

Butte-Jefferson Ranger District Field Reference Guide 2026

Table Of Contents		
	Our Mission	3
	Phone Numbers	4 - 7
	BDNF Response Zones	8 - 9
	Vehicle Information	10
Radio And Communication	Radio Programming Instructions	11 -23
	Satellite Phone Instructions	20
	Beaverhead-Deerlodge Radio Frequencies	24 -33
	Beaverhead-Deerlodge Repeater Map	34
Pumps And Saws	Chainsaws	35 - 36
	Fuel Information	37 - 38
	Pumps	39 - 46
	Hose Packs	47 - 48
	Structure Protection	49 - 51
Aviation And Spike Camp	Aircraft Operations	52 - 53
	Helicopter Operations	53 - 57
	Spike Camp	58 - 60
Navigation And Maps	GPS, Avenza, & Compass Use	61 - 63
	Magnetic Declination	64
	Township Range System	65
	Lat/Long and Conversions	66- 68
	Slope Percentages	69
Weather And Fuels	Sling Psychrometer Use	70
	Spot Weather Request	71
	Cloud Types	72 - 75
	Beaverhead-Deerlodge NF Pocket Cards	76 - 77
	Fire Behavior Terms	78
	Original 13 Fuel Models (Anderson)	79 - 82
Other	Time and Attendance Codes	84
	Pay Period Calendar	85
	Butte Office Security Instructions	86 - 87
Medical	OWCP Information	88 - 89
	Poison Ivy / Oak Information	90
	Burn Injury Protocol	91
	Western US Air Ambulance A/G Freqs	92
	IA Size-up Form	94
	Medivac Form	95

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.



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	Kristin Spurgeon— Fuels 4-2	(406) 208-7457		
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	Vacant Senior 4-1C C:(406)	Vacant C:(406)
Mason Groff C:(830) 357-6201	Vacant C:()	Bryce Wilson C:(785) 331-5573	Luke DesCombaz C:(218) 234-6013	Michelle Smyth C:(401) 378-2947
Vet Crew				
Mitch Robbins Supt 4-2 C:(406) 431-7162	Brychan DeMoney Gross Captain 4-2 C:(406) 565-0174	Warren Baxter Crew 4-2A C:(208) 258-0593	Vacant Crew 4-2B C:()	Josh McCamby Senior 4-2D C:(480) 353-8300
Vacant Senior C:()	Eric Glines C:(801) 597-4800	Richard Lozano C:(818) 391-2704	Cory Moss C:(740) 253-8722	Raymond Liang C:(415) 917-8188
E641				
Paul Monforton Captain 4-1 C:(406) 490-9993	Kristina Luotto Engineer 4-1 C:(406) 594-5538	Kallan Banning Lead 4-1 C:(406) 465-1350	Kassie Yeager Senior 4-1 C:(970) 417-7564	Tevin Kagame (406) 769-1753
Casey Helmecci C:(717) 779-6152	Naomi Sweeney C:(717) 459-4864	Vacant C:(406)		Joshua Torres (484) 374-5177
E671				
Doug Bertelsen Captain 7-1 C:(406) 209-1489	Vacant Engineer 7-1 C:(406)	Ris Kleve Lead 7-1 C:(563) 608-3956	Gryphon Lombardi Senior 7-1 C:(406) 490-9129	
Zoey Pophal C:(570) 692-2929	Christian Rodriguez C:(801) 783-0335	Dexter Mills C:(443) 900-0556		
E672				
Matt Racicot Captain 7-2 C:(406) 493-2278	Vacant Engineer 7-2 C:(406)	Marino Wall Lead 7-2 C:(406) 437-8327	Joseph Bogucki Senior 7-2 C:(720) 202-6233	
Clara Fogarty C:(314) 313-2412	Jake Lewis C:(669) 237-6440	Will Kipp C:(507) 990-3945		

Butte RD Contacts

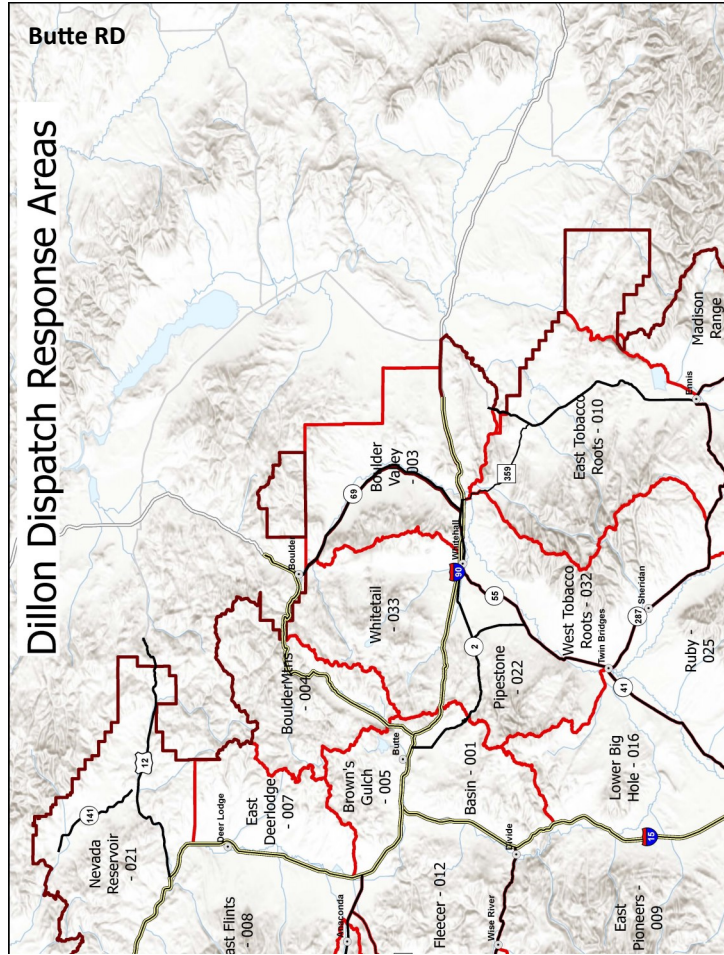
Name	Phone	Cell
Butte Office Fax	(406) 494-0269	
Whitehall Office Fax	(406) 287-9244	
Dillon Dispatch	(406) 683-3975	
Butte Front Desk	(406) 494-2147	
Tim Lahey - District Ranger	(406) 494-0250	(406) 533-8408
Vacant —Deputy Ranger	(406) 494-0244	(406)
Dave Scherbel - Recreation	(406) 494-0246	(406) 490-0810
Vacant - Wildlife	(406) 494-0238	(541) 420-3662
Chance Reynolds - Road Crew	(406) 494-0221	(406) 260-3064
Anton Brennick - Staff Officer	(406)	(406) 490-3555
Kristina Vitolins - LEO - FS-56	(406) 494-0217	(406) 925-9700
Scott Forman - LEO - FS-53	(406) 494-0249	(406) 593-1640
Randie Adams- Range	(406) 287-3047	(406) 560-5229
Lucas Phillips - Range	(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
Kyle Plunkett - Rec/ENGB	(406)	(918) 527-2317
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
Joe Pat Schalk	(406) 494-2147	(406) 490-9940
Jim Carmody - Timber	(406) 494-0225	(406) 490-3920
Patrick Warner - Union	(406) 494-2147	(406) 880-3998
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	
Corey Lewellen - Forest Sup	(406) 683-3978	(406) 522-2531
Nate Gassmann — Deputy Forest Sup	(406) 683-3978	(406) 490-4605
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 - Incident Business Spec.		(406) 502-8205
Mike King- South Zone Fuels Planner		(406) 560-3120
Terina Hill - Fire Public Affairs Officer	(406) 683-3920	(406) 865-0941
Vacant- Forest Safety Officer	(406)	(406)
Dillon Dispatch	(406) 683-3975	
Claire Smith - Center Manager	(406) 683-3992	(406) 660-2998
Alex Horton - Assistant Center Manage	(406) 683-3939	(801) 554-1594
Ella Hoffman - IA Dispatcher	(406) 683-3986	(406)
Victoria Curtis - Lead Dispatcher	(406) 683-3986	(207) 505-5133
Jason Mickelson - Aircraft Dispatcher	(406) 683-3942	(406) 240-7853
Kay Finwall - IA Dispatcher	(406) 683-	
Wise River Helitack		
Randy Gilbert - Manager	(406) 683-3994	(406) 925-3779
Nick Plovanic - Assistant Manager	(406) 683-3930	(406) 366-0179
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
JT Millay- Captain 1-1	(406) 683-3968	(406) 565-1804
Colter Dickinson - Fuels BAT 1-2	(406) 683-3945	(406) 291-5960
Jason Bradley - Fuels 1-2	(406) 683-	(513) 237-9952
Jaime Trivette- Prevention 1-6	(406) 683-3969	(307) 690-1985
Madison Ranger District	(406) 641-2348	
James King- DIVS 6	(406) 641-2355	(406) 925-3802
Kyle Errecart - OPS BAT 6-1	(406) 641-2379	(406) 499-6009
Steve Worley- Captain 6-1	(406) 641-2381	(406) 640-7711
Derek Wittenberg- Captain 6-2	(406) 641-2378	(406) 240-6619
Chris Hericks - Fuels BAT 6-2	(406) 641-2366	(406) 865-0269
Helen Duran - Fuels 6-2		(719) 588-0289

