Aeronautical Repair Station Association

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Contract Maintenance: The Critical Role of Repair Stations in Maintaining the Safety and Strength of the U.S. Aviation Industry

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Before the House Subcommittee on Aviation

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Chairman Costello, Ranking Member Petri, and members of the Subcommittee, thank you for inviting me to testify this morning about the excellent work America's contract aviation maintenance companies are doing to ensure the safety of the traveling public while helping air carriers improve their bottom lines.

My name is Marshall Filler and I am the Managing Director & General Counsel of the Aeronautical Repair Station Association (ARSA). ARSA is a 670 member strong international trade association with a distinguished 22-year record of educating and representing certificated aviation maintenance facilities before the U.S. Congress, the Federal Aviation Administration (FAA), the European Aviation Safety Agency (EASA), and other civil aviation authorities (CAA).

ARSA's primary members are companies holding repair station certificates issued by the FAA under Part 145 of the Federal Aviation Regulations (FARs). These certificates are our industry's "license to do business." They authorize repair stations to perform maintenance and alterations on civil aviation articles, including aircraft, engines, and propellers, and on the components installed on these products. These repair stations perform maintenance for airlines and general aviation owners and operators.

In recent years, the profile of the contract maintenance industry has increased dramatically. We welcome the opportunity to discuss the important role our members play in the aviation industry here and abroad, and appreciate the opportunity to correct any misconceptions about this longstanding and safe practice.

Contract maintenance is a long-standing part of the civil aviation system.
The contract maintenance work performed by ARSA members is nothing new. Since the early twentieth century, our industry has consistently provided dependable, expert maintenance to the commercial and general aviation sectors.

Standards for repair station operations have been set since the enactment of the Civil Aeronautics Act of 1938. Part 145 continues to set stringent standards, ensuring that certificated repair stations meet the same safety criteria as airlines' in-house maintenance organizations. Although most of the recent media attention has focused on

maintenance performed for air carriers, contract maintenance also plays a critical role in supporting the approximately 200,000 general aviation aircraft registered in the U.S. Indeed, for decades repair stations have served as the primary source of maintenance for the general aviation sector. This is because general aviation operators, unlike air carriers, are not authorized to perform maintenance in their own right.

In recent years, airlines have increased their use of outside maintenance contractors to reduce costs, while maintaining the highest safety standards. Over the past decade, network air carriers have increased contract maintenance from 37 percent of their total maintenance expenses to 53 percent.[1] Perhaps that number is higher today than it was when the DOT Inspector General released its report; nevertheless, a safe and proven practice employed one-third of the time does not become unsafe merely because it is used more frequently.

Repair stations are a critical part of the U.S. economy.
The growing contract maintenance industry is a source of stable, good paying jobs for skilled American workers. Currently, there are over 4,000 repair stations in the U.S., employing over 195,000 people in all fifty states (see Appendix A). In recent years, our industry has absorbed many employees laid off by struggling air carriers. In 1994, the Indianapolis Airport Authority (IAA) leased the Indianapolis Maintenance Center (IMC) to United Airlines, Inc. In 2003, after filing for Chapter 11 bankruptcy protection, United vacated the state-of-the-art maintenance facility. Less than a year later, AAR Aircraft Services, Inc. entered into a 10-year lease agreement with the IAA for some of the vacated space and later received a repair station certificate for that location from the FAA. AAR's investment allowed the IMC to reopen and gave hundreds of aviation maintenance workers the opportunity to work for a financially stable company. Many of our members, particularly those who perform contracted heavy aircraft maintenance, employ former airline mechanics at their repair stations.

Indeed, the practice of contracting is not limited to maintenance. Flight training facilities, fueling services, and aerospace manufacturing are just a few of the activities contracted by the industry. Like airlines that oversee contract maintenance, aircraft manufacturers maintain strict oversight of their suppliers' production operations, since they retain regulatory responsibility for the final product. In addition, as with repair stations that have their own FAA certification, some suppliers to aircraft manufacturers obtain independent production approvals from the FAA, making them independently responsible under the regulations for the work they perform. This is similar to what occurs in contract maintenance.

