

Repair Station Security



**Statement of Basil J. Barimo
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Air Transport Association of America, Inc.
before the
Subcommittee on Transportation Security
and Infrastructure Protection
of the
House Homeland Security Committee**

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AIR TRANSPORT ASSOCIATION

Introduction

The Air Transport Association of America, Inc. (ATA), the trade association of the principal U.S. passenger and cargo airlines,¹ appreciates the opportunity to submit these comments for the record on safety and other issues affecting the U.S. airline industry. ATA member airlines have a combined fleet of more than 4,000 airplanes and account for more than 90 percent of domestic passenger and cargo traffic carried annually by U.S. airlines.

Safety is the constant, overriding imperative in our members' activities. They understand their responsibilities and they act accordingly. The U.S. airline industry's stellar safety record demonstrates that indisputable commitment.

Airlines Fuel our Nation's Economy

The U.S. airline industry is not simply an important sector of the national economy; its services fuel our entire economy. Air transportation is an indispensable element of America's infrastructure and our nation's economic well-being. Individuals, businesses and communities depend on the national air transportation system. U.S. airlines transport more than two million passengers on a typical day and directly employ 557,000 persons to do so; they provide just-in-time cargo services; they are the backbone of the travel and tourism industry; and airlines link communities throughout our nation and to the world.

Moreover, the airline industry is the foundation of the commercial aviation sector, which comprises airlines, airports, manufacturers and associated vendors. U.S. commercial aviation ultimately drives more than \$1.1 trillion in U.S. economic activity and 10.2 million U.S. jobs.² By any measure, the U.S. airline industry is a valuable national asset and its continued economic health should be a matter of national concern.

The Safest Airlines in the World

Despite the unprecedented travails of the U.S. airline industry throughout this decade, its safety record has continued to improve. The airlines' commitment to

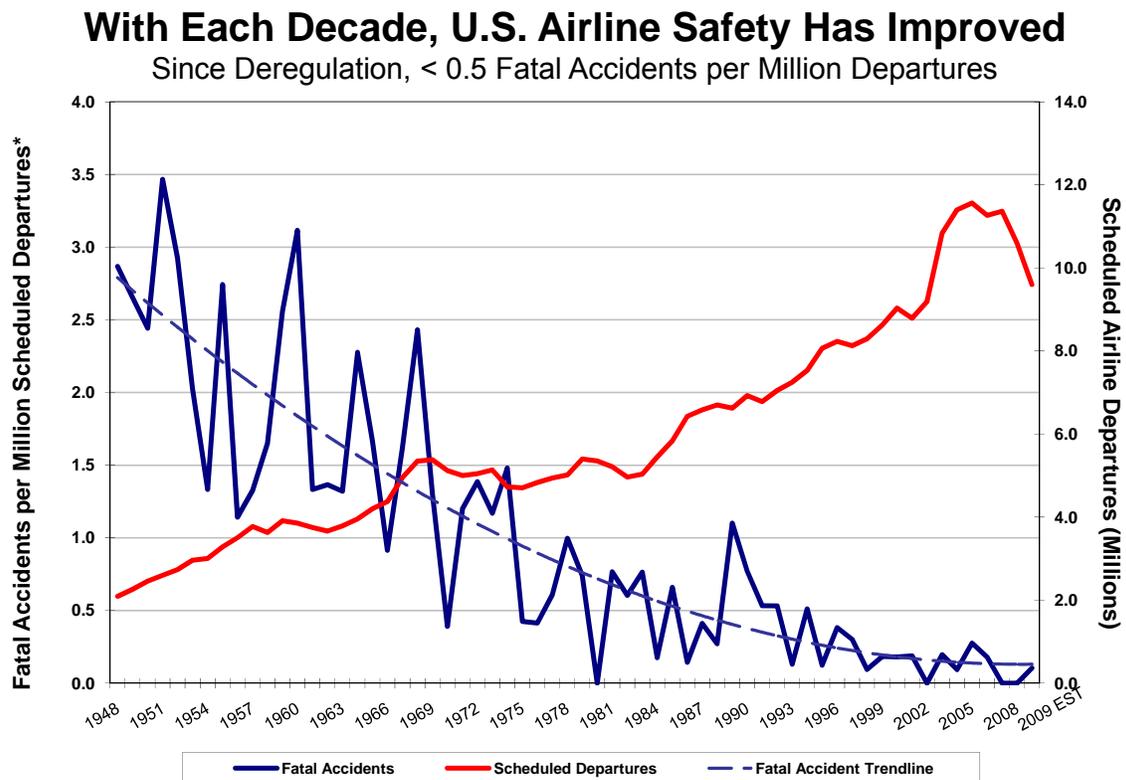
¹ ABX Air, Inc.; AirTran Airways; Alaska Airlines, Inc.; American Airlines, Inc.; ASTAR Air Cargo, Inc.; Atlas Air, Inc.; Continental Airlines, Inc.; Delta Air Lines, Inc.; Evergreen International Airlines, Inc.; Federal Express Corp.; Hawaiian Airlines; JetBlue Airways Corp.; Midwest Airlines; Southwest Airlines Co.; United Airlines, Inc.; UPS Airlines; and US Airways, Inc..

