# Chapter 13
# COMMUNICATION

**13 Communication**

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# INTRODUCTION

Former television news anchor Walter Cronkite was guiding his boat into Center Harbor, Maine, several years ago. He was taken aback to find a crowd of people on shore waving their arms at him and screaming "Hello, Walter!" He thought they were excited to see a prominent public figure in person. The noise grew louder as he drew close to shore. Cronkite tipped his hat, bowed, and waved to the crowd. A few moments later, the boat ran aground. As the crowd grew silent, Cronkite realized they had not been cheering his arrival, but, instead, were yelling, "Low water... low water!"[1]

At a time when aviation organizations increasingly expect employees to work with minimal supervision and to show more initiative, competent communication skills are becoming a must.[2]

The American Society for Training and Development (ASTD) surveyed its members who are training practitioners, managers, administrators, educators, and human resource developers. They found that the foundation skill upon which all other skills are based is learning to learn. The results of this survey suggest that skills that enable people to communicate effectively on the job are oral communication and listening.[3]

This chapter will discuss communication within organizations, in general, and will develop an understanding of the problems that can arise within the aviation maintenance industry, in particular. Discussion areas will include the communication process, language usage, verbal and nonverbal communication, listening behaviors, teamwork, conflict management, how to make meetings work, and written communication. Strategies for fostering competent communication behaviors will be included.

# BACKGROUND

Communication can be formal, i.e., written, or informal. In the cockpit environment, efficient verbal communication among crew members has received a great deal of emphasis over the past 20-plus years, as airlines, regulators, and airframers have developed and improved crew resource management (CRM) programs.[4] Verbal communication among air crews and air and ground controllers has significant safety implications. Because of these safety considerations, a formal structure and restricted vocabulary have evolved to ensure that unambiguous messages are sent and received. A number of recent aviation accidents have been attributed to breaching this verbal protocol.[5]

Formal communication within the aviation maintenance domain is defined and regulated. A hierarchy of written correspondence is defined in the Federal Aviation Regulations (FARs). This formal structure includes airworthiness directives (ADs), maintenance manuals, work cards, and other types of information that are routinely passed among manufacturers, regulators, and maintenance organizations. In an attempt to improve written communication, the international aviation maintenance community has recently adopted the use of a restricted and highly-structured subset of the English language.[6]

However, even with all the paper that changes hands in the industry, most on-the-job communication is informal, unwritten, and sometimes unspoken. Recognizing this fact, many aviation maintenance organizations are beginning to adopt the communication (and other) practices that have been established in the CRM domain. These programs are generally called either Technician Resource Management (TRM)[7] or Maintenance Resource Management (MRM).[8] (See **Chapter 1**.)

Verbal communication in the aviation maintenance setting has two important aspects. First and foremost, public safety is dependent, at least in some degree, on efficient and effective verbal messages being passed among maintainers. In addition to the overriding safety concerns, proper communication ensures a cooperative, pleasant, and viable workplace in which people feel they appropriately share information.

Wendall Johnson once defined communication as a "process with four legs."[9] In other words, every time two or more people communicate, they are continually offering definitions of themselves and responding to definitions of the other(s) which they perceive. Communication does not involve merely passing a message back and forth like a ping-pong ball. Instead, communication is a transaction in which everyone participates, continually offering definitions of themselves and responding to definitions of perceived others.[10] It is a process that occurs over time, rather than a static entity. Communication reveals the dynamic nature of relationships and organizations. In effect, it reflects the notion that nothing stands still.

There have been hundreds of definitions of communication developed over the years.[11] For our purposes, **communication is the *dynamic and irreversible* process by which we engage and interpret messages within a given situation or context**.[12] It is *dynamic* since it is

constantly in motion and changing. It is *irreversible* in that nothing we say can ever be completely retracted. For example, if you have a hostile exchange with a coworker and make a statement in anger, only to realize later that your comments were inappropriate, there is no erasing this exchange from the record, even through an apology. Instead, hurt feelings that accompany these sorts of exchanges can have a lasting impact on the other person. As a consequence, we must be persistent in our efforts to be responsible communicators.

Communication is a *process* because it is a specific, continuous series of actions directed toward some end, which is the exchange and interpretation of messages. In order for communication to have occurred, the sender's message, whether verbal or nonverbal, must be interpreted by the person receiving the message. Thus, communication can be viewed as being subject to each participant's perception of what has transpired. Often, people's retelling of past events do not necessarily coincide. Instead, widely varied stories surface that reflect the subjective interpretation of each person.

The final component of communication is the presence of a *situation or context*. Messages do not exist in a vacuum. They cannot be accurately exchanged and interpreted without knowledge of the complete situation in which they existed. Likewise, without a context in which to place a given message, meanings may be misconstrued or misinterpreted. If a coworker shares information with a supervisor about another worker and does not include the individual's entire circumstances, inaccurate inferences may be drawn. Similarly, if only portions of a conversation are overheard, any meaning assigned to what has transpired will likely be inaccurate.

Unfortunately, communication does not always run smoothly. Inevitably, misunderstandings or conflict will occur. If you have ever unintentionally insulted someone or blurted out something thoughtlessly, you can appreciate the need for competent communication skills. ***Communication competency is the ability to achieve your communication goals.***[13] It is the ability to communicate in a personally effective and socially appropriate manner.[14] Competent communication involves two separate levels:

**Level 1**: The *surface level*, which comprises the part of communication that can be seen on a day-to-day basis. It consists of the actual behaviors in which we engage.

**Level 2**: The *deeper level*, which comprises everything we have to know in order to interact with others. It consists of all the knowledge needed to communicate effectively.

We know when someone makes a particularly gracious and sensitive statement because we can see and hear it. We cannot see the psychological, mental activity that occurs beneath the surface that preceded those remarks. Complimenting someone in a sincere and genuine manner involves a great deal of thought and judgment. It entails knowing when a compliment is appropriate, the ability to predict the other person's response to the compliment (whether they are flattered or embarrassed), and choosing and phrasing words appropriately. All of these factors coalesce to comprise competent communication behaviors.

Competent communicators share a number of attributes. **Table 13-1** is a questionnaire designed to measure communication competence. It will help you determine what communication skills you already have and which communication skills need further

development. Each item listed reflects a skill that is a component of communication competence. Competent communicators have six qualities in common:[13]

1. *They are appropriate.*

They follow the rules that guide interactions in a given context. What may be appropriate in one situation may not be appropriate in another.

2. *They are effective.*

They communicate in ways that help them achieve their goals. Effective communicators set goals related to their needs, wants, and desires. Their communication style facilitates the accomplishing of these goals.

3. *They are adaptable.*

They recognize the requirements of a situation and adjust their communication to the situation. An unwillingness to adapt may make it more difficult to accomplish goals.

4. *They recognize roadblocks to effective communication.*

They note potential obstacles and work to overcome them. These obstacles may include ineffective language usage, unintentional body language signals, as well as contextual and situation factors.

5. *They understand that competency is a matter of degree.*

They realize that a given act of communication is rarely completely competent or incompetent, but probably somewhere in between. Each component of competency can be considered as occurring "more" or "less."

6. *They are ethical.*

They adhere to standards of right and wrong based on their background, point of view, and circumstances. Because the range of factors that influence right from wrong vary considerably, there are few absolutes when it comes to ethical communication.

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**Table 13-1. How Competently Do You Communicate?** (from: Communicating with Competency, L.B. Rosenfeld and R.M. Berko, Glenview, IL: Scott, Foresman, Little, Brown)

**Directions: Following is a list of communication skills. Indicate how often you use each skill and how satisfied you are with your ability.**

| Use the following scale to indicate how *often* you use each skill: | Use the following scale to indicate how satisfied you are with your use of each skill: |
|---|---|
| 5 = All or most of the time (91-100% of the time)<br>4 = Often (71-90% of the time)<br>3 = Sometimes (31-70% of the time)<br>2 = Rarely (11-30% of the time)<br>1 = Never or almost never (0-10% of the time) | 5 = Very Satisfied<br>4 = Somewhat Satisfied<br>3 = Neither Satisfied or Dissatisfied<br>2 = Somewhat Dissatisfied<br>1 = Very Dissatisfied |

|  | How Often | How Satisfied |
|---|---|---|
| 1. I listen effectively. | _____ | _____ |
| 2. I use appropriate words for the situation. | _____ | _____ |
| 3. I use appropriate pronunciation for the situation. | _____ | _____ |
| 4. I use appropriate grammar for the situation. | _____ | _____ |
| 5. I use effective eye contact. | _____ | _____ |
| 6. I speak at a rate that is neither too fast or too slow. | _____ | _____ |
| 7. I speak fluently (avoiding "uh," "you know," awkward pauses, etc.) | _____ | _____ |
| 8. My movements, such as gestures, enhance what I say. | _____ | _____ |
| 9. I give appropriate verbal and nonverbal feedback. | _____ | _____ |
| 10. I use vocal variety when I speak. | _____ | _____ |
| 11. I speak neither too loudly nor too softly. | _____ | _____ |
| 12. I use appropriate facial expressions. | _____ | _____ |
| 13. I understand a speaker's main ideas. | _____ | _____ |
| 14. I understand a speaker's feelings. | _____ | _____ |
| 15. I distinguish facts from opinions. | _____ | _____ |
| 16. I distinguish between speaking to give someone information and speaking to persuade someone to think, feel, or act a particular way. | _____ | _____ |
| 17. I recognize when a listener does not understand my message. | _____ | _____ |
| 18. I express ideas clearly and concisely. | _____ | _____ |
| 19. I express and defend my point of view. | _____ | _____ |
| 20. I organize messages so others can understand them. | _____ | _____ |
| 21. I use questions and other forms of feedback to obtain and clarify messages. | _____ | _____ |
| 22. I respond to questions and other forms of feedback to provide clarification. | _____ | _____ |
| 23. I give understandable directions and instructions. | _____ | _____ |
| 24. I summarize messages in my own words and/or by taking notes. | _____ | _____ |
| 25. I respect another's viewpoint. | _____ | _____ |

26. I respect differences of opinion. _____ _____

27. I express my feelings and opinions to others. _____ _____

28. I initiate and maintain conversations. _____ _____

29. I recognize and control my anxiety in communications situations. _____ _____

30. I involve the other person in what I am saying. _____ _____

**Total:** _____ _____

**Scale:**

Compare your totals with the following ranges:

| **How Often** | **How Satisfied** |
|---|---|
| 135-150 = Communicate skillfully all or most of time | 135-150 = Very satisfied with my communication skills |
| 105-134 = Often communicate skillfully. | 105-134 = Somewhat satisfied with my communication skills. |
| 75-104 = Sometimes communicate skillfully. | 75-104 = Neither satisfied or dissatisfied with my communication skills. |
| 45-74 = Rarely communicate skillfully. | 45-74 = Somewhat dissatisfied with my communication skills. |
| 30-44 = Never or almost never communicate skillfully. | 30-44 = Very dissatisfied with my communication skills. |

# ISSUES AND PROBLEMS

The lack of effective communication in the workplace can cause various problems -- some of which can have a direct impact on safety. These problems are the result of an array of issues that pervade the organization. The major factors that contribute to communication problems are described below.

## Organizational Culture

The organization has a vision for itself and its service. The corporate vision is usually translated into a mission, which is accomplished by meeting goals and objectives. This process should be explained by effectively communicating the organization's philosophy.

In cohesive workplaces, people understand what is important. They work together for a

common cause. They use the available resources to support the company's objectives. As a result, teamwork exists among workers.

## Organizational Structure

As organizational culture evolves, so does organizational structure. This factor has a profound impact on internal communication. According to White and Bednar (1991)[15], the structure of an organization accomplishes four distinct functions:

- It divides work logically among individuals and organizational sub-units, such as work teams and departments.
- It recombines or coordinates the activities of those units to accomplish organizational objectives.
- It distributes formal power (authority) to direct or coordinate work.
- It establishes channels of communication.

An organization's structure is the formal pattern of authority relationships that exists among all of its parts. The structure is usually described by an organizational chart. The chart does not diagram formal communication flow. Instead, it indicates who may or may not communicate with whom.

Traditionally, organizational charts take the form of a pyramid.[16] As indicated in **Figure 13-1**, the structure includes line and staff positions. **_Line positions_** (L) carry authority and responsibility over personnel and serve the direct flow of formal organizational communication. **_Staff positions_** (S) assist or advise the line organization. Staff members rarely have authority or responsibility over other members of the organization.

