GENERAL INFORMATION

This Chart Supplement is a Civil Flight Information Publication updated every eight weeks by the U.S. Department of Transportation, Federal Aviation Administration, Aeronautical Information Services, http://www.faa.gov/go/ais.
It is designed for use with Aeronautical Charts covering the conterminous United States, Puerto Rico and the Virgin Islands.

The Airport/Facility Directory section contains all public–use airports, seaplane bases and heliports, military facilities, and selected private use facilities specifically requested by the Department of Defense (DoD) for which a DoD Instrument Approach Procedure has been published in the U.S. Terminal Procedures Publication. Additionally, this publication contains communications data, navigational facilities and certain special notices and procedures.

Military data contained within this publication is provided by the National Geospatial–Intelligence Agency and is intended to provide reference data for military and/or joint use airports. Not all military data contained in this publication is applicable to civil users.

CORRECTIONS, COMMENTS, AND/OR PROCUREMENT

CRITICAL information such as equipment malfunction, abnormal field conditions, hazards to flight, etc., should be reported as soon as possible.

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*Airspace Information includes changes to preferred routes and graphic depictions on charts.

FOR PROCUREMENT:

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THIS PUBLICATION COMPRISES PART OF THE FOLLOWING SECTIONS OF THE UNITED STATES AERONAUTICAL INFORMATION PUBLICATION (AIP): GEN, ENR AND AD.

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CITY/MILITARY AIRPORT CROSS REFERENCE

Military airports are listed alphabetically by state and official airport name. The following city/military airport cross–reference listing provides alphabetical listing by state and city name for all military airport published in this directory.

STATE	CITY NAME	AIRPORT NAME
DE	DOVER	DOVER AFB
MA	FALMOUTH	CAPE COD CGAS
MA	SPRINGFIELD/CHICOPEE	WESTOVER ARB/METROPOLITAN
MD	CAMP SPRINGS	JOINT BASE ANDREWS
MD	PATUXENT	PATUXENT RIVER NAS (TRAPNELL FLD)
MD	ABERDEEN	PHILLIPS AAF (ABERDEEN PROVING GROUND)
NJ	LAKEHURST	LAKEHURST MAXFIELD FLD
NJ	WRIGHTSTOWN	JOINT BASE MCGUIRE DIX LAKEHURST
NY	FORT DRUM	WHEELER SACK AAF
PA	FORT INDIANTOWN GAP	MUIR AHP (FORT INDIANTOWN GAP)
VA	BLACKSTONE	ALLAN C PERKINSON BLACKSTONE AAF
VA	FORT A. P. HILL	A P HILL AAF (FORT A P HILL)
VA	FORT BELVOIR	DAVISON AAF
VA	FORT EUSTIS	FELKER AAF
VA	FORT LEE	FORT LEE HELIPAD NR 3
VA	HAMPTON	LANGLEY AFB
VA	NORFOLK	NORFOLK NS (CHAMBERS FLD)
VA	VIRGINIA BEACH	OCEANA NAS (APOLLO SOUCEK FLD)
VA	QUANTICO	QUANTICO MCAF (TURNER FLD)
VA	WALLOPS ISLAND	WALLOPS FLIGHT FACILITY
VA	WILLIAMSBURG	CAMP PEARY LNDG STRIP

SEAPLANE LANDING AREAS

The following locations have Seaplane Landing Areas (Waterways). See alphabetical listing for complete data on these facilities.

STATE	CITY NAME	FACILITY NAME
CT	EAST HADDAM	GOODSPEED
ME	ASHLAND	BRADFORD CAMPS SPB
ME	AUGUSTA	AUGUSTA
ME	BANGOR	LUCKY LANDING MARINA
ME	CHESUNCOOK	CHESUNCOOK LAKE HOUSE SPB
ME	CHESUNCOOK	NUGENT CHAMBERLAIN LAKE
ME	EAST WINTHROP	LAKESIDE LODGE AND MARINA
ME	GREENVILLE	MOOSEHEAD AERO MARINE
ME	GREENVILLE JUNCTION	CURRIER'S
ME	JACKMAN	MOOSE RIVER
ME	LINCOLN	LINCOLN RGNL
ME	MILLINOCKET	MILLINOCKET
ME	NAPLES	BRANDY POND
ME	NAPLES	LONG LAKE
ME	NORCROSS/MILLINOCKET	BUCKHORN CAMPS
ME	OLD TOWN	DEWITT FLD/OLD TOWN MUNI
ME	PATTEN	SHIN POND
ME	PRESQUE ISLE	PRESQUE ISLE
ME	RANGELEY	RANGELEY LAKE
ME	SINCLAIR	LONG LAKE
ME	TURNER	TWITCHELL
ME	VAN BUREN	VAN BUREN
MD	BALTIMORE	ESSEX SKYPARK
MD	HAVRE DE GRACE	HAVRE DE GRACE
MA	HALIFAX	MONPONSETT POND
NH	ALTON BAY	ALTON BAY SPB
NJ	LITTLE FERRY	LITTLE FERRY
NY	LONG LAKE	LONG LAKE (HELMS)
NY	LONG LAKE	LONG LAKE SAGAMORE SPB AND MARINA
NY	NEW YORK	EVERS
NY	NEW YORK	NEW YORK SKYPORTS INC
NY	ROUND LAKE	ROUND LAKE
NY	SCHUYLERVILLE	GARNSEYS
PA	ERIE	PRESQUE ISLE
PA	ERIE	PRESQUE ISLE BAY
PA	ESSINGTON	PHILADELPHIA
PA	SUNBURY	SUNBURY SPB
VA	CHESTER	MCLAUGHLIN SPB

ABBREVIATIONS

The following abbreviations/acronyms are those commonly used within this Directory. Other abbreviations/acronyms may be found in the Legend and are not duplicated below. The abbreviations presented are intended to represent grammatical variations of the basic form. (Example–"req" may mean "request", "requesting", "requested", or "requests").

For additional FAA approved abbreviations/acronyms please see FAA Order JO 7340.2 —Contractions

Abbreviation	Description
A/G	air/ground
AAF	Army Air Field
AAS	Airport Advisory Service
AB	Airbase
abm	abeam
ABn	Aerodrome Beacon
abv	above
ACC	Air Combat Command Area Control Center
acft	aircraft
ACLS	Automatic Carrier Landing System
ACN	Aircraft Classification Number
ACR	Air Carrier
act	activity
ACWS	Aircraft Control and Warning Squadron
ADA	Advisory Area
ADCC	Air Defense Control Center
ADCUS	Advise Customs
addn	addition
ADF	Automatic Direction Finder
adj	adjacent
admin	administration
ADR	Advisory Route
advs	advise
advsy	advisory
AEIS	Aeronautical Enroute Information Service
AER	approach end rwy
AFA	Army Flight Activity
AFB	Air Force Base
afct	affect
AFFF	Aqueous Film Forming Foam
AFHP	Air Force Heliport
AFIS	Automatic Flight Information Service
afld	airfield
AFOD	Army Flight Operations Detachment
AFR	Air Force Regulation
AFRC	Armed Forces Reserve Center/Air Force Reserve Command
AFRS	American Forces Radio Stations
AFS	Air Force Station
AFTN	Aeronautical Fixed Telecommunication Network
AG	Agriculture
A–G, A–GEAR	Arresting Gear
agcy	Agency
AGL	above ground level
AHP	Army heliport
AID	Airport Information Desk
AIS	Aeronautical Information Services
AL	Approach and Landing Chart
ALF	Auxiliary Landing Field
ALS	Approach Light System
ALSF–1	High Intensity ALS Category I configuration with sequenced Flashers (code)
ALSF–2	High Intensity ALS Category II configuration with sequenced Flashers (code)

Abbreviation	Description
alt	altitude
altn	alternate
AM	Amplitude Modulation, midnight til noon
AMC	Air Mobility Command
amdt	amendment
AMSL	Above Mean Sea Level
ANGS	Air National Guard Station
ant	antenna
AOE	Airport/Aerodrome of Entry
AP	Area Planning
APAPI	Abbreviated Precision Approach Path Indicator
apch	approach
apn	apron
APP	Approach Control
Apr	April
aprx	approximate
APU	Auxiliary Power Unit
apv, apvl	approve, approval
ARB	Air Reserve Base
ARFF	Aircraft Rescue and Fire Fighting
ARINC	Aeronautical Radio Inc
arng	arrange
arpt	airport
arr	arrive
ARS	Air Reserve Station
ARSA	Airport Radar Service Area
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
AS	Air Station
ASAP	as soon as possible
ASDA	Accelerate–Stop Distance Available
ASDE	Airport Surface Detection
ASDE–X	Airport Surface Detection Equipment–Model X
asgn	assign
ASL	Above Sea Level
ASOS	Automated Surface Observing System
ASR	Airport Surveillance Radar
ASSC	Airport Surface Surveillance Capability
ASU	Aircraft Starting Unit
ATA	Actual Time of Arrival
ATC	Air Traffic Control
ATCC	Air Traffic Control Center
ATCT	Airport Traffic Control Tower
ATD	Actual Time of Departure Along Track Distance
ATIS	Automatic Terminal Information Service
ATS	Air Traffic Service
attn	attention
Aug	August
auth	authority
auto	automatic
AUW	All Up Weight (gross weight)
aux	auxiliary
AVASI	abbreviated VASI
avbl	available

Abbreviation	Description
AvGas	Aviation gasoline
avn	aviation
AvOil	aviation oil
AWOS	Automatic Weather Observing System
AWSS	Automated Weather Sensor System
awt	await
awy	airway
az	azimuth
BA	braking action
BASH	Bird Aircraft Strike Hazard
BC	back course
bcn	beacon
bcst	broadcast
bdry	boundary
bldg	building
blkd	blocked
blo, blw	below
BOQ	Bachelor Officers Quarters
brg	bearing
btn	between
bus	business
byd	beyond
C	Commercial Circuit (Telephone)
CAC	Centralized Approach Control
cap	capacity
cat	category
CAT	Clear Air Turbulence
CCW or cntclkws	counterclockwise
ceil	ceiling
CERAP	Center Radar Approach Control
CG	Coast Guard
CGAF	Coast Guard Air Facility
CGAS	Coast Guard Air Station
CH, chan	channel
CHAPI	Chase Helicopter Approach Path Indicator
chg	change
cht	chart
cir	circle, circling
CIV, civ	Civil, civil, civilian
ck	check
CL	Centerline Lighting System
cl	class
clnc	clearance
clsd	closed
CNATRA	Chief of Naval Air Training
cnl	cancel
cntr	center
cntrln	centerline
Co	Company, County
CO	Commanding Officer
com	communication
comd	command
Comdr	Commander
coml	commercial
compul	compulsory
comsn	commission
conc	concrete
cond	condition
const	construction
cont	continue
CONUS	Continental United States
convl	conventional
coord	coordinate
copter	helicopter
corr	correct
CPDLC	Controller Pilot Data Link Communication
crdr	corridor
cros	cross
CRP	Compulsory Reporting Point
crs	course
CS	call sign
CSTMS	Customs
CTA	Control Area
CTAF	Common Traffic Advisory Frequency
ctc	contact
ctl	control
ctn	caution
CTLZ	Control Zone
CVFR	Controlled Visual Flight Rules Areas
CW	Clockwise, Continuous Wave, Carrier Wave
dalgt	daylight
D–ATIS	Digital Automatic Terminal Information Service
daylt	daylight
db	decibel
DCL	Departure Clearance
Dec	December
decom	decommission
deg	degree
del	delivery
dep	depart
DEP	Departure Control
destn	destination
det	detachment
DF	Direction Finder
DH	Decision Height
DIAP	DoD Instrument Approach Procedure
direc	directional
disem	disseminate
displ	displace
dist	district, distance
div	division
DL	Direct Line to FSS
dlt	delete
dly	daily
DME	Distance Measuring Equipment (UHF standard, TACAN compatible)
DNVT	Digital Non–Secure Voice Telephone
DoD	Department of Defense
drct	direct
DSN	Defense Switching Network (Telephone)
DSN	Defense Switching Network
dsplcd	displaced
DT	Daylight Savings Time
dur	during
durn	duration
DV	Distinguished Visitor
E	East
ea	each
EAT	Expected Approach Time
ECN	Enroute Change Notice
eff	effective, effect
EFVS	Enhanced Flight Vision Systems
E–HA	Enroute High Altitude
E–LA	Enroute Low Altitude

Abbreviation	Description
elev	elevation
ELT	Emergency Locator Transmitter
EMAS	Engineered Material Arresting System
emerg	emergency
eng	engine
EOR	End of Runway
eqpt	equipment
ERDA	Energy Research and Development Administration
E–S	Enroute Supplement
est	estimate
estab	establish
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETE	Estimated Time Enroute
ETS	European Telephone System
EUR	European (ICAO Region)
ev	every
evac	evacuate
exc	except
excld	exclude
exer	exercise
exm	exempt
exp	expect
extd	extend
extn	extension
extv	extensive
F/W	Fixed Wing
FAA	Federal Aviation Administration
fac	facility
FAWS	Flight Advisory Weather Service
fax	facsimile
FBO	Fixed Base Operator
FCC	Flight Control Center
FCG	Foreign Clearance Guide
FCLP	field carrier landing practice
fcst	forecast
Feb	February
FIC	Flight Information Center
FIH	Flight Information Handbook
FIR	Flight Information Region
FIS	Flight Information Service
FL	flight level
fld	field
flg	flashing
FLIP	Flight Information Publication
flt	flight
flw	follow
FM	Fan Marker, Frequency Modulation
FOC	Flight Operations Center
FOD	Foreign Object Damage
fone	telephone
FPL	Flight Plan
fpm	feet per minute
fr	from
freq	frequency, frequent
Fri	Friday
frng	firing
FSS	Flight Service Station
ft	foot
ftr	fighter

