USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Beaverhead-Deerlodge NF | R1-24-33 | May 2024

Butte-Jefferson

Ranger District

Field Reference Guide

2024

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Our Mission

We are an organization who provides a safe, professional, highly skilled workforce to the public as representatives of the Beaverhead-Deerlodge National Forest based on pride in work and our core values.

Core Values

Teamwork

Integrity

Commitment to Excellence

Loyalty

Service

Duty

Respect

Professionalism

Perseverance

Family

This document is intended to supplement, not replace, existing NWCG guides including the Incident Response Pocket Guide (IRPG, NFES 1077) and the Fireline Handbook (NFES 0065).

This document, nor any other publication, should ever replace forethought or common sense.

Thanks to Prineville IHC, Prineville Helitack, Lewis and Clark IHC, and Alex Viktora of the Zion FUM for information contained in this reference.

Butte/Jefferson Fire Staff		Cell Phone	Office
District FMO	Kevin Smith—**Division 4**	(406) 491-0202	(406) 494-0215
N. Zone Fuels	Jesse Myers - **Branch 4-2**	(406) 531-1652	(406) 494-0224
Operations AFMO	Shane Martin—**Battalion 4-1**	(406) 533-9162	(406) 494-0228
Fuels AFMO	Scott Drake—**Battalion 4-2**	(406) 459-8579	(406) 494-0252
Fuels Tech	Rob Dunn—**Fuels 4-1**	(406) 599-3041	
Fuels Tech	Kristina Luotto—**Fuels 4-2**	(406) 594-5538	
Prevention Tech	Molly Chiappetta—**Prev 4**	(262) 994-1008	

Whitehall IA				
Gordon Wegley **Supt 4-1** C:(406) 437-2589	Vacant **Captain 4-1A** C:(406)	Ilan "Lonnie" Briggs **Crew 4-1B** C:(304) 582-0334	Maxwell Li **Senior 4-1C** C: (301) 760-0066	Tyler Rollins C: (218) 390-6323
Michell Smyth C: (401) 378-2947	Michell Rambo C:(941) 268-5355	Timothy Morris C:(520) 965-9190	Gabriel Samolyk C:(603) 260-4365	Vacant C:(406)
Vet Crew				
Mitch Robbins **Supt 4-2** C:(406) 431-7162	Vacant **Captain 4-2A** C:(406)	Brychan De Money Gross **Crew 4-2A** C:(406) 565-0174	Colton Wolken **Crew 4-2B** C:(406) 475-0262	Jame Freeman **Senior 4-2C** C:(847) 337-9613
Pete Diewert **Senior 4-2D** C:(765) 894-5800	Josh McCamby C:(480) 353-8300	Randol Denney C:(360) 628-9600	Eric Glines C:(801) 597-4800	Brandon Vargas C:(909) 587-9391
E641				
Paul Monforton **Captain 4-1** C:(406) 490-9993	Vacant **Engineer 4-1** C:(406)	Vacant **Lead 4-1** C:(406)	Kallan Banning **Senior 4-1** C:(406) 465-1350	
Melanie Smith C:(219) 851-7922	Courtney Benson C:(406) 291-0358	Vacant		
E671				
Vacant **Captain 7-1** C:(406)	Matthew Larson **Engineer 7-1** C:(406) 565-2788	Douglas Bertelsen **Lead 7-1** C:(406) 209-1489	Gryphon Lombardi **Senior 7-1** C:(406) 490-9129	
William Stevens C: (614) 440-6264	Vacant C: (406)	Vacant C:(406)	**Sat Phone,** dial 480-468-2500 than phone number	
E672				Whitehall Sat Phone 011-8816-5141-3228
Matt Racicot **Captain 7-2** C:(406) 493-2278	Vacant **Engineer 7-2** C:(	Vacant **Lead 7-2** C:(406)	Marino Wall **Senior 7-2** C:(406) 437-8327	
Joseph Bogucki C:(720) 202-6233	Timothy Stevens C:(614) 256-9146	Matthew Sisson C:(208) 946-3485		Butte Sat Phone 011-8816-5141-

Butte/Jefferson Contacts

Name	Phone	Cell
Butte Office Fax	(406) 494-0269	
Whitehall Office Fax	(406) 287-9244	
Dillon Dispatch	(406) 683-3975	
Butte Front Desk	(406) 494-2147	
Tim Lahey - Ranger	(406) 494-0250	(406) 533-8408
—Deputy Ranger	(406) 494-0244	(406)
Dave Scherbel - Recreation	(406) 494-0246	(406) 490-0810
Anne Roberts - Wildlife	(406) 494-0238	(541) 420-3662
Chance Reynolds - Roads	(406) 494-0221	(406) 260-3064
Anton Brennick - Staff/Deputy Sup	(406)	(406) 490-3555
Jeremiah Sperry - Engineering	(406) 683-3910	(406) 865-0453
Randie Adams- Range	(406) 287-3047	(406) 560-5229
Kristina Vitolins - LEO - **FS-56**	(406) 494-0217	(406) 925-9700
Lucas Phillips - Range Mgmt	(406) 494-0230	(406) 490-7240
Rob Morris- Radios	(406) 494-0247	(406) 461-6841
Kory Johnson- Rec/FFT2	(406) 494-0249	(406) 606-2086
Bob Bundy - Rec/ENGB	(406) 494-0249	(406) 792-5669
Scott Forman - Rec/FFT2	(406) 494-0249	(406) 593-1640
Amy Schwartz - Heritage	(406) 494-0257	(406) 560-5250
Joe Baer - Timber	(406) 494-0255	(406) 303-0255
Jason Willoughby - Training	(406) 494-0216	(406) 490-6761
Russ Walker - TMO	(406) 494-0243	(406) 214-6077
Patrick Luckenbill - Hydro		(401) 662-1838
Sam Hodge - Timber	(406) 494-0232	(406) 498-8649
Russ Walker - Timber	(406) 494-0243	(406) 207-5764
Jim Carmody - Timber	(406) 494-0225	(406) 490-3920
Julie Edelen - RA/Union	(406) 494-0254	(406) 570-2204
Lawrence Crofutt—Timber	(406) 494-0223	(406) 533-8092
Fire Garage	(406) 494-0245	
Silver Bow Sheriff Dept	(406) 497-1130	
Silver Bow Fire Dept	(406) 497-6481	
Jefferson Sheriff Dept	(406) 225-4075	
Dillon Dispatch Duty Officer	(406) 490-8200	
Albuquerque Service Center	1-877-372-7248	
Customer Help Desk (EUSC)	1-866-945-1354	
Interstate Alarm	1-800-344-4546	

Beaverhead-Deerlodge Fire Contacts

Name	Phone	Cell
Supervisors Office	(406) 683-3900	
Vacant - Forest Sup	(406) 683-3973	(406) 899-5020
Carol Hatfield—Deputy Forest Sup	(406) 683-3978	(406) 431-9656
Joe Sampson - Forest Fire Staff	(406) 683-3955	(406) 491-0884
Eric Reiner - Deputy Fire Staff	(406) 683-3923	(406) 396-0724
Greg Schenk- Forest Fuels Specialist	(406)	(406) 691-0371
Rich Reneau- Forest Fire Planner	(406)	(406) 493-5799
Bert Smith - Forest Aviation Officer	(406) 683-3956	(406) 660-7371
Matt Nelson- Forest Prevention		(406) 865-0454
Asheli Racicot - Forest Fire Admin		(406) 490-0197
Mike King- South Zone Fuels Planner		(406) 560-3120
Terina Hill - Fire Public Affairs Officer	(406) 683-3920	(406) 865-0941
Erin Lally - Incident Business Specialist		(406) 531-8357
Catherine McRae- Forest PAO	(406) 683-3984	(406) 925-3353
Nakita Lopez- Forest Safety Officer	(406)	(406)
Dillon Dispatch	(406) 683-3975	
Claire Smith - Center Manager	(406) 683-3992	(406) 660-2998
Joe Stanaway - Assist Center Manager	(406) 683-3992	(406) 660-2961
Alex Horton - Lead Air Dispatch	(406) 683-3939	(801) 554-1594
Victoria Curtis - IA Dispatcher	(406) 683-3986	(406)
Jason Mickelson - IA Dispatcher	(406) 683-3942	(406) 240-7853
Wise River Helitack		
Randy Gilbert - Manager	(406) 683-3994	(406) 925-3779
Nick Plovanic - Assistant Manager	(406) 683-3930	(406)
Dillon Ranger District	(406) 683-3900	
Aaron Knudsen - DIVS 1	(406) 683-3983	(775) 846-3056
Chris Hinkey - OPS BAT 1-1	(406)	(406) 865-0189
Vacant - Captain 1-1	(406) 683-3968	(406)
Colter Dickinson - Fuels 1-1	(406) 683-3945	(406) 291-5960
Vacant - Fuels BAT 1-2	(406) 683-3911	(406) 493-5799
Vacant - Prevention 1-6		
Madison Ranger District	(406) 682-4253	
James King- DIVS 6	(406) 641-2355	(406) 925-3802
Vacant - OPS BAT 6-1	(406) 641-2376	(406)
Kyle Errecart - Captain 6-1	(406) 641-2379	(406) 207-6998
Derek Wittenberg- Captain 6-2	(406) 641-2380	(406) 240-6619
Jeff Barnes - Fuels BAT 6-2	(406) 682-4253	(406) 417-1352
Chris Hericks - Fuels 6-1		(406) 865-0269

Beaverhead-Deerlodge Fire Contacts

Name	Phone	Cell
Pintler Ranger District	(406) 859-3211	
Jerod Russell - DIVS 8	(406) 859-3211	(218) 946-6803
Josh Hansen—OPS BAT 8-1	(406) 859-3211	(406) 925-0302
Ryan Hennager- Captain 8-1	(406) 859-3211	(406) 593-1084
Charlie McDonald - Supt 8-1	(406) 859-3211	(406) 531-2424
Matt Latray - Fuels BAT 8-2	(406) 859-3211	(406) 865-0452
Paul Smith - Fuels 8-1		(406) 560-3766
Vacant - Prevention 8-3		
Wisdom Ranger District	(406) 689-3243 Wisdom	(406) 832-7128 Wise River
Richard Griffin - DIVS 3	(406) 689-3243	(406) 925-1951
Seth Bond – OPS BAT 3-1	(406) 832-3178	(937) 725-7157
Brian Gorwitz - Captain 3-1	(406) 689-3243	(406)
Tim Eteinne - Captain 2-1	(406) 832-3178	(406) 291-2162
Justin Bogart – Supt 3-1	(406) 832-3178	(406) 214-8960
Vacant - Fuels BAT 3-2	(406) 689-3243	(406)
Butte/Dillon BLM	(406) 533-7600 Butte	(406) 683-8000 Dillon
Brad Bergman - FMO	(406) 533-7611	(406) 490-1123
Jonathan Clark - Fire Mgt Specialist	(406) 683-8047	(406) 560-5634
Jonathan White- Fuels Specialist		(406) 490-0587
Greg Campbell - Fuels Mgt Specialist	(406) 533-7608	(406) 490-0548
Dillon DNRC	(406) 683-6305	
Jay Lemon - Unit FMO	(406) 683-6305	(406) 491-8530
Kyle Rawson- Unit AFMO	(406) 683-6305	(406) 925-1548
Anaconda DNRC	(406) 563-6078	
Kelly May - Unit FMO	(406) 563-6078	(406) 297-6729
Robert Gustafson - Unit AFMO	(406) 563-6078	(406) 560-2043
Helena DNRC	(406) 458-3500	
Vacant - Unit FMO	(406) 458-3502	(406)
Dan Miller - Unit AFMO	(406)	(406) 250-4762
Jonathan Heslop - Unit AFMO	(406) 458-3512	(406) 202-2314
Helena DNRC Duty Officer Phone		(406) 444-3943
Anaconda Job Corp		
Monica Thomas - AFMO Branch 2-2	(406) 563-8711	(406) 479-3336
Ian Quist - Supt 2-2	(406) 563-8708	(406) 360-8439

Vehicle Information

Vehicle	Seats	License	Year	Make	ID
5838- E641	5	A360486	2012	Ford F550 4x4	6.7L Powerstroke
4029 - E671	5	A392541	2021	Ram 5500	6.4L Hemi
3044 - E672	5	A304264	2020	Ram 5500	6.7L Cummins
3028 - IA Rig	5	A378855	2018	Chevrolet 3500HD	6.6 L Duramax
5850 - UT-672	4	A356761	2012	Ford F350	6.8 L Gas
2608– UT-C41	4	A378855	2017	Chevrolet 1500	5.3 L Gas
0166 - FMO	5	A385936	2020	Chevrolet 3500HD	6.6 L Duramax
3036 - Ops AFMO	5	A381238	2018	Chevrolet 2500HD	6.0 L Gas
4110 - Fuels Rig	4	A399419	2023	Ford F350	6.7 Gas
GSA - Fuels	3	A6356	2015	Chevrolet 1500	5.7 Gas
3313 - Vet Supt	5	A399416	2023	Chevrolet 3500HD	6.6L Duramax
5837 - Vet Dually	5	A360485	2013	Ford F550	6.8L Gas
2269 - Vet Ram	5	A375772	2014	Ram 3500	5.7L Hemi
7277 - Prevention	3	A365008	2012	Chevrolet 3500	5.7 Gas
Big Red	3	A04771M	2009	Polaris Ranger	UTV
2619 - Bluey	5	A0817T	2017	Honda Pioneer	UTV
3025 - General	4	A06223M	2023	Polaris General	UTV

Name	Office	Cell	Pager/Other
Jackie Dumke - Fleet Manager	(406) 683-3982	(406) 925-1363	

Use **vehicle** card (labeled for each vehicle) for vehicle fuel, parts, and repairs only.

If any repair or service will exceed $500.00, please contact the Fleet Manager to authorize the charge before any work is initiated. Any repairs that may go over $2500 need to go to contracting, **DO NOT AUTHORIZE WORK TO PROCEED**.

If using a GSA rig the ID# is the license plate number minus the first and last numbers.

BKR-5000 PORTABLE RADIO BUTTON SETTINGS
USFS

All radios will have the standard 32 tone picklist (16 for NIFC)

Display Standardization:
1. Zone Label
2. Channel Label
3. Frequency

Minimum required Menu items will be →

Cloning	User Tx Tones
Backlight	User Tx NACS
Channel Scan	Tx Power
Channel Scan List	Battery Life
Scan List	Chan Add/Del
Priority Scan	System Check
Priority Channels	Version
Zone Scan	Zone Select
Zone Scan List	Radio Info
Squelch Adjust	Tx Digital
Keypad Program	

* Additional items may be added, but these are the minimum required.
* Backlight may be set to button press or channel change.
* Some buttons have been set to **Open** to allow user customization.
* Assigned portions are not optional.

Open	Open	**CMD CHNL+ n**
Open	Open	Open
Open	Open	Open
*	Open	**Zone Select**

King DPHX Programming Instructions

Use caution when field programming any radio. These instructions are designed for radio users with field programming experience.

The instructions below are for analog narrowband frequencies. If you need to program digital frequencies, see the* **Digital Programming** *section (Page 14).

1. Select group to program (generally group 15 or 16 for fire incidents) by pressing [#] on keypad, selecting group number, and pressing the [ENT] key.
2. Hold down red button on programming plug (or carefully bridge rear contacts of accessory jack w/ metal) and hold [FCN] key approximately 3 seconds until display shows *"-- -- -- ID"*.
3. Enter Password (000000), then press the Enter [ENT] key.
4. Display will read *"CH 00"*. Select a channel by entering (1-16) then press the [FCN] key. Toggle between wide "*CH 15*" and narrow "*CH 15 N*" by pressing the [#] key.
5. Display will show "RX" receive frequency. To change, press [CLR], then enter desired frequency (the decimal will insert automatically). Then press [ENT]. To skip press [FCN].
6. Display will show *"MODE--A".** DO NOT CHANGE. Press [FCN].
7. Display will show RX CG, the Code Guard or Tone. To change, press [CLR], enter desired 4 digits (the decimal will insert automatically), then press [ENT]. To skip press [FCN].
8. Display will show *"NAC0000".** DO NOT CHANGE. Press [FCN] to skip.
9. Display will show *"SQL—NRM".** DO NOT CHANGE. Press [FCN] to skip.
10. Display will show "TX" transmit frequency. To change, press [CLR], then enter desired frequency (the decimal will insert automatically). Then press [ENT].
11. Display will show *"MODE--A"* DO NOT CHANGE. Press [FCN] to skip.
12. Display will show TX CG, the Code Guard or Tone. To change, press [CLR], enter in desired 4 digits (the decimal will insert automatically). Then press [ENT]. To skip press [FCN]. **Note: tones are generally transmit if only one tone is given.**
13. Display will show *"NAC0000".** DO NOT CHANGE. Press [FCN] to skip.
14. Display will show *"TG00001".** DO NOT CHANGE. Press [FCN] to skip.
15. Display will show channel label. Press [FCN] to skip, or press [CLR] and then use the [PRI] button to scroll **in order** through the numeric characters. Press [FCN] to select first character (character moves one space left per press), and then [PRI] to scroll for second character. [ENT] saves alphanumeric changes.
16. Display will read *"CH XX"*. Enter value for next channel to program and repeat steps 5-15.
17. Use [FCN] key to scroll through and check all values. Turn off radio to exit program mode.

Digital Cloning

1. Program Master radio (make sure all settings including scan and priority are accurate).
2. Select desired group to program in Slave (your) radio (generally 16) by pressing [#] on keypad, selecting group number, and pressing the [ENT] key.
3. Turn off both radios and attach cloning cable between Master and Slave radio with program button on Master radio side. Make sure all scan and priority switches are OFF for both radios. Turn on both radios.
4. Access Programming mode of Master radio with button (see #2 left).
5. With Master radio display reading *"CH 00",* press the [*] key on the Master radio.
6. "PRGM" will appear on screen and flash.
7. Press the Function [FCN] key and "PRGM" will appear without flashing as the slave radio is programmed (Slave radio's screen will flash VH-1).
8. Turn off slave radio, disconnect, connect the next slave radio, and program by pressing the [FCN] key on Master radio once again. Do not turn off Master radio in between clones.

If display reads "FAIL" an error has occurred.

1.) Check batteries in both radios.

2.) Check steps above, retry, and seek radio help if failure continues.

3.) The cloning cable may not work between different types of radios (DPH→EPH or GPH→DPH).

Radio Notes:

If you have trouble keying in a tone or changing groups, your keypad may be locked. Look at your screen, and if it says "*LOCKED"* than press and hold the [FCN] key until you see "*UNLOCKED."*

To change a frequency from Narrowband to Wide band: Press the [#] key when the channel number is displayed in program mode. "*N* " indicates Narrowband.

DO NOT USE a knife to push buttons on the keypad to avoid damage to the rubber waterproofing.

