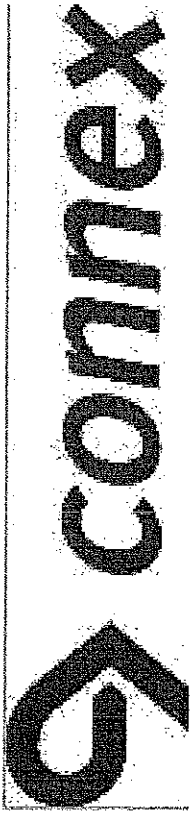


EXHIBIT 3-HH

Docket No. DCA-08-MR009

**NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594**

**Connex Training Modules on Crew-Resource
Management**

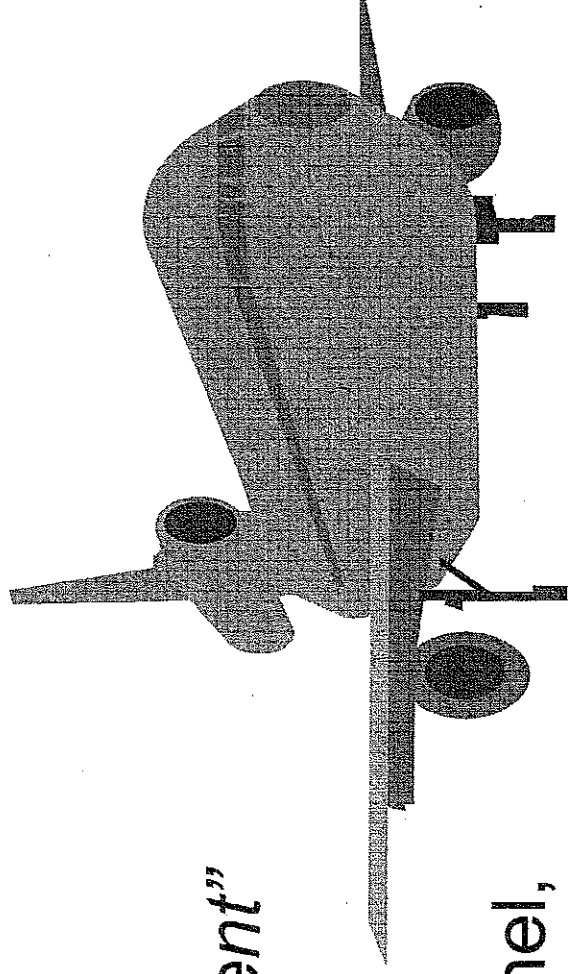


Crew Resource Management

*CRM can enhance safety and job
performance*

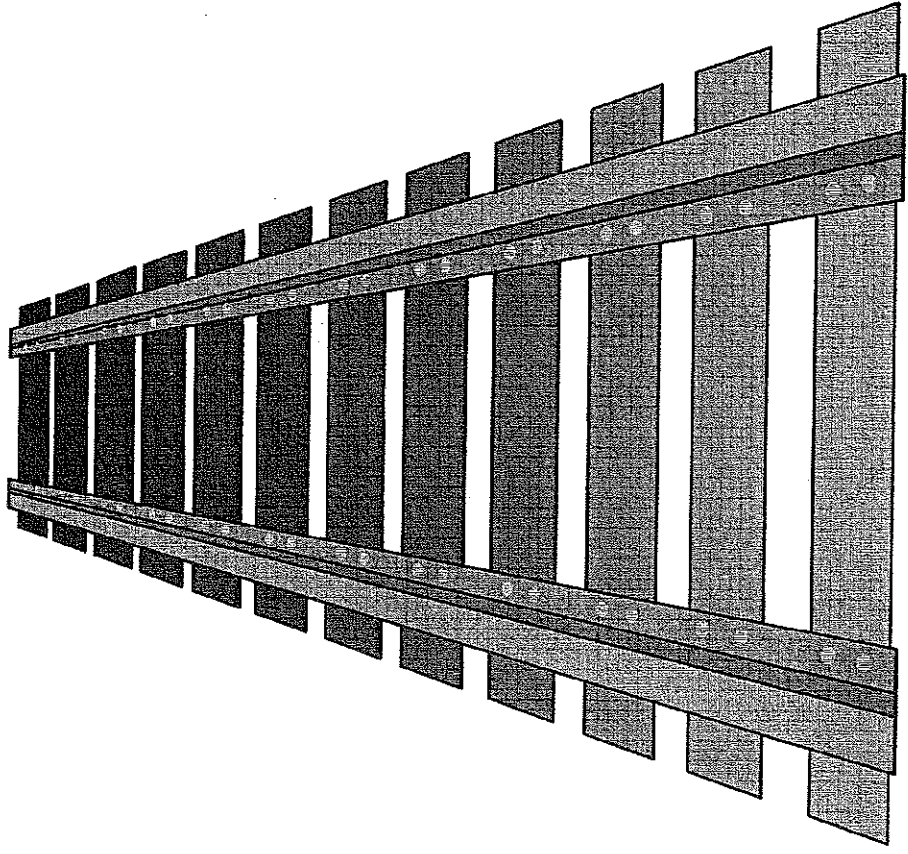
Brief History of CRM

- Started 1970's in response to aviation accidents
- Known as "Cockpit *Resource Management*"
- Expanded to include flight attendants, maintenance personnel, and others



Railroad Adaptation:

- **Crew Resource Management**
 - Timely Risk Recognition by ALL Crew Members
 - Effective Error Management By Working Together
 - Enhanced Job Performance & Safe Train Operation



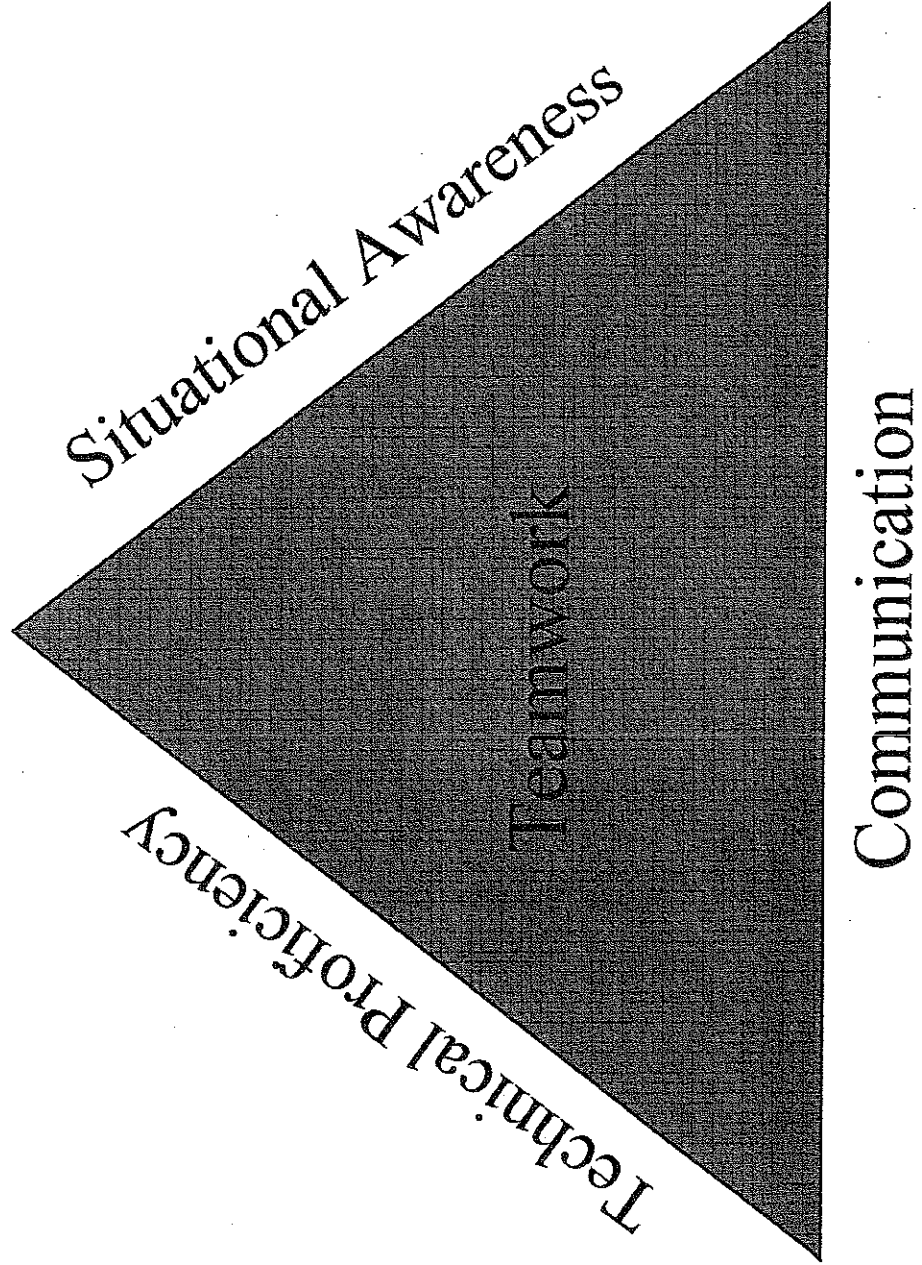
Crew Resource Management

- “Methodology that addresses the human element of people working together in safety sensitive conditions with sophisticated technology.”
- Effective use of all resources to achieve safe and efficient train operations.

