



CAP **Airborne Photography**

104b Automation Tool

Revision v4 July 2022



New 104b Automation Tool

Gathers Meta Data from all Photos in Seconds to Expedite the Reporting Process

Create .KMZ File of Photo Locations

Offers the ability to Update Meta Data to Target Location and Save Metadata back to photo



New 104b Tool Notes



CACTUS 104B can read the meta data from .jpg and .jpeg files, but is not currently able to read the meta data from .png files.

The AP can add .png files to the CAPF104b, but will need to manually edit the meta data on the CAPF104b.

The image files do not get stored in CACTUS. The content of the CAPF104b is not stored in CACTUS. The AP should print to .pdf and upload to WMIRS.



How to Access New 104b Tool

1. Cactus Generated Briefing Via Email
2. Cactus 104b Link Available in De-Brief
3. Direct Link <https://missions.azwg.org/capf104b>



1. Cactus Generated Briefing Via Email

Weather:	
Initial Tactical Objectives:	<ol style="list-style-type: none"> 1. Collect Information on situation, mission, resources, maps, forensics, contacts/numbers, and other details to support a safe and timely initial response. 2. Activate Wing Communicator Alert System, for all essential resources, to include the stand up of Incident Command Posts, and teams / aircrews as necessary to support the mission. 3. Employ resources effectively / safely maintaining full accountability of all personnel / equip. 4. Additional objectives as needed.
Last change:	202127: Combellick, Michael Paul 2022.01.08 01:42 ZULU

ICS 215A - SAFETY PLAN		
AREA	HAZARD	MITIGATION
AIRCREW	Fatigue, Dehydration, Busy Airspace	Monitor Duty Day Cycle, Monitor Aircrew Rest, Vigilance in busy Airspace, Communicate with Mission Base & ATC, Give PIREPS to ATC. File Flight Plan, Knowledge of local procedures & airports. Personal Limitations of Crew / Aircraft, icing.
ALTITUDE	Effects of Altitude, Dehydration, and Fatigue	Be observant for effects of Altitude, Drink Plenty of Water, Nutrition before Sorties, DO NOT EXCEED DUTY DAY.
AVIATION WEATHER	Adverse Weather	Monitor Aviation WX via G1000, FSS, Foreflight, etc.
COMMS FAILURE	Lost Communications with Mission Base / ATC	Monitor radio equipment, use lost communications procedures, have a back-up plan.
TFRs	Avoid TFRs	Monitor Aviation WX via G1000, FSS, Foreflight, NWS, NOAA Radio, etc.

Briefing Info Sent via Email from Cactus



[CAPF 104b](#)

CAPF 104b Link Created at bottom of Email

Printed: 2022-02-20 16:44:37 ZULU
Prepared By: Combellick, Michael Paul
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Screenshot

rief CACTUS - MAIN... Reading List

ICS 214 Mission Log ICS 233 Task Manager CAPF 110 Comm Log

What's an ICS 204?

	Hobbs Total (hours)	Timer	Status	Action
Objective	0.0		BRIEFING	Brief
	0.0		BRIEFING	Brief



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CAP FORM 104b

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Batch Description:	<input type="text"/>
Choose Image file(s) (*.jpg,*.jpeg,*.png):	<input type="button" value="Choose Files"/> No file chosen

**Enter Each Target Name Before
choosing Files to Import**

RECONNAISSANCE SUMMARY

MISSION DATA SECTION

Mission Number	Mission Date	ADIS/AP/MO/MS Reporting (Name & CAPID)
AZ_TEST / A0001	2022-01-08	Feller, Aaron R / 562075

TARGETS & REQUIREMENTS

Sortie Remarks

TEST SORTIE - ABCD

CAP FORM 104b

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Batch Description:	<input type="text" value="Target Name HERE #1"/>
Choose Image file(s) (*.jpg,*.jpeg,*.png):	<input type="button" value="Choose Files"/> 15 files