² Federal Aviation Administration, "The Economic Impact of Civil Aviation on the U. S. Economy" (October 2008)

safety, even in the face of unprecedented financial adversity, has been unflinching and will remain so.

The U. S. airline industry continues to be confronted by a systemic inability to cover its cost of invested capital. From 2001 through 2008, U.S. passenger and cargo airlines reported a cumulative loss of \$55 billion. Debt levels remain high, leaving the airlines vulnerable to fuel spikes, recession or exogenous shocks (e.g., terrorism, pandemics, natural disasters), let alone ill-advised public policy decisions. The challenge we face is to achieve meaningful and sustainable profits, and to improve credit ratings to the point where airlines can weather normal economic turbulence while simultaneously investing in the future.

Notwithstanding these financial challenges, airline safety has remained rock solid. While the Colgan Air tragedy earlier this year ended a two-year period without a fatal accident, the United States continues to lead the world in airline safety. Without question, scheduled air service is incredibly safe and getting safer; maintenance certainly plays a role in that remarkable achievement.



* Scheduled passenger and cargo operations of U.S. air carriers operating under 14 CFR 121; NTSB accident rates exclude incidents resulting from illegal acts
Source: National Transportation Safety Board (NTSB)

The preceding chart clearly depicts the remarkable improvement in airline safety that has occurred over time. U.S. air carrier accidents are rare and random. A prominent reason for this is the extraordinary, long-standing collaboration among the Federal Aviation Administration (FAA), National Transportation Safety Board (NTSB), NASA, manufacturers, airlines and their unions, and of course, maintenance, repair and

overhaul service providers (MROs). That collaborative relationship is firmly entrenched in the aviation community; indeed, it has strengthened over the years. Programs such as the joint government-industry Commercial Aviation Safety Team (CAST), Flight Operational Quality Assurance (FOQA) programs, Aviation Safety Action Programs (ASAP) and Line Operations Safety Audit (LOSA) programs are important, tangible results of that ongoing collaboration. In fact, CAST was awarded the prestigious 2009 Collier Trophy for reducing the fatal accident risk by 83 percent since its creation in 1997.

These collaborative safety-improvement efforts have created a safety management system that is data-driven and based on risk analysis. That undistracted focus on data enables safety-related trends to be identified, often before they emerge as problems, and properly resolved. This objective and measurable approach means that we apply our resources where the needs actually are, not where conjecture or unverified assumptions might lead us. We can and do spot these trends, whether they are operational or maintenance-related. With respect to the long-standing practice in the airline industry of using the expertise of regulated contractors to perform maintenance services, the data quite clearly tell us that safety doesn't suffer.