Increases in contract maintenance have paralleled increases in safety.
The increased use of contract maintenance by airlines coincides with the best safety record in the history of America's commercial aviation industry. Between 1994 and 2004, the use of repair stations to perform maintenance for "legacy" airlines increased

[1] Department of Transportation Office of Inspector General, Rep. No. AV-2005-062, *Safety Oversight of an Air Carrier Industry in Transition,* at 1 (June 3, 2005).

from one-third to over half of all airline maintenance.[2] During that same period, the U.S. and worldwide fatal accident rate declined.[3] This trend is continuing; earlier this month the National Transportation Safety Board (NTSB) released its annual statistics showing continued reduction in civil aviation accidents in the U.S.[4]

These trends suggest that highly-qualified and specialized repair stations servicing commercial aviation aircraft and related components are an integral part of maintaining the remarkable and exemplary safety record.

Although the type of work may differ, quality does not.
To operate in the civil aviation maintenance industry, certificated repair stations must demonstrate to the FAA, or other NAAs if applicable, that they possess the housing, facilities, equipment, personnel, technical data, and quality control systems necessary to perform maintenance in an airworthy manner. Based upon satisfactory showings in these areas, a repair station is rated to perform certain types of maintenance. Not all repair stations look alike and their capabilities vary significantly. Some provide line maintenance – the routine, day-to-day work necessary to keep an airline's fleet operating safely. Some perform substantial maintenance, which includes more comprehensive inspection and repairs on airframes and overhauls of aircraft engines. Other repair stations offer specialized services for their customers such as welding, heat treating, and coating on a variety of aircraft parts. However, the vast majority of repair stations perform maintenance on components. Component maintenance usually occurs off the aircraft, typically away from an airport in industrial parks and similar facilities.

Certificated repair stations include both manufacturers of civil aviation articles who service their own equipment and independent organizations with the technical, engineering and management capabilities necessary to thrive in an increasingly complex aviation industry. Many of our members are second and third generation family-owned, small businesses. Significantly, many air carriers are also certificated under Part 145 and are aggressively pursuing contract maintenance opportunities of their own.

The skills and technology required to maintain civil aviation products often call for an increased level of sophistication. To meet this demand, contract maintenance companies have developed highly-specialized facilities. Repair stations, like medical specialists, often seek to strengthen their core competencies by specializing in a particular line or type of product. This allows them to develop a high level of proficiency in performing certain repairs.

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[2] Department of Transportation Office of Inspector General, Rep. No. AV-2005-062, *Safety Oversight of an Air Carrier Industry in Transition*, at 1 (June 3, 2005).
[3] Harro Ranter, The Aviation Safety Network, *Airliner Accident Statistics 2004: Statistical summary of fatal multi-engine airliner accidents in 2004*, at 7 (January 1, 2005).
[4] National Transportation Safety Board, March 13, 2007 press release, "Annual Statistics Show Continued Improvement in Aviation Safety."

Repair stations offer cost savings, reliability, and specialization to customers. Beyond the value of specialized expertise, repair stations have consistently offered cost-savings to their airline and general aviation customers. The ability to perform high quality, reliable work in a timely manner and at a lower cost has allowed repair stations to thrive, even in an economic climate that threatens other sectors of the aviation industry.

Competitive bidding in contract maintenance requires repair stations to carefully control their costs. To successfully compete for and retain business, repair stations must find efficiencies and savings that are often unavailable to air carrier maintenance organizations. Without contract maintenance, an airline would have to invest capital in equipment and personnel for tasks it may not undertake as frequently or efficiently as a repair station specializing in that particular type of work.

In addition, many large airlines have found it difficult to control their labor costs. Repair stations, particularly small businesses, do not face the same demands on their resources. While employees at repair stations may not be compensated at the same levels as their unionized airline colleagues, contract maintenance workers enjoy other benefits, including the prospect of stable employment in a growing industry and the ability to work for a large aerospace company or a small, family-owned business. Their decision to accept lower pay in some cases in no way reflects the value of their contributions or the quality of their work. Indeed, the technicians at repair stations possess the training and skills necessary to ensure the highest level of safety and regulatory compliance.

Despite limited FAA resources, the industry ensures safety.
Aviation safety does not begin and end with the FAA or any other regulatory body. Government inspectors will never be able to oversee each mechanic at every facility all the time. The industry has the ultimate obligation to ensure that the civil aviation system is safe. All evidence suggests that it is fulfilling that responsibility despite the FAA's limited oversight resources.