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
Sam Sulser - Fuels 8-1	(406) 859-3211	(406) 220-1750
Roger Mathews- Fuels 8-2	(406) 859-3211	(509) 699-3661
Julie Maez - Prevention 8	(406) 859-3211	(406) 214-0746
Wisdom Ranger District	(406) 689-3243 WD	(406) 832-7128 WR
Richard Griffin - DIVS 3	(406) 689-3243	(406) 925-1951
Ian Quist – OPS BAT 3-1	(406) 832-3178	(406) 410-8527
Brian Gorwitz - Captain 3-1	(406) 689-3243	(406) 210-2344
Tim Eteinne - Captain 2-1	(406) 832-3178	(406) 291-2162
Justin Bogart – Supt 3-1	(406) 832-3178	(406) 214-8960
Donavan Suko - Fuels BAT 3-2	(406) 689-3243	(406) 544-9562
Nate Decker - Fuels 3-1	(406)	(406) 660-1071
Brian Bressan - Fuels 3-2	(406)	(303) 807-6391
Butte/Dillon BLM	(406) 533-7600 B	(406) 683-8000 D
Brad Bergman - FMO	(406) 533-7611	(715) 617-2738
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
Paul Diaz - Fire Planner		(406) 550-6463
Dillon DNRC	(406) 683-6305	
Jay Lemon - DIVS 7201	(406) 683-6305	(406) 491-8530
Kyle Rawson- BAT 7201	(406) 683-6305	(406) 925-1548
Anaconda DNRC	(406) 563-6078	
Marquis Walker- DIVS 1301	(406) 563-6078	(406) 788-3148
Dakota Crowe - BAT 1301	(406) 563-6078	(406) 565-8098
Helena DNRC	(406) 458-3500	
Scott Ward - Unit FMO	(406) 458-3502	(406) 980-0387
Jeff Beaver - Unit AFMO	(406)	(406) 431-4439
Charlie Ewert - Unit FOS	(406)	(509) 953-1291
Helena DNRC Duty Officer Phone		(406) 458-3525
Anaconda Job Corp		
Monica Thomas - AFMO Branch 2-2	(406) 563-8711	(406) 479-3336



Vehicle Information

Vehicle	Seats	License	Year	Make	ID
2983 - E641	5	A402381	2024	Ram 5500 4x4	6.7L Cummins
2130 - UT-641*	4	A375607	2016	Chevrolet 3500	6.0 L Gas
4029 - E671	5	A392541	2021	Ram 5500	6.4L Hemi
3036 - UT-671*	5	A381238	2018	Chevrolet 2500HD	6.0 L Gas
3044 - E672	5	A304264	2020	Ram 5500	6.7L Cummins
3028 - IA Rig	5	A378855	2018	Chevrolet 3500HD	6.6 L Duramax
8062 - UT-C41	5	G63B1692	2024	Ford F350	6.7L Gas
3527 - Fuels	2	A399412	2023	Ram 1500	3.6L Gas
2517 - Prevention*	4	A378927	2017	Ford F350	6.7 Powerstroke
0166 - FMO	5	A385936	2020	Chevrolet 3500HD	6.6 L Duramax
6205 - Ops AFMO	5	A406378	2026	Chevrolet 2500HD	6.6 L Gas
4110 - Fuels AFMO	5	A399419	2023	Ford F350	6.7 Gas
3313 - Vet Supt	5	A399416	2023	Chevrolet 3500HD	6.6L Duramax
3307 - Vet Alpha	5	A399424	2024	Ford F450	6.7L Power Stroke
3305 - Vet Bravo	5	A399423	2024	Ford F450	6.7L Power Stroke
4021 - Vet UTV	6	A06526M	2024	Polaris Ranger	UTV
Big Red	3	A04771M	2009	Polaris Ranger	UTV
3025 - General	4	A06223M	2023	Polaris General	UTV

Name	Office	Cell
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 any letters.

Flex Fleet: While on unit, an S# and purchase card is required. On assignment fuel can be charged to travel and paid with personnel or travel cards.

* - Holdover

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
1	2	CHNL+
3	4	n
5	6	Open
7	8	Open
9	0	Open
*	#	Zone Select

KENWOOD MOBILE RADIO INSTRUCTIONS



	<i>Chevrons that signify channel is selected for scanning</i>
	<i>Circling arrows signify scan is on</i>
	<i>Button used to toggle scan function</i>



TONE SELECTION	
Front Panel	Keypad Shortcuts
<p>Pressing the O button will bring up the tone selection screen. From there, enter the tone number or select it from the list.</p>	<p>A long press on the * key will bring up the tone selection screen. From there, enter the tone number or select it from the list.</p>

Programming Kenwood Radios:
<ol style="list-style-type: none"> 1. Hit the orange circle 2. Enter "000000" passcode and confirm <ul style="list-style-type: none"> Note: *key on the radio mic is "enter" and # is "back" in programming mode 3. Use channel up and down arrows to select the group and channel to program. You can also enter the group number on the keypad and hit */enter 4. Rx frequency 5. Tx frequency 6. Channel type <ul style="list-style-type: none"> A. Analog, P25 (digital), or mixed 7. Transmit mode <ul style="list-style-type: none"> A. Analog or P25 (digital) 8. Rx QT/DQT <ul style="list-style-type: none"> This is the Rx "tone". Kenwood uses a different term - QT/DQT – for "tone". Select "QT" (Quiet Talk) and enter the tone or select "DQT" (Digital Quiet Talk) if you are running digital Rx mode. The values range from 60 – 250Hz with up to one decimal point. 9. Tx QT/DQT <ul style="list-style-type: none"> Same as above for Tx "tone" 10. Rx NAC <ul style="list-style-type: none"> NAC is "Network Access Code" that applies to P25 digital radios. It is another system to apply a "tone" to a radio frequency. Most of the time, you will leave this blank. If you are entering NACs, do not enter the \$, just the letter/number code 11. Tx NAC 12. Transmit Power 13. Channel name <ul style="list-style-type: none"> # is delete, use channel up arrow for "space" <p>On the next screen, yes will save and cancel will delete all changes. When you hit the home icon, it will ask you to "exit programming mode" and if yes is selected, the radio will restart and take you to the home screen</p>