Use caution entering programming mode without a programming button. A knife may be used, but can damage the contacts if pressed too firmly.

If a corded microphone is not used, a rubber cover will be used over the accessory jack at all times.

NOAA WX Freqs
RX 162.400
RX 162.425
RX 162.450
RX 162.475
RX 162.500
RX 162.525
RX 162.550

Radio Programming Zero Codes

The "Zero Codes" control numerous features of your BK radio. **USE CAUTION WHEN CHANGING. This information provided for reference only.**

For all functions, press [**FNC**] to advance, and [**ENT**] to store any changes.

The display will show "PRG **P000000**" (Group password). **Do not change.**

The display will show "PRG ID **000000**" (ANI). Do not change.

The display will show "PRG TX **120 SEC**" (Transmit Time Out). A value of 0.0 disables time out feature.

The display will show "PRG SCN **2.0**" (Scan Delay Time). NIFC default is 2.0.

The display will show "PRG **PR1 OFF"** (Priority 1). Set to 16 (or whatever channel # for crew). A numerical value allows PR1 to be changed with keypad without re-entering program mode. Can also be set to "**PR1 ON**".

The display will show "PRG **PR2 OFF"** (Priority 2). Set to division tac or second most important channel. PR2 can only be changed by re-entering Zero Code program mode.

The display will show "PRG **1- - 12345"** (Group 1 Functions)

The display will show "PRG **2- - 12345"** (Group 2 Functions)

The display will show "PRG **3- - 12345"** (Group 3 Functions)

To change a number from flashing to solid (i.e. disable a function), simply touch the number on the key-pad, then press **[ENT]**. The opposite will also work. To enable a function, touch the number on the keypad, then press **[ENT]**.

To change the "*LITE"* settings (display LCD light) touch the **[PRI]** button to scroll through options, then press **[ENT]** (Generally off except for extended nightshift operations). Both Group 3 and "LITE"

Crew Settings	
Group Function	Flashing (Enabled)
1	3
2	3,5
3	5

Radio Programming Zero Codes (cont)

The "Zero Codes" control numerous features of your BK radio. **USE CAUTION WHEN CHANGING. This information provided for reference only.**

- Zero Codes are specific to each group, and must be programmed individually.
- In the table below, a function is enabled if a particular number is **Grey**.
- Common settings are indicated with **red highlights.**
- A function is enabled if the number is flashing. For example, to enable DTMF encoder, the number 5 must be flashing in the Group 2 functions. In the chart, you'll see that the number **5** is grey next to the DTMF.

Group One Functions							
1	Battery Saver Off *(If 1 is flashing, Battery Saver is OFF!!)*	1	2	3	4	5	Disable battery saver function (bad)
1	Group Scan List	1	2	3	4	5	Enables current group to scan in Group Scan Mode
1	Transmit on PRI 1	1	2	3	4	5	Transmit on priority 1 regardless of channel knob
1	Priority Key Lockout (Bad)	1	2	3	4	5	Locks priority 1 (no keypad selection)
1	Scan List Lockout (Bad)	1	2	3	4	5	Locks scan (no keypad selection)
Group Two Functions							
2	User Code Guard Enabled	1	2	3	4	5	**Allows keypad selectable tones (for repeaters)**
2	Busy Channel Indicator enabled	1	2	3	4	5	Yellow LED will illuminate with Rx channel activity
2	Busy Channel Lockout enabled (rarely enabled)	1	2	3	4	5	Yellow LED will illuminate and PTT (transmit)disabled with Rx channel activity
2	Busy Channel Override enabled (rarely enabled)	1	2	3	4	5	PTT disabled with Rx channel activity but can be activated with squelch tone guard
2	ANI enabled (rarely enabled)	1	2	3	4	5	Individual radio ID code transmit on PTT
2	Manual DTMF Encoder enabled	1	2	3	4	5	Enables Keypad for DTMF
2	Manual DTFM/ANI Encoder	1	2	3	4	5	Individual radio ID code transmit only when "ENT" pressed during Tx
Group Three Functions							
3	Light on Display Input	1	2	3	4	5	Handy for night shift but drains batteries
3	Light on Key Press	1	2	3	4	5	Handy for night shift but drains batteries
3	Alpha-numeric Mode enabled	1	2	3	4	5	Allows alpha numeric display
Back Light Duration (usually off)							
Group Label (displays when changing groups)							

Grey numbers = Flashing numbers = Enabled Function

Red numbers = Flashing numbers = Common Settings

Digital Programming

In order to use your DPH as a digital radio, there are several considerations.

MODE: Must Be **D** (Digital) or **M** (Mixed)

NAC = Network Access Code. Essentially a digital "tone." This code will be provided for you, and it is required for digital frequencies to work. The code may be either HEX or DEC. Hand programming requires DEC inputs.

SQ OP: Do not change from default of "Normal".

TG = Talk Group ID. Provided for you by management unit - usually talk group 1.

Things to remember:

DPH radios can be set up with digital and analog frequencies in a single group.

When transmitting on a digital frequency, press PTT and wait one full second before speaking.

Digital repeaters may not be set up with a transmission "tail" or "kick-back". An actual voice transmission may be needed to verify contact with the repeater.

If you know you'll be using digital frequencies, plan ahead - you may have most success programming your radios with the laptop and the BK software.

You can clone digital frequencies between DPH radios, just like analog frequencies.

NACS

F7E allows radio to receive any digital signal on that frequency regardless of transmit NAC.

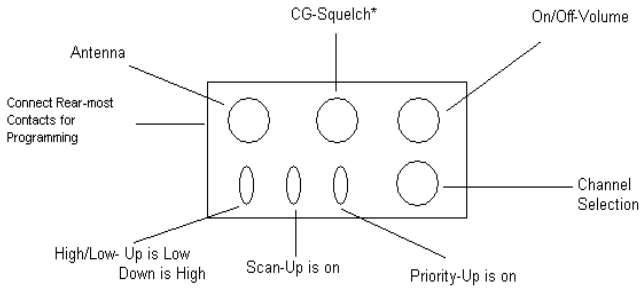
F7E hexadecimal = 3966 decimal for hand programming.

F7E is a receive NAC only.

Convert hexadecimal to decimal and vice-versa with the Microsoft calculator in Scientific Mode.

National Standard Tones / NACs			
Std Tone	**Analog Freq**	**DEC NAC**	**HEX NAC**
1	110.9	1109	$455
2	123.0	1230	$4CE
3	131.8	1318	$526
4	136.5	1365	$555
5	146.2	1462	$5B6
6	156.7	1567	$61F
7	167.9	1679	$68F
8	103.5	1035	$40B
9	100.0	1000	$3E8
10	107.2	1072	$430
11	114.8	1148	$47C
12	127.3	1273	$4F9
13	141.3	1413	$585
14	151.4	1514	$5EA
15	162.2	1622	$656
16	192.8	1928	$788

Radio Use



To activate a Code Guard (CG), turn the CG-Squelch Knob counter-clockwise (left) until it clicks. This will activate the receive Code Guard and is required to be in this position to effectively talk on channels with a tone guard. On an incident, leaving the CG-Squelch knob in this position, WILL NOT affect your communication on other tactical frequencies with no tone. However, it may affect communication using repeaters with keypad selectable code guards (Forest repeaters or IA dispatch in other regions).

To utilize keypad selectable tones, you must first program the Zero Code - group 2: function 1 for each affected radio group (see page 13). Once user selected tones are enabled, use the keypad to select the appropriate tone for the repeater (1-9: see page 14). To return to a programmed code guard, press “zero” on the keypad to disable the user tone guard and allow the programmed code guard to function properly.

To conserve batteries:

1. Scan as few channels as possible.
2. Keep ‘High/Low’ toggle in the ‘Low’ position (use ‘High” any time communication is not working well due to topography or distance).
3. No display backlight.

Radio Use (Cont)

To add/remove a channel to scan: Press [ENT] to select, and [CLR] to remove. Scan must be disabled (switch toward front of radio) to add or remove channels.

Scan will check all selected channels for activity, but does not check for activity on other scan channels while receiving any input. Priority rechecks the selected priority channels during receive on non-priority channels, so traffic is not missed on the priority channel(s).

If the priority switch is up, the radio scans the priority channel(s) only. To scan other selected channels, both PRI and Scan switches must be engaged (toward back of radio).

Satellite Phone User Guide

Butte Sat Phone #: 8816-5141-3229

Whitehall Sat Phone #: 8816-5141-3228

To call sat phones from USFS landline: dial 480-768-2500 and when prompted enter number above.

To call sat phone from any other phone: dial 011 than the phone number

To Use Phone:

Power unit on. Rotate antennae to proper angle, and extend.

If asked, enter PIN: 1111

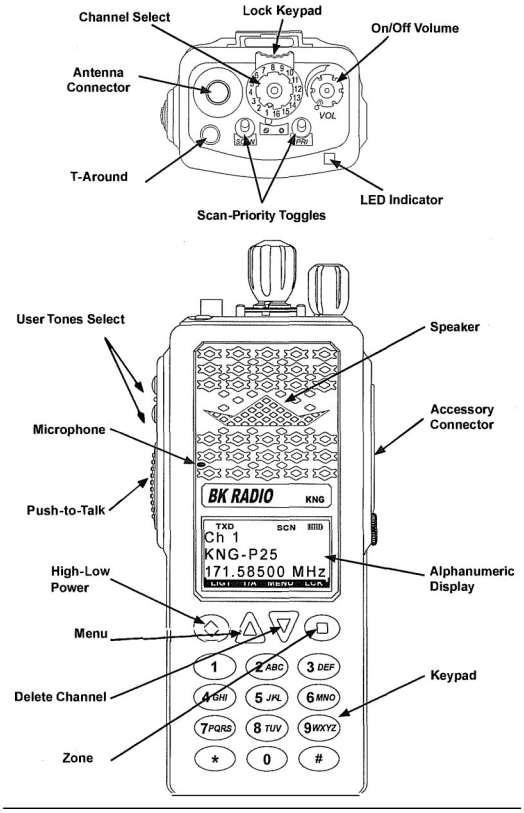
To call out: Dial 00 + 1 + seven digit phone number. Press “OK”

Phone requires a clear view of sky with antennae pointed up. Once connected, avoid moving around.

Customer Service: 001-709-748-4226.

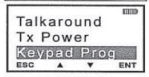
King KNG Programming Instructions

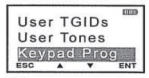
Radio Controls

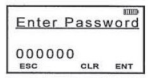


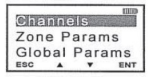
King KNG Programming Instructions

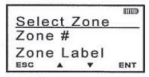
Programming Channel Information

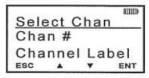


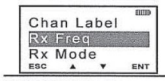










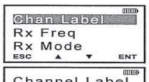


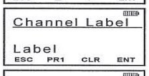
To enter the Channel Programming mode:

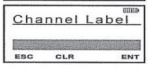
1. Press the MENU button.
2. Use the up/down arrows to highlight 'Keypad Prog'.
3. Press 'ENT'.
4. Use the up/down arrows to highlight 'Keypad Prog'.
5. Press 'ENT'.
6. Use the keypad to enter the six digit password.
7. Press 'ENT'.
8. Use the up/down arrows to highlight 'Channels'
9. Press 'ENT'
8. Use the up/down arrows to select the Zone of the desired channel.
9. Press 'ENT'.
10. Use the up/down arrows to select the desired channel.
11. Press 'ENT'.
12. Use the up/down arrows to select the function you wish to edit.

Programmable Channel functions include: Channel Label, Receive Frequency, Receive Mode, Receiver Code Guard, Squelch Mode, Transmit Frequency, Transmit Mode, Bandwidth, Transmit Code Guard, Transmit NAC, Talkgroup ID, Secure Mode selection, Encryption Key Lock and Low Power Lock.

Channel Label



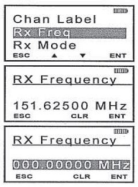




1. With 'Chan Label' highlighted, press the ENT button.
2. Press the 'CLR' button to clear the label.
2. Use the keypad to select the desired character. (See Keypad Character Chart.)
3. Press the 'NXT' button to move to the next character. Labels can contain up to thirteen characters.
4. Press the 'ENT' button to save the label.
5. Press the 'ESC' button to return to the Channel Programming menu.

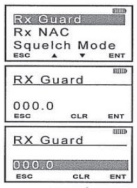
King KNG Programming Instructions

Receive Frequency



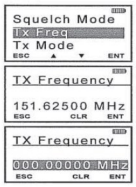
1. With 'Rx Freq' highlighted, press the 'ENT' button.
2. Press the 'CLR' button to clear the current frequency.
3. Use the keypad to select the desired Receive Frequency.
4. Press the 'ENT' button to set the frequency.
5. Press the 'ESC' button to return to the Channel Programming menu.

Receive Code Guard



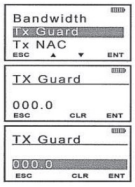
1. With 'Rx Guard' highlighted, press the 'ENT' button.
2. Press the 'CLR' button to clear the currently programmed tone.
3. To enter CTCSS tones use the keypad to enter the tone in Hertz. (67.0 - 255 Hz) To enter CDCSS tones press the # key then enter the three digit code. (000 - 999)
4. Press the 'ENT' button to set the tone.
5. Press the 'ESC' button to return to the Channel Programming menu.

Transmit Frequency



1. With 'Tx Freq' highlighted, press the 'ENT' button.
2. Press the 'CLR' button to clear the current frequency.
3. Use the keypad to select the desired Receive Frequency.
4. Press the 'ENT' button to set the frequency.
5. Press the 'ESC' button to return to the Channel Programming menu.

Transmit Code Guard



1. With 'Tx Guard' highlighted, press the 'ENT' button.
2. Press the 'CLR' button to clear the currently programmed tone.
3. To enter CTCSS tones use the keypad to enter the tone in Hertz. (67.0 - 255 Hz) To enter CDCSS tones press the # key then enter the three digit code. (000 - 999)
4. Press the 'ENT' button to set the tone.
5. Press the 'ESC' button to return to the Channel Programming menu.

Group 1 - DILLON NET					
CH	Frequency Description	RX	TX	TX Tone	TX NAC
1	PROJECT	168.750	168.750	131.8	1318
2	DILLON DIR	172.350	172.350	123.0	1230
3	WHISKEY	172.350	165.750	146.2	1462
4	TOWER MTN	172.350	165.750	162.2	1622
5	LEMHI PASS	172.350	165.750	110.9	1109
6	MAVERICK**	172.350	165.750	100.0	1000
7	ELLIS PEAK	172.350	165.750	127.3	1273
8	WHITE PINE	172.350	165.750	131.8	1318
9	SELWAY PK	172.350	165.750	107.2	1072
10	A/G #29	166.900	166.900		
11	BLM SOA 1	168.225	168.225	123.0	1230
12	GYPPO	151.925	151.925		
13	COM 1	168.6125	168.6125	131.8	1318
14	RED (Fire Cmd)	154.070	154.070	156.7	1567
15	WHITE (EMS)	155.280	155.280	156.7	1567
16	TAN (EMS A/G)	155.340	155.340	156.7	1567

Group 2 - BUTTE NET					
CH	Frequency Description	RX	TX	TX Tone	TX NAC
1	PROJECT	168.750	168.750	131.8	1318
2	BUTTE DIR	172.325	172.325	123.0	1230
3	RED MTN	172.325	164.825	103.5	1035
4	BULL MTN	172.325	164.825	100.0	1000
5	BLIZZARD	172.325	164.825	156.7	1567
6	JACK MTN	172.325	164.825	167.9	1679
7	QUEENS HILL	172.325	164.825	154.4	1544
8		172.325	164.825	167.9	1679
9		172.325	164.825	103.5	1035
10		172.325	164.825	100.0	1000
11	GYPPO	151.9250	151.9250	000.0	0000
12	COM 1	168.6125	168.6125	131.8	1318
13	COM 2	163.7125	163.7125	131.8	1318
14	COM 3	167.1375	167.1375	131.8	1318
15	R1 SOA #4 RPT	173.1875	164.3875	136.5	1365
16	TAN (EMS A/G)	155.340	155.340	156.7	1567

Group 3 - MADISON NET					
CH	Frequency Description	RX	TX	TX Tone	TX NAC
1	**PROJECT**	168.750	168.750	131.8	1318
2	**MADISON DIR**	171.425	171.425	123.0	1230
3	**SOUTH BALDY**	171.425	164.700	146.2	1462
4	**LAZYMAN**	171.425	164.700	123.0	1230
5	**ELK LAKE**	171.425	164.700	156.7	156.7
6	**QUEENS HILL**	172.325	164.825	151.4	1514
7	**GYPPO**	151.925	151.925		
8	**COM 1**	168.6125	168.6125	131.8	1318
9	**COM 3**	167.1375	167.1375	131.8	1318
10	**R1 SOA #3 RPT**	173.1875	164.3875	123.0	1230
11	**Mad Co Sheriff Dir**	**Emergency**	**Only**		
12	**Mad Co Fire Tac**	**Emergency**	**Only**		
13	**Mad Co Norris**	**Emergency**	**Only**	141.3	1413
14	**Mad Co Madison**	**Emergency**	**Only**	162.2	1622
15	**Mad Co Sierra**	**Emergency**	**Only**	173.8	1738
16	**TAN** (EMS A/G)	155.340	155.340	156.7	1567

Group 4 - BIG HOLE NET					
CH	Frequency Description	RX	TX	TX Tone	TX NAC
1	**PROJECT**	168.750	168.750	131.8	1318
2	**BIG HOLE DIR**	173.0875	173.0875	123.0	1230
3	**ODELL**	173.0875	165.7250	167.9	1679
4	**TIE CREEK**	173.0875	165.7250	136.5	1365
5	**DICKIE PEAK**	173.0875	165.7250	151.4	1514
6	**VIPOND PARK**	173.0875	165.7250	103.5	1035
7	**BIG HOLE PORTABLE**	173.0875	165.7250	192.8	1928
8	**LEMHI PASS**	172.350	165.750	110.9	1109
9	**SELWAY PK**	172.350	165.750	107.2	1072
10	**A/G #29** (BD A/G1)	166.900	166.900		
11	**A/G #26** (B-D A/G2)	166.6875	166.6875		
12	**COM 1**	168.6125	168.6125	131.8	1318
13	**COM 2**	163.7125	163.7125	131.8	1318
14	**COM 3**	167.1375	167.1375	131.8	1318
15	**GYPPO**	151.925	151.925		
16	**TAN** (EMS A/G)	155.340	155.340	156.7	1567

