

U.S. Department of Agriculture Forest Service JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		1. WORK PROJECT/ACTIVITY Leaf Blower Operations	2. LOCATION George Washington and Jefferson National Forests	3. UNIT All Units of the George Washington and Jefferson National Forests
JOB HAZARD ANALYSIS (JHA)		4. NAME(S) OF ANALYST(S) Jake Lewis	5. JOB TITLE Recreation Program Manager	6. DATE PREPARED 2024-03-07
Required Standards and General Notes:	Operator must be trained on the specific type of equipment to be used.			
Required Personal Protective Equipment	Safety glasses, hearing protection, long pants, gloves, sturdy boots. Hard hat provides additional protection. Face shield is optional. Long sleeves will protect arms. Dust mask optional.			
Tools and Equipment	First aid kit			
Available Training	Receive instruction from trained and experienced operator, or read and understand equipment manual.			
7. TASKS/PROCEDURES		8. HAZARDS, POTENTIAL HAZARDS / INJURY SOURCE	9. ABATEMENT ACTIONS OR PROCEDURES Engineering Controls * Substitution * Administrative Controls * PPE	
Pre-Operation Inspection		Injury Due to Lack of Knowledge	<ul style="list-style-type: none"> Review manufacturer's operating manual for each piece of equipment to be used. This is to be done at the beginning of each season, by any new operator, and/or sooner, if conditions change. Supervisor must ensure operator's proficiency/knowledge in operation prior to being allowed to perform work with equipment and verifies documented training. 	
		Injury from Lack of Inspection	<ul style="list-style-type: none"> Use caution and wear gloves when inspecting or working on engines. Ensure throttle and stop switch are working. Ensure blower/engine/pull cord is properly tightened. Ensure all safety components are intact, pull cord is not frayed, nut and bolts are tight, etc. If parts are missing or faulty, lockout/tag equipment until deficiencies are addressed. 	
Transport Equipment in the Field		Injury to Feet / Ankles	<ul style="list-style-type: none"> Wear appropriate footwear. Typically boots that cover and support the ankle. Determine and use safest path that provides the best option for firm and stable ground with least protrusions. 	
		Back / Muscle Strain	<ul style="list-style-type: none"> Use proper lifting technique when carrying equipment, lift with your legs, not your back. For backpack models ensure equipment is seated properly and weight is distributed evenly. Do not carry more weight than you can handle comfortably, seek assistance if necessary. 	

		<ul style="list-style-type: none"> • Take frequent breaks, switch-off with co-workers often.
	Burn Injury	<ul style="list-style-type: none"> • Wear gloves and long-sleeved shirt (recommended). • Be aware of engine and other hot parts when carrying blowers after operation. Whenever possible, let equipment cool down prior to transporting. •
	Injury to Others	<ul style="list-style-type: none"> • Be aware of and communicate with others around you. • Do not swing tools around carelessly. • When necessary, use a spotter to ensure others do not access your workspace and are not injured.
	Injury to Hands/Fingers	<ul style="list-style-type: none"> • Take care not to pinch or crush your hands/fingers when picking up and setting down equipment.
	Exposure to Fuel	<ul style="list-style-type: none"> • If not familiar with related fuel SDS, review prior to transport. • If transporting long distances, empty fuel tank before transport. • If transporting short distances, ensure fuel caps are tightly secured. • If fuel makes contact with skin, face, eye, or any bodily orifice, follow related SDS guidance, shut down personal operations, inform a coworker and seek treatment.
Transporting Fuel in the Field	Injury / Exposure to Fuel	<ul style="list-style-type: none"> • Wear eye protection. • Plastic fuel containers may not be used (Dolmars are an exception for short-term storage of flammable or combustible liquids). Store fuels in approved metal safety cans with spring-loaded lids. All fuel containers must be clearly labeled. For additional requirements, see the Forest Service Hazmat User's Training Guide and the Interagency Transportation Guide for Gasoline, Mixed Gas, and Diesel, and 29 CFR 1910.106(d). <ul style="list-style-type: none"> ○ Fuel may only be "field transported" and used in: <ul style="list-style-type: none"> Aluminum 1 quart smaller "Sigg" fuel bottle specifically intended to carry fuel. Plastic Dolmar fuel container (Fuel-Mix / Bar Oil). • Metal Gas and/or Gas Mix fuel containers must be red in color and labeled for its contents and use. • Ensure fuel cap(s) is secured properly and tightly. • Do not fill containers above the fill line (or leave at least 2" of space between fuel and top of bottle). • Do not use fuel container for any other liquid containment. • Leaf blowers should be purged of fuel whenever being stored for the season.
Fuel / Refueling Operations	Fire Hazards	<ul style="list-style-type: none"> • Turn off the equipment while fueling. • Keep sparks and open flames away when refueling equipment. • Avoid spilling gas by using a fuel funnel. • Do not overfill. • Allow fuel spills to dry up before operating equipment.