Abbreviation	Description
GA	Glide Angle
gal	gallon
GAT	General Air Traffic (Europe–Asia)
GCA	Ground Control Approach
GCO	Ground Communication Outlet
gldr	glider
GND	Ground Control
gnd	ground
govt	government
GP	Glide Path
Gp	Group
GPI	Ground Point of Intercept
grad	gradient
grd	guard
GS	glide slope
GWT	gross weight
H	Enroute High Altitude Chart (followed by identification)
H+	Hours or hours plus…minutes past the hour
H24	continuous operation
HAA	Height Above Airport/Aerodrome
HAL	Height Above Landing Area
HAR	Height Above Runway
HAT	Height Above Touchdown
haz	hazard
hdg	heading
HDTA	High Density Traffic Airport/Aerodrome
HF	High Frequency (3000 to 30,000 KHz)
hgr	hangar
hgt	height
hi	high
HIRL	High Intensity Runway Lights
HO	Service available to meet operational requirements
hol	holiday
HOLF	Helicopter Outlying Field
hosp	hospital
HQ	Headquarters
hr	hour
HS	Service available during hours of scheduled operations
hsg	housing
hvy	heavy
HW	Heavy Weight
hwy	highway
HX	station having no specific working hours
Hz	Hertz (cycles per second)
I	Island
IAP	Instrument Approach Procedure
IAS	Indicated Air Speed
IAW	in accordance with
ICAO	International Civil Aviation Organization
ident	identification
IFF	Identification, Friend or Foe
IFR	Instrument Flight Rules
IFR–S	FLIP IFR Supplement
ILS	Instrument Landing System
IM	Inner Marker
IMC	Instrument Meteorological Conditions
IMG	Immigration

Abbreviation	Description
immed	immediate
inbd	inbound
Inc	Incorporated
incl	include
incr	increase
indef	indefinite
info	information
inop	inoperative
inst	instrument
instl	install
instr	instruction
int	intersection
intcntl	intercontinental
intcp	intercept
intl	international
intmt	intermittent
ints	intense, intensity
invof	in the vicinity of
irreg	Irregularly
Jan	January
JASU	Jet Aircraft Starting Unit
JATO	Jet Assisted Take–Off
JOAP	Joint Oil Analysis Program
JOSAC	Joint Operational Support Airlift Center
JRB	Joint Reserve Base
Jul	July
Jun	June
K or Kt	Knots
kHz	kilohertz
KIAS	Knots Indicated Airspeed
KLIZ	Korea Limited Identification Zone
km	Kilometer
kw	kilowatt
L	Compass locator (Component of ILS system) under 25 Watts, 15 NM, Enroute Low Altitude Chart (followed by identification)
L	Local Time
LAHSO	Land and Hold–Short Operations
L–AOE	Limited Airport of Entry
LAWRS	Limited Aviation Weather Reporting Station
lb, lbs	pound (weight)
LC	local call
lcl	local
LCP	French Peripheral Classification Line
lctd	located
lctn	location
lctr	locator
LCVASI	Low Cost Visual Approach Slope Indicator
lczr	localizer
LD	long distance
LDA	Landing Distance Available
ldg	landing
LDIN	Lead–in Lights
LDOCF	Long Distance Operations Control Facility
LED	Light Emitting Diode
len	length
lgt, lgtd, lgts	light, lighted, lights
LIRL	Low Intensity Runway Lights

Abbreviation	Description
LLWAS	Low–Level Wind Shear Alert System
LLZ	Localizer (Instrument Approach Procedures Identification only)
LMM	Compass locator at Middle Marker ILS
lo	low
LoALT or LA	Low Altitude
LOC	Localizer
LOM	Compass locator at Outer Marker ILS
LR	Long Range, Lead Radial
LRA	Landing Rights Airport
LRRS	Long Range RADAR Station
LSB	lower side band
ltd	limited
M	meters, magnetic (after a bearing), Military Circuit (Telephone)
MACC	Military Area Control Center
mag	magnetic
maint	maintain, maintenance
maj	major
MALS	Medium Intensity Approach Lighting System
MALSF	MALS with Sequenced Flashers
MALSR	MALS with Runway Alignment Indicator Lights
Mar	March
MARA	Military Activity Restricted Area
MATO	Military Air Traffic Operations
MATZ	Military Aerodrome Traffic Zone
max	maximum
mb	millibars
MCAC	Military Common Area Control
MCAF	Marine Corps Air Facility
MCALF	Marine Corps Auxiliary Landing Field
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCC	Military Climb Corridor
MCOLF	Marine Corps Outlying Field
MDA	Minimum Descent Altitude
MEA	Minimum Enroute Altitude
med	medium
MEHT	Minimum Eye Height over Threshold
mem	memorial
MET	Meteorological, Meteorology
METAR	Aviation Routine Weather Report (in international MET figure code)
METRO	Pilot–to–Metro voice cell
MF	Medium Frequency (300 to 3000 KHz), Mandatory Frequency (Canada)
MFA	Minimum Flight Altitude
mgmt	Management
mgr	manager
MHz	Megahertz
mi	mile
MID/ASIA	Middle East/Asia (ICAO Region)
MIJI	Meaconing, Intrusion, Jamming, and Interference
Mil, mil	military
min	minimum, minute
MIRL	Medium Intensity Runway Lights
misl	missile
mkr	marker (beacon)
MM	Middle Marker of ILS
mnt	monitor
MOA	Military Operations Area

Abbreviation	Description
MOCA	Minimum Obstruction Clearance Altitude
mod	modify
MOG	Maximum (aircraft) on the Ground
MON	Minimum Operational Network
Mon	Monday
MP	Maintenance Period
MR	Medium Range
MRA	Minimum Reception Altitude
mrk	mark, marker
MSAW	minimum safe altitude warning
msg	message
MSL	Mean Sea Level
msn	Mission
mt	mount, mountain
MTAF	Mandatory Traffic Advisory Frequency
MTCA	Military Terminal Control Area
mthly	monthly
MUAC	Military Upper Area Control
muni	municipal
MWARA	Major World Air Route Area
N	North
N/A	Not Applicable
NA	Not Authorized
NAAS	Naval Auxiliary Air Station
NADC	Naval Air Development Center
NADEP	Naval Air Depot
NAEC	Naval Air Engineering Center
NAES	Naval Air Engineering Station
NAF	Naval Air Facility
NALCO	Naval Air Logistics Control Office
NALF	Naval Auxiliary Landing Field
NALO	Navy Air Logistics Office
NAS	Naval Air Station
NAT	North Atlantic (ICAO Region)
natl	national
nav	navigation
navaid	navigation aid
NAVMTO	Navy Material Transportation Office
NAWC	Naval Air Warfare Center
NAWS	Naval Air Weapons Station
NCRP	Non–Compulsory Reporting Point
NDB	Non–Directional Radio Beacon
NE	Northeast
nec	necessary
NEW	Net Explosives Weight
ngt	night
NM	nautical miles
nml	normal
NMR	nautical mile radius
No or Nr	number
NOLF	Naval Outlying Field
NORDO	Lost communications or no radio installed/available in aircraft
NOTAM	Notice to Airmen
Nov	November
npi	non precision instrument
Nr or No	number
NS	Naval Station
NS ABTMT	Noise Abatement
NSA	Naval Support Activity
NSF	Naval Support Facility
NSTD, nstd	nonstandard
ntc	notice
NVD	Night Vision Devices
NVG	Night Vision Goggles
NW	Northwest
NWC	Naval Weapons Center
O/A	On or about
O/S	out of service
O/R	On Request
OAT	Operational Air Traffic
obsn	observation
obst	obstruction
OCA	Oceanic Control Area
ocnl	occasional
Oct	October
ODALS	Omnidirectional Approach Lighting System
ODO	Operations Duty Officer
offl	official
OIC	Officer In Charge
OLF	Outlying Field
OLS	Optical Landing System
OM	Outer Marker, ILS
opr	operate, operator, operational
OPS, ops	operations
orig	original
OROCA	Off Route Obstruction Clearance Altitude
ORTCA	Off Route Terrain Clearance Altitude
OT	other times
OTS	out of service
outbd	outbound
ovft	overflight
ovrn	overrun
OX	oxygen
P/L	plain language
PAC	Pacific (ICAO Region)
PAEW	personnel and equipment working
PALS	Precision Approach and Landing System (NAVY)
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
para	paragraph
parl	parallel
pat	pattern
PAX	Passenger
PCL	pilot controlled lighting
PCN	Pavement Classification Number
PCR	Pavement Classification Rating
PDC	Pre–Departure Clearance
pent	penetrate
perm	permanent
perms	permission
pers	personnel
PFC	Porous Friction Courses
PJE	Parachuting Activities/Exercises
p–line	power line
PM	Post meridian, noon til midnight
PMRF	Pacific Missile Range Facility
PMSV	Pilot–to–Metro Service
PN	prior notice
POB	persons on board
POL	Petrol, Oils and Lubricants

Abbreviation	Description
posn	position
PPR	prior permission required
prcht	parachute
pref	prefer
prev	previous
prim	primary
prk	park
PRM	Precision Runway Monitor
pro	procedure
proh	prohibited
pt	point
PTD	Pilot to Dispatcher
pub	publication
publ	publish
PVASI	Pulsating Visual Approach Slope Indicator
pvt	private
pwr	power
QFE	Altimeter Setting above station
QNE	Altimeter Setting of 29.92 inches which provides height above standard datum plane
QNH	Altimeter Setting which provides height above mean sea level
qtrs	quarters
quad	quadrant
R/T	Radiotelephony
R/W	Rotary/Wing
RACON	Radar Beacon
rad	radius, radial
RAIL	Runway Alignment Indicator Lights
RAMCC	Regional Air Movement Control Center
R–AOE	Regular Airport of Entry
RAPCON	Radar Approach Control (USAF)
RATCF	Radar Air Traffic Control Facility (Navy)
RCAG	Remote Center Air to Ground Facility
RCAGL	Remote Center Air to Ground Facility Long Range
RCL	runway centerline
RCLS	Runway Centerline Light System
RCO	Remote Communications Outlet
rcpt	reception
RCR	Runway Condition Reading
rcv	receive
rcvr	receiver
rdo	radio
reconst	reconstruct
refuel	refueling
reg	regulation, regular
REIL	Runway End Identifier Lights
rel	reliable
relctd	relocated
REP	Reporting Point
req	request
RETIL	Rapid Exit Taxiway Indicator Light
Rgn	Region
Rgnl	Regional
rgt	right
rgt tfc	right traffic
rlgd	realigned
RLLS	Runway Lead-in Light System
rmk	remark
rng	range, radio range

Abbreviation	Description
RNP	Required Navigation Performance
RON	Remain Overnight
Rot Lt or Bcn	Rotating Light or Beacon
RPI	Runway Point of Intercept
rpt	report
rqr	require
RR	Railroad
RRP	Runway Reference Point
RSC	Runway Surface Condition
RSDU	Radar Storm Detection Unit
RSE	Runway Starter Extension/Starter Strip
RSRS	Reduced Same Runway Separation
rstd	restricted
rte	route
ruf	rough
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minima
rwy	runway
S	South
S/D	Seadrome
SALS	Short Approach Lighting System
SAR	Search and Rescue
Sat	Saturday
SAVASI	Simplified Abbreviated Visual Approach Slope Indicator
SAWRS	Supplement Aviation Weather Reporting Station
sby	standby
Sched	scheduled services
sctr	sector
SDF	Simplified Directional Facility
SE	Southeast
sec	second, section
secd	secondary
SELCAL	Selective Calling System
SELF	Strategic Expeditionary Landing Field
SEng	Single Engine
Sep	September
SFA	Single Frequency Approach
SFB	Space Force Base
sfc	surface
SFL	Sequence Flashing Lights
SFRA	Special Flight Rules Area
SID	Standard Instrument Departure
SIDA	Secure Identification Display Area
SIF	Selective Identification Feature
sked	schedule
SM	statute miles
SOAP	Spectrometric Oil Analysis Program
SOF	Supervisor of Flying
SPB	Seaplane Base
SR	sunrise
SRE	Surveillance Radar Element of GCA (Instrument Approach Procedures Identification only)
SS	sunset
SSALS/R	Simplified Short Approach Lighting System/with RAIL
SSB	Single Sideband
SSR	Secondary Surveillance Radar
STA	Straight-in Approach
std	standard
stn	station
stor	storage