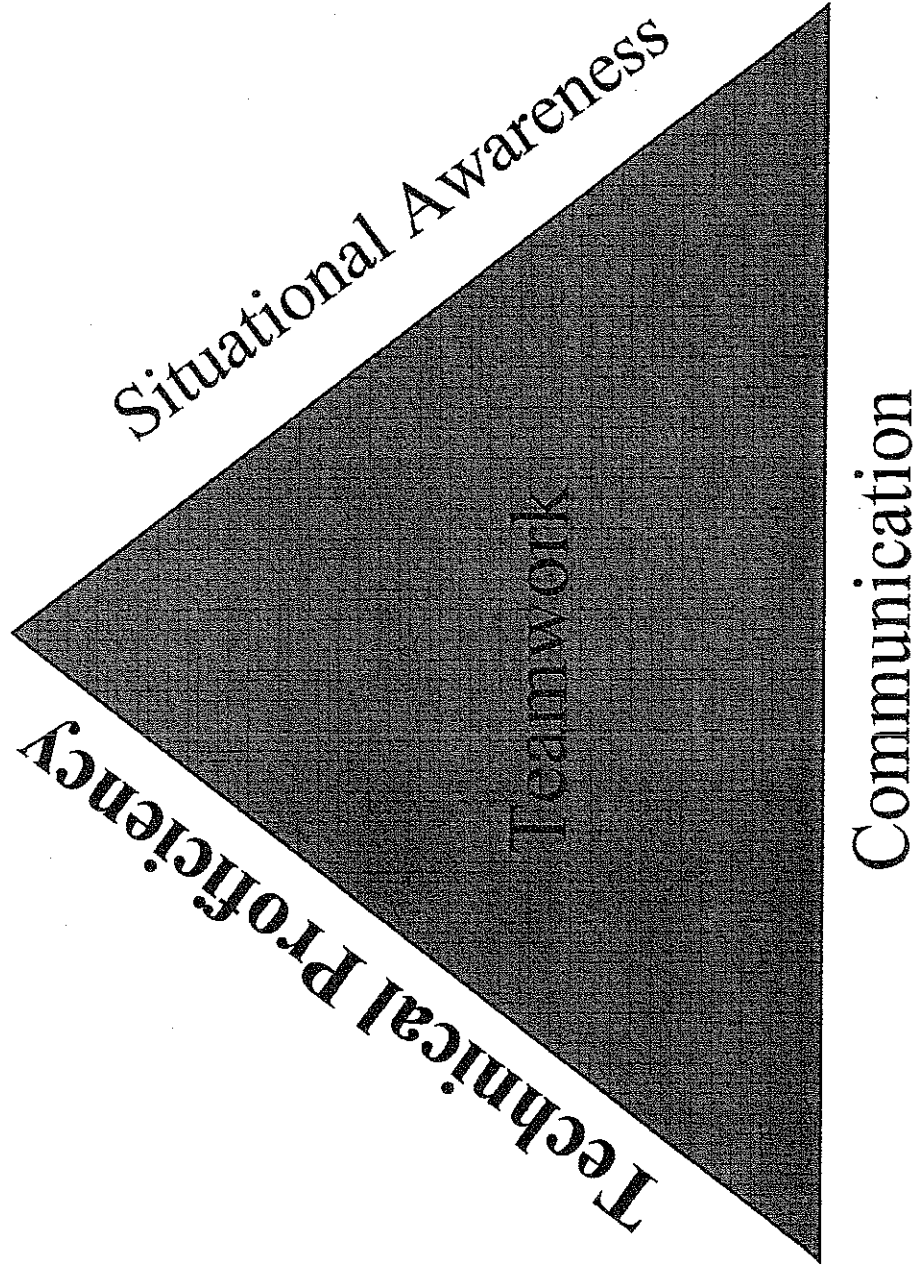
CRM Can:

- **Provide strategies for challenging unsafe practices**
- **Recognize loss of situational awareness, and what measures need to be taken**
- **Reinforce the belief that each crewmember is a valuable resource**

CRM Elements

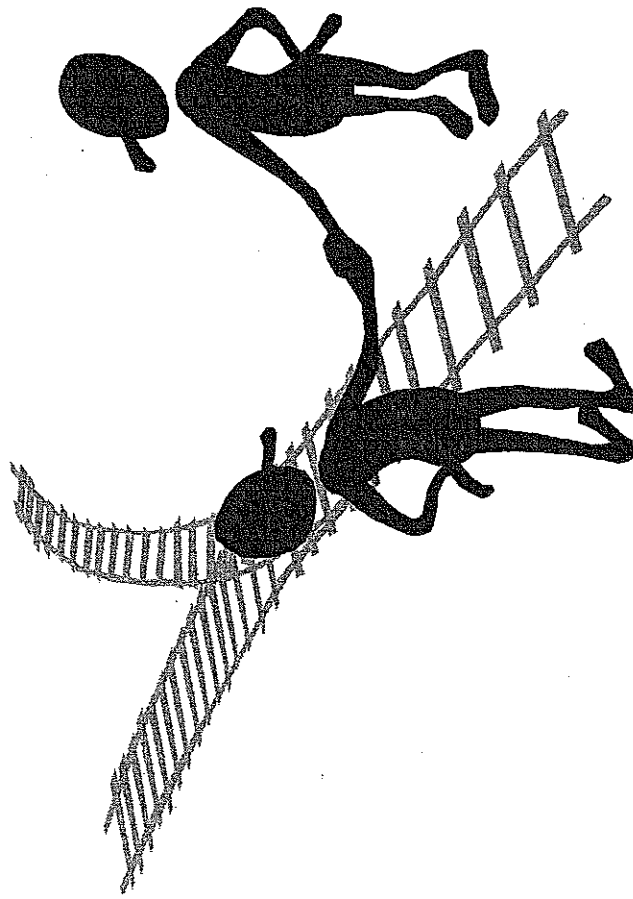


CRM Elements

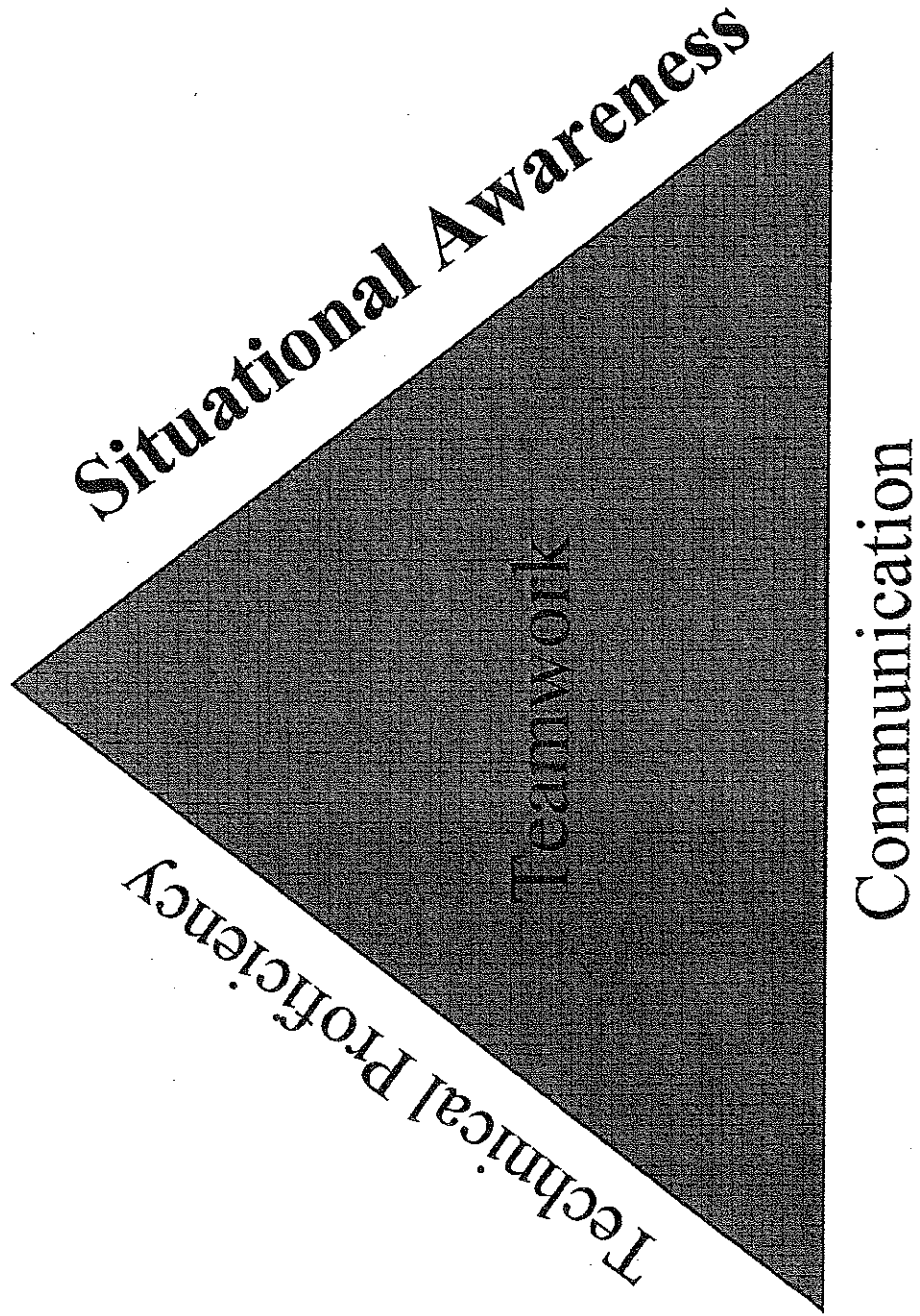


Crew Proficiency

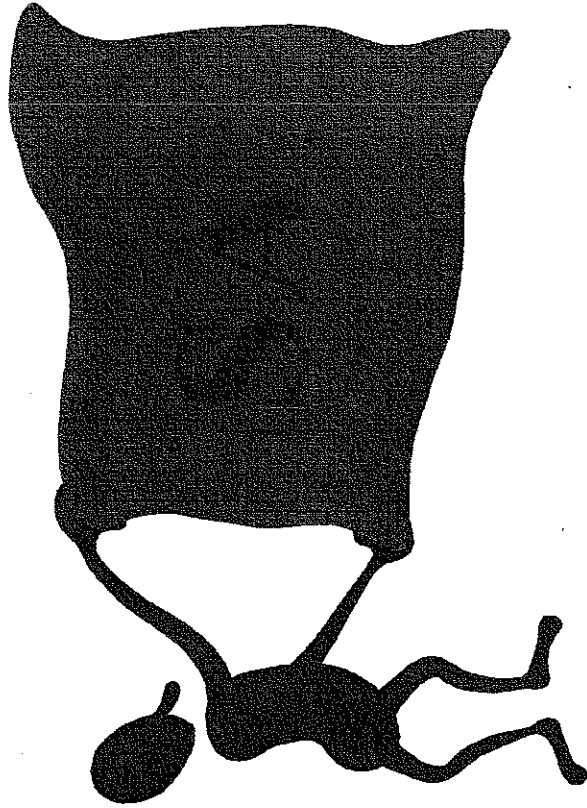
- **System Knowledge** - knowledge of equipment
- **Procedural Knowledge** - adherence to procedures that govern movements of train
- Execution of both.