2. Cactus 104b Link Available in De-Brief

Mission AZ TEST Home	ICS 201/ICS 202 Incident Briefing	ICS 203 Organizational Assignment List	Mission Resources	ICS 204 Assignment Status	ICS 205 Radio Communications Plan	ICS 214 Mission Log	ICS 233 Task Manager	CAPF 110 Comm Log					
562075													
ate: <input type="button" value="No Refresh"/> There are Refresh Disabled seconds left													
ICS 204 - ASSIGNMENT STATUS What's an ICS 204?													
MISSION: AZ_TEST Last Refreshed: 01:15 ZULU													
CURRENT TIME: 01:15:42 ZULU													
[ADD SORTIE]													
SWR - AZ - Redrock Command (virtual)													
Sortie	Callsign	Depart / AOR / Destination	Tasks	ALL TIMES IN ZULU				Crew	Remarks	Hobbs Total (hours)	Timer	Status	Action
				ETD	ATD	ETA	ATA						
A0001 <small>2022-01-08</small>	CAP000	KSDL KSDL	003	1500		1800	1900		TEST SORTIE - ABCD COMM: this is a test Objective Located Objective Located @0610Z	0.0	0	IN PROGRESS	

After Mission Status Changes from In Progress - 104b Action Link Appears

Mission AZ TEST Home	ICS 201/ICS 202 Incident Briefing	ICS 203 Organizational Assignment List	Mission Resources	ICS 204 Assignment Status	ICS 205 Radio Communications Plan	ICS 214 Mission Log	ICS 233 Task Manager	CAPF 110 Comm Log					
562075													
ate: <input type="button" value="No Refresh"/> There are Refresh Disabled seconds left													
ICS 204 - ASSIGNMENT STATUS What's an ICS 204?													
MISSION: AZ_TEST Last Refreshed: 01:20 ZULU													
CURRENT TIME: 01:21:43 ZULU													
[ADD SORTIE]													
SWR - AZ - Redrock Command (virtual)													
Sortie	Callsign	Depart / AOR / Destination	Tasks	ALL TIMES IN ZULU				Crew	Remarks	Hobbs Total (hours)	Timer	Status	Action
				ETD	ATD	ETA	ATA						
A0001 <small>2022-01-08</small>	CAP000	KSDL KSDL	003	1500		1800	1900		TEST SORTIE - ABCD COMM: this is a test Objective Located Objective Located @0610Z	0.0		DE-BRIEFING	CAPF 104b



2. Cactus 104b Link Available in De-Brief / Completed

Mission AZ_TEST Home	ICS 201/ICS 202 Incident Briefing	ICS 203 Organizational Assignment List	Mission Resources	ICS 204 Assignment Status	ICS 205 Radio Communications Plan	ICS 214 Mission Log	ICS 233 Task Manager	CAPF 110 Comm Log
--------------------------------------	---	--	-----------------------------------	---	---	-------------------------------------	--------------------------------------	-----------------------------------

562075

Rate: There are Refresh Disabled seconds left

ICS 204 - ASSIGNMENT STATUS [What's an ICS 204?](#)

MISSION: AZ_TEST
Last Refreshed: 01:15 ZULU

CURRENT TIME: 01:15:42 ZULU

[[ADD SORTIE](#)]

SWR - AZ - Redrock Command (virtual)

Sortie	Callsign	Depart / AOR / Destination	Tasks	ALL TIMES IN ZULU				Crew	Remarks	Hobbs Total (hours)	Timer	Status	Action
				ETD	ATD	ETA	ATA						
A0001 2022-01-08	CAP000	KSDL KSDL	003	1500		1800	1900		TEST SORTIE - ABCD COMM: this is a test Objective Located Objective Located @0610Z	0.0	0	IN PROGRESS	

After Mission Status Becomes Complete 104b Action Link Remains

Mission AZ_TEST Home	ICS 201/ICS 202 Incident Briefing	ICS 203 Organizational Assignment List	Mission Resources	ICS 204 Assignment Status	ICS 205 Radio Communications Plan	ICS 214 Mission Log	ICS 233 Task Manager	CAPF 110 Comm Log
--------------------------------------	---	--	-----------------------------------	---	---	-------------------------------------	--------------------------------------	-----------------------------------

562075

Refresh rate: There are Refresh Disabled seconds left

ICS 204 - ASSIGNMENT STATUS [What's an ICS 204?](#)

MISSION: AZ_TEST
Last Refreshed: 01:09 ZULU

CURRENT TIME: 01:11:25 ZULU

[[ADD SORTIE](#)]

SWR - AZ - Redrock Command (virtual)

Sortie	Callsign	Depart / AOR / Destination	Tasks	ALL TIMES IN ZULU				Crew	Remarks	Hobbs Total (hours)	Timer	Status	Action
				ETD	ATD	ETA	ATA						
A0001 2022-01-08	CAP000	KSDL KSDL	003	1500		1800	1900		TEST SORTIE - ABCD COMM: this is a test Objective Located Objective Located @0610Z	0.0		COMPLETED	CAPF 104b