## Formal Communication Flow

Communication flows in three directions: *downward, upward, and horizontally*. The nature and form of the specific communication depends upon the individuals and their jobs in the organization. Readers can probably think of examples of each type of communication within their own organization. These same directional categories also apply in a more general sense to communication among regulators, vendors, and aviation maintenance organizations.

### Downward Communication

The downward flow is comprised of messages and information sent from top management to subordinates. The flow usually follows the formal lines of authority downward from position to position. The downward flow is the strongest of the three directions. Management has the power to put messages in motion and start them on their downward journey. Unfortunately, messages

are sometimes not received, arrive distorted, arrive too late, or are not sent at all.

According to Katz and Kahn (1966),[17] downward communication in an organization usually encompasses the following:

- Job descriptions and instructions regarding specific employee tasks.
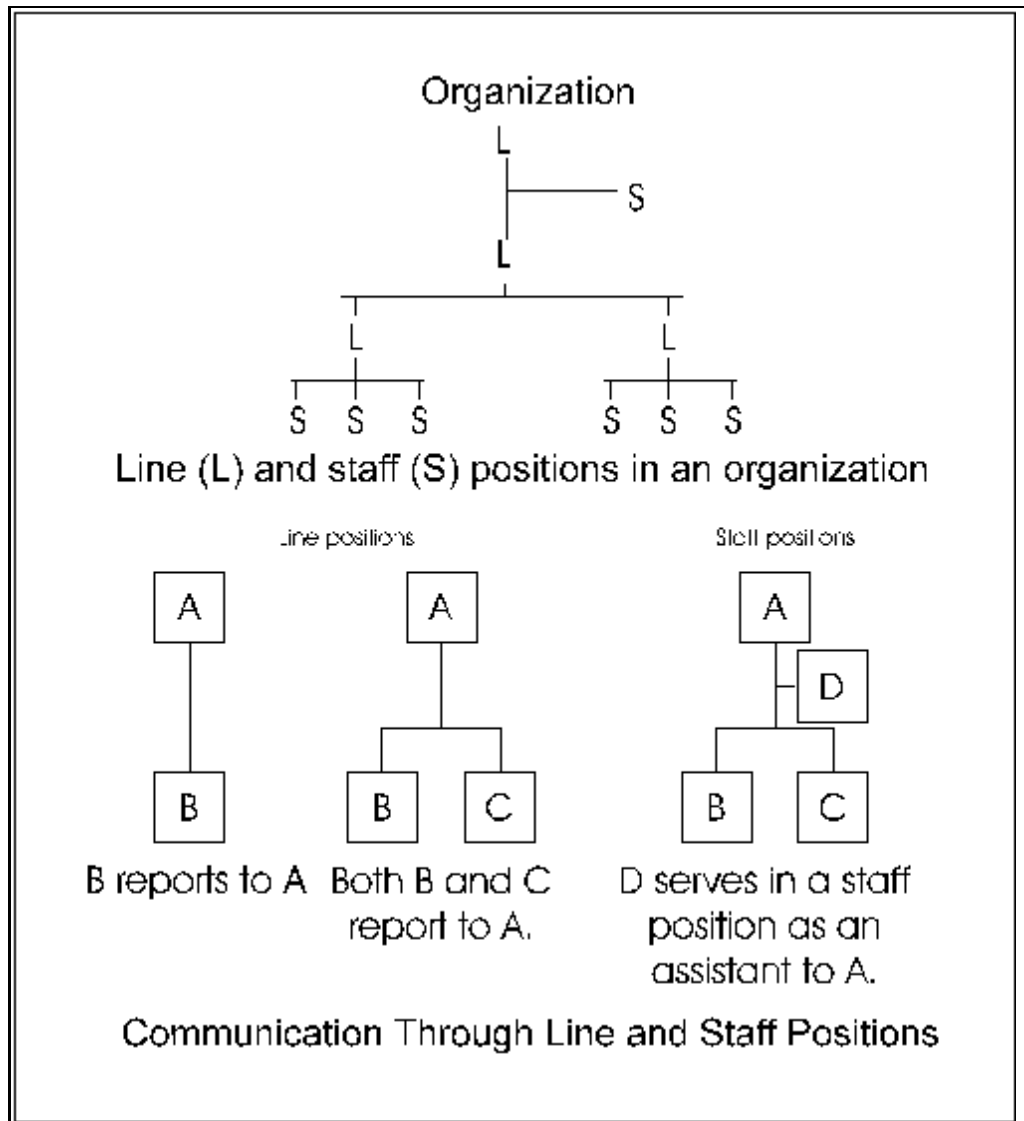- Policy rationale that explains why and how the tasks fit the company's overall objectives.



**Figure 13-1.** *Communication Through Line and Staff Positions*

- Straightforward information on the company's past, present, and future, along with explanations about policies, practices, and procedures.
- Company ideology designed to make employees respect, support, and work for continued company and product success.

## Upward Communication

Upward communication flows from subordinates to superiors. According to Harriman (1974),[18] communication in a hierarchical organization works according to the same principle that governs the flow of solid waste, i.e., it doesn't flow uphill easily. Downward communication is usually better than most people recognize. It is frequently more accurate than people at higher levels want it to be. Conversely, upward communication has to be pumped and primed, with a minimum of filters, in order to be effective.

An effective communication process is one that not only "speaks," but also "listens."[19] It has a two-way orientation. Employee publications, defined procedures, orientations, and effective day-to-day work direction can handle the "speak" portion of the communication loop. The "listen" dimension assumes considerable importance if the organization wants the loyalty and complete support of its people.

## Horizontal Communication

Communication in a lateral or diagonal direction within the charted organization is called *horizontal*. This is the most frequent flow of communication because individuals at the same level talk to each other constantly about work-related events, management, and personal matters. Work-related communication revolves around formal tasks and goals that are vital to the organization. Personal, informal communication serves the social and emotional needs of people who work closely together for long periods of time.[16]

Employees at the bottom of an organization's structure have a greater need for information and a wider gap to fill than those at the top. Horizontal communication flow is the mechanism whereby subordinates evaluate their superiors in areas such as skills, attitudes, values, personality, problem solving, planning, and organizing.

Messages transmitted on this level are important to a supervisor because they serve as feedback on how well that individual is managing a unit. However, such information is seldom provided in person. Instead, it is usually transmitted through the grapevine.

## The Impact of Information Technology

Organizational communication has improved significantly over the past several decades, in terms of workers' ability to send and receive messages. Of particular importance have been advances in computer technology, including electronic mail, voice mail, facsimile machines, cellular telephones, and paging devices. To say the least, staying in touch has never been so easy.

Information technology facilitates organizational communication in the following ways:

- *Cuts Across Time Boundaries*
  Employees determine for themselves when in their workday they will use information

technology. The frustration of trying to reach someone by telephone or having to return calls or play telephone-tag is eliminated.

- *Cuts Across Geographical Boundaries*
  Messages can be transmitted to a coworker down the hall or in another country. The speed of information reception and retrieval makes the process economical. Employees with ready access to technology can generate and receive information at their home, in their automobile, or in a hotel room while traveling.
- *Allows Multiple, Simultaneous Receivers*
  Information technology can be used to transmit messages to one person or hundreds of people automatically within a few seconds. Each individual will receive an individual copy of the message and can respond back to the sender.
- *Bottlenecks Can Be Avoided*
  Since electronic information channels are typically direct between sender and receiver(s), such technology eliminates the filters and bottlenecks found in traditional oral and written communication.
- *Helps Avoid Paperwork Collections*
  Unless a hard copy is desirable for the purpose of documentation, the entire transaction can occur electronically. Most messages are never printed on paper.
- *Leads to the Creation of Special Relationships*
  Information technology helps create communities of workers who have the capacity and the means to exchange reports, ideas, programs, and plans.

# Word Usage As A Language Barrier

Language is an important element in effective and competent communication. Communication is more than merely words in proper order that are arranged in a logical sequence. Instead, it can be viewed as part of a system -- a living organism -- that comprises the total act of communication.[20] Therefore, language is becoming an increasingly important concern in the workplace.

Among the greatest challenges to the increasingly diverse workplace is language usage. Solomon (1989)[21] estimates that by the year 2000, 88 percent of the workforce growth will come from women, African Americans, and Hispanic or Asian groups. She also estimates that 22 percent of these individuals will be immigrants to the United States. These trends will also be seen in aviation maintenance organizations.

We have always assumed that English would be the language of the workplace. In fact, recent international agreements have designated a particular form of English as the standard for written communication in the aviation maintenance workplace. However, the available labor force will speak English as their primary language in increasingly smaller numbers.[21] Likewise, most horizontal communication occurs verbally, so standards for written documents will not apply.

There are several characteristics that contribute to barriers to effective language usage. Those listed below are the most common.

## Allness

We perceive only a small portion of the world around us. Whenever we talk or write, we usually omit more than we say. The "allness illness" entails forgetting about this selection process and the notion that certain things are always omitted in communication.

People who have the allness illness tend to be intolerant of others' viewpoints. Instead, they mistakenly believe that they know all there is to know about something. There is a corresponding tendency to ignore information that could change an outcome. Instead, people may be judged based upon a single incident or event.

For example, recently, there was a workplace accident in which three eyewitnesses saw an employee fall from a two-story scaffold. Each witness reported a different perception of what had occurred. This was further complicated by their imprecise choice of words to describe these varied accounts of the accident through the use of vague words or phrases such as "careless" or "everyone was watching."

## The Word is Not the Thing

The term *bypassing* is used to describe miscommunication patterns that occur when senders and receivers of messages "misconnect" with each other in terms of the meanings of words being used. Supervisors and subordinates can use the same words, but the intent of their communication can fail because they each attribute different meanings to the specific words.

For example, in 1969, four English Royal Air Force jets were involved in an accident. As the four pilots flew in formation, the rear pilot noticed a fire in the plane in front of him. He radioed, "You are on fire--- eject!" Unfortunately, two of the first pilots ejected and their planes crashed. Only one plane was on fire![16]

This problem occurred because the individuals involved thought they understood what commonly used words meant. They did not pause to question whether the other person's meaning was different from their own. In short, they overlooked the notion that words themselves do not carry meaning. Instead, the meaning of language is a result of the user's perception of its meaning.

## Incompleteness

To some extent, words are the map of the territory that we want to share with others.[16] Just as a geographical map is scaled down to size and does not accurately reflect details, so, too, is the case with words. They do not necessarily accurately represent objects, events, feelings, and ideas. In short, words do not depict everything there is to say about some event or phenomenon.

A map cannot provide a complete and comprehensive representation of a geographic area. Correspondingly, words do not provide an exhaustive view of reality. Since language seldom

conforms to the reality of a situation, it is important to keep in mind that there is always more to be said about everything. Further, a word or phrase may have different meaning to varying individuals.

To illustrate this point, look at **Table 13-2**. Fill in the blank spaces by placing the number of times out of one hundred you believe the words or phrases imply. Next, compare your responses with your coworkers. You will find that your definitions of the words and phrases vary from theirs.[22]

## Levels of Abstraction

It is impossible for human beings to take in everything that occurs in the surrounding environment. We must *abstract* certain details and omit a seemingly endless number of others. How readily we can perceive the limitless possibilities for a word's meaning will determine the extent to which we understand and then communicate accurately our messages to others.