Abbreviation	Description
str–in	Straight–in
stu	student
subj	subject
survl	survival, surveillance
sum	summer
Sun	Sunday
sur	surround
suspd	suspended
sUAS	small Unmanned Aerial Systems
svc	service
svcg	servicing
SW	Southwest
sys	system
TA	Transition Altitude
TAC	Tactical Air Command
TAF	Aerodrome (terminal or alternate) forecast in abbreviated form
TALCE	Tanker Aircraft Control Element
TCA	Terminal Control Area
TCH	Threshold Crossing Height
TCTA	Transcontinental Control Area
TD	Touchdown
TDWR	Terminal Doppler Weather Radar
TDZ	Touchdown Zone
TDZL	Touchdown Zone Lights
tfc	traffic
thld	threshold
thou	thousand
thru	through
Thu	Thursday
til	until
tkf, tkof	take–off
TLv	Transition Level
tmpry	temporary
TODA	Take–Off Distance Available
TORA	Take–Off Run Available
TP	Tire Pressure
TPA	Traffic Pattern Altitude
TRACON	Terminal Radar Approach Control (FAA)
tran	transient
trans	transmit
trml	terminal
trng	training
trns	transition
TRSA	Terminal Radar Service Area
Tue	Tuesday
TV	Television
twr	tower
twy	taxiway
UACC	Upper Area Control Center (used outside US)
UAS	Unmanned Aerial Systems
UC	Under Construction
UCN	Urgent Change Notice
UDA	Upper Advisory Area
UDF	Ultra High Frequency Direction Finder
UFN	until further notice
UHF	Ultra High Frequency (300 to 3000 MHz)
UIR	Upper Flight Information Region
una	unable
unauthd	unauthorized
unavbl	unavailable
unctl	uncontrolled
unk	unknown
unlgtd	unlighted
unltd	unlimited
unmrk	unmarked
unmto	unmonitored
unrel	unreliable
unrstd	unrestricted
unsatfy	unsatisfactory
unsked	unscheduled
unsvc	unserviceable
unuse, unusbl	unusable
USA	United States Army
USAF	United States Air Force
USB	Upper Side Band
USCG	United States Coast Guard
USMC	United States Marine Corps
USSF	United States Space Force
USN	United States Navy
UTA	Upper Control Area
UTC	Coordinated Universal Time
V	Defense Switching Network (telephone, formerly AUTOVON)
V/STOL	Vertical and Short Take–off and Landing aircraft
VAL	Visiting Aircraft Line
var	variation (magnetic variation)
VASI	Visual Approach Slope Indicator
vcnty	vicinity
VDF	Very High Frequency Direction Finder
veh	vehicle
vert	vertical
VFR	Visual Flight Rules
VFR–S	FLIP VFR Supplement
VHF	Very High Frequency (30 to 300 MHz)
VIP	Very Important Person
vis	visibility
VMC	Visual Meteorological Conditions
VOIP	Voice Over Internet Protocol
VOT	VOR Receiver Testing Facility
W	Warning Area (followed by identification), Watts, West, White
WCH	Wheel Crossing Height
Wed	Wednesday
Wg	Wing
WIE	with immediate effect
win	winter
WIP	work in progress
WSO	Weather Service Office
WSFO	Weather Service Forecast Office
wk	week
wkd	weekday
wkly	weekly
wng	warning
wo	without
WSP	Weather System Processor
wt	weight
wx	weather
yd	yard
yr	year
Z	Greenwich Mean Time (time groups only)

INTENTIONALLY

LEFT

BLANK

SAMPLE

(1) **CITY NAME**

AIRPORT NAME (ALTERNATE NAME) (LTS)(KLTS) CIV/MIL 3 N UTC–6(–5DT) N34º41.93´ W99º20.20´ (2) (3) (4) (5) (6) (7) (8)

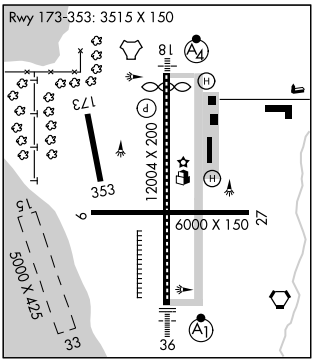
200 B TPA—1000(800) AOE LRA Class IV, ARFF Index A NOTAM FILE ORL Not insp. MON Airport

(11) (12) (13) (14) (15) (16) (17) (18)

JACKSONVILLE
COPTER
H–4G, L–19C
IAP, DIAP, AD

(9)

(19) **RWY 18–36:** H12004X200 (ASPH–CONC–GRVD)
S–90, D–160, 2D–300 PCN 80 R/B/W/T HIRL CL
RWY 18: RLLS. MALSF. TDZL. REIL. PAPI(P2R)—GA 3.0º TCH 36´.
RVR–TMR. Thld dsplcd 300´. Trees. Rgt tfc. 0.3% up.
RWY 36: ALSF1. 0.4% down.
RWY 09–27: H6000X150 (ASPH) PCR 1234 R/B/W/T MIRL
RWY 173–353: H3515X150 (ASPH–PFC) AUW PCN 59 F/A/W/T



(10)

(20) **LAND AND HOLD–SHORT OPERATIONS**

LDG RWY	HOLD–SHORT POINT	AVBL LDG DIST
RWY 18	09–27	6500
RWY 36	09–27	5400

(21) **RUNWAY DECLARED DISTANCE INFORMATION**
RWY 18: TORA–12004 TODA–12004 ASDA–11704 LDA–11504
RWY 36: TORA–12004 TODA–12004 ASDA–12004 LDA–11704

(22) **ARRESTING GEAR/SYSTEM**
RWY 18 HOOK E5 (65´ OVRN) BAK–14 BAK–12B (1650´)
BAK–14 BAK–12B (1087´) HOOK E5 (74´ OVRN) **RWY 36**

(23) **SERVICE:** S4 **FUEL** 100LL, JET A **OX** 1, 3 **LGT** ACTIVATE MALSR Rwy 29, REIL Rwy 11, VASI Rwy 11, HIRL Rwy 11–29, PAPI Rwy 17 and Rwy 35, MIRL Rwy 17–35—CTAF. **MILITARY— A–GEAR** E–5 connected on dep end, disconnected on apch end.
JASU 3(AM32A–60) 2(A/M32A–86) **FUEL** J8(Mil)(NC–100, A)
FLUID W SP PRESAIR LOX **OIL** O–128 **MAINT** S1 Mon–Fri 1000–2200Z‡
TRAN ALERT Avbl 1300–0200Z‡ svc limited weekends.

(24) **NOISE:** Noise abatement 3 miles from Rwy 18. Contact tower manager.

(25) **AIRPORT REMARKS:** Special Air Traffic Rules—Part 93, see Regulatory Notices. Attended 1200–0300Z‡. Parachute Jumping. Deer invof arpt. Heavy jumbo jet training surface to 9000´. Twy A clsd indef. Flight Notification Service (ADCUS) avbl.

(26) **MILITARY REMARKS: ANG** PPR/Official Business Only. Base OPS DSN 638–4390, C503–335–4222. Ctc Base OPS 15 minutes prior to ldg and after dep. Limited tran parking.

(27) **AIRPORT MANAGER:** (580) 481–5739

(28) **WEATHER DATA SOURCES: AWOS–1** 120.3 (202) 426–8000. LAWRS.

(29) **COMMUNICATIONS: SFA CTAF** 122.8 **UNICOM** 122.95 **ATIS** 127.25 273.5 (202) 426–8003 **PTD** 372.2
NAME FSS (ORL) on arpt. 123.65 122.65 122.2
NAME RCO 112.2T 112.1R (NAME RADIO)
Ⓡ **NAME APP/DEP CON** 128.35 257.725 (1200–0400Z‡)
TOWER 119.65 255.6 (1200–0400Z‡) **GND CON** 121.7 **GCO** 135.075 (ORLANDO CLNC) **CLNC DEL** 125.55
CPDLC D–HZWXR, D–TAXI, DCL (LOGON KMEM)
NAME COMD POST (GERONIMO) 311.0 321.4 6761 **PMSV METRO** 239.8 **NAME OPS** 257.5

(30) **AIRSPACE: CLASS B** See VFR Terminal Area Chart.

(31) **VOR TEST FACILITY (VOT):** 116.7

(32) **RADIO AIDS TO NAVIGATION:** NOTAM FILE ORL. VHF/DF ctc FSS.
(VH) (H) VORTAC 112.2 MCO Chan 59 N28º32.55´ W81º20.12´ at fld. 1110/8E.
(H) TACAN Chan 29 CBU (109.2) N28º32.65´ W81º21.12´ at fld. 1115/8E.
HERNY NDB (LOM) 221 OR N28º37.40´ W81º21.05´ 177º 5.4 NM to fld.
ILS/DME 108.5 I–ORL Chan 22 Rwy 18. Class IIE. LOM HERNY NDB.
ASR/PAR (1200–0400Z‡)

(33) **COMM/NAV/WEATHER REMARKS:** Emerg frequency 121.5 not avbl at twr.

HELIPAD H1: H100X75 (ASPH)
HELIPAD H2: H60X60 (ASPH)
HELIPORT REMARKS: Helipad H1 lctd on general aviation side and H2 lctd on air carrier side of arpt.
187 TPA 1000(813)

(1)

WATERWAY 15–33: 5000X425 (WATER)
SEAPLANE REMARKS: Birds roosting and feeding areas along river banks. Seaplanes operating adjacent to SW side of arpt not visible from twr and are required to ctc twr.

All bearings and radials are magnetic unless otherwise specified. All mileages are nautical unless otherwise noted.
All times are Coordinated Universal Time (UTC) except as noted. All elevations are in feet above/below Mean Sea Level (MSL) unless otherwise noted.
The horizontal reference datum of this publication is North American Datum of 1983 (NAD83), which for charting purposes is considered equivalent to World Geodetic System 1984 (WGS 84).

19171

(10)

SKETCH LEGEND

RUNWAYS/LANDING AREAS

Hard Surface . . . . . .

Metal Surface . . . . . .

Other than Hard Surface Runways. . . .

Water Runway . . . . . .

Under Construction . . . . .

Closed Rwy . . . . . .

Closed Pavement . . . . . x x x x

Helicopter Landings Area . . . . . (H)

Displaced Threshold . . . . . .

Taxiway, Apron and Stopways . .

MISCELLANEOUS BASE AND CULTURAL FEATURES

Buildings . . . . . .

Power Lines . . . . . —T——T—

Towers . . . . . .

Wind Turbine. . . . . .

Tanks . . . . . .

Oil Well . . . . . .

Smoke Stack . . . . . .

Obstruction 5812

Controlling Obstruction . . . . . +5812

Trees . . . . . .

Populated Places . . . . . .

Cuts and Fills . . . . . Cut Fill

Cliffs and Depressions . .

Ditch . . . . . .

Hill . . . . . .

RADIO AIDS TO NAVIGATION

VORTAC . . . VOR . . . . . .

VOR/DME . . NDB . . . . . .

TACAN . . . . NDB/DME . . . .

DME . . . .

MISCELLANEOUS AERONAUTICAL FEATURES

Airport Beacon . . . . . .

Wind Cone . . . . . .

Landing Tee . . . . . .

Tetrahedron . . . . . .

Control Tower . . . . . TWR

When control tower and rotating beacon are co-located beacon symbol will be used and further identified as TWR.

APPROACH LIGHTING SYSTEMS

A dot "•" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g. (A1) Negative symbology, e.g., (A1) (V) indicates Pilot Controlled Lighting (PCL).

Runway Centerline Lighting . . . . .

(A) Approach Lighting System ALSF-2 . .

(A1) Approach Lighting System ALSF-1 . .

(A2) Short Approach Lighting System SALS/SALSF . . . . . .

(A3) Simplified Short Approach Lighting System (SSALR) with RAIL . . . . .

(A4) Medium Intensity Approach Lighting System (MALS and MALSF)/(SSALS and SSALF) . . . . . .

(A5) Medium Intensity Approach Lighting System (MALSR) and RAIL . . . . . .

Omnidirectional Approach Lighting System (ODALS) . . . . . .

(D) Navy Parallel Row and Cross Bar . . .

(‡) Air Force Overrun . . . . . .

(V) Visual Approach Slope Indicator with Standard Threshold Clearance provided

(V2) Pulsating Visual Approach Slope Indicator (PVASI)

(V3) Visual Approach Slope Indicator with a threshold crossing height to accomodate long bodied or jumbo aircraft

(V4) Tri-color Visual Approach Slope Indicator (TRCV)

(V5) Approach Path Alignment Panel (APAP)

(P) Precision Approach Path Indicator (PAPI)

LEGEND

This directory is a listing of data on record with the FAA on public–use airports, military airports and selected private–use airports specifically requested by the Department of Defense (DoD) for which a DoD Instrument Approach Procedure has been published in the U.S. Terminal Procedures Publication. Additionally this listing contains data for associated terminal control facilities, air route traffic control centers, and radio aids to navigation within the conterminous United States, Puerto Rico and the Virgin Islands. Civil airports and joint Civil/Military airports which are open to the public are listed alphabetically by state, associated city and airport name and cross–referenced by airport name. Military airports and private–use (limited civil access) joint Military/Civil airports are listed alphabetically by state and official airport name and cross–referenced by associated city name. Navaids, flight service stations and remote communication outlets that are associated with an airport, but with a different name, are listed alphabetically under their own name, as well as under the airport with which they are associated.

The listing of an airport as open to the public in this directory merely indicates the airport operator's willingness to accommodate transient aircraft, and does not represent that the airport conforms with any Federal or local standards, or that it has been approved for use on the part of the general public. Military airports, private–use airports, and private–use (limited civil access) joint Military/Civil airports are open to civil pilots only in an emergency or with prior permission. See Special Notice Section, Civil Use of Military Fields.

The information on obstructions is taken from reports submitted to the FAA. Obstruction data has not been verified in all cases. Pilots are cautioned that objects not indicated in this tabulation (or on the airports sketches and/or charts) may exist which can create a hazard to flight operation. Detailed specifics concerning services and facilities tabulated within this directory are contained in the Aeronautical Information Manual, Basic Flight Information and ATC Procedures.

The legend items that follow explain in detail the contents of this Directory and are keyed to the circled numbers on the sample on the preceding pages.

① CITY/AIRPORT NAME

Civil and joint Civil/Military airports which are open to the public are listed alphabetically by state and associated city. Where the city name is different from the airport name the city name will appear on the line above the airport name. Airports with the same associated city name will be listed alphabetically by airport name and will be separated by a dashed rule line. A solid rule line will separate all others. FAA approved helipads and seaplane landing areas associated with a land airport will be separated by a dotted line. Military airports and private–use (limited civil access) joint Military/Civil airports are listed alphabetically by state and official airport name.