In reports published in 2003 and 2005, the Office of the Inspector General of the Department of Transportation (DOT IG) expressed concerns about the FAA's oversight of the contract maintenance industry stating that the agency's oversight is currently insufficient for the amount of work independent repair stations perform for airlines.[5] The FAA has responded to these findings by introducing a risk-based inspection program that identifies those repair stations doing the most work for airlines and monitoring their operations more closely. ARSA supports efforts to better utilize FAA resources to ensure the continued quality of contract maintenance and to demonstrate to policymakers and the public that our aviation system remains safe.

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[5] *See*, Department of Transportation Office of Inspector General, Rep. No. AV-2003-047, *Review of Air Carriers' Use of Aircraft Repair Stations*, at 1 (July 8, 2003); Department of Transportation Office of Inspector General, Rep. No. AV-2005-062, *Safety Oversight of an Air Carrier Industry in Transition*, at 1 (June 3, 2005).

We also note that despite the IG's observations, repair stations are subject to a tremendous amount of oversight by regulators, their customers, and other entities as shown in a 2005 ARSA member survey (Appendix B). A more recent membership survey conducted earlier this month is summarized in Appendix C. The findings from this survey reaffirmed past survey results, including:

- 42 percent of members surveyed reported 11 or more external audits during 2006 by regulators, customers, and third-party accreditation bodies.
- FAA resource issues are having an impact. A quarter of survey respondents reported losing customers or foregoing business opportunities because of inadequate FAA staffing.

Thus, safety is not just the FAA's responsibility, but that of every aviation maintenance employee performing work on behalf of a certificated repair station, air carrier or other aviation business. It is the FAA's role to ensure that repair stations have the procedures in place to ensure the quality of the work performed and to ensure that procedures are followed. Indeed, FAA regulations treat repair stations as extensions of an air carrier's maintenance organization. This means that the maintenance provider must perform the work in accordance with the carrier's maintenance program and the applicable portions of its manual. It also requires the airlines to provide a level of oversight to make certain these standards are met.

Critics may often times confuse certificated repair facilities with "non-certificated" facilities who employ certificated mechanics to perform on-call line maintenance for airlines. Although permitted under today's regulations, ARSA emphasizes that applicants for a repair station certificate must conclusively demonstrate to the FAA that they have the necessary infrastructure to perform the work. This includes housing, facilities, equipment, trained personnel, technical information required to perform the work and of course manuals describing the manner in which the repair station does business.

Foreign repair stations are an essential part of aviation.
Critics discussing contract maintenance often presume jobs are being sent overseas to foreign repair stations with no security or oversight. We are aware of no objective evidence supporting this proposition. In fact, the use of contract maintenance and the aviation system shows that foreign repair stations are a necessary part of the international aviation system. These entities must adhere to high quality standards, and the U.S. is a world leader when it comes to providing maintenance services to airlines. Any effort to restrict the use or number of foreign repair stations would likely lead to retaliatory trade actions by other countries and ultimately harm U.S. air carriers and the flying public.

The Chicago Convention of 1944 and International Civil Aviation Organization (ICAO) standards require that the State of Registry (i.e., the country in which an aircraft is registered) oversee the maintenance performed on that aircraft and related

components, regardless of where the work is performed.[6] Consequently, a U.S. registered aircraft requiring maintenance while outside of the U.S. must have that work performed by an FAA-certificated maintenance provider. For this reason, FAA-certificated foreign repair stations exist. Indeed, a foreign applicant for a repair station certificate must demonstrate to the FAA that its services are needed to perform work on articles subject to FAA jurisdiction.

Similarly, when an aircraft of foreign registry requires maintenance while in the U.S., only a repair station certificated or validated by the relevant NAA may perform the work. For example, only an EASA-certificated repair station may perform maintenance on an aircraft of French registry within the U.S.

Unlike the U.S., in which the FAA permits and expects airlines to perform maintenance on their fleets to complement their operations, European regulators view operations and maintenance as two distinct functions. EASA requires that an airline obtain a separate repair station certificate before it can perform maintenance of any kind, including work on its own aircraft.