CRM Elements



Situational Awareness RED FLAGS

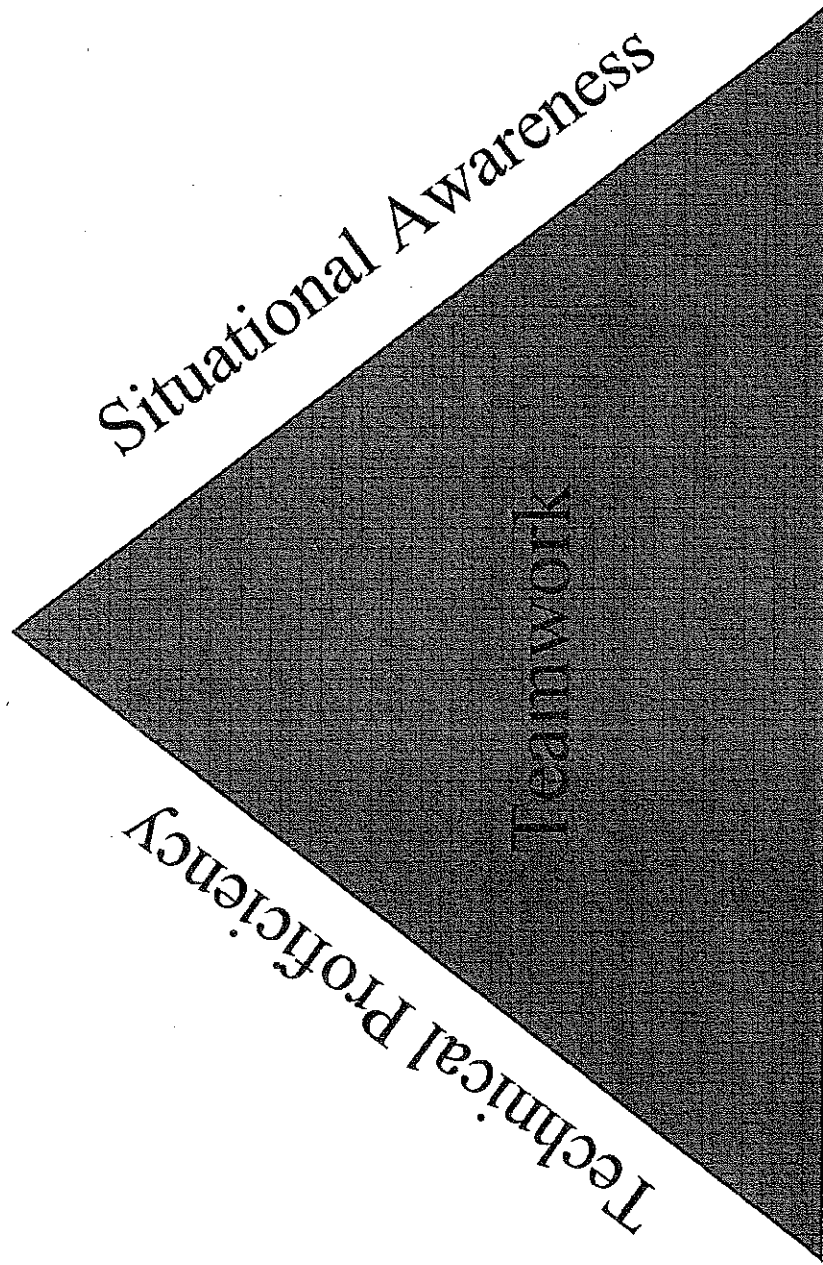


- Fixation on Problem
- Complacency or Fatigue
- Distraction
- Unresolved Discrepancy
- Information Overload
- “No One Running the Train”

MAINTAIN Situational Awareness

- **Planning, Preparation, and Vigilance**
- **Avoid Distractions**
- **Distribution of Workload**
- **Prioritize Decision Making**
- **Recognize a Deteriorating Situation**

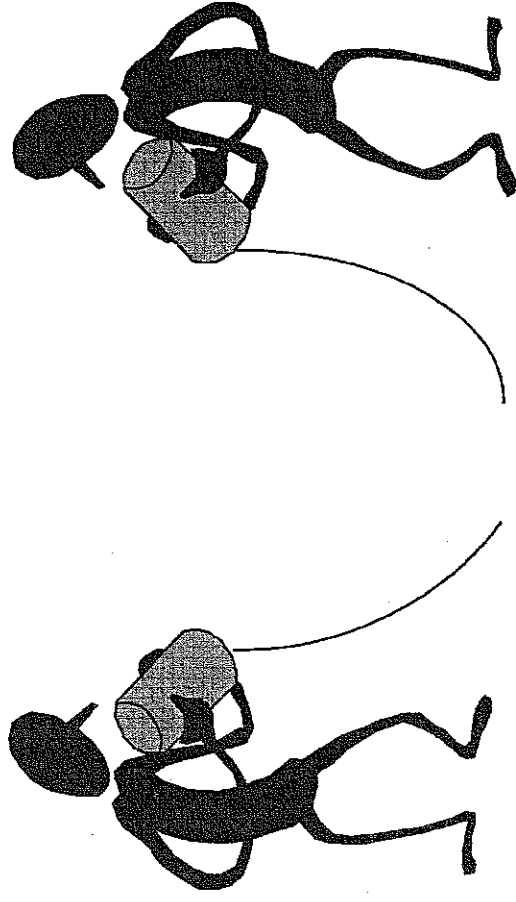
CRM Elements



Studies Show Communication

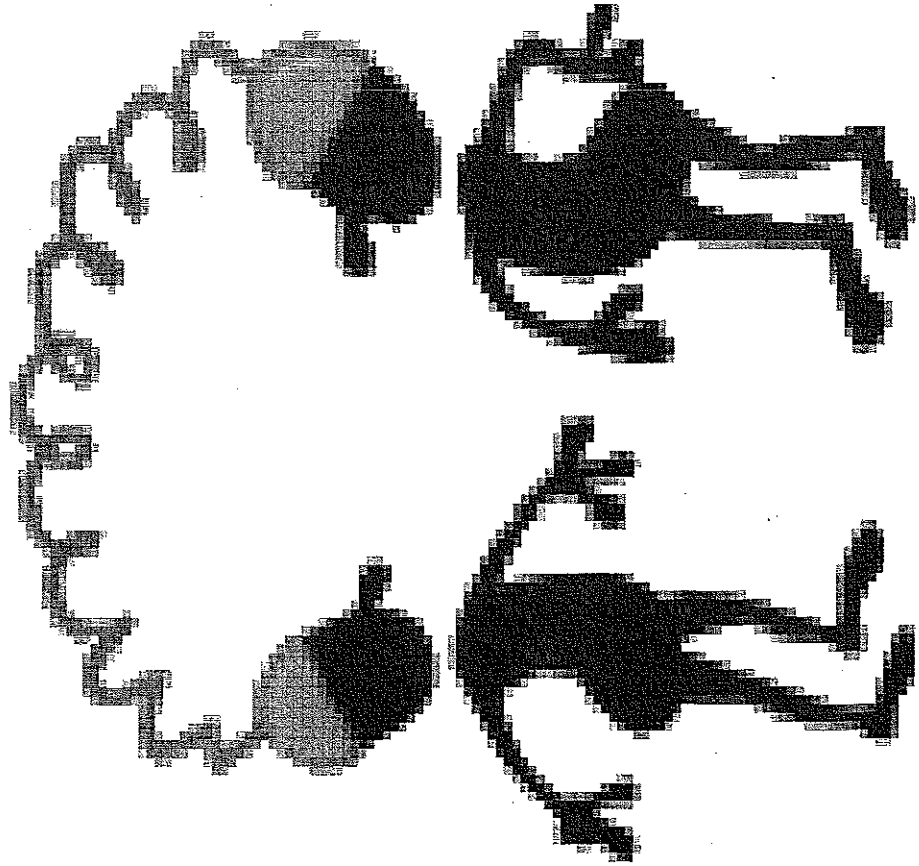
is :

- Tone & Body Language:
 - 56% Body Language
 - 37% Tonality
 - 7% Verbal
- Top 500 words in the English language have over 14,000 different meanings

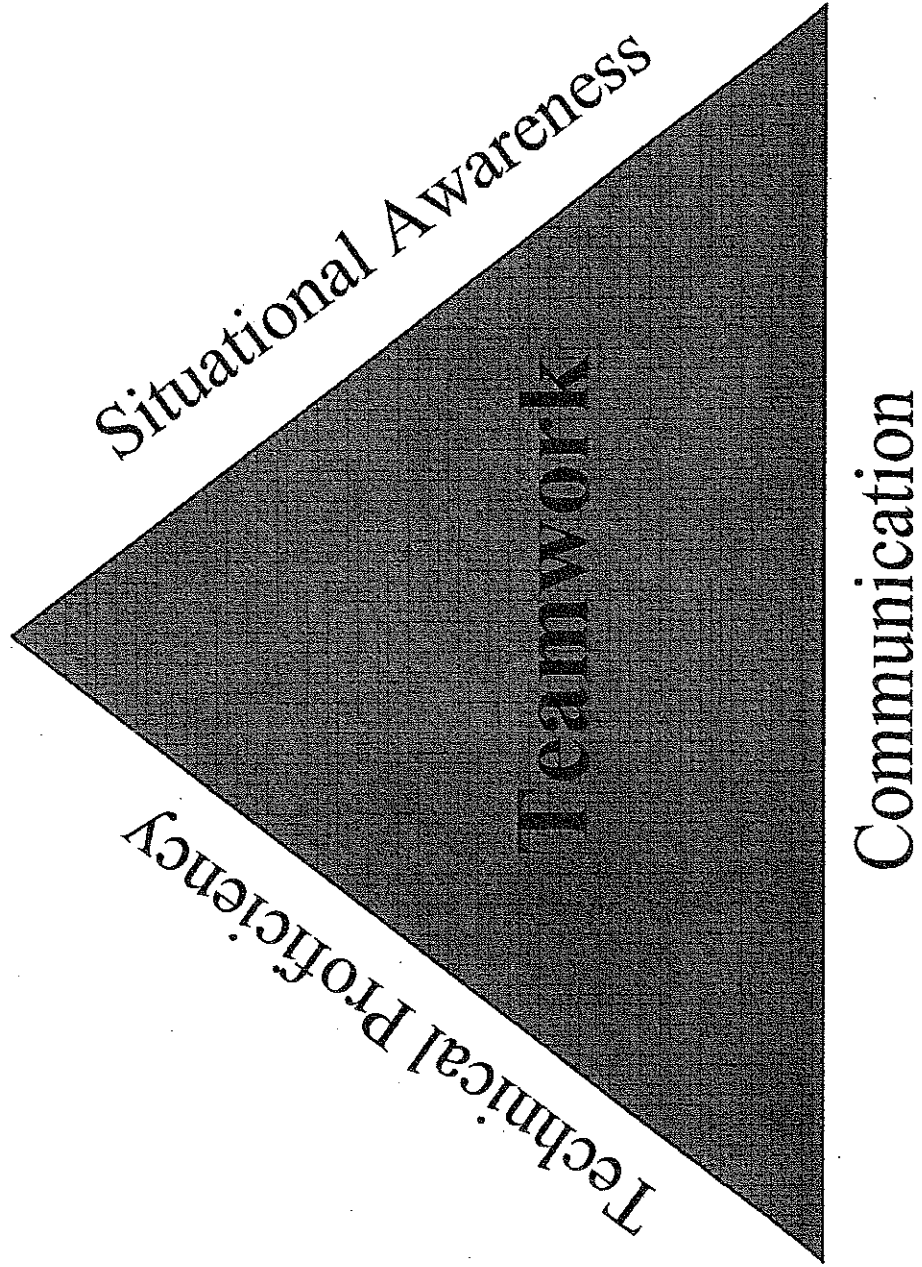


Communication

- Flow of information between all crew members
- Ability to interpret body language, tonality and verbal cues
- Effective use of assertiveness in decision making/problem solving