**Table 13-2. How many times out of 100 would a thing occur if it happened.**
From Hanna, M.S. & Gibson J.W. (1992). *Public speaking for Personal Success*. Dubuque, IA: William C. Brown, p. 183
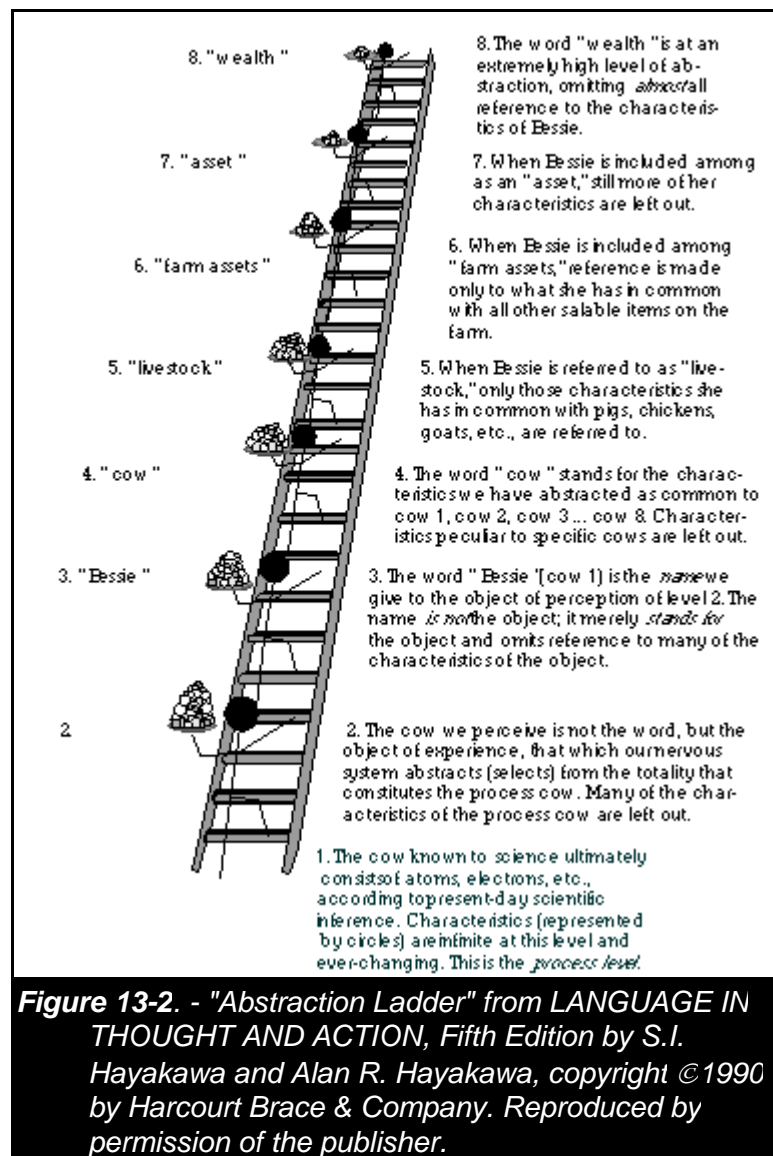
.

_____ 1. frequently

_____ 2. about as often as not

_____ 3. almost always

_____ 4. almost never

_____ 5. often

_____ 6. rarely

_____ 7. now and then

_____ 8. sometimes

_____ 9. usually

_____ 10. very seldom

_____ 11. generally

_____ 12. rather frequently

_____ 13. once in a while

_____ 14. not often

_____ 15. seldom

_____ 16. from time to time

_____ 17. always

_____ 18. a lot

_____ 19. never

_____ 20. not often enough

Supervisors must be sensitive and aware of this tendency, since any particular object or event has multiple levels of meaning. In communicating with others, the manager must mentally define words based upon the other person's level of abstraction which will ultimately determine the meaning of the word.

**Figure 13-2** indicates Hayakawa's (1964)[23] abstraction ladder. You initially take in information about the world around you. Then, you must process it within yourself. As Hayakawa indicates, you have advanced from the "cow known to science" into the world of words. As we progress up each level of the ladder, we proceed further away from the original image of the biological creature and more in the direction of our own personal set of abstract notions. Hayakawa notes that each individual has their own personalized abstraction ladder for defining words.

## Inference Versus Facts

Often, we will draw inferences regarding contextual factors before we have all the necessary facts. Inferences are constructed so rapidly that we rarely reflect on whether they accurately represent something as we would like for it to be. Declarative statements are made in the business context on a regular basis. An example includes statements such as, "She didn't return the file" or "The work was not completed because he's lazy." These sentences provide no means of verification as to whether they are factual or inferred.



**Figure 13-2**. - "Abstraction Ladder" from LANGUAGE IN THOUGHT AND ACTION, Fifth Edition by S.I. Hayakawa and Alan R. Hayakawa, copyright ©1990 by Harcourt Brace & Company. Reproduced by permission of the publisher.

# Teams and Teamwork

Groupwork and teamwork will not only be important, but unavoidable in twenty-first century life. Building effective teams is both difficult and time-consuming. Conversely, team building can be both rewarding and productive if the process takes place in a supportive organizational framework.

Teams consist of the following elements:

- *They are a Diverse Group of People*
  Each member provides specific and varying resources and abilities that broaden the team's collective skills.

- *Responsibilities are Shared Among Members*
  Everyone facilitates team activities and discussions. All members are, in effect, equal participants in the team process.

- *There is a Team Identity*
  It has a particular identity, personality, self-image, and sense of cohesiveness.

- *Its Efforts are Interconnected*
  The team constantly weaves and coordinates the contributions of each member in order to develop a tighter energy and focus.

- *Members Strive for Mutually-Defined Goals*
  There is intense and open communication designed to develop group consensus. There is usually a clear and elevating goal that motivates its members.

- *A Team Works within the Context of Other Groups and Systems*
  A team affects and is affected by the context in which it operates. It does not function in isolation.

(See **Chapter 16** - Maintenance Resource Management.)

## Conflict Resolution

The American Management Association surveyed 116 chief executive officers on the subject of managing conflict. According to the results of this study, managers indicated that they spent approximately 14% of their time managing conflict. The principal causes of conflict included: communication breakdowns; poor job performance; failure to follow policies and procedures; competition for scarce resources; misunderstandings regarding procedures, responsibilities, values, or goals; personality conflicts; and failure to cooperate.[24]

Conflict is social interaction between people involving a struggle over claims to resources, power and status, beliefs, and other preferences and desires.[25] If not properly channeled and managed, on-the-job conflict can seriously disturb the work environment. However, properly managed conflict serves several constructive purposes. It can add a greater understanding and

identification of problems, while increasing alternatives and worker interaction. Conflict stimulates interest, creativity, commitment, and quality in the workplace.

The following list comprises several causes of conflict:[26]

- *Poor Organizational Structure*
  Poor structure can pit departments or people within the organization against each other. Causes include unclear goals or power building. If two units see their roles overlapping or striving for similar objectives, they tend to be placed in direct competition with each other.

- *Inappropriate Performance Measures*
  If not clearly stated in terms of expectations, the employee will fill in the gaps. If the manager bases rewards or punishments on behaviors that are unrelated to the job itself, employee's may pattern their behavior to receive the rewards.

- *Unclear Job Roles*
  Competition may result if members of the organization pursue the same goals. While shared goals are admirable, someone must have designated responsibility and authority. Conflict will likely continue until the job roles are clarified.

- *Conflicting Perceptions of Reality*
  Each of us defines reality based on our individual perception of the context or situation. When these do not coincide with the perceptions developed by others, conflict inevitably occurs.

- *Organizational Ambiguity*
  Included in this category are: multiple direct bosses; unclear instructions; personality conflicts; poor attitudes; lack of authority; supervisor's lack of experience or understanding; differing standards of behavior among organizational members.

# REGULATORY REQUIREMENTS

The regulatory issues related to communication in aviation maintenance center around effectively exchanging information within and among the organizations responsible for safe aircraft operation. The **FAA** oversees aviation maintenance through the Aircraft Maintenance Division of the Office of Flight Standards (OFS). Commercial, i.e., non-general-aviation, maintenance operations fall under either Part 121 or Part 135 of the Federal Aviation Regulations (FAR's). Part 121 deals with scheduled air carriers and part 135 deals with commuters, air taxi, and other commercial operations.

The overwhelming majority of **FAA** rules and regulations related to maintenance relate to maintaining written manuals, procedures, and repair records. Many deal with information that must be transmitted from either the FAA or manufacturers to technicians in the field. These include airworthiness directives (AD's), notices to airmen (NOTAM's), etc. The applicable human factors elements of these types of written communication are addressed in the

Information Transfer chapter of this *Guide* (**Chapter 15**).

There are no explicit regulatory requirements related to the exchange of non-written information among maintenance technicians and inspectors. For that matter, there are no regulatory requirements governing non-written communication among any of the typical aviation maintenance groups. There is an implicit requirement that important, i.e., safety-related, information will be passed between shifts and that verbal instructions will be unambiguous.

The aviation maintenance community is just now beginning to transfer some of the **CRM** training, experience, and procedures from the operational domain. Since most of the information in such settings is transferred in a non-written form, there are likely to be regulatory initiatives in the maintenance domain.

# CONCEPTS

The fundamental concepts pertaining to communication are briefly described in this section.

## Channel

The medium through which messages pass. The channel acts as a bridge connecting the source and the receiver. Some examples of channels include face-to-face discussion, written memos, newsletters, and the telephone.

## Code

A set of symbols used to translate a message from one form to another. There are a number of common codes associated with communication. For example, acronyms and abbreviations are really just shorthand codes for longer words or phrases (FAA is shorthand for the Federal Aviation Administration).

## Communication

A transactional process of sharing meaning with others. This is a very general definition. It does not specify a particular sensory channel, medium, or style of communication. It is quite feasible to communicate information with a facial expression, a hand gesture, etc.

## Communication Competence

The ability to communicate in an effective and socially appropriate manner. Note that it is quite possible for an individual to be an *effective* communicator without being able to

communicate in a socially appropriate manner.

# Conflict

The interaction of interconnected parties who perceive incompatible goals and interference from each other in attaining those goals. In fact, conflict can arise even when the parties appear to have compatible goals, but, for some reason, believe others are blocking them from reaching those goals.

# Credibility

Believability. This is one of the most important characteristics of effective communicators. For a message to be effective, i.e., for the receiver to act on its content, the originator of the message must be credible. A common counterexample of credibility is the extensive (and widely disbelieved) use of promises in political campaigns.

# Decoding

The process of extracting a message from a code, such as oral speech. The ability to extract information from a coded message generally implies a similarity in training, experience, or technical expertise. For example, a medical doctor generally has no difficulty extracting information from other medical personnel, but a lay person would have great difficulty doing so.

# Empathy

The ability to look at things from another person's (particularly the receiver's) point of view. This usually implies more than a simple logical exercise in trying to place oneself into another's "shoes." Empathy is usually the product of shared background or experiences. For example, if I used to be an AMT, even though I'm not one anymore, I can probably empathize with the perspective of an AMT.

# Empowerment

The power to accomplish one's own goals or help others achieve theirs. This is presently a buzzword among management consultants. True empowerment implies giving people both the responsibility for some aspect of their lives and the power to make decisions that affect it. There are many cases where empowerment has meant added responsibility, but no additional authority.

## Encoding

Encoding is the opposite of decoding. It is the process of putting a message into a code. Encoding can serve several useful functions. For example, it can physically shorten a message. Encoding can also tailor a message for a particular audience through the use of specific terminology. Proper encoding can lend credibility to a message.

## Feedback

Information that is sent back to the source. The information may or may not be altered during the feedback process. A fundamental psychological premise is that desirable behavior is reinforced by timely feedback. To be valuable in such a role, however, feedback must be based on accurate and complete information. It is common for feedback to contain false, incomplete, out-of-context, and misinterpreted information.

## Group

A human communication system composed of three or more individuals interacting to achieve some common purpose(s). These individuals will usually be influenced by each other.

## Groupthink

A mode of thinking that people engage in when they are deeply involved in a cohesive group. The term is often used in a derogatory manner to indicate the loss of an individual's ability to think independently. People want to achieve consensus and are usually not comfortable with conflict. The members' striving for unanimity overrides often their motivation to realistically appraise different courses of action.

## Listening

An active process of receiving, processing, and interpreting/evaluating auditory information. Listening is often substituted for the more general term "receiving," which applies to any sensory modality (including hearing).

## Mindset

A psychological or cognitive predisposition to see the world in a particular way. There is little disagreement with the premise that we each approach particular situations with a certain mindset. However, it is an over-generalization to assume that there is a universally-adopted "maintenance" mindset. A mindset is really nothing more than a tendency to see things in a certain way.

# Nonverbal Communication

Cues accompanying language or separate from language that people may interpret as having meaning. We are all familiar with the "dirty look," which can transmit a very clear message without a word having been spoken. Communication includes a rich repertoire of nonverbal cues, including facial expressions, body language, hand and arm gestures, etc.

# Protocol

Communication protocol is an agreement regarding how people will communicate in certain environments. Protocol typically includes three elements: (1) a limited vocabulary, (2) a restricted meaning for each word and phrase in the vocabulary, and (3) a set of rules for how words and phrases will be used and connected.