Group 5 - PHILLIPSBURG NET					
CH	Frequency Description	RX	TX	TX Tone	TX NAC
1	**PROJECT**	168.750	168.750	131.8	1318
2	PBURG DIR	173.725	173.725	123.0	1230
3	**EMERINE**	173.725	165.9125	107.2	1072
4	**HENDERSON**	173.725	165.9125	136.5	1365
5	**CHAMPION PASS**	173.725	165.9125	156.7	1567
6	**BFR**	173.725	165.9125	123.0	1230
7	**CABLE MTN**	173.725	165.9125	162.2	1622
8	**BLM SOA**	168.225	168.225	123.0	1230
9	**A/G 29**	166.900	166.900	000.0	0000
10	**A/G 26**	166.6875	166.6875	000.0	0000
11	**GYPPO**	151.925	151.925	000.0	0000
12	**COM 1**	168.6125	168.6125	131.8	1318
13	**COM 2**	163.7125	163.7125	131.8	1318
14	**COM 3**	167.1375	167.1375	131.8	1318
15	**R1 SOA#2 RPT**	173.1875	164.3875	123.0	1230
16	**TAN** (EMS A/G)	155.340	155.340	156.7	1567

Group 6 - D1 FIRE #1 (DILLON) USER-SELECTED TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	170.500	3	
2	**DILLON RPT**	172.350	168.750	**SEE TBL**	
3	**MADISON RPT**	171.425	164.700	**SEE TBL**	
4	**BIG HOLE RPT**	173.0875	165.7250	**SEE TBL**	
5	**SCF TAC (SALMON)**	171.525	171.525		
6	**SCF RPT (SALMON)**	172.275	164.5	**SEE TBL**	
7	**CTF TAC 2 (TARGHEE)**	168.175	168.175		
8	**CTF RPT (TARGHEE)**	170.525	164.9875	**SEE TBL**	
9	**SOA 1 (BLM SCENE-OF-A)**	168.225	168.225		
10	**RED (Fire Co-op)**	154.070	154.070	6	
11	**ORANGE (dnrc tac)**	151.4	151.4	6	
12	**YELLOW (DNRC-A2G)**	151.220	151.220	6	
13	**A/G #29 (BD A/G1)**	166.900	166.900		
14	**A/G #26 (B-D A/G2)**	166.6875	166.6875		
15	**WHITE (EMS)**	155.280	155.280	6	
16	**TAN (EMS A/G)**	155.340	155.340	6	

Group 7 - D1 FIRE #2 (Dillon)	USER-SELECTED TONE GROUP				
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**DILLON RPT**	172.350	165.750	**SEE TBL**	
3	**BIG HOLE RPT**	173.0875	165.725	**SEE TBL**	
4	**KLV-872** (SHERIFF)	**Emergency**	**Only**		
5	**DILLON SHERIFF**	**Emergency**	**Only**		
6	**DILLON FIRE VFD**	152.945	152.945		
7	**GRASSHOPPER VFD**	160.200	160.200		
8	**DILLON DNRC**	151.175	151.175		
9	**YELLOW** (DNRC-A2G)	151.220	151.220	6	
10	**RED** (Fire Co-op)	154.070	154.070	6	
11	**ORANGE** (DNRC Tac)	151.400	151.400	6	
12	**BLM SOA 1**	168.225	168.225		
13	**A/G # 29** (B-D A/G1)	166.900	166.900		
14	**A/G #26** (B-D A/G2)	166.6875	166.6875		
15	**WHITE** (EMS)	155.280	155.280	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

Group 8 - D2/3 FIRE #1 (WISE RIVER/WISDOM) USER-SELECTED TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**BIG HOLE RPT**	173.0875	165.7250	**SEE TBL**	
3	**DILLLON RPT**	172.350	168.750	**SEE TBL**	
4	**MADISON RPT**	171.425	164.700	**SEE TBL**	
5	**ANA DNRC**	151.190	151.190	13	
6	**SCF** (SALMON)	172.275	164.500	**SEE TBL**	
7	**BRF 2** (BITTERROOT)	169.625	163.4625	**SEE TBL**	
8	**R1 SOA #2 RPTR**	173.1875	164.3875	2	
9	**RED** (Fire Co-op)	154.070	154.070	6	
10	**ORANGE** (DNRC-Tac)	151.400	151.400	6	
11	**R1 FIRE TAC**	167.1125	167.1125	6	
12	**GREEN** (Forestry)	171.475	171.475	6	
13	**A/G #29** (BD A/G1)	166.900	166.900		
14	**A/G #26** (B-D A/G2)	166.6875	166.6875		
15	**YELLOW** (DNRC-A/G)	151.220	151.220	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

GROUP 9 – D2/3 FIRE #2 (WISDOM/TARGHEE/SALMON) USER-SELECT TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**BIG HOLE RPT**	173.0875	165.725	**SEE**	
3	**DILLON RPT**	172.350	165.750	**SEE**	
4	**MADISON RPT**	171.425	164.700	**SEE**	
5	**BUTTE RPT**	172.325	164.825	**SEE**	
6	**YELLOW**	151.220	151.220	6	
7	**RED**	154.070	154.070	6	
8	**CTF DIR** (TARGHEE)	170.525	170.525		
9	**CTF RPT** (TARGHEE)	170.525	164.9875	**SEE**	
10	**CTF TAC 2** (TARGHEE)	168.175	168.175		
11	**CTF TAC 3** (TARGHEE)	166.9875	166.9875		
12	**IFALLS BLM TAC 4**	166.800	166.800		
13	**SCF BLM SOA** (SALMON)	173.8625	173.8625		
14	**SCF DIR** (SALMON)	172.275	172.275		
15	**SCF RPT** (SALMON)	172.275	164.500	**SEE**	
16	**SCF NF TAC** (SALMON)	171.525	171.525		

GROUP 10 – D4 FIRE #1 (BUTTE-JEFF FIRE) USER-SELECT TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**BUTTE RPT**	172.325	164.825	**SEE TBL**	
3	**DILLON RPT**	172.350	165.750	**SEE TBL**	
4	**MADISON RPT**	171.425	164.700	**SEE TBL**	
5	**BIG HOLE RPT**	173.0875	165.725	**SEE TBL**	
6	**BSB FIRE 1**	EMERGENCY	ONLY		
7	**JEFFCO 261**	EMERGENCY	ONLY		
8	**BSB PAGE**	154.16	154.16		
9	**RED** (Fire Co-op)	154.070	154.070	6	
10	**MAROON** (VFIRE21)	154.280	154.280	6	
11	**BLM SOA 1**	168.225	168.225		
12	**R1 FIRE TAC**	167.1125	167.1125	6	
13	**A/G #29** (BD A/G1)	166.900	166.900		
14	**A/G #26** (B-D A/G2)	166.6875	166.6875		
15	**YELLOW** (DNRC A/G)	151.220	151.220	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

GROUP 11 – D4 FIRE #2 (BUTTE-JEFF LARGE FIRE)					
CH	Frequency Description	RX	TX	TX Tone	TX NAC
1	**RED MTN**	172.325	164.825	103.5	1035
2	**QUEENS HILL**	172.325	164.825	151.4	1514
3	**BLIZZARD**	172.325	164.825	156.7	1567
4	**JACK MTN**	172.325	164.825	167.9	1679
5	**BULL MTN**	172.325	164.825	100.0	1000
6	**SCARLET**	154.2950	154.2950	156.7	1567
7	**ORANGE**	151.400	151.400	156.7	1567
8	**R1 FIRE TAC**	167.1125	167.1125	156.7	1567
9	**RED** (Fire Co-op)	154.070	154.070	156.7	1567
10	**CORAL**	154.265	154.265	156.7	1567
11	**MAROON**	154.280	154.280	156.7	1567
12	**A/G #29** (BD A/G1)	166.900	166.900		
13	**A/G #26** (B-D A/G2)	166.6875	166.6875		
14	**YELLOW**	151.22	151.22	156.7	1567
15	**TAN**	155.340	155.340	156.7	1567
16	**AIR GUARD**	168.625	168.625	110.9	110.9

GROUP 12 – D6 FIRE #1 (MADISON-COUNTY FIRE) USER-SELECT TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**MADISON RPT**	171.425	164.700	**SEE TBL**	
3	**DILLON RPT**	172.350	165.750	**SEE TBL**	
4	**BUTTE RPT**	172.325	164.825	**SEE TBL**	
5	**MAD CO(Emer Only)**	155.025	153.935	**SEE TBL**	
6	**MAD VF TAC**	154.400	154.400	13	
7	**SOA 1 (BLM SCENE-OF-A)**	168.225	168.225		
8	**R1 FIRE TAC**	167.1125	167.1125	6	
9	**WHITE (EMS local)**	155.280	155.280	6	
10	**RED (Fire Co-op)**	154.070	154.070	6	
11	**PURPLE (SAR STATE)**	155.220	155.220	6	
12	**COM 3**	167.1375	167.1375	3	
13	**A/G #29 (BD A/G1)**	166.900	166.900		
14	**A/G #26 (B-D A/G2)**	166.6875	166.6875		
15	**YELLOW (DNRC A/G)**	151.220	151.220	6	
16	**TAN (EMS A2G)**	155.340	155.340	6	

GROUP 13 – D6 FIRE #2 (MADISON-GALLATIN) USER-SELECT TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**MADISON RPT**	171.425	164.700	**SEE TBL**	
3	**R1 FIRE TAC**	167.1125	167.1125	6	
4	**WZN TAC(COM1)**	168.6125	168.6125		
5	**BZN DIR**	169.925	169.925	2	
6	**HEBGEN DIR**	164.8250	164.8250	3	
7	**GAL REPEATER**	169.925	163.1625	**SEE TBL**	
8	**GAL CO FIRE TAC 1**	154.385	154.385	16	
9	**MAD CO(EMER ONLY)**	155.025	153.935	**SEE TBL**	
10	**RED**	154.070	154.070	6	
11	**SCARLET**	154.2950	154.2950	6	
12	**GOLD**	153.905	153.905	6	
13	**A/G #29** (BD A/G1)	166.900	166.900		
14	**A/G #18 GAL**	168.0125	168.0125		
15	**YELLOW**	151.220	151.220	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

GROUP 14 – D8—FIRE (PINTLER FIRE) USER-SELECT TONE GROUP					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**PBURG RPT**	173.125	165.9215	**SEE TBL**	
3	**BUTTE RPT**	172.325	164.825	**SEE TBL**	
4	**BIG HOLE RPT**	173.0875	165.725	**SEE TBL**	
5	**GRANITE CO.**	**EMERGENCY**	**ONLY**	13	
6	**ANA DNRC**	151.190	151.190	13	
7	**BLM RPT**	169.675	162.1625	**SEE TBL**	
8	**PBURG VFD**	154.235	154.235		
9	**RED**	154.070	154.070	6	
10	**ORANGE**	151.400	151.400	6	
11	**MAROON**	154.280	154.280	6	
12	**GYPPO**	151.925	151.925		
13	**A/G #29** (BD A/G1)	166.900	166.900		
14	**A/G #26** (B-D A/G2)	166.6875	166.6875		
15	**YELLOW**	151.220	151.220	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

GROUP 15 – WEATHER/TIMBER/FISH					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	131.8	1318
2	**FISH D**	173.625	173.625		
3	**FISH RPT**	173.625	167.1375	136.5	1365
4	**R1 SOA#4 RPT**	173.1875	164.3875	136.5	1365
5	**NOAA 1(MISSOULA)**	162.400			
6	**NOAA 4(DILLON)**	162.475			
7	**NOAA 7 (BUTTE)**	162.550			
8	**COM 1**	168.6125	168.6125	131.8	131.8
9	**COM 3**	167.1375	167.1375	131.8	131.8
10	**MANN**	155.35	155.35		
11	**BAILEY**	153.065	153.065		
12	**GYPPO**	151.925	151.925		
13	**LORENGO**	151.895	151.895		
14	**SUN MTN**	153.080	153.080		
15	**LEMHI PASS**	172.350	165.750	110.9	1109
16	**SELWAY**	172.350	165.750	107.2	1072

GROUP 16 – BLM		USER-SELECT TONE GROUP			
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**DILLON RPT**	172.350	165.750	**SEE TBL**	
3	**MADISON RPT**	171.425	164.700	**SEE TBL**	
4	**BIG HOLE RPT**	173.0875	165.725	**SEE TBL**	
5	**BUTTE RPT**	172.325	164.825	**SEE TBL**	
6	**BLM SOA 1**	168.225	168.225	2	
7	**BLM SOA 2**	167.175	167.175	2	
8	**BLM RPT**	169.675	162.1625	**SEE TBL**	
9	**ORANGE** (DNRC Tac)	151.400	151.400	6	
10	**R1 FIRE TAC**	167.1125	167.1125	6	
11	**WHITE** (EMS local)	155.280	155.280	6	
12	**RED** (Fire Co-op)	154.070	154.070	6	
13	**A/G #29** (BD A/G1)	166.900	166.900		
14	**A/G #26** (B-D A/G2)	166.6875	166.6875		
15	**YELLOW**	151.220	151.220	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

GROUP 20 – BORDER FORESTS					
CH	Frequency Description	RX	TX	TX Tone	
1	**PROJECT**	168.750	168.750	3	
2	**BUTTE RPT**	172.325	164.825	**SEE**	
3	**DILLON RPT**	172.350	165.750	**SEE**	
4	**MADISON RPT**	171.425	164.700	2/5/6	
5	**BIG HOLE RPT**	173.0875	165.725	**SEE**	
6	**PBURG NET**	173.725	165.9125	**SEE**	
7	**SCF** (SALMON-CHALLIS)	172.275	164.500	**SEE**	
8	**HLN** (HELENA)	153.905	153.905	**SEE**	
9	**BRF-2**(BITTERROOT E.FK	169.625	163.4625	**SEE**	
10	**GNF-WZ**(GALLATIN WST)	169.925	163.1625	**SEE**	
11	**LNF-C** (LOLO CENTRAL)	172.375	164.100	**SEE**	
12	**RED** (Fire Co-op)	154.070	154.070	6	
13	**A/G #29** (BD A/G1)	166.900	166.900		
14	**A/G #26** (B-D A/G2)	166.6875	166.6875		
15	**YELLOW** (DNRC A/G)	151.220	151.220	6	
16	**TAN** (EMS A/G)	155.340	155.340	6	

REPEATER TONE TABLE						
CH	TONE	DILLON NET	BUTTE NET	MADISON NET	BIG HOLE NET	PBURG NET
1	110.9	**LEMHI**				
2	123.0			**LAZYMAN**		**BFR**
3	131.8	**WHITE PINE**		**SKYLINE**		
4	136.5				**TIE CREEK**	**HENDERSON**
5	146.2	**WHISKEY**		**S. BALDY**		**WHISKEY**
6	156.7		**BLIZZARD**	**ELK LAKE**		**CHAMPION**
7	167.9		**JACK MTN**		**ODELL**	
8	103.5		**RED MTN**		**VIPOND PARK**	
9	100.0	**MAVERICK**	**BULL MTN**			
10	107.2	**SELWAY PEAK**				**MT EMERINE**
11	114.8					
12	127.3	**ELLIS PEAK**				
13	141.3			**NORRIS**		
14	151.4		**QUEENS HILL**	**W. BENCH**	**DICKIE PEAK**	
15	162.2	**TOWER MTN**		**MADISON**		**CABLE**
16	192.8	**PORTABLE**	**PORTABLE**	**PORTABLE**	**PORTABLE**	**PORTABLE**

REPEATER TONE TABLE OFF-FOREST							
CH	TONE	BRF-2	SCF	CTF-N	HLN	GNF	LNF-C
1	110.9		MIDDLE FK		MAC PASS	HYALITE	
2	123.0	BAILEY LK	LONG TOM	RELAY	DIRECT	EAGLHD W	
3	131.8		FS RAMSEY	MAHOGANY	DUCK CR	SKYLINE	
4	136.5	TEEPEE PT	TAYLOR	SIGNAL	ROVER	HORSE BTE	MINERAL
5	146.2	DIRECT	STEIN	SAWTELL	PARK PK	CINNAMON	
6	156.7	MILLER	SALT CR			GARNET	QUIGG PK
7	167.9	WARD MTN	JACK MTN	RED PK	GRANITE	BLACKTAIL	
8	103.5	PORTABLE			HOGBACK	BRIDGER W	STARK MTN
9	100.0		OREANA	PORTABLE	ELK MTN		UNIVERSITY
10	107.2						WHITE MTN
11	114.8	QUIGG			OGDEN		
12	127.3	WILLOW					
13	141.3				GATES		
14	151.4						
15	162.2						
16	192.8				STONEWALL	PORTABLE	

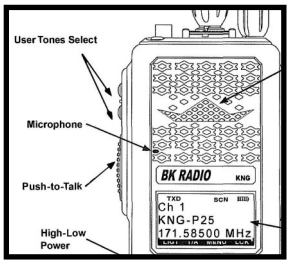
HOW TO USE USER-SELECT TONES

DPH: **To utilize USER SELECT TONES, turn off scan. Press number on keypad corresponding to desired repeater tone guard. Transmit – see display, should display "CG" while tone guard is applied, While transmitting it should flash the channel number with desired tone guard. The tone guard will apply to the entire group!**

To Cancel, turn off "scan" and "pri", then press "0"

KNG/BKR: **To utilize USER SELECT TONES, turn knob selector to desired repeater channel, Press the User-Select Tones button. Press number on keypad corresponding to desired repeater tone guard or scroll to desired tone. The tone guard applies only to one channel!**

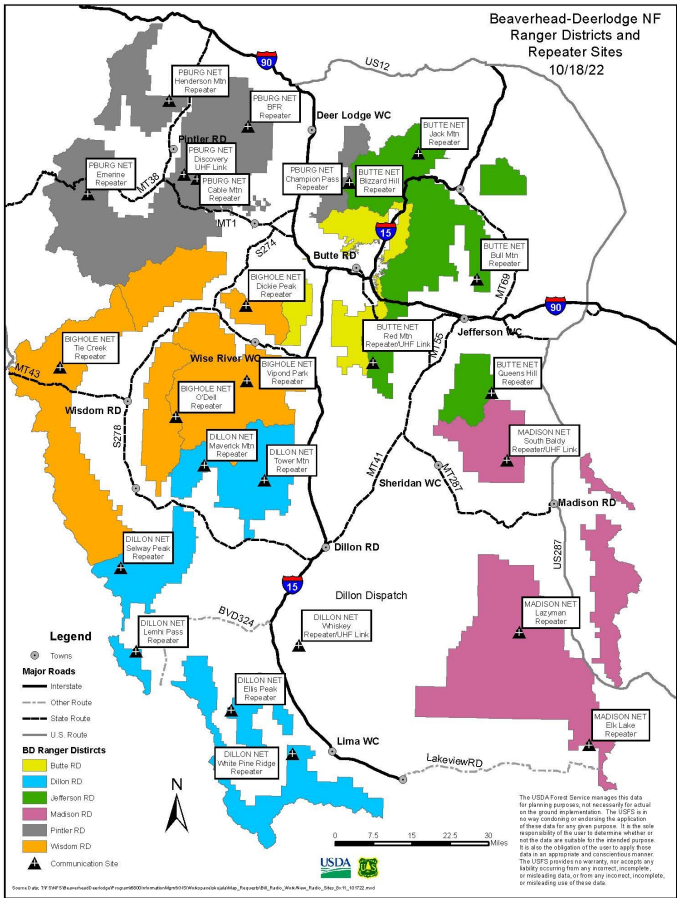
To cancel, press the User-Select Tones button and select "0"



TRAINING FREQUENCIES:

CHANNEL	TX	RX	TONE
TRAIN 1	167.1375	1671375	218.1
TRAIN 2	168.6125	168.6125	218.1
TRAIN 3	173.6250	173.6250	218.1
TRAIN 4	163.7125	163.7125	218.1

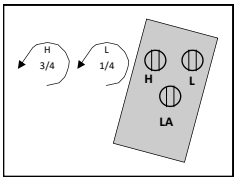
Beaverhead-Deerlodge NF Repeater Map



Chainsaw Guide

Use caution when making chainsaw carburetor adjustments.
Instructions are intended for experienced saw tuners ONLY.
If you are unfamiliar with these procedures, seek out someone who is.

