

RADIO FIX AND HOLDING DATA RECORD

NAME: GREAT FALLS VORTAC STATE: MT COUNTRY: US ICAO REGION CODE: K1
 LATITUDE/LONGITUDE: 472659.93N/1112443.79W TYPE:

AIRSPACE DOCKET: FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

| FAC | NAME | IDENT | TYPE | CLASS | MAG BRG | TRUE BRG | DME | DIST FROM FAC NM | MRA FEET | MAA |
|-----|-------------|-------|--------|-------|---------|----------|-----|------------------|----------|-------|
| 1 | GREAT FALLS | GTF | VORTAC | H | | | | | | 45000 |

HOLDING: HOLDING TYPE OF ACTION: MODIFY

PATTERNS:

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME DME | HOLDING ALTITUDES MIN MAX | TEMPLATES MIN MAX |
|-----|-----|-------|--------|-------------|-------------|---------------|---------------------|---------------------------|-------------------|
| 1 | SW | GTF | VORTAC | 208.88 | 028.88 | R | 1 | 8000 14000 | 8 14 |
| 2 | NE | GTF | VORTAC | 028.77 | 208.77 | R | 1 | 6300 14000 | 8 14 |

CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|-----|----------|-------------------|------------------------|-----------|---------------|
| UPN | 200 | AAO | 471759.56N/1111512.56W | 4719 | 2C |
| UPN | 230 | AAO | 472555.00N/1114501.90W | 4997 | 6A |
| 1 | 230 | AAO | 472042.00N/1111909.00W | 4334 | 4E |
| 1 | 310 | AAO | 470846.06N/1113918.29W | 6829 | 2A |
| 2 | 230 | TOWER (30-000327) | 473624.31N/1112133.68W | 4621 | 4D |
| 2 | 310 | TOWER (30-000327) | 473624.31N/1112133.68W | 4621 | 4D |

HOLDING RESTRICTIONS:

UNPLANNED HOLDING AUTHORIZED AT OR ABOVE MEA.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

| PAT | PROCEDURE TITLE | AIRPORT IDENT | CITY | STATE |
|-----|-----------------|---------------|-------------|---------|
| 1 | VOR RWY 21 | KGTF | GREAT FALLS | MT (US) |
| 2 | VOR RWY 3 | KGTF | GREAT FALLS | MT (US) |

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 ASSIGNED FACILITY MAGVAR 16E.

FIX USE:

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|----------|----------------------|-----|-----|---------------|-------------|---------|
| DP | BILLINGS | | | KBIL | BILLINGS | MT (US) |
| DP | SIEBE | | | KHLN | HELENA | MT (US) |
| DP | STAKK | | | KHLN | HELENA | MT (US) |
| DP | BILLINGS | | | K6S8 | LAUREL | MT (US) |
| EN ROUTE | J13 | | | | | (US) |
| EN ROUTE | J13-516 | | | | | (US) |
| EN ROUTE | J36 | | | | | (US) |
| EN ROUTE | J36-203-204 | | | | | (US) |
| EN ROUTE | J569 | | | | | (US) |
| EN ROUTE | J7 | | | | | (US) |
| EN ROUTE | J7-530 | | | | | (US) |
| EN ROUTE | J9 | | | | | (US) |
| EN ROUTE | V120 | | | | | (US) |
| EN ROUTE | V187 | | | | | (US) |
| EN ROUTE | V21 | | | | | (US) |
| EN ROUTE | V257 | | | | | (US) |
| EN ROUTE | V536 | | | | | (US) |
| IAP | VOR/DME OR GPS-A | | | K3U3 | ANACONDA | MT (US) |
| IAP | ILS OR LOC RWY 3 | | | KGTF | GREAT FALLS | MT (US) |
| IAP | ILS RWY 3 (CAT II) | | | KGTF | GREAT FALLS | MT (US) |
| IAP | ILS RWY 3 (CAT III) | | | KGTF | GREAT FALLS | MT (US) |
| IAP | ILS RWY 3 (SA CAT 1) | | | KGTF | GREAT FALLS | MT (US) |
| IAP | NDB RWY 34 | | | KGTF | GREAT FALLS | MT (US) |
| IAP | RNAV (GPS) RWY 17 | | | KGTF | GREAT FALLS | MT (US) |
| IAP | RNAV (GPS) RWY 35 | | | KGTF | GREAT FALLS | MT (US) |
| IAP | RNAV (GPS) Y RWY 3 | | | KGTF | GREAT FALLS | MT (US) |
| IAP | VOR RWY 21 | | 1 | KGTF | GREAT FALLS | MT (US) |
| IAP | VOR RWY 3 | | 2 | KGTF | GREAT FALLS | MT (US) |
| IAP | ILS OR LOC Y RWY 27 | | | KHLN | HELENA | MT (US) |
| IAP | ILS OR LOC Z RWY 27 | | | KHLN | HELENA | MT (US) |
| IAP | LOC/DME BC-C | | | KHLN | HELENA | MT (US) |
| IAP | VOR-A | | | KHLN | HELENA | MT (US) |
| IAP | VOR/DME-B | | | KHLN | HELENA | MT (US) |

REQUIRED CHARTING: DP, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO**RECORD REVISION NUMBER: 16****DATE OF REVISION: 08/17/2017****REASON FOR REVISION:**