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
Fregs

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 P00000" (Group password). **Do not change.**

The display will show "PRG ID 00000" (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 keypad, 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 <i>(If 1 is flashing, Battery Saver is OFF!!)</i>	<u>1</u>	2	3	4	5	Disable battery saver function (bad)
1	Group Scan List	1	<u>2</u>	3	4	5	Enables current group to scan in Group Scan Mode
1	Transmit on PRI 1	1	2	<u>3</u>	4	5	Transmit on priority 1 regardless of channel knob selection (w/ PRI switch on only)
1	Priority Key Lockout (Bad)	1	2	3	<u>4</u>	5	Locks priority 1 (no keypad selection)
1	Scan List Lockout (Bad)	1	2	3	4	<u>5</u>	Locks scan (no keypad selection)
Group Two Functions							
2	User Code Guard Enabled	<u>1</u>	2	3	4	5	Allows keypad selectable tones (for repeaters)
2	Busy Channel Indicator enabled	1	2	<u>3</u>	4	5	Yellow LED will illuminate with Rx channel activity
2	Busy Channel Lockout enabled (rarely enabled)	1	<u>2</u>	<u>3</u>	4	5	Yellow LED will illuminate and PTT (transmit) disabled with Rx channel activity
2	Busy Channel Override enabled (rarely enabled)	1	<u>2</u>	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	<u>4</u>	5	Individual radio ID code transmit on PTT
2	Manual DTMF Encoder enabled	1	2	3	4	<u>5</u>	Enables Keypad for DTMF
2	Manual DTMF/ANI Encoder	1	2	3	<u>4</u>	<u>5</u>	Individual radio ID code transmit only when "ENT" pressed during Tx
Group Three Functions							
3	Light on Display Input	1	2	<u>3</u>	4	5	Handy for night shift but drains batteries
3	Light on Key Press	1	2	3	<u>4</u>	5	Handy for night shift but drains batteries
3	Alpha-numeric Mode enabled	1	2	3	4	<u>5</u>	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.

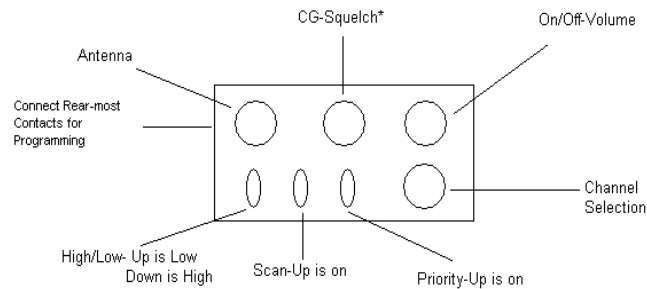
F7E hexadecimal = 3966 decimal for hand programming.

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 then the phone number

To Use Phone:

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

If asked, enter PIN: 1111

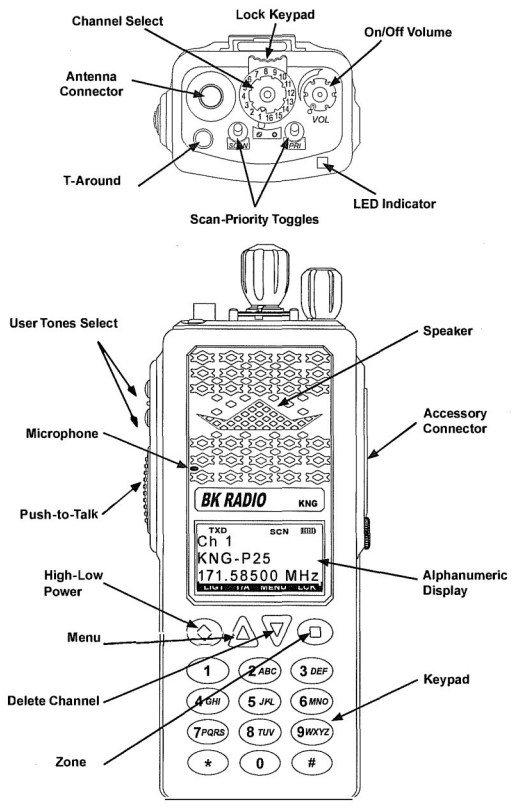
To call out: Dial 00 + 1 + seven digit phone number. Press "OK"

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



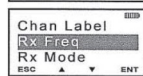
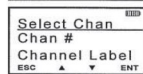
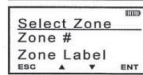
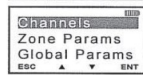
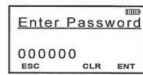
King KNG Programming Instructions

Programming Channel Information



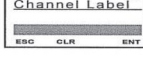
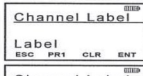
To enter the Channel Programming mode:

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

Chan Label	ESC
Rx Freq	
Rx Mode	ENT
ESC ▲ ▼	
RX Frequency	
151.62500 MHz	ESC CLR ENT
RX Frequency	
00000000 MHz	ESC CLR ENT

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

Rx Guard	ESC
Rx NAC	
Squelch Mode	ENT
ESC ▲ ▼	
RX Guard	
000.0	ESC CLR ENT
RX Guard	
0000	ESC CLR ENT

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

Squelch Mode	ESC
Rx Freq	
Tx Mode	ENT
ESC ▲ ▼	
TX Frequency	
151.62500 MHz	ESC CLR ENT
TX Frequency	
00000000 MHz	ESC CLR ENT

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

Bandwidth	ESC
Rx Guard	
Tx NAC	ENT
ESC ▲ ▼	
TX Guard	
000.0	ESC CLR ENT
TX Guard	
0000	ESC CLR ENT

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	BUTTE PORT	172.325	164.825	167.9	1679
9	A/G #29	172.325	164.825	103.5	1035
10	A/G #26	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	RI 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 (B-D 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	RI 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	163.7250	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	DILLON 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 (B-D 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 (B-D 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	RI 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	GYPO	151.925	151.925		
13	LORENZO	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	RI 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 (B-D 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	STONE	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	STONE	BRF-2	SCF	CTF-N	HLN	GNF	LNFC
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!

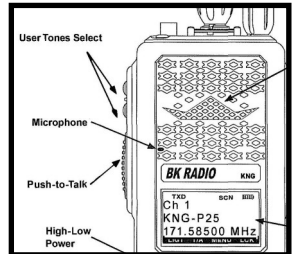
To Cancel, turn off “scan” and “pri”, then press “0”

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!