If your saw fails to start, check the following first:



1. Fuel (50:1 Mix), at least 1/2 full fuel tank, and saw is not flooded.
2. On/off switch is turned ON.
3. Spark plug has spark.
4. Exhaust screen is clean.
5. Air filter is clean.
6. Adjust carburetor screws only if needed.

   NEVER OVER TIGHTEN. Turn both screws to the right (clockwise) until stop. Then, back to the left (counter-clockwise) until desired setting.

Carburetor Field Adjustments

Clean or replace air filter. You cannot properly tune the carburetor unless the air filter is clean and in good condition. Saw should be **warm**, and fuel tank at least 1/2 full.

If engine stops while idling:

1. Open the low speed screw [L] one quarter turn counterclockwise from stop.
2. With saw running, turn the idle speed screw [LA] clockwise until chain begins to run, then back counterclockwise one quarter turn.

If chain runs while idling:

1. Open the low speed screw [L] one quarter turn counterclockwise from stop.
2. With saw running, turn the idle speed screw [LA] counterclockwise until chain stops, then one quarter turn in same direction (counterclockwise). If chain movement continues after adjustment, **do not use saw.**

If idling is erratic:

Turn the low speed screw [L] counterclockwise until acceleration is smooth (It is usually necessary to adjust the idle speed [LA] after every correction of the [L] screw).

For High Elevation Operation (only required if power is too low):

With warm saw, turn high speed screw [H] slightly clockwise (leaner). There is a risk of engine damage if saw is run too lean. Do not adjust [H] without a tachometer.

After all adjustments:

Idle for 30 seconds. Saw should idle in all positions. If not, repeat above.

Throttle up saw. Saw should immediately respond. If not, repeat above.

Chainsaw Information

Saw Tach RPM Guide			
Model	**Idle**	**Max RPM**	**Tuned**
STIHL			
360/036	2800	13000	11,400-12,200
440/044	2500	14000	12,500-13,200
441	2500	13500	13,000
460/046	2500	13500	12,000-12,800
660/066	2500	13500	12,000-12,800
Husky			
372 XP	2700	13500	
385 XP	2700	12500	
395 XP	2500	12000	

- Any large change in elevation may require a carburetor adjustment.
- Do not adjust the high end without a digital tachometer.
- Some adjustment screws are plastic and can easily be stripped.
- Before adjusting the carburetor do the following troubleshooting:
    1. Check and clean the air filter
    2. Check the spark plug - white residue means saw is too lean. Black means saw is too rich.
    3. Check gap or replace plug.

If unsure on saw tuning, get help!

This info is provided for reference, not instruction.

STIHL **Bars**	
3/8" Pitch .050 Gauge	
Bar Length	# of Drivers
25"	84
28"	91
32"	105
36"	114
Use 7/32" round files	

Common ***STIHL*** **Parts**	
Part Description	***STIHL*****/Mfg Part #**
E clip	9460 624 0801
7 tooth Rim Sprocket	0000 642 1223
Sprocket Washer	0000 958 1032
Needle Cage Bearing	9512 933 2380
HD Air Filter	0000 120 1654
Fuel Filter/Pick-up body	0000 350 3504
Spark Plug (NGK)	0000 400 7000
Tank Vent	0000 350 3504
91 Driver Full Skip Round Ground, 3/8" Pitch, .050" gauge	33RSF (91 drivers for 28")
28" bar Rollomatic ES Widetip 91 drivers 3/8" pitch, .050" gauge	3003 000 9638

Purging Instructions:

1. Drain fuel tank completely
2. Run saw until it stops
3. Attempt restarting with choke on until saw fails to fire
4. Remove fuel tank cap and invert saw for 5 minutes
5. Remove spark plug
6. Pull starter cord until piston is at lowest point in cylinder

Fuel Mixture Information

Mark, date and label all mixed fuel.

If available, use 89+ octane, non-ethanol fuel for saws and ATV/UTV.

Use regular, 87—89 octane, fuel for pumps.

Mark III pumps use 50:1 mixed fuel

2-CYCLE MIX QUANTITIES (Ounces)					
	Gasoline Quantity				
Mix Ratio	**.5 gal**	**1.0 gal**	**2.0 gal**	**2.5 gal**	**5 gal**
16 : 1	4.0	8.0	16.0	20.0	40.0
20 : 1	3.2	6.4	12.8	16.0	32.0
24 : 1	2.7	5.4	10.7	13.4	27.0
32 : 1	2.0	4.0	8.0	10.0	20.0
40 : 1	1.6	3.2	6.4	8.0	16.0
50 : 1	1.3	2.6	5.2	6.4	12.8

MIXING GUIDE: 3:1 SLASH MIX - 5 GALLONS		
# of cans	**3 Parts Diesel** Stop fuel	**1 Part Gasoline** Stop fuel pump@__
1	**3.75**	**1.25**
2	**7.5**	**2.50**
3	**11.25**	**3.75**
4	**15.00**	**5.00**
5	**18.75**	**6.25**
6	**22.50**	**7.50**
7	**26.25**	**8.75**
8	**30.00**	**10.00**

1 CUP =	8 ounces
1 PINT =	2 Cups 16 Ounces
1 QUART =	4 Cups 2 Pints 32 Ounces .946 liters
1 GALLON =	4 Quarts 128 Ounces 3.785 liters 8.33 lbs

Drip Torch Fuel

Rule of Thumb: 1 lighter will generally use 1 full torch per 45-60 minutes of lighting.

Please use minimum fuel needed especially if fuel must be carried long distances.

! - CHECK TORCH COMPNENTS—!

Ensure all torch components match and rings screwed on fully

Fuel Consumption Rates

Below are rough estimates designed for ordering and planning purposes only. Actual rates will vary based on fuel type, fuel load, crew configuration and mission.

Chainsaw fuel use based on Fuel Model 10 (timber).

Always refuel on bare ground, away from active fire, hot exhaust, or any sparks.

Saws	Gas Used Per Hour	Oil Used Per Hour	20 Person Crew Fuel Carried	Additional Fuel Required
2	½ gallon 2 ½ -3 siggs	⅛ gallon ¾ -1 sigg	30 gas/10 oil Siggs 7.5 gal. gas/2.5 gal. oil	N/A
3	¾ gallon 4 - 4 ½ siggs	¼ gallon 1 ¼ siggs	30 gas/10 oil Siggs 7.5 gal. gas/2.5 gal. oil	Generally none
4	1 gallon 5 - 6 siggs	¼ + gallon 1 ½ siggs	30 gas/10 oil Siggs 7.5 gal. gas/2.5 gal. oil	1 + dolmar
5	1 ¼ gallon 7 + siggs	½ gallon 2 + siggs	30 gas/10 oil Siggs 7.5 gal. gas/2.5 gal. oil	2+ dolmars

Pumps

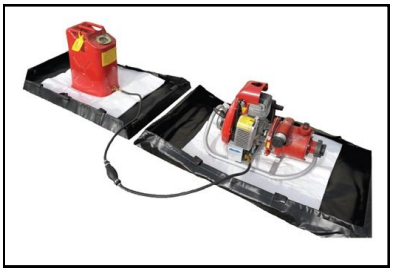
Mark III - Use 50:1 fuel mix.

Fuel consumption = 5 gallons/ 3.5 hours or approximately 15 gallons/ shift.

Shindaiwa - Generally use 20:1 fuel mixture for cache pumps, but can use 50:1 saw mix. Four stroke pumps use straight gas, and will have a separate oil fill. **Fuel consumption** = approximately 5 gallons/ shift.

Mark III Set Up

- When ordering a Mark III, **specify with kit**. Order spare pumps if the operation depends on water.



- Locate pump near water level to keep suction lift as low as possible. Make a flat platform for pump.
- Unfold berms and ensure sides are fully extended.
- Place absorbent pads in berms. In rocky terrain, use two pads in pump berm.
- Place pump in one containment berm and fuel can(s) in the other.
- Locate fuel cans as far away from hot engine parts as possible; orient pump so exhaust does not vent directly on fuel can. Store excess fuel away from water source.
- Secure pump and fuel can with cord to prevent vibration creep.
- Connect suction hose to foot valve and pump (wrench-tight).
- Place foot valve at least one foot under water. Do not place foot valve directly on sandy or muddy stream beds. Use pack frame, burlap, buckets, etc. to protect foot valve from debris.
- Prime the pump head by using either the hand primer or by filling with pail. Fill to the brim of prime port and wrench tighten cap.
- Connect short hose (pigtail) to discharge side of pump, and check and bleeder valve to pigtail.
- Utilize 1” port on check & bleeder valve or a 1.5 “ gated wye to re-circulate

Mark III Fueling

ENSURE ALL FUEL IS MIXED PROPERLY BEFORE USING PUMP

- If fuel is pre-mixed (red or greenish colored), then no mixing is required. (Alaska provides pre-mixed fuel.) Use a strip of paper to test for oil residue.
- If fuel is straw or clear colored then mix fuel with 2 cycle oil according to Manufactures' recommendation of **20:1** (for every 5 gallons of gas add approximately 1 quart oil):

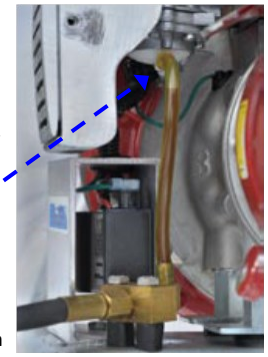
- Pour approximately one gallon of gas into pump-adapted can.
- Add appropriate amount of 2 cycle oil to gas then shake can vigorously.
- Add remainder of gas and shake can.
- **Label mixed fuel, and store mixed fuel away from unmixed fuel.**

When refueling:

- Wear eye protection and gloves.
- Fuel spare can away from hot exhaust.
- Do not operate a radio or any other portable electronic device such as a cell phone.
- Replace gas absorbent pads as needed by placing them in garbage bags and dispose of per local protocol.
- If a spill occurs or gas enters the "natural" water source, notify supervisor and resource advisor immediately. Spill containment kits are available at

For Mark III operation, generally operate pump at full throttle and adjust pressure with pressure relief valve or gated wye.

Mark III Start-up And Operation



1) Open air vent on top of fuel can.
2) If engine is cold move choke lever to start position. If engine is warm move choke to run position.
3) Move throttle lever to start/ warm up position.
4) Slowly pump fuel bulb until fuel mixture (in clear fuel tube) is just touching bottom of carburetor.

Caution: Follow this step carefully to avoid flooding the engine.

5) If pump is equipped with an on/off switch, turn switch on.
6) Ensure reset rod is pushed in.

7) Pull starter rope with short quick pulls (typically 2 to 4 pulls) until engine 'pops'.

Caution: Several consecutive pulls of rope with choke in start position (after engine 'pops') will flood the engine.

8) Immediately set choke lever to run position.
9) Pull starter rope approximately 1 to 3 more times and engine should start.
10) **Allow engine 2 minutes to warm up** (throttle lever should still be at start/warm up

For Mark III operation, generally operate pump at full throttle and adjust pressure with pressure relief valve or gated wye.

Mark III Operation And Shut Down

- Water must be flowing through the pump head at all times. Crack nozzles or open check and bleeder valve.
- Grease pump head with one squirt of grease once a shift (or every 8 hours) at grease/zerk fitting.

Shut Down

- Allow engine to idle for one minute.
- Move the throttle to the “stop” position.
- At end of shift remove fuel line from base of fuel can; allow engine to run out of gas.

If pump will not start or run follow these steps:

1) On the Mark III, check the overspeed reset rod (see page 33). If rod is pushed in, move on to 2. If rod is out the pump has lost its prime. Do not attempt to restart pump until the problem is located and corrected; check for these problems:

- Suction hose connections are leaking.
- Suction hose is defective.
- Priming cap is loose.
- Foot valve not fully submerged in water source (1 foot minimum)

2) Check the spark plug by removing it from the engine. If the spark plug electrode is dry, move on to 3.
If spark plug is wet with fuel, the engine could be flooded.
Follow these steps:
Place spark plug on top of cylinder head with spark plug

- Remove fuel supply line from engine.
- Remove crankcase drain plug and copper gasket from engine block to drain excess fuel.
- Reinstall new or clean spark plug.
- With choke and throttle in full open (run/run) position, pull starter cord several times until fuel is exhausted.
- Reinstall crankcase plug with copper gasket.

3) If the spark plug looks normal, move on to 4.
If the spark plug has an excess of carbon on the electrode replace the spark plug and try to start.

WARNING:
FIRE/EXPLOSION HAZARD

4) Check for ignition spark:

- Ensure spark plug is grounded (see page 34).
- Crank engine and look for spark across spark plug gap. The plastic cover of the IRPG is approximately .020" thick and can be used to check the gap if gauge is not available. Do not use a dime to check the plug gap.

If there is an ignition spark, move on to 5.
If there is no spark, pump will need to be repaired.

Mark III Troubleshooting

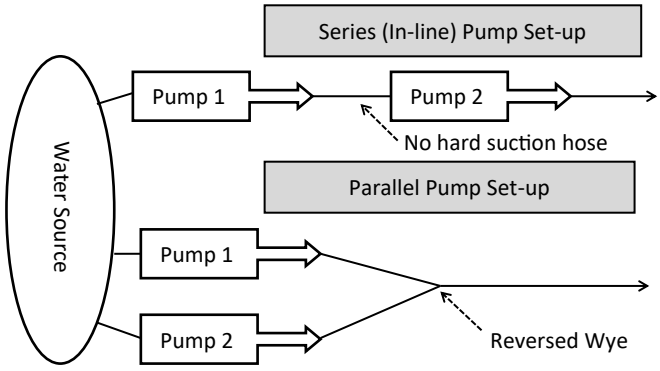
5) Check fuel system for these problems:

- Loose connections; fuel leaking
- Fuel can is not vented
- Fuel supply line defective
- Water or dirt in the fuel system

6) Use flagging to identify any mechanical problems with pump.

Water Handling Information

- Consider the distance and elevation change (+ or -) to determine the equipment needs and most effective set-up. Max output pressure of a Mark III is 380 psi = 760ft rise in elevation (1psi/2ft)
- Plan for additional spare hose when ordering.
- A standard progressive hoselay requires: 1-1.5 “gated wye, 1-1.5” to 1” reducer, 100 ft of 1” hose, and 1– 1 “nozzle for every 200 Feet.



Series Pump

2 pumps are connected inline (the distance between the pumps will vary based on slope). This will increase pressure for uphill hoselays.

Pump 1 (lower)

1. Set-up the lower pump near the water source, and attach 1.5" pigtail with a pressure relief valve and check and bleeder valve to the pump discharge.
2. Run lower pump at maximum pressure to push water uphill.

Pump 2 (upper)

1. Place the upper pump where water flow is adequate for pump operation, but maximum elevation is achieved. Some testing may be required (the trunk must still be firm).
2. Connect trunk hoselay to the suction port on pump with 1.5" double female coupling **(do not use hard suction hose) .**
3. Connect a 1.5" gated wye to the pump discharge using a pig tail. Use this gated wye to adjust the water flow through the upper pump. Add a check and bleeder valve above the gated wye, and connect the uphill hose lay to the check and bleeder valve.

Operation:

Operation requires a pump operator at each location.

1. Start pump 1 (lower) and allow to warm up then bring to full throttle.
2. Once water reaches pump 2, use the gated wye on pigtail to reduce water flow through pump 2. Start pump 2 (upper) and allow it to warm up (adequate flow to pump 2 is required before starting).
3. Slowly increase the speed of pump 2 (upper) until cavitation is imminent, (intake hose will flatten) then back off on throttle. Use gated wye to control flow from pump 2 (upper) and run pump at highest possible RPM.
4. Constant attention will be required to both pumps and all the hardware between them to prevent cavitation of upper pump.

Note: If possible, separating the pumps with a middle Fold-a-tank will make

For Mark III operation, generally operate pump at full throttle and adjust pressure with pressure relief valve or gated wye.

Parallel Pumping Procedures:

2 pumps from the same water source are connected with a gated wye into a single hoselay. This will increase volume.

Set-up:

1. Set–up 2 pumps at the same water source. Keep both pumps close together for ease of operation.
2. Attach a check and bleeder valve to each pump using a 1 1/2" pig tail. This will prevent head pressure.
3. Use a Siamese gated-wye (may not be readily available), or use 2 double female couplings and a double male coupling to invert a regular gated-wye. This will connect the two pumps into one hose-lay.

Operation:

1. Start each pump using the standard operation of a Mark III.
2. An operator should be near the pumps to ensure proper operation.

Note: Ensure that you have a large water source, as running two pumps will require more water.

Either pump can be started or stopped at anytime.

Downhill Pumping Procedures:

1. Substitute a gated-wye for the check and bleeder valve.
2. Close the first gated-wye down as much as possible and close all inline wye's to at least half.

Note: Each nozzle operator will need to adjust their gated-wye to maintain

Whaling Hose Pack

The Whaling Hose Pack consists of 2– 100’ lengths of 1 1/2” hose, 2 -100’ lengths of 1” hose, 2 -1” combination nozzle and 2-diverter tee’s.

The pack is built by attaching the diverter tee to the male end of the 1 1/2” hose. (The 1 1/2” hose should be rolled from the female end) The 1” hose is attached to the diverter tee (The 1” hose should be double rolled) and a 1” combination nozzle attached and placed in the tray as shown.

Whaling Hose Pack

The 1 1/2” hose and 1” hose is installed in the tray in a horseshoe load and the bends are alternated. Flagging tape can be used to attach the 1” hose to

Continue to install hose into to tray until full and place 1 1/2” female coupling into the center of the hose load. Insert the tray into the Whaling Hose Pack and slide hose off of tray into bag to complete. Repeat to complete one Whaling Hose Pack.