# Receiver

Any person or thing that takes in messages. It may be individuals reading a book, listening to someone talking, or watching a film or television. The receiver does not necessarily decode or interpret messages correctly (or at all). In fact, the intended receiver(s) sometimes completely filter out messages intended for them.

# Roles

Patterns of behavior exhibited by members of a group in light of expectations that are held toward those behaviors. It is important to note here that expectations are critical for role behaviors. If we believe people expect us to act a certain way when we assume a role, then we will strive to do so. Roles are important in communication because we will generally transmit messages to and receive messages from individuals who act in certain roles.

# Self-Disclosure

The process of revealing something significant about ourselves to another individual or

group that would not normally be known by them. This is sometimes known as "opening up" to other people. Self-disclosure is a useful method for gaining credibility ("been there, done that") and empathy ("The same thing happened to me"). However, it must be used carefully to avoid making the audience feel uncomfortable, i.e., having "too much information."

## Source

Any person or thing that creates messages. In most cases, the source is an individual speaking, writing, gesturing, or even working on a computer. It is important that receivers know the source of messages aimed at them. Their ability to properly decode, interpret, and evaluate information depends on their ability to understand the background and purpose of the sender.

## System

In the most general sense, a system is a set of functional objects or entities that interrelate with one another to perform some higher-level function(s). In the communication domain, the system consists of one, or more, of the following: source, receiver, channels, communication procedures and rules, and the communication environment.

# METHODS

There are a number of methods available to improve communication within aviation maintenance organizations. Other than the fact that safety-related written communication is regulated by the **FAA**, there is nothing really unique about aviation maintenance organizations from a communication perspective. In this section, we have listed those methods that appear to have the most practical application in the maintenance environment.

## Meetings

Meetings are a common occurrence in any organization, including aviation maintenance groups. In the GUIDELINES section, we have provided step-by-step guidance for **getting the most out of organized meetings**. In a more general sense, however, we can consider a meeting to occur any time two or more people get together to exchange information.

### Shift Turnover

A commonly-cited point of information loss in aviation maintenance organizations is shift turnover. By the nature of the business, aviation maintenance occurs on more than one shift per day. Tasks are routinely split across shifts -- requiring the technician on the earlier shift to pass information related to his or her current task along to the technician coming to work on the later

shift.

The quality of the information communicated during shift turnover is directly dependent on the turnover process and the communication skills of the people exchanging information. The best shift turnover procedures are pre-planned (instead of ad hoc), taught, and practiced. A number of aviation accidents have been traced to poor shift turnover procedures. Typically, such accidents are precipitated by unwarranted assumptions being made by the technicians involved. (See **Chapter 4** for a more detailed discussion of shift turnover.)

## Management

We've lumped any meetings that involve managers <u>and</u> line workers (technicians or inspectors) into this category. Earlier in this chapter, we discussed the idea that communication can move upward, downward, and horizontally. Aside from written directives from management, face-to-face meetings provide the best opportunity for both upward and downward communication to occur.

Management meetings are typically convened to describe and explain some decision that has been made by upper management. Another common topic of management meetings is the "state of the company." In an industry that is struggling financially, such as the airline industry in the early nineties, rumors abound. Management meetings are an opportunity for company representatives to dispel rumors, give line workers the facts, and honestly address workers' concerns.

While these meetings should be subject to the same preparation guidelines as any other type of meeting, the important aspect of management meetings is the "tone" or atmosphere established for them. Ideally, line workers will feel free to bring up any work-related topic for discussion at management meetings. Any topic brought to the table should be discussed openly, logically, and without intimidation or rancor. Convening a meeting in which the participants feel coerced into staying silent or making only non-critical remarks is essentially a waste of time from a communication perspective.

## Union

The workers in many aviation maintenance organizations are represented by trade unions. Unionized workers generally attend periodic meetings to discuss work conditions, contracts, and other topics. Union meetings provide forums for horizontal communication among line workers. These meetings can be especially valuable if the attendees represent a broad range of technical skills.

A less obvious advantage of union meetings is that they can be used as a conduit for upward communication to management. Union representatives should be encouraged to channel relevant information from union meetings to management. This is all the more relevant for safety-significant information that might be identified at union gatherings.

## Error Analysis

**AMT**s and inspectors are human and, like everyone else, they occasionally make errors (see the **Human Error chapter**). In nearly all instances, these errors are caught and corrected before they have safety consequences. AMTs and inspectors are licensed by the **FAA**, which has the power to assess penalties related to specific errors. This potentially punitive relationship makes it difficult to objectively analyze errors and their causes without trying to "pin the blame" on an individual.

Unfortunately, there is presently no dedicated maintenance equivalent to the Aviation Safety Reporting System (ASRS),[27] through which flight crew members can report errors without fear of **FAA** sanctions. While maintenance personnel can use ASRS, the system reporting format is not ideal for reporting of maintenance incidents. However, at least one airline has developed a "self disclosure" policy for finding and reporting maintenance errors before they are discovered by FAA inspectors.[28] This type of self-disclosure is not the same as the **concept of self-disclosure** described in the CONCEPTS section.

These disclosures are followed by a meeting involving the erring technician or inspector, airline management, and **FAA** representatives. The purpose of self-disclosure meetings is to calmly and objectively establish and analyze the circumstances surrounding the error. The goal of the meeting is to affect whatever changes are necessary to prevent a recurrence of the error. This is very much in the tradition of Total Quality Management (TQM), i.e., fix the problem, not the blame.

## Feedback

Communication is a two-way street. It is too often the case that we communicate in on open-loop fashion. That is, we send messages, but we never really know whether they are properly received or, if they are received, the reactions of those to whom the message was sent. We will address the general subject of **feedback** in the following section, but broach the topic here to point out that meetings can be a valuable source of feedback.

We indicated earlier that most feedback, especially from workers to managers, tends to travel through the grapevine. Although the grapevine tends to be extremely fast and efficient, it can also seriously distort messages traveling through it. Meetings called for the explicit purpose of giving feedback on a particular topic can provide more accurate and structured information than ad hoc methods. The trick, of course, is to carefully plan and structure the meeting so the feedback is honest, open, and constructive.

## Feedback

A basic principle pertaining to human learning and performance is that we need feedback to judge whether our actual performance corresponds to our perception of our performance. Our ability to communicate effectively is also dependent on appropriate feedback. Getting appropriate and constructive feedback should not be left to chance. Rather, there are a number of methods that can promote and channel feedback regarding our ability to communicate with

others.

## Active Solicitation

Probably the surest way to get anything is to let people know you want it. In the communication domain, the surest way to get feedback is to actively seek it. There are various ways to solicit feedback. In the previous section, we described how meetings can be organized to provide feedback. There are a number of other ways to ask for feedback. Two of the most obvious feedback solicitation methods are *written surveys* and *televised feedback sessions*.

*Written feedback surveys* are used by some companies, such as Federal Express, as part of their performance appraisal process. Part of the feedback survey assesses the success of managers at keeping all workers who report to them informed of policies, data, and other company news that can affect their jobs. This idea can be easily adapted to look only at the communication aspect of job performance.

Another feedback channel that might be available in large companies is company television. Some companies buy or rent time on broadcast satellites to distribute information to employees. It is easy enough to set up a call-in system to allow employees to give direct and immediate feedback to this type of information. Such call-in television segments typically include some amount of time to answer viewer questions.

## Anonymous Contribution

A tried and true feedback channel is the suggestion box, or some variation on it. The idea behind suggestion boxes is that people don't necessarily want to be identified when they provide feedback -- even when the feedback is constructive. The widespread use of electronic mail provides a new twist on the old wooden suggestion box. Since e-mail is used so pervasively to send messages, it can be the ideal medium for channeling feedback regarding those messages.

To be effective, any method that relies on anonymous feedback must be, well, anonymous. The best process will <u>allow</u>, but not require, individuals providing feedback to reveal their identity. For e-mail, this anonymity requirement might cause the address of the person providing feedback to be stripped from the message.

## Ombudsperson

A final method to consider when trying to get feedback is the use of a facilitator, or an Ombudsperson. Such an individual can act as the agent of the communicator by actively soliciting feedback. An Ombudsperson must also protect the interests of those who provide feedback, by aggregating comments, stripping out personal comments, and concealing the identity of anyone who wishes to remain anonymous. The idea behind using an Ombudsperson is that people might be more forthcoming with feedback when talking with a disinterested third party.

# Teams

There is a trend in aviation maintenance to begin considering technicians working on an aircraft to be a team rather than simply a collection of individuals working in proximity to one another. This philosophical shift has been prompted by the success of Crew Resource Management (CRM) programs in improving the performance of aircrews. When moved to the maintenance domain, this process is called Technician Resource Management (TRM) or Maintenance Resource Management (MRM) (see **Chapter 16**).

Regardless of the acronym, the idea is that team performance can be superior to individual work. One of the fundamental considerations for team performance is the ability of individual members to communicate among themselves. Thus, the shift to team work promotes and requires better communication in the organization. Below, we examine three types of teams and describe the communication implications of each type.

## Work Teams

This is the fundamental type of maintenance team. Work teams perform the actual tasks required to maintain aircraft. The composition of a work team will depend on the job to be done. For example, moving an aircraft requires a team composed of (at least) the tug driver, the person in the cockpit on the brakes, and a number of "wing walkers" who ensure that no obstructions block the path of the aircraft. An engine changeout requires a team of technicians and inspectors to handle all of the sheet metal, hydraulic, electrical, and propulsion tasks. A major maintenance check can involve hundreds of people working on many teams.

As teams work together for some period of time, communication among members naturally improves. In the best circumstances, much of the communication among team members can progress to the nonverbal stage. This is when one team member can tell what another member is going to do simply by their posture, body language, or facial expression. Formalized communication training can increase team effectiveness much more quickly than relying on natural improvement.

In certain military teams, tank crews for example, verbal communication is made extremely efficient by imposing a "protocol" on their speech.[29] In combat situations, tank crew members have well-defined roles and can communicate a large amount of information with very few words. Aviation maintenance work crews also tend to become more efficient in their job-related communication patterns.

## Quality Action (Tiger)

There is a growing practice in many industries of forming teams of people to deal with serious quality problems. That is, a serious problem is identified and a team is formed to find out why the problem is occurring and how to eliminate it. These "quality action" teams are sometimes called "tiger" teams.

Tiger teams are fundamentally different from work teams. First, their task is (hopefully) short-term. Everyone wants to get to the root of the problem quickly and fix it. Second, tiger team members are likely to come from a variety of backgrounds. Whereas work team members tend to be technicians and inspectors, tiger team members can represent technicians, inspectors, support people, suppliers, management, the **FAA**, etc. Finally, tiger teams are not likely to be performing safety-related tasks. Certainly their findings might have direct safety implications, but individual tiger team members aren't going to be turning wrenches.

The communication improvement that results from tiger teams is based on the diversity of the team members. This might be the first time that various team members see the skills, concerns, and organizational pressures of other parts of the maintenance process. Also, team members tend to become personally well-acquainted in the process of finding and fixing a problem. After the team is disbanded, individual team members will have a contact in each of the organizations represented on the team.

## Continuous Improvement

Most maintenance organizations have adopted the concepts of Total Quality Management (TQM), among which is the idea that processes must be continuously monitored and improved. Some continuous improvement occurs because every individual in the organization is sensitized to the idea through training. An active program to solicit ideas from workers is usually part of a TQM program. In addition, however, teams are often formed to examine particular jobs or process areas in order to improve them.

Continuous improvement (CI) teams are different from tiger teams, in that tiger teams are formed to address an identified problem. CI teams are not formed in response to a problem, but to try to nudge a process farther along the quality scale. The membership of CI teams is usually not as diverse as that of tiger teams, since CI teams address a fairly narrow scope. For example, a CI team might try to find a way to decrease the cycle time for a particular job, such as a brake changeout.

Communication among **CI** team members establishes both personal familiarity and empathy with other members' concerns and problems. Actually, CI team members are likely to already know one another, but working closely together on a team will often provide a better opportunity to establish closer relationships.

## Protocols

Communication is based on the use of language. We have already discussed some of the problems inherent in using language to convey information. A person's use and understanding of language is based on his/her prior life experience, training, and job-related communication. Language is heavily influenced by cultural experience. An expression that means one thing in the Northeast United States may have a different meaning (or no meaning) in the deep South. These cultural differences are magnified when communication must occur among different

countries with various native languages.