② ALTERNATE NAME

Alternate names, if any, will be shown in parentheses.

③ LOCATION IDENTIFIER

The location identifier is a three or four character FAA code followed by a four–character ICAO code, when assigned, to airports. If two different military codes are assigned, both codes will be shown with the primary operating agency's code listed first. These identifiers are used by ATC in lieu of the airport name in flight plans, flight strips and other written records and computer operations. Zeros will appear with a slash to differentiate them from the letter "O".

④ OPERATING AGENCY

Airports within this directory are classified into two categories, Military/Federal Government and Civil airports open to the general public, plus selected private–use airports. The operating agency is shown for military, private–use and joint use airports. The operating agency is shown by an abbreviation as listed below. When an organization is a tenant, the abbreviation is enclosed in parenthesis. No classification indicates the airport is open to the general public with no military tenant.

A	US Army	MC	Marine Corps
AFRC	Air Force Reserve Command	MIL/CIV	Joint Use Military/Civil Limited Civil Access
AF	US Air Force	N	Navy
ANG	Air National Guard	NAF	Naval Air Facility
AR	US Army Reserve	NAS	Naval Air Station
ARNG	US Army National Guard	NASA	National Air and Space Administration
CG	US Coast Guard	P	US Civil Airport Wherein Permit Covers Use by Transient Military Aircraft
CIV/MIL	Joint Use Civil/Military Open to the Public		
DND	Department of National Defense Canada	PVT	Private Use Only (Closed to the Public)
DOE	Department of Energy		

⑤ AIRPORT LOCATION

Airport location is expressed as distance and direction from the center of the associated city in nautical miles and cardinal points, e.g., 3 N.

⑥ TIME CONVERSION

Hours of operation of all facilities are expressed in Coordinated Universal Time (UTC) and shown as "Z" time. The directory indicates the number of hours to be subtracted from UTC to obtain local standard time and local daylight saving time UTC–5(–4DT). The symbol ‡ indicates that during periods of Daylight Saving Time (DST) effective hours will be one hour earlier than shown. In those areas where daylight saving time is not observed the (–4DT) and ‡ will not be shown. Daylight saving time is in effect from 0200 local time the second Sunday in March to 0200 local time the first Sunday in November. Canada and all U.S. Conterminous States observe daylight saving time except Arizona and Puerto Rico, and the Virgin Islands. If the state observes daylight saving time and the operating times are other than daylight saving times, the operating hours will include the dates, times and no ‡ symbol will be shown, i.e., April 15–Aug 31 0630–1700Z, Sep 1–Apr 14 0600–1700Z.

⑦ GEOGRAPHIC POSITION OF AIRPORT—AIRPORT REFERENCE POINT (ARP)

Positions are shown as hemisphere, degrees, minutes and hundredths of a minute and represent the approximate geometric center of all usable runway surfaces.

⑧ CHARTS

Charts refer to the Sectional Chart and Low and High Altitude Enroute Chart and panel on which the airport or facility is depicted. Pacific Enroute Chart will be indicated by P. Area Enroute Charts will be indicated by A. Helicopter Chart depictions will be indicated as COPTER. IFR Gulf of America West and IFR Gulf of America Central will be referenced as GOAW and GOAC.

⑨ INSTRUMENT APPROACH PROCEDURES, AIRPORT DIAGRAMS

IAP indicates an airport for which a prescribed (Public Use) FAA Instrument Approach Procedure has been published. DIAP indicates an airport for which a prescribed DoD Instrument Approach Procedure has been published in the U.S. Terminal Procedures. See the Special Notice Section of this directory, Civil Use of Military Fields and the Aeronautical Information Manual 5–4–5 Instrument Approach Procedure Charts for additional information. AD indicates an airport for which an airport diagram has been published. Airport diagrams are located in the back of each Chart Supplement volume alphabetically by associated city and airport name.

⑩ AIRPORT SKETCH

The airport sketch, when provided, depicts the airport and related topographical information as seen from the air and should be used in conjunction with the text. It is intended as a guide for pilots in VFR conditions. Symbology that is not self–explanatory will be reflected in the sketch legend. The airport sketch will be oriented with True North at the top.

⑪ ELEVATION

The highest point of an airport's usable runways measured in feet from mean sea level. When elevation is sea level it will be indicated as "00". When elevation is below sea level a minus "–" sign will precede the figure.

⑫ ROTATING LIGHT BEACON

B indicates rotating beacon is available. Rotating beacons operate sunset to sunrise unless otherwise indicated in the AIRPORT REMARKS or MILITARY REMARKS segment of the airport entry.

⑬ TRAFFIC PATTERN ALTITUDE

Traffic Pattern Altitude (TPA)—The first figure shown is TPA above mean sea level. The second figure in parentheses is TPA above airport elevation. TPA will only be published if they differ from the recommended altitudes as described in the AIM, Traffic Patterns. Multiple TPA shall be shown as "TPA—See Remarks" and detailed information shall be shown in the Airport or Military Remarks Section. Traffic pattern data for USAF bases, USN facilities, and U.S. Army airports (including those on which ACC or U.S. Army is a tenant) that deviate from standard pattern altitudes shall be shown in Military Remarks.

⑭ AIRPORT OF ENTRY, LANDING RIGHTS, AND CUSTOMS USER FEE AIRPORTS

U.S. CUSTOMS USER FEE AIRPORT—Private Aircraft operators are frequently required to pay the costs associated with customs processing.

AOE—Airport of Entry. A customs Airport of Entry where permission from U.S. Customs is not required to land. However, at least one hour advance notice of arrival is required.

LRA—Landing Rights Airport. Application for permission to land must be submitted in advance to U.S. Customs. At least one hour advance notice of arrival is required.

NOTE: Advance notice of arrival at both an AOE and LRA airport may be included in the flight plan when filed in Canada or Mexico. Where Flight Notification Service (ADCUS) is available the airport remark will indicate this service. This notice will also be treated as an application for permission to land in the case of an LRA. Although advance notice of arrival may be relayed to Customs through Mexico, Canada, and U.S. Communications facilities by flight plan, the aircraft operator is solely responsible for ensuring that Customs receives the notification. (See Customs, Immigration and Naturalization, Public Health and Agriculture Department requirements in the International Flight Information Manual for further details.)

U.S. CUSTOMS AIR AND SEA PORTS, INSPECTORS AND AGENTS

Northeast Sector (New England and Atlantic States—ME to MD)	407–975–1740
Southeast Sector (Atlantic States—DC, WV, VA to FL)	407–975–1780
Central Sector (Interior of the US, including Gulf states—MS, AL, LA)	407–975–1760
Southwest East Sector (OK and eastern TX)	407–975–1840
Southwest West Sector (Western TX, NM and AZ)	407–975–1820
Southwest West Sector (Western TX, NM and AZ)	407–975–1820
Pacific Sector (WA, OR, CA, HI and AK)	407–975–1800

⑮ CERTIFICATED AIRPORT (14 CFR PART 139)

Airports serving Department of Transportation certified carriers and certified under 14 CFR part 139 are indicated by the Class and the ARFF Index; e.g. Class I, ARFF Index A, which relates to the availability of crash, fire, rescue equipment. Class I airports can have an ARFF Index A through E, depending on the aircraft length and scheduled departures. Class II, III, and IV will always carry an Index A.

AIRPORT CLASSIFICATIONS

Type of Air Carrier Operation	Class I	Class II	Class III	Class IV
Scheduled Air Carrier Aircraft with 31 or more passenger seats	X			
Unscheduled Air Carrier Aircraft with 31 or more passengers seats	X	X		X
Scheduled Air Carrier Aircraft with 10 to 30 passenger seats	X	X	X	

INDICES AND AIRCRAFT RESCUE AND FIRE FIGHTING EQUIPMENT REQUIREMENTS

Airport Index	Required No. Vehicles	Aircraft Length	Scheduled Departures	Agent + Water for Foam
A	1	<90´	≥1	500#DC or HALON 1211 or 450#DC + 100 gal H_2O
B	1 or 2	≥90´, <126´ —————— ≥126´, <159´	≥5 —— <5	Index A + 1500 gal H_2O
C	2 or 3	≥126´, <159´ —————— ≥159´, <200´	≥5 —— <5	Index A + 3000 gal H_2O
D	3	≥159´, <200´ —————— >200´	—— <5	Index A + 4000 gal H_2O
E	3	≥200´	≥5	Index A + 6000 gal H_2O

> Greater Than; < Less Than; ≥ Equal or Greater Than; ≤ Equal or Less Than; H_2O–Water; DC–Dry Chemical.

NOTE: The listing of ARFF index does not necessarily assure coverage for non–air carrier operations or at other than prescribed times for air carrier. ARFF Index Ltd.—indicates ARFF coverage may or may not be available, for information contact airport manager prior to flight.

⑯ NOTAM SERVICE

All public use landing areas are provided NOTAM service. A NOTAM FILE identifier is shown for individual landing areas, e.g., "NOTAM FILE BNA". See the AIM, Basic Flight Information and ATC Procedures for a detailed description of NOTAMs. Current NOTAMs are available from flight service stations at 1–800–WX–BRIEF (992–7433) or online through the FAA PilotWeb at https://pilotweb.nas.faa.gov. Military NOTAMs are available using the Defense Internet NOTAM Service (DINS) at https://www.notams.faa.gov. Pilots flying to or from airports not available through the FAA PilotWeb or DINS can obtain assistance from Flight Service.

⑰ FAA INSPECTION

All airports not inspected by FAA will be identified by the note: Not insp. This indicates that the airport information has been provided by the owner or operator of the field.

⑱ MINIMUM OPERATIONAL NETWORK (MON) AIRPORT DESIGNATION

MON Airports have at least one VOR or ILS instrument approach procedure that can be flown without the need for GPS, WAAS, DME, NDB or RADAR. The primary purpose of the MON designation is for recovery in case of GPS outage.

⑲ RUNWAY DATA

Runway information is shown on two lines. That information common to the entire runway is shown on the first line while information concerning the runway ends is shown on the second or following line. Runway direction, surface, length, width, weight bearing capacity, lighting, and slope, when available are shown for each runway. Multiple runways are shown with the longest runway first. Direction, length, width, and lighting are shown for sea–lanes. The full dimensions of helipads are shown, e.g., 50X150. Runway data that requires clarification will be placed in the remarks section.

RUNWAY DESIGNATION

Runways are normally numbered in relation to their magnetic orientation rounded off to the nearest 10 degrees. Parallel runways can be designated L (left)/R (right)/C (center). Runways may be designated as Ultralight or assault strips. Assault strips are shown by magnetic bearing.

RUNWAY DIMENSIONS

Runway length and width are shown in feet. Length shown is runway end to end including displaced thresholds, but excluding those areas designed as overruns.

RUNWAY SURFACE AND SURFACE TREATMENT

Runway lengths prefixed by the letter "H" indicate that the runways are hard surfaced (concrete, asphalt, or part asphalt–concrete). If the runway length is not prefixed, the surface is sod, clay, etc. The runway surface composition is indicated in parentheses after runway length as follows:

(AFSC)—Aggregate friction seal coat
(AM2)—Temporary metal planks coated with nonskid material
(ASPH)—Asphalt
(CONC)—Concrete
(DIRT)—Dirt
(GRVD)—Grooved
(GRVL)—Gravel, or cinders
(MATS)—Pierced steel planking, landing mats, membranes
(PEM)—Part concrete, part asphalt
(PFC)—Porous friction courses
(PSP)—Pierced steel plank
(RFSC)—Rubberized friction seal coat
(SAND)—Sand
(TURF)—Turf
(TRTD)—Treated
(WC)—Wire combed

RUNWAY WEIGHT BEARING CAPACITY

Runway strength data shown in this publication is derived from available information and is a realistic estimate of capability at an average level of activity. It is not intended as a maximum allowable weight or as an operating limitation. Many airport pavements are capable of supporting limited operations with gross weights in excess of the published figures. Permissible operating weights, insofar as runway strengths are concerned, are a matter of agreement between the owner and user. When desiring to operate into any airport at weights in excess of those published in the publication, users should contact the airport management for permission. Runway strength figures are shown in thousand of pounds, with the last three figures being omitted. Add 000 to figure following S, D, 2S, 2T, AUW, SWL, etc., for gross weight capacity. A blank space following the letter designator is used to indicate the runway can sustain aircraft with this type landing gear, although definite runway weight bearing capacity figures are not available, e.g., S, D. Applicable codes for typical gear configurations with S=Single, D=Dual, T=Triple and Q=Quadruple:

CURRENT	NEW	NEW DESCRIPTION
S	S	Single wheel type landing gear (DC3), (C47), (F15), etc.
D	D	Dual wheel type landing gear (BE1900), (B737), (A319), etc.
T	D	Dual wheel type landing gear (P3, C9).
ST	2S	Two single wheels in tandem type landing gear (C130).
TRT	2T	Two triple wheels in tandem type landing gear (C17), etc.
DT	2D	Two dual wheels in tandem type landing gear (B707), etc.
TT	2D	Two dual wheels in tandem type landing gear (B757, KC135).
SBTT	2D/D1	Two dual wheels in tandem/dual wheel body gear type landing gear (KC10).
None	2D/2D1	Two dual wheels in tandem/two dual wheels in tandem body gear type landing gear (A340–600).
DDT	2D/2D2	Two dual wheels in tandem/two dual wheels in double tandem body gear type landing gear (B747, E4).
TTT	3D	Three dual wheels in tandem type landing gear (B777), etc.
TT	D2	Dual wheel gear two struts per side main gear type landing gear (B52).
TDT	C5	Complex dual wheel and quadruple wheel combination landing gear (C5).

