

U.S. Department of Agriculture Forest Service #2		1. WORK PROJECT/ACTIVITY Operating a Gasoline Power Blower (“leaf blower”)	2. LOCATION Green Mountain and Finger Lakes National Forests	3. UNIT All
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)		4. NAME OF ORIGINAL ANALYST Lindsay Rae Silvia	5. JOB TITLE Fuels Technician	6. DATE PREPARED 05/31/2018
7. TASKS/PROCEDURES (List them in the order they will occur)	8. HAZARDS What will happen and to whom? What will be the outcome of exposure?	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls (state if you considered these) Training * PPE Be specific – who needs to do what?		
Provide training.	Lack of training/orientation leads to personal injury.	<ul style="list-style-type: none"> Project supervisor shall ensure that all workers doing this activity are trained/oriented on the hazards and abatement actions outlined below. Project supervisor shall ensure that all workers be alert to and communicate unanticipated hazards not listed below. Repeat training whenever a new employee or volunteer begins this type of work or when site conditions or work processes change. The general Guide to Working Safely Outdoors on the GMFL (JHA# 0) assesses the hazards and abatement actions for these work activities: driving; exposure to temperature and weather extremes; walking; exposure to ticks and other animal and plant threats; making safe public contacts. Personnel shall be familiar with this information, but do not repeat it here. Follow additional Owner’s Manual requirements for the specific blower make and model being used. 		
Transporting flammable fuel to job site.	<p>Fuel Geysering</p> <p>Unsafe transportation of fuel leads to container leaks, fire, or explosion.</p> <p>Transporting fuel inside vehicle passenger compartment directly exposes occupants to toxic vapors and possible fire.</p>	<ul style="list-style-type: none"> Always use manufacturer recommended Octane level (e.g., 90+ Octane) Transport flammable fuel only in DOT II flammable fuel transport cans. Secure fuel containers in vehicle beds. Do not transport flammable fuel inside vehicle passenger compartments. Label all fuel containers and devices so employees and emergency response personnel can readily determine the contents – what is in the container, mixture proportions (if applicable), who prepared mix or filled container, and date filled. Do not use wool, nylon, or other static-generating materials to wipe up spilled fuels. 		
Starting blower	Damaged controls could cause blower to accelerate to full throttle before operator is ready.	<ul style="list-style-type: none"> “Snap check” throttle before starting. Fully depress throttle and let it snap back to the idle position. If it doesn’t immediately snap back to idle, do not start the blower. Have the blower repaired first. 		

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Operating blower	Because of the proximity of the engine to the operator, operator could suffer significant long term hearing loss due to high noise levels emitted by leaf blower (some in excess of 100db), especially with backpack models.	<ul style="list-style-type: none"> Wear two layers of hearing protection (properly inserted formable earplugs inside earmuffs) while working around leaf blower. See information sheet below for proper technique. Remove bystanders from area. Replace your old loud blower with a new lower noise blower. Run blower at part throttle whenever possible 		
	Operating at excessive engine speeds or in proximity to other operators or people could result in eye or other injuries from flying debris.	<ul style="list-style-type: none"> Always walk towards your work when using a power leaf blower. Do not back away from your work. Operate blower at the minimum speed needed to move the materials to be removed. Avoid using more than one blower in close proximity to each where dust clouds from one blower can affect another operator. 		
	Dust generated by blower could be inhaled causing a variety respiratory ailments – some long term – including silicosis and bronchial inflammation.	<ul style="list-style-type: none"> Minimize dust during normal cleanup operations. Understand that there are times when the blower simply should not be used. Remain upwind of dust cloud. Direct blower in the direction of the wind, not against it. Direct only enough air to move the unwanted debris, controlling the velocity, volume and position of the nozzle to avoid kicking up any dust. To minimize the generation of dust, hold the nozzle above the ground and at a distance from the debris such that the airflow at the ground is only sufficient to move the material you want moved. In dusty areas and when using larger blowers, the nozzle must be held even higher above the ground with an aiming point farther away from the operator. <u>Air velocity</u> is what dislodges the material to be moved and <u>air volume</u> is what keeps it suspended once it is in the air. Practice this by starting with the nozzle well above the ground and then lower it to where it picks up the debris but not the dust. 		

Appendix 17 – GMFL Safety and Occupational Health Plan

JHA #2

FS-6700-7 (11/99)