Maintenance Contracting Is Not a New Concept

In simple terms, contract maintenance is the process explicitly allowed by FAR 121.363(b)³, where airlines hire experts to perform maintenance tasks. The type of maintenance involved can range from minor servicing to major overhaul of components, engines or the airframe itself.

Airlines exist to transport people and goods. In order to survive, they must do it safely, but to thrive in a fiercely competitive, global environment, they must also do it efficiently. Safety need not be compromised because of considerations of efficiency; in fact, it can be significantly advanced in an environment where a focus on efficiency spurs a willingness to reexamine time-worn practices and encourages innovation that embraces newer – and improved – practices.

The maintenance of commercial airliners is a complex, capital-intensive business requiring specialized equipment and facilities along with highly skilled personnel. One implication of this is that using a maintenance facility or facilities with specialized skills is likely to be considered. Complexity inevitably will lead a carrier to examine

³ FAR 121.363 Responsibility for Airworthiness states that:

(a) Each certificate holder is primarily responsible for:

(1) The airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof; and

(2) The performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its manual and the regulations of this chapter.

(b) A certificate holder may make arrangements with another person for the performance of any maintenance, preventive maintenance, or alterations. However, this does not relieve the certificate holder of the responsibility specified in paragraph (a) of this section.

dividing maintenance functions; some airlines will elect to do so while others will not. Either way, examining alternative sources in this type of environment is entirely reasonable.

Moreover, current airline business models demand continual scrutiny of costs, commonly with a bias to shed noncore activities. In the case of maintenance, there are many incentives to utilize contract maintenance providers, including:

- Access to specialized repair facilities when and where they are needed
- Avoidance of major capital investments (equipment and facilities)
- Increased utilization of existing facilities
- Improved employee focus on core airline activities
- Optimization of flight schedules around customer demand, instead of maintenance infrastructure availability
- Exceptional quality at a reduced cost

As expected, the level of contract maintenance utilized by individual airlines varies significantly based on factors such as the type(s) of aircraft used, geographic region of operation, business philosophy, labor agreement limitations, internal cost structure, and commercial relationships with airframe, engine and component manufacturers. Without exception, all airlines rely to some extent on contract maintenance providers. This is a point that should not be obscured: contract maintenance is a commonly accepted practice in this industry. The extent to which it is utilized may vary from airline to airline but there is nothing out of the ordinary about its use.

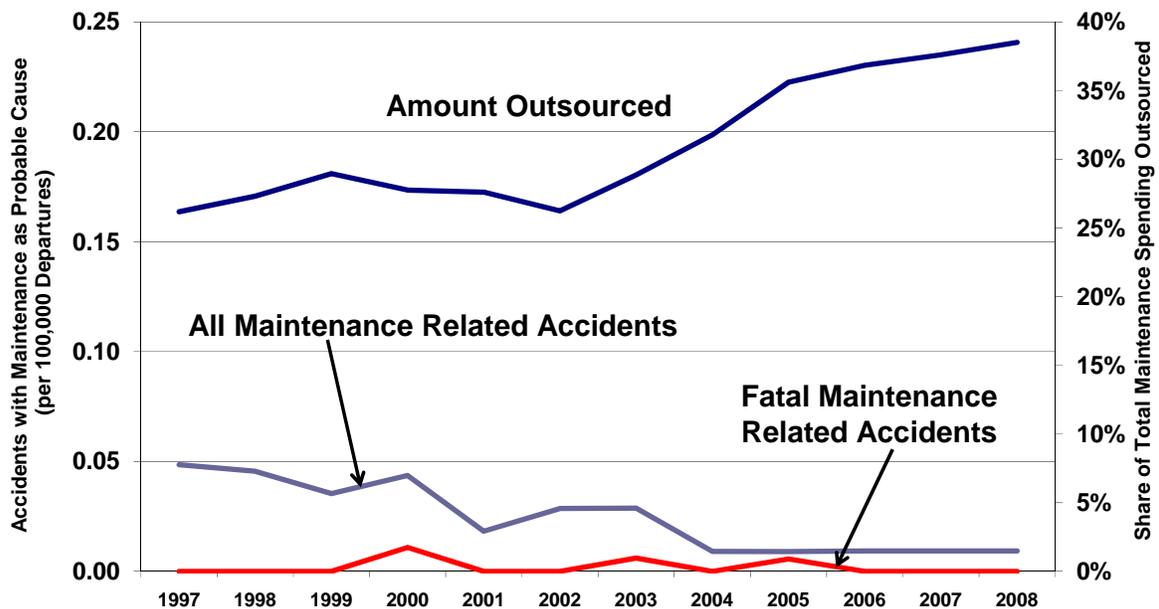
Further, airlines are by no means unique in their reliance on contract maintenance. In fact, many industries rely heavily on contract maintenance providers for a broad range of services. Trains, buses and cruise ships are predominantly maintained by companies other than those who operate them. The United States Department of Defense contracts with private companies for the maintenance of aircraft, in many cases the same companies utilized by commercial airlines. As this widespread pattern of relying on contract maintenance suggests, operators with very demanding and sophisticated needs routinely and successfully outsource maintenance.