CRM Elements



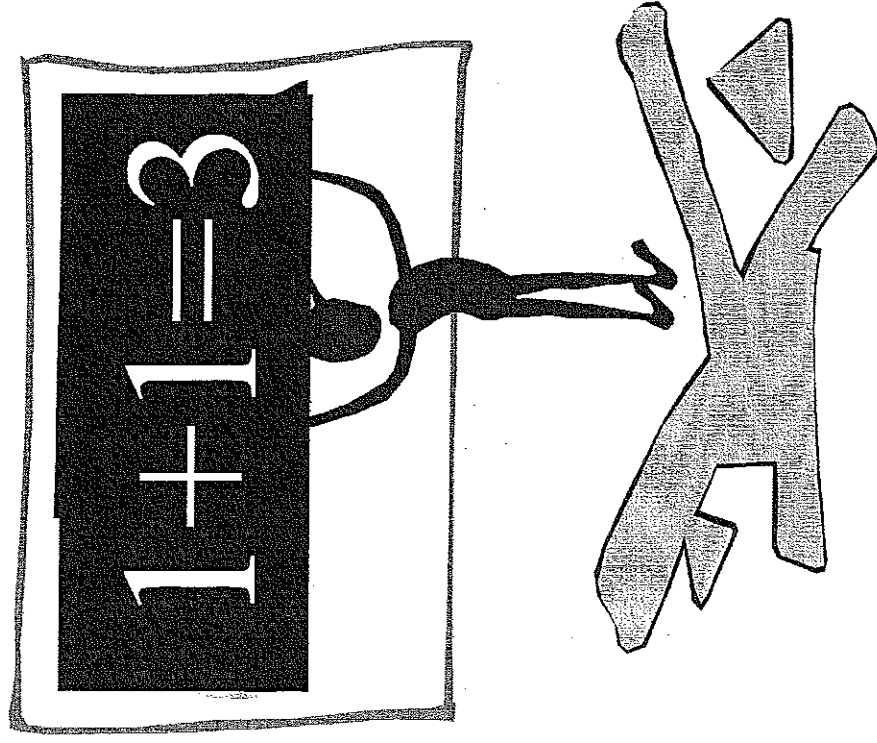
TEAMWORK:

A CREW THAT ...

- **Is Technically Proficient**
- **Maintains Situational Awareness**
- **Communicates with One Another**

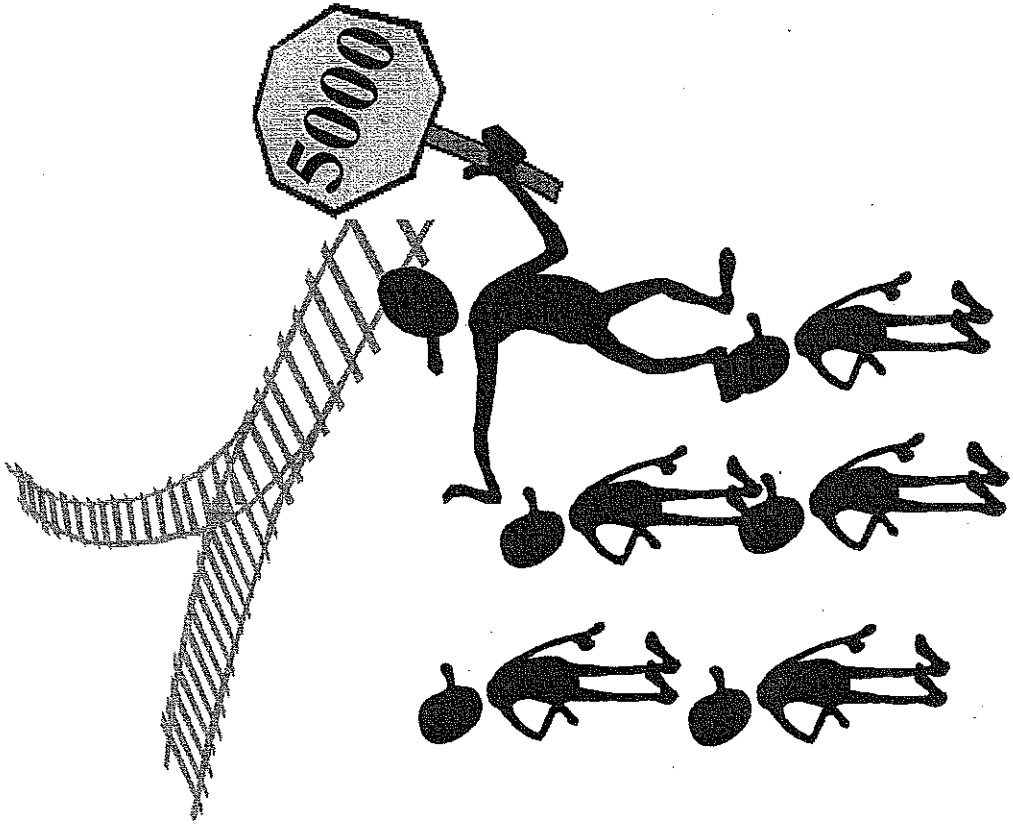
Synergy

- The old saying “Two heads are better than One” holds true here!
- “The whole is greater than the sum of the parts”



JOB BRIEFINGS -

Promote Teamwork



- Prior to Beginning Work, Clear and Common Understanding of ALL Safety Critical Tasks to be Performed.
- When Operating Conditions **CHANGE** Additional Job Briefings **MUST** be Conducted - Insure Uniform Understanding for **ALL**

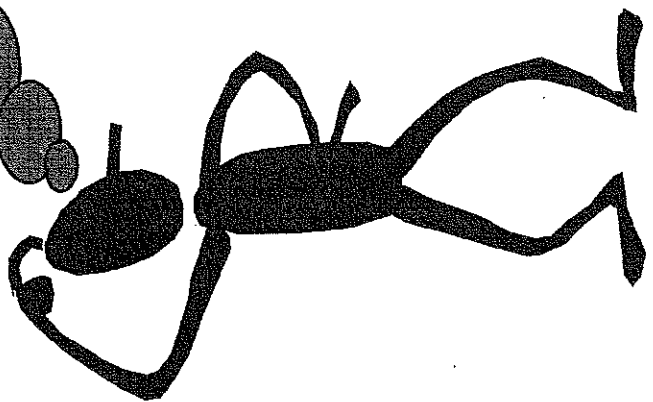
Crew Resource Management

IS:

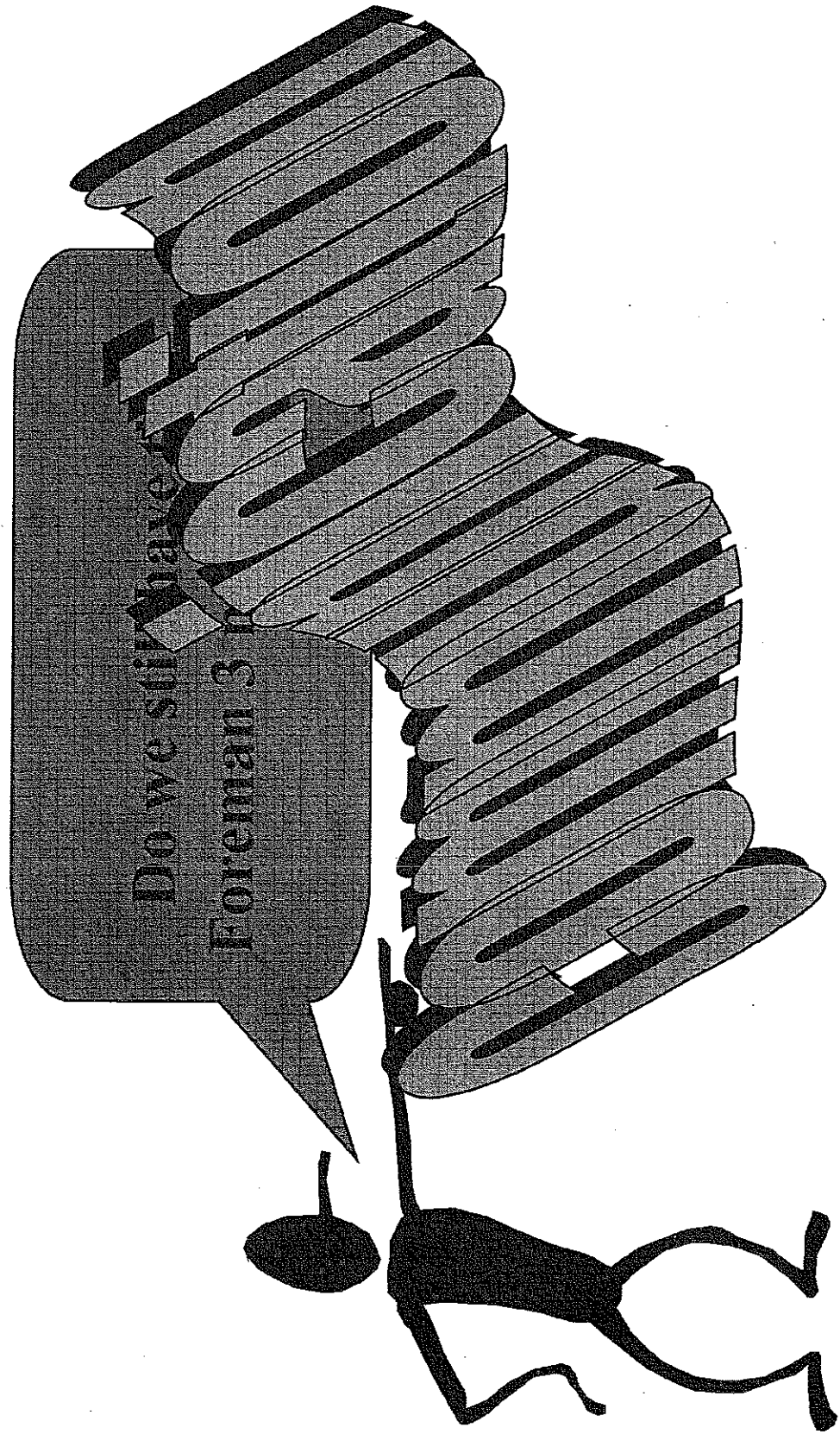
- Heightened individual awareness of attitudes and behaviors
- Formula for individuals to improve teamwork
- Process for the entire crew
- Focus on crew as a team, not collection of individuals
- System for improving crew performance