Remote Cabin Protection

1. **Does potential fire behavior allow adequate time for prep?**
2. **Adequate safety zones ?**
3. **Identify fire hazards that need to be mitigated to protect cabin:**

- Are the roof and/or eaves clear?
- Are there building materials or fire wood stacked against the cabin?
- Are there trees, snags, or other vegetation that pose a direct hazard to the cabin?
- Hazmat, personnel safety concerns, and available water supply
- Proceed with cabin protection only if comfortable with conditions, mission, supplies, and personnel assigned

Sprinkler system set up tips

Use your judgment based on circumstance, structure, and available materials.

- **Stake sprinklers securely**. This is critical with NIFC PVC sprinklers
- Use poles, cord or short ladders to avoid working on roof
- Take time to plan for best coverage
- Depending on pump, water supply, elevation, hose diameter and sprinkler heads, approximately 10-15 sprinklers per pump
- Sprinkler coverage should wet all surfaces of the structure
- Set sprinkler heads on poles, tripods, or stands to get them above ground/ cabin
- Sprinklers placed at the structure corners or roof apex may provide the best coverage
- Vary heights to provide the best coverage
- Adjust sprinklers for long range spray or short range mist
- Protect pump, fuel, and supply hoselay from fire as well

Structure Protection

Structure wrap usually comes in 5' x 150' rolls (750 ft^2). Sheets of 10' x 50' are also available (500 ft^2).

Suggested order list:

- Ladders (min. 2) tall enough to reach roof peak
- Staplers and staples (order extra)
- Scissors
- Needle-nose pliers
- Permanent markers
- 3" Aluminum tape (avail in rolls of 360')

Considerations:

- Take time to plan (Will you still need access to the inside of the building?
- Plan wrapping so seams do not catch embers. Generally complete roof first, then start from bottom of walls and work up to eaves.
- Consider likely wind/fire-front direction when deciding how to overlap vertical seams.
- Use aluminum tape (duct tape only as necessary) on seams to reduce the number of staples. **Use caution as tape edges are sharp and will cut fingers.**
- Draw windows on outside of wrap to prevent breaking them in the process of wrapping & unwrapping.
- Working on the roof should be avoided, especially if roof is high, steeply pitched or there is a question of ability to bear weight.
- Consider the unwrapping stage when deciding how many staples to use.

Structure Triage Checklist

Address or Description:_____

		YES	NO
DRIVEWAY	Too narrow or steep to back in -or- Branches overhang driveway -or- Down-dead fuels		
ROOF	Already involved in fire.		

If **YES** checked for either above, **STOP!** Write off!

If **NO** safety zone present, move to non-defensable catagories.

		YES	NO
DRIVEWAY	Dead-end & longer than 200 ft		
ROOF	Combustible (asphalt or wood)		
ROOF	Wood shakes		
TREES	Overhang roof		
TREES/BRUSH	Not thinned in area within 30' of structure		
VEHICLES	Parked outside within 30' of structure		
SLOPE	More than 20% anywhere within 30' of structure		
SLOPE	More than 40% anywhere within 30' of structure		
DECK/STILT	Not enclosed underneath (to ground)		
POWER LINE	Overhead within 30' of structure		

# of Yes Number of **YES** checked_____

0 - 2	**DEFENSABLE-STAND ALONE**
3 - 5	**DEFENSABLE-PREP AND HOLD**
6 - 7	**NON-DEFENSABLE-PREP AND LEAVE**
8 - 10	**NON-DEFENSABLE-RESCUE DRIVE-BY**

AIRCRAFT USAGE GUIDE

*If you have more than one aircraft assigned to your fire, consider ordering an air attack (ATGS)

*If more than 2 or a mix of rotor and fixed wing, an air attack is required.

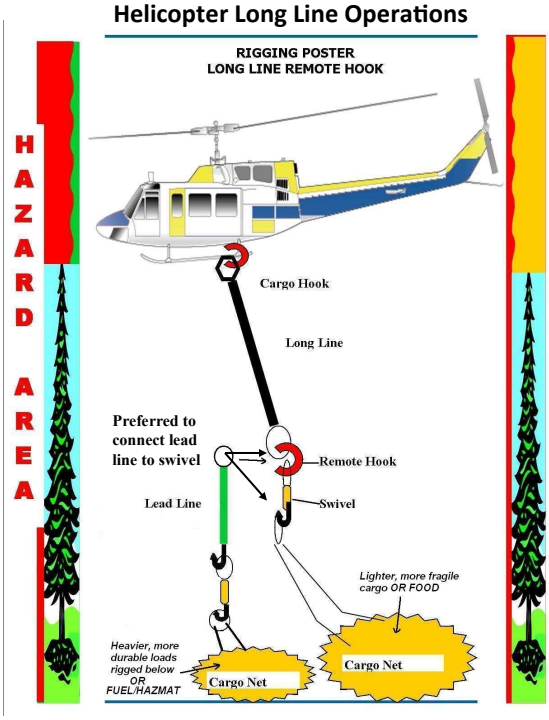
Aircraft Typing:

Helicopters			
Components	**Type 1**	**Type 2**	**Type 3**
Payload at sea level (lbs)	5,000	2,500	1,200
Water capacity (gal)	700	300	100
Examples	CH-47 Chinook	Bell 204, 205, 212 HP	Bell 407, Astar B3
Helitanker	Fixed Tank, 1,100 minimum gallon capacity		

Airtankers					
Components	**VLAT**	**Type 1**	**Type 2**	**Type 3**	**SEAT**
Minimum capacity (gal)	>8,000	3,000-5,000	1,800-2,999	800-1,799	<800
Examples	DC-10, B-747	Bae-146, MD-87, C-130, B-737	Q-400, P-3	S-2T, AT-802F	Air Tractor
Water Scoopers	CL-215 and CL-415. Scoopers work in pairs. Very effective if a large body of water is nearby.				

Retardant Coverage Levels		
Coverage Level	Fuel Model	Fuel Description
1	1	Annual Perennial Western Grasses, Tundra
2	2, 8, 9	Conifer w/Grass, Shortneedle Closed Conifer, Summer Hardwood, Longneedle Conifer, Fall Hardwood
3	2, 3, 5, 11	Sagebrush w/Grass, Sawgrass, Intermediate Brush, Light Slash
4	10	Shortneedle Conifer (Heavy dead litter)
6	4, 6	Southern Rough, Black Spruce, Cured Intermediate Brush
>6	4, 12, 13	Mixed Chaparral, Medium Slash, Heavy Slash

Helicopter Long Line Operations



Every load requires a swivel

For daisy chains, it is preferable that the lead line be connected to the upper swivel, which is then connected to the remote hook. It is possible to connect the lead line to the remote hook directly as long as there are no more than two total rings connected to the remote hook and each net has a dedicated swivel. For loads rigged as daisy chains on the ground, always attach the lead line (with swivel on the net) to the upper swivel.

Crew Weights		Cargo	
Name- Est. Weight	**Lbs**	**Item**	**Lbs**
		Saw	25
		Tool Bundle	25
		Spike Kit	55
		Saw Spike Kit	25
		Cubee (5 gal)	40
		Case MREs	25
		Sigg Bag (full)	20
		Drip Torch (full)	15
		5 Gal. Jerry Can	45
		Batteries, Case	15
		Mark III w/ Kit	150
		Shindaiwa Pump	25
		Bladder Bag (full)	45
		Steel Choker	15
		72-gal Blivet	615 full
		72-gal Blivet	15 empty
		Crash Rescue Kit	25
		Fire Extinguisher	40
		Cargo Net	20
		12’ Lead Line	10
		Swivel	5
		Remote Hook	20
		Longline 50’ / 100'	25 / 50
Medical Gear		**Liquid Weights**	
SKED / KED / KTD	30	1 gal Water	8.3
Backboard	35	1 gal Jet A	7
EMT Trauma Bag	25	1 gal Gasoline	6
All weights are estimates only. Use a scale if available.			

ORDERING CHART/MANIFEST	
Item/Name	**Weight**
Total	

Helicopter Procedures

- Tape tool edges and tape into bundles of approximately 4-5 tools.
- Do not bag saw powerheads unless instructed by helitack. Saws may have to be purged for flight.
- Saw chain and dogs will be padded with chaps or sheaths and taped securely.
- All Siggs will be placed in Sigg bags if available.
- All buckles on packs will be snapped, straps and webbing secured, and water bottle pouches tightened.
- Fusees and files need to be completely inside packs.
- Radios will be turned off and carried or padded fully inside packs.
- All gear to be brought on the flight needs to be neatly lined out
- If helitack is available, manifest and briefing will be conducted by helitack. Pay attention to the safety briefing.
- If no helitack are present a qualified HECM from the crew will be assigned to manifest the flight loads.
- Organize equipment and personnel based on flight, and stay in designated waiting area.
- Have all flight PPE available.
- Any additional gear being long-lined will be stacked neatly. Manifest, estimate weight, label destination and date all loads.
- If we are building nets, fiber tape or connect buckles of upper packs to ensure they are not lost.

Fixed Wing Flight Procedures for Contract Aircraft

***Crewmembers are limited to 55 lbs (60 for Sawyers /EMTs).**

- Specialty tools will be taped/padded, and placed in a tool bag per inventory.
- Saws will be purged and put into flight bags. Fuel containers must be new or completely purged. Chaps must be clean and free of fumes.
- Empty all water, remove fusees and any fusee residue, discard any open MRE heaters, and remove any firing equipment or flammable items.
- Once bags are weighed, do not add any additional items.
- Line gear, hard hat, and Nomex shirt will be placed in a flight bag.
- All other gear will be securely packed in the overnight bag with nothing hanging outside either bag, and all straps tightened and secured except travel bag backpack straps which will be left accessible.
- Leave all knifes, Leatherman tools, and other objects that could be mistaken as a weapon in your flight bag. Lighters (non-Zippo) can be carried on.
- All gear needs to be neatly stacked in two rows while waiting for the flight.
- When instructed to load, each person will take their bags and walk in a single file line to the cargo door of the plane. Eye and ear protection will be required if the plane is running while loading/unloading.
- 2 load masters will be inside the cargo area of the plane loading gear.
- The rest of the crew will line up in two staggered rows facing each other, and chain the gear, starting with travel bags. Communicate “last travel bag” and “last flight bag.”
- After gear has been loaded the crew will RTO and board the plane.
- When boarding charter flights, follow flight crew instructions or fill the seats in the back first. We will fly sitting as a crew with no empty seats.
- For unloading, the crew will form two rows and chain out the gear. Each person will take a travel and flight bag and place them carefully at their feet.
- Once all gear is out and accounted for, each person will take a travel bag and flight bag, RTO and walk in a line to a designated area.
- For commercial flight, additional security restrictions will apply.

Spike Camp

Much more planning and coordination is required while spiked out. Ensure that all needs are ordered well in advance.

Recommended spike supply items:

(**Bold items are critical**).

- Spike camp kit (Miscellaneous comfort items such as: coffee pot, toilet paper, tinfoil, fiber tape, garbage bags, bug spray, soap).
- Saw spike kit (Miscellaneous parts for saws, extra chain, and fuel mix).
- Extra tools
- Jerry of saw gas w/ hose
- Bar oil
- Dolmars
- **Emergency Medical Kit and SKED or backboard w/ straps**
- **Sat Phone in waterproof case**
- Cubees
- MRE's
- Case of AA Batteries
- If a food storage area, ensure all food items are in bear proof containers or hung away from camp (pg 59.)

All gear will be stacked in an orderly fashion, well marked, and in a location specified by a supervisor immediately upon arrival at the helibase or long-line location.

Spike Camp (cont.)

Daily Order Needs (Standard for 20 people)(Standard for 5 people)

- 12 (3) QBs of water (3+ gallons/person/day)
- 6 (2) Cases of MRE (3+ MRE/person/day)
- 2 (1) Cases of Gatorade (not required)

Always assess water consumption and adjust ordering as needed

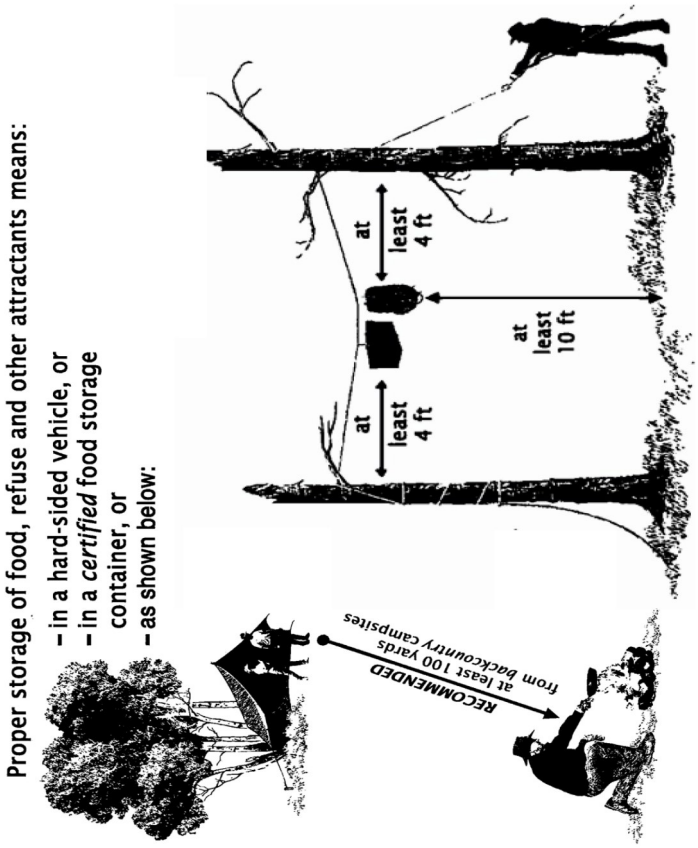
Note: When ordering it may be helpful to place orders for supplies for 2 days at a time. When possible do not exceed 2 days worth of supplies, because when the crew leaves spike or moves spike all the supplies must be moved as well.

Typical Needs after 2-3 days in Spike Camp

- 1 Flat of batteries
- 1 Box of garbage bags
- 5+ Rolls toilet paper
- Saw fuel and bar oil.
- Any broken or damaged equipment replacement

**Keep in mind that durations of spike can vary greatly and it is not uncommon to spike for 7 or more days at a time. Orders will not be placed for personal items such as tobacco. Make sure when you leave the rigs you have all the personal items you will need for up to 14 days. This includes prescription medications, clothing, and any personal items. PLAN ahead and be PREPARED.

Spike Camp (cont.)



Avenza User Guide

Avenza App with Pro User Account:

Register device: enter "Settings", tap "Enter Account Details."

-Work email—this must be a @usda.gov. If you do not have one, enter your supervisors.

-Username—enter the license key: TRSQ-V9FD-S8A9-PBPZ-R7DC

-Password—LEAVE BLANK

-Full Name—If you have a @usda.gov email, enter your first and last name. If you do not have a @usda.gov email, enter your name and email (ex. John Smith jsmith@gmail.com)

-Organization—Enter home unit (region and forest) 0102

Log in—Done

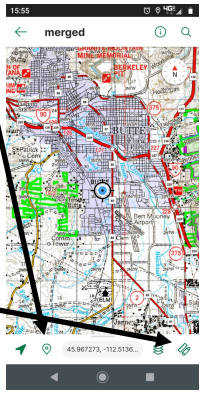
Adding Maps:

On the "My Maps" screen tap the **+**.

-Select "Download or import a map"

-To add a map from a QR code, tap the QR code icon and scan the code. To add a map that you have saved to your device, select "From Storage Locations" and navigate to the folder.

Mapping with Avenza: (There will be some slight differences between Apple and Android)



Creating a waypoint:

-While in a map, move the cursor to the location and tap the pin

-This will bring up the "Add Placemark" to change the name and see the associated data.

-This is also the screen to enter the coordinates from a waypoint given to you. Tap on "Location" and enter the new coordinates.

Creating a track log (map a fire):

-Click on the pencil/ruler.

-Select "Record GPS Tracks"

-Tap "Start Tracking"

-When finished, tap "Stop Tracking"

-To edit your track, tap on the track.

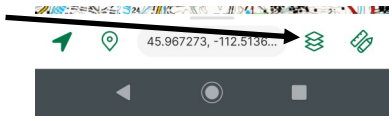
-To get the acreage of your track, tap "convert to area." This creates a polygon from your track log, which can be shared.

Sharing Tracks and Waypoints:

Open your map and tap on the icon with 3 layers.

On the map layers screen, tap the 3 lines

Select "Export"



Ensure your format is KML unless told otherwise. Then tap "Export" This will bring up options to share the file. The easiest is to use your email associated with the phone.

B-D PDF Map QR Codes

Beaverhead Deerlodge Central East 2013

Beaverhead Deerlodge North West 2013

Beaverhead Deerlodge Central West 2013

Beaverhead Deerlodge South East 2015

Beaverhead Deerlodge North East 2015

Beaverhead Deerlodge South West 2015

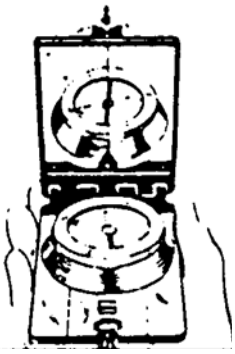
Compass Navigation

Declination

Declination is the difference between true north and magnetic north. If no declination is set the compass will indicate magnetic north. GPS units use true north unless changed in the settings. For a compass to read true north you must offset it by a specific degree which will depend on your location. A declination map is on the following page to assist in determining the declination.

A GPS unit can also show the declination for your location.