AUW—All up weight. Maximum weight bearing capacity for any aircraft irrespective of landing gear configuration.

SWL—Single Wheel Loading. (This includes information submitted in terms of Equivalent Single Wheel Loading (ESWL) and Single Isolated Wheel Loading).

PSI—Pounds per square inch. PSI is the actual figure expressing maximum pounds per square inch runway will support, e.g., (SWL 000/PSI 535).

Omission of weight bearing capacity indicates information unknown.

The ACN/PCN System is the ICAO standard method of reporting pavement strength for pavements with bearing strengths greater than 12,500 pounds. The Pavement Classification Number (PCN) is established by an engineering assessment of the runway. The PCN is for use in conjunction with an Aircraft Classification Number (ACN). Consult the Aircraft Flight Manual, Flight Information Handbook, or other appropriate source for ACN tables or charts. Currently, ACN data may not be available for all aircraft. If an ACN table or chart is available, the ACN can be calculated by taking into account the aircraft weight, the pavement type, and the subgrade category. For runways that have been evaluated under the ACN/PCN system, the PCN will be shown as a five–part code (e.g. PCN 80 R/B/W/T). Details of the coded format are as follows:

NOTE: ICAO adopted the ACR/PCR System as the new standard method for reporting pavement strength in July 2020. The ACR/PCR System methodology remains unchanged from the ACN/PCN system described above. The Pavement Classification Rating (PCR) remains a five-part code (e.g. PCR 460 R/B/W/T) with the number being one order of magnitude higher than PCNs. The details of the code below are not changed with PCR. ICAO has established a four year transition period during which time a PCN or a PCR may be reported. Currently Aircraft Classification Rating (ACR) data may not be available for all aircraft.

NOTE: Prior permission from the airport controlling authority is required when the ACN/ACR of the aircraft exceeds the published PCN/PCR or aircraft tire pressure exceeds the published limits.

(1) The PCN/PCR NUMBER—The reported PCN/PCR indicates that an aircraft with an ACN/ACR equal or less than the reported PCN/PCR can operate on the pavement subject to any limitation on the tire pressure.

(2) The type of pavement:
R — Rigid
F — Flexible

(3) The pavement subgrade category:
A — High
B — Medium
C — Low
D — Ultra–low

(4) The maximum tire pressure authorized for the pavement:
W — Unlimited, no pressure limit
X — High, limited to 254 psi (1.75 MPa)
Y — Medium, limited to 181 psi (1.25MPa)
Z — Low, limited to 73 psi (0.50 MPa)

(5) Pavement evaluation method:
T — Technical evaluation
U — By experience of aircraft using the pavement

RUNWAY LIGHTING

Lights are in operation sunset to sunrise. Lighting available by prior arrangement only or operating part of the night and/or pilot controlled lighting with specific operating hours are indicated under airport or military remarks. At USN/USMC facilities lights are available only during airport hours of operation. Since obstructions are usually lighted, obstruction lighting is not included in this code. Unlighted obstructions on or surrounding an airport will be noted in airport or military remarks. Runway lights nonstandard (NSTD) are systems for which the light fixtures are not FAA approved L–800 series: color, intensity, or spacing does not meet FAA standards. Nonstandard runway lights, VASI, or any other system not listed below will be shown in airport remarks or military service. Temporary, emergency or limited runway edge lighting such as flares, smudge pots, lanterns or portable runway lights will also be shown in airport remarks or military service. Types of lighting are shown with the runway or runway end they serve.

NSTD—Light system fails to meet FAA standards.
LIRL—Low Intensity Runway Lights.
MIRL—Medium Intensity Runway Lights.
HIRL—High Intensity Runway Lights.
RAIL—Runway Alignment Indicator Lights.
REIL—Runway End Identifier Lights.
CL—Centerline Lights.
TDZL—Touchdown Zone Lights.
ODALS—Omni Directional Approach Lighting System.
AF OVRN—Air Force Overrun 1000´ Standard Approach Lighting System.
MALS—Medium Intensity Approach Lighting System.
MALSF—Medium Intensity Approach Lighting System with Sequenced Flashing Lights.
MALSR—Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights.
RLLS—Runway Lead–in Light System
SALS—Short Approach Lighting System.
SALSF—Short Approach Lighting System with Sequenced Flashing Lights.
SSALS—Simplified Short Approach Lighting System.
SSALF—Simplified Short Approach Lighting System with Sequenced Flashing Lights.
SSALR—Simplified Short Approach Lighting System with Runway Alignment Indicator Lights.
ALSAF—High Intensity Approach Lighting System with Sequenced Flashing Lights.
ALSF1—High Intensity Approach Lighting System with Sequenced Flashing Lights, Category I, Configuration.
ALSF2—High Intensity Approach Lighting System with Sequenced Flashing Lights, Category II, Configuration.
SF—Sequenced Flashing Lights.
OLS—Optical Landing System.
WAVE–OFF.

NOTE: Civil ALSF2 may be operated as SSALR during favorable weather conditions. When runway edge lights are positioned more than 10 feet from the edge of the usable runway surface a remark will be added in the “Remarks” portion of the airport entry. This is applicable to Air Force, Air National Guard and Air Force Reserve Bases, and those joint use airfields on which they are tenants.

VISUAL GLIDESLOPE INDICATORS

APAP—A system of panels, which may or may not be lighted, used for alignment of approach path.

PNIL	APAP on left side of runway	PNIR	APAP on right side of runway

PAPI—Precision Approach Path Indicator

P2L	2–identical light units placed on left side of runway	P4L	4–identical light units placed on left side of runway
P2R	2–identical light units placed on right side of runway	P4R	4–identical light units placed on right side of runway

PVASI—Pulsating/steady burning visual approach slope indicator, normally a single light unit projecting two colors.

PSIL	PVASI on left side of runway	PSIR	PVASI on right side of runway

SAVASI—Simplified Abbreviated Visual Approach Slope Indicator

S2L	2–box SAVASI on left side of runway	S2R	2–box SAVASI on right side of runway

SAVASI—Simplified Abbreviated Visual Approach Slope Indicator

S2L	2–box SAVASI on left side of runway	S2R	2–box SAVASI on right side of runway

TRCV—Tri–color visual approach slope indicator, normally a single light unit projecting three colors.

TRIL	TRCV on left side of runway	TRIR	TRCV on right side of runway

VASI—Visual Approach Slope Indicator

V2L	2–box VASI on left side of runway	V6L	6–box VASI on left side of runway
V2R	2–box VASI on right side of runway	V6R	6–box VASI on right side of runway
V4L	4–box VASI on left side of runway	V12	12–box VASI on both sides of runway
V4R	4–box VASI on right side of runway	V16	16–box VASI on both sides of runway

NOTE: Approach slope angle and threshold crossing height will be shown when available; i.e., –GA 3.5º TCH 37´.

PILOT CONTROL OF AIRPORT LIGHTING

Key Mike	Function
7 times within 5 seconds	Highest intensity available
5 times within 5 seconds	Medium or lower intensity (Lower REIL or REIL–Off)
3 times within 5 seconds	Lowest intensity available (Lower REIL or REIL–Off)

Available systems will be indicated in the Service section, e.g., **LGT** ACTIVATE HIRL Rwy 07–25, MALSR Rwy 07, and VASI Rwy 07—122.8.

Where the airport is not served by an instrument approach procedure and/or has an independent type system of different specification installed by the airport sponsor, descriptions of the type lights, method of control, and operating frequency will be explained in clear text. See AIM, "Aeronautical Lighting and Other Airport Visual Aids," for a detailed description of pilot control of airport lighting.

RUNWAY SLOPE

When available, runway slope data will be provided. Runway slope will be shown only when it is 0.3 percent or greater. On runways less than 8000 feet, the direction of the slope up will be indicated, e.g., 0.3% up NW. On runways 8000 feet or greater, the slope will be shown (up or down) on the runway end line, e.g., RWY 13: 0.3% up., RWY 31: Pole. Rgt tfc. 0.4% down.

PART 121/PART 380 OPERATIONS

Runway Not Available for Part 121/Part 380 Operations means the runway is not to be used by an air carrier aircraft for any air carrier operations (categorized as either a large air carrier aircraft if designed for at least 31 passenger seats or a small air carrier aircraft if designed for more than 9 passenger seats but less than 31 passenger seats, as determined by the aircraft type certificate issued by a competent civil aviation authority or equivalent foreign aviation authority).

RUNWAY END DATA

Information pertaining to the runway approach end such as approach lights, touchdown zone lights, runway end identification lights, visual glideslope indicators, displaced thresholds, controlling obstruction, and right hand traffic pattern, will be shown on the specific runway end. "Rgt tfc"—Right traffic indicates right turns should be made on landing and takeoff for specified runway end. Runway Visual Range shall be shown as "RVR" appended with "T" for touchdown, "M" for midpoint, and "R" for rollout; e.g., RVR-TMR.

⑳ LAND AND HOLD–SHORT OPERATIONS (LAHSO)

LAHSO is an acronym for "Land and Hold–Short Operations" These operations include landing and holding short of an intersection runway, an intersecting taxiway, or other predetermined points on the runway other than a runway or taxiway. Measured distance represents the available landing distance on the landing runway, in feet.

Specific questions regarding these distances should be referred to the air traffic manager of the facility concerned. The Aeronautical Information Manual contains specific details on hold–short operations and markings.

㉑ RUNWAY DECLARED DISTANCE INFORMATION

TORA—Take–off Run Available. The length of runway declared available and suitable for the ground run of an aeroplane take–off.

TODA—Take–off Distance Available. The length of the take–off run available plus the length of the clearway, if provided.

ASDA—Accelerate–Stop Distance Available. The length of the take–off run available plus the length of the stopway, if provided.

LDA—Landing Distance Available. The length of runway which is declared available and suitable for the ground run of an aeroplane landing.

㉒ ARRESTING GEAR/SYSTEMS

Arresting gear is shown as it is located on the runway. The a–gear distance from the end of the appropriate runway (or into the overrun) is indicated in parentheses. A–Gear which has a bi–direction capability and can be utilized for emergency approach end engagement is indicated by a (B). Up to 15 minutes advance notice may be required for rigging A–Gear for approach and engagement. Airport listing may show availability of other than US Systems. This information is provided for emergency requirements only. Refer to current aircraft operating manuals for specific engagement weight and speed criteria based on aircraft structural restrictions and arresting system limitations.

Following is a list of current systems referenced in this publication identified by both Air Force and Navy terminology:

BI–DIRECTIONAL CABLE (B)

TYPE	DESCRIPTION
BAK–9	Rotary friction brake.
BAK–12A	Standard BAK–12 with 950 foot run out, 1–inch cable and 40,000 pound weight setting. Rotary friction brake.
BAK–12B	Extended BAK–12 with 1200 foot run, 1¼ inch Cable and 50,000 pounds weight setting. Rotary friction brake.
E28	Rotary Hydraulic (Water Brake).
M21	Rotary Hydraulic (Water Brake) Mobile.

The following device is used in conjunction with some aircraft arresting systems:

BAK–14 A device that raises a hook cable out of a slot in the runway surface and is remotely positioned for engagement by the tower on request. (In addition to personnel reaction time, the system requires up to five seconds to fully raise the cable.)

H A device that raises a hook cable out of a slot in the runway surface and is remotely positioned for engagement by the tower on request. (In addition to personnel reaction time, the system requires up to one and one–half seconds to fully raise the cable.)

UNI–DIRECTIONAL CABLE

TYPE	DESCRIPTION
MB60	Textile brake—an emergency one–time use, modular braking system employing the tearing of specially woven textile straps to absorb the kinetic energy.
E5/E5–1/E5–3	Chain Type. At USN/USMC stations E–5 A–GEAR systems are rated, e.g., E–5 RATING–13R–1100 HW (DRY), 31L/R–1200 STD (WET). This rating is a function of the A–GEAR chain weight and length and is used to determine the maximum aircraft engaging speed. A dry rating applies to a stabilized surface (dry or wet) while a wet rating takes into account the amount (if any) of wet overrun that is not capable of withstanding the aircraft weight. These ratings are published under Service/Military/A-Gear in the entry.

FOREIGN CABLE

TYPE	DESCRIPTION	US EQUIVALENT
44B–3H	Rotary Hydraulic (Water Brake)	
CHAG	Chain	E–5

UNI–DIRECTIONAL BARRIER

TYPE	DESCRIPTION
MA–1A	Web barrier between stanchions attached to a chain energy absorber.
BAK–15	Web barrier between stanchions attached to an energy absorber (water squeezer, rotary friction, chain). Designed for wing engagement.

NOTE: Landing short of the runway threshold on a runway with a BAK–15 in the underrun is a significant hazard. The barrier in the down position still protrudes several inches above the underrun. Aircraft contact with the barrier short of the runway threshold can cause damage to the barrier and substantial damage to the aircraft.

OTHER

TYPE	DESCRIPTION
EMAS	Engineered Material Arresting System, located beyond the departure end of the runway, consisting of high energy absorbing materials which will crush under the weight of an aircraft.

㉓ SERVICE

SERVICING—CIVIL

S1: Minor airframe repairs.
S2: Minor airframe and minor powerplant repairs.
S3: Major airframe and minor powerplant repairs.
S4: Major airframe and major powerplant repairs.
S5: Major airframe repairs.
S6: Minor airframe and major powerplant repairs.
S7: Major powerplant repairs.
S8: Minor powerplant repairs.