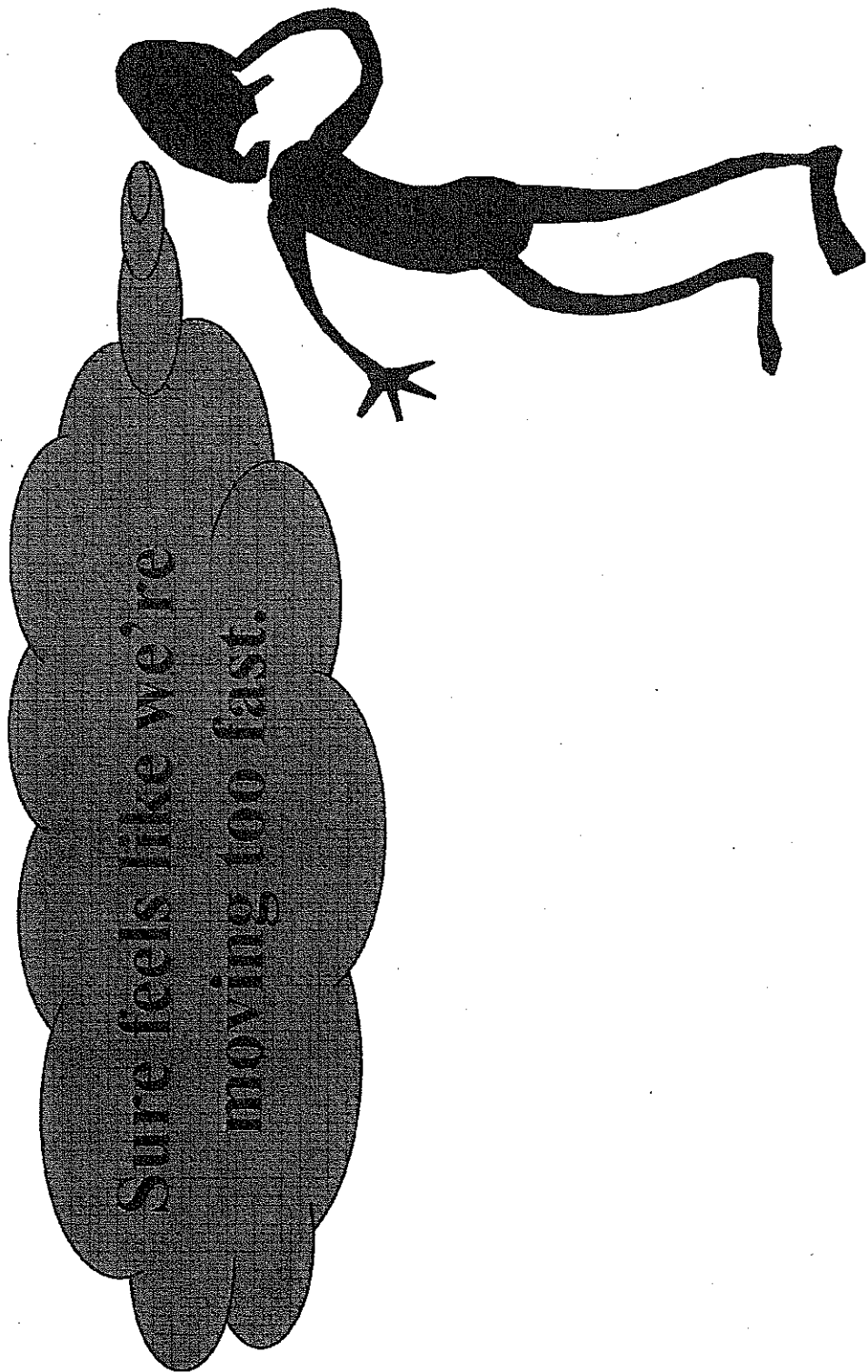
Crew Resource Management

Does the Engineer
remember we have a
track out of service
about 3 miles ahead?

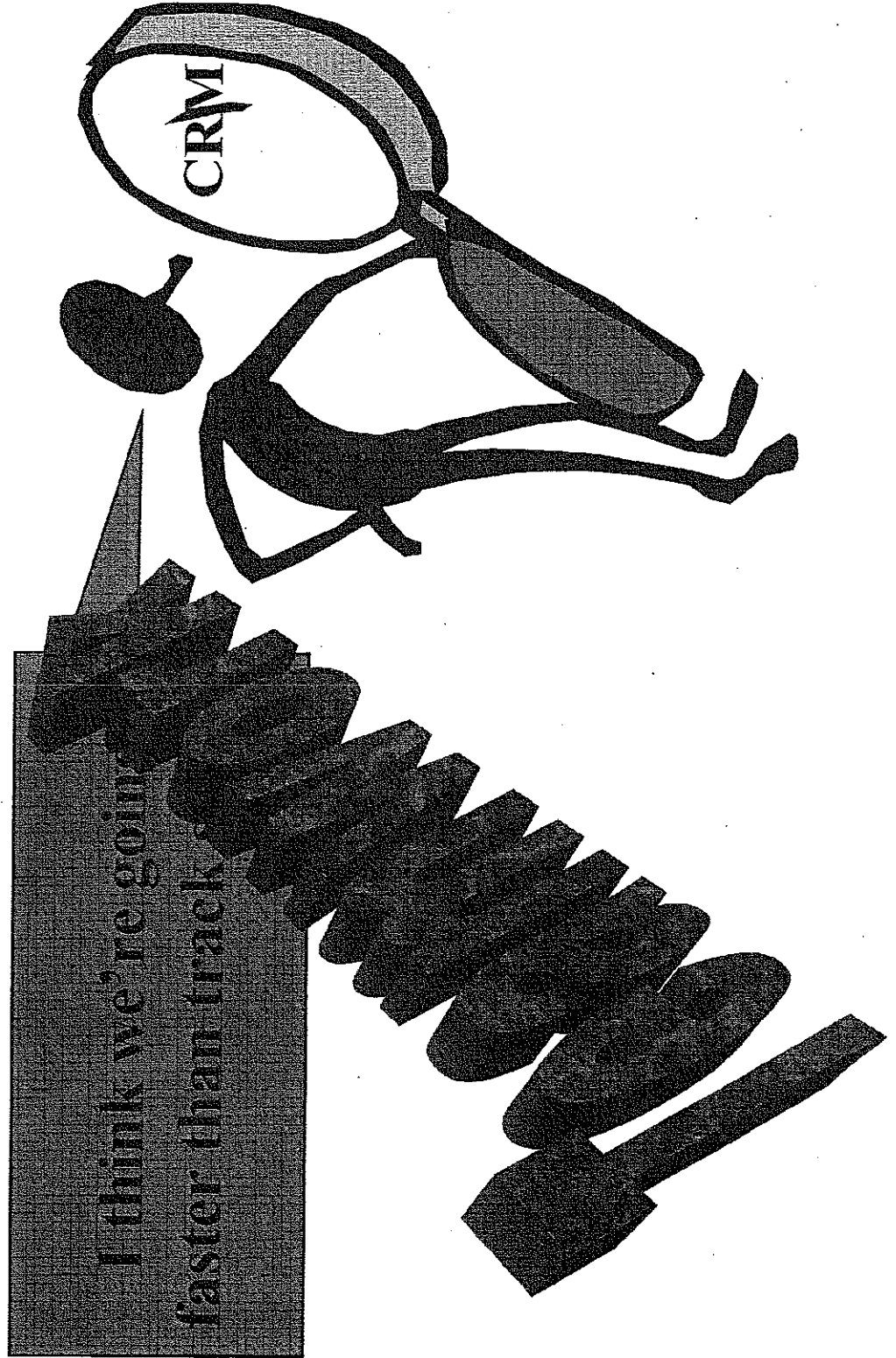


CRM- That Simple!



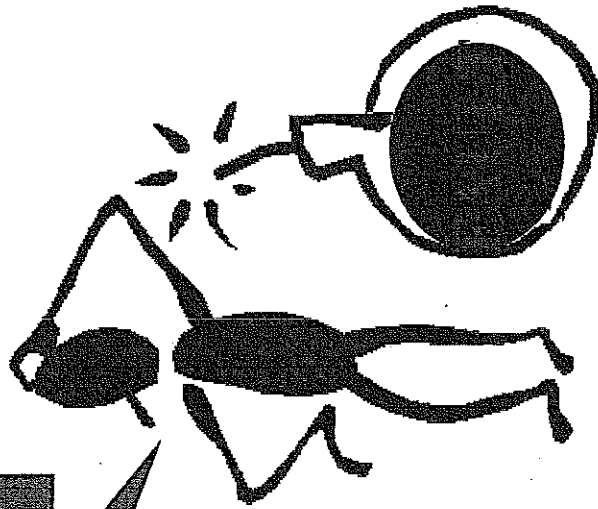


CRM - Helps to Maintain Safe Train Operation!



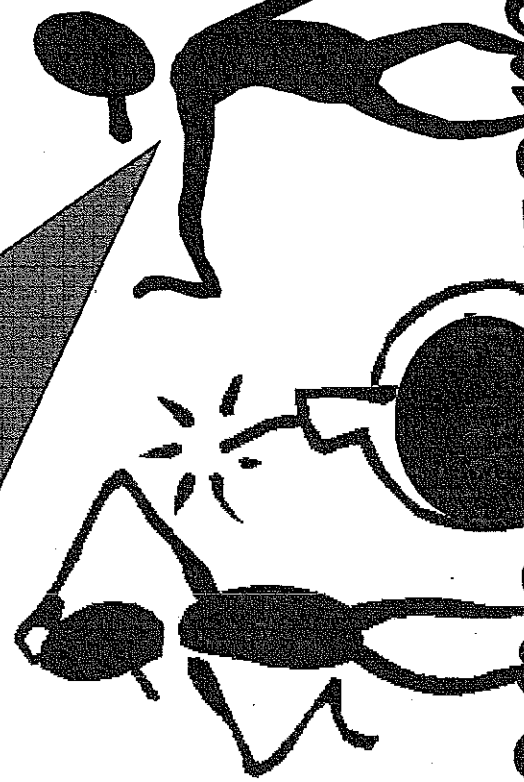
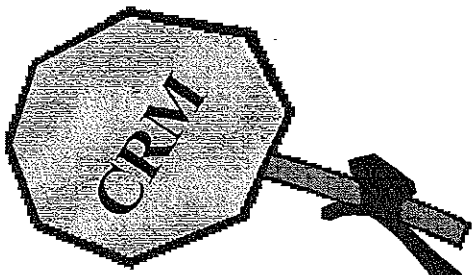
Crew Proficiency?

Here's the problem!
This reset is tripped,
I'll just reset it!

