



2020 Low-Level Route Survey

For 301st Operations Group JRB-NAS Fort Worth



Customer 301st Operations Group





Customer

301st Operations Group

The 301st Fighter Wing, based at Naval Air Station Joint Reserve Base Fort Worth Carswell Field, Texas, is equipped with the F-16C+ Fighting Falcon. It is the only Air Force Reserve (AFRC) fighter unit in the state of Texas.

The 301st Fighter Wing is the largest tenant unit on NAS Fort Worth JRB. With approximately 2,100 reservists and civilians, the wing has an economic impact of \$254 million on the local community.

Day to day activities of the wing are managed by full time air reserve technicians and department of the Air Force civilians. Ready reservist assigned to the wing are required to attend unit training assemblies which are scheduled for one weekend each month, plus serve 15 days active duty each year to fulfill their reserve commitment. Since reserve pilots are required to maintain the same degree of readiness as their active duty counterparts, flying activities are scheduled Tuesday through Saturday of each week throughout the year.



Customer

301st Operations Group

The 301st Fighter Wing at JRB-NAS Fort Worth conducts extensive low-level training within 200 miles of the base.

Military pilots use the routes to maintain proficiency by simulating wartime missions. Actual wartime missions require high speed low-level penetrations, to avoid detection by the enemy.

MTRs are not only used by the 301st FW aircraft, but also by various other fighter, bomber, and transport aircraft.



Mission Objectives

- Primary Mission Objective – To locate and plot the EXACT location and height of any obstacles above 200 feet AGL within the areas of the low-level training routes designated by the 301st OG/OSA. Aircrews will use current Sectional Charts as reference for determining whether an obstacle has already been identified.
- Secondary Mission Objective – Improve proficiency of mission staff and aircrews under search conditions. Provide qualification missions for aircrew members in training.



Points of Contact

- LLRS IC Maj Mark Hammack
 - ❖ Phone 214 478 0955
 - ❖ Email mhammack@txwg.cap.gov
- LLRS Deputy IC Lt Col Rick Woolfolk
 - ❖ Phone 940 391 3728
 - ❖ Email r.woolfolk1@verizon.net



Mission Basics

- Entire route (all segments) must be flown in the same month.
- IC will request/assign routes to accomplish this
- Photos of new towers are requested
- Any major construction or landmarks should be noted
- Note bird activity (flyways) that could cause conflict with AF training flights.



Mission Basics

- Deconfliction requires that we notify the 301st OG/OSA 24 hours in advance of when we intend to fly a specific route. Routes may be flown any day of the week.
- Standard crew of three is preferred, minimum crew is two for any sortie to be flown
- There must be a current mission pilot on the sortie, others may be trainees
- Detailed planning is a must – plan to launch early when it is cool



Mission Basics

- Typical mission is one 2.5 to 3.5-hour sortie. Some sorties may include a fuel stop before RTB. Some sorties are paired back to back with a lunch/fuel stop in between. Whenever the engine is shut down, another sortie is required. Sorties will be released individually under most circumstances.
- Normal cruise speed to/from the route at a cooler altitude
- Route survey is NLT 1000' AGL @ a recommended 100 KTS **ground speed**. Track spacing varies by MTR route. Search area extends two miles outside of the charted area. Search speed may be increased at the discretion of the MP as long as ability to locate uncharted towers is maintained



Mission Basics

- Locate and plot the EXACT location and estimated height of any new obstacles above 200' AGL , any charted obstacles that have been removed, and verify charted obstacles in the Low-Level routes
- Fly over the top of the obstacle to locate it. You may briefly descend to 500' AGL to estimate the obstacle height then return to NLT 1000' AGL. Never descend below the top of the tower



Mission Basics

Kneeboard sheets for every route with turn points are posted at

<http://dentoncap.org/low-level-route-surveys/>

In the NAS JRB Low-Level Route Mission section

Other documents posted there include:

- Low-Level Route Sighting Sheet
- Observer – Scanner Work Sheet
- PIREP kneeboard form
- This briefing presentation



Mission Basics

- Weather
 - CAP aircraft may fly IFR to reach the survey area but will not conduct the route survey unless the flight visibility is at least 5 miles and ceilings are at least 3000' AGL.
 - The MP will abort the sortie if the weather falls below these minimums while conducting the survey.
- Lights On for Safety
 - All sorties will be flown with all aircraft exterior lights turned on.