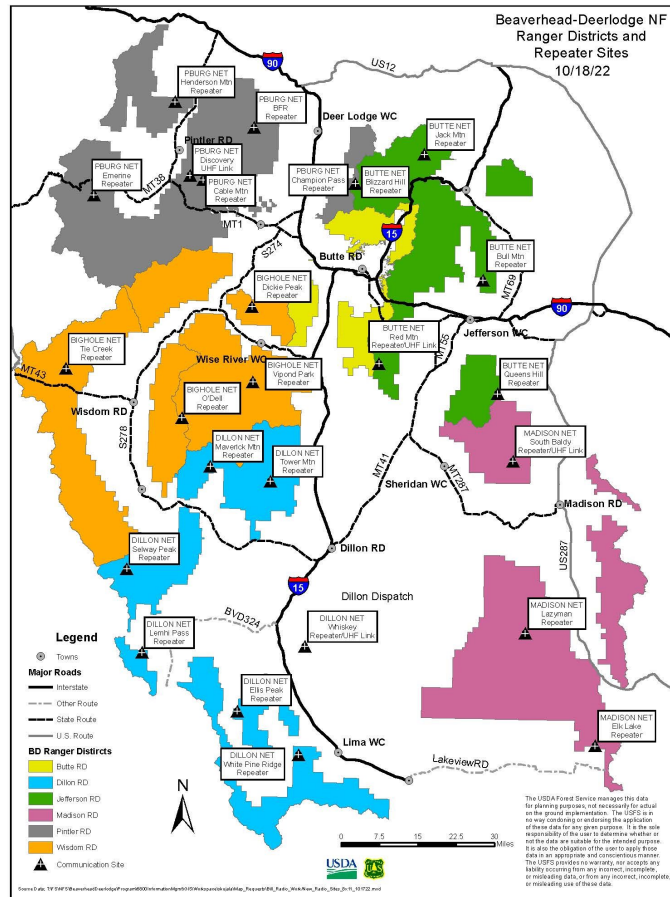
To cancel, press the User-Select Tones button and select “0”

TRAINING FREQUENCIES:

CHANNEL	TX	RX	TONE
TRAIN 1	167.1375	167.1375	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

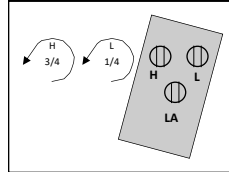


Chainsaw Guide

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
28" bar Rollomatic ES Widetip	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)						
Mix Ratio	Gasoline Quantity					
	.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 pump@___ gal:	1 Part Gasoline Stop fuel pump@___ gal:
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
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 COMPONENTS—!

Ensure all torch components match and ring is 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	¼ gallon ¼ -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	¾ + 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

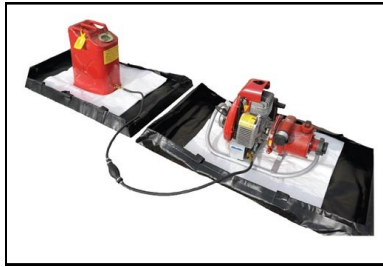
Mark III - Use 50:1 fuel mix.

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:

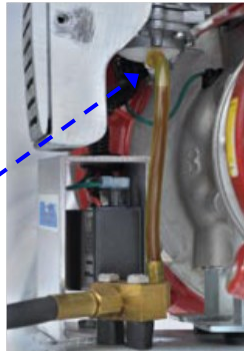
- Wear eye protection and gloves.
- Fuel spare can away from hot exhaust.
- Do not operate a radio or any other portable electronic device such as a cell phone.
- Replace gas absorbent pads as needed by placing them in garbage bags and dispose of per local protocol.
- If a spill occurs or gas enters 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

Mark III Troubleshooting

- 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.

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.

WARNING:
FIRE/EXPLOSION HAZARD



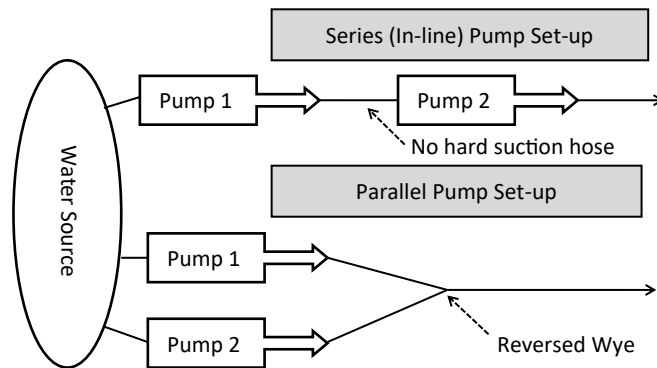
Mark III Troubleshooting



- 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 ft²). Sheets of 10' x 50' are also available (500 ft²).

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

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

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

DRIVEWAY	Dead-end & longer than 200 ft		YES	NO
ROOF	Combustible (asphalt or wood)			
ROOF	Wood shakes			
TREES	Overhang roof			
TREES/BRUSH	<u>Not</u> 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)

Aircraft Typing:

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

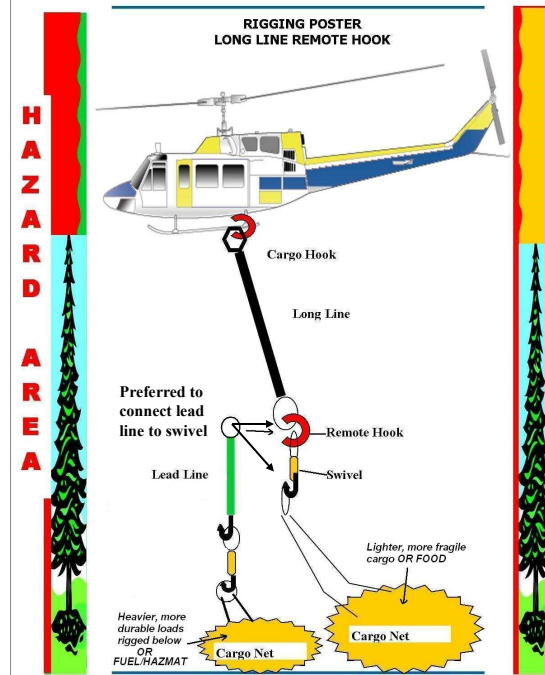
Helicopters					
Components	Type 1	Type 2	Type 3		
Payload at sea level (lbs)	5,000	2,500	1,200		
Water capacity (gal)	700	300	100		
Examples	CH-47 Chinook	Bell 204, 205, 212 HP	Bell 407, Astar B3		
Helitanker	Fixed Tank, 1,100 minimum gallon capacity				
Airtankers					
Components	VLAT	Type 1	Type 2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

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 knives, 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.

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.

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.

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.			

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.

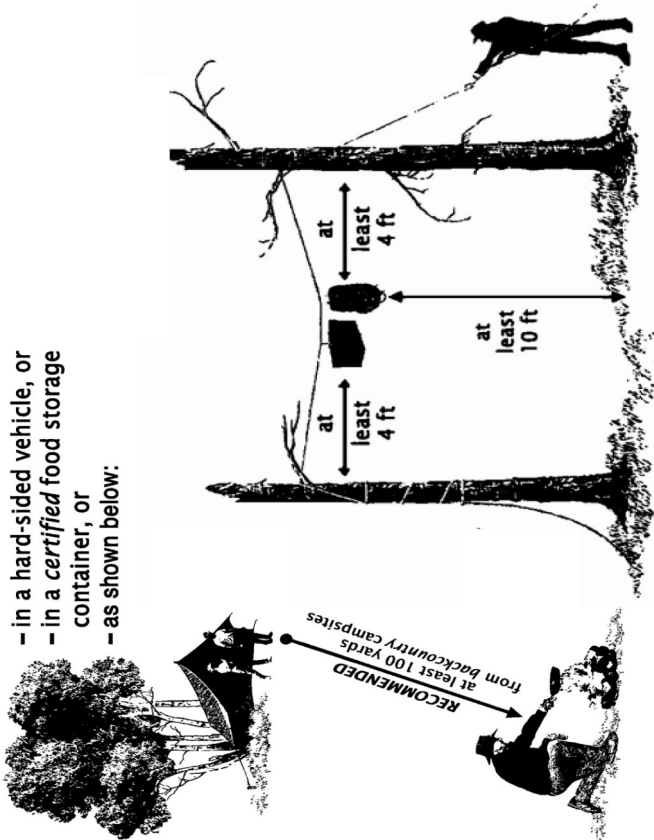
Typical Needs after 2-3 days in Spike Camp

- 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.