The ambiguities and other vagaries of language must be eliminated, or at least minimized, when they relate to flight and aircraft safety. Typically, this is accomplished by establishing rules regarding which words, phrases, or other elements will be used for communication, their meaning, and the way they will be connected with one another. The aggregation of these rules is known as a "**protocol**" (see the **CONCEPTS** section).

## Verbal

Verbal protocols have been used for many years, primarily in two-way radio communication. The earliest verbal protocols were developed and adopted for military communication. An example of such a protocol is the phonetic alphabet, i.e., alpha, bravo, etc. A phonetic alphabet and restricted vocabulary are also used in air traffic control. For example, the terms "climb" and "descend" are used when giving altitude change directions. The word "ascend" is not used because of its possible confusion with "descend."

A number of aviation accidents have been caused by the failure to use established verbal protocols. A recent example is the 1990 crash of a Colombian Avianca B-707 after it ran out of fuel while awaiting a landing clearance. The flight crew told air traffic controllers that they had a "fuel priority," but did not say they had a "fuel emergency," which would have caused them to be given expedited landing clearance.[5]

We don't really know whether verbal protocols are generally applicable to aviation maintenance. There are certain maintenance tasks in which verbal misunderstandings can have serious safety consequences, such as in ground movement and shift turnover. In these instances, establishing verbal protocols can reduce ambiguity and uncertainty. The one verbal protocol that has been established in all of aviation, including maintenance, is the use of English as the standard language. This was done when the International Civil Aviation Organization (ICAO) was established in 1944.

## Written

Most maintenance information, including instructions, work cards, maintenance manuals, and **FAA** and vendor safety notices, are written. In 1956, an industry consensus group, the Air Transport Association (ATA), promulgated a standard for written technical manuals known as ATA-100.[30] Two other organizations, the Aerospace Industries Association (AIA) and the Association of Europeanne des Constructeurs de Materiel Aerospatial (AECMA) have developed a vocabulary and usage protocol for all written maintenance information known as AECMA Simplified English.[31] Every revision of ATA-100 since 1987 has required compliance with AECMA Simplified English.

**AECMA** Simplified English has been shown in at least one objective study to enhance comprehension of maintenance work cards for difficult tasks and for technicians with a non-English first language.[6] The same study failed to find any circumstance in which Simplified English degraded comprehension. This topic is discussed more thoroughly in the **Information**

## Graphical

There are have been a number of graphical protocols established by various standards organizations. For example, the American National Standards Institute has adopted a number of graphical symbols to be used in warning signs.[32] Of course, graphical information includes more than just symbols. Work cards often contain line drawings of specific parts. Electrical schematics are graphical, as are hydraulic layout drawings. Various types of graphical information are already standardized, such as the symbols used in electrical schematics and in process and instrumentation diagrams (P&ID's).

Presently, there are no graphical protocols that are generally accepted by the aviation maintenance industry. Standardized graphical protocols could still be very useful. For example, one could imagine having standardized symbols for opening and access bay, removing a component, inspecting a component on the airframe, etc. Likewise, adopting a protocol for displaying line drawings on work cards would increase consistency and reduce ambiguity.

## Gestural

Gestures are used in environments that are either too noisy to allow reliable verbal communication or in situations in which people cannot, or do not want to, speak to one another. For example, gestures are commonly used by riggers to direct crane operators. Gestures are used to place and take orders in noisy stock and commodity exchanges. In aviation maintenance, hand signals are used to direct flight crews when they are parking aircraft or getting ready to taxi.

Other than for outside-in communication among technicians and aircrews, the applicability of gestural protocols is probably not widespread.

# READER TASKS

This *Human Factors Guide* is aimed primarily at aviation maintenance management. It is a commonly held belief that effective management requires well-developed communication skills. In fact, all information that passes among managers and those they manage must be communicated in some form. The tasks listed below are oriented toward providing credible, accurate, and timely information in a format that can be easily understood by listeners.

## Developing Effective Listening Skills

Studies conducted on the listening behavior of blue and white collar workers, salespeople, housewives, college students, and others indicate that between 50% to 80% of our waking hours are spent listening to other people's communication messages. More time is spent listening than in any other form of communication. Therefore, it would seem to be the "linchpin" method for enhancing an individual's overall communication skills, whether they be written or oral, verbal

or nonverbal, alone or in small groups.[16]

Hearing and listening are not the same. Hearing is a biological function. When you hear, you are taking in sounds. In listening, you are interpreting what you hear. The difference between hearing and listening is primarily a matter of selective attention. People select from the array of sounds that we are exposed to those vibrations that we choose to analyze. In other words, you choose what you want to receive. In essence, listening is hearing with selective attention.[33]

## Evaluating Effective Communicators

Evaluating the job performance of subordinates consumes a good deal of managers' time and energy. Certainly, appropriate skills and knowledge are required to perform one's job effectively. In today's work environment, communication skills can be just as important as the ability to troubleshoot an avionics box or form sheet metal. In rare cases, the elements of a person's life experience come together in such a way that they are "natural" communicators. For most of us, however, becoming effective communicators requires training and practice.

Helping people become effective communicators requires that managers understand the essence of effective communication and give subordinates constructive feedback regarding their level of skill in this area. The **GUIDELINES** section contains a number of characteristics that effective communicators generally exhibit. These can be used as a checklist against which employees can be evaluated.

## Developing a Corporate Culture

The decision to create a corporate culture is usually not voluntary. That is, a working culture will develop regardless of managers' desires. This is simply the nature of the working environment, especially in the aviation maintenance domain. The task for managers is to develop a desirable corporate culture, i.e., one that promotes values and work attitudes that contribute to a pleasant workplace and effective maintenance.

Managers' actions directly affect the working climate of their subordinates. In terms of communication, one action is worth a thousand words. If managers demonstrate that they have a cavalier attitude towards worker safety, for example, then workers quickly adopt sloppy work habits. If managers show, by their actions, that they place a high value on certain aspects of work, then workers will reflect these values. The **GUIDELINES** section lists and describes desirable characteristics of **corporate culture**.

## Improving Communication Flow

It's often noted that one cannot be too rich. This same line of thinking applies to communication -- it cannot be too good. A common complaint in organizational settings is that

there is not enough communication and that existing communication is neither accurate nor effective. Many work-related problems are the direct result of miscommunication among workers or between managers and their employees. This situation is certainly not unique to the aviation maintenance domain, but the consequences of miscommunication in the aviation environment can be serious.

The **GUIDELINES** section contains a number of recommendations for **improving communication flow**. These are grouped into the three categories of communication: downward, upward, and horizontal.

## Improving Meeting Effectiveness

The bane of any manager's existence is the requirement to be part of a seemingly endless series of meetings. For good or bad, however, meetings are probably the largest single venue for communicating information. To the extent that meetings can be made more efficient and effective, managers' time utilization can be directly improved. It should not be surprising that effective meetings do not happen accidentally. Like most work activities, the quality of meeting output is directly proportional to the level of pre-meeting planning.

The **GUIDELINES** section contains a list of **practical meeting improvement** recommendations that can be directly implemented in the aviation maintenance workplace.

## Improving Language Usage

Language usage is known to be a problem in cross-cultural communication. It is often the case that a word or phrase in one language is difficult to translate appropriately into another language. A much more common problem, however, is using incorrect or inappropriate language when communicating with people who speak our own language. It is sometimes said that "words get in the way" of effective communication. It is certainly true that the most effective communicators speak and write at the level of their intended audience. Communicator-audience mismatches are probably more the rule than the exception.

The **GUIDELINES** section lists a number of recommendations that will lead to more **effective use of language**, whatever the purpose of our communication.

## Developing Work Teams

Management techniques come and go in the workplace. Anyone who has held a management position for more than a few years has probably been exposed to several of the "latest and greatest" buzzword management methods, e.g., management by objectives (MBO), management by commitment, etc. The use of work teams, while not a new concept, is finding many supporters in the aviation maintenance workplace. In fact, the use of work teams can have many positive

effects on the quantity and quality of output, depending on the type of work being done. One thing for certain is that effective communication is a prerequisite for forming and utilizing work teams.The GUIDELINES section contains a number of recommendations for **forming and maintaining effective work teams**.

## Resolving Conflicts

Everybody lives happily ever after only in fairy tales. It is in the nature of human endeavor that conflicts routinely arise, are dealt with, and life goes on. In the aviation maintenance workplace, many factors converge to make conflict more, rather than less, likely to occur. Corporate downsizing, night work, severe time pressure, and the safety implications of the work being performed are some of the more obvious conflict-producing elements in the workplace. While it is counterproductive to encourage conflict, managers should recognize that a certain amount of conflict is inevitable. In fact, conflict can serve a constructive purpose if it is dealt with in the proper manner.

The **GUIDELINES** section contains a series of actions that can be taken to **resolve work-related conflicts**. The intent of these actions is to minimize the potential damage that can result from conflicts and to maximize their positive learning and work environment potential.

# GUIDELINES

The recommendations presented in this section can be applied to a variety of practical, work-related communication issues. They are oriented toward written and verbal communication within an aviation maintenance organization, rather than among different organizations or between the company and manufacturer's or the **FAA**. Having stated this distinction, however, these recommendations can be used to improve any type of communication. These guidelines are keyed to the reader tasks described in the previous section of the *Guide*.

## Developing Effective Listening Skills

**Table 13-3** should help you to identify your listening characteristics. There are a variety of different methods that can be used to enhance listening behaviors. The behaviors described below will facilitate this process of improving listening effectiveness.

**Table 13-3. Listening Characteristics**

DIRECTIONS: Read the questions listed below and rate yourself on each of the listening characteristics using the following scale:

| | Always | = 4 points |
| | Almost always | = 3 points |
| | Rarely | = 2 points |
| | Never | = 1 points |

| | | Responses | | | |
|---|---|---|---|---|---|
| 1. | Do I allow the speaker to express his or her complete thoughts without interrupting? | 4 | 3 | 2 | 1 |
| 2. | Do I listen between the lines, especially when conversing with individuals who frequently use hidden meanings? | 4 | 3 | 2 | 1 |
| 3. | Do I actively try to develop retention ability to remember important facts? | 4 | 3 | 2 | 1 |
| 4. | Do I write down the most important details of a message? | 4 | 3 | 2 | 1 |
| 5. | In recording a message, do I concentrate on writing the major facts and key phrases? | 4 | 3 | 2 | 1 |
| 6. | Do I read essential details back to the speaker before the conversation ends to insure correct understanding? | 4 | 3 | 2 | 1 |
| 7. | Do I refrain from turning off the speaker because the message is dull or boring, or because I do not personally know or like the speaker? | 4 | 3 | 2 | 1 |
| 8. | Do I avoid becoming hostile or excited when a speaker's views differ from my own? | 4 | 3 | 2 | 1 |
| 9. | Do I ignore distractions when listening? | 4 | 3 | 2 | 1 |
| 10. | Do I express a genuine interest in the other individual's conversation? | 4 | 3 | 2 | 1 |

## Interest in the Topic

Effective listeners show an interest in the topic being discussed. Brainstorm within yourself the reasons why you might benefit from listening to the other person with whom you are communicating. In doing so, you will afford yourself the opportunity to have an open mind toward what is being discussed.

## Distraction Tolerance

Noise can serve as interference in our efforts to listen to someone else. Office equipment, low-flying aircraft, radio, televisions, and other people can serve to divert our attention away from the person to whom we are listening. Even our mood or uncomfortable room temperature can serve as distractions. The key is to listen through, perhaps in spite of, the distractions and instead, to focus on the other person and the messages they are transmitting.

## Appropriate Time and Place

The context of the discussion should be conducive to effective listening behaviors. For some people, the best time of day is first thing in the morning. For others, it is later in the day. Similarly, sometimes it is most appropriate to meet with someone else in their office or at a "neutral site."

## Listening Instead of Talking

If you know you talk too much, curb your comments. The more time spent talking, the less time we have available to actually listen to what the other person is saying.

## Preparation

To listen effectively, you must prepare yourself to be able to listen. Understand your own emotions and feelings. Try to perceive other people as they perceive themselves. Be sure that other things on your mind do not distract you. In particular, be sure you are physically and mentally ready to listen.

## Eye Contact

Maintaining eye contact with the speaker confirms their existence; it lets them know that you are actually interested in what they are saying. If looking at their eyes is difficult, look at their hairline, mouth, forehead, or cheek area. Eye contact is a nonverbal message that says, "You have my undivided attention."