Mission Basics

Guy Wires

Guy wires extend as far as $\frac{1}{2}$ mile beyond towers. CAP aircraft will not descend below 500' AGL or below the top of any tower while attempting to measure the tower's height.



[Surviving The Wires Environment](#)



Mission Basics

Guyed Tower – Guyed towers used to be the cheapest tower to construct but require the greatest amount of land. For taller heights (300' and greater) it is much cheaper to build a guyed tower. Most radio and television towers are guyed towers. A guyed tower is a straight tower supported by guy wires to the ground which anchor the tower.





Mission Basics

Lattice Tower-
also referred to
as a self-support
tower or SST



Monopole Tower- A
monopole tower is a single
tube tower. It requires one
foundation and typically
does not exceed 200 ' AGL.



Mission Basics

Types of Towers



MET towers or Meteorological towers are used to gather wind data necessary for site evaluation and development of wind turbine projects. They can be erected very rapidly and may be on site from a few days to up to a year or longer. At this time there is no standardized notification system in place to indicate when and where these towers are erected.



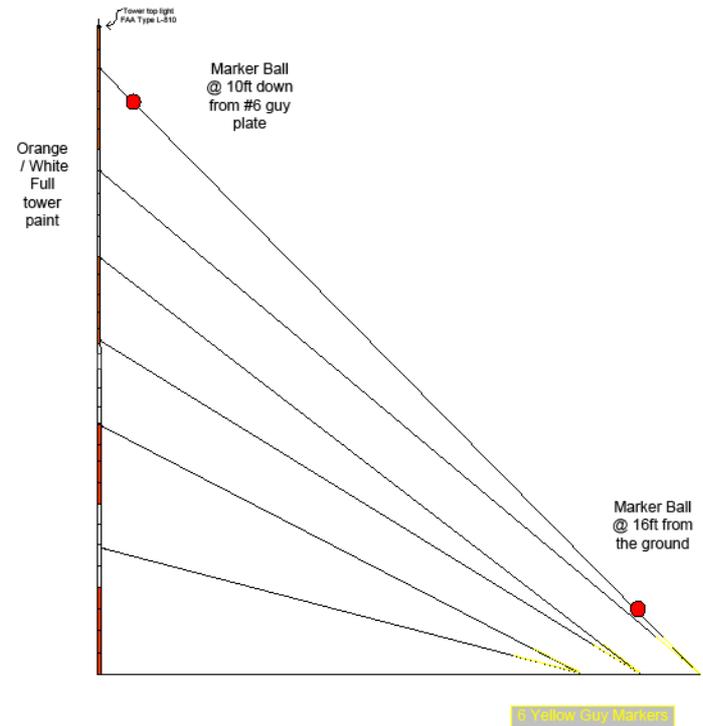
Mission Basics

MET towers generally vary in height from 100, 150, 200 and 250 feet tall.

There are no standards for markings and towers less than 200 feet tall are not required to be lighted.

DNV-GEC Tower Marking Scheme C

Proposed tower marking scheme for aerial visibility





Mission Basics



Wind Turbines – large 1.5 to 3.5MW wind turbines typically used in this area are 200' to 300' AGL with blades reaching another 120' to 150' . Usually arrayed in wind farms.