Proper storage of food, refuse and other attractants means:

- in a hard-sided vehicle, or
- in a *certified* food storage container, or
- as shown below:



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: TZ4C-6R6H-4AKG-G48F-6DGD
- 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.

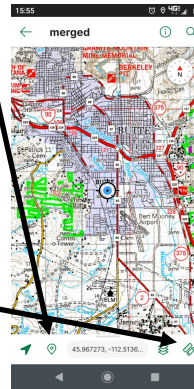
Mapping with Avenza: (There will be some slight differences between Apple and Android)

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.



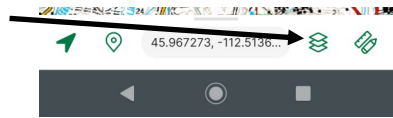
Sharing Tracks and Waypoints:

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

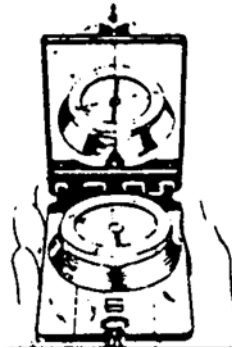
Declination

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)



Township/Range System

Township Lines run EAST to WEST six miles apart.

Range Lines run NORTH to SOUTH six miles apart.

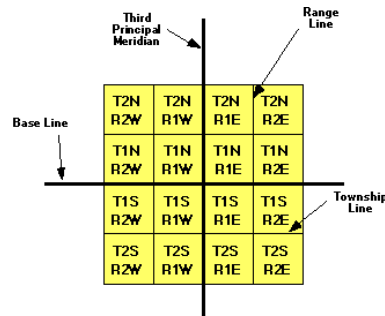
Within each township are 36 sections, each one mile square. Each section contains 640 acres. ↓

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.

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 NW $\frac{1}{4}$ of the NW $\frac{1}{4}$.

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



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

NW $\frac{1}{4}$ of NW $\frac{1}{4}$	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	NE $\frac{1}{4}$ =160 acres	
SW $\frac{1}{4}$ of NW $\frac{1}{4}$	SE $\frac{1}{4}$ of NW $\frac{1}{4}$	W $\frac{1}{2}$ of SE $\frac{1}{4}$	E $\frac{1}{2}$ of SE $\frac{1}{4}$
N $\frac{1}{2}$ or SW $\frac{1}{4}$	S $\frac{1}{2}$ or SW $\frac{1}{4}$		

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 <i>Aircraft</i> (ddd°mm.mmm')	44° 18.586' 120° 51.175'	"Four-four degrees, one eight decimal (or point) five eight six minutes."
Degrees Minutes Seconds <i>Maps</i> (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 <i>Seldom used</i> (ddd.dddd°)	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		MAP SCALE CONVERSION		
1 inch =	2.54 centimeters	Map Scale	1 inch on the map=	1 mile on the earth = ___ inches on the map
1 foot =	0.3048 meters	1:5,000	416.67 feet 127.00 meters	12.67
1 Meter =	3.28 feet 39.37 inches	1:10,000	833.33 feet 254.00 meters	6.34
1 Kilometer =	0.623 miles 1,093.6 yards	1:12,500	1,041.66 feet 317.00 meters	5.07
1 Chain =	66 feet 20.11 meters	1:20,000	1,666.70 feet 508.00 meters	3.17
1 Acre =	10 square chains 208.7 x 208.7 feet 43,560 sq. feet 0.405 hectares	1:24,000 7.5" Quad	2,000 feet 609.6 meters	2.64
1 Mile =	5280 feet 80 chains	1:25,000 7.5" Quad	2,083.30 feet 635.00 meters	2.53
Township =	36 square miles	1:50,000	4,166.70 feet 1,270.0 meters	1.27
Section =	1 square mile 640 acres	1:62,500 15" Quad	.986 miles 5206.1 feet 1586.8 meters	1.014
<div style="display: flex; align-items: center;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Completed Dozer Line</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Proposed Dozer Line</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Proposed Hand Line</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Uncontained Fire Edge (teeth point in)</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Contained Line</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Division Break</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Branch Break</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>ICP</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Spot Fire</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 20px; height: 20px; margin-right: 5px;"></div> <div>Helispot</div> </div>		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 0.946 liters		
1 Gallon =		4 quarts 128 ounces 3.785 liters 8.33 lbs		

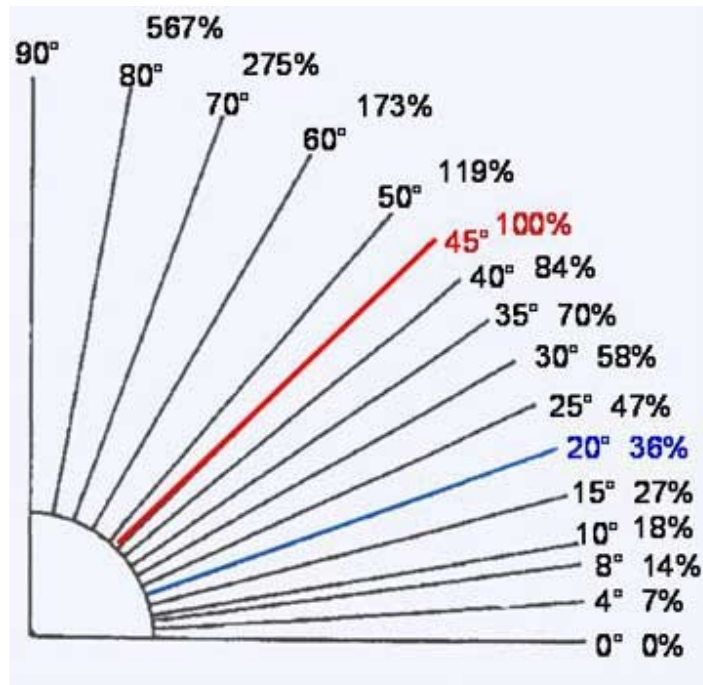
Conversion Units

Minutes to 100ths Conversion

Celsius / Fahrenheit

Minutes to 100ths Conversion			Celsius / Fahrenheit			
			C	F	C	F
01" = .02'	21" = .35'	41" = .68'	4	39	25	77
02" = .03'	22" = .37'	42" = .70'	5	41	26	79
03" = .05'	23" = .38'	43" = .72'	6	43	27	81
04" = .07'	24" = .40'	44" = .73'	7	45	28	82
05" = .08'	25" = .42'	45" = .75'	8	46	29	84
06" = .10'	26" = .43'	46" = .77'	9	48	30	86
07" = .12'	27" = .45'	47" = .78'	10	50	31	88
08" = .13'	28" = .47'	48" = .80'	11	52	32	90
09" = .15'	29" = .48'	49" = .82'	12	54	33	91
10" = .17'	30" = .50'	50" = .83'	13	55	34	93
11" = .18'	31" = .52'	51" = .85'	14	57	35	95
12" = .20'	32" = .53'	52" = .87'	15	59	36	97
13" = .22'	33" = .55'	53" = .88'	16	61	37	99
14" = .23'	34" = .57'	54" = .90'	17	63	38	100
15" = .25'	35" = .58'	55" = .92'	18	64	39	102
16" = .27'	36" = .60'	56" = .93'	19	66	40	104
17" = .28'	37" = .62'	57" = .95'	20	68	41	106
18" = .30'	38" = .63'	58" = .97'	21	70	42	108
19" = .32'	39" = .65'	59" = .98'	22	72	43	109
20" = .33'	40" = .67'	60" = 1.0'	23	73	44	111
			24	75	45	113

