____ | _____ |
| 7. Explain Lubrication schedule. | | |
| A. PTO "throw out" bearing every 80 – 100 hours. | _____ | _____ |
| B. Chipper bearings every 40 hours. Repack twice yearly. | _____ | _____ |
| C. Feed Wheel Bearings every 40 hours. | _____ | _____ |
| D. Pivot arm pin daily. | _____ | _____ |
| E. Point out all lubrication points on machine. | _____ | _____ |

- 8 Show the PTO engagement process at **800 RPM** and disengagement at **800 RPM** and explain that if this procedure isn't followed correctly, the clutch will surely fail. _____
- 9. Physically show how to adjust the over-center clutches and explain that if the procedure isn't followed, the clutch will surely fail. Stress they need to check daily for first weeks of operation. _____
- 10. Physically show the proper adjustment for the Variable Force Automatic Feed System and how it is controlled. _____
- 11. Show Customer/ Operator all hydraulic control functions and demonstrate their operations. _____
- 12. Explain to Customer/ Operator that they need to change hydraulic filters after the first **100** hours, then every **400** hours thereafter. _____
- 13. Show the Customer / Operator where and how to check hydraulic oil temperature. _____ Explain that 100 ° over ambient is a general rule of thumb for maximum system temperature and that anything over that indicates a need to troubleshoot the system for a possible problem. If temperatures exceed 170 ° refer to hydraulic tank stickers or operators manual for proper recommendations. _____
- 14. Instruct the Customer/ Operator on the maintenance procedures for blowing out the radiator and screen, also the **V** of the engine daily to reduce the risk of a fire. _____
- 15. Explain all applicable safety devices, and explain the importance of following safety procedures. Review the procedures for using all safety devices.
 - A. Lock out Tag-out _____
 - B. Keys _____
 - C. Hood lock pins _____
 - D. Yoke locks _____
 - E. Hard hats and safety equipment _____
 - F. Warning signs _____

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- 16. Demonstrate proper lock-out tag-out procedures to the Customer/Operator. Stress to **NEVER perform any maintenance unless the machine has been properly locked-out and tagged-out.** Instruct that lock-out tag-out procedures must be followed by all persons performing any maintenance on the machine. _____
- 17. Warn the Customer/ Operator about the risk of flying debris and the importance of wearing hard hats and safety glasses by all personnel in the area. _____
- 18. Stress that **EVERY DAY** for the first month of operation the belts, chains, hydraulic fittings, bearings, etc., must be checked for tightness due to a natural tendency to stretch and seat themselves. _____
- 19. Before leaving, check over the entire machine for problems. (ie. Bolts, belt guard, chain guard, tank, etc.) _____
- 20. Instruct the Customer/ Operator as to the importance of reading the Parts and Operator's Manuals. _____

- 21. Show Customer/ Operator how to properly hook-up on truck (safety chains, brake actuator, pintle hitch / ball attachment). _____
- 22. Explain to the Customer/ Operator the importance of returning the warranty validation and start- up forms promptly. _____

CUSTOMER ACKNOWLEDGMENT

I have reviewed all the above items with the technician performing startup of the equipment and it's safe operation, and hereby confirm my understanding. I have been instructed and informed of the importance of the foregoing safety procedures, and reviewed all safety procedures contained in the Operator's, Parts and Safety Manuals provided to me.

| | | | |
|-----------------------------|-------|--------------------------------|-------|
| _____ | _____ | _____ | _____ |
| Customer/Operator signature | Date | Technician performing start up | Date |
| _____ | | _____ | |
| Printed name | | Printed name | |

**CUSTOMER ACKNOWLEDGEMENT
DECLINING STARTUP INSTRUCTIONS**

I acknowledge that Morbark or its agent has offered to provide a technician to provide startup instruction and review the above items, and I have declined such instructions because I am already familiar with the equipment and its safe operation. I am aware of the importance of the preceding proper safety procedures, including all safety procedures contained in the Safety, Operator's and Parts Manual which has been provided to me.

| | | | |
|--------------|-------|-----------------------------|-------|
| _____ | _____ | _____ | _____ |
| Witness | Date | Customer/Operator Signature | Date |
| _____ | | _____ | |
| Printed name | | Printed name | |

READ AND KNOW YOUR OPERATOR'S, PARTS AND SAFETY MANUAL