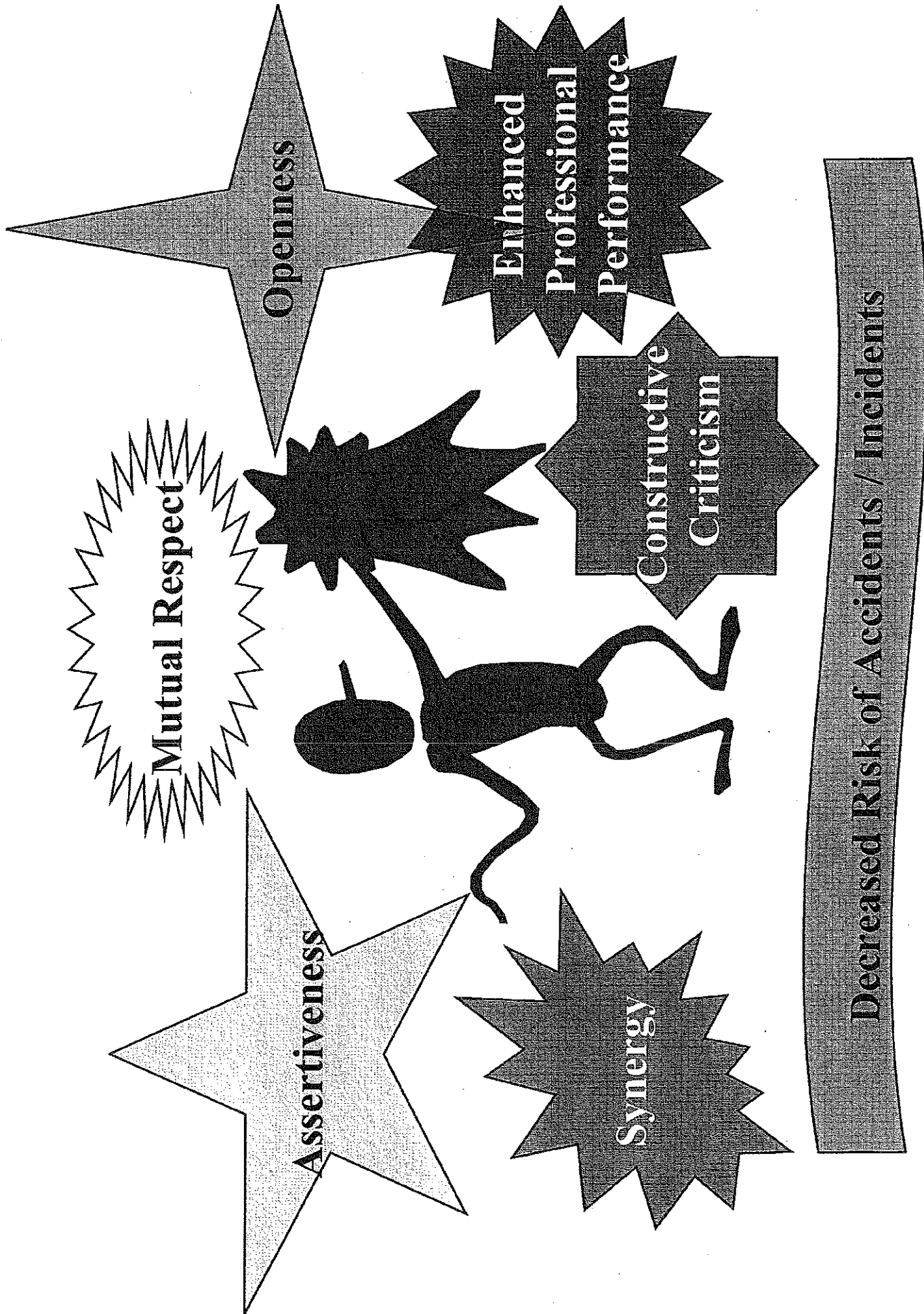


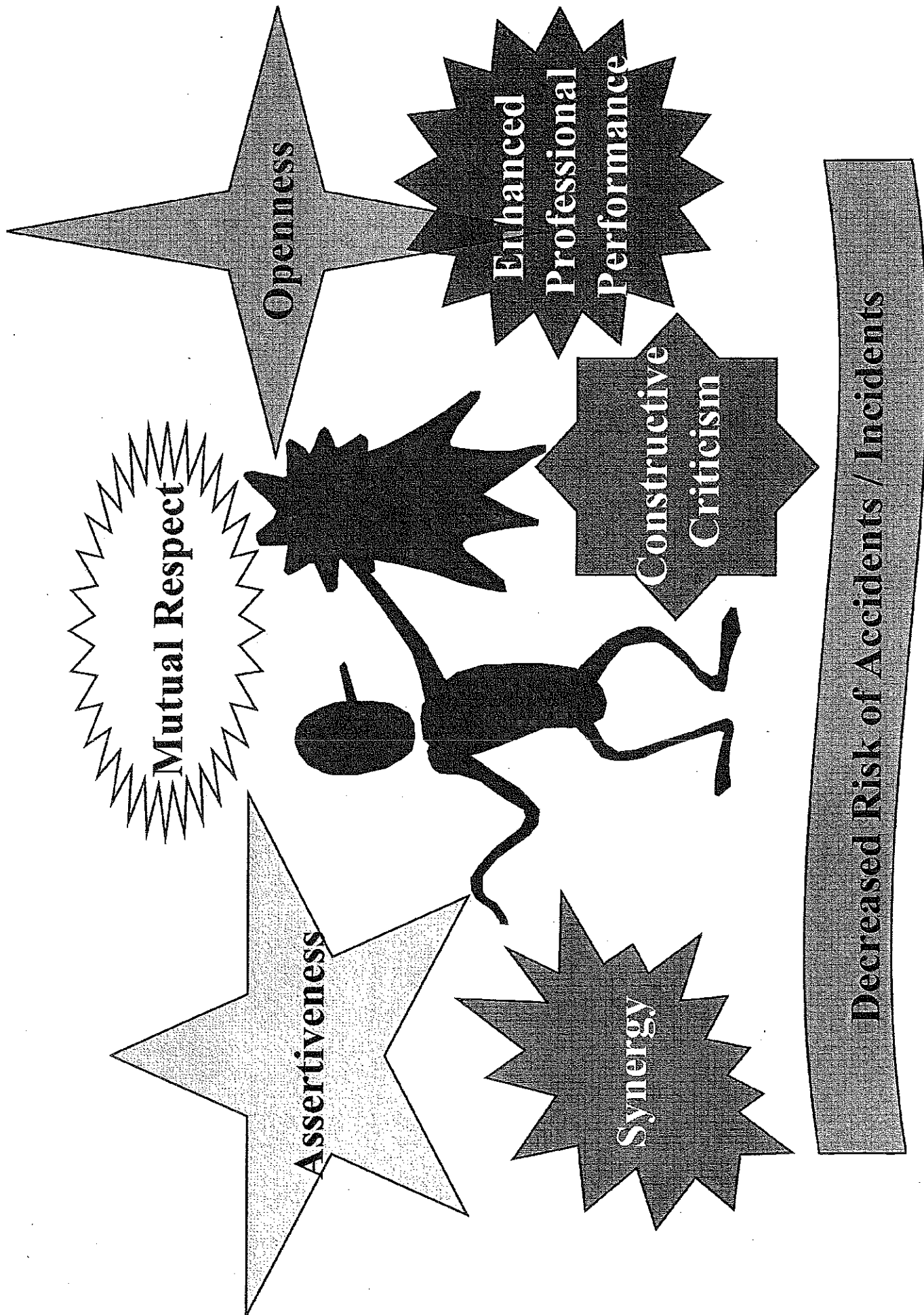
Crew Proficiency!

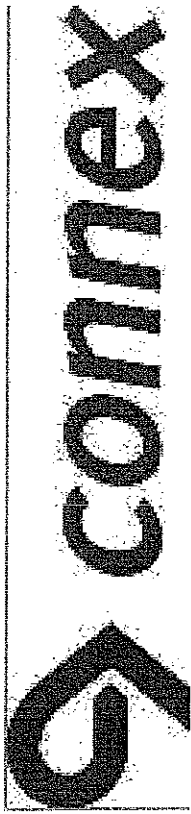
Wait, I think there is something in the Road Foreman Notices about that reset. Let's check there first!



Situational Awareness





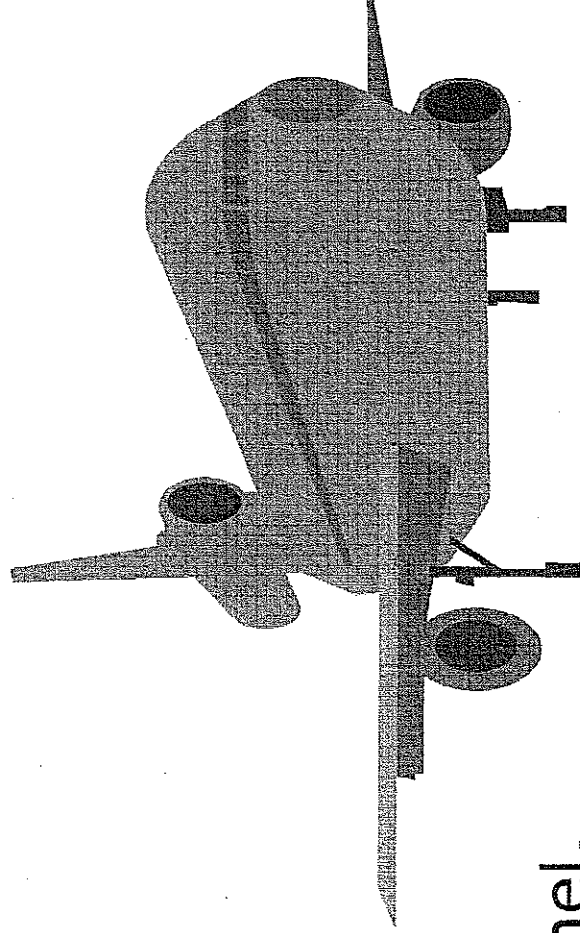


Crew Resource Management

*CRM can enhance safety and
job performance*

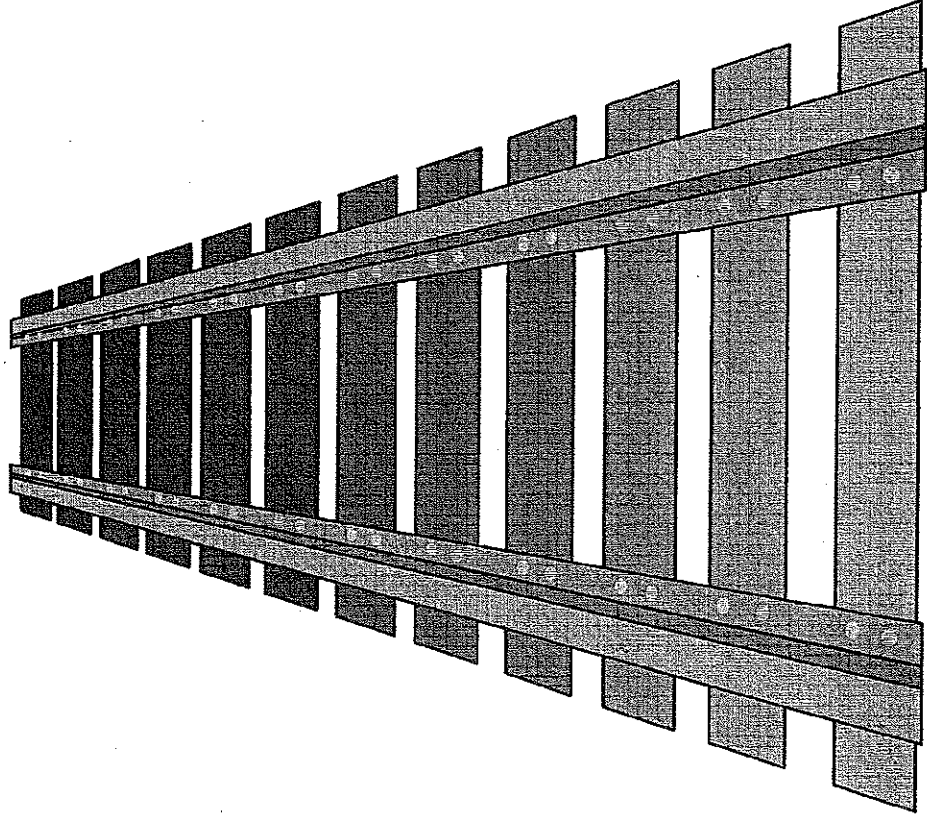
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- Expanded to include flight attendants, maintenance personnel, and others