Statistics Don't Lie

Commercial airlines have utilized contract maintenance for decades. The industry's reliance on contract maintenance providers increased since 2001 as airlines restructured their business models. The implications of this change have been misunderstood. It does not signal a diminution in safety or a "slippery slope." Critics of contract maintenance argue that "If airlines don't perform all of the maintenance themselves, then they can't be safe." Independent data from the National Transportation Safety Board (NTSB) proves them wrong.

Based on data compiled by the NTSB, maintenance-related accidents account for just 7 percent of all Part 121 accidents over the last decade. Furthermore, ATA member airlines have not had a fatal accident attributable to maintenance since 2000.

Safety Improves with Increased Outsourcing

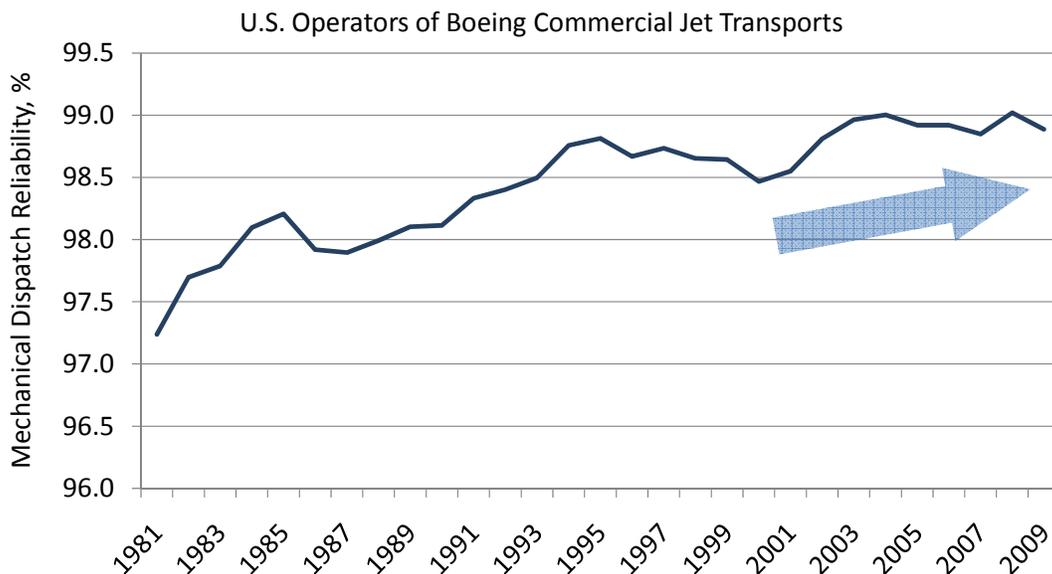


Based on U.S. Bureau of Transportation Statistics (Form 41) and National Transportation Safety Board air carrier data available as of November 2009.