New 104b Tool



5 Easy Steps

1. Click Link to Access Tool
2. Add Batch Photo Description
3. Choose Files with Meta Data
4. Repeat Items 1&2 for Multiple Targets
5. Make Final Edits Create PDF or Generate .KML & Upload



CAP FORM 104b

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Batch Description:	<input type="text" value="Target Name HERE #1"/>
Choose Image file(s) (*.jpg,*.jpeg,*.png):	<input type="button" value="Choose Files"/> 15 files

After Files Selected - ALL Meta DATA is Added to Imagery Target LOG

IMAGERY / TARGET LOG	
Photo #: <input type="text" value="1"/>	Description: <input type="text" value="Target Name HERE #1"/>
Computer File Name: CAP_6048 LKP Over head EAST Camera Heading JPG	Time: 2018:05:19 20:05:44 z
Latitude: <input type="text" value="N33° 49.3297'"/>	Longitude: <input type="text" value="W109° 38.1771'"/>
Direction: <input type="text" value="54"/>	Altitude: <input type="text" value="9836"/>
Photo #: <input type="text" value="2"/>	Description: <input type="text" value="Target Name HERE #1"/>
Computer File Name: CAP_6038.JPG	Time: 2018:05:19 19:36:24 z
Latitude: <input type="text" value="N33° 50.0674'"/>	Longitude: <input type="text" value="W109° 34.0783'"/>
Direction: <input type="text" value="319"/>	Altitude: <input type="text" value="10673"/>
Photo #: <input type="text" value="3"/>	Description: <input type="text" value="Target Name HERE #1"/>
Computer File Name: CAP_6039.JPG	Time: 2018:05:19 19:37:10 z
Latitude: <input type="text" value="N33° 48.9858'"/>	Longitude: <input type="text" value="W109° 33.2344'"/>
Direction: <input type="text" value="120"/>	Altitude: <input type="text" value="10453"/>



CAP FORM 104b

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Batch Description:	<input type="text" value="Target Name HERE #1"/>
Choose Image file(s) (*.jpg,*.jpeg,*.png):	<input type="button" value="Choose Files"/> 15 files

Update Batch Info for Each Target

Update and Download to PDF

IMAGERY / TARGET LOG

Photo #: <input type="text" value="1"/>	Description: <input type="text" value="Target Name HERE #1"/>
Computer File Name: CAP_6048 LKP Over head EAST Camera Heading .JPG	Time: 2018:05:19 20:05:44 z
Latitude: <input type="text" value="N33° 49.3297'"/>	Longitude: <input type="text" value="W109° 38.1771'"/>
Direction: <input type="text" value="54"/>	Altitude: <input type="text" value="9836"/>
Photo #: <input type="text" value="2"/>	Description: <input type="text" value="Target Name HERE #1"/>
Computer File Name: CAP_6038.JPG	Time: 2018:05:19 19:36:24 z
Latitude: <input type="text" value="N33° 50.0674'"/>	Longitude: <input type="text" value="W109° 34.0783'"/>
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Computer File Name: CAP_6039.JPG	Time: 2018:05:19 19:37:10 z
Latitude: <input type="text" value="N33° 48.9858'"/>	Longitude: <input type="text" value="W109° 33.2344'"/>
Direction: <input type="text" value="120"/>	Altitude: <input type="text" value="10453"/>



New 104b Tool



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CAP FORM 104b

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[CAPF104b User Guide](#)

Batch Description:	<input type="text"/>	
Optional: Timezone offset from UTC:	<input type="text" value="0"/>	Optional: Time correction to UTC. Most of AZ=7 (only needed if GPS Time is not in the metadata or metadata time is not UTC)
Choose Image file(s) (*.jpg, *.jpeg, *.png):	<input type="button" value="Choose Files"/> No file chosen	