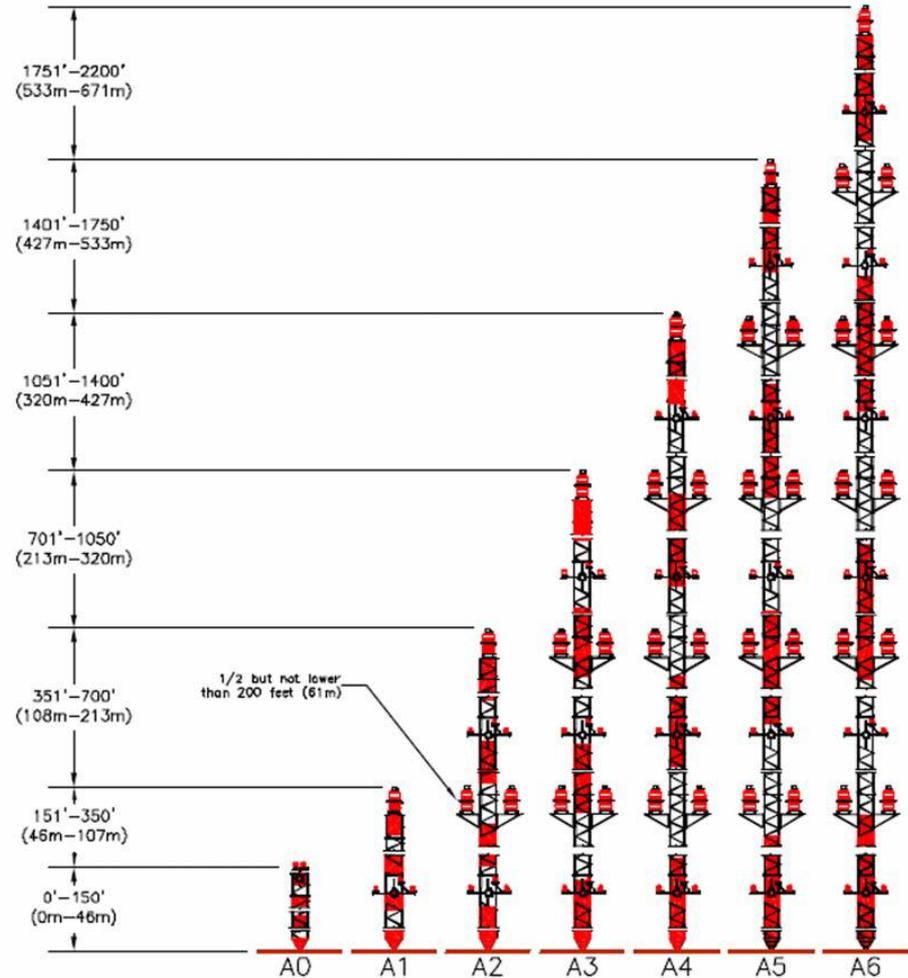
Document the approximate total area of any new wind farms located.



Estimating Height by Lighting

RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
 Night Protection = 2,000cd Red Beacon and sidelights