## What is Said and What is Not Said

Words can tell us what other people are thinking. Often, we can infer more meaning from what they do not say rather than what they do say. For example, if issues are repeated, this might indicate an emphasis on those concerns.

## Prejudices and Biases

If you enter into a conversation with your mind already made up, then you will likely miss

most of what is being said to you. Maintain an open mind at all times by listening rather than judging. In short, suspend judgment.

## Active Listening

Listening is not necessarily a passive activity. Restate or paraphrase what the other person is saying. This not only provides clarification, but can also assist in determining the accuracy of what you have heard in the discussion. Focus on both verbal and nonverbal feedback from the other person. Factors such as their body position or posture, tone of voice, and physical appearance can be quite revealing.

## Questions

Ask questions of the speaker. In doing so, you indicate an interest in what the other person is saying. It also helps you to better understand what they have communicated to you. Ask questions in an open-ended way so that the person does not become defensive. For example, "what are your thoughts pertaining to that matter" or "describe what occurred" provides for more disclosure on the part of the other person.

## "Hair-Trigger" Syndrome

Do not react too quickly. Instead, be patient. Try not to complete the other person's statements for them until they have fully completed what they are saying. This is especially true in conflict or controversial contexts. Similarly, restrain yourself from the impulse to ask questions prematurely until the other person has fully expressed their thoughts.

# Evaluating Effective Communicators

People obviously retain many traits that are specific to them as individuals. However, effective communicators have certain characteristics in common. The guidelines listed below outline the general traits of effective communicators. These guidelines can be used to evaluate individuals' effectiveness as communicators within an aviation maintenance organization.

## Skill for Creating Messages

Effective communicators can create messages that are meaningful to their audience and efficient in content. That is, messages are perceived as:
- semantically sane
- revealing something about the communicator
- demonstrating that the communicator knows what he or she is talking about
- clear and coherent
- making sense

- coming from someone who knows what they are doing
- being developed and presented in an open and positive manner

## Similarity to Receiver

It is commonly observed that we place more credence in information coming from someone who is "one of us." That is, messages are perceived as coming from someone**:**

- with a similar background to the receiver
- who has interests similar to those of the receiver
- who has attitudes that are similar to those of the receiver
- who has opinions similar to those of the receiver
- who is liked by the receiver and others
- who is physically and psychologically attractive to the receiver
- who understands things through the other person's point-of-view
- who is poised
- who is genuine and sincere

## Adaptability

We have all experienced the frustration that comes with applying inflexible corporate policies. Messages are given more credence, if they are viewed as adapting to changing situations and contexts. That is, messages are perceived as**:**

- coming from someone who is aware of the impact of the messages
- being appropriate to the purpose of the communication
- coming from someone who is able to adapt their communication behavior to the situation at hand
- coming from someone who is able to adapt to the prescribed role in the situation
- coming from someone who express themselves in more than one way
- coming from someone who uses language appropriate to the receiver
- being responsive to others

## Committment to Others

Messages from ego- or company-centric individuals are given less credence than messages from people with our best interests at heart. That is, the most effective messages are perceived as coming from someone who demonstrates:

- concern that the interaction be mutually beneficial
- reliability and dependability
- support for others
- concern for the needs and wants of others

- adaptation to others
- respect and acceptance of others
- the ability to avoid immediate value judgments

## Listening Ability

The most effective communicator is one who knows how to receive, as well as give, information. That is, messages will be most effective when they are perceived as coming from someone who**:**

- is an effective listener
- is sensitive to verbal and nonverbal messages
- is interested in listening to what others have to say
- doesn't confuse the source with the message
- can say the right thing at the right time
- tolerates and adjusts to distractions

# Developing a Corporate Culture

The most important components of a desirable corporate culture are described below. When evaluating an existing corporate culture or establishing a new or different one, these elements should be taken as guidelines.

## Philosophy

There is a clearly worded and communicated overall philosophy. It should reflect the organization's vision for itself, its products, and its services. This vision is then transformed into a mission statement, which includes goals and objectives. Strong organizations are able to reach consensus regarding this philosophy.

## Acceptable Performance

The components of the organization's philosophy are understood and shared. This includes guidelines pertaining to what is and is not acceptable or appropriate for workers in the organization. Performance standards are a critical component since people see firsthand the ways in which quality and other related factors are achieved and maintained.

## Shared Rites and Rituals

Rituals reinforce an organization's values and standards. When employees attain these standards, they should receive appropriate recognition. Rituals and rites include factors such as promotions, transfers, training programs, achievements, and retirement.

## Special Feeling or Climate

A special feeling or climate exists. This sense is conveyed through communication networks and patterns, as well as physical layouts and arrangements. The physical arrangement of an open versus closed office enhances or inhibits interaction.

## Concern for People

Truly successful organizations display a genuine, heartfelt concern for employees. This may entail a simple "thank you" for a job well done, providing for a system of employee recognition, awards or added benefits.

## Open Communication

Communication is the most important component of an organization. All the other factors rely on communication for their success. In vibrant organizations, communication tends to be open, free, spontaneous, adequate, and feedback oriented.

# Improving Communication Flow

As we have noted in the background discussion, communication within an organization can occur in any of three directions: downward, upward, and horizontally. Here, we provide guidelines to improve communication in each of these directions. In addition, we've included guidelines that can be generally applied to communication within an organization.

## Downward Flow

The following elements must be present to ensure proper downward communication flow:

*Accuracy*

The messages transmitted must contain a high level of accuracy and fidelity regardless of whether the information being communicated is perceived as good or bad, favorable or unfavorable.

## *Specificity*

Again, clarity of message transmission is critical throughout the organization. There should be no ambiguity regarding the content or meaning of the message.

*Forcefulness*

The message must be stated in such a way as to demonstrate that management carries a firm conviction for any action(s) taken by the organization.

*Suitability*

The message must be suitable for the occasion and adapted to the intended audience. Subordinates should be able to easily understand and grasp the message quickly.

*Openness*

A sense of open and sincere written and oral communication should prevail. The recipients of the message should not have to read between the lines in order to understand its intended meaning.

*Proper Medium*

Managers must be careful to choose the most appropriate medium to transmit information downward through the organization. The easiest way to determine the proper medium is to put yourself in the place of those who will receive the message. Would you like to read a press release describing a new policy that will affect the way you work or would you like to be told about it in person?

## Upward Flow

The following elements will help to ensure proper upward communication flow:

*Team Meetings*

Meetings among team workers and supervisors should be conducted regularly and systematically. Such meetings allow employees and supervisors a forum for two-way communication.

*Operations Reviews*

These are similar to team meetings, except their purpose is to review a particular, often problematic, aspect of ongoing operations. Operations reviews should include problem assessment and identification of factors that serve to hinder efficient and effective operations.

*In-House Training*

Anyone who has taught understands that they often get as much information as they provide. In-house training is an excellent vehicle for obtaining and channeling information from lower to upper organizational levels.

*Ombudsperson*

A position is available within the organization that can serve as a facilitator of information transmission.

*Management Meetings*

Subordinates are included in management meetings when they can provide information that only someone of their expertise can present. This provides a sense of empowerment within the organization as they provide a valuable resource to management.

# Horizontal Flow

The following elements will help to ensure proper horizontal communication flow:

## Organizational Charts

Construct realistic and accurate organizational charts. To enhance communication flow, they should include both the formal and informal organizational structure.

## Job Descriptions

Individual job descriptions should be accurate. Each employee should know precisely what is expected of them in the performance of their job. This documentation should include the reporting structure as well as the vertical and horizontal channels of communication within the organization.

## Interdepartmental Projects

Organize and provide for interdepartmental projects and activities. Interdepartmental competition can be minimized while simultaneously enhancing and facilitating communication flow.

## Regular Meetings

Encourage regular meetings and communications. This will help reduce the informal grapevine that often is detrimental to the conduct of business. It will also increase employee loyalty to the organization.

## Models of Behavior

Provide consistent models of appropriate behavior. Employees pay much more attention to what managers do than to what they say. Good modeling by management, as demonstrated by what is said and what is actually done, enhances communication.

# General Communication Flow

The following guidelines can be used in a general sense to improve the overall communication flow within and among organizations:

## Continuous Improvement

A general way to improve communication is to always concentrate on doing so. Strive towards improving communication techniques. Plan meetings and organize thoughts in advance. Ensure accuracy in written and oral communication transmission and reception. Provide timely responses. Be precise.

## Tracking Messages

Make sure that messages are targeted to the correct person. Be certain that messages transmitted are, in fact, received. If they are not, identify why and implement corrective measures. In particular, copy written communication to the appropriate individuals.

### *Timely Responses*

Indicate the timeliness of expected responses to messages transmitted. Perhaps your priorities are not those of the other person's. Try to organize and word the message in such a way that reading and responding to it does not require an inordinate amount of time.

### *Communication Objectives*

Establish explicit communication objectives. What do you intend to accomplish? How do you intend to achieve this desired outcome? In what communication context is it most desirable to convey the information? In writing? In a one-on-one meeting? Or in a group or committee context?

### *Documentation*

Maintain accurate documentation. It is especially beneficial to maintain written minutes for all meetings and to have those minutes approved by those in attendance.

## Improving Meetings

Much organization communication occurs in meetings. While it is probably true that too many meetings take place, it is certainly the case that meetings can be an effective and efficient way of transmitting information. These guidelines can be used to improve communication potential of meetings.

## Preparation

Efficient meetings don't just happen, they are planned. The following steps form a checklist for good meeting planning:

### *Determine the Purpose of the Meeting*

- Is the meeting necessary?
- What are the goals and objectives of the meeting?

### Determine the Audience

- Who should attend?
- What should participants bring to the meeting?
- What is each person's range of contributions?
- Are there any hidden agendas?

### Make Initial Preparations

- Who is responsible for each portion of the meeting?
- Has everyone who should attend been contacted?

- Is there written verification of the meeting and its arrangements?
- Is there a written agenda? Has it been sent out to participants in a timely manner in advance of the meeting?
- Will breaks be necessary?
- Are there any special equipment needs? What about hand-outs?

## Prepare the Meeting Room

- Is the room of sufficient size for the meeting? It is comfortable and well ventilated?
- Are there any distractions in the room?
- Are there sufficient electrical outlets available for special equipment needs? Will a lectern be needed?
- Have all audiovisual aids been set up and pre-tested?
- Will there be a need to supply notepads, writing implements, refreshments, name cards/tags, etc.?

## Conducting the Meeting

Most meetings can benefit from having a facilitator. This individual can either be one of the regular meeting participants or a professional brought in specifically to conduct the meeting. If the facilitator is one of the regular meeting attendees, then it will normally be the person who called the meeting. The facilitator is responsible for the following activities:

### *Establish an Open and Comfortable Atmosphere*

- Arrive early and check arrangements.
- Greet participants as they arrive prior to the meeting.
- Make certain that everyone has been introduced to each other.

### *Direct the Flow of Communication*

- Start the meeting promptly.
- State the purpose and objectives of the meeting.
- Use the agenda as a means of guiding the direction of the meeting.
- Facilitate equitable participation among the attendees.
- Ask questions to keep the discussion focused.

### *Present Final Comments*

- Ask for consensus or call for a vote on issues when appropriate.
- Summarize discussions and decisions.
- Provide task assignments and appropriate follow-up.

### *Provide Follow-Up to the Meeting*

- Summarize agreements, assignments, and deadlines.
- Make sure that there are accurate written minutes that are distributed and approved by the participants.
- Anticipate and facilitate potential problem areas prior to the next meeting.

## Improving Language Usage

Our use of language is conditioned through years of exposure and practice. Language skills are acquired, as are other skills, by repetition. Unfortunately, we can acquire poor as well as good language usage habits. Improving our use of language is simply a matter of paying attention to what we are saying and writing, making sure to include the elements below in our language usage, and practicing the proper way of using language to communicate.

## Accuracy

Verify word definitions and meanings -- whether direct or implied. If there is some doubt as to the meaning of a word or phrase, then explicitly define it for your audience. For example, it is acceptable to include a sentence like "For our purposes, we will define 'acceptable performance' as**...** " in a written or verbal message. Even though individuals might normally interpret a word or phrase in a way that you don't intend, they are usually willing to accept your definition in a specific message.

