

# The Importance of Communication



Human factors influence an aircraft maintenance technician's good judgment every day. To prevent us from becoming a contributing link to the chain of events that lead to an incident, we have to be proactive and create safety nets.

In attempts to understand the causal factors of an accident, and particularly in efforts to understand the chain of events that precede an accident, one word appears frequently - **COMMUNICATION**. The treacherous human factor of *lack of communication* can be dealt with without penalizing revenue.

Communication is possibly the most important human factor issue in aircraft maintenance. We spend most of our waking hours communicating. Many people think they are good communicators but what is their relationship like with their boss, their airworthiness inspector, peers, spouse? Relationships depend on communication skills. How many times have you ordered or received the wrong parts or quantities? When was the last time you sent in a malfunction defect report?

## What Exactly Is Communication?

Communication is the exchange of ideas, feelings, or attitudes between two or more people. We communicate continuously in many complex ways. We speak, scowl, write, preach, touch, smile, sit, stand, cry, stare; all of these behaviors communicate an idea. Whether we communicate the intended message or not depends on our effective use of communication skills. "I know that you believe you understood what you think I said, but I am not sure you realize that what you heard is not what I meant."

Studies show we communicate 55 percent by body language, 38 percent by tone of voice and 7 percent verbally. To some of us, these numbers are quite unbelievable! Who's in control of our communication?

As children we communicate freely, but as we become adults we develop shields created from being made fun of - ridiculed, harassed, etc. This results in us being more cautious communicators. If we are exposed to a negative environment at home and/or at work, we can develop a poor self esteem. Insecurity creates defensiveness, misunderstanding, misinterpretation, hostility and jealousy. If we maintain a positive attitude we will become good communicators because of our high self esteem.

Level of communication is an attitude and communication skills can be changed through a conscious and rational effort. Develop an optimistic attitude about life. If you think today is bad, try missing tomorrow! Remember that no one can make us feel inferior without our permission.

Webster defines *communication* as "the exchange of thoughts, messages, or information, as by speech, signals, writing, or behaviour. The art and technique of using words effectively and with grace in imparting one's ideas". But really we communicate in our industry to find out how we do something; by asking questions. We discuss company goals with owners, shift goals with supervisors and ask for assistance from peers.

## Lack Of Communication

As we review aviation accidents we can see where *lack of communication* has played a major role in them. Either someone was assuming that someone else had done his job, or was not given the proper instructions. In the airline industry all employees need to communicate *before*, *during*, and at the *end* of each task. Information passed along at shift change must cover workload, existing conditions and projected course of action. This makes for the establishment of good continuity - teamwork!

There must be trust among ourselves to have good communication. Living a life of integrity is the best guarantee of maintaining the climate of effective communication. As with all natural processes, there are no shortcuts and no quick fixes. When trust is high, communication is easy, effortless, instantaneous, and accurate. When trust is low, communication is extremely difficult, exhausting, and ineffective.

## Case Study

The crash of an EMB-120 operated by a commuter carrier created concerns about the communication between employees on a shift and communication between shifts.

As the aircraft passed through 11,500 feet, it was observed to break up in the air and disappeared from the radar screen. The structural breakup and loss of 14 lives was attributed to the loss of the left horizontal leading edge in flight. But what caused the loss? The answer was obvious: there were 47 screws missing which would have secured the top of the left horizontal leading edge.

The night before the accident, the work packs had been prepared for the midnight shift to replace the left and right horizontal stabilizer leading edges. Toward the end of the evening shift, a supervisor assigned two of his mechanics to begin removing the leading edge, in the not unreasonable belief that an early start would help with the workload of the next shift.

The two mechanics began removing screws from the top and bottom of the right leading edge. They were soon joined by the quality assurance inspector, who climbed on top of the horizontal stabilizer and removed the top right-hand leading edge screws then the left-hand leading edge screws. The supervisor was unaware that work had started on the left side.

The evening-shift work on the airplane was documented on the shift inspector's written turnover sheet. However, the incoming midnight shift inspector reviewed the sheet **before** the entries were made. The midnight shift maintenance supervisor and mechanics were not verbally informed of the removal of the upper screws on the left side leading edge.

The midnight shift continued with the right side assembly. The supervisor's attention was diverted to an urgent task on a different aircraft; he prudently instructed the mechanics to finish work on the right side only, and to delay starting on the left until the following day. The aircraft was released with a total of 47 screws missing from the left leading edge.

A lack of communication between the two shifts started the chain of events. There was no verbal change over and the worksheets did not indicate that the left top screws had been removed. The evening shift had not documented work that was done on work cards because the package was kept together for the midnight shift.

Better communication, both verbal and written, is a must if accidents like these are to be avoided. Any work done that is not covered on a workcard must be written up. The lack of communication was a result of assuming that both leading edges would be changed that night. Sadly, 14 people paid with their lives for this simple error.