The preceding chart clearly illustrates that U.S. airlines' use of contract maintenance has not been a detriment to safety. In fact, maintenance-related safety performance is the best it's ever been. It is simply not reasonable, based on the data available, to consider the practice of maintenance contracting to be unsafe.

Mechanical dispatch reliability is another indicator of the effectiveness of maintenance programs. It is important to note that the U.S. commercial airline fleet is maintained to impeccable standards, which are reflected in mechanical reliability performance. As shown in the chart below for Boeing models (and noting that Airbus and other models perform comparably), airline maintenance programs are yielding unprecedented levels of mechanical reliability, which in turn, contribute to overall safety performance.

Mechanical Dispatch Reliability



Source: Boeing

Effective Oversight Is the Key

Air carriers understand that aircraft maintenance is vital to continued operational safety. Likewise, safe operations are essential to compliance with regulatory requirements and, ultimately, to an airline's existence. Over time, the industry has developed a comprehensive, multilayered approach to oversight that ensures the highest levels of quality and safety, regardless of who does the work or where that work is performed. This point cannot be overstated: safety is what counts, first and foremost.

Initial levels of protection are contained in the FAA regulations, which provide a basic framework to ensure competence among those certificated to perform aircraft maintenance.⁴ Prior to granting certification, the FAA confirms that an entity or individual has fulfilled specific regulatory requirements.

⁴ See, for example, 14 CFR parts 121, 145 and 65.

Part of this approval process involves the issuance of Operations Specifications (OpSpecs) by the FAA. Air carrier OpSpecs contain a specific section to address aircraft maintenance, and repair station OpSpecs delineate the ratings and limitations of the maintenance that can be performed. In FAA Order 8300.10, Volume 2, Chapter 84, it is stated, in part, that:

OpSpecs transform the general terms of applicable regulations into an understandable legal document tailored to the specific needs of an individual certificate holder. OpSpecs are as legally binding as the regulations... *(Citations omitted)*

Once certificated, air carriers and repair stations are inspected and monitored by the FAA to verify their continued conformity with the rules. This ongoing surveillance process can be viewed as the second layer of safety.

Additionally, certificated air carriers acquire the nondelegable responsibility for the airworthiness of the aircraft in their fleet.⁵ The backbone of any air carrier's airworthiness is its Continuing Analysis and Surveillance System (CASS). CASS is a quality-assurance system required by FAR 121.373, consisting of surveillance, controls, analysis, corrective action and follow-up. Together, these functions form a closed-loop system that allows carriers to monitor the quality of their maintenance. In a structured and methodical manner, the CASS provides carriers with the necessary information to enhance their maintenance programs.

Aircraft maintenance is the primary ingredient of airworthiness and FAA regulations contain detailed maintenance program and manual requirements,⁶ which validate the related air-carrier processes and procedures. When work is sent to a repair station, it must follow the maintenance program of the air carrier with whom it has contracted.⁷ Combined, these duties comprise the third level of protection.

⁵ See 14 CFR § 121.363, which provides that:

(a) Each certificate holder is primarily responsible for:

(1) The airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof; and

(2) The performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its manual and the regulations of this chapter.

(b) A certificate holder may make arrangements with another person for the performance of any maintenance, preventive maintenance, or alterations. However, this does not relieve the certificate holder of the responsibility specified in paragraph (a) of this section. *(Emphasis added.)*

⁶ See 14 CFR §§ 121.365; 121.367; 121.369.