FUEL

CODE	FUEL
100	Grade 100 gasoline (Green)
100LL	100LL gasoline (low lead) (Blue)
100R	Unleaded Grade 100R gasoline, "100R"
A	Jet A, Kerosene, without FS–II*, FP** minus 40° C.
A+	Jet A, Kerosene, with FS–II*, FP** minus 40°C.
A++	Jet A, Kerosene, with FS–II*, CI/LI#, SDA##, FP** minus 40°C.
A++100	Jet A, Kerosene, with FS–II*, CI/LI#, SDA##, FP** minus 40°C, with +100 fuel additive that improves thermal stability characteristics of kerosene jet fuels.
A1	Jet A–1, Kerosene, without FS–II*, FP** minus 47°C.
A1+	Jet A–1, Kerosene with FS–II*, FP** minus 47° C.
G100	Unleaded Grade G100 gasoline, "G100UL"
H	Hydrogen
J5 (JP5)	(JP–5 military specification) Kerosene with FS–II, FP** minus 46°C.
J8 (JP8)	(JP–8 military specification) Jet A–1, Kerosene with FS–II*, CI/LI#, SDA##, FP** minus 47°C.
J8+100	(JP–8 military specification) Jet A–1, Kerosene with FS–II*, CI/LI#, SDA##,FP** minus 47°C, with +100 fuel additive that improves thermal stability characteristics of kerosene jet fuels.
J	(Jet Fuel Type Unknown)
MOGAS	Automobile gasoline which is to be used as aircraft fuel.
UL91	Unleaded Grade 91 gasoline
UL94	Unleaded Grade 94 gasoline

*(Fuel System Icing Inhibitor) **(Freeze Point) # (Corrosion Inhibitors/Lubricity Improvers) ## (Static Dissipator Additive)

NOTE: Certain automobile gasoline may be used in specific aircraft engines if a FAA supplemental type certificate has been obtained. Automobile gasoline, which is to be used in aircraft engines, will be identified as "MOGAS", however, the grade/type and other octane rating will not be published.

Data shown on fuel availability represents the most recent information the publisher has been able to acquire. Because of a variety of factors, the fuel listed may not always be obtainable by transient civil pilots. Confirmation of availability of fuel should be made directly with fuel suppliers at locations where refueling is planned.

OXYGEN—CIVIL

OX 1	High Pressure	OX 3	High Pressure—Replacement Bottles
OX 2	Low Pressure	OX 4	Low Pressure—Replacement Bottles

SERVICE—MILITARY

Specific military services available at the airport are listed under this general heading. Remarks applicable to any military service are shown in the individual service listing.

JET AIRCRAFT STARTING UNITS (JASU)—MILITARY

The numeral preceding the type of unit indicates the number of units available. The absence of the numeral indicates ten or more units available. If the number of units is unknown, the number one will be shown. Absence of JASU designation indicates non–availability. The following is a list of current JASU systems referenced in this publication:

USAF JASU (For variations in technical data, refer to T.O. 35–1–7.)

ELECTRICAL STARTING UNITS:

A/M32A–86	AC: 115/200v, 3 phase, 90 kva, 0.8 pf, 4 wire DC: 28v, 1500 amp, 72 kw (with TR pack)
MC–1A	AC: 115/208v, 400 cycle, 3 phase, 37.5 kva, 0.8 pf, 108 amp, 4 wire DC: 28v, 500 amp, 14 kw
MD–3	AC: 115/208v, 400 cycle, 3 phase, 60 kva, 0.75 pf, 4 wire DC: 28v, 1500 amp, 45 kw, split bus
MD–3A	AC: 115/208v, 400 cycle, 3 phase, 60 kva, 0.75 pf, 4 wire DC: 28v, 1500 amp, 45 kw, split bus
MD–3M	AC: 115/208v, 400 cycle, 3 phase, 60 kva, 0.75 pf, 4 wire DC: 28v, 500 amp, 15 kw
MD–4	AC: 120/208v, 400 cycle, 3 phase, 62.5 kva, 0.8 pf, 175 amp, "WYE" neutral ground, 4 wire, 120v, 400 cycle, 3 phase, 62.5 kva, 0.8 pf, 303 amp, "DELTA" 3 wire, 120v, 400 cycle, 1 phase, 62.5 kva, 0.8 pf, 520 amp, 2 wire

AIR STARTING UNITS

AM32–95	150 +/– 5 lb/min (2055 +/– 68 cfm) at 51 +/– 2 psia
AM32A–95	150 +/– 5 lb/min @ 49 +/– 2 psia (35 +/– 2 psig)
LASS	150 +/– 5 lb/min @ 49 +/– 2 psia
MA–1A	82 lb/min (1123 cfm) at 130° air inlet temp, 45 psia (min) air outlet press
MC–1	15 cfm, 3500 psia
MC–1A	15 cfm, 3500 psia
MC–2A	15 cfm, 200 psia
MC–11	8,000 cu in cap, 4000 psig, 15 cfm

COMBINED AIR AND ELECTRICAL STARTING UNITS:

AGPU	AC: 115/200v, 400 cycle, 3 phase, 30 kw gen DC: 28v, 700 amp AIR: 60 lb/min @ 40 psig @ sea level
AM32A–60*	AIR: 120 +/– 4 lb/min (1644 +/– 55 cfm) at 49 +/– 2 psia AC: 120/208v, 400 cycle, 3 phase, 75 kva, 0.75 pf, 4 wire, 120v, 1 phase, 25 kva DC: 28v, 500 amp, 15 kw
AM32A–60A	AIR: 150 +/– 5 lb/min (2055 +/– 68 cfm at 51 +/– psia AC: 120/208v, 400 cycle, 3 phase, 75 kva, 0.75 pf, 4 wire DC: 28v, 200 amp, 5.6 kw
AM32A–60B*	AIR: 130 lb/min, 50 psia AC: 120/208v, 400 cycle, 3 phase, 75 kva, 0.75 pf, 4 wire DC: 28v, 200 amp, 5.6 kw

*NOTE: During combined air and electrical loads, the pneumatic circuitry takes preference and will limit the amount of electrical power available.

USN JASU

ELECTRICAL STARTING UNITS:

NC–8A/A1	DC: 500 amp constant, 750 amp intermittent, 28v; AC: 60 kva @ .8 pf, 115/200v, 3 phase, 400 Hz.
NC–10A/A1/B/C	DC: 750 amp constant, 1000 amp intermittent, 28v; AC: 90 kva, 115/200v, 3 phase, 400 Hz.

AIR STARTING UNITS:

GTC–85/GTE–85	120 lbs/min @ 45 psi.
MSU–200NAV/A/U47A–5	204 lbs/min @ 56 psia.
WELLS AIR START SYSTEM	180 lbs/min @ 75 psi or 120 lbs/min @ 45 psi. Simultaneous multiple start capability.

COMBINED AIR AND ELECTRICAL STARTING UNITS:

NCPP–105/RCPT	180 lbs/min @ 75 psi or 120 lbs/min @ 45 psi. 700 amp, 28v DC. 120/208v, 400 Hz AC, 30 kva.

ARMY JASU

59B2–1B	28v, 7.5 kw, 280 amp.

OTHER JASU

ELECTRICAL STARTING UNITS (DND):

CE12	AC 115/200v, 140 kva, 400 Hz, 3 phase
CE13	AC 115/200v, 60 kva, 400 Hz, 3 phase
CE14	AC/DC 115/200v, 140 kva, 400 Hz, 3 phase, 28vDC, 1500 amp
CE15	DC 22–35v, 500 amp continuous 1100 amp intermittent
CE16	DC 22–35v, 500 amp continuous 1100 amp intermittent soft start

AIR STARTING UNITS (DND):

CA2	ASA 45.5 psig, 116.4 lb/min

COMBINED AIR AND ELECTRICAL STARTING UNITS (DND)

CEA1	AC 120/208v, 60 kva, 400 Hz, 3 phase DC 28v, 75 amp AIR 112.5 lb/min, 47 psig

ELECTRICAL STARTING UNITS (OTHER)

C–26	28v 45kw 115–200v 15kw 380–800 Hz 1 phase 2 wire
C–26–B, C–26–C	28v 45kw: Split Bus: 115–200v 15kw 380–800 Hz 1 phase 2 wire
E3	DC 28v/10kw

AIR STARTING UNITS (OTHER):

A4	40 psi/2 lb/sec (LPAS Mk12, Mk12L, Mk12A, Mk1, Mk2B)
MA–1	150 Air HP, 115 lb/min 50 psia
MA–2	250 Air HP, 150 lb/min 75 psia

CARTRIDGE:

MXU–4A	USAF

FUEL—MILITARY

Fuel available through US Military Base supply, DESC Into–Plane Contracts and/or reciprocal agreement is listed first and is followed by (Mil). At commercial airports where Into–Plane contracts are in place, the name of the refueling agent is shown. Military fuel should be used first if it is available. When military fuel cannot be obtained but Into–Plane contract fuel is available, Government aircraft must refuel with the contract fuel and applicable refueling agent to avoid any breach in contract terms and conditions. Fuel not available through the above is shown preceded by NC (no contract). When fuel is obtained from NC sources, local purchase procedures must be followed. The US Military Aircraft Identaplates DD Form 1896 (Jet Fuel), DD Form 1897 (Avgas) and AF Form 1245 (Avgas) are used at military installations only. The US Government Aviation Into–Plane Reimbursement (AIR) Card (currently issued by AVCARD) is the instrument to be used to obtain fuel under a DESC Into–Plane Contract and for NC purchases if the refueling agent at the commercial airport accepts the AVCARD. A current list of contract fuel locations is available online at https://cis.energy.dla.mil/ip_cis/. See legend item 14 for fuel code and description.

SUPPORTING FLUIDS AND SYSTEMS—MILITARY

CODE	
ADI	Anti–Detonation Injection Fluid—Reciprocating Engine Aircraft.
W	Water Thrust Augmentation—Jet Aircraft.
WAI	Water–Alcohol Injection Type, Thrust Augmentation—Jet Aircraft.
SP	Single Point Refueling.
PRESAIR	Air Compressors rated 3,000 PSI or more.
De–Ice	Anti–icing/De–icing/Defrosting Fluid (MIL–A–8243).

OXYGEN:

LPOX	Low pressure oxygen servicing.
HPOX	High pressure oxygen servicing.
LHOX	Low and high pressure oxygen servicing.
LOX	Liquid oxygen servicing.
OXRB	Oxygen replacement bottles. (Maintained primarily at Naval stations for use in acft where oxygen can be replenished only by replacement of cylinders.)
OX	Indicates oxygen servicing when type of servicing is unknown.

NOTE: Combinations of above items is used to indicate complete oxygen servicing available;

LHOXRB	Low and high pressure oxygen servicing and replacement bottles;
LPOXRB	Low pressure oxygen replacement bottles only, etc.

NOTE: Aircraft will be serviced with oxygen procured under military specifications only. Aircraft will not be serviced with medical oxygen.

NITROGEN:

LPNIT — Low pressure nitrogen servicing.

HPNIT — High pressure nitrogen servicing.

LHNIT — Low and high pressure nitrogen servicing.

OIL—MILITARY

US AVIATION OILS (MIL SPECS):

CODE	GRADE, TYPE
O–113	1065, Reciprocating Engine Oil (MIL–L–6082)
O–117	1100, Reciprocating Engine Oil (MIL–L–6082)
O–117+	1100, O–117 plus cyclohexanone (MIL–L–6082)
O–123	1065, (Dispersant), Reciprocating Engine Oil (MIL–L–22851 Type III)
O–128	1100, (Dispersant), Reciprocating Engine Oil (MIL–L–22851 Type II)
O–132	1005, Jet Engine Oil (MIL–L–6081)
O–133	1010, Jet Engine Oil (MIL–L–6081)
O–147	None, MIL–L–6085A Lubricating Oil, Instrument, Synthetic
O–148	None, MIL–L–7808 (Synthetic Base) Turbine Engine Oil
O–149	None, Aircraft Turbine Engine Synthetic, 7.5c St
O–155	None, MIL–L–6086C, Aircraft, Medium Grade
O–156	None, MIL–L–23699 (Synthetic Base), Turboprop and Turboshaft Engines
JOAP/SOAP	Joint Oil Analysis Program. JOAP support is furnished during normal duty hours, other times on request. (JOAP and SOAP programs provide essentially the same service, JOAP is now the standard joint service supported program.)

TRANSIENT ALERT (TRAN ALERT)—MILITARY

Tran Alert service is considered to include all services required for normal aircraft turn–around, e.g., servicing (fuel, oil, oxygen, etc.), debriefing to determine requirements for maintenance, minor maintenance, inspection and parking assistance of transient aircraft. Drag chute repack, specialized maintenance, or extensive repairs will be provided within the capabilities and priorities of the base. Delays can be anticipated after normal duty hours/holidays/weekends regardless of the hours of transient maintenance operation. Pilots should not expect aircraft to be serviced for TURN–AROUNDS during time periods when servicing or maintenance manpower is not available. In the case of airports not operated exclusively by US military, the servicing indicated by the remarks will not always be available for US military aircraft. When transient alert services are not shown, facilities are unknown. NO PRIORITY BASIS—means that transient alert services will be provided only after all the requirements for mission/tactical assigned aircraft have been accomplished.

㉔ NOISE

Remarks that indicate noise information and/or abatement measures that exist in the vicinity of the airport.

㉕ AIRPORT REMARKS

The Attendance Schedule is the months, days and hours the airport is actually attended. Airport attendance does not mean watchman duties or telephone accessibility, but rather an attendant or operator on duty to provide at least minimum services (e.g., repairs, fuel, transportation).