ADDED IAP KGTF RNAV (GPS) RWY 17/35.
IAP KGTF ILS OR LOC/DME RWY 3 CHANGED TO ILS OR LOC RWY 3.
IAP KGTF VOR/DME RWY 3 CHANGED TO VOR RWY 3
REMARK ADDED ASSIGNED FACILITY MAGVAR 16E.
PATTERN 2 RAD/CRS/BRG CHANGED FROM 028.78 TO 028.77.
PATTERN 2 CRS INBOUND CHANGED FROM 208.78 TO 208.77.
DELETED PATTERN 2 AIRSPEED 200 CONTROLLING OBSTRUCTION DATA.
ADDED PATTERN 2 AIRSPEED 230 CONTROLLING OBSTRUCTION DATA
PATTERN 1 RAD/CRS/GRG CHANGED FROM 208.78 TO 028.88.
PATTERN 1 CRS INBOUND CHANGED FROM 028.78 TO 028.88.
PATTERN 1 ADDED 310 C-I-H.
PATTERN 1 MIN HOLDING ALTITUDE CHANGED FROM 5500 TO 8000.
PATTERN 2 MIN HOLDING ALTITUDE CHANGED FROM 5700 TO 8000.
PATTERN 1 & 2 MAX TEMPLATE CHANGED FROM 10 TO 14.
PATTERN 1 & 2 MIN TEMPLATE CHANGED FROM 5 TO 8.
PROCEDURES REQUIRING CLIMB-IN-HOLD: ADDED GTF VOR RWY 21.

DEVELOPED BY:**DATE:** 03/21/2017**OFFICE:** AJV-5432**NAME:** DEANNA FIELDS**APPROVED BY:****DATE:****OFFICE:** AJV-5430**NAME:** PATRICK MULQUEEN**SIGNATURE:****DISTRIBUTION:**

NFDC
FPO: WST
ARTCC: ZLC
ATC FACILITY: GTF
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: KNOWL

STATE: MT

COUNTRY: US

ICAO REGION CODE: K1

LATITUDE/LONGITUDE: 474102.71N/1112221.86W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: ESTABLISH

HOLDING:

HOLDING TYPE OF ACTION: ESTABLISH

PATTERNS:

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME DME | HOLDING MIN | ALTITUDES MAX | TEMPLATES MIN | MAX |
|-----|-----|-------|------|-------------|----------------|------------------|------------------------|----------------|------------------|------------------|-----|
| 1 | N | | WP | 347.02 | 167.02 | R | 7 | 6200 | 10000 | 9 | 10 |

CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|-----|----------|-------------------|------------------------|-----------|---------------|
| 1 | 230 | TOWER (30-000327) | 473624.31N/1112133.68W | 4621 | 4D |

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|----------|-------------------|-----|-----|---------------|-------------|---------|
| IAP | RNAV (GPS) RWY 17 | | 1 | KGTF | GREAT FALLS | MT (US) |
| IAP | RNAV (GPS) RWY 35 | | 1 | KGTF | GREAT FALLS | MT (US) |

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG

DATE OF REVISION: 08/17/2017

DEVELOPED BY:

DATE: 03/21/2017

OFFICE: AJV-5432

NAME: DEANNA FIELDS

APPROVED BY:

DATE:

OFFICE: AJV-5430

NAME: PATRICK MULQUEEN

SIGNATURE:

DISTRIBUTION:

NFDC
FPO: WST
ARTCC: ZLC
ATC FACILITY: GTF
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: NICKH

STATE: MT

COUNTRY: US

ICAO REGION CODE: K1

LATITUDE/LONGITUDE: 471511.15N/1112222.61W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: ESTABLISH

HOLDING:

HOLDING TYPE OF ACTION: ESTABLISH

PATTERNS:

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME DME | HOLDING MIN | ALTITUDES MAX | TEMPLATES MIN | MAX |
|-----|-----|-------|------|-------------|----------------|------------------|------------------------|----------------|------------------|------------------|-----|
| 1 | S | | WP | 167.02 | 347.02 | R | 7 | 9000 | 10000 | 10 | 16 |
| 2 | S | | WP | 167.02 | 347.02 | R | 7 | 8000 | 10000 | 9 | 10 |

CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|-----|----------|-------------|------------------------|-----------|---------------|
| 1 | 230 | AAO | 470715.00N/1111309.00W | 6723 | 3E |
| 1 | 310 | AAO | 465951.00N/1110545.00W | 7589 | 3E |
| 2 | 230 | AAO | 470715.00N/1111254.00W | 6670 | 3E |

PRECIPITOUS TERRAIN ADDITIONS:

| PAT | SPEED | ADDITION |
|-----|-------|----------|
| 1 | 230 | 220 |
| 1 | 310 | 290 |
| 2 | 230 | 210 |

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

| PAT | PROCEDURE TITLE | AIRPORT IDENT | CITY | STATE |
|-----|-------------------|---------------|-------------|---------|
| 1 | RNAV (GPS) RWY 17 | KGTF | GREAT FALLS | MT (US) |

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
C-I-H EVALUATED WITH PATTERN 16.

FIX USE:

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|----------|-------------------|-----|-----|---------------|-------------|---------|
| IAP | RNAV (GPS) RWY 17 | | 1 | KGTF | GREAT FALLS | MT (US) |
| IAP | RNAV (GPS) RWY 35 | | 2 | KGTF | GREAT FALLS | MT (US) |

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG

DATE OF REVISION: 08/17/2017

DEVELOPED BY: DATE: 03/21/2017

OFFICE: AJV-5430

NAME: DEANNA FIELDS

APPROVED BY: DATE:

OFFICE: AJV-5432

NAME: PATRICK MULQUEEN

SIGNATURE:

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FPO: WST
ARTCC: ZLC
ATC FACILITY: GTF
OTHER: