

# JEPP'S BRIEFING



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**W**hen the weather is as clear as a bell, finding a runway is easy, even with relatively little piloting experience. Just pull out the sectional chart, find a few landmarks near the airport and "drive" on home. But, place a cloud "mask" completely around the airplane and obscure the ground, the sky, and all landmarks, then it takes experience, certificates, ratings, properly equipped airplanes, ATC, clearances, and magic sheets of paper called approach charts.

Through the maze of printing, important numbers penetrate to display the frequencies, courses, distances and altitudes. The approach chart is the graphic presentation of these numbers which experienced pilots use to find the destination runway — with precision and — legally.

## Approach Charts vs. Approach Procedures

Instrument approach procedures are designed by government authorities. After each approach procedure is issued by the FAA, the official FAA Form 8260 in *narrative* format is distributed to charting agencies, such as NOS (National Ocean Service), Jeppesen, and others.

Since approach *charts* are graphic representations of approach *procedures*, the charts carry a "heavy weight" — they are portrayals of Federal Aviation Regulations. Each approach you "shoot" is in compliance with FAR Part 97 (plus numerous other FARs.) Approach procedures go through most of the same rule-making steps that other FARs do. After a procedure is designed by FAA Aviation Standards (AVN), the approach is eventually listed with other FARs in the Federal Register. It now becomes law—altitudes, courses, distances, everything. To fly legally, you must comply with the numbers on each approach chart.

In the United States, the approach procedures are designed in accordance with the FAA's TERPs (United States Standard for Terminal Instrument Procedures.) In most other countries around the world, approach procedures are designed in accordance with the ICAO PansOps guidelines, so there are subtle differences. But in each case, the approach procedures are still designed by the government authorities. In a later article, we will discuss the segments according to the TERPs specifications.

## The Chart Clinic – Thirteenth in a Series

### Approach Chart Sequence

To help find the proper approach chart in your Airway Manual, Jeppesen has designed a chart filing system. The filing system helps in two ways. First of all, it helps when trying to find an approach chart while airborne. Secondly, when filing revisions, you should be able to tell exactly where each approach chart is to be placed.

As an additional aid, the approach chart city name, state, and airport name are printed on the approach chart using the *same* wording as is found on the enroute chart. The names of the states for each airport are included on the enroute charts making it easier to determine which state tab to look under to find the approach chart.

### Alphabetically by State

Within each Airway Manual, the approach charts are arranged alphabetically by the state name. State tabs are included prior to the first airports for each state. A complete USA coverage containing enroute, area, departure, STAR, and approach charts would include eight two-inch leather or plastic binders. The various regional coverages contain fewer states, but each manual is still arranged alphabetically by state. Jeppesen charts supplied to airline pilots are sequenced alphabetically by the city name and *not* by the state name.

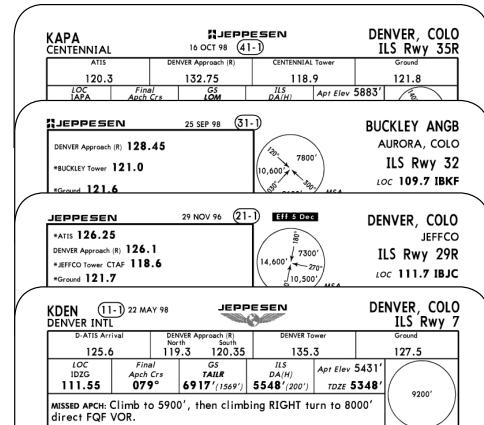
### Alphabetically by City

Within each state, the approach charts are sequenced alphabetically by the city name. Sometimes, however, it may be difficult to find a city name, since the airport may be listed under another city. For example, to find the approach chart for Hartford, Connecticut you must look under Windsor Locks. Doesn't make sense? Jeppesen lists the associated city name according to the FAA documents used to make approach charts. You say that still doesn't help you find the airport? There are two things which help. By referring to the enroute chart, you can see the exact way the airport is listed in the approach charts. The other solution is to contact the airport sponsor or operator and have them officially change the associated city through their normal FAA channels.

### Index Numbers

Frequently, there are many airports listed under one city name. In order to keep the sorting system straight in your Airway Manual, Jeppesen uses an index number which is at the top of every approach chart. This index number is usually a three- or four-digit number enclosed in an oval at the top of each chart. This index number helps to sort airports within city names and it also helps to sort the approaches in proper sequence at each airport.

As an example, refer to the following illustration which shows the approach charts for Denver, Colorado. The first digit is used to sequence airports under a single city name.