## Clarity

Have you ever read or listened to a message and then wondered just what the person was trying to say? Unfortunately, such lack of clarity is all too common. Before composing a message, make a mental or written outline of the major points you are trying to get across. Don't use flowery or diffuse prose. Don't try to "weasel word" messages, e.g., "Under certain conditions, these actions might result in potential downstream effects." Rather, say what you mean, e.g., "If you do this, there's a good chance the system will fail in cold weather, so don't do it." This is not to say that you should be abrasive or impolitic. However, readers or listeners should not have to wonder what you are trying to say to them.

## Jargon

Avoid the overuse of technical terms, buzzwords, acronyms, or abbreviations. As in any work domain, certain aviation terms form a type of shorthand that can used in normal communication. For example, **AMT**'s commonly refer to horizontal and vertical stabilizers as "tail feathers." However, message originators should keep in mind that not everyone who receives their communication will have the same level of experience using specialized jargon.

Always keep your audience in mind. If you're writing a note to an experienced brake mechanic, then you can get away with using certain acronyms and technical terms. If you're speaking to an assembled group of technicians with various backgrounds, then you probably shouldn't use those terms.

## Cliches

Avoid clichés. They are very weak communication constructs. Limit commonly-overused phrases, words, or examples. Nobody wants to be told for the 110$^{th}$ time to go out and "give 110 percent." It is doubtful that employees need to be told they are "members of the (your company name here) family." They probably already have families. Dispense with the sports analogies. Your employees aren't playing football, baseball, or hockey - they're fixing airplanes. Avoid, at all costs, using those thoughtless, insincere phrases we all hear at the checkout counter, e.g., "Have a nice day."

## Slang

Certain words and terms are pejorative, i.e., they tend to arouse ill feelings. Other words act as emotional "hot buttons." When you are attempting to communicate with others, it is best to avoid slang or offensive terms. This recommendation is not aimed at maintaining political correctness. Rather, these terms can become obstacles to achieving communication goals. They also often result in misunderstandings.

## Abstraction

Be concrete. It is difficult for an audience to attach common meanings to abstract terms. Abstraction and ambiguity go hand in hand. For example, the term "personnel," though used frequently, has very little meaning. If you mean to refer to the **RF** Avionics Technicians, then do so.

## Ambiguity

Avoid ambiguity. Verify that your words have a specific meaning that is understood by your audience. If you mean to specify the left or right something, then, by all means do so explicitly. For example, instead of referring to a "tail control surface," specify the "upper vertical stabilizer trim tab." Ambiguity closely follows Murphy's Law. That is, if something *can* be misinterpreted, then it *will* be misinterpreted.

## Wordiness

Be concise. Present your message in a simple, focused manner. Avoid any unnecessary digressions or tangents. Remember this simple rule: The probability of a message being read (or heard) is inversely proportional to its length.

## Vividness

Not everyone can write prose worthy of a novelist. However, try to avoid the kind of droning, flat sameness that characterizes much business communication. Be descriptive. Use vivid language to represent what you are communicating. The following sentence illustrates this technique: "Communication and human factors are the twin engines that drive the aviation industry."

## Credibility

The language you use will contribute towards (or detract from) your perceived believability and competence. Using language in a formal communication that you do not use in day to day conversation will sound stilted and unnatural. Pretending to be "one of the guys" through the use of language (when your audience knows full well that you are not one of the guys) will be perceived as insincere and condescending.

# Developing Work Teams

It is a common experience in life that we tend to communicate better with people we know and understand than with strangers. We can exploit this phenomenon by building cohesive teams in the work environment. By getting to know other team members, we will share a common vocabulary and will be able to anticipate the actions of others. There are a number of steps that should be undertaken to build an effective work team. These are described below.

## Knowledge of Team Members

It takes time for a group of people to become a team. One of the prerequisites for effective teaming is that the team members must get to know one another. This will happen naturally over time, but the process can be expedited by addressing the following questions as soon as possible:

- Who are the team members?
- What is the composition of the team, i.e., age, gender, socioeconomic status, etc.?
- What experiences do these people bring with them to the team?
- What attributes does each individual have to offer the team?

## Connections Among Members

Individuals who are placed together in a team don't automatically bind to one another. There are several actions that can connect team members.

- Identify areas of common ground or past experiences.
- Indicate what members can do in order to achieve a pleasant working relationship with the

other team members.

- Identify ways in which team members can support each other.

## Team Vision

It is reasonable to expect the goals and objectives of individual team members to be different, at least initially. Forming a cohesive team requires, among other things, a common vision of the team's goals and objectives.

- What are the team's goals and objectives?
- What are the desirable outcomes from working together as a team?
- How does all of this relate to the team decision making process?

## Group Character

All working groups exhibit some type of character. In some cases, this group character is aimed at outside observers, much as professional sports teams promote a certain identifying persona. Work teams need to develop a specific, identifying character. This helps team members understand which types of behaviors will be expected of them.

- What norms and expectations will foster a strong, positive climate?
- How can the positive attributes of the team and its members be reinforced?
- How can the team and its members be made to feel special and unique?
- What are the team's code of ethics and standards?

## Positive Work Experience

Work should be a generally positive experience. Specific organizational strategies, whether team- or individual-based, will only be effective if the participants regard their work as a positive influence in their lives. The feeling of having a positive work experience is especially important in team-based work environments. Addressing the following issues can help foster a positive work environment:

- What can members do to maximize their diversity?
- How can team members identify shared values and orientations?
- How can the team develop strategies for managing conflict?
- In what ways can each team member share in leadership?

## Team Development

Workers understand that teams are not developed overnight. Like most worthwhile human endeavors, effective team building takes time and work. As with other types of activities, feedback regarding the current state of affairs is helpful to those trying to achieve an objective.

As the team develops, its members need to be informed of its progress.

- How can the phases of development be identified?
- How will the team react to a lack of progress?
- How will the team deal constructively when crises and conflicts occur?

## Task Processes

- Find ways of maintaining open, clear, and supportive communication.
- Develop strong analytical team processes.

## Self-Assessment and Improvement

- How will feedback be incorporated into the team process?
- How will the team obtain feedback from both team members and non-members?

## Celebrating Accomplishments

- How will the team accomplish its vision?
- How will the team accomplish its goals and objectives?
- What can the team do to recognize and reinforce its achievements?

# Resolving Conflicts

Earlier in this chapter, we pointed out that conflict can be a constructive force for opening communication lines and clarifying policies. However, to remain constructive conflict must eventually be resolved. Long-standing conflicts tend to diffuse ill feelings, call it the "Hatfields and McCoys" syndrome. In this section, we describe a number of strategies for resolving conflicts without the rancor that might otherwise be produced.

## Identify Problems and Intentions

Stop and think before you speak. Consider your goals and objectives; what you wish to accomplish. Once these items are clarified, you should be better prepared to state your comments in a more positive and constructive manner.

## Describe the Problem and State Your Desires

If you disagree with someone, they cannot work through the conflict unless you communicate your concerns to them. It is your responsibility to describe the situation as concretely as possible. In doing so, the other person has the opportunity to understand your position.

## Express Disagreement Tactfully

Avoid creating defensive reactions in others. Try to depersonalize the conflict so it is not viewed as a direct personal affront. Stick to the facts without criticizing others.

## Listen Actively

Attend to the feelings and emotional tone of the message, as well as the content of what others are saying. Provide encouragement and support. Realize that understanding the needs and desires of others is necessary to the reduction of conflict.

## Persuade Others of the Value of Conflict

If a person views conflict as something to be avoided, they may respond defensively. They need to understand that avoiding conflict may be a short-term solution that only delays the inevitable.

## Develop Intragroup Trust

Conflict is not a win/lose proposition. Nor is it a place for personal vendettas. Instead, conflict involves cooperative problem solving. Our ability to constructively resolve a conflict is dependent on the degree of trust established among the parties.

## Do Not Take Disagreement as Personal Rejection

Instead, focus on the content of the discussion, rather than the personal relationship itself. Respect each person's right to disagree. Do not allow egos to interfere with achieving the group's goals and objectives. Remember, you're a big kid, you can ignore personal comments from others and move the discussion to a more objective level.

## Be Cooperative if Your Plan is Rejected

Being cooperative is essential to resolving conflicts. In essence, the good of the collective whole will then outweigh individual gain and become the top priority for everyone.

## Clarify the Issues

In doing so, individuals will be able to identify, define, and sharpen the issues. Once this task is accomplished, there will be a clear and accurate picture of the areas of conflict and the consequences of the conflict. This requires flexibility and creativity.

## Allow the Other Person to Save Face

When people engage in face-saving communication, they are able to protect their image and personal identity. During times of conflict, people are exposing their opinions and attitudes. This makes them feel vulnerable to personal criticism and the loss of esteem from others. In short, conflict can threaten one's identity.

# WHERE TO GET HELP

There are several sources of help for communication-oriented issues or problems. The following organizations can provide information, references, referrals, and other forms of assistance.

Publishes written materials and guidelines for conflict management:

**Alexander Hamilton Institute**
**197 West Spring Valley Avenue**
**Maywood, NJ 07607**
**Phone: (800) 879-2441**


Provides assistance with dispute resolution:

**American Arbitration Association**

**140 West 51$^{st}$ Street**
**New York, NY 10020-1203**
**Phone: (212) 484-4000**


National professional management association that publishes scholarly journals and assists with organizational audits:

**American Management Association**

**135 West 50$^{th}$ Street**
**New York, NY 10020**


National psychological professional association that publishes scholarly periodicals pertaining to a wide range and variety of topics:

**American Psychological Association**

**750 1$^{st}$ Street, NE**
**Washington, DC 20001**
**Phone: (202) 336-5500**


Provides written materials and advice regarding business communication:

**Bureau of National Affairs Communications**
**9439 Key West Avenue**
**Rockville, MD 20850**

**Phone: (800) 233-6067**

Facilitates legal advice pertaining to organizational issues:

**Bureau of Law & Businesses, Inc.**
**39 Academy Street**
**Madison, CT 06443**
**Phone: (203) 245-7448**

A clearinghouse of advisory materials pertaining to conflict resolution:

**Center for Working Life**
**600 Grand Avenue, Suite 305**
**Oakland, CA 94610**
**Phone: (510) 893-7343**

A repository of business related references:

**Commerce Clearing House**
**4025 West Peterson Avenue**
**Chicago, IL 60646**
**Phone: (312) 583-8500**

Deals with worker prerogatives in the workplace:

**Communications Workers of America**
**501 3rd Street**
**Washington, DC 20001**
**Phone: (202) 434-1110**

Professional association blends research by academicians and practitioners in the area of conflict management:

**International Association for Conflict Management**
**Center for Urban and Regional Affairs**
**University of Minnesota**
**248 Hubert H. Humphrey Conflict and Change Center**
**301 19th Avenue South**
**Minneapolis, MN 55455**

**Phone: (612) 625-3046 or (612) 625-0362**

International organization for scholarly research in communication emphasizing empirical studies

**International Communication Association**
**PO Box 9589**
**Austin, TX 78766**
**Phone: (512) 454-8299**

Provides support materials and advice pertaining to organizational issues:

**Organizational Development Institute**
**781 Beta Drive, Suite K**
**Cleveland, OH 44143**
**Phone: (216)-461-4333**
**Fax: (216) 729-9319**

Addresses conflict management issues:

**Pacific Resource Development Group**
**145 NW 85th Street, Suite 104**
**Seattle, WA 98117**
**Phone: (800) 767-3062**

Provides materials regarding personnel issues in the workplace:

**Society for Human Resource Management**
**606 North Washington Street**
**Alexandria, VA 22314**
**Phone: (703) 548-3440**

National professional communication that publishes scholarly journals regarding communication related concerns:

**Speech Communication Association**
**5105   Backlick Road, Building #F**
**Annandale, VA 22003**
**Phone: (703) 750-0533**

**Fax: (703) 914-9471**

# FURTHER READING

The documents listed below contain information pertaining to communication. They may or may not have been specifically referred to in the chapter.

Bormann, E.G. (1990). Small Group Communication: Theory and Practice ($3^{rd}$ edition). NY: Harper & Row.

Daniels, T.D. and Spiker, B.K. (1994). *Perspectives on Organizational Communication ($3^{rd}$ edition)*. Dubuque, IA: William C. Brown.

Goodman, M.B. (1994). *Corporate Communication: Theory and Practice.* Albany, NY: State University of New York Press.

Goss, B. (1995). *The Psychology of Human Communication ($2^{nd}$ edition)*. Prospect Heights, IL: Waveland Press.