- L-864 Flashing Beacon



- L-810 Obstruction Light



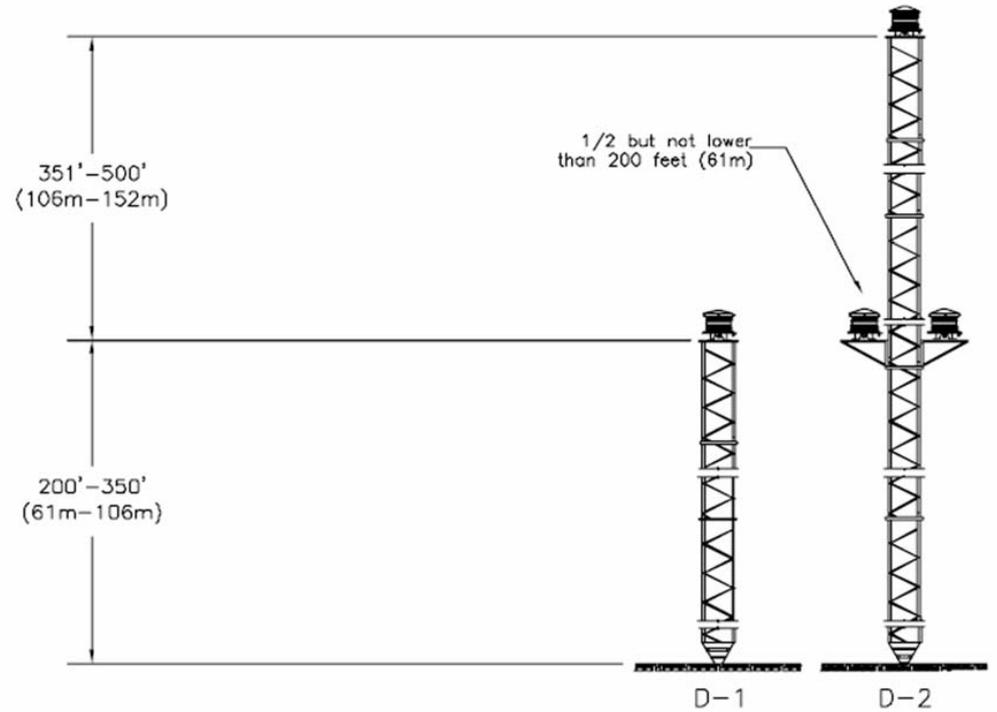
Estimating Height by Lighting

MEDIUM INTENSITY WHITE OBSTRUCTION LIGHTING STANDARDS (FAA Style D)

Day/Twilight Protection = 20,000cd White Strobe

Night Protection = 2,000cd White Strobe

Painting of tower is typically not required.



- L-855 Flashing White Strobe



Mission Basics

Bird strikes

- While not considered a big issue for light general aviation aircraft, birds have been responsible for some major accidents and more than 300 fatalities since the age of flight began. According to an FAA study, more than 16,000 collisions occurred during a recent seven-year period over the United States, Puerto Rico, and the U.S. Virgin Islands. Nearly 80 percent occurred less than 1,000 feet above the ground
- Most general aviation aircraft windshields are NOT required to withstand bird strikes



Mission Basics

The Air Force Bird Aircraft Strike Hazard Team and FAA's *Aviation News* from January 1996 offer this guidance for avoiding bird strikes:

- Strikes are most likely in **August, September, and October** - particularly in migratory flyways. These tend to be the larger birds. Keep a lookout, just as you would for other flying objects.
- Dawn and dusk are the times with the highest probability of a bird encounter.
- Turn on landing or recognition lights. This helps birds see oncoming aircraft.
- Plan to climb. Birds almost invariably dive away, but there are exceptions.



Mission Basics

The Air Force Bird Aircraft Strike Hazard Team and FAA's *Aviation News* from January 1996 offer this guidance for avoiding bird strikes:

- Slow down. This will allow birds more time to get out of your way and will lessen the impact force if you do hit one.
- If a collision seems likely, duck below the glareshield to avoid being hit by the bird and flying plexiglass. Advise passengers to do the same. Protect your eyes and head.
- If a collision occurs, fly the aircraft first. Assess the damage and decide whether you can make it to an airport or you should make an off-airport landing. Declare an emergency - it doesn't cost anything. Even if no damage is visible, divert to the nearest airport and have a mechanic look at the airplane.



Mission Basics

Bird strikes





Mission Basics

- Watch for signs of heat related problems
- You can fly with windows open at any speed
- Hydrate – Hydrate – Hydrate

The Pee Chart

How dehydrated are you?



(Highly Dehydrated)

Go drink a large bottle of water immediately!!!



You are still seriously dehydrated. Drinking more now will make you feel a lot better.



Moderately dehydrated. You lose fluid on a regular basis throughout the day. Drink more water to get hydrated.



Almost there. Get some more water in your system to help flush all those toxins from your body. Stay hydrated and healthy!



Great job. Now don't let yourself get dehydrated. Drink at least 8-12 large glasses of water throughout the day.

***Caffeinated drinks dehydrate - limit your consumption.**

***Sport drinks can provide supplementary electrolytes, but Water is the Key!**

Drink one sport drink for every three to four bottles of water. Don't wait to get thirsty. If you're thirsty, you're a quart low.