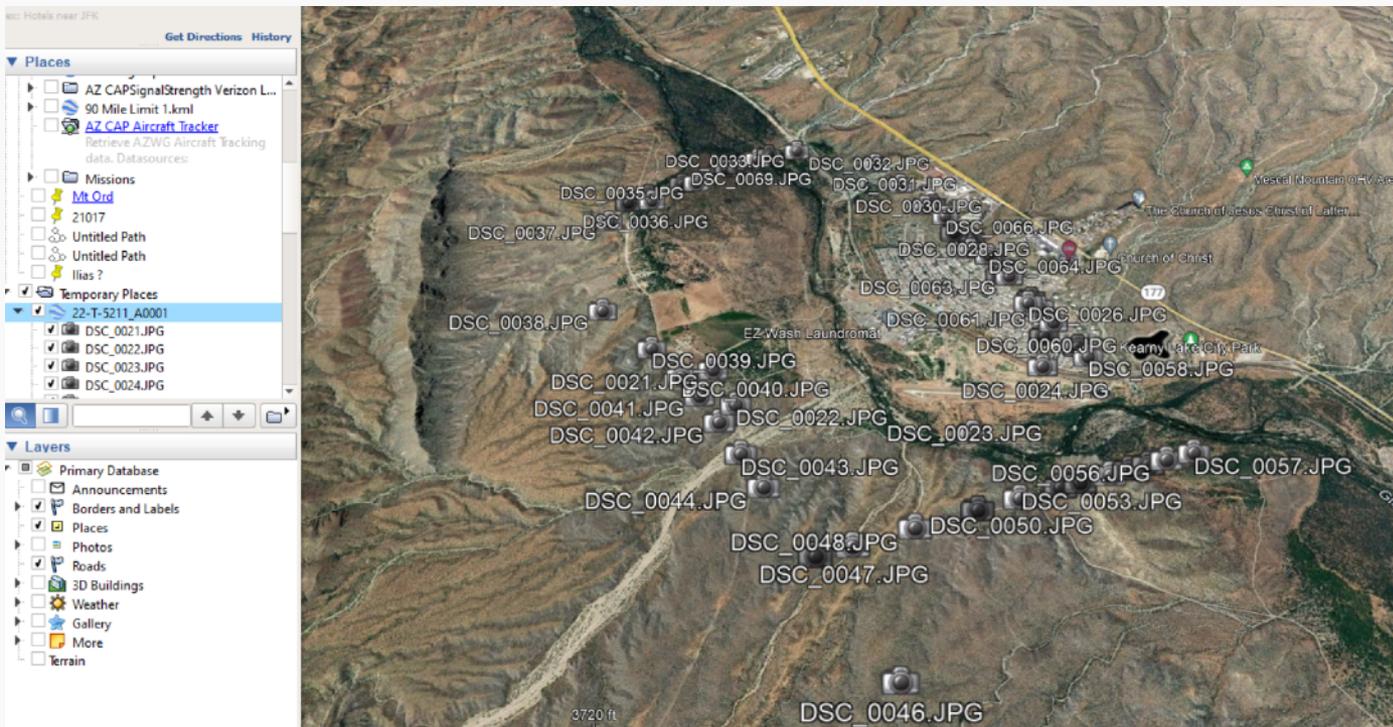
RECONNAISSANCE SUMMARY

MISSION DATA SECTION

Mission Number / Sortie Number	Mission Date	ADIS/AP/MO/MS Reporting (Name & CAPID)
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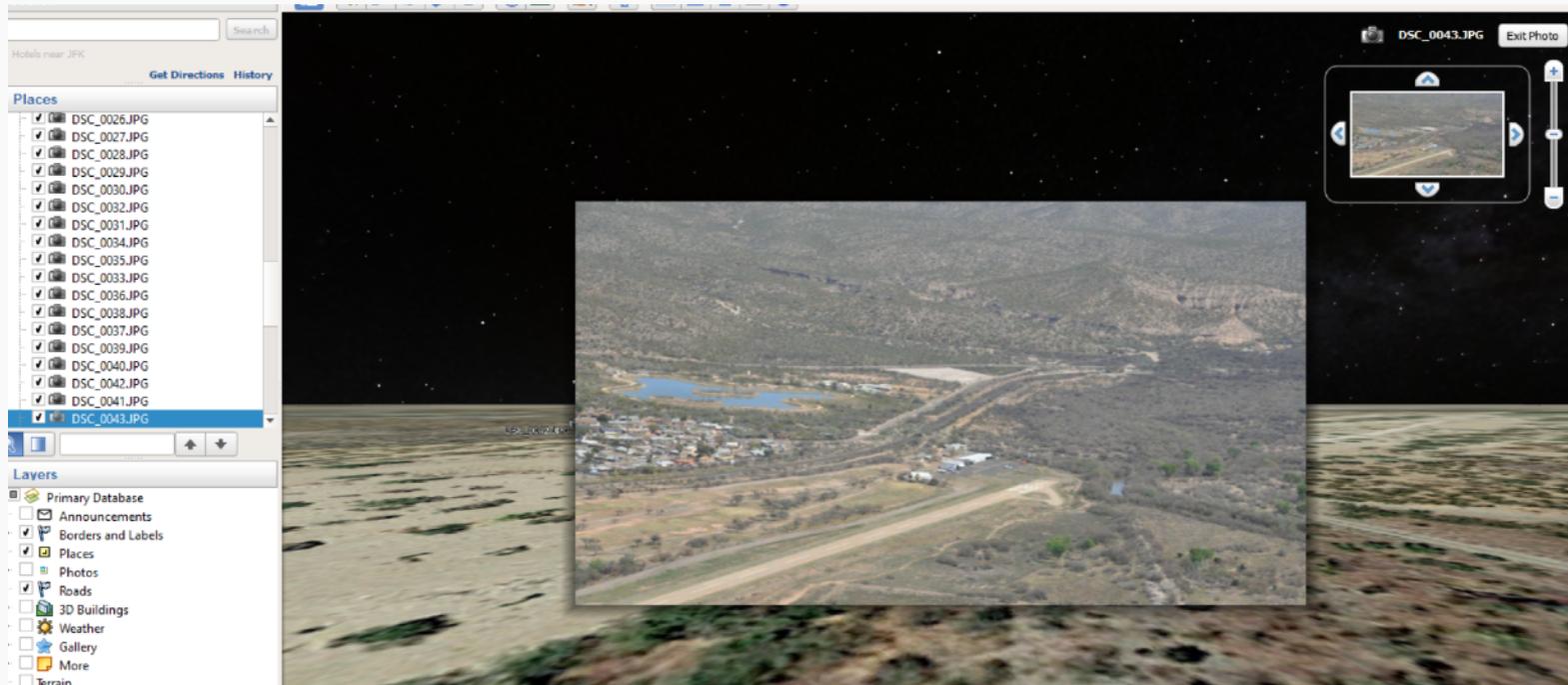