⁷ See 14 CFR § 145.205 which states, in part, that:

(a) A certificated repair station that performs maintenance, preventive maintenance, or alterations for an air carrier or commercial operator that has a continuous airworthiness maintenance program under part 121 or part 135 must follow the air carrier's or commercial operator's program and applicable sections of its maintenance manual. *(Emphasis added.)*

Apart from external FAA surveillance, and in line with their ultimate responsibility for airworthiness, airlines conduct in-depth initial and frequent follow-up maintenance vendor audits. As a rule, these audits are performed by air carrier quality, compliance or inspection department employees, but oftentimes may include outside counsel and/or consulting firms who specialize in air-carrier maintenance. These audits create a robust fourth level of oversight.

Industry protocol for conducting and substantiating independent audits of air carriers and repair stations is established by the Coordinating Agency for Supplier Evaluation (C.A.S.E.). In addition, guidance materials and inspection checklists created for FAA inspectors are frequently used.

Typically, preliminary investigation of a potential repair station vendor by an air carrier would include:

- Review of repair station performance and quality metrics
- Feedback from past and current repair station customers
- Verification of repair station capabilities (OpSpecs)
- Review of FAA-mandated Repair Station Manual, Quality Manual and Training Manual

If this repair station examination is satisfactory, it is normally followed by an on-site visit to verify compliance with applicable regulations, C.A.S.E. requirements and adherence to the repair station's own manuals. Some areas of investigation include:

- Validation of FAA certificates held by persons directly in charge of maintenance and/or those who perform maintenance
- Inspection of training records of inspectors, technicians and supervisors
- Examination of procedures for technical data, documentation and maintenance record control
- Examination of procedures for work processing, disposal of scrap parts, tool calibration and handling material with a limited shelf life
- Review of repair station internal inspection, quality and security programs
- Review of previous inspection program results and corrective actions

If the repair station is selected to perform maintenance for the air carrier, similar on-site audits would be conducted on a regular basis.

Finally, a fifth layer of oversight is provided by on-site air-carrier representatives. These individuals monitor the day-to-day operations and coordinate the activities of the repair station related to the air carrier's equipment. Final inspections and, ultimately, air carrier approval for service are normally accomplished by these on-site airline personnel.

In essence, there are two separate but mutually reinforcing oversight schemes, one regulatory and one independent, both effective in ensuring satisfaction of applicable

FAA regulations. However, air carriers have further incentive to provide adequate oversight through the potential negative impact – real or perceived – of safety-related issues. Without question, air carriers continue to make safety their top priority. Safety is ingrained in our culture.

Safety and Security Layers are Interwoven

Security of repair station activities is a constant consideration. As in other areas of civil aviation security, the response to this issue is a layered, risk-based approach.

The subject of foreign repair station security measures continues to attract attention. We wish to clarify a few points about those measures. As a preliminary matter, we support the congressional instruction to the Transportation Security Administration to issue foreign repair station security regulations. It is imperative that those regulations recognize that repair stations vary in size, location and scope of work performed, and tailor security measures commensurate with the level of risk they present. We plan to thoroughly review the TSA proposed rule, published Nov. 16, 2009, with our member airlines, and to submit detailed comments to the docket.

Mutually reinforcing U.S. and host-country regulatory requirements and carrier practices produce the layered security regime at foreign repair stations. This begins with a U.S. air carrier's evaluation of a potential service provider before it enters into a contract for maintenance, repair or overhaul services. This is an important first step for the carrier; it is looking to entrust an aircraft or high-value components to a vendor. The carrier obviously wants to prevent unauthorized access to such equipment and to be confident that the potential vendor can do so. Beyond that very basic business concern, are the security requirements that the country's civil aviation authority and the airport authority impose. These are based on International Civil Aviation Organization (ICAO) standards contained in Annex 17 and mirror TSA regulations. They require national, airport and operator-level security programs with continuous threat monitoring, background checks and periodic ICAO audits. Those requirements are further reinforced by periodic TSA inspections. Coupled with those requirements, is the typical presence of representatives of the U.S. carrier at the foreign facility. Weaved into this array of measures is the FAA requirement that repaired or overhauled items be inspected when they are returned to the U.S. carrier, and before they are returned to service aboard an aircraft. This means that multiple sets of trained eyes inspect a part that has been at a foreign repair station. Finally, before an aircraft is returned to passenger service from a foreign location, it must complete the aircraft security inspection procedures.