Airport Remarks have been grouped in order of applicability. Airport remarks are limited to those items of information that are determined essential for operational use, i.e., conditions of a permanent or indefinite nature and conditions that will remain in effect for more than 30 days concerning aeronautical facilities, services, maintenance available, procedures or hazards, knowledge of which is essential for safe and efficient operation of aircraft. Information concerning permanent closing of a runway or taxiway will not be shown. A note “See Special Notices” shall be applied within this remarks section when a special notice applicable to the entry is contained in the Special Notices section of this publication.

Parachute Jumping indicates parachute jumping areas associated with the airport. See Parachute Jumping Area section of this publication for additional Information.

Landing Fee indicates landing charges for private or non–revenue producing aircraft. In addition, fees may be charged for planes that remain over a couple of hours and buy no services, or at major airline terminals for all aircraft.

Note: Unless otherwise stated, remarks including runway ends refer to the runway's approach end.

㉖ MILITARY REMARKS

Joint Civil/Military airports contain both Airport Remarks and Military Remarks. Military Remarks published for these airports are applicable only to the military. Military and joint Military/Civil airports contain only Military Remarks. Remarks contained in this section may not be applicable to civil users. When both sets of remarks exist, the first set is applicable to the primary operator of the airport. Remarks applicable to a tenant on the airport are shown preceded by the tenant organization, i.e., (A) (AF) (N) (ANG), etc. Military airports operate 24 hours unless otherwise specified. Airport operating hours are listed first (airport operating hours will only be listed if they are different than the airport attended hours or if the attended hours are unavailable) followed by pertinent remarks in order of applicability. Remarks will include information on restrictions, hazards, traffic pattern, noise abatement, customs/agriculture/ immigration, and miscellaneous information applicable to the Military.

Type of restrictions:

CLOSED: When designated closed, the airport is restricted from use by all aircraft unless stated otherwise. Any closure applying to specific type of aircraft or operation will be so stated. USN/USMC/USAF airports are considered closed during non–operating hours. Closed airports may be utilized during an emergency provided there is a safe landing area.

OFFICIAL BUSINESS ONLY: The airfield is closed to all transient military aircraft for obtaining routine services such as fueling, passenger drop off or pickup, practice approaches, parking, etc. The airfield may be used by aircrews and aircraft if official government business (including civilian) must be conducted on or near the airfield and prior permission is received from the airfield manager.

AF OFFICIAL BUSINESS ONLY OR NAVY OFFICIAL BUSINESS ONLY: Indicates that the restriction applies only to service indicated.

PRIOR PERMISSION REQUIRED (PPR): Airport is closed to transient aircraft unless approval for operation is obtained from the appropriate commander through Chief, Airfield Management or Airfield Operations Officer. Official Business or PPR does not preclude the use of US Military airports as an alternate for IFR flights. If a non–US military airport is used as a weather alternate and requires a PPR, the PPR must be requested and confirmed before the flight departs. The purpose of PPR is to control volume and flow of traffic rather than to prohibit it. Prior permission is required for all aircraft requiring transient alert service outside the published transient alert duty hours. All aircraft carrying hazardous materials must obtain prior permission as outlined in AFJI 11–204, AR 95–27, OPNAVINST 3710.7.

Note: OFFICIAL BUSINESS ONLY AND PPR restrictions are not applicable to Special Air Mission (SAM) or Special Air Resource (SPAR) aircraft providing person or persons on aboard are designated Code 6 or higher as explained in AFJMAN 11–213, AR 95–11, OPNAVINST 3722–8J. Official Business Only or PPR do not preclude the use of the airport as an alternate for IFR flights.

㉗ AIRPORT MANAGER

The phone number of the airport manager.

㉘ WEATHER DATA SOURCES

Weather data sources will be listed alphabetically followed by their assigned frequencies and/or telephone number and hours of operation.

ASOS—Automated Surface Observing System. Reports the same as an AWOS–3 plus precipitation identification and intensity, and freezing rain occurrence;

AWOS—Automated Weather Observing System

AWOS–A—reports altimeter setting (all other information is advisory only).

AWOS–AV—reports altimeter and visibility.

AWOS–1—reports altimeter setting, wind data and usually temperature, dew point and density altitude.

AWOS–2—reports the same as AWOS–1 plus visibility.

AWOS–3—reports the same as AWOS–1 plus visibility and cloud/ceiling data.

AWOS–3P reports the same as the AWOS–3 system, plus a precipitation identification sensor.

AWOS–3PT reports the same as the AWOS–3 system, plus precipitation identification sensor and a thunderstorm/lightning reporting capability.

AWOS–3T reports the same as AWOS–3 system and includes a thunderstorm/lightning reporting capability.

See AIM, Basic Flight Information and ATC Procedures for detailed description of Weather Data Sources.

AWOS–4—reports same as AWOS–3 system, plus precipitation occurrence, type and accumulation, freezing rain, thunderstorm and runway surface sensors.

LAWRS—Limited Aviation Weather Reporting Station where observers report cloud height, weather, obstructions to vision, temperature and dewpoint (in most cases), surface wind, altimeter and pertinent remarks.

LLWAS—indicates a Low Level Wind Shear Alert System consisting of a center field and several field perimeter anemometers.

SAWRS—identifies airports that have a Supplemental Aviation Weather Reporting Station available to pilots for current weather information.

SWSL—Supplemental Weather Service Location providing current local weather information via radio and telephone.

TDWR—indicates airports that have Terminal Doppler Weather Radar.

WSP—indicates airports that have Weather System Processor.

When the automated weather source is broadcast over an associated airport NAVAID frequency (see NAVAID line), it shall be indicated by a bold ASOS or AWOS followed by the frequency, identifier and phone number, if available.

㉙ COMMUNICATIONS

Airport terminal control facilities and radio communications associated with the airport shall be shown. When the call sign is not the same as the airport name the call sign will be shown. Frequencies shall normally be shown in ascending order with the primary frequency listed first. Frequencies will be listed, together with sectorization indicated by outbound radials, and hours of operation. Communications will be listed in sequence as follows:

Single Frequency Approach (SFA), Common Traffic Advisory Frequency (CTAF), Aeronautical Advisory Stations (UNICOM) or (AUNICOM), and Automatic Terminal Information Service (ATIS) along with their frequency is shown, where available, on the line following the heading "COMMUNICATIONS." When the CTAF and UNICOM frequencies are the same, the frequency will be shown as CTAF/UNICOM 122.8.

The FSS telephone nationwide is toll free 1–800–WX–BRIEF (1–800–992–7433). When the FSS is located on the field it will be indicated as "on arpt". Frequencies available at the FSS will follow in descending order. Remote Communications Outlet (RCO) providing service to the airport followed by the frequency and FSS RADIO name will be shown when available. FSS's provide information on airport conditions, radio aids and other facilities, and process flight plans. Airport Advisory Service (AAS) is provided on the CTAF by FSS's for select non–tower airports or airports where the tower is not in operation.

(See AIM, Para 4–1–9 Traffic Advisory Practices at Airports Without Operating Control Towers or AC 90–42C.)

Aviation weather briefing service is provided by FSS specialists. Flight and weather briefing services are also available by calling the telephone numbers listed.

Remote Communications Outlet (RCO)—An unmanned air/ground communications facility that is remotely controlled and provides UHF or VHF communications capability to extend the service range of an FSS.

Civil Communications Frequencies–Civil communications frequencies used in the FSS air/ground system are operated on 122.0, 122.2, 123.6; emergency 121.5; plus receive–only on 122.1.

a. 122.2 is assigned as a common enroute frequency.

b. 123.6 is assigned as the airport advisory frequency at select non–tower locations. At airports with a tower, FSS may provide airport advisories on the tower frequency when tower is closed.

c. 122.1 is the primary receive–only frequency at VOR's.

d. Some FSS's are assigned 50 kHz frequencies in the 122–126 MHz band (eg. 122.45). Pilots using the FSS A/G system should refer to this directory or appropriate charts to determine frequencies available at the FSS or remoted facility through which they wish to communicate.

Emergency frequency 121.5 and 243.0 are available at all Flight Service Stations, most Towers, Approach Control and RADAR facilities.

Frequencies published followed by the letter "T" or "R", indicate that the facility will only transmit or receive respectively on that frequency. All radio aids to navigation (NAVAID) frequencies are transmit only. In cases where communications frequencies are annotated with (R) or (E), (R) indicates Radar Capability and (E) indicates Emergency Frequency.

TERMINAL SERVICES

SFA—Single Frequency Approach.

CTAF—A program designed to get all vehicles and aircraft at airports without an operating control tower on a common frequency.

ATIS—A continuous broadcast of recorded non–control information in selected terminal areas.

D–ATIS—Digital ATIS provides ATIS information in text form outside the standard reception range of conventional ATIS via landline & data link communications and voice message within range of existing transmitters.

AUNICOM—Automated UNICOM is a computerized, command response system that provides automated weather, radio check capability and airport advisory information selected from an automated menu by microphone clicks.

UNICOM—A non–government air/ground radio communications facility which may provide airport information.

PTD—Pilot to Dispatcher.

APP CON—Approach Control. The symbol Ⓡ indicates radar approach control.

TOWER—Control tower.

GCA—Ground Control Approach System.

GND CON—Ground Control.

GCO—Ground Communication Outlet—An unstaffed, remotely controlled, ground/ground communications facility. Pilots at uncontrolled airports may contact ATC and FSS via VHF to a telephone connection to obtain an instrument clearance or close a VFR or IFR flight plan. They may also get an updated weather briefing prior to takeoff. Pilots will use four "key clicks" on the VHF radio to contact the appropriate ATC facility or six "key clicks" to contact the FSS. The GCO system is intended to be used only on the ground.

DEP CON—Departure Control. The symbol Ⓡ indicates radar departure control.

CLNC DEL—Clearance Delivery.

CPDLC—Controller Pilot Data Link Communication. FANS ATC data communication capability from the aircraft to the ATC Data Link system.

PDC—Pre-Departure Clearance. ACARS-based clearance delivery capability from tower to gate printer or aircraft.

PRE TAXI CLNC—Pre taxi clearance.

VFR ADVSY SVC—VFR Advisory Service. Service provided by Non–Radar Approach Control. Advisory Service for VFR aircraft (upon a workload basis) ctc APP CON.

COMD POST—Command Post followed by the operator call sign in parenthesis.

PMSV—Pilot–to–Metro Service call sign, frequency and hours of operation, when full service is other than continuous. PMSV installations at which weather observation service is available shall be indicated, following the frequency and/or hours of operation as "Wx obsn svc 1900–0000Z‡" or "other times" may be used when no specific time is given. PMSV facilities manned by forecasters are considered "Full Service". PMSV facilities manned by weather observers are listed as "Limited Service".

OPS—Operations followed by the operator call sign in parenthesis.

CON

RANGE

FLT FLW—Flight Following

MEDIVAC

NOTE: Communication frequencies followed by the letter "X" indicate frequency available on request.

㉚ AIRSPACE

Information concerning Class B, C, and part–time D and E surface area airspace shall be published with effective times, if available.

CLASS B—Radar Sequencing and Separation Service for all aircraft in CLASS B airspace.

CLASS C—Separation between IFR and VFR aircraft and sequencing of VFR arrivals to the primary airport.

TRSA—Radar Sequencing and Separation Service for participating VFR Aircraft within a Terminal Radar Service Area.

Class C, D, and E airspace described in this publication is that airspace usually consisting of a 5 NM radius core surface area that begins at the surface and extends upward to an altitude above the airport elevation (charted in MSL for Class C and Class D). Class E surface airspace normally extends from the surface up to but not including the overlying controlled airspace.

When part–time Class C or Class D airspace defaults to Class E, the core surface area becomes Class E. This will be formatted as:
AIRSPACE: CLASS C svc "times" ctc **APP CON** other times CLASS E:
or
AIRSPACE: CLASS D svc "times" other times CLASS E.

When a part–time Class C, Class D or Class E surface area defaults to Class G, the core surface area becomes Class G up to, but not including, the overlying controlled airspace. Normally, the overlying controlled airspace is Class E airspace beginning at either 700´ or 1200´ AGL and may be determined by consulting the relevant VFR Sectional or Terminal Area Charts. This will be formatted as:
AIRSPACE: CLASS C svc "times" ctc **APP CON** other times CLASS G
or
AIRSPACE: CLASS D svc "times" other times CLASS G
or
AIRSPACE: CLASS E svc "times" other times CLASS G

NOTE: AIRSPACE SVC "TIMES" INCLUDE ALL ASSOCIATED ARRIVAL EXTENSIONS. Surface area arrival extensions for instrument approach procedures become part of the primary core surface area. These extensions may be either Class D or Class E airspace and are effective concurrent with the times of the primary core surface area. For example, when a part–time Class C, Class D or Class E surface area defaults to Class G, the associated arrival extensions will default to Class G at the same time. When a part–time Class C or Class D surface area defaults to Class E, the arrival extensions will remain in effect as Class E airspace.

NOTE: CLASS E AIRSPACE EXTENDING UPWARD FROM 700 FEET OR MORE ABOVE THE SURFACE, DESIGNATED IN CONJUNCTION WITH AN AIRPORT WITH AN APPROVED INSTRUMENT PROCEDURE.
Class E 700´ AGL (shown as magenta vignette on sectional charts) and 1200´ AGL (blue vignette) areas are designated when necessary to provide controlled airspace for transitioning to/from the terminal and enroute environments. Unless otherwise specified, these 700´/1200´ AGL Class E airspace areas remain in effect continuously, regardless of airport operating hours or surface area status. These transition areas should not be confused with surface areas or arrival extensions.