Slope Percentage Table



Slope can be calculated using the formula:

$$\frac{\text{Vertical Distance}}{\text{Horizontal Distance}} \times 100 = \% \text{ Slope}$$

Another way to write the slope formula is:

$$\frac{\text{Rise}}{\text{Run}} \times 100 = \% \text{ Slope}$$

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

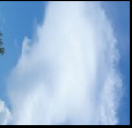
WS FORM D-1 (1-2005) (Supersedes Previous Editions)		SPOT REQUEST (See reverse for instructions)		U.S. Department of Commerce NOAA National Weather Service			
Please call the NWS Weather Forecast Office (WFO) when submitting a request and also after you receive a forecast to ensure request and forecast 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		12. Reason for Spot Request (choose one only)		13. Latitude/Longitude:			
10. Size (Acres)		<input type="checkbox"/> Wildfire <input type="checkbox"/> Non-Wildfire Under the Interagency Agreement for Meteorological Services (USFS, BLM, NPS, USFWS, BLA) <input type="checkbox"/> Non-Wildfire State, tribal or local fire agency working in coordination with a federal participant in the Interagency Agreement for Meteorological Services <input type="checkbox"/> Non-Wildfire Essential to public safety, e.g. due to the proximity of population centers or critical infrastructure.		14. Elevation (ft, Mean Sea Level) Top: Bottom:			
11. Type of Incident				15. Drainage			
<input type="checkbox"/> Wildfire <input type="checkbox"/> Prescribed Fire <input type="checkbox"/> Wildland Fire Use (WFO) <input type="checkbox"/> HAZMAT <input type="checkbox"/> Search And Rescue (SAR)				16. Aspect 17. Sheltering			
				<input type="checkbox"/> Full <input type="checkbox"/> Partial <input type="checkbox"/> Unsheltered			
18. Fuel Type: <input type="checkbox"/> Grass <input type="checkbox"/> Brush <input type="checkbox"/> Timber <input type="checkbox"/> Slash <input type="checkbox"/> Grass/Timber Understory <input type="checkbox"/> 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	+00 Time	20 ft. Wind Dir. Speed	Eye Level Wind Dir. Speed	Temp. Dry Wet	Moisture RH DP	Remarks (Relevant Weather, etc)
21. Requested Forecast Period Date Start _____ End _____ Forecast needed for: <input type="checkbox"/> Today <input type="checkbox"/> Tonight <input type="checkbox"/> Day 2 <input type="checkbox"/> Extended		22. Primary Forecast Elements (Check all that are needed) (For management ignited wildland fires, provide prescription parameters): Needed: Sky/Weather <input type="checkbox"/> Temperature <input type="checkbox"/> Humidity <input type="checkbox"/> 20 ft Wind <input type="checkbox"/> Valley <input type="checkbox"/> Ridge Top <input type="checkbox"/> Other (Specify in #23) <input type="checkbox"/>		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.



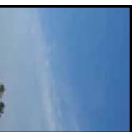
Cirrus
Dense, in patches, not increasing, or with tufts—No significant fire weather or fire behavior expected.



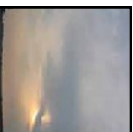
Cirrus
Anvil shaped remains of a thunderstorm—Watch for gusty winds from nearby decaying thunderstorms.



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.



Circumulus
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.



Altostratus
 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.



Altostratus
 One or more bands of layers expanding, thickening—Indicates instability present, monitor for additional development.



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



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

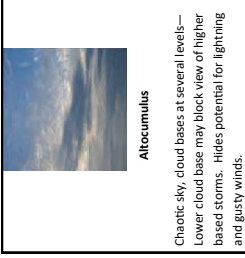
Middle Clouds: Cloud bases typically 6,500 - 23,000 feet. Can be direct and/or indirect indicators of potential fire behavior.

Clouds in red may be of particular concern.



Altostratus Flocus (shown)
Altostratus Castellanus

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



Altostratus

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 results in further development. Active fire still possible under low humidity.



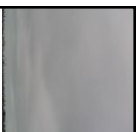
Cumulus
Moderate to strong vertical development or towering cumulus—Atmosphere is unstable. Monitor for further development and increased fire activity.



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.



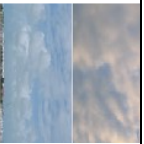
Stratus
Smooth appearance, continuous low layer—Often inhibits aircraft use, and minimal fire activity.



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.



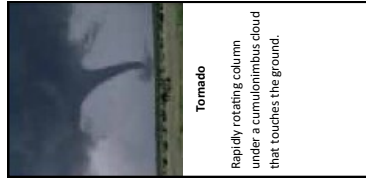
Mature Thunderstorm
Strong Downdraft winds, lightning, heavy rain and hail possible underneath—Distant terrain channeled winds and lightning possible away from cell.

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.



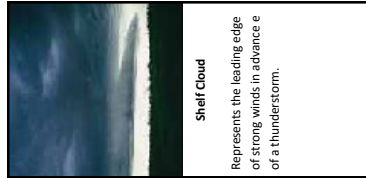
Tornado

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 of a thunderstorm.

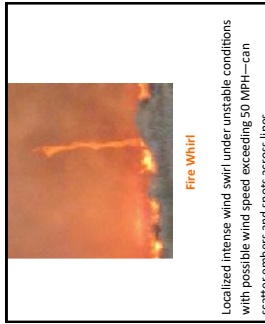


Virga

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

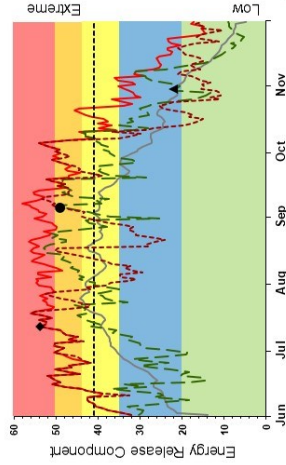
Special Cases: These phenomena occur under unstable conditions—use extreme caution when observed, particularly if observed between you and the fire.

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.



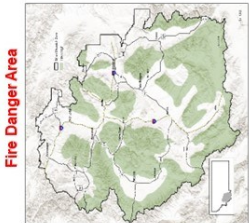
- ▲ Sourdough – 10/20/2020 – 6,352 acres – ERC 22
- State Creek – 09/05/2020 (large fire growth/day) – 4,400 acres – ERC 49
- ◆ Trail Creek – 07/12/2021 (large fire growth/day) – 62,015 acres – ERC 54

Forested areas with heavy dead and down fuels and wind are the predominant drivers of fire behavior in FDRA High. Live fuels in higher elevations may be green, but when 10-, 100-, and 1000-hour fuels are dry, sustained crown runs with long-range spotting are possible. Prior mountain pine beetle outbreaks and previous fires have created areas with heavy dead fuels and high resistance to control. Beware of overhead snag hazards. Pay particular attention to days with forecasted high winds. Refer to the Severe Fire Danger Index on the RMA Dashboard to assist with planning and preparedness.