		<ul style="list-style-type: none"> Use the type of fuel recommended in the instructions or on the label on equipment.
	Exposure / Inhalation / Ingestion of Fuels / Fumes	<ul style="list-style-type: none"> If not familiar with related fuel SDS, review prior to fueling. Running equipment produces carbon monoxide (CO), poisoning can occur from the toxic engine exhaust. Know where an eye wash station is prior or have an eye wash plan prior to operations. Fuel/Re-fuel in well-ventilated area. Do not fuel/re-fuel indoors or in a garage. Don't refuel in an area where fumes could drift into a building or affect individuals. Wear eye protection and gloves. Wash hands after handling fuel/fuel container. If fuel makes contact with skin, face, eye, or any bodily orifice, follow related SDS guidance, shut down personal operations, inform a coworker and seek treatment.
Operating Harness, Backpacks and Ergonomics	Back Injury / Fatigue	<ul style="list-style-type: none"> Properly adjust backpack frame and handles to suit your size and to obtain proper balance and comfort.
Start Engine	Damage to Starter / Operator	<ul style="list-style-type: none"> Follow starting procedures according to the operator's manual for each model. Do not allow the pull cord grip to snap back, but guide starter rope to rewind properly and smoothly. Start engine before placing blower on back.
Operate Machine	Injury to Others	<ul style="list-style-type: none"> Maintain a safe distance (of at least 20 feet) from bystanders or co-workers. Do not blow leaves or debris towards other people. Auditory decibels range from 50-115 dB depending on proximity. OSHA requires hearing protection above 85 dB. As such all operators must wear hearing protection. Air particulates thrown from a blower can cause irritation to eyes, throat or lungs, wear a face covering if sensitive.
	Loss of Control	<ul style="list-style-type: none"> Always hold unit firmly with firm grasp.
	Slips and Falls	<ul style="list-style-type: none"> Watch for obstacles such as roots, rocks, uneven terrain. Always maintain a solid stance with firm footing and balance.
	Struck by Thrown Objects	<ul style="list-style-type: none"> Required to wear ANSI approved safety glasses. Other body protection, as needed.
	Strains & Sprains	<ul style="list-style-type: none"> Use properly adjusted harness. Use smooth, even sweeping motions when blowing. Take adequate rest breaks to prevent fatigue and repetitive motion injuries.
	Environmental Exposure	<ul style="list-style-type: none"> Prior to, and while operating equipment, take time to understand the vegetation and general environmental conditions within your workspace. Take necessary / required precautions as situations dictate.
	Muscle Strains / Fatigue	<ul style="list-style-type: none"> Ensure equipment is properly fastened and appropriate body mechanics are used.

		<ul style="list-style-type: none"> • Take breaks and/or switch out with coworkers as needed to reduce muscle stress.
	Malfunctions and/or Faulty Repairs	<ul style="list-style-type: none"> • Follow the maintenance and repair instructions in the owner's manual. • Use only approved replacement parts.
10. OFFICIAL SIGNATURE	11. TITLE	12. DATE

Previous edition is obsolete

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JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

Block 10: The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgment

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE DATE

SIGNATURE DATE