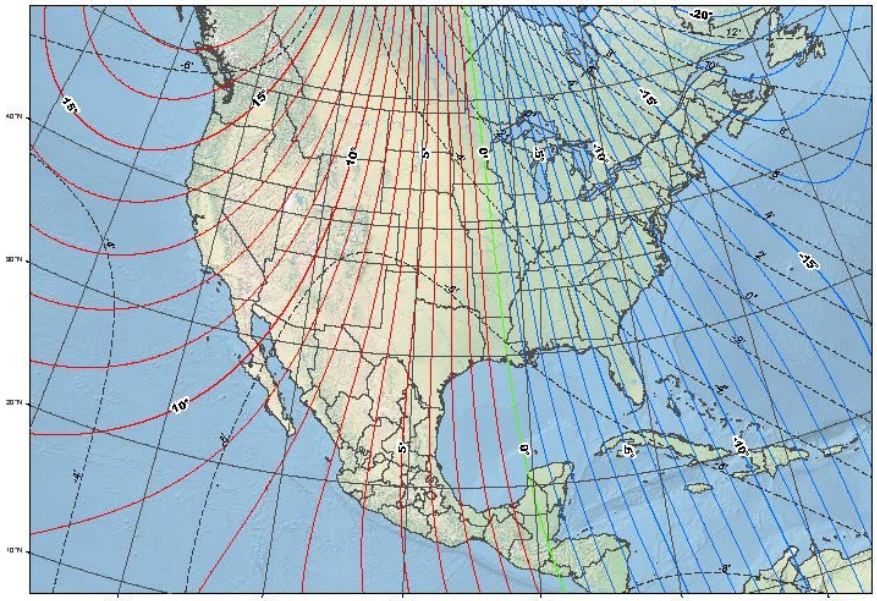
Compass Use



1. Set the declination with small set screw
2. Obtain the bearing to follow (from aircraft, lookout or map)
3. Set the bearing on the compass
4. Turn your body until north arrow is aligned with direction of travel arrow
5. Hold compass flat at eye level and use mirror to check bearing on dial. Use sighting notch to line up an identifiable nearby object
6. Walk to that object and repeat
7. Do not use compass inside or on hood of a vehicle, or near metal objects (tools and belt buckles)

World Magnetic Model - 2020 Magnetic Declination

NOAA National Centers for Environmental Information (NCEI)



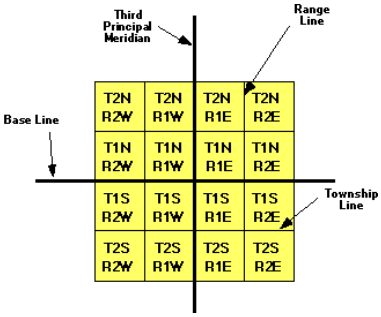
The term magnetic declination (also known as magnetic variation) refers to the angle between magnetic north (MN – compass north) and true north (TN – true north) at any given latitude/longitude. The green contour line shows the imaginary line along which the declination is zero (MN and TN converge). The magnetic declination increases as one moves east or west from this line. Red lines show positive (east) declination contours and blue lines show negative (west) declination contours. The degrees of declination required to orient the compass with the map are added east of this line and subtracted west of this line (e.g. 10° east would indicate that MN lies 10° degrees clockwise from TN). Magnetic declination gradually changes with time and location. The dashed gray lines show the expected annual change in the magnetic declination in arc-minutes per year (there are 60 arc-minutes per degree). The above map was produced from the World Magnetic Model (WMM 2020) for the year 2020.

Township/Range System

Township Lines run EAST to WEST six miles apart.

Range Lines run NORTH to SOUTH six miles apart.

Within each township are 36 sections, each one mile square. Each section contains 640 acres.↓



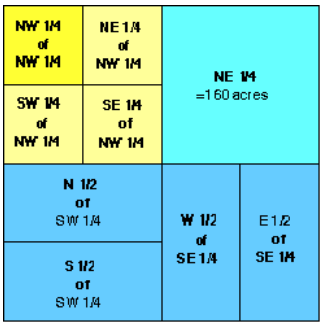
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Section Numbers in a Typical Township.

There may be corrections or odd shaped sections. State boundaries change reference grids so may result in confusion near state boundaries.

Within each section, the land is referred to as half and quarter sections. A one-sixteenth division is called a quarter of a quarter, as in the NW1/4 of the NW1/4.

The descriptions are generally read from the smallest division to the largest.



Latitude and Longitude

The Latitude and Longitude may be shown in the following formats:

Format	What It Looks Like	How You Say It (Radio Etiquette)
*Degrees Decimal Minutes *Aircraft* (ddd°mm.mmm')	44° 18.586' 120° 51.175'	"Four-four degrees, one eight decimal (or point) five eight six minutes."
Degrees Minutes Seconds *Maps* (ddd°mm' ss.s")	44° 18' 34.5" 120° 51' 10.3"	"Four-four degrees, one eight minutes, and three four decimal (or point) five seconds."
Degrees Decimal Degree *Seldom used* (ddd.ddddd°)	44.30971° 120.85291°	"Four-four decimal (or point) three zero nine seven one degrees."

*This is the Butte/Jefferson Zone preferred format.

If you do not have a GPS:

To convert Degrees Minutes Seconds to Degrees Decimal Minutes, divide seconds by 60.
Example: 48° 20' 30" → (30")/60 = .5' → 48° 20.5'

To convert Degrees Decimal Minutes to Degrees Minutes Seconds, multiply hundredths (.5) by 60. Example: 48° 20.5' → 0.5" x 60 = 30" → 48° 20' 30"

One degree of latitude or longitude = 60 minutes (60')

One minute of latitude or longitude = 60 seconds (60")

A 7.5 minute quad covers 7.5 minutes of longitude and 7.5 minutes of latitude

Aviation Datum = WGS 84
Units: Degrees Decimal Minutes

Conversion Units

UNITS OF MEASURE	
1 inch =	2.54 centimeters
1 foot =	0.3048 meters
1 Meter =	3.28 feet 39.37 inches
1 Kilometer =	0.623 miles 1,093.6 yards 3280.8 feet
1 Chain =	66 feet 20.11 meters
1 Acre =	10 square chains 208.7 x 208.7 feet 43,560 sq. feet
1 Mile =	5280 feet 80 chains 1.6 kilometers
Township =	36 square miles
Section =	1 square mile 640 acres

ICS Map Symbols

Completed Dozer Line

Proposed Dozer Line

Proposed Hand Line

Uncontaineded Fire Edge (teeth point in)

Contained Line

Division Break

Branch Break

ICP

Spot Fire

Helispot

MAP SCALE CONVERSION		
Map Scale	**1 inch on the map=**	**1 mile on the earth = __ inches on the map**
1:5,000	416.67 feet 127.00 meters	12.67
1:10,000	833.33 feet 254.00 meters	6.34
1:12,500	1,041.66 feet 317.00 meters	5.07
1:20,000	1,666.70 feet 508.00 meters	3.17
1:24,000 7.5" Quad	2,000 feet 609.6 meters	2.64
1:25,000 7.5" Quad	2,083.30 feet 635.00 meters	2.53
1:50,000	4,166.70 feet 1,270.0 meters	1.27
1:62,500 15" Quad	.986 miles 5206.1 feet 1586.8 meters	1.014
1:63,360 Alaska Maps	5,280.00 feet 1,609.3 meters	1
1:100,000	8,333.30 feet 2,540.0 meters	.634
1:250,000	20,833.00 feet 6,350.0 meters	.253
1:500,000	41,667.00 feet 12,700.0 meters	.127

1 Cup =	8 ounces
1 Pint =	2 cups
1 Quart =	4 cups 2 pints 32 ounces
1 Gallon =	4 quarts 128 ounces 3.785 liters 8.33 lbs

Conversion Units

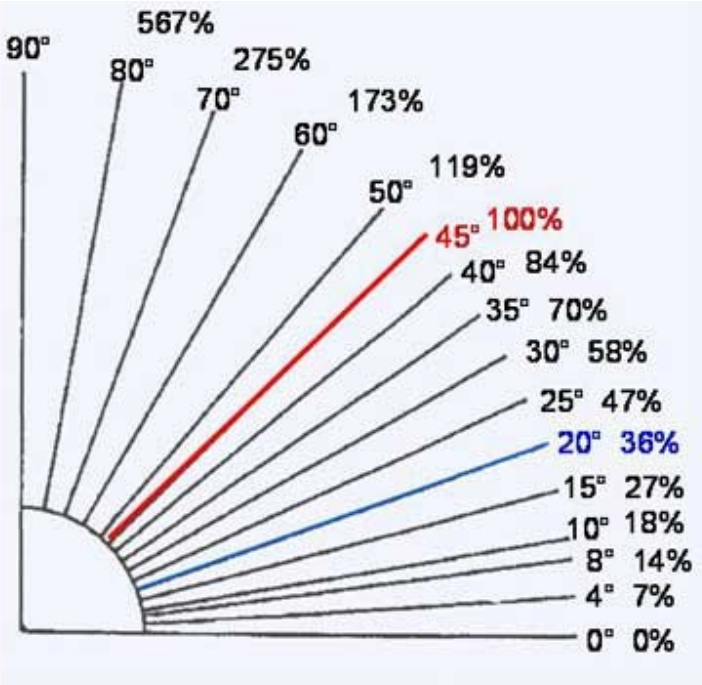
Minutes to 100ths Conversion

01″ = .02′	21″ = .35′	41″ = .68′
02″ = .03′	22″ = .37′	42″ = .70′
03″ = .05′	23″ = .38′	43″ = .72′
04″ = .07′	24″ = .40′	44″ = .73′
05″ = .08′	25″ = .42′	45″ = .75′
06″ = .10′	26″ = .43′	46″ = .77′
07″ = .12′	27″ = .45′	47″ = .78′
08″ = .13′	28″ = .47′	48″ = .80′
09″ = .15′	29″ = .48′	49″ = .82′
10″ = .17′	30″ = .50′	50″ = .83′
11″ = .18′	31″ = .52′	51″ = .85′
12″ = .20′	32″ = .53′	52″ = .87′
13″ = .22′	33″ = .55′	53″ = .88′
14″ = .23′	34″ = .57′	54″ = .90′
15″ = .25′	35″ = .58′	55″ = .92′
16″ = .27′	36″ = .60′	56″ = .93′
17″ = .28′	37″ = .62′	57″ = .95′
18″ = .30′	38″ = .63′	58″ = .97′
19″ = .32′	39″ = .65′	59″ = .98′
20″ = .33′	40″ = .67′	60″ = 1.0′

Celsius / Fahrenheit

C	F	C	F
4	39	25	77
5	41	26	79
6	43	27	81
7	45	28	82
8	46	29	84
9	48	30	86
10	50	31	88
11	52	32	90
12	54	33	91
13	55	34	93
14	57	35	95
15	59	36	97
16	61	37	99
17	63	38	100
18	64	39	102
19	66	40	104
20	68	41	106
21	70	42	108
22	72	43	109
23	73	44	111
24	75	45	113

Slope Percentage Table



Slope can be calculated using the formula:

Vertical Distance x 100 = % Slope
Horizontal Distance

Another way to write the slope formula is:

Rise x 100 = % Slope
Run

Weather and Fuels Information

Sling Psychrometer Use

- Stand in a shaded, open area away from objects that might be struck during whirling. If in open country, use your body shade to shade the psychrometer (be careful of hardhat brim). If possible, take your weather observations over a fuel bed that is representative of the fuels the fire is burning in. Avoid warm vehicles, smoke, and the fire.
- If your sling has been in your pack, allow it to equilibrate in the shade for several minutes before taking weather.
- Face the wind to avoid influence of body heat on the thermometers.
- Saturate the wick of the wet bulb with clean, mineral free water (distilled).
- Ventilate the thermometers by whirling at full arms length. Your arm should be parallel to the ground. Whirl for 1 minute.
- Note the wet bulb temperature. Whirl for another 40 or 50 seconds and read again. If the wet bulb is lower than the first reading, continue to whirl and read until it begins to rise. Read and record the lowest point. If the wet bulb is not read at the lowest point, the calculated relative humidity will be too high.

Common Issues:

- Incorrect reading of Rh chart (bottom number of most charts – Rh is NOT negative)
- Use of incorrect elevation on Rh chart or miscalculation of FDFM
- Not ventilating the psychrometer long enough to reach equilibrium
- Not getting the wick wet enough, or letting it dry out completely
- Holding it too close to the body or taking too long to read the thermometers
- Touching the bulb ends with hands while reading
- Not facing into the breeze

Fuel Size Class	Diameter in inches
1 hr	0-0.25
10 hr	0.25-1
100 hr	1-3
1000 hr	3+

Rule of thumb: Rh in % divided by 5 = estimate of FDFM
(If Rh is 25 then 25/5 = 5% FDFM

Rule of thumb: 10 hour fuel moisture = FDFM + 1
(If FDFM is 5, then 10 hour fuel = FDFM 5 + 1 = 6)

https://www.weather.gov/spot/ - Online Request Form

WS FORM D-1
(1-2005)
(Supersedes Previous Editions)

SPOT REQUEST

(See reverse for instructions)

U.S. Department of Commerce
NOAA
National Weather Service

Please call the NWS Weather Forecast Office (WFO) when submitting a request and also after you receive a forecast to ensure request and forecast were received.
Please provide feedback to WFO on forecast.

1. Time†	2. Date	3. Name of Incident or Project	4. Requesting Agency

5. Requesting Official	6. Phone Number	7. Fax Number	8. Contact Person

9. Ignition/Incident Time and Date

10. Size (Acres)

11. Type of Incident
- ☐ **Wildfire**
- ☐ **Prescribed Fire**
- ☐ **Wildland Fire Use (WFU)**
- ☐ **HAZMAT**
- ☐ **Search And Rescue (SAR)**

12. Reason for Spot Request (choose one only)
- ☐ **Wildfire**
- ☐ **Non-Wildfire** Under the Interagency Agreement for Meteorological Services (USFS, BLM, NPS, USFWS, BIA)
- ☐ **Non-Wildfire** State, tribal or local fire agency working in coordination with a federal participant in the Interagency Agreement for Meteorological Services
- ☐ **Non-Wildfire** Essential to public safety, e.g. due to the proximity of population centers or critical infrastructure.

13. Latitude/Longitude:

14. Elevation (ft, Mean Sea Level)
Top: **Bottom:**

15. Drainage

16. Aspect

17. Sheltering
- ☐ **Full**
- ☐ **Partial**
- ☐ **Unsheltered**

18. Fuel Type: __Grass __Brush __Timber __Slash __Grass/Timber Understory __Other_____
Fuel Model: 1,2,3 4,5,6,7 8,9,10 11,12,13 2,5,8

19. Location and name of nearest weather observing station (distance & direction from project):

20. Weather Observations from project or nearby station(s): (Winds should be in compass direction e.g. N, NW, etc.)

Place	Elevation	†Ob Time	20 ft. Wind		Eye Level Wind.		Temp.		Moisture		Remarks *(Relevant Weather, etc)*
			Dir	Speed	Dir	Speed	Dry	Wet	RH	DP	

21. Requested Forecast Period
Date

Start _____

End _____

Forecast needed for:
- ☐ Today
- ☐ Tonight
- ☐ Day 2
- ☐ Extended

22. Primary Forecast Elements (Check all that are needed) ***(for management ignited wildland fires, provide prescription parameters):***

	Needed:
Sky/Weather	☐
Temperature	☐
Humidity	☐
20 ft Wind	☐
Valley	☐
Ridge Top	☐
Other (Specify in #23)	☐

23. Remarks (other needed forecast elements, forecast needed for specific time, etc.)

24. Send Forecast to:
ATTN:

25. Location:

26. Phone Number:
Fax Number:

27. Remarks (Special requests, incident details, Smoke Dispersion elements needed, etc.):

EXPLANATION OF SYMBOLS: † Use 24-hour clock to indicate time. Example: 10:15 p.m. = 2215; 10:15 a.m. = 1015
Indicate local standard time or local daylight time

Cirrus Streaks

Single or multiple bands across sky indicating Jet Stream aloft—Possible instability or surface winds increasing fire behavior.

Cirrus

Dense, in patches, not increasing, or with tufts—No significant fire weather or fire behavior expected.

Cirrus

Anvil shaped remains of a thunderstorm—Watch for gusty winds from nearby decaying thunderstorms.

Cirrus

In hooks or filaments, increasing, becoming denser—Often indicates cold air aloft. Watch for possible instability leading to more active fire.

Cirrostratus

Cirrus bands, transparent, relatively near the horizon—Indicates weather fronts are typically 2 to 3 days away.

Cirrostratus

Cirrus bands, covering majority of the sky with sun mostly obscured—Typically indicates weather fronts are one day or less away.

High Clouds: Cloud bases typically 16,000 - 50,000 feet. Usually seen as indirect indicators of potential fire behavior.

Clouds in red may be of particular concern.

Cirrostratus

Not increasing, not covering the whole sky–No significant impact on fire weather or behavior.

Cirrocumulus

Alone or with some cirrus or cirrostratus—very high instability, usually no impact on surface conditions.

Fire Weather and Fire Behavior Impacts from Clouds (High Clouds)

Altostratus

Nimbostratus

Semi-transparent, sun or moon may be dimly visible— No fire weather impacts, expect reduced activity from added shading.

Altocumulus

Semi-transparent, one-level—Indicates weak mid-level instability and increasing moisture. Possible monsoon thunderstorm development within 24 hours.

Wave Clouds

Lens shaped or continually changing shape and size—Results from strong mid-level winds that may surface and result in running fire.

Altocumulus

One or more bands of layers expanding, thickening—Indicates instability present, monitor for additional develop-ment.

Altocumulus

From the spreading of cumulus or cumulonimbus—Could indicate presence nearby of a thunderstorm. Caution for gusty winds from the direction of clouds.

Altocumulus

Generally opaque layers, possibly containing virga—Weak instability, virga may result in gusty winds, cloud density usually inhibits further convection.

Middle Clouds: Cloud bases typically 6,500 - 23,000 feet. Can be direct and/or indirect indicators of potential fire behavior.

Clouds in red may be of partic-ular concern.

Altocumulus Flocus (shown)

Altocumulus CAstellanus

Cumulus-like tufts or flat bases with turrets—When observed in morning hours, often indicates afternoon or evening thunderstorms.

Altocumulus

Chaotic sky, cloud bases at several levels—Lower cloud base may block view of higher based storms. Hides potential for lightning and gusty winds.

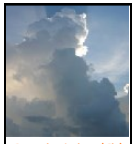
Weather and Fire Behavior Impacts from Clouds (Mid Level Clouds)

Fair Weather Cumulus

Flattened appearance—Weak instability present but rarely rarely results in further development. Actu=ive fire still possible under low humidity.

Cumulus

Moderate to strong vertical development or towering cumulus—Atmosphere is unstable. Monitor for further development and increased fire activity.



Cumulonimbus (Cb)

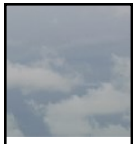
Tops not fibrous, no anvil—Significant vertical motion present, gusty downdrafts likely, thunderstorms possible with erratic fire activity.

Stratocumulus

Moderate instability—Showers and downdrafts likely. Thunderstorms possibly hidden, and variable fire behavior.

Stratus

Smooth appearance, continuous low layer—Often inhibits aircraft use, and minimal fire activity.



Stratus Fractus/ Cumulus Fractus

Occurs with rain or snow—Usually associated with cold fronts, and winds may push fire.

Low Clouds: Cloud bases up to 6500 feet. Usually have direct impacts on potential fire weather and fire behavior.

Clouds in red may be of particular concern.

Stratocumulus & Cumulus

Usually associated with cool weather—Fire activity may increase with afternoon heating and instability.

Mature Thunderstorm

Strong Downdraft winds, lightning, heavy rain and hail possible underneath—Distant terrain channeled winds and lightning possible away from cell.