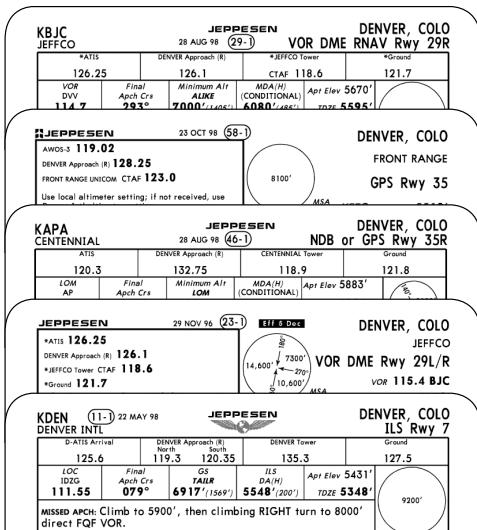
The first number "1" in the index number "11-1" at Denver is used for Denver International Airport, the principal airport. All approach charts for Denver International have an index number beginning with the number "1."

Jeffco Airport is listed as the second airport under Denver and has an index number of "21-1." Buckley Air National Guard Base is the third airport listed under Denver and uses the index number "31-1." (The name Buckley is above Aurora, a suburb of Denver, since this is an approach chart supplied only to subscribers of the military approach chart series.) Centennial Airport is the fourth airport that is listed under Denver and has the index number "41-1."

The first number is arbitrarily chosen and doesn't necessarily indicate a descending order of airport capability. The second number within the index oval is also used for sorting, but the number has a bit more significance from a pilot perspective. The approach with the greatest precision and the lowest minimums usually has a lower index number than the approaches with higher minimums. As an example, at Denver International Airport the second digit "1" in the "11-1" index number is used for ILS approaches. By using this system, the "best" approaches are found at the beginning of each airport listing. As you flip the pages for each airport, you will notice the minimums usually go higher. The following numbers represent the type of approaches that will be found according to the second digit of the index number:

- 0 — Area, SID (DP), STAR, Taxiway Facilities, Class B Airspace, etc.
- 1 — ILS, MLS, LOC, LDA, SDF
- 2 — Reserved
- 3 — VOR
- 4 — TACAN
- 5 — Reserved (Formerly Low Frequency Range)
- 6 — NDB (ADF)
- 7 — DF
- 8 — GPS, PAR, ASR, SRA, SRE
- 9 — VOR DME RNAV, Vicinity Charts, Visual Arrival, Visual Departure

In the illustration below, the second digit of the first chart is a "1" for ILS Rwy 7, the second digit of the second chart is a "3" for the Jeffco VOR DME Rwy 29L/R approach. The second digit of the third chart is a "6" for the Centennial NDB or GPS Rwy 35R approach. The second digit on the fourth chart is an "8" for the Front Range GPS Rwy 35 approach. The second digit on the Jeffco chart is a "9" for the VOR DME RNAV Rwy 29R approach.



The number "0," when used as the second digit, applies to non-approach charts included with each city. The Denver Area Chart uses a second digit "0" followed by "-1." The third digit in the "10" series indicates the type of chart. The "-1" is used for area charts, the "-1A" is used for Class B Airspace charts, the "-2" is used for STAR charts and the "-3" is used for DP or SID charts.

## The Last Digit

When more than one of the same type of approach is found at an airport, the first two numbers of the index are the same. To provide proper sequencing of the charts, the third digit becomes significant. As an example, the first chart for Denver International is "11-1" for the ILS Rwy 7 approach. The index "11-2" is for the ILS Rwy 8 approach and the index "11-3" is for the ILS Rwy 16 approach. Within a type of procedure, such as the ILS, the approach charts are being changed to be sequenced by runway number so it is easier to find a specific approach at a larger airport.

At larger airports, the airport diagram has an index number of 10-9 so it can be sequenced in front of the approach charts. At most smaller airports, Jeppesen publishes a large-scale airport diagram on the reverse side of the first approach chart for the airport. When the airport diagram is printed on the back of the first approach chart, the index number is the same as the front side of the approach chart.

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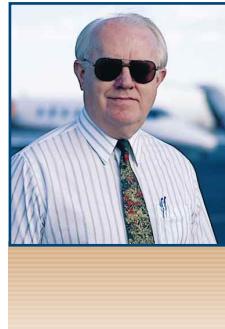
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The next article in this series on Jeppesen charts will discuss the heading and border data on the top of the approach charts and the border information on the bottom of the charts. Additionally, we will begin looking at the planview.



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