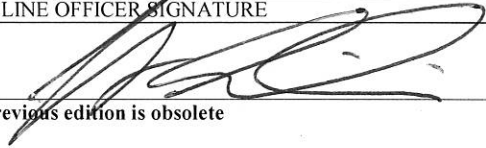
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		<ul style="list-style-type: none"> Heavy concentrations of gravel, construction dirt, plaster dust, pulverized cement, stone and concrete dust, and dry topsoil should never be moved with a leaf blower because these materials have excessive amounts of dust particles that will become airborne. Remove this type of debris with a garden hose (water), vacuums, or with power brooms having water injected to control the dust. Even using a hand broom is incorrect for this job because of the dust generated. 		
	<p>High speed blower nozzle air flow could direct high speed flying objects at people and property damage and personal causing personal injury or property damage.</p> <p>Dislodged objects can bounce back at operator causing eye injuries.</p> <p>High speed blower nozzle air flow can cause instability.</p>	<ul style="list-style-type: none"> Direct blower away from buildings, vehicles, bystanders, or other operators Bystanders shall not be allowed closer than 50 feet from the blower while it is in operation. Operator must wear protective eyewear that meets current ANSI standards. Don't use while you are on a ladder or roof. Wear footwear with good traction. Step cautiously to avoid slips. 		
Fueling/refueling blower	<p>Gasoline vapors could ignite if fueling is done while engine is hot resulting in serious burns to operator and equipment damage.</p> <p>Spills could pollute soil and groundwater</p>	<ul style="list-style-type: none"> Allow blower to cool before fueling. Good time for a water break. Fuel on bare ground – not around flammable or combustible materials. Use fuel spout and or funnel. Fuel can spout should be small enough in diameter to control flow and allow viewing fuel level during pour. Ensure correct fuel mixture if using equipment with a two stroke cycle motor. While fueling, eliminate ignition sources and smoking in an area at least 25 feet from mower. Fill only from properly labeled fuel container. Wear eye protection. Clean up spills and flush from skin. 		

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		<ul style="list-style-type: none"> Change clothing before starting blower engine if flammable liquids are spilled on them. 		
	Breathing blower engine exhaust could result in carbon monoxide poisoning to operator.	Use blower only while outdoors.		
	Hot exhaust could ignite combustibles or flammables when blower is placed in storage.	Before storing blower, allow the engine to cool.		
Emergency response	Lack of emergency response plan causes delays in obtaining emergency medical treatment	<ul style="list-style-type: none"> Provide the following information in this JHA, document on your tailgate safety meeting form, and share with all project participants: <ol style="list-style-type: none"> Means of communication (radio, cell, satellite) Check mode of communication prior to beginning field work at your location. If you do not have clear communication from the work site, where along the road will you be able to get a communication line out? Primary contacts (rescue squad, F.S. dispatcher, relay person) Travel routes for emergency responders Location of closest medical facilities How to contact them (phone #s) Keep a two-way radio or cell phone available in case of an emergency and a fully stocked crew type first aid kit on site. Be able to describe crew location to emergency medical responders. Perform a dry run, or example of how you would describe your location prior to starting work in case directions are difficult to give to an E-911 operator. All crew members should have access to a map and directions to the nearest medical facility and the location of the crew vehicle keys. Do not attempt to transport someone with serious injuries without EMS. Call emergency responder for this kind of transport and follow instruction from 911 		

Appendix 17 – GMFL Safety and Occupational Health Plan

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10. LINE OFFICER SIGNATURE 		11. TITLE Forest Supervisor John A. Sinclair	12. DATE 6/22/2018	

Previous edition is obsolete

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:

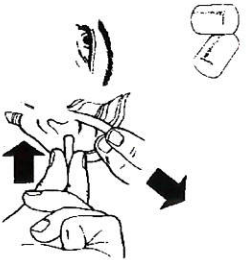
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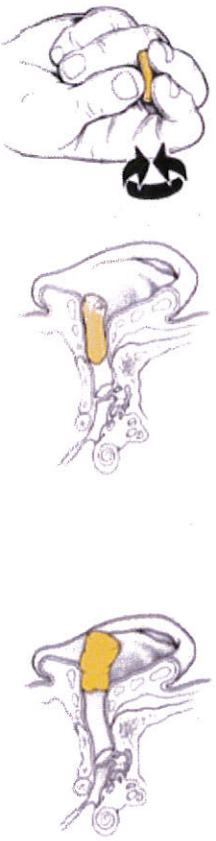
Wearing or Inserting Hearing Protective Devices

If you will be exposed to sound levels at or exceeding the action level (85 decibels) on the job, you must wear hearing protection devices. The Forest Service must provide this Personal Protective Equipment to you.

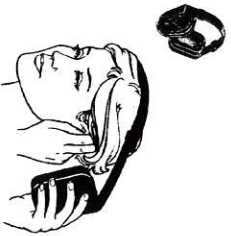
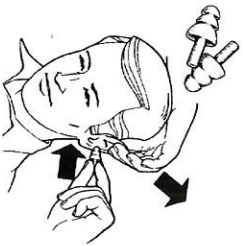
Earplugs come in varying sizes and densities, so if an earplug is too big or too small, if they won't fit in at least $\frac{3}{4}$ of their length or they slide in too far, or if they cause too much pressure inside your ear canal, try a different type. Do not wait until the day you need the earplugs to try them "in".



Inserting Formable Plugs - Slowly roll and compress foam plugs into a very thin cylinder. Fitting is easier if you reach around the head to pull the ear outward and upward during insertion. While compressed, insert plug well into the ear canal so you cannot see it while looking at yourself while looking straight on in a mirror or a co-worker cannot see the plug while looking straight at you.



Inserting Pre-molded Plugs - Reach around the back of your head and pull outward and upward on the ear while inserting the plug until you feel it sealing. This may seem tight at first, especially if you've never worn earplugs.



Wearing Earmuffs – Muffs must fully enclose the ears to seal against the head. Adjust the headband so cushions exert even pressure around the ears to get the best noise reduction. Pull hair back and out from beneath the cushions. Don't store pencils or wear caps under the cushions.

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