Harper, L.F. and Rifkind, L.J. (1995). *Cultural Collision: Quality Teamwork in the Diverse Workplace*. Dubuque, IA: Kendall-Hunt.

Hellriegel, D. and Slocum, J.W., Jr. (1992). *Management ($6^{th}$ edition)*. Reading, MA: Addison-Wesley.

Himstreet, W.C. and Baty, W.M. (1987). Business Communications: Principles and Methods ($8^{th}$ edition). Boston, MA: Kent.

Knapp, M.L. and Vangelisti, A.L. (1992). *Interpersonal Communication and Human Relationships ($2^{nd}$ edition)*. Boston, MA: Allyn and Bacon.

Lumsden, G. and Lumsden, D. (1993). *Communicating in Groups and Teams: Sharing Leadership*. Belmont, CA: Wadsworth.

Leher, W.W. and Waite, D.H. (1993). *The Business and Professional Communicator.* Boston, MA: Allyn and Bacon.

Rasberry, R.W. and Lindsay, L.L. (1994). *Effective Managerial Communication.* Belmont, CA: Wadsworth.

Rifkind, L.J. and Harper, L.F. (1993). *Sexual Harassment: Women and Men in Labor*. Dubuque, IA: Kendall-Hunt.

Rothwell, J.D. (1995). In Mixed Company: Small Group Communication ($2^{nd}$ edition). NY: Harcourt Brace.

White, D.D. and Bednar, D.A. (1991). *Organizational Behavior ($2^{nd}$ edition)*. Boston, MA: Allyn and Bacon.

# EXAMPLE SCENARIOS

The scenarios presented below represent some of the typical kinds of communication-oriented situations that one can expect to encounter in the workplace. The purpose of including these scenarios in the *Guide* is to demonstrate how the authors foresee the document being used. For each scenario, we describe how the issues raised in the scenario can be resolved. There is usually more than one way to approach these issues, so the responses given below represent only one path that users of the *Guide* might take.

As a general rule, always start to look for information by using the Search function. There will be instances that you already know where required information is located. However, unless you frequently use specific sections of the *Guide*, you might miss information pertaining to the same issue located in more than one chapter. The Search will allow you to quickly search all chapters simultaneously.

## Scenario 1 - When I want your opinion, I'll tell you what it is.

You've heard that some of the technicians and inspectors in your group have been complaining about the work policies recently established by the Maintenance Manager. When you were told what the new policies were going to be, you posted them for your people. You have a safety meeting at least once a week and you always invite comments at the end of the meeting. Your general feeling is that if these people don't care enough to raise an issue at the safety meetings, then it couldn't be that important to them.

### Issues

1.  Is posting new policies a reasonable way to establish them with the technicians and inspectors? If not, is there a better method?

2.  Should you be surprised that people who don't like these policies are reluctant to bring up their objections in the safety meetings?

3.  What are some of the appropriate methods for soliciting feedback from your employees?

### Responses

The discussion of Issues and Problems includes the topic of **formal communication flow** within an organization. We include in that topic the idea of **downward communication**, including explanations for company policies. In the GUIDELINES section, the issue of **improving downward communication flow** is addressed. Several elements in that discussion, especially the selection of proper media, indicate that a posted written notice, by itself, is not an appropriate method of notifying workers of major policy changes.

1.  The same sections listed for **Issue 1** also address the problems associated with upward communication flow, such as feedback on company policies. In the **Methods** section, the topics of **management meetings** and **feedback** are specifically addressed. The discussion of management meetings, of which the safety meetings in this scenario are an example, makes the

point that people can feel coerced into remaining silent in the presence of managers. It should come as no surprise that this manager hears little or no criticism of the new work policies in public meetings.

2.   The discussion of **Feedback** provides at least three methods for soliciting feedback, i.e., active solicitation, anonymous contribution, and using an ombudsperson. We don't have enough information at this point to determine which, if any, of these methods might work best in this managers organization. We would need to find out more about the culture of the company, the management-worker environment, etc., to select the most appropriate feedback method(s). What we <u>can</u> say at this point is that the present method of selecting feedback is not working very well and that at least one of the methods described in the *Guide* would probably be more effective.

## Scenario 2 - It's a pickup team - you know, like at the gym.

You were reading a really neat article about teamwork and how products produced by teams seem to have fewer quality problems. You like the idea of breaking your technicians into teams, but you don't want people to get tired of working with the same individuals all the time. You think a good solution would be to draw the names of potential team members each week so each person will, over time, have the opportunity to work with many different people. You reason that this is pretty similar to the way most airlines put together crews for each flight.

### Issues

1.   What type of team is this manager thinking of forming?

2.   What are some of the important characteristics of teams? Which of these characteristics does this plan embody?

3.   Is this manager's plan for composing new teams each week likely to result in good team performance? Why or why not?

4.   What can we say about this manager's comparison of his teaming concept with the way flight crews are put together?

### Responses

1.   The discussion of **Teams and Teamwork** lists and briefly describes the most important elements of teams. However, the specific issue here is to determine the type of team the manager in this scenario is thinking about. In the METHODS section of the *Guide*, there is a much more detailed discussion of **teams**. In that discussion, we describe three types of teams, work teams, quality action teams, and continuous Improvement teams. The manager in this scenario is clearly thinking of establishing work teams.

2.   Some of the important elements of teams are listed in the **Teams and Teamwork** discussion. A more detailed discussion of **teams** is provided in the GUIDELINES section. This manager's plan for forming teams contains several useful elements, such as including a diverse group of

people on the team and sharing work responsibilities among all team members.

3.   Unfortunately, this manager's teaming plan is seriously flawed. Examining the *Guide* sections listed above, we can see that many of the most important team performance attributes will be missing. For example, each week the composition of the teams change. This will not allow a given "team" to build an identity, establish strong connections among members, or define a group character. There will be no opportunity to define a team vision, nor will there be any way for team members to define and evaluate its task processes. In fact, what this manager will do is simply put together different groups of individual workers each week, rather than forming real teams.

4.   The *Guide* doesn't address the issue of flight crews, at least not in the context of team development. However, it should be obvious to aviation maintenance workers that the context of operation for flight crews is considerably different than that for maintenance crews. The roles of individual flight crew members are extremely well-defined, the lines of command are generally well-known, the duration of their tasks is relatively short, and, at least in the case of flight deck crews, their tasks are strictly proceduralized. In addition, flight crews are trained to accept criticism, share responsibilities, and do whatever is required to maintain order and safety. In this context, ad hoc flight crews can be expected to perform their jobs well. It is not clear at all that the process used to form maintenance teams should emulate the process used to assemble flight crews.

## Scenario 3 - It always works in the movies.

You manage the avionics shop for your company and things are getting pretty dicey among some of the technicians. The basic disagreement appears to center around the process being used to assign work priorities to the modules that come into the shop. The technicians seem to be splitting into one of two camps, each of which favors a different way of doing things. There have actually been yelling matches in the shop between some of the **AMT**'s. Someone suggested that you try to get the two factions together for a softball game to relieve some of the tension. You're beginning to think a good John-Wayne-style duke out would work just as well.

### Issues

1.   Is this type of disagreement an entirely negative event? Are there any good elements that might emerge?

2.   Does the idea of holding a sporting event to relieve tension have any merit?

3.   Are there other methods that might work to resolve this disagreement?

### Responses

The discussion of **Conflict Resolution** identifies two major findings from past research. First, conflict is a common occurrence in all types of occupational settings. It should not come as

a surprise to managers that conflicts occur in aviation maintenance shops. Second, conflict can have both positive and negative consequences. One **discussion** states that properly managed conflict can help workers identify and understand problems, provide more alternatives, and increase their interaction. The key here is that conflict must be properly managed.

The conflict resolution discussion noted above lists various common causes for conflict, such as poor organizational structure, unclear job roles, etc. We don't explicitly say so in that discussion, but it should be clear that to resolve conflict, the cause of the conflict must be identified and either removed or modified. Participating in a sporting event can be a great tension reliever. However, it's not likely to do anything to eliminate the underlying cause of the conflict. If your job role was unclear before the ball game, then it will probably still be unclear after the game. An exception is when conflict is caused by simple boredom or by fatigue brought on by working a lot of overtime. In such cases, a good ball game can recalibrate everyone.

1.  There are a number of formal methods to resolve conflicts. These include counseling, grievance procedures, meetings (gripe sessions), etc. The *Guide* doesn't address these methods in any detail. However, the **GUIDELINES** section includes a series of **conflict resolution recommendations** that can be used on a more informal basis. These suggestions rely on our ability to communicate, mediate, and negotiate well enough so that conflicts can be resolved before they require more formal processes or become intractable.

## Scenario 4 - This meeting is a great cure for insomnia.

You encourage your supervisors to conduct bi-weekly meetings to discuss relevant issues with their workers. The meeting topics have included new company policies, turnaround performance statistics, accident investigation reports, new equipment, etc. Unfortunately, some of your supervisors don't really seem to have a knack for conducting meetings. Sometimes the meetings seem to be totally disorganized. Other meetings drone on forever without getting to a point. You're in a quandary as to how to deal with those supervisors who can't get it right.

### Issues

1.  Is the ability to conduct "good" meetings something a person is born with or can this ability be learned?

2.  What are the general steps that should be taken to properly prepare for a meeting?

3.  Are there common skills related to conducting meetings that supervisors should learn? What are they?

### Responses

The *Guide* deals with meetings in at least two sections. In the METHODS section, we describe various types of **meetings** common to aviation maintenance workplaces. In the GUIDELINES section, we provide a number of suggestions for **improving meeting**

**effectiveness**. Both of these *Guide* sections stress that the key to effective meetings is proper planning. While we don't explicitly say so, planning is obviously a skill that can be learned. Therefore, the ability to conduct "good" meetings is learned, not intuitive.

1. The **Improving Meetings** subsection contains a subsection pertaining to **meeting preparations**. The activities that should precede meetings include both obvious (notify everybody who is supposed to be at the meeting) and subtle (determine whether the meeting room has any major distractions) tasks. The subsection on meeting preparations can be used almost verbatim as a checklist.

2. The same subsection of the *Guide* contains **recommendations for meeting facilitators**. These are tasks that anyone conducting a meeting should try to master. In addition to these suggestions, a more general meeting skill is to become a more effective communicator (see the **next scenario**). While becoming a great natural orator is not feasible for most of us, we can all become better communicators by being aware of our shortcomings and concentrating on practicing those skills listed in **Table 13-1**.

## Scenario 5 - Well, I, uh, you know, think, uh, you know....

As a manager, you've come to believe that the ability to effectively communicate might be the single most important element in any manager's success (or lack of it). You'd like to objectively measure and improve the communication ability of your supervisors. You'd also like to evaluate the communication ability of the people you're thinking of promoting. You don't really know how to do these evaluations or if there are any formal criteria for doing them.

### Issues

1. Are there any criteria this manager can use to evaluate the communication skills of his supervisors?

2. Is there any way the manager can use the opinions of each supervisor's technicians and inspectors regarding the supervisor's ability to effectively communicate?

3. If this manager wants to develop a written feedback survey related to effective communication skills, what sorts of items should he or she include on the survey?

### Responses

1. **Table 13-1** and its **accompanying discussion** contain a series of elements related to effective communicators. Table 13-1 is meant to assess an individual's communication skills. Although this table is designed to be a self-evaluation form, it can easily be adapted to evaluate other people. In addition, the GUIDELINES section contains a subsection, **Evaluating Effective Communicators**, that lists a number of necessary and desirable attributes of effective communicators. The manager in this scenario could extract a number of evaluation items from these sources.

2.  As we noted in the **BACKGROUND** section, communication is a process that involves both the sender and the receiver of a message. A key element of being an effective communicator is that your audience <u>perceives</u> you as being effective. For this reason, surveying technicians and inspectors regarding a supervisor's communication skills is a very reasonable thing to do. While we don't address this issue directly in the *Guide*, it might be very interesting to ask supervisors to complete the self-evaluation form in **Table 13-1** and then ask the workers who report to each supervisor to fill out the same form regarding their supervisors' communication skills. Comparing the two sets of responses might provide insight into any perception problems that exist.

3.  The two sources noted in the previous response will also serve as a good starting point for developing a written survey. Also, the **Feedback** subsection includes a brief discussion of **actively soliciting feedback from workers**. This activity often includes written surveys.

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