In 1994, the air carrier Lufthansa converted its maintenance division into an independent stock corporation, Lufthansa Technik AG. Lufthansa Technik performs the maintenance for Lufthansa and also manages the airline's maintenance program. As European regulators see it, an airline's core competency is operating aircraft. This demonstrates that in-house maintenance is not necessarily a logical or necessary outgrowth of airline operations.

This legal regime has proven beneficial to American repair stations. Currently, there are 694 FAA-certificated repair stations outside the U.S. (see Appendix D). At the same time, there are approximately 1,200 EASA-certificated repair stations in the U.S., and numerous other NAA-certificated repair stations inside our borders.[7] Our aviation maintenance industry is highly-regarded worldwide.

Foreign repair stations are not an economic threat for U.S. companies, nor does their use threaten aviation safety. These entities must meet the same or equivalent safety standards as domestic facilities. Unlike their domestic counterparts, however, foreign repair stations must renew their certificate with the FAA annually or, at the discretion of the FAA, biannually, following a safety inspection. This ensures that the FAA evaluates the housing, facilities, equipment, personnel, and data of each repair station located outside the U.S. at least once every two years. The 2005 ARSA survey referenced above, viz., showed that the average FAA-certificated foreign repair station is audited more than 74 times each year by government regulators, customers, other third-parties, and the repair station's own personnel, suggesting a high-level of combined oversight.

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[6] *See*, ICAO Annex 8, ch. 4 § 4.2.1(b).

[7] Data obtained on European Safety Agency (EASA) Web site, for "Foreign EASA Part-145 Valid Approvals for Organisations Located in the United States" March 16, 2007.

Recent attempts at restricting the use of foreign repair stations, and specifically removing the FAA Administrator's ability to issue new certificates, would be highly detrimental. Many companies factor into their business plan the ability to open a new foreign repair station, and much time and effort goes into the application process. Prohibiting the issuance of new certificates because of another agency's rulemaking delay, such as contained in the recently passed Senate legislation, unduly punishes American companies and could cause retaliation by other civil aviation authorities.

Security is a prime concern of all repair facilities.
Security at contract maintenance facilities has become a hot topic on Capitol Hill. As with certain airline employees, many repair stations located on an airport are required to have their personnel undergo criminal background checks under TSA regulations if they require unescorted access to the designated airport security identification display area (SIDA). Therefore, a repair station employee that performs line maintenance for an air carrier would have the same 10-year criminal background check requirement as an airline mechanic. Many repair stations voluntarily implement security procedures since the quality and safety of their work directly affects their business.

However, many repair stations are located miles away from airports and perform specialized work on component parts that have been removed from the airplane and sent to them for repair. These facilities are usually small-businesses; thus, imposing undue security burdens on them would in effect put an entire sector of specialized workers out of business. Our members understand the need for safety and security, since their livelihood depends upon it, and we ask that Congress recognize the difference in repair facilities, remembering that our industry shares their same goal: maintaining a high level of safety and security.

Some manufacturers are not making needed repair information available.
FAA regulations require those holding design approvals (generally the manufacturers) of civil aviation articles to make repair information available to certificated maintenance facilities and operators of aircraft. However, ARSA's recent member survey establishes that more than 70 percent of respondents have had difficulty obtaining these manuals, and more than a third report the issue as a "consistent source of frustration". ARSA worries that if these practices are not addressed, safety will be adversely affected.

The main issues are the availability of maintenance manuals (particularly component maintenance manuals or CMMs), the cost of this information and the practices of some manufacturers that use the manuals as a competitive weapon. This includes charging exorbitant prices or removing important information so the work can only be performed by facilities with which the manufacturer has a commercial relationship.

Efforts to resolve this issue through the regulatory sector have not worked. The FAA division that oversees maintenance (Flight Standards) requires repair stations to generally follow the maintenance manuals when performing work. This applies to work on the aircraft, engine or propeller as well as off-aircraft component work. We believe

this regulation is good public policy because it promotes standardization of repair practices.

Unfortunately, the FAA division that has jurisdiction over design approval holders (Aircraft Certification) does not believe component maintenance manuals are essential to continued airworthiness. They believe that because these manuals govern work performed off the aircraft, they are not as important as work performed on the aircraft, such as removal and replacement of the component. We strongly disagree and believe this regulatory disconnect is contrary to safety and the plain language of the regulation.