Mission Basics

- **Safety is of paramount importance**
- **Never compromise your safety**
- **Weight & Balance Uploaded to eServices Required**
- **FAA VFR Flight Plan Required**
- ***Don't forget to Close your Flight Plan***
- **Suggestions that improve safety are always welcome**



Mission Basics

FLIGHT PLAN		(FAA USE ONLY) <input type="checkbox"/> PILOT BRIEFING <input type="checkbox"/> VNR		TIME STARTED	SPECIALIST INITIALS
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION					
1. TYPE <input checked="" type="checkbox"/> VFR <input type="checkbox"/> IFR <input type="checkbox"/> DVFR		2. AIRCRAFT IDENTIFICATION CAP4263	3. AIRCRAFT TYPE / SPECIAL EQUIPMENT 182/G	4. TRUE AIRSPEED 130 KTS	5. DEPARTURE POINT KDTO
				6. DEPARTURE TIME PROPOSED (Z) 1200 ACTUAL (Z)	7. CRUISING ALTITUDE 2000'
8. ROUTE OF FLIGHT 3301N/09801W 3253N/09822W 3250N/09828W 3244N/09845W 3246N/09845W 3252N/09828W 3255N/09822W 3257N/09822W 3254N/09828W 3248N/09845W 3250N/09845W 3256N/09828W 3259N/09822W 3301N/09822W 3258N/09828W 3252N/09845W 3254N/09845W 3260N/09828W 3303N/09822W					
9. DESTINATION (Name of airport and city) KDTO		10. EST. TIME ENROUTE HOURS 03 MINUTES 30		11. REMARKS CAP/USAF LOW LEVEL ROUTE SURVEY Registration: N637CP	
12. FUEL ON BOARD HOURS 05 MINUTES 00		13. ALTERNATE AIRPORT(S)		14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE Joe Smith 940-555-1212, KDTO	
				15. NUMBER ABOARD 3	
16. COLOR OF AIRCRAFT R/W/B		CIVIL AIRCRAFT PILOTS, FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.			
17. DESTINATION CONTACT/TELEPHONE (OPTIONAL) Mark Hammack 214-478-0955					

- Route is lat/longs from route briefing (copy/paste from LMFS section)
- Alternately use VOR/radial/distance for entry point +
- /D (for delay) (time in grid) Example /D2+30 +
- VOR radial/distance for exit point
- Full Route of Flight example: ADM070009/D2+30 ADM225040
- Remarks : CAP/USAF Low-Level ROUTE SURVEY and N-number
- Destination Contact: Your FRO



VFR Flight Plans

Don't forget to close your VFR flight plan with FSS. There have been several instances when CAP aircraft have failed to close their flight plan and FSS has had to initiate search procedures at 30 minutes overdue.

- **CAP4230** filed VFR to WPA, (Wiley Post), ETA was 5/7/11 1800z closed flight plan at 1845z 45 minutes past ETA.
- **CAP3072** filed VFR to SKX, (Taos), ETA was 2/26/12 0115z closed Flight plan 0150z 35 minutes past ETA.
- **CAP3039** filed VFR to ALM, (Alamogordo), ETA was 2/25/12 2359z closed Flight plan 0032z 33 minutes past ETA.
- **CAP2151** filed VFR to SGS, (South St. Paul), ETA was 2/10/12 1829z closed Flight plan 1853z 34 minutes past ETA
- **CAP2152** filed VFR to SGS, (South St. Paul), ETA was 2/10/12 1829z closed Flight plan 1853z 34 minutes past ETA



Communication

Before departing the MP will contact the IC/FRO.

All participants will be checked in via WMIRS.

Safety currency will be checked and anyone who is not current will not be allowed to participate.

There will be no High Bird for these sorties.

It is anticipated that most communication will be via cell phone, email, TEXT message, or local flight following.

Some areas may be covered by CAPLINK over the local repeater. If this is the case, it will be briefed with the crew.



Communication

Contact FSS every 60 minutes for altimeter setting, position report and provide a PIREP. Even “CAVU” reports are welcome.