Fire Weather and Fire Behavior Impacts from Clouds (Low level)

Pyrocumulus

Unstable conditions where smoke moisture condenses to form cumulus—Downdrafts, rain, lightning possible under extreme conditions.

Tornado

Rapidly rotating column under a cumulonimbus cloud that touches the ground.

Wall Cloud

Lowering of the rain free base of a thunderstorm, often prior to tornado formation.

Shelf Cloud

Represents the leading edge of strong winds in advance e of a thunderstorm.

Virga

Rain or snow that evaporates before reaching the ground—gusty outflow winds may dramatically increase fire behavior.

Special Cases: These phenomena occur under unstable conditions—use extreme caution when observed, particularly if observed between you and the fire.

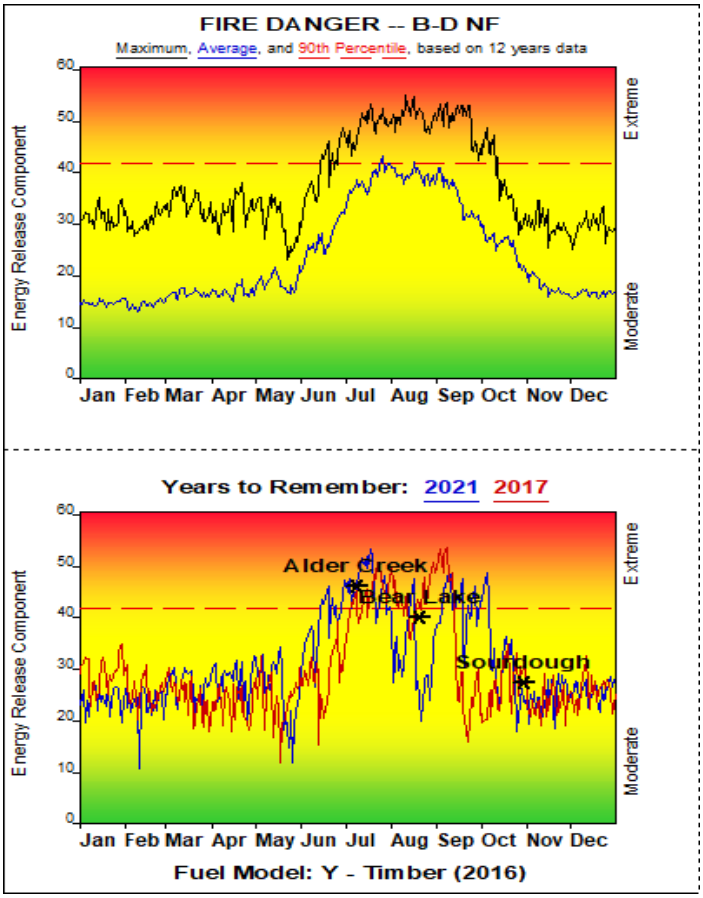
Clouds in red may be of particular concern.

Fire Whirl

Localized intense wind swirl under unstable conditions with possible wind speed exceeding 50 MPH—can scatter embers and spots across lines.

Weather and Fire Behavior Impacts from Clouds

Beaverhead-Deerlodge NF Pocket Cards



Beaverhead-Deerlodge NF Pocket Cards cont.

Fire Danger Area:

- B-D NF
- FWZ 110 & 111
- (Weather Station)
  * Meets NWCG Wx Station Standards

Fire Danger Interpretation:

EXTREME -- Use extreme caution

High -- Watch for change

Moderate -- Lower Potential, but always be aware

Maximum -- Highest Energy Release Component by day for 2010 - 2021

Average -- shows peak fire season over 12 years (4379 observations)

90th Percentile -- 10% of the 4379 days from 2010 - 2021 had an Energy Release Component above 42

Local Thresholds - Watch out: Combinations

of any of these factors can greatly increase fire behavior: **20' Wind Speed** over 30 mph, **RH** less than 20%, **Temperature** over 85, **Energy Release Component** over 39

Remember what Fire Danger tells you:

- ☑ Energy Release Component gives seasonal trends calculated from temperature, humidity, daily temperature & rh ranges, and precip duration.
- ☑ Wind is NOT part of ERC calculation.
- ☑ Watch local conditions and variations across the landscape -- Fuel, Weather, Topography.
- ☑ Listen to weather forecasts -- especially WIND.

Past Experience:

During March-May when forcasted wind gusts exceed 40 mph and BI is at or near the 90th percentile, fire behavior is active and fire starts are likely due to downed powerlines.

Otherwise, fire starts are most likely when ERCs approach the 70th percentile, while large fire growth is most likely as ERCs approach the 90th percentile. Pay particular attention on days where ERCs approach maximums, a Haines Index of 5 or 6, and unique winds (such as frontal passages) are forcasted.

Responsible Agency: USFS

FF+5.0 build 20210317 03/09/2022-08:21 (C:\Users\beanderson\...\2022 SWMT NFDRS v4)

Design by NWCG Fire Danger Working Team

Fire Behavior Terminology

Smoldering – no flame, barely spreading

Creeping – low flame, slow spread

Running – definite flames, rapid spread in surface fuels with well-defined head

Torching – fire runs up ladder fuels into crowns of individual trees with no crown to crown spread

Crowning – fire spreading from crown to crown, either dependent or independent of surface fire

Flame length – length from base to tip, not vertically

Rate of spread – chains per hour = feet per minute

Ground fire – fire burning in organic material below surface litter

Surface fire – fire that burns surface litter, other loose debris of the forest floor and small vegetation

Backing – fire spreading against the wind, or spreading on level or downward-sloping ground with no wind

Flanking – fire spreading perpendicular to the wind

Backfire – fire used as an indirect attack method to stop, slow or turn a wildfire

Burnout – fire set to fuels inside the control line, to strengthen line, as a part of line construction

Flare-up – any sudden acceleration of fire spread or intensification of the fire. A flare-up is of relatively short-duration and doesn't radically change existing control plans.

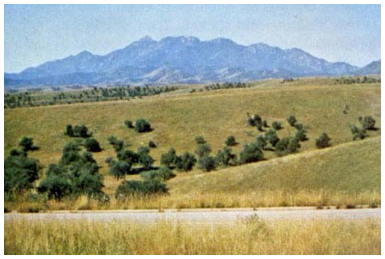
Spot Fire – fire outside the perimeter of the main fire started by flying, or rolling sparks or embers

Stage of Vegetative Development	Moisture content
Fresh foliage, annuals developing, early in growing cycle	300%
Maturing foliage, still developing with full turgor	200%
Mature foliage, new growth complete and comparable to older perennial foliage	100%
Entering dormancy, coloration starting, some leaves may have dropped from stem	50%
Completely cured	Less than 30%, treat as a dead fuel

Fuel Models and Fire Behavior

Grass Group - Primary carrier of the fire is GRASS.

Fuel Model 1 - Grass is fine structured, generally below knee level, essentially continuous, and primarily cured. Rate of Spread (ROS) is moderate; flame length low. Fast moving, and mainly wind or terrain driven fires. Tactics usually include burning out or direct attack with water or swatters. Grass-lands, savanna, grass tundra



Fuel Model 2 - Grass under an open timber or brush overstory. Litter is involved, but grass carries the fire. ROS is < FM1 and intensity is < FM3. Spread rate moderate; flame length moderate. Spotting does occur and may have high rates of spread. Use caution going direct. Found in most of the western regions. Open shrub land and pine stands, some pinon-juniper

Fuel Model 3 - Grass is tall, generally around 3 feet. Very high rates of spread with wind. Most intense fire behavior of the grass group. Very common in Flori-da, but can be found in various forms across the U.S. Generally equipment and firing is used to contain these fires. Tall-grass prairie, marsh

Shrub Group - Primary carrier is BRUSH or BRUSH LITTER.

FM 4 - Brush is head height (>6ft.), with heavy loadings of dead woody fuel. Fire may involve foliage, live and dead woody material and canopy. Spread rate very high; flame length very high. High reburn potential if initial fire was a surface fire. Mixed chaparral, southern rough, pine barrens of New Jersey, closed jack pine stands of north central states.

FM 5 - Brush is about 2ft. high, with light loading of brush litter underneath. Fire is generally carried in the surface fuels, made up of shrub litter, especially at low wind speeds. Surface fuel loads are generally lighter creating a lower intensity fire. Usually shrubs are short and continuous. Found in old fire scars or with some timber over story. Spread rate low to moderate; flame length low to moderate. Young green stands with little or no deadwood. Laurel, vine maple, alder, Manzanita.

FM 6 - FM6- Shrubs are more susceptible to fire and can be a primary carrier of fire. Live fuels are absent or sparse. Brush averages 2 to 4ft. high. Brush requires moderate winds to carry fire. Spread rate high (with wind); flame length high. FM6 may not predict rate of spread accurately in mature PJ or oak brush. Can be found in all regions. Chaparral, chemise, oak brush, Alaskan black spruce, taiga, shrub tundra, PJ at high winds (20mph at 20' level).

FM 7 - Stands are general 2-6 feet tall. Fire is carried by the shrub and some surface fuels. High live fuel ratios may still burn actively due to flammability of live fuels. Spread rate high; flame length high. Palmetto-gallberry understory with pine overstory, Alaskan black spruce with shrub.

Timber Group - Primary carrier of the fire is LITTER in TIMBER.

FM 8 - Slow burning ground fires with low flame lengths in tightly compacted, short needle (2 inches or less) conifer or hardwood litter. Spread rate low; flame length low with occasional jackpots of heavy fuels increasing intensity. Direct attack is common. Lodge pole pine, spruce, true and Douglas firs.

FM 9 - Dead foliage litter is loosely compacted long needle pine or hardwoods. Spread rate moderate; flame length moderate. Concentrations of dead-down woody material will contribute to possible torching out of trees, spotting, and crowning. In hardwood stands leaf blowers are commonly used to line the fires. Closed stands of long needle ponderosa and southern pine plantations.

FM 10 - Fires burn in surface and ground fuels with great intensity. Some green fuel may be present. Overall depth of the fuel is primarily below knees, but some fuel may be higher. Dead and down fuels have higher loading of 3" or greater limb wood. Crowning, spotting and torching are more frequent. Spread rate moderate to high; flame length high. Any forest type can fall into this model if heavy down material is present. Insect or disease ridden stands, or aged partial-cut slash.

Logging Slash Group - Primary carrier of the fire is SLASH

FM 11 - Needle litter or small amounts of grass or shrubs may be present to carry the fire, but primary carrier is slash. Live fuels are absent or do not play a significant role in fire behavior. Spread rate lowest of slash models; flame length moderate. Commonly seen in cut and leave thinning units. Control may be difficult due to intensity and lower production rates due to fuel loading.

FM 12 - Slash covers the ground. Average slash depth is about 2 feet, and slash is not excessively compacted. Approximately ½ of the needles may still be on the branches but are not red. Live fuels are absent, or are not expected to affect fire behavior. Spread rate low; flame length moderate to high. Heavily thinned conifer stands, clear cuts and medium to heavy partial cuts. Larger fuel breaks may be needed due to spotting potential and fire intensity.

FM 13 - Fire is carried by a continuous layer of slash. Slash is not coact with an average depth of three feet. Red needles and large quantity of 100 and 1000 hour fuels will be present. High intensity and long sustained fire can be expected due to the higher loading of heavier fuels. Expect control problems.

Area in Acres

Perimeter in Chains						
1	2	3	4	5	6	
						

1	.01	.01	.01	.01	.01	.01
2	.03	.02	.02	.02	.01	.01
3	.06	.05	.04	.04	.03	.02
4	.11	.10	.08	.06	.05	.03
5	.17	.15	.12	.10	.07	.05
6	.25	.22	.18	.14	.11	.07
7	.34	.29	.24	.20	.15	.10
8	.45	.38	.32	.26	.19	.13
9	.57	.49	.40	.32	.24	.16
10	.7	.6	.5	.4	.3	.2
12	1.0	.8	.7	.6	.4	.3
14	1.4	1.2	1.0	.8	.6	.4
16	1.8	1.5	1.3	1.0	.8	.5
18	2.3	1.9	1.6	1.3	1.0	.6
20	2.8	2.4	2.0	1.6	1.2	.8
22	3.4	2.9	2.4	1.9	1.4	1.0
24	4.0	3.5	2.9	2.3	1.7	1.2
26	4.7	4.1	3.4	2.7	2.0	1.3
28	5.5	4.7	3.9	3.1	2.3	1.6
30	6.3	5.4	4.5	3.6	2.7	1.8
32	7.2	6.1	5.1	4.1	3.1	2.1
34	8.1	6.9	5.8	4.6	3.5	2.3
36	9.1	7.8	6.5	5.2	3.9	2.6
38	10.1	8.7	7.2	5.8	4.3	2.9
40	11.2	9.6	8.0	6.4	4.8	3.2
42	12.	11.	9.	7.	5.	3.5
44	14.	12.	10.	8.	6.	4.
46	15.	13.	11.	8.5	6.	4.
48	16.	14.	11.5	9.	7.	4.5
50	17.	15.	12.	10.	7.	5.
60	25.	21.	18.	14.	11.	7.
70	34.	30.	25.	20.	15.	10.
80	45.	38.	32.	26.	19.	13.
90	57.	49.	40.	32.	24.	26.
100	70.	60.	50.	40.	30.	20.

Time and Attendance

- On the second shift of a fire you automatically go to a “1st 8’s” schedule.
- To code holiday worked use TC 66 for your 8 hrs of holiday and TC 31 only for your base hours worked.
- You are entitled to night differential for any base hours between 1800 and 0600.
- Mandatory R&R days on regularly scheduled work days are coded as 01 and charged to the incident B-code.
- All base time will be charged to WFSE97/0197, or to a “B” code with 0191 override if on an incident or severity.
- All premium time (OT, H-pay, Holiday worked) will be charged to the “P” code or the salary code (ie WFSE97/0197). Override for P-code will be for your location (ie. 0102 if on B-D).

TIME CODES	
Base Pay:	01
Overtime:	21
Hazard Pay:	14
Sunday Differential:	04
Night Differential:	11
Holiday Pay:	66
Credit Hours Earned:	29
Credit Hours Used:	50
COMP Time Earned:	32
COMP Time Used:	64
Annual Leave Used:	61
Sick Leave Used:	62
LWOP:	71
AWOL:	72
Holiday Worked	31

Forest Base Code:

0197 WFSE97XX

ABC Misc p-code:

0102 P1EKS3XX

Fire Support p-code:

0102 P1EK3VXX

XX— 2 Digit fiscal year

PAY PERIOD CALENDAR 2024

Month	Pay Period	S	M	T	W	T	F	S
JAN	27		1	2	3	4	5	6
		7	8	9	10	11	12	13
	01	14	15	16	17	18	19	20
		21	22	23	24	25	26	27
	02	28	29	30	31			
FEB						1	2	3
		4	5	6	7	8	9	10
	03	11	12	13	14	15	16	17
		18	19	20	21	22	23	24
	04	25	26	27	28	29		
MAR							1	2
		3	4	5	6	7	8	9
	05	10	11	12	13	14	15	16
		17	18	19	20	21	22	23
	06	24	25	26	27	28	29	30
		31						
APR			1	2	3	4	5	6
	07	7	8	9	10	11	12	13
		14	15	16	17	18	19	20
	08	21	22	23	24	25	26	27
		28	29	30				
MAY					1	2	3	4
	09	5	6	7	8	9	10	11
		12	13	14	15	16	17	18
	10	19	20	21	22	23	24	25
		26	27	28	29	30	31	
JUN								1
	11	2	3	4	5	6	7	8
		9	10	11	12	13	14	15
	12	16	17	18	19	20	21	22
		23	24	25	26	27	28	29
	13	30						

Month	Pay Period	S	M	T	W	T	F	S
JUL	13		1	2	3	4	5	6
		7	8	9	10	11	12	13
	14	14	15	16	17	18	19	20
		21	22	23	24	25	26	27
	15	28	29	30	31			
AUG						1	2	3
		4	5	6	7	8	9	10
	16	11	12	13	14	15	16	17
		18	19	20	21	22	23	24
	17	25	26	27	28	29	30	31
SEP		1	2	3	4	5	6	7
	18	8	9	10	11	12	13	14
		15	16	17	18	19	20	21
	19	22	23	24	25	26	27	28
		29	30					
OCT				1	2	3	4	5
	20	6	7	8	9	10	11	12
		13	14	15	16	17	18	19
	21	20	21	22	23	24	25	26
		27	28	29	30	31		
NOV							1	2
	22	3	4	5	6	7	8	9
		10	11	12	13	14	15	16
	23	17	18	19	20	21	22	23
		24	25	26	27	28	29	30
DEC	24	1	2	3	4	5	6	7
		8	9	10	11	12	13	14
	25	15	16	17	18	19	20	21
		22	23	24	25	26	27	28
	26	29	30	31				

FORM NFC-1217 (Revised 7/28/2020)

Butte Ranger District Office Security

Employee Entrance

- Enter your 4 Digit Code: ____ ____ ____ ____
- Push #
- Do not attempt to open door until the "SCHLAGE" flashes green.

Deactivate Alarm

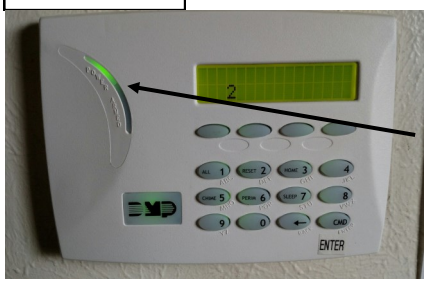
- Enter your 5 Digit Code: ____ ____ ____ ____ ____
- Press CMD. Select DISARM. Select ALL—YES. The keypad light will turn green.
- If alarm is already sounding, Press CMD, select DISARM. Select ALL—Yes. Enter 5 Digit Code.

The gate needs to be closed and the alarm set when leaving on week-ends or after 1630 on weekdays.

When entering the compound after hours, always check the alarm status. **There is no audible alarm outside**.

Activate Alarm

- Check to ensure the building is empty.
- Press CMD. Enter your 5 Digit Code. Select ARM. Select ALL—YES.
- You will have 60 seconds to exit.



Alarm System

- The alarm system will beep if active when you enter the building and light will be red
- After 60 seconds the alarm will sound.
- If the light is green, alarm is not activated.

Butte Ranger District Office Security

Bullpen Gates

Deactivate Alarm

- Enter the 5 Digit Code
  ___ ___ ___ ___ ___
  Than # to enter.

This is the Alarm Keypad

- The RED alarm light will turn off when the code is entered correctly.

This only disables the Bullpen Alarm. When entering the building, you will need to find an alarm keypad and disable the alarm.

If this light is RED the alarm is active

To open the gate, enter your 4 Digit Door Code here:

When you press #, the gates should open.