As a result of this continuing problem, ARSA plans to request the Subcommittee to adopt legislation ensuring access to this maintenance information at a fair and reasonable price. ARSA is not asking that the information be provided free of charge, nor are we are asking the manufacturers to provide proprietary repair data; only that which is basic to continued airworthiness. With the amount of contract maintenance on the increase, we believe it is critically important that this issue be resolved in this year's reauthorization bill.

Conclusion

Contract maintenance has long been, and continues to be, a vital part of the aviation industry. Over the past decade, airline use of contract maintenance has steadily increased while we have experienced a period of unprecedented safety. Repair stations play a large role in this trend through the use of highly-qualified and trained employees, state of the art facilities, and a commitment to providing high quality maintenance services to airline, general aviation and even U.S. military customers.

Congress can help maintain these positive trends by providing the FAA with adequate resources to oversee the repair station industry, encouraging continued close oversight by airline customers, and ensuring that legislation and regulations are based on our common goal: safety.

Appendix A

FAA Repair Stations by State (Including Territories)

State	Number of Repair Stations	Number of Employees
AK	54	474
AL	55	6,274
AR	41	3,120
AZ	154	6,479
CA	689	30,827
CO	73	1,205
CT	104	7,754
DC	1	7
DE	6	794
FL	510	15,890
GA	115	11,335
GU	1	6
HI	13	114
IA	39	2,990
ID	31	379
IL	92	3,283
IN	73	3,306
KS	106	7,104
KY	38	695
LA	42	2,227
MA	56	1,918
MD	30	1,082
ME	11	854
MI	116	4,406
MN	60	1,920
MO	55	3,319
MS	20	1,019
MT	25	320
NC	67	3,721
ND	10	96
NE	13	1,213
NH	24	589
NJ	70	2,466
NM	21	695
NV	31	754
NY	130	5,588
OH	143	4,435
OK	142	11,505
OR	47	1,339
PA	102	2,251
PR	18	145
RI	9	384
SC	32	2,383
SD	14	73
TN	50	2,087
TX	425	26,183
UT	29	290
VA	45	1,303
VI	1	1
VT	11	158
WA	117	7,659
WI	44	1,520
WV	12	1,484
WY	9	78
Total	4,226	197,501

Based on FAA Air Agency Data Dated: March 18, 2007

Appendix B
ARSA 2005 Repair Station Audit Surveillance Survey Results

Domestic Repair Station Annual Audits

	Responses	Internal	Regulatory	Customer	3rd Party	Total
Total	183	3,301	663	1,361	235	5,560
Average		18.0	3.6	7.4	1.3	30.4

Foreign Repair Station Annual Audits

	Responses	Internal	Regulatory	Customer	3rd Party	Total
Total	27	1,439	219	311	48	2,017
Average		53.3	8.1	11.5	1.8	74.7

Total Repair Station Annual Audits

	Responses	Internal	Authority	Customer	3rd Party	Total
Grand Total	210	4,740	882	1,672	283	7,577
Average		22.6	4.2	8.0	1.3	36.1

Appendix C

Analysis of the Aeronautical Repair Station Association's 2007 Member Survey

Executive Summary

In March 2007, the Aeronautical Repair Station Association (ARSA) conducted a major survey of its members. The purposes of the 2007 survey were to:

- Develop a better understanding of the markets served by ARSA members;
- Determine what factors most affect member costs of doing business;
- Identify legislative and regulatory issues of common concern to the membership;
- Determine what members perceive as the most important parts of the ARSA value proposition; and
- Identify additional activities the association could undertake to enhance value to members.

This survey's major findings were as follows:

- ARSA's membership is dominated by privately-owned small businesses. Nearly 70 percent of the survey respondents have annual revenues below $10.5 million (Question 2); more than 67 percent have fifty or fewer employees (Question 3); and more than 81 percent are privately-owned by a single individual, single family, or group of partners (Question 12).
- The overwhelming majority of ARSA members (98.5 percent) hold Federal Aviation Administration (FAA) repair station certificates; however, more than two-thirds (68.42 percent) are also European Aviation Safety Administration (EASA) approval holders (Question 7).
- Commercial air carriers are overwhelmingly the most important customer market for ARSA members, with general (business aircraft) the second most important. The military and general (light aircraft) markets are a distant third and fourth (Question 9).
- Labor unions have low penetration in the repair station industry. Fewer than twelve percent of survey respondents report that their facilities are unionized (Question 13).
- The survey results suggest that the repair station industry is thriving economically. More than two-thirds (71.43 percent) of survey respondents said they plan to add positions and/or hire new workers in the coming year. Not a

single survey respondent reported plans to eliminate positions. Additionally, 83 percent of survey respondents are optimistic about business prospects for the coming year, only nine percent are ambivalent, and fewer than eight percent are pessimistic (Questions 15 and 18).