These complementary procedures yield a layered approach, which is the hallmark of how aviation security is achieved today. We appreciate the issuance by TSA of the proposed rule and look forward to continuing to work with U.S. and foreign regulators on these measures.

Global Competition, Local Politics

U.S. airlines continually lead the world in virtually every performance metric, including safety. Their ability to compete effectively on a global scale is due, at least in part, to their ability to evolve with changing market conditions. Airlines across the United States and around the world have formed alliances that extend beyond their networks to many aspects of airline operations, including maintenance. These complex relationships involve airlines, aircraft manufacturers and a host of service providers.

The loss of some 150,000 airline jobs since 9/11 has been well-documented. As airlines downsized to meet a reduced demand for air travel, it became even more difficult for them to efficiently utilize their exhaustive maintenance infrastructure. Fleet reductions targeted older, maintenance-intensive aircraft, leaving too few aircraft being maintained at too many facilities, and airlines looked to contract maintenance providers as a way to secure quality maintenance while shedding the expensive infrastructure costs. It is the subsequent impact on maintenance employees that draws attention to the issue of maintenance contracting.

The debate surrounding the issue of contract maintenance is best understood when broken down into several key points:

- Most statistics relating to the amount of maintenance contracted are based on the amount an airline spends. The amount "outsourced" is derived by dividing the amount spent on contract maintenance by the total maintenance cost for the airline. These include all costs associated with the maintenance of airframes, engines and components.
- Engine maintenance is much more expensive *per event* than airframe maintenance, due largely to the replacement of expensive parts within the engine. The fact that virtually all engine maintenance is performed outside the airline can skew the numbers.
- Even the largest engines are readily transportable, enabling access to repair centers around the world. Engine manufacturers such as GE, Pratt & Whitney, and Rolls-Royce rely on their subsidiaries worldwide for maintenance of their products, although much of that work is performed domestically. Large U.S. airline MROs also maintain engines for foreign and domestic customers.
- Heavy airframe maintenance performed by MROs outside of North America is limited primarily to wide-body aircraft. Regularly scheduled operations enable these long-range aircraft to routinely transit locations abroad that offer best-in-class maintenance for these aircraft types. Asia and Europe do much of this work.
- The majority of narrow-body aircraft maintenance work contracted out in the past few years has stayed within North America. MROs in Washington, North Carolina, Florida, New York, Georgia, Tennessee, Arizona, Texas, Alabama and Indiana are among those now performing the work. Large airlines with

available capacity have also captured a portion, and the remainder is performed by experts in Central/South America and Canada.

Conclusion

U.S. airlines have logged an exceptional safety record while steadily expanding their use of contract maintenance. And while critics charge that maintenance contracting undermines safety and security, independent government figures simply do not support that conclusion. When considered objectively, it is evident that the practice helps U.S. airlines compete effectively with their global counterparts. The ability to optimize maintenance practices to produce safe, reliable, customer-worthy aircraft at a competitive cost is essential to airlines' long-term health. Healthy airlines grow, adding service to new destinations and increasing service to existing ones. That growth requires new aircraft, creating new jobs within the airline for pilots, flight attendants, ramp and customer-service personnel, and a wide range of support staff. Beyond the airline, the impact grows exponentially and is felt nationwide by manufacturers, ATC service providers, airports, caterers, fuelers – the list goes on and on. Contract maintenance has played and continues to play an important role in improving the health and competitiveness of the U.S. airline industry – in a way that is entirely consistent with our fundamental commitment to safety.