New 104b Tool





New 104b Tool





New 104b Tool

Photo Metadata Editor



CAP FORM 104b

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[CAPF104b User Guide](#)

[Photo Metadata Editor](#)



Attachment Description:	<input type="text"/>	
Photo time correction to UTC:	<input type="text" value="0"/>	Time correction to UTC. Most of AZ = 7 (only needed if GPS Time is not in the metadata or metadata time is not UTC)
Choose Image file(s) (*.jpg,*.jpeg,*.png):	<input type="button" value="Choose Files"/> No file chosen	

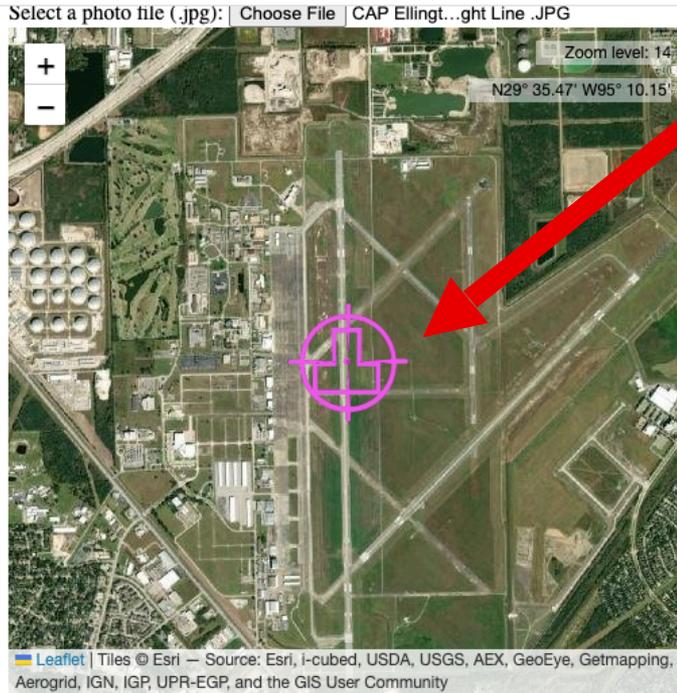
RECONNAISSANCE SUMMARY



New 104b Tool



Photo Location on Take off



Rotate Photo to align with Map

CAP FORM 104b Photo Metadata Editor

Source	Latitude	Longitude	Bearing (T)	Action
Original Photo:				
CAP Ellington Te	Screenshot 6.56'	W95° 9.84'	332 M	NA



New 104b Tool



MOVE Location to Update Target Lat/Long

Select a photo file (.jpg): CAP Ellingt...ght Line .JPG



Leaflet | Tiles © Esri — Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, UPR-EGP, and the GIS User Community

