



The Voice of Aviation Business

What is a Repair Station and how do I select the right one for me?



A Consumer Guide To
Help You Select The Repair Station
That Is Right For You



What is a Repair Station?

Those of us in the aviation industry, especially the maintenance field, tend to assume that everyone in the industry knows what a repair station is and how to select the one that meets our maintenance requirements. To help you form your own opinion of what a repair station can do for you, we'll give you some background and information about repair stations so you will be better equipped to select a facility.

The term *repair station* refers to a maintenance facility that has a certificate issued by the Federal Aviation Administration (FAA) under Title 14 of the Code of Federal Regulations (14 CFR) Part 145 and is engaged in the maintenance, preventive maintenance, inspection, and alteration of aircraft and aircraft products. Another more general term used throughout the industry is *MRO*, referring to repair stations as maintenance, repair, and overhaul facilities. The term *MRO* is often used to describe a repair station, but is sometimes used by FBOs or other non-certificated companies employing groups of airframe and powerplant mechanics.

The FAA issues certificates to facilities located both inside and outside the United States. The total number of domestic and foreign repair stations has grown tremendously to meet the globalization of air travel and maintenance demands. At last count, there were approximately 5,000 Part 145 repair stations.

The repair station certificate is an actual certificate, titled Air Agency Certificate, and must be available on the premises

for inspection by the public and the FAA. Most repair stations will make it available on request or it may be posted in the facility usually near the main or front entrance or somewhere fairly visible to the public.

The certificate will state:

- The repair station number. This is assigned by the FAA at the time of certification and is used for internal FAA tracking and oversight.
- What the repair station's ratings include. This is important because this will tell what aircraft, components, or equipment the repair station can work on and the maintenance it can perform.
- The location and name of the repair station. This is important, too, as many repair stations have multiple facilities at locations all over the world and the different facilities can have a variety of ratings and capabilities.

How do I know what kind of work an FAA certified repair station can do?

When a maintenance facility applies to the FAA for a repair station certificate, it will usually have a business model and facility that dictates, for the most part, the kind of maintenance it can perform. At the end of the certification process, the company receives a repair station certificate and FAA-issued ratings that describe the tasks the repair station is capable of performing. This is what you want to pay attention to when selecting a

repair station as an FAA repair station can only perform the functions necessary to inspect, repair, replace, or overhaul those aviation articles for which it has been given a rating.

The FAA lists and approves ratings on a form called operations specifications. The operating specifications will also be displayed in the maintenance facility, usually right next to the certificate. Like other businesses, most maintenance facilities advertise on the Web and in trade magazines, so you have many ways to research what rating a particular repair station may have.

There are basically six ratings that pertain to a repair station:

- Airframe
- Powerplant
- Propeller
- Radio
- Instrument
- Accessory

These are broken down into classes that are then further differentiated. For example, an airframe rating has four classes, two classes are for either large or small composite aircraft, and the other two are for either large or small sheet metal aircraft. An engine rating has three classes. Two of these are for reciprocating engines, with one for 400-horsepower-or-less engines and the other for more-than-400-horsepower engines. The third class is for turbine engines.

A repair station may have a full class rating, meaning it has the capability to

maintain a representative number of products. For a Class 4 airframe rating, the repair station would be certified to maintain all makes and models of larger sheet metal airframes. As you can imagine, this is quite a financial endeavor. A large number of repair stations have limited ratings, which means they will be authorized to work only on certain makes and models of airframes or engines, etc.

There is another rating that can be issued, a Limited Specialized Service rating. A Limited Specialized Service rating is issued for a special maintenance function. For example, a repair station may have a limited specialize rating to perform plating or some other specialized process.

In any case, do your homework, read the trade magazines, and talk to the trade associations that represent the different repair stations. Even look up FAR Part 145 to see for yourself what the certification requirements are. This is not an easy system to understand, so the more information you have the better off you will be.

Why contract with an FAA repair station?

You have several options when it comes to finding a person or a company to maintain your aircraft. Those options range from a single airframe and powerplant (A&P) mechanic to a repair station or other MRO. The rules are specific, too, on who can perform maintenance and approve the aircraft, airframe, engines, etc, for return to service after the maintenance is performed.

For example, any maintenance technician holding a Part 65 certificate, better known as an Airframe and Powerplant Mechanic Certificate, a repairman certificated under Part 65, a repair station certificated under Part 145, and an air carrier certificated under Part 121 are just a few noted in the regulations as being authorized to perform maintenance and also complete an approval for return to service.