Railroad Adaptation:

- **Crew Resource Management**
 - Timely Risk Recognition by ALL Crew Members
 - Effective Error Management By Working Together
 - Enhanced Job Performance & Safe Train Operation



Crew Resource Management

As CRM has continued to develop, it has reached several other industries besides aviation including:

- Medical Field
- Shipping Industry
- Nuclear Power Industry
- Freight, Commuter, and Passenger Rail Industry
- Police and Fire Response

Crew Resource Management

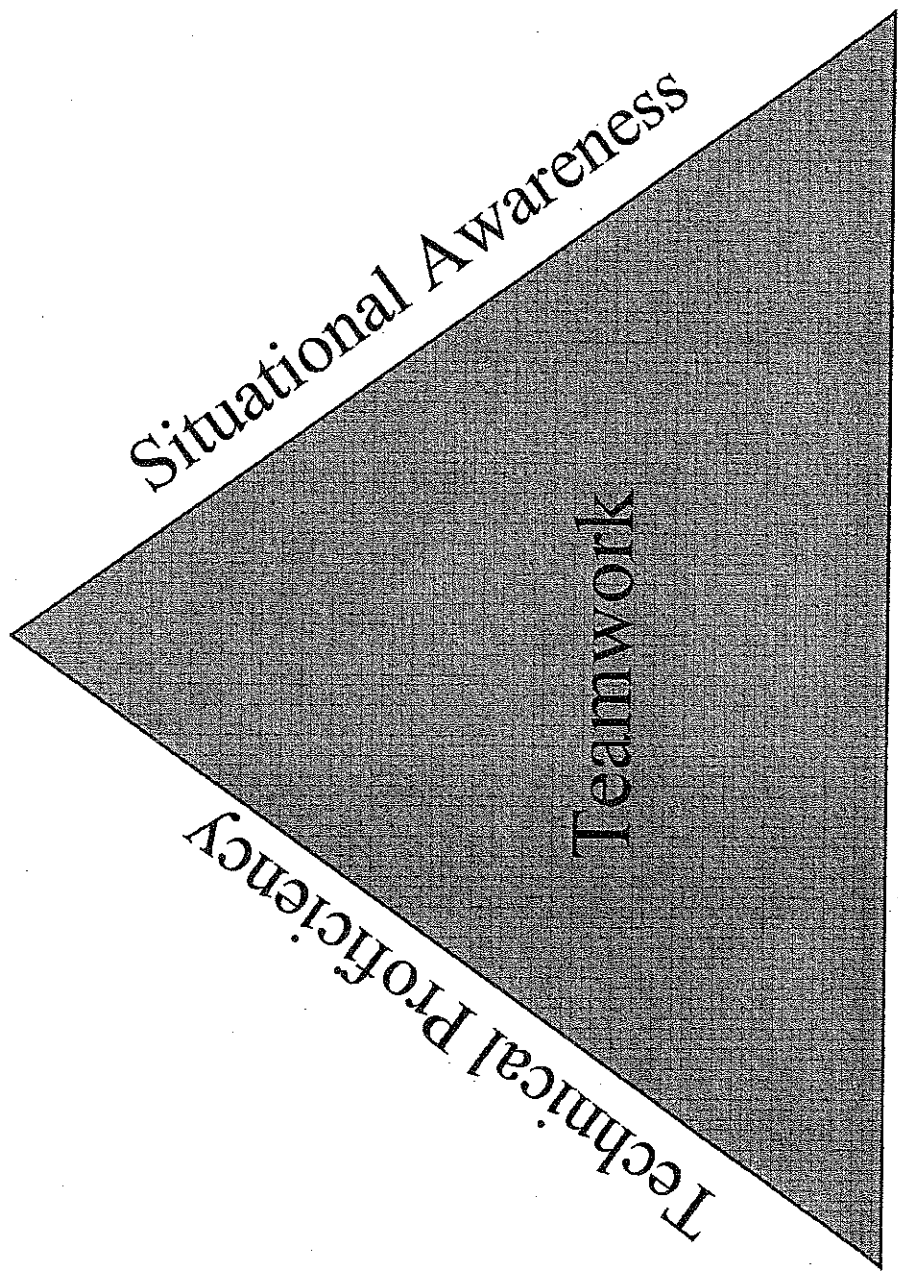
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CRM Can:

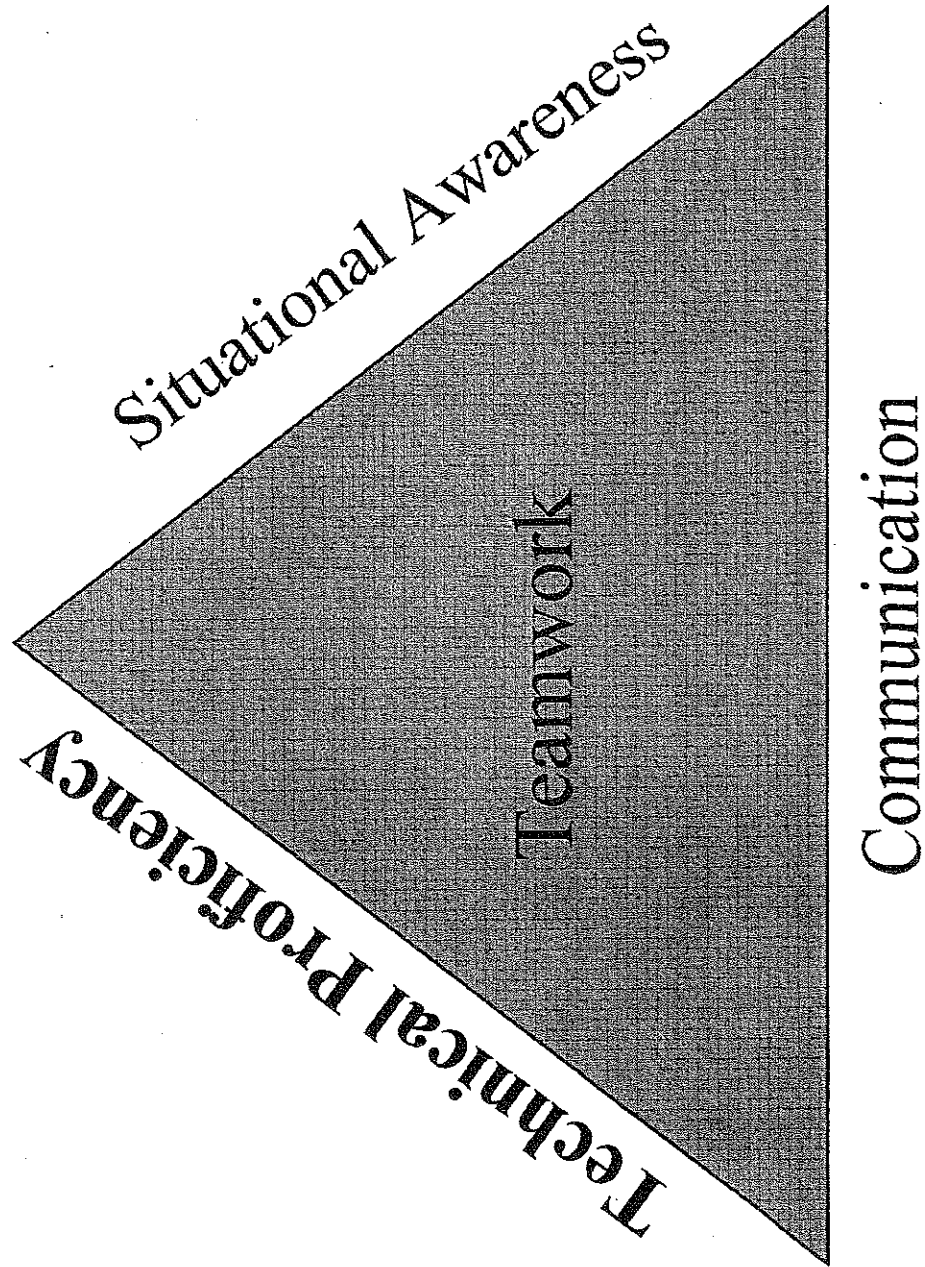
- Provide strategies for challenging unsafe practices
- Recognize loss of situational awareness, and what measures need to be taken
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CRM Elements



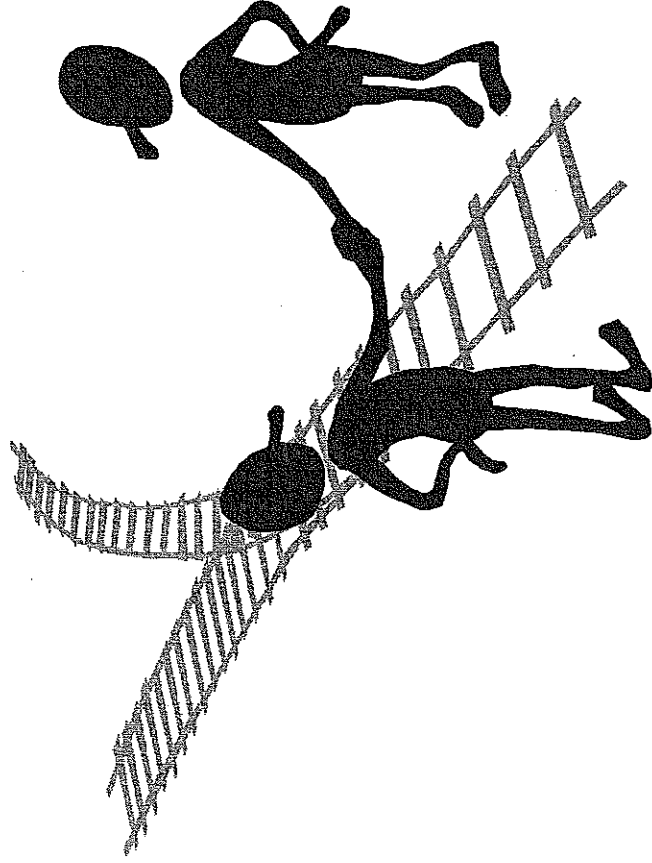
Communication

CRM Elements



Crew Proficiency

- **System Knowledge** - knowledge of equipment
- **Procedural Knowledge** - adherence to procedures that govern movements of train
- Execution of both.



System Knowledge

- **Trouble Shooting Guide**
- **Bombardier Car Manual**
- **F-59 PH & PHI Locomotive
Manuals**
- **MP-36 Material Handout**
- **Connex Notices**

System Knowledge

- Equipment Training Classes
- New Equipment Training Classes as mandated by 49 CFR Part 238
- Hands-on Training for New Hire and Re-Entry Engineers

Procedural Knowledge

General Code of Operating Rules

CAN BE MODIFIED BY:

- Time Table Special Instructions
- General Order
- Track Warrant or Track Bulletin

Technical Proficiency

- Yearly Rules Class
- Tri-Annual Recertification Class
- Rules Alert
- Stand Down Face to Face Discussion with Manager
- Safety Blitz

2009 Rule Changes

Metrolink Signal Changes:

- 9.1.7 Advance Approach
- 9.1.8 Approach
- 9.1.11 Diverging Advance Approach
- 9.1.12 Diverging Approach

2009 Signal Rule Changes

- 9.1.7 Advance Approach
- Proceed prepared to stop at second signal. Also be prepared to pass next signal not exceeding 40 MPH passenger and 30 MPH freight.