- There is a considerable level of oversight of repair stations, with 42 percent reporting 11 or more external audits last year by regulators, customers, and third-party accreditation bodies (Question 19).

- FAA resource problems are having some impact on the efficiency of the contract maintenance industry. A quarter (24.81 percent) of the survey respondents report losing customers or foregoing business opportunities because of regulatory delays resulting from inadequate FAA staffing (Question 20.)

- Obtaining maintenance manuals from manufacturers remains a major challenge for repair stations. Consistent with earlier ARSA surveys, more than 70 percent of survey respondents report having had some difficultly obtaining maintenance manuals from OEMs. More than a third (37.59 percent) of respondents report that maintenance manual availability is a consistent source of frustration, and that their ability to serve customers is undermined by manufacturers refusing to provide manuals and/or charging exorbitant prices (Questions 21 and 22.)

- Rising health insurance costs have had a significant impact on ARSA members and their employees, with approximately three-quarters (74.44 percent) of members reporting that they have had to reduce benefits or ask workers to shoulder more of the costs of health insurance in recent years (Question 25.)

- Close to 80 percent of survey respondents have had trouble finding skilled technical workers. More survey respondents cited the shortage of technical workers as the single greatest challenge facing that aviation maintenance industry than any other (Questions 26 and 30).

- ARSA members regard ARSA's advocacy activities on behalf of the industry before U.S. regulators and Congress as the most important parts of the ARSA value proposition. ARSA's regulatory compliance publications, *the hotline*, and maintenance industry networking opportunities are also highly regarded (Question 33.)

- Survey respondents cite their desire to support ARSA's advocacy activities and access to regulatory compliance assistance as the top reasons for joining ARSA (Question 34.)

- A majority of survey respondents say that their company employees have not yet participated in ARSA's Annual Repair Symposium, suggesting significant opportunities to grow member participation in ARSA's flagship event. Survey respondents are ambivalent about restructuring the Symposium to take place entirely on weekdays and about adding a trade show component to the meeting (Question 40, 42 and 43.)

Survey Methodology

ARSA's 2007 Member Survey was conducted between Feb. 26 and March 6 using SDI Weblink's online survey system. The ARSA key contact for each repair station member and corporate member was invited to participate in the survey through three e-mails sent over the course of the week requesting input. Although the survey was anonymous, the survey system was configured to prevent duplicate responses from the same individual. Ultimately, 133 ARSA member companies participated in the survey out of a population of approximately 520 regular and 15 corporate members. The survey margin of error is 7.3 percent.

Appendix D

FAA Repair Stations on Foreign Soil by Country

Country	Number of Repair Stations	Number of Employees
AE	4	4,224
AR	9	1,807
AS	13	6,658
AU	1	1,150
BA	1	5
BE	11	4,575
BR	15	5,773
CH	29	14,635
CI	4	754
CO	4	1,471
CS	3	480
DA	2	857
DR	2	43
EC	2	131
EG	1	3,500
EI	12	3,479
ES	1	1,200
ET	1	2,230
EZ	2	1,213
FI	1	1,800
FJ	1	26
FR	100	25,638
GM	53	30,671
GR	2	914
GT	2	55
HK	7	4,938
HU	2	408
ID	2	2,832
IN	2	806
IS	13	5,536
IT	18	6,620
JA	20	17,494
JO	2	740
KE	1	5
KS	9	5,629
LU	1	329
MO	2	1,231
MT	1	42
MX	21	4,213
MY	8	4,149
NL	20	7,034
NO	4	1,052
NZ	4	3,377
PE	4	670
PM	1	192
PO	2	3,174
QA	1	30
RO	2	938
RP	7	3,249
RS	1	2,350
SA	5	6,423
SF	4	3,790
SN	48	15,316
SP	6	4,360
SW	8	2,481
SZ	8	4,224
TD	1	153
TH	7	5,700
TU	2	3,006
TW	6	4,844
UK	161	22,621
UP	1	91
VE	4	304
WI	1	100
YI	1	-
Total	694	263,740