Rotate Photo to align with Map

CAP FORM 104b Photo Metadata Editor

Source	Latitude	Longitude	Bearing (T)	Action
Original Photo: Screenshot				
CAP Ellington Texas, TX	N29° 36.56'	W95° 36.56'	332 M	NTA



New 104b Tool



UPDATED Camera META DATA for 104 B Target Lat/Long



Leaflet | Tiles © Esri — Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, UPR-EGP, and the GIS User Community



Rotate Photo to align with Map

CAP FORM 104b Photo Metadata Editor

Source	Latitude	Longitude	Bearing (T)	Action
Original Photo: CAP Ellington Texas CA 2017.09.08 13:8:16 z	<input type="text" value="N29° 36.56'"/>	<input type="text" value="W95° 9.8"/>	<input type="text" value="332 M"/>	<input type="text" value="NA"/>
Camera Location:	<input type="text" value="N29° 36.56'"/>	<input type="text" value="W95° 9.8"/>	<input type="text" value="268"/>	<input type="text" value="NA"/>
Target Location:	<input type="text" value="N29° 36.55'"/>	<input type="text" value="W95° 10.06'"/>	<input type="text" value="NA"/>	<input type="button" value="Update Target"/>

Coordinate Format		
<input type="radio"/> Decimal Degrees	<input checked="" type="radio"/> Degrees Decimal Minutes	<input type="radio"/> Degrees Minutes Seconds

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New 104b Tool



SAVE LAT/LONG FORMAT PER Customer Request



Rotate Photo to align with Map

CAP FORM 104b Photo Metadata Editor

Source	Latitude	Longitude	Bearing (T)	Action
Original Photo: CAP Ellington Texas TXA 2017.09.08 13:8:16 z	<input type="text" value="N29° 36.56'"/>	<input type="text" value="W95° 9.84'"/>	<input type="text" value="332 M"/>	NA
Camera Location:	<input type="text" value="N29° 36.56'"/>	<input type="text" value="W95° 9.84'"/>	<input type="text" value="268"/>	NA
Target Location:	<input type="text" value="N29° 36.55'"/>	<input type="text" value="W95° 10.06'"/>	<input type="text" value="NA"/>	<input type="button" value="Update Target"/>

Coordinate Format		
<input type="radio"/> Decimal Degrees	<input checked="" type="radio"/> Degrees Decimal Minutes	<input type="radio"/> Degrees Minutes Seconds

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New 104b Tool



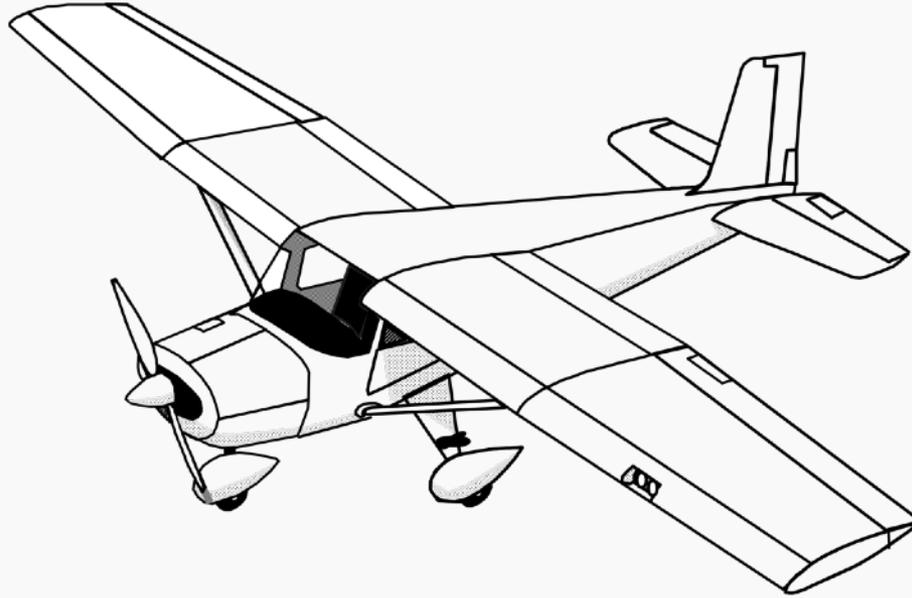
104B TOOL Located in AZ WING CACTUS

**OR Direct Link
- Listed below -**

If No sortie in CACTUS.

*** Note with no sortie the 104b Tool cannot display any sortie specific tasking information.**

<https://missions.azwg.org/capf104b>



QUESTIONS?