### Chain Of Events

The National Transportation Safety Board report said that the "Mechanics, quality assurance inspectors, and supervisors, demonstrated a lack of compliance with the approved procedures. Departures from approved procedures included failures to solicit and give proper shift-change turnover reports, failures to use maintenance work cards as approved, failures to complete required maintenance/inspection shift turnover forms."

As we can see by this case study, there was some assuming that went on. Paperwork was not completed properly after the shift; the work cards were not used to document the work completed by the evening shift; the mechanics did not brief their supervisor.

To maintain aircraft today, paperwork consumes about 25 percent of the technicians' and inspectors' time. At times a mechanic needs to be a mind reader to determine the precise actions that are stated in the maintenance manual; or to visualize the specific malfunction from a pilot's written or oral description. Communication can become a very distracting stress if the tech is experiencing challenges of communication with flight crew, management, dispatch, peers, etc. Communication, when under a lot of emotional stress, creates a loss of focus with the task at hand.

### Safety Nets

In the mad rush to get out the door at the end of the shift, we have to make sure all work is documented on the appropriate work cards, inspection sheets and logs. Ensure that defects, if they are to be deferred, are deferred properly, and the reason for deferral is clearly stated as per regulatory and company policy procedures.

If work is left uncompleted; are there proper notices, flags, warning placards and documentation indicating the state of the aircraft? If there is a shift change-over diary, has it been filled out properly? Make sure no one has to assume.

### Becoming A Good Listener

Part of good communication is to become a good **listener** - the old rule of thumb is two ears, two eyes and one mouth, use them in proportion. The more you talk the less you listen, and the more you talk the less others will listen. How many people do we know that have the proportions mixed up? Most of all, communicate to others the way you would want to be communicated to. Good listening results in better communication, safety, and efficiency. It also promotes relationships, improves decision making and creates harmony.

Being a good listener is a skill that we have to learn, it doesn't come naturally.

- We have to minimize distracting gestures, use positive body language, maintain eye contact.
- Acknowledge the other person non-verbally (smile, nods) and verbally (asking open ended questions, paraphrasing, summarizing).

- Don't fake attention. It usually fools no one. Whatever is being said should be important enough to listen to.
- Commit to listening. It takes energy to truly focus on the speaker.
- Be alert for nonverbal cues. Facial expressions, vocal inflections, and gestures provide good information.
- Avoid prejudgments. Many people listen with the intent to respond rather than to understand. Don't debate what is being said in your mind.
- Control emotional responses. Certain words may trigger a strong reaction from you, negative or positive. You can listen far more effectively and comprehend more if you keep emotions under control.
- Don't be defensive. Are you really listening or are you planning a counterattack?
- Take notes. Any critical points - write them down.
- Ask clarifying questions. Have you heard what you think was said?

"Seek first to understand, then to be understood" involves a very deep paradigm shift. We typically seek first to be understood. Most people do not listen with the intent to understand; they listen with the intent to reply. They are either speaking or are preparing to speak. Empathic listening takes a great deal of personal security because you open yourself up to be influenced.

The lowest level of communication coming out of low-trust situations is as defensive and protective. It is not effective and creates further reasons to defend and protect. The middle position is respectful communication when fairly mature people interact by compromising. The highest level of communication is when there is trust; this creates synergy.

People with fragile egos are reluctant to ask for clarification when the information is not clearly understood, because they think it may reflect badly on their intellect. The situation can be made worse when equally insecure peers ridicule others for not understanding what was said.

## Conclusion

Until we cultivate a quality mission statement inside our organization, our efforts to improve communications will have little permanent value. The foundation lies with people and relationships. Effective communication is built on the foundation of trust. When we ignore the foundation, our improvement initiatives will fail or falter.

Keys to effective organization communication are staff meetings held as needed with action-oriented agendas and minutes; employee suggestion systems that reward ideas that result in savings; open-door policies and procedures; and anonymous opinion surveys. Communications systems will function more effectively if they are organized around a shared vision and mission.

Personnel morale is directly proportional to how well employees are informed. They cannot do a satisfactory job unless managers keep them posted on the latest procedures. Managers cannot expect enthusiasm unless they advise employees as to what is going on in the company, and instill a feeling of belonging. It is easy to unintentionally give employees the wrong impression by assuming they know, or are not interested. The larger the organization the more difficult it is to keep everyone informed, and yet the larger the organization the more essential communication becomes.

This is a story about four people named Everybody, Somebody, Anybody and Nobody. There was an important job to be done, and Everybody was sure that Somebody would do it. Anybody could have done it, but Nobody did it. Somebody got angry about that because it was Everybody's job. Everybody thought Anybody could do it, but Nobody realized that Everybody wouldn't do it. It ended up that Everybody blamed Somebody when Nobody did what Anybody could have done.

Over the years we may have created some bad habits in communication. Attention to the way we communicate can make a world of difference in our effectiveness on and off the job. Good communication skills in the long run will save us a lot of time, money and grief. We are good at expressing ourselves when required, but next time you are having a serious discussion remember to listen.