Based on FAA Air Agency Data Dated: March 18, 2007

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FAA Repair Stations on Foreign Soil by Country Code Listing (based on FAA data)

Country Code	Name	Total Repair Stations	Number of Employees	FAA IASA Category 1 = Meets ICAO standards 2 = Does not meet ICAO standards	Bilateral Agreement with the U.S.?
AE	United Arab Emirates	4	4,224	1	--
AR	Argentina	9	1,807	1	Yes
AS	Australia	13	6,658	1	Yes
AU	Austria	1	1,150	1	Yes
BA	Bahrain	1	5	Not Listed	--
BE	Belgium	11	4,575	1	Yes
BR	Brazil	15	5,773	1	Yes
CH	China	29	14,635	1	Yes
CI	Chile	4	754	1	--
CO	Columbia	4	1,471	1	--
CS	Costa Rica	3	480	1	--
DA	Denmark	2	857	1	Yes
DR	Dominican Republic	2	43	2	--
EC	Ecuador	2	131	1	--
EG	Egypt	1	3,500	1	--
EI	Ireland	12	3,479	1	--
ES	El Salvador	1	1,200	1	--
ET	Ethiopia	1	2,230	1	--
EZ	Czech Republic	2	1,213	1	Yes
FI	Finland	1	1,800	1	Yes
FJ	Fiji	1	26	1	--
FR	France	100	25,638	1	Yes
GM	Germany	53	30,671	1	Yes
GR	Greece	2	914	1	--
GT	Guatemala	2	55	2	--
HK	Hong Kong	7	4,938	1	--
HU	Hungary	2	408	1	--
ID	Indonesia	2	2,832	1	Yes
IN	India	2	806	1	--
IS	Israel	13	5,536	1	Yes
IT	Italy	18	6,620	1	Yes
JA	Japan	20	17,494	1	Yes
JO	Jordan	2	740	1	--
KE	Kenya	1	5	Not Listed	--
KS	Korea	9	5,629	Not Listed	--

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Country Code	Name	Total Repair Stations	Number of Employees	FAA IASA Category 1 = Meets ICAO standards 2 = Does not meet ICAO standards	Bilateral Agreement with the U.S.?
LU	Luxembourg	1	329	1	--
MO	Morocco	2	1,231	1	--
MT	Malta	1	42	1	--
MX	Mexico	21	4,213	1	--
MY	Malaysia	8	4,149	1	Yes
NL	Netherlands	20	7,034	1	Yes
NO	Norway	4	1,052	1	Yes
NZ	New Zealand	4	3,377	1	Yes
PE	Peru	4	670	1	--
PM	Panama	1	192	1	--
PO	Portugal	2	3,174	1	--
QA	Qatar	1	30	1	--
RO	Romania	2	938	1	Yes
RP	Philippines	7	3,249	1	--
RS	Russia	1	2,350	1	Yes
SA	Saudi Arabia	5	6,423	1	--
SF	South Africa	4	3,790	1	Yes
SN	Singapore	48	15,316	1	Yes
SP	Spain	6	4,360	1	Yes
SW	Sweden	8	2,481	1	Yes
SZ	Switzerland	8	4,224	1	Yes
TD	Trinidad & Tobago	1	153	1	--
TH	Thailand	7	5,700	1	--
TU	Turkey	2	3,006	1	--
TW	Taiwan	6	4,844	1	--
UK	United Kingdom	161	22,621	1	Yes
UP	Ukraine	1	91	2	--
VE	Venezuela	4	304	1	--
WI	Western Sahara	1	100	Not Listed	--
YI	Yugoslavia	1	-	Not Listed	--
TOTAL	**65**	**694**	**263,740**	**60**	**27**

Note: There are no foreign repair stations in Canada under the FAA-Transport Canada bilateral agreement. Similarly, the Canadian government does not issue certificates to US-based repair stations performing work on articles subject to Canadian jurisdiction.