Contact Flight Service on the charted frequency (or 122.2), Flight Watch on 122.0, or call 1-800-WX-BRIEF after landing to give a pirep!

Nearest VOR or Airport: _____

Observation Time: _____ (Zulu) or _____ (Minutes Ago)

Altitude: _____ MSL

Aircraft Type: _____

Note: Not all items are required; you can give a pirep with only one item!

Cloud Coverage *(Circle One):*

CLR	FEW	SCT	BKN	OVC
0	>0 or ≤2/8	3/8-4/8	5/8-7/8	8/8

Cloud Type *(Circle One):*

Cirrus Cumulus Stratus

Cloud Height: Bases: _____ Tops: _____

Visibility: _____ Statute Miles

Restrictions to Visibility *(Circle One):*

Haze Mist Fog Dust Sand Other: _____
(smoke, spray, volcanic ash)

FOLD HERE
for keypad/board format

Precipitation Type *(Circle One):*

Rain Drizzle Snow Hail

Precipitation Intensity *(Circle One):*

Light Moderate Heavy

Temperature: _____ Celsius

Wind Direction: _____ Speed: _____ Knots

Turbulence *(Circle One):*

Light Moderate Severe

Light Chop Moderate Chop Extreme

Icing *(Circle One):*

Trace Light Moderate Severe

Remarks:

www.asf.org/skyspotter



Paperwork Flow

- The IC will load sorties into WMIRS and obtain a sortie number.

Mission Symbol is A96

- Route assignment requests will be sent to all participating squadrons
- *Each new month the squadron will upload a current Aircraft Inspection Form to the Mission Files in WMIRS for the aircraft used*
- **Do not fly the sortie without a verbal Flight Release**
- *Sorties sometimes get missed in the approval process. If the sortie is not Pending Release on the day to be flown, contact the IC or Deputy IC who will call the NOC for approval*



Paperwork Flow

- The MP will update sorties in WMIRS with aircrew names
- **Check aircraft discrepancies in WMIRS**
- eFlight release from LLRS IC or Deputy IC only:
Mark Hammack: 214-478-0955
Rick Woolfolk: 940-391-3728

If other CAP personnel are providing support such as local flight following let us know so they can be signed into the mission via WMIRS.



Paperwork Flow

BEFORE calling for a Flight Release at the start of the day's sorties the MP will:

1. Complete the following sections in the e104
 - Manifest, Qualifications, Aircraft
 - Cell phone number(s) in crew contact line
 - Briefing including N/A in boxes as appropriate
 - Current and forecast weather (actual weather not just VFR)
 - ORM

2. Upload into the appropriate location in the e104:
 - W&B – REQUIRED by IC



Paperwork Flow

At the completion of the day's sorties the MP will:

1. Complete the Sortie Debriefing Section including Hobbs hours, tach hours, fuel gallons & dollars, Summary Section, and Results/Deliverables Section (photos/route survey sheets completed, etc.)
2. Upload into the appropriate location in WMIRS:
 - Fuel Receipt (appropriately annotated)
 - Route Survey Sighting Sheets into the e104 "Sighting Sheets" folder
3. Upload any photos to WMIRS
4. Write up any A/C discrepancies in WMIRS



ORM

- WMIRS will not allow the flight to be released without the ORM being complete.
- The IC/FRO may help but it is up to the MP to ensure the ORM is complete.
- Increased safety awareness, **BE CONSERVATIVE**



Weight & Balance

- Required to be completed and uploaded
- Pilots should be checking anyway, so this is nothing new
- Can use any means available, Group 6 utilities, ForeFlight, W&B Pro, etc.



Before Sortie

Air Sortie Add/Edit

Home > Mission Info > Operations > Air Sortie List > Air Sortie

AIR SORTIE ADD

Session:

Mission No. / Symbol
REQ-17-2303 /

Sortie No.
A0001

Mission Name:
NAS-JRB LLRS

Tracking No. 