Past Experience



FDRA High FUEL MODEL – Y (Timber)
MWS Forecasting Office
 Missoula, MT and PNZ 111
 MWS
 Garen 30306
 2020
 Road Book 248210
 State Creek 256217
 11/1/2024
 At Federal Agency with MWS Weather Center, Missoula



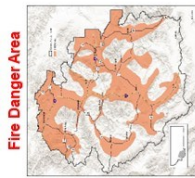
Fire Danger Interpretation
MAXIMUM: Highest ERC by day, 2008-2023.
AVERAGE: Average ERC values over 16 years of data.
Year to Remember: 2021 – Extreme drought across the dispatch zone resulted in the most acres burned over the analysis period and an early start to fire season.
Year to Remember: 2020 – Most fires in 16 years with late fire season.
Zones: Watch for multiple fire occurrence increases.
Extreme: Use extreme caution
High: Watch for change
Moderate: Lower potential but always be aware
Remember what Fire Danger tells you:
 ERC gives seasonal trends calculated from daily temperature, relative humidity ranges, and precipitation duration. Wind is NOT part of ERC calculation. Fire danger gives general conditions across the entire FDRA. Watch for localized danger in steep slopes – fuel, weather, topography.
 Listen to weather forecasts—especially WIND.
Local Thresholds – Watch out!
 Local weather events have occurred under the following critical weather thresholds: **Wind speed** over 10 MPH, **RH** less than 20%, **Temperature** over 75°, **1000-hr** fuel moisture below 14%.

Local Watch Outs

- When dry fuels are combined with any of the following:
- Wind and Slope align
 - Inside atmosphere
 - Dry fuels
 - Strong winds and low relative humidity
- Watch out for snags in forested areas, particularly when windy. Portions of FDRA High have many snags due to mountain pine beetle outbreaks and previously burned areas.

Beaverhead-Deerlodge NF Pocket Cards

Beaverhead-Deerlodge NF Pocket Cards cont.



Fire Danger Area

FDRA Low FUEL MODEL - Y (Timber)

MSS Forecasts and Offices
Missoula, FVZ 110, and FVZ 111

RAMS
Version: 3/2002

Weather: 2/2002

Beaverhead: 2/2002

Fire: 2/2001

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

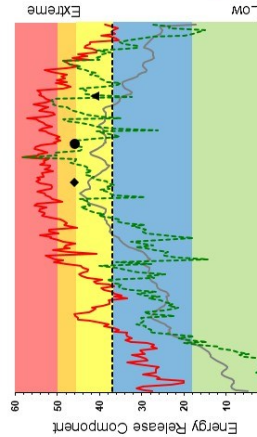
2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022

2008 - 2022



- ▲ Antelope: 08/20/2020 - 1,962 acres - ERC 41
 - Bradley Creek: 08/23/2020 - 2,743 acres - ERC 46
 - ◆ Deberry: 08/01/2023 - 100 acres - ERC 46
- Most type fires are wind-driven. Running winds are SW. Beavars of high and low areas with sage and grass fuels, beavars above 30 miles per hour are common. In areas with sage and grass fuels, beavars of rapid fire growth prior to spring green-up and in late summer/early fall when sage and grass are at their lowest live fuel moistures.

Fire Danger Interpretation
MAXIMUM: Highest ERC by day from 2008-2023.
AVERAGE: Average ERC values over 16 years of data.
Year to Remember: 2020 - most acres burned in data period.
ERC Legend: Represents a fire business critical threshold ERC value of 37.
Over 37, there is a significant increase in fire occurrence.
Extreme - Use extreme caution
High - Watch for change
Moderate - Lower potential but always be aware

Remember what Fire Danger tells you:
ERC gives seasonal trends calculated from daily temperature and relative humidity ranges, and precipitation duration. Wind is NOT part of ERC calculation. Fire occurrence is based on fuel conditions and variations across the landscape-Fuel, Weather, Topography. Listen to weather forecasts-especially WIND.

Local Thresholds - Watch out!
Historically large fires have occurred under the following combination: **Wind speed** over 10 MPH, RH less than 20%, Temperature over 80°.

Local Watch Outs

- When dry fuels are combined with any of the following:
 - Wind and Slope align
 - Unusual temperature
 - Dry Cold Front Passage - Strong winds and low relative humidity



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.

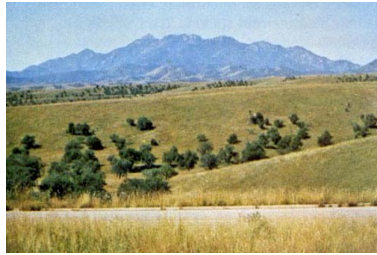
Spot Fire – fire outside the perimeter of the main fire started by flying, or rolling sparks or embers

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. [Grasslands, 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 Florida, 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 1/2 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 compact 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.	16.
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 0192 override if on an incident or severity and 0191 if on ABC misc.
- 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).
- All employees are eligible for IRPP when they meet the following criteria:

On official orders working a qualifying incident:

Forest Base Code:	0197 WFSE97XX
ABC Misc p-code:	0102 P1EKS3XX
Fire Support p-code:	0102 P1EK3VXX
XX— 2 Digit fiscal year	

- An extended wildfire incident (after initial attack 36-hour period), including resources ordered to provide support to one or more ongoing incidents; or
- A prescribed fire incident; or
- A severity incident, including incidents used to preposition resources due to elevated fire danger; **AND**
- Employee is required to remain overnight at a fire camp or other designated field location (away from home).

PAY PERIOD CALENDAR 2026

Month	Pay Period	S	M	T	W	T	F	S	Month	Pay Period	S	M	T	W	T	F	S		
JAN	26					1	2	3	JUL	13			1	2	3	4			
	01	4	5	6	7	8	9	10		14	5	6	7	8	9	10	11		
	02	11	12	13	14	15	16	17		15	12	13	14	15	16	17	18		
FEB	03	18	19	20	21	22	23	24	16	19	20	21	22	23	24	25			
	04	25	26	27	28	29	30	31	17	26	27	28	29	30	31				
	05	1	2	3	4	5	6	7	18	2	3	4	5	6	7	8		1	
MAR	06	8	9	10	11	12	13	14	19	9	10	11	12	13	14	15			
	07	15	16	17	18	19	20	21	20	16	17	18	19	20	21	22			
	08	22	23	24	25	26	27	28	21	23	24	25	26	27	28	29			
APR	09	1	2	3	4	5	6	7	22	30	31								
	10	8	9	10	11	12	13	14	23			1	2	3	4	5			
	11	15	16	17	18	19	20	21	24	6	7	8	9	10	11	12			
MAY	12	22	23	24	25	26	27	28	25	13	14	15	16	17	18	19			
	13	29	30	31					26	20	21	22	23	24	25	26			
	14				1	2	3	4	27	27	28	29	30						
JUN	15	5	6	7	8	9	10	11	28				1	2	3				
	16	12	13	14	15	16	17	18	29	4	5	6	7	8	9	10			
	17	19	20	21	22	23	24	25	30	11	12	13	14	15	16	17			
JUL	18	26	27	28	29	30			31	21	18	19	20	21	22	23	24		
	19								32	25	26	27	28	29	30	31			
	20								33	1	2	3	4	5	6	7			
AUG	21	1	2	3	4	5	6	7	34	8	9	10	11	12	13	14			
	22	8	9	10	11	12	13	14	35	15	16	17	18	19	20	21			
	23	15	16	17	18	19	20	21	36	22	23	24	25	26	27	28			
SEP	24	22	23	24	25	26	27	28	37	29	30								
	25	29	30	31					38			1	2	3	4	5			
	26								39	6	7	8	9	10	11	12			
OCT	27								40	13	14	15	16	17	18	19			
	28								41	20	21	22	23	24	25	26			
	29								42	27	28	29	30						
NOV	30								43										
	31								44										
									45										
DEC									46										
									47										
									48										

