included when they are assigned by ATC a majority of the time. [Figure 3-12]

STARs usually are named according to the point at which the procedure begins. In the United States, typically there are en route transitions before the STAR itself. So the STAR name is usually the same as the last fix on the en route transitions where they come together to begin the basic STAR procedure. A STAR that commences at the CHINS Intersection becomes the CHINS SEVEN ARRIVAL. When a significant portion of the arrival is revised, such as an altitude, a route, or data concerning the NAVAID, the number of the arrival changes. For example, the CHINS SEVEN ARRIVAL is now the CHINS EIGHT ARRIVAL due to modifications in the procedure.

Studying the STARs for an airport may allow pilots to perceive the specific topography of the area. Note the initial fixes and where they correspond to fixes on the Aeronautical Information Services en route or area chart. Arrivals may incorporate step-down fixes when necessary to keep aircraft within airspace boundaries or for obstacle clearance. Routes between fixes contain courses, distances, and minimum altitudes, alerting aircrews to possible obstructions or terrain under their arrival path. Airspeed restrictions also appear where they aid in managing the traffic flow. In addition, some STARs require that pilots use DME and/or ATC radar. Aircrews can decode the symbology on the PAWLING TWO ARRIVAL by referring to the legend at the beginning of the TPP. [Figure 3-13]

STAR Procedures

Pilots may accept a STAR within a clearance or they may file for one in their flight plan. As the aircraft nears its destination airport, ATC may add a STAR procedure to its original clearance. Keep in mind that ATC can assign a STAR even if the aircrew has not requested one. Use of a STAR requires pilot possession of at least the approved chart. RNAV STARs must be retrievable by the procedure name from the aircraft database and conform to charted procedure. If an aircrew does not want to use a STAR, they must specify "No STAR" in the remarks section of their flight plan. Pilots may also refuse the STAR when it is given to them verbally by ATC, but the system works better if the aircrew advises ATC ahead of time.

Preparing for the Arrival

As mentioned before, STARs include navigation fixes that are used to provide transition and arrival routes from the en route structure to the final approach course. They also may lead to a fix where radar vectors are provided to intercept the final approach course. Pilots may have noticed that minimum crossing altitudes and airspeed restrictions appear on some STARs. These expected altitudes and airspeeds are not part of the clearance until ATC includes them verbally. A STAR is simply a published routing; it does not have the force of a clearance until issued specifically by ATC. For example, minimum en route altitude (MEAs) printed on STARs are not valid unless stated within an ATC clearance or in cases of lost communication. After receiving the arrival clearance, the aircrew should review the assigned STAR procedure and ensure the FMS has the appropriate procedure loaded (if so equipped). Obtain the airport and weather information as early as practical. It is recommended that pilots have this information prior to flying the STAR. If you are landing at an airport with approach control services that has two or more published instrument approach procedures, you will receive advance notice of which instrument approaches to expect. This information is broadcast either by ATIS or by a controller. [Figure 3-14] It may not be provided when the visibility is 3 SM or better and the ceiling is at or above the highest initial approach altitude established for any instrument approach procedure for the airport.

For STAR procedures charted with radar vectors to the final approach, look for routes from the STAR terminating fixes to the IAF. If no route is depicted, you should have a predetermined plan of action to fly from the STAR terminating fix to the IAF in the event of a communication failure.

Reviewing the Approach

Once the aircrew has determined which approach to expect, review the approach chart thoroughly before entering the terminal area. Aircrews should check fuel level and make sure a prolonged hold or increased headwinds have not cut into the aircraft's fuel reserves because there is always a chance the pilot has to make a missed approach or go to an alternate. By completing landing checklists early, aircrews can concentrate on the approach.

In setting up for the expected approach procedure when using an RNAV, GPS, or FMS system, it is important to understand how multiple approaches to the same runway are coded in the database. When more than one RNAV procedure is issued for the same runway, there must be a way to differentiate between them within the equipment's database, as well as to select which procedure is to be used. (Multiple procedures may exist to accommodate GPS receivers and FMS, both with and without VNAV capability.) Each procedure name incorporates a letter of the alphabet, starting with Z and working backward through Y, X, W, and so on. (Naming conventions for approaches are covered in more depth in the next chapter). [Figure 3-15]