*Sortie Type
Low Level Survey

*Sortie Date [Z](#)
20 Mar 2017

*Dep. Airport
KDTO

*ETD [Z](#)
00 : 00

*Dest. Airport
KDTO

*ETA [Z](#)
04 : 00

*Tail No.
N837CP

*A/C Type
C182/G1000

Call Sign
CAP4283

TAS (Knots)
130

Color/Description
R/W/B

*Corp/Member A/C
Corp

Fuel (In Hours)
5

Home Base
KDTO

Equipment on Board

Permanent

- Transponder
- VOR
- DME
- Tactical Repeater Connection
- Becker DF
- L-Tronics
- Autopilot

Removable

- Tactical Repeater
- Survival Kit
- Life Rafts & Vests
- Digital Camera
- ADIS
- Satellite Phone
- ARCHER Airborne System

* - Required Field



Before Sortie

Logs
Symbols
* - Required Field

VOR
 DME
 Tactical Repeater Connection
 Becker DF
 L-Tronics
 Autopilot
 GPS G1000
 CAP FM Radio
 Satellite Phone Connection

Survival Kit
 Life Rafts & Vests
 Digital Camera
 ADIS
 Satellite Phone
 ARCHER Airborne System
 ARCHER Ground Station
 Other

[View Closeout Info](#)
[Sortie Files](#)

Crew Contact (Phone, E-mail, etc.) [Request Flight Release Officer\(s\)](#) [Discrepancy Log](#)

Crew/Pax

-- Select Pilot --	-- Select Position --
-- Select Crew --	-- Select Position --
-- Select Crew --	-- Select Position --
-- Select Crew --	-- Select Position --

Update Reset Sortie Brief Sortie Debrief Sortie **ORM** Form 104 Cancel Sortie Delete Sortie

Restricted to IC and Deputy IC

Filled out by MP



Before Sortie

Air Sortie Briefing eServices | Sign Out |

Home > Mission Info > Operations > Air Sortie List > Air Sortie > Air Sortie Brief

AIR SORTIE BRIEFING [Request Flight Release Officer\(s\)](#)

Mission No. / Symbol REQ-17-2303 /	Sortie No. A0001	Mission Name: NAS-JRB LLRS	Tracking No. <input type="text"/>
Area of Operations: <input type="text"/>	Dep. Airport: KDTO	Dest. Airport: KDTO	
Base Telephone: <input type="text"/>	Base Callsign: <input type="text"/>	Base Freq.: <input type="text"/>	
Air/Ground Freq.: <input type="text"/>	Air/Air Freq.: <input type="text"/>		
Required Radio Checks & Contacts <input type="text"/>	Other Aircraft In Area: <input type="text"/>	Ground Teams In Area (Location/Callsign): <input type="text"/>	
Sortie Objectives: <input type="text"/> <small>max. 6/1000 characters</small>	Sortie Deliverables: <input type="text"/>		
Actions To Be Taken On Objectives & Deliverables <input type="text"/>			
Route Of Flight: <input type="text"/>			

Altitude Assignment & Restrictions: Airspeed Expected & Restrictions:

Annotations:
- Red arrow pointing to Tracking No. and Sortie Objectives: **Filled out by IC**
- Red text at bottom: **Everything else entered by MP**



Before Sortie

Symbols

* - Required Field

Route Of Flight:

Altitude Assignment & Restrictions:

Aircraft Separation (Adjoining Areas):

Military Low Altitude Training Routes:

Airspeed Expected & Restrictions:

Emergency/Alternate Fields:

Hazards To Flight:

Current Local WX:

Current En Route WX:**

Current Area Of Operations WX:

Forecast Local WX:

Forecast En Route WX:

Forecast Area Of Operations WX:

Flight Plan Required

Flight Plan Opened

ORM Matrix Complete

Risk Assessment:

Risk Assessment Approved

Special Instructions (Including Risk Mitigation Procedures):

max. 0/600 characters

Crew Notes:

max. 0/1000 characters

Entered by MP



Route Survey Sighting Sheets

- Available on website
- Fill out all fields
- Report changes only
- Uncharted towers
- Missing towers
- Location information so a ground team can locate the obstacle
- Upload to the “Sighting Sheets” folder for each sortie