FORM NYC-1217 (Revised 3/26)

Butte Ranger District Office Security



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

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

Employee Entrance

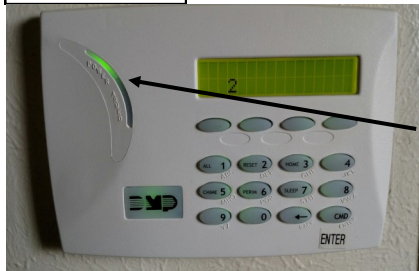
- Enter your 4 Digit Code: _____
- Push #
- Do not attempt to open door until the "SCHLAGE" flashes green.

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.

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

<p>Deactivate Alarm</p> <ul style="list-style-type: none">Enter the 5 Digit Code _____ Then # to enter. <p>This is the Alarm Keypad</p> <ul style="list-style-type: none">The RED alarm light will turn off when the code is entered correctly. <p>This only disables the Bullpen Alarm. When entering the building, you will need to find an alarm keypad and disable the alarm.</p>	<p>If this light is RED the alarm is active</p> 
	<p>To open the gate, enter your 4 Digit Door Code here: When you press #, the gates should open.</p>
<p>Exiting the Bullpen</p> <ul style="list-style-type: none">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. Then 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.

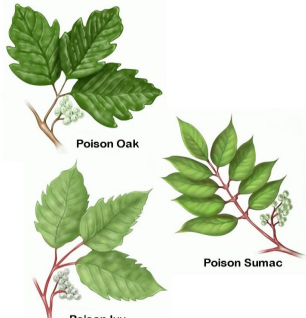
5.9. Include the employee's name and SSN on the upper right hand corner of the second page and all supporting documentation in case the pages are separated.

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 by the supervisor.
- You should receive a 9 digit claim number from OWCP. Give this number to all your providers.
Do not pay bills out of your own pocket.

Poison Oak/Ivy Exposure

<p>Identification:</p> <p>Typically a shrub with three leaflets.</p> <p>Poison oak will sometimes grow in vine form.</p> <p>Poison oak leaves tend to be scalloped, toothed, or lobed and somewhat resembling a true oak leaf.</p> <p>Poison oak and ivy leaves grow alternately on the stem and never have thorns.</p> <p>The two side leaflets tend to have short stalks.</p> <p>The oil (Urushiol) is in every part of the plant.</p>	 <p>The image contains three botanical illustrations. At the top left is a branch of Poison Oak with three leaflets that have scalloped or toothed edges. At the bottom left is a branch of Poison Ivy, also with three leaflets, but these are smooth-edged. At the bottom right is a branch of Poison Sumac, which has many small, alternate leaflets along a central stem. Each illustration is labeled with its name: 'Poison Oak', 'Poison Ivy', and 'Poison Sumac'.</p>
---	---

Treatment:

If exposure was within 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 your 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 then 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

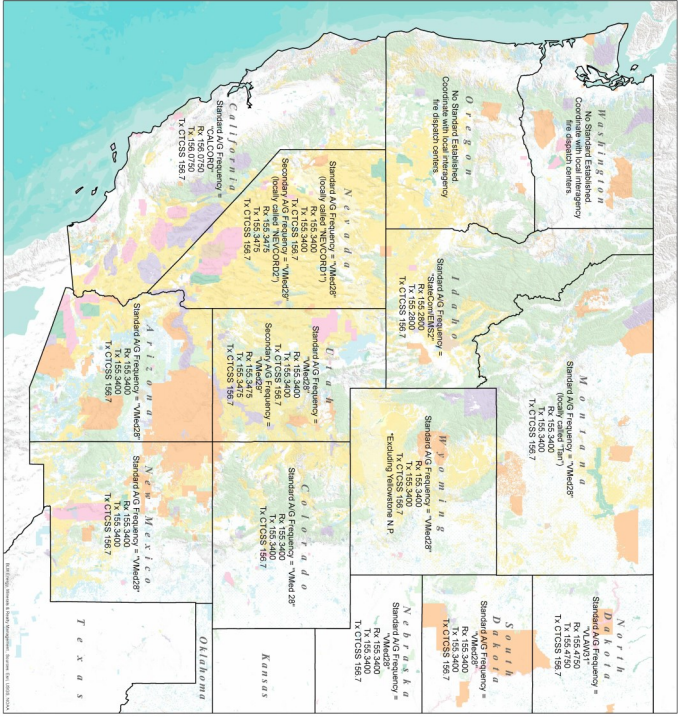


- Map Symbols Legend**
- Bureau of Land Management
 - Department of Defense
 - Department of Justice
 - National Park Service
 - US Fish & Wildlife Service
 - US Forest Service
 - Other Federal Agencies
 - State Lands
 - Tribal Lands
 - Local Government Lands
 - State Borders

DISCLAIMER:
This map is intended to provide a general overview of the standard frequencies for use on wildland fire incidents. It is not intended to be used as a substitute for the actual frequencies for use on a specific incident. The user of this map is responsible for ensuring that the correct frequencies are used for a specific incident. The user of this map is responsible for ensuring that the correct frequencies are used for a specific incident.

FIG. Official Use Only:
For additional information, contact the National Fire Plan at 1-800-453-3333. For more information, contact the National Fire Plan at 1-800-453-3333.

Scale: 1:500,000
Scale: 1:500,000
Scale: 1:500,000



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	<small>Specify:</small>	
Life & Property Threatened?:		(1) Yes	(2) No	<small>Specify:</small>	
Access:					
Character of Fire:	(1) Smoldering (2) Creeping	(3) Running (4) Spotting	(5) Torching (6) Crowning	(7) Erratic	
Flame Length:	(1) Under 2'	(2) 2-4'	(3) 4-8'	(4) 8-11'	(5) 11'+
Fuel Type:	(1) Grass (2) Grass/Brush (3) Mountain Mahogany	(4) Juniper (5) Lodgepole Pine (6) Spruce/Fir	(7) Aspen (8) Slash (9) Other (specify)		
Position on Slope:	(1) Ridgetop (2) Saddle (3) Upper 1/3	(4) Middle 1/3 (5) Lower 1/3 (6) Canyon Bottom	(7) Valley Bottom (8) Mesa/Plateau (9) Flat or Rolling		
Aspect:	(1) Flat (2) North	(3) NE (4) East	(5) SE (6) South	(7) SW (8) West	(9) NW (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 (2) Scattered Clouds (3) Building Cumulus	(4) Thunderstorms (5) Lightning (6) Overcast	(7) Light Rain (8) Heavy Rain (9) Snowing		
Wind Direction:	(1) Flat (2) North	(3) NE (4) East	(5) SE (6) South	(7) SW (8) West	(9) NW (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:	

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	<input type="checkbox"/> 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. <input type="checkbox"/> 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. <input type="checkbox"/> 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 Stretcher, 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>