Many factors may affect your choices for a maintenance provider. If you are operating your aircraft and have an unscheduled maintenance stop in Bozeman, Montana, the chances are you might find an A&P mechanic to take care of your issue. But in most cases, the scheduled maintenance you require, the size and complexity of your aircraft, and the types of repairs or modifications will dictate where you take your business.

Once you enter into the repair station world, you encounter a segment of the industry that is regulated more intensely and also receives more oversight and attention.

The infrastructure associated with a repair station is much more sophisticated than what you would find at an FBO and certainly with an A&P mechanic. These facilities are required to have a manual describing the responsibilities of management personnel and company operating procedures. There is a requirement for a quality control system; however, many repair stations go beyond the basic requirement and develop intricate quality management systems. Repair stations are required to have an FAA-approved



training program for repairmen and mechanics and there are housing, facilities, and equipment requirements also. These are requirements you won't find when it comes to your usual MRO or A&P mechanic.

Repair stations can be much more specialized, too. So, if you need a new avionics package installed, you won't have any problem finding a shop to do the work. If you are redoing the interior of your airplane, the same is true. You will be able to find some very talented and professional repair stations to help you.

So how much does it cost to visit a repair station?

Like any other business, the more employees, equipment and overhead the repair station has, the more the cost for the service. Usually, the labor or the shop rate will be by the hour. Some work may

be priced out as projects and will have a standard fee already affixed. Shop around, compare prices, experience, services offered – just like you would with any other expense. You may find some shops offer amenities or other services to attract business that will make them the right choice for you.

Quality built in

Federal regulations require repair stations to have a quality control system that is acceptable to the FAA. The repair station must have a manual that describes its inspection processes, the selection and training of its technicians and quality inspectors, how it conducts internal audits and the frequency, along with how it will annotate and track corrective actions taken to improve the system. There are more requirements and you can read them for yourself in Part 145.211. There is

also a requirement for an FAA-approved training program.

The most important thing a consumer needs to know is that the regulation is the minimum standard. For the most part, you will discover that the industry has moved past the minimum standard and MROs have adopted and integrated quality management systems (QMS). However, be careful. Although a repair station has a QMS, it still needs to meet the regulation and integrate the safety component.

In the last few years or so the quality bar was raised even further, with the introduction of safety management systems (SMS). SMS integrate modern safety risk management and safety assurance concepts. You will find more and more repair stations implementing portions or tenets of SMS until it becomes a regulation of the FAA and other CAAs.

NATA created an SMS manual to educate repair stations on what an SMS is and how to develop one. It could be of use to you as well, as an owner, to give you a better understanding of the components of an SMS and its functions.

Once again, the bottom line for you to know is that there are safety requirements that demand systems and processes to be established by an MRO to address not only the quality of work being performed but also to integrate risk management strategies to produce a safer product.

Communicate, Communicate, Communicate

Prior to conducting business with a repair station or soliciting proposals for work to be performed on your aircraft, it is a good idea to get to know your maintainer. Don't be shy, this is your airplane, your money and, first and foremost, your life!

Ask questions. For example, Is the repair station rated to perform the work you are requesting? How long has the facility been in business? Does the repair station offer a warranty, and what are the parameters of the warranty? What is their policy on parts and labor? How do they resolve discrepancies noted after you have taken delivery of your aircraft and departed their facility, and how is that discrepancy corrected? If they contract work out to other facilities, how does that affect your downtime with the airplane or engine. You may want to inquire from industry contacts about the stability of the facility's workforce prior to committing.

Obtaining proper answers to these questions and others prior to choosing a service facility and entering into a contract can help protect your company from the burdens of administrative misunderstandings and operational delays and, possibly, from financial loss.

When contracting or hiring a repair station to perform maintenance for you, you must tell them what it is you want them to do. Ensure that the proposal or work order/purchase order covers all of your requirements. If it is an inspection that you request, that is what you will get. If

you want them to fix what they find during the inspection, you need to tell them that. Ask the repair station for all the details. Make sure the proposal documents how any unscheduled maintenance will be addressed and consider what impact non-scheduled work can have on the overall project timeline.

Communication is a two way street. The repair station should be talking to you, too. They should tell you how they write discrepancies found on inspections and what constitutes a change order to the proposal. If there is any special tooling required that the repair station must acquire to perform the maintenance, the repair station should address how they will get it and what costs will be passed on to you. The repair station should disclose their overtime policy and any hangar fees or storage fees if your aircraft is left in the facility for a long period of time.

Remember, as the owner/operator you are primarily responsible for the airworthiness of your aircraft, so ensure that all the maintenance you required and paid for was accomplished and that no work was added that you did not authorize.