(See Chapter 3, AIRSPACE, in the Aeronautical Information Manual for further details)

㉛ VOR TEST FACILITY (VOT)

The VOT transmits a signal which provided users a convenient means to determine the operational status and accuracy of an aircraft VOR receiver while on the ground. Ground based VOTs and the associated frequency shall be shown when available. VOTs are also shown with identifier, frequency and referenced remarks in the VOR Receiver Check section in the back of this publication.

㉜ RADIO AIDS TO NAVIGATION

The Airport/Facility Directory section of the Chart Supplement lists, by facility name, all Radio Aids to Navigation that appear on FAA, Aeronautical Information Services Visual or IFR Aeronautical Charts and those upon which the FAA has approved an Instrument Approach Procedure, with exception of selected TACANs. All VOR, VORTAC, TACAN and ILS equipment in the National Airspace System has an automatic monitoring and shutdown feature in the event of malfunction. Unmonitored, as used in this publication, for any navigational aid, means that monitoring personnel cannot observe the malfunction or shutdown signal. The NAVAID NOTAM file identifier will be shown as "NOTAM FILE IAD" and will be listed on the Radio Aids to Navigation line. When two or more NAVAIDS are listed and the NOTAM file identifier is different from that shown on the Radio Aids to Navigation line, it will be shown with the NAVAID listing. NOTAM file identifiers for ILSs and its components (e.g., NDB (LOM) are the same as the associated airports and are not repeated. Automated Surface Observing System (ASOS) and Automated Weather Observing System (AWOS) will be shown when this service is broadcast over selected NAVAIDs.

NAVAID information is tabulated as indicated in the following sample:

NAVAIDs with Single SSV (VOR, DME, TACAN, NDB, NDB/DME)

Class

NAME (L) VORW 117.55 ABE N40°43.60' W75°27.30' 180° 4.1 NM to fld. 1110/8E

NAVAIDs with Two SSVs (VOR/DME, VORTAC)

SSV for each component shown in paired parentheses with the VOR SSV shown first followed by the DME or TACAN SSV.

TACAN/DME Channel — Geographical Position — Site Elevation — Magnetic Variation

NAME (VL) (L) ABVORTAC 117.55 ABE Chan 122(Y) N40°43.60' W75°27.30' 180° 4.1 NM to fld. 1110/8E **AWOS**

Classes — Frequency — Identifier — Bearing and distance facility to center of airport — Automated Weather Observing System

VOR unusable 020°–060° byd 26 NM blo 3,500'

Restriction within the normal altitude/range of the navigational aid
(See primary alphabetical listing for restrictions on VORTAC and VOR/DME).

Note: Those DME channel numbers with a (Y) suffix require TACAN to be placed in the "Y" mode to receive distance information.

ASR/PAR—Indicates that Surveillance (ASR) or Precision (PAR) radar instrument approach minimums are published in the U.S. Terminal Procedures. Only part–time hours of operation will be shown.

RADIO CLASS DESIGNATIONS

VOR/DME/TACAN Standard Service Volume (SSV) Classifications

SSV Class	Altitudes	Distance (NM)
(T) Terminal	1000´ to 12,000´	25
(L) Low Altitude	1000´ to 18,000´	40
(H) High Altitude	1000´ to 14,500´	40
	14,500´ to 18,000´	100
	18,000´ to 45,000´	130
	45,000´ to 60,000´	100
(VL) VOR Low	1000´ to 5,000´	40
	5,000´ to 18,000´	70
(VH) VOR High	1000´ to 5,000´	40
	5,000´ to 14,500´	70
	14,500´ to 18,000´	100
	18,000´ to 45,000´	130
	45,000´ to 60,000´	100
(DL) DME Low & (DH) DME High*	1000´ to 12,900´	40 increasing to 130
(DL) DME Low	12,900´ to 18,000´	130
(DH) DME High	12,900´ to 45,000´	130
	45,000´ to 60,000´	100

*Between 1000´ to 12,900´, DME service volume follows a parabolic curve used by flight management computers.

NOTES: Additionally, High Altitude facilities provide Low Altitude and Terminal service volume and Low Altitude facilities provide Terminal service volume. Altitudes are with respect to the station's site elevation. Coverage is not available in a cone of airspace directly above the facility. In some cases local conditions (terrain, buildings, trees, etc.) may require that the service volume be restricted. The public shall be informed of any such restriction by a remark in the NAVAID entry in this publication or by a Notice to Airmen (NOTAM).

The term VOR is, operationally, a general term covering the VHF omnidirectional bearing type of facility without regard to the fact that the power, the frequency protected service volume, the equipment configuration, and operational requirements may vary between facilities at different locations.

AB	Automatic Weather Broadcast.
DF	Direction Finding Service.
DME	UHF standard (TACAN compatible) distance measuring equipment.
DME(Y)	UHF standard (TACAN compatible) distance measuring equipment that require TACAN to be placed in the "Y" mode to receive DME.
GS	Glide slope.
H	Non–directional radio beacon (homing), power 50 watts to less than 2,000 watts (50 NM at all altitudes).
HH	Non–directional radio beacon (homing), power 2,000 watts or more (75 NM at all altitudes).
H–SAB	Non–directional radio beacons providing automatic transcribed weather service.
ILS	Instrument Landing System (voice, where available, on localizer channel).
IM	Inner marker.
LDA	Localizer Directional Aid.
LMM	Compass locator station when installed at middle marker site (15 NM at all altitudes).
LOM	Compass locator station when installed at outer marker site (15 NM at all altitudes).
MH	Non–directional radio beacon (homing) power less than 50 watts (25 NM at all altitudes).
MM	Middle marker.
OM	Outer marker.
S	Simultaneous range homing signal and/or voice.
SABH	Non–directional radio beacon not authorized for IFR or ATC. Provides automatic weather broadcasts.
SDF	Simplified Direction Facility.
TACAN	UHF navigational facility–omnidirectional course and distance information.
VOR	VHF navigational facility–omnidirectional course only.
VOR/DME	Collocated VOR navigational facility and UHF standard distance measuring equipment.
VORTAC	Collocated VOR and TACAN navigational facilities.
W	Without voice on radio facility frequency.
Z	VHF station location marker at a LF radio facility.

ILS FACILITY PERFORMANCE CLASSIFICATION CODES

Codes define the ability of an ILS to support autoland operations. The two portions of the code represent Official Category and farthest point along a Category I, II, or III approach that the Localizer meets Category III structure tolerances.

Official Category: I, II, or III; the lowest minima on published or unpublished procedures supported by the ILS.

Farthest point of satisfactory Category III Localizer performance for Category I, II, or III approaches: A – 4 NM prior to runway threshold, B – 3500 ft prior to runway threshold, C – glide angle dependent but generally 750–1000 ft prior to threshold, T – runway threshold, D – 3000 ft after runway threshold, and E – 2000 ft prior to stop end of runway.

ILS information is tabulated as indicated in the following sample:

ILS/DME 108.5 I–ORL Chan 22 Rwy 18. Class IIE. LOM HERNY NDB.

ILS Facility Performance Classification Code

FREQUENCY PAIRING TABLE

VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL
108.10	18X	108.55	22Y	111.05	47Y	114.85	95Y
108.30	20X	108.65	23Y	111.15	48Y	114.95	96Y
108.50	22X	108.75	24Y	111.25	49Y	115.05	97Y
108.70	24X	108.85	25Y	111.35	50Y	115.15	98Y
108.90	26X	108.95	26Y	111.45	51Y	115.25	99Y
109.10	28X	109.05	27Y	111.55	52Y	115.35	100Y
109.30	30X	109.15	28Y	111.65	53Y	115.45	101Y
109.50	32X	109.25	29Y	111.75	54Y	115.55	102Y
109.70	34X	109.35	30Y	111.85	55Y	115.65	103Y
109.90	36X	109.45	31Y	111.95	56Y	115.75	104Y
110.10	38X	109.55	32Y	113.35	80Y	115.85	105Y
110.30	40X	109.65	33Y	113.45	81Y	115.95	106Y
110.50	42X	109.75	34Y	113.55	82Y	116.05	107Y
110.70	44X	109.85	35Y	113.65	83Y	116.15	108Y
110.90	46X	109.95	36Y	113.75	84Y	116.25	109Y
111.10	48X	110.05	37Y	113.85	85Y	116.35	110Y
111.30	50X	110.15	38Y	113.95	86Y	116.45	111Y
111.50	52X	110.25	39Y	114.05	87Y	116.55	112Y
111.70	54X	110.35	40Y	114.15	88Y	116.65	113Y
111.90	56X	110.45	41Y	114.25	89Y	116.75	114Y
108.05	17Y	110.55	42Y	114.35	90Y	116.85	115Y
108.15	18Y	110.65	43Y	114.45	91Y	116.95	116Y
108.25	19Y	110.75	44Y	114.55	92Y	117.05	117Y
108.35	20Y	110.85	45Y	114.65	93Y	117.15	118Y
108.45	21Y	110.95	46Y	114.75	94Y	117.25	119Y

FREQUENCY PAIRING TABLE

The following is a list of paired VOR/ILS VHF frequencies with TACAN channels.

TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY	TACAN CHANNEL	VHF FREQUENCY
2X	134.50	43X	110.60	72X	112.50	101X	115.40
2Y	134.55	43Y	110.65	72Y	112.55	101Y	115.45
11X	135.40	44X	110.70	73X	112.60	102X	115.50
11Y	135.45	44Y	110.75	73Y	112.65	102Y	115.55
12X	135.50	45X	110.80	74X	112.70	103X	115.60
12Y	135.55	45Y	110.85	74Y	112.75	103Y	115.65
17X	108.00	46X	110.90	75X	112.80	104X	115.70
17Y	108.05	46Y	110.95	75Y	112.85	104Y	115.75
18X	108.10	47X	111.00	76X	112.90	105X	115.80
18Y	108.15	47Y	111.05	76Y	112.95	105Y	115.85
19X	108.20	48X	111.10	77X	113.00	106X	115.90
19Y	108.25	48Y	111.15	77Y	113.05	106Y	115.95
20X	108.30	49X	111.20	78X	113.10	107X	116.00
20Y	108.35	49Y	111.25	78Y	113.15	107Y	116.05
21X	108.40	50X	111.30	79X	113.20	108X	116.10
21Y	108.45	50Y	111.35	79Y	113.25	108Y	116.15
22X	108.50	51X	111.40	80X	113.30	109X	116.20
22Y	108.55	51Y	111.45	80Y	113.35	109Y	116.25
23X	108.60	52X	111.50	81X	133.40	110X	116.30
23Y	108.65	52Y	111.55	81Y	113.45	110Y	116.35
24X	108.70	53X	111.60	82X	113.50	111X	116.40
24Y	108.75	53Y	111.65	82Y	113.55	111Y	116.45
25X	108.80	54X	111.70	83X	113.60	112X	116.50
25Y	108.85	54Y	111.75	83Y	113.65	112Y	116.55
26X	108.90	55X	111.80	84X	113.70	113X	116.60
26Y	108.95	55Y	111.85	84Y	113.75	113Y	116.65
27X	109.00	56X	111.90	85X	113.80	114X	116.70
27Y	109.05	56Y	111.95	85Y	113.85	114Y	116.75
28X	109.10	57X	112.00	86X	113.90	115X	116.80
28Y	109.15	57Y	112.05	86Y	113.95	115Y	116.85
29X	109.20	58X	112.10	87X	114.00	116X	116.90
29Y	109.25	58Y	112.15	87Y	114.05	116Y	116.95
30X	109.30	59X	112.20	88X	114.10	117X	117.00
30Y	109.35	59Y	112.25	88Y	114.15	117Y	117.05
31X	109.40	60X	133.30	89X	114.20	118X	117.10
31Y	109.45	60Y	133.35	89Y	114.25	118Y	117.15
32X	109.50	61X	133.40	90X	114.30	119X	117.20
32Y	109.55	61Y	133.45	90Y	114.35	119Y	117.25
33X	109.60	62X	133.50	91X	114.40	120X	117.30
33Y	109.65	62Y	133.55	91Y	114.45	120Y	117.35
34X	109.70	63X	133.60	92X	114.50	121X	117.40
34Y	109.75	63Y	133.65	92Y	114.55	121Y	117.45
35X	109.80	64X	133.70	93X	114.60	122X	117.50
35Y	109.85	64Y	133.75	93Y	114.65	122Y	117.55
36X	109.90	65X	133.80	94X	114.70	123X	117.60
36Y	109.95	65Y	133.85	94Y	114.75	123Y	117.65
37X	110.00	66X	133.90	95X	114.80	124X	117.70
37Y	110.05	66Y	133.95	95Y	114.85	124Y	117.75
38X	110.10	67X	134.00	96X	114.90	125X	117.80
38Y	110.15	67Y	134.05	96Y	114.95	125Y	117.85
39X	110.20	68X	134.10	97X	115.00	126X	117.90
39Y	110.25	68Y	134.15	97Y	115.05	126Y	117.95
40X	110.30	69X	134.20	98X	115.10		
40Y	110.35	69Y	134.25	98Y	115.15		
41X	110.40	70X	112.30	99X	115.20		
41Y	110.45	70Y	112.35	99Y	115.25		
42X	110.50	71X	112.40	100X	115.30		
42Y	110.55	71Y	112.45	100Y	115.35		

(33) **COMM/NAV/WEATHER REMARKS:** These remarks consist of pertinent information affecting the current status of communications, NAVAIDs, weather, and in the absence of air-ground radio outlets identified in the Communications section some approach control facilities will have a clearance delivery phone number listed here.

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