CIVIL AIR PATROL MTR ROUTE SURVEY SHEET					
NOTE: IAW AFM 13-201 report only towers/obstructions that are within 100' of the floor and with 2NM of the lateral MTR boundary					
TYPE OR PRINT LEGIBLY. PROVIDE ENOUGH INFORMATION AND DESCRIPTION FOR A GROUND TEAM TO LOCATE AND VERIFY OBSERVATIONS					
DATE	MTR ROUTE AND POINTS				
STRUCTURE TYPE	LOCATION BY LAT/LONG	NEAREST CITY/TOWN	ESTIMATED HEIGHT AGL	ESTIMATED HEIGHT MSL	DESCRIPTION AND LIGHTING
<input type="checkbox"/> Cell tower <input type="checkbox"/> Radio tower <input type="checkbox"/> MET tower <input type="checkbox"/> Wind turbine <input type="checkbox"/> Other <input type="checkbox"/> Multiple	N				
<input type="checkbox"/> Cell tower <input type="checkbox"/> Radio tower <input type="checkbox"/> MET tower <input type="checkbox"/> Wind turbine <input type="checkbox"/> Other <input type="checkbox"/> Multiple	W				
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<input type="checkbox"/> Cell tower <input type="checkbox"/> Radio tower <input type="checkbox"/> MET tower <input type="checkbox"/> Wind turbine <input type="checkbox"/> Other <input type="checkbox"/> Multiple	W				

CONTACT INFORMATION		
CAP UNIT	PIC NAME	PHONE
EMAIL ADDRESS		



After Sortie

Air Sortie Debrief eServices | Sign Out |

Home > Mission Info > Operations > Air Sortie List > Air Sortie > Air Sortie Debrief

AIR SORTIE DEBRIEF

Mission No. / Symbol: **REQ-17-2303 /** Sortie No.: Mission Name: **NAS-JRB LLRS** Tracking No.:

Flight Plan Closed ATD (Z): : ATA (Z): :

NOTE: Hobbs and Tach are now switched to match the aircraft log.

Hobbs:	Tach:
<input type="text"/> End	<input type="text"/> End
<input type="text"/> Start	<input type="text"/> Start

Hobbs To/From:	Hobbs In Area:	Hobbs Total:
<input type="text"/>	<input type="text"/>	<input type="text"/>

<input type="checkbox"/> No Fuel	Fuel Used (Gal): <input type="text"/>	Oil Used (Qt): <input type="text"/>	Fuel & Oil Cost: <input type="text"/>	Receipt #: <input type="text"/>	<input type="checkbox"/> Wing Paid	<input type="checkbox"/> NHQ Shell Card Paid
----------------------------------	---------------------------------------	-------------------------------------	---------------------------------------	---------------------------------	------------------------------------	----------------------------------------------

Reimburse To: Direct Pay to Member
(Unit or CAPID)

Fuel Receipt File: No file selected.

[Delete Receipt](#)

[Sortie Files](#)

Summary:

MP to fill in all pertinent data



After Sortie

max. 0/600 characters

Results/Deliverables:

max. 0/800 characters

Weather Conditions:

max. 0/200 characters

Remarks:

max. 0/400 characters

Sortie Effectiveness: -- Select -- **Reason (if not successful):** -- Select -- **Reason (Other):**

Attachments & Documentation:

Phone Debriefing **Debriefer (Name & CAPID):** CAPID:

Time & Date Debriefed [\[?\]](#) 8 Mar 2017 -Hr- : -Min-

MP to fill in all pertinent data

After completion, contact IC/FRO to close out sortie.



Training Opportunities

Mission Aircrew Training for MS, MO, and MP

Depending on the complexity of the sortie we will try to pair a MP SET or IP crew in the following priority:

- MP Trainees
- MO Renewals/Requals
- MO Trainees
- MS Renewals/Requals
- MS Trainees



Questions?



Let's Fly!