Exiting the Bullpen

- Approach the Gate in your vehicle, the gate should open automatically.
- If the gate fails to open, you will need to open it manually. Pull the manual release lever towards you. Than the gate can be manually opened. After exiting, move the lever to it's original position. Pull on the gate to ensure it is engaged, than enter the code into the keypad to close the gate.
- The alarm keypad at the gate will only engage the bullpen alarm. You will need to activate the building alarm from inside.

INCIDENT PROCESSING OF INJURIES OR ILLNESSES FOR US FOREST SERVICE (USFS) EMPLOYEES ONLY

1. Provide Medical Treatment

1.1. First priority is to get emergency medical care, if necessary. Emergency rooms are the best choice as they are required to provide treatment even without advance guarantee of payment.
1.2. Complete appropriate paperwork immediately following emergency care.
1.3. If the injury requires continuing medical care and the injured employee is unable to work, return the injured employee to their home unit as soon as possible. Do not keep them in camp

2. Form CA-16 Authorization for Examination and/or Treatment Process

2.1. Only Albuquerque Service Center – Human Resources Management (ASC-HRM) Workers' Compensation (WC) personnel, Compensation Claims Unit Leader (COMP), Compensation for Injury Specialist (INJR), or Finance Section Chief (FSC) assigned to the incident are authorized to issue Form CA-16 for FS regular and AD employees.
2.2. A supervisor and/or personnel representing the agency may provide verbal authorization for examination and/or treatment in the absence of the above referenced incident personnel if outside ASC -HRM regular business hours. Contact ASC-HRM WC within 48 hours after medical treatment or on the next business day for issuance of the CA-16 by ASC-HRM WC.
2.3. The Department of Labor (DOL) does not allow the issuance of a CA-16 if more than 7 calendar days have passed since the date of injury.
2.4. If an employee is filing a Workers' Compensation claim and requires a prescription but cannot pay for it while on the incident, it can be purchased with a purchase card and a commissary deduction will be made on the OF-288, Fire Time Report. The employee uses the receipt from the purchaser to claim reimbursement from the DOL. This should only be used if there are no pharmacies that accept the DOL fee schedule.
2.5. Personnel on an incident without a COMP, INJR or FSC assigned must contact ASC-HRM WC for medical treatment authorization.

- Call the ASC-HRM Contact Center @ 877-372-7248, select option [2] for HRM, then follow the prompts for Forest Service employees, during regular business hours Monday – Friday 0700-1700 Mountain Time (MT), or the next business day following a weekend, or holiday.
- State you have an injured worker and are requesting authorization for medical treatment.

5. Form CA-1 Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/ Compensation

5.1. The CA-1 will be completed in eSafety by the injured employee, or someone acting on the employee's behalf if the employee is not able to do so. The CA-1 will be generated by entering all required fields in eSafety. Page 1 of the CA-1 is to be filled out completely by the injured employee including signature in block 15. If the injured employee is unable to sign, the supervisor or someone acting on their behalf may complete and sign for the injured employee.
5.2. If the CA-1 cannot be completed in eSafety at the incident, a hard-copy will be prepared at the incident and faxed to the home unit, but it is mandatory that all CA-1 forms be generated from eSafety and are processed by ASC-HRM WC. The completed eSafety generated CA-1 (along with the CA-16, if issued) must be printed, signed and faxed to ASC-HRM WC at 866-339-8583 within 48 hours of the date the employee reported the injury. The original CA-1 is to be retained by the employee.

INCIDENT PROCESSING OF INJURIES OR ILLNESSES FOR US FOREST SERVICE (USFS) EMPLOYEES ONLY continued

5.3. Blocks 1-8 will reflect the injured employee's personal information. The following information is in reference to a completed CA-1 in eSafety. The CA-1 will be generated by entering all required information in eSafety.

Block #7 shall be the employee's home mailing address; use a local address such as your district office. Forms need to be returned promptly

5.4. Claims submitted for FS AD Casual Hires must be complete in eSafety and shall include all requested information prior to faxing to ASC-HRM WC:

- AD's complete Social Security Number (SSN).
- OF-288, Fire Time Report, and one of the following documents Single Resource Casual Hire Form, Resource Order or crew Manifest (if on a crew).
- Hiring unit supervisor, full legal name and phone number.

5.5. Supervisor completes page 2 of the CA-1 blocks 17 – 39. Note: The supervisor should indicate a phone number where they can be reached immediately in the event more information is needed.

5.6. Block #17 shall reflect the ASC-HRM WC address:

USDA Forest Service, ASC-HRM
Workers' Compensation (MS 326)
4000 Masthead St., NE
Albuquerque, NM 87109

5.7. Block #18 is the injured employee's duty station physical address.

5.8. Fax the completed CA-1 (along with the CA-16, if available) to ASC-HRM WC within 48 hours of the employee reporting the injury. The employee should retain the original for their records.

5.9. Include the employee's name and SSN on the upper right hand corner of the second page and all supporting documentation in case the pages are separated.

5.10. The original CA-1 and page 4 of the CA-1, Receipt of Notice of Traumatic Injury is given to the injured employee.

6. Process Checklist

- Supervisor/safety manager are notified, and an advocate assigned.
- Supervisor/IMT contacted ASC for a CA-16 and follows up with facility/physician to ensure it was received. When on an incident, use your home supervisor for paperwork.
- Physician was contacted to ensure the CA-16 was completed and returned. MD or DO signature is required on all paperwork.
- Medical documentation contains a diagnosis, clearly links the injury/illness to work, and states start and end dates for any required Restricted Duty or Days Away.
- Local address used when entering into e-Safety.
- CA-1 or CA-2 printed from e-Safety, signed, and faxed to ASC, or emailed to your ASC case manager. Ensure that wildland firefighters and EMT's are identified as emergency workers in e-Safety.
- CRM number and case manager name received from ASC.
- All injury/illness related paperwork is kept by the employee; employment related paperwork is kept my the supervisor.
- You should receive a 9 digit claim number from OWCP. Give this number to all your providers. **Do not pay bills our of your own pocket.**

Poison Oak/Ivy Exposure

Identification:

Typically a shrub with three leaflets.

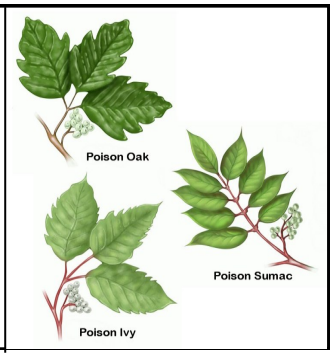
Poison oak will sometimes grow in vine form.

Poison oak leaves tend to scalloped, toothed, or lobed and somewhat resembling a true oak leaf.

Poison oak and ivy leaves grow alternately on the stem and never have thorns.

The two side leaflets tend to have short stalks.

The oil (Urushiol) is in every part of the plant.



Treatment:

If exposure was with-in 15 minutes wash skin vigorously with soap and water. After 15 minutes the oil becomes a resin-like substance that binds with your skin.

If over 15 minutes use Technu to clean skin.

Always use cold water. Warm water will open you pores and allow the oil to spread.

Shirt and pants cuffs, gloves, and watch bands tend to get saturated with the oils. Watch bands should be wiped down with Technu. Gloves and cuffs should be soaked in Technu than rinsed.

The oil spreads easily to other surfaces. So, all hard surfaces, such as tools, boots, and vehicle interiors, should be completely wiped down with isopropyl alcohol or some type of solvent.

All washable items, such as clothes and packs, should be washed in hot water with a laundry degreaser (Simple Green).

Relief:

Calamine lotion or Calagel can be used to ease itching.

If the rash has spread to the face , privates, or a significant portion of your body, seek further medical attention. If at an ongoing incident, the medical unit may be able to provide some help.

Burn Injury Information

Burn Injury Criteria:

- Partial thickness burns (second degree) involving greater than 5% Total Body Surface Area (TBSA).
- Burns involving the face, hands, feet, genitals, or major joints.
- Third-degree burns of any size are present.
- Chemical burns or electrical burns, including lightning injury are present.
- Inhalation injury is suspected.
- Burns are accompanied by traumatic injury (such as fractures).
- Individuals are unable to immediately return to full duty.

It is imperative that action is expeditious, as burn injuries are often difficult to evaluate and may take 72 hours to manifest themselves. If there is any doubt as to the severity of the injury, immediately refer and transport the employee to a regional burn center.

Regional Burn Centers		
AK	**Fairbanks Memorial Hospital** 1650 Cowles Street, Fairbanks, AK 99701	Tel: (907) 452-8181 Fax: (907) 451-7716
AZ	**Arizona Burn Center at Maricopa Medical Center** 2601 E. Roosevelt Street Phoenix, AZ 85008	Tel: (602) 344-5637 Fax: (602) 344-5705
CA North	**UC Davis Regional Burn Center** 2315 Stockton Blvd., Sacramento, CA 95817	Tel (916) 734-3636 Fax: (916) 734-5375
CA South	**The Grossman Burn Center - Sherman Oaks** 4929 Van Nuys Blvd. Sherman Oaks, CA 91403	Tel: (818) 907-4580 Fax: (818) 907-2817
NV	**Lion's Burn Center University Medical Center** 1800 W. Charleston, Las Vegas, NV 89102	Tel: (702) 383-2268
NM	**New Mexico Regional Burn Center** 2211 Lomas NE, Albuquerque, NM 87131	Tel: (888) 866-7257 Fax: (505) 272-1188
OR	**Oregon Burn Center** 3001 N. Gantenbein Ave., Portland, OR 97227	Tel: (503) 413-4232 Fax: (503) 413-4592
UT	**University of Utah Hospital Burn Center** 50 North Medical Drive, Salt Lake City, UT 84132	Tel: (801) 581-2700 Fax: (801) 585-2103
WA West	**University of Washington Burn Center Harborview** Box 359796, 325 Ninth Ave. Seattle, WA 98104	Tel: (206) 731-3140 Fax: (206) 744-2896
WA East	**Sacred Heart Medical Center Burn Program** - W. 101 8th Ave., Spokane, WA 99204	Tel: (509) 474-4684 Fax: (509) 474-4457

Western U.S. Standard Air to Ground Frequencies for Air Ambulance/Air MedEvac on Wildland Fire Incidents

Map Symbols Legend

- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- National Park Service
- US Fish & Wildlife Service
- US Forest Service
- Other Federal Agencies
- Indian Reservation Tribal Lands
- State Lands
- Local Government Lands
- Private Lands
- State Borders

DISCLAIMER:
The designation of these standard frequencies does not prevent alternate or contingent frequencies from being established. Please coordinate with local interagency fire dispatch centers.

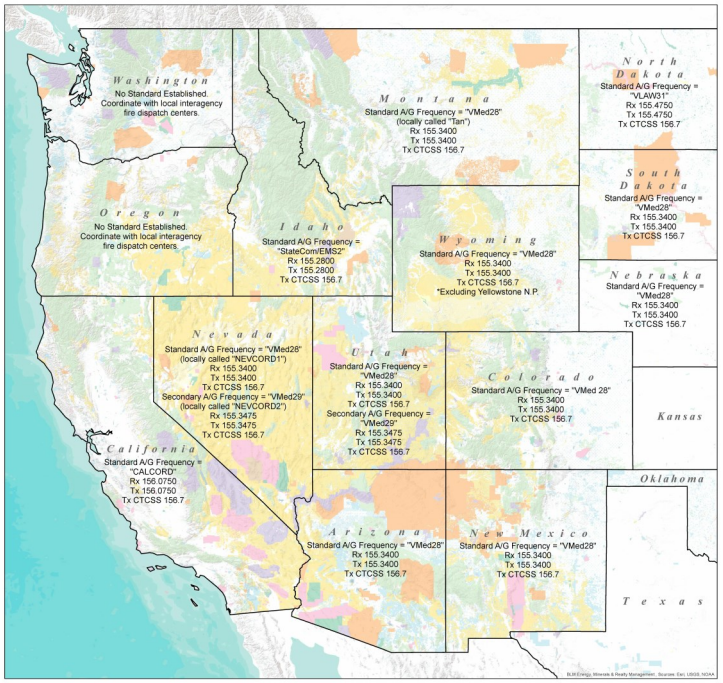
No warranty is made by the Bureau of Land Management for use of this data for purposes not intended by BLM

For Official Use Only:
FOIA Release Exempt. Data to be protected as Sensitive But Unclassified (SBU)

GCS: WGS 84
PCS: Web Mercator
Scale: 1:6,500,000

0 100 200 300 400 Miles

Date: 5/11/2020, BTF



NOTES

Beaverhead-Deerlodge N.F. Incident Organizer

Initial Attack Fire Size-Up Report

Incident Action #	SO Fire #:			Initial Action Date/Time:	
Fire Name:					Est Size:
IC:			Trainee:		
Map Datum: WGS84	Latitude:		Longitude:		Ownership:
Legal	T:		R:	Sec:	1/4 / 1/4 /
Radio Frequency:					
Control Problems:	(1) Yes	(2) No	Specify:		
Life & Property Threatened?:	(1) Yes	(2) No	Specify:		
Access:					

Character of Fire:	(1) Smoldering	(3) Running	(5) Torching	(7) Erratic	
	(2) Creeping	(4) Spotting	(6) Crowning		
Flame Length:	(1) Under 2'	(2) 2-4'	(3) 4-8'	(4) 8-11'	(5) 11'+
Fuel Type:	(1) Grass		(4) Juniper	(7) Aspen	
	(2) Grass/Brush		(5) Lodgepole Pine	(8) Slash	
	(3) Mountain Mahogany		(6) Spruce/Fir	(9) Other (specify)	
Position on Slope:	(1) Ridgetop		(4) Middle 1/3	(7) Valley Bottom	
	(2) Saddle		(5) Lower 1/3	(8) Mesa/Plateau	
	(3) Upper 1/3		(6) Canyon Bottom	(9) Flat or Rolling	
Aspect:	(1) Flat	(3) NE	(5) SE	(7) SW	(9)NW
	(2) North	(4) East	(6) South	(8) West	(10) Ridgetop
Slope:	(1) 0-25%	(2) 26-40%	(3) 41-55%	(4) 56-75%	(5) 76 +%
Spread Potential:	(1) Low	(2) Moderate	(3) High	(4) Extreme	
Weather Conditions:	(1) Clear		(4) Thunderstorms	(7) Light Rain	
	(2) Scattered Clouds		(5) Lightning	(8) Heavy Rain	
	(3) Building Cumulus		(6) Overcast	(9) Snowing	
Wind Direction:	(1) Flat	(3) NE	(5) SE	(7) SW	(9)NW
	(2) North	(4) East	(6) South	(8) West	(10) Variable
Wind Speed:	mph		Gusts:	mph	
Elevation:	ft.				

Resources on Scene:	Additional Resources Needed:

Fire Investigator Needed:	Human, Unknown or Lightning with High Values at Risk (protect origin) (1) Yes	Lightning (2) No
Fire Investigator Name:		

Containment Date/Time:	Controlled Date/Time:	Out Date/Time:

2017

MEDICAL PLAN (ICS 206 WF)

Controlled Unclassified Information//Basic

Medical Incident Report

FOR A NON-EMERGENCY INCIDENT, WORK THROUGH CHAIN OF COMMAND TO REPORT AND TRANSPORT INJURED PERSONNEL AS NECESSARY.

FOR A MEDICAL EMERGENCY: IDENTIFY ON SCENE INCIDENT COMMANDER BY NAME AND POSITION AND ANNOUNCE "MEDICAL EMERGENCY" TO INITIATE RESPONSE FROM IMT COMMUNICATIONS/DISPATCH.

Use the following items to communicate situation to communications/dispatch.

1. **CONTACT COMMUNICATIONS / DISPATCH** (Verify correct frequency prior to starting report)
   Ex: "Communications, Div. Alpha, Stand-by for Emergency Traffic."
2. **INCIDENT STATUS:** *Provide incident summary (including number of patients) and command structure.*
   Ex: "Communications, I have a Red priority patient, unconscious, struck by a falling tree. Requesting air ambulance to Forest Road 1 at (Lat./Long.) This will be the Trout Meadow Medical, IC is TFLD Jones. EMT Smith is providing medical care."

Severity of Emergency / Transport Priority	☐ **RED / PRIORITY 1 Life or limb threatening injury or illness. Evacuation need is IMMEDIATE** *Ex: Unconscious, difficulty breathing, bleeding severely, 2° – 3° burns more than 4 palm sizes, heat stroke, disoriented.* ☐ **YELLOW / PRIORITY 2 Serious injury or illness. Evacuation may be DELAYED if necessary.** *Ex: Significant trauma, unable to walk, 2° – 3° burns not more than 1-3 palm sizes.* ☐ **GREEN / PRIORITY 3 Minor injury or illness. Non-Emergency transport** *Ex: Sprains, strains, minor heat-related illness.*	
Nature of Injury or Illness & Mechanism of Injury		*Brief Summary of Injury or Illness (Ex: Unconscious, Struck by Falling Tree)*
Transport Request		*Air Ambulance / Short Haul/Hoist Ground Ambulance / Other*
Patient Location		*Descriptive Location & Lat. / Long. (WGS84)*
Incident Name		*Geographic Name + "Medical" (Ex: Trout Meadow Medical)*
On-Scene Incident Commander		*Name of on-scene IC of Incident within an Incident (Ex: TFLD Jones)*
Patient Care		*Name of Care Provider (Ex: EMT Smith)*

3. INITIAL PATIENT ASSESSMENT: *Complete this section for each patient as applicable (start with the most severe patient)*

Patient Assessment: See IRPG page 106

Treatment:

4. TRANSPORT PLAN:

Evacuation Location (*if different*): (*Descriptive Location (drop point, intersection, etc.) or Lat. / Long.*) Patient's ETA to Evacuation Location:

Helispot / Extraction Site Size and Hazards:

5. ADDITIONAL RESOURCES / EQUIPMENT NEEDS:

Example: Paramedic/EMT, Crews, Immobilization Devices, AED, Oxygen, Trauma Bag, IV/Fluid(s), Splints, Rope rescue, Wheeled litter, HAZMAT, Extrication

6. COMMUNICATIONS: Identify State Air/Ground EMS Frequencies and Hospital Contacts as applicable

Function	Channel Name/Number	Receive (RX)	Tone/NAC *	Transmit (TX)	Tone/NAC *
COMMAND					
AIR-TO-GRND					
TACTICAL					

7. CONTINGENCY: ***Considerations:*** ***If primary options fail, what actions can be implemented in conjunction with primary evacuation method? Be thinking ahead.***

8. ADDITIONAL INFORMATION: *Updates/Changes, etc.*

REMEMBER: **Confirm ETA's of resources ordered. Act according to your level of training. Be Alert. Keep Calm. Think Clearly. Act Decisively.**

BUTTE-JEFFERSON

LINK TREE

https://linktr.ee/buttejefferson