2009 Signal Rule Changes

- 9.1.9 Approach
- Proceed prepared to stop at next signal. Trains exceeding 40 MPH passenger, 30MPH freight, immediately reduce to that speed.

2009 Signal Rule Changes

- 9.1.11 Diverging Advance Approach
 - Proceed on diverging route not exceeding prescribed speed through turnout(s), and be prepared to stop at second signal.
 - Also be prepared to pass next signal not exceeding 40 MPH passenger and 30 MPH freight.

2009 Signal Rule Changes

- 9.1.11 Diverging Approach
 - Proceed on diverging route not exceeding prescribed speed through turnout(s) and be prepared to stop at next signal.
 - Trains exceeding 40 MPH passenger, 30 MPH freight, immediately reduce to that speed.

Metrolink

General Order

Time Table Special Instructions

- 1.47 C - All Crew Members' Responsibilities
- Crew members on leading end of movement must communicate the train identification, name or aspect and location of all signals via radio.
- Crew members occupying the body of a passenger train, cab of a trailing locomotive, helper unit or caboose must acknowledge transmission of all except green (clear).
- If a crew member fails to communicate the signal (name or aspect) the train must be stopped using an emergency application of the brakes if necessary.

Metrolink

General Order

Time Table Special Instructions

- Prior to resuming movement after stopping for any reason, the conductor and engineer must communicate and be in agreement on the signal (name or aspect) on which they are operating.
- If there is any doubt, the movement will proceed in compliance with the more restrictive indication.
- If the next governing signal is visible, the conductor and engineer must communicate and acknowledge the signal name or aspect prior to movement.

Rules Alert

GCOR Rule 1.47 (C)

Crew Responsibilities

- *Crew members on leading end of movement must communicate the train identification, name or aspect and location of all signals via radio.*
- *Crew members occupying the body of a passenger train, cab of trailing locomotive, helper unit or caboose must acknowledge transmission of all except green (clear).*
- *If crew members are unable to confirm the signal or if a crew member fails to communicate the signal (name or aspect) the train must be stopped.*

Rules Alert

GCOR Rule 5.8.2

Sounding Whistle

Construction has begun for the expanded service in Orange County. You could see men and equipment 7 days a week working at all hours.

- (8) - 0 Approaching men or equipment on or near the track, regardless of any whistle prohibitions. After this initial warning, sound whistle signal (4) intermittently until the head end of train has passed the men and equipment.
- (4) 0 0 Acknowledgment of any signal not otherwise provided for.

Rules Alert

GCOR Rule 5.8.2

Sounding Whistle

Whistle signal (7) is revised as follows:

- When approaching public crossing at grade with engine in front, sound signal as follows:
- At speeds in excess of 45 MPH, start signal at or about the crossing sign, but not more than one-fourth mile before the crossing.
- At speeds of 45 MPH or less, start signal at least 15 seconds, but not more than 20 seconds, before entering the crossing.

Rules Alert

GCOR Rule 5.8.2

Sounding Whistle

- If no crossing sign, start signal at least 15 seconds, but not more than 20 seconds before entering the crossing, but not more than one-fourth mile before the crossing.
- If movement starts less than one-fourth mile from the crossing, signal may be sounded less than 15 seconds before the crossing when it's clearly seen traffic is not approaching the crossing, traffic is not stopped at the crossing or when crossing gates are fully lowered.
- Prolong or repeat signal until engine completely occupies the crossing.

Rules Alert

- CONNEX employees need to remember to report for work focused on the job at hand, ready to prioritize your duties and avoid distractions that may lead to rule violations, injury or accidents.

Rules Alert

- Failing to be Alert and Attentive will cause **Complacency. Don't let your guard down**, don't let your mind go "off duty" while you are still working.
- Prioritizing the signal you are operating on to **prevent Stop signal violations.**

Rules Alert

- **The Conductor must acknowledge signals called by the engineer and if they do not understand the transmission, ask for clarification now, don't wait. If the signal called is not a Clear indication, Stay Focused on whether the train is slowing based on the situation.**

Rules Alert

- Form B's & Track Flags – Your track bulletins are the “Map of your trip” and you must remember each trip is a new trip. Even if these restrictions are in effect for many days, don't let your guard down.
- **Your job briefing should emphasize the location of any Form B's. These restrictions are exceptionally important because they provide protection for workers. Your eyes should be trained to look for those flags; they are placed to remind you of the restriction.**

Rules Alert

- Radio procedures and “**Emergency, Emergency, Emergency**” when situation requires and it is for your protection and the protection of others on the adjacent track.

Rules Alert

- The operating rule violations could have been avoided had the crews been working and communicating together as a team. If either crew member had realized something was going wrong and acted in time, it could have been prevented. Use Crew Resource Management techniques to help you.

Rule Changes: Rule 6.5

Shoving or Pushing Movements

- 1. Job briefing:** Rolling equipment shall not be shoved or pushed until the locomotive engineer participating in the move has been briefed by the employee who will direct the move. The job briefing shall include the means of communication to be used between the locomotive engineer and the employee directing the move and how point protection will be provided.
- 2. No unrelated tasks:** During the shoving or pushing movement, the employee directing the movement shall not engage in any task unrelated to the oversight of the shoving or pushing movement.
- 3. Point Protection:** When rolling equipment or a lite locomotive consist is shoved or pushed, point protection shall be provided by a crewmember or other qualified employee.

Rule Changes: Rule 6.5

Handling Cars Ahead of the Engine

- Movement shall not enter or foul a highway-rail grade crossing or pedestrian crossing except when:
 - (A) Crossing gates are in the fully lowered position; or
 - (B) A designated and qualified employee is stationed at the crossing and has the ability to communicate with trains; or
 - (C) At crossings equipped only with flashing lights or passive warning devices, when it is clearly seen that no traffic is approaching or stopped at the crossing and the leading end of the movement over the crossing does not exceed 15 miles per hour;

■ STAY ALERT

■ BE SAFE

**■ WORK AS A
TEAM**

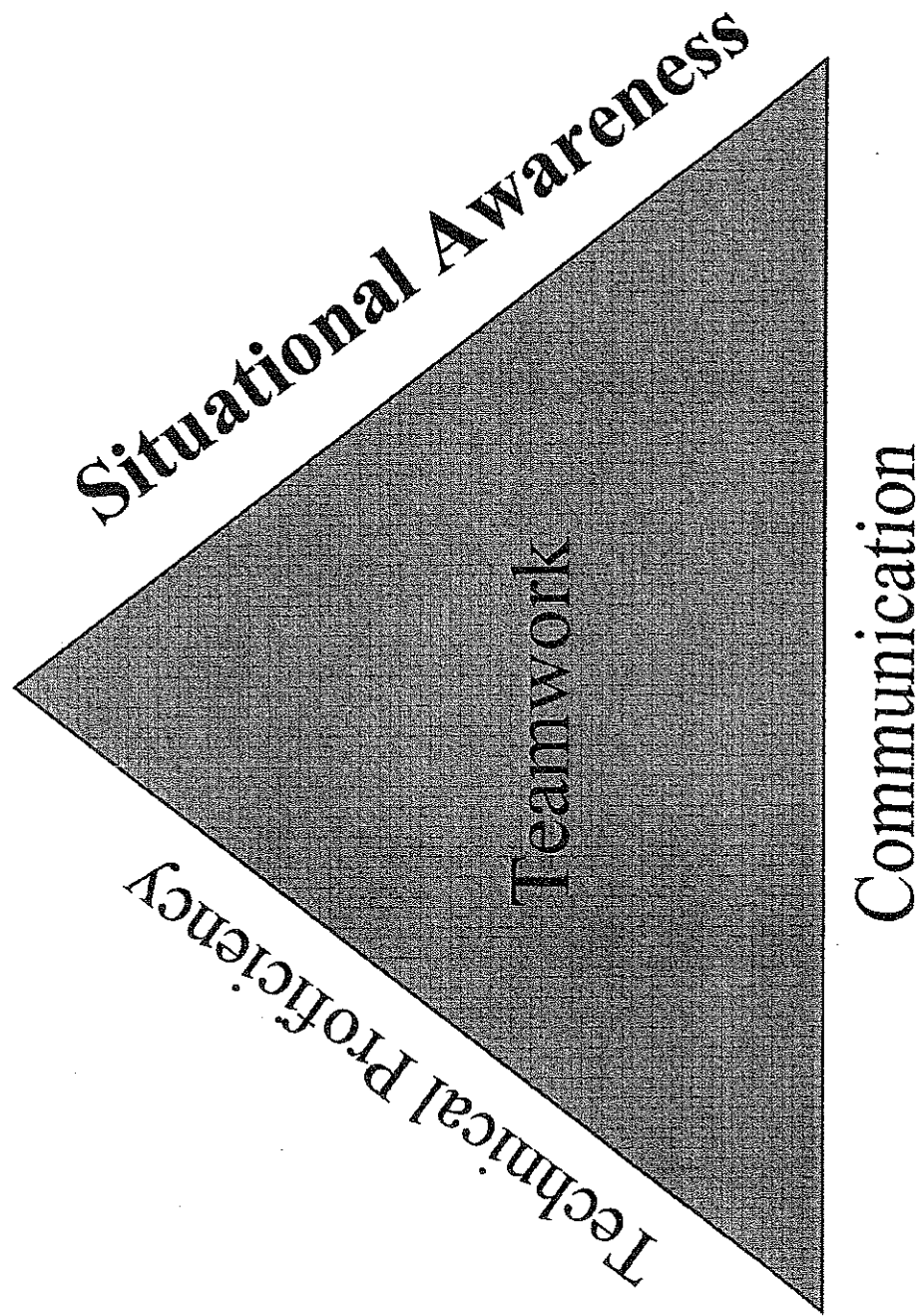
Significant Changes

- In the Spring of 2009, Metrolink will be installing approximately 40 Automatic Train Stop (ATS) Inert Inductors at locations throughout the Metrolink system.
- All trains on all subdivisions will be required to have the ATS cut-in, tested, and operative.

Significant Changes

- At this time, the overall ATS program has not been completed.
- It will be installed incrementally and the crews will be notified accordingly.
- Many questions still need to be answered before the new operation will begin.
- Generally, they will be placed in advance of permanent speed reductions of 25 MPH or more.

CRM Elements



Situational Awareness

- Since January 1, 2009, there have been six railroad employee fatalities involving both train crew members and maintainers working along the right of way, across Railroads in the US.
- These employees ranged in age from 26 to 59 years old and had anywhere from 2 to 36 years of service in the industry.
- It appears that in each instance the underlying cause has been due to a loss of “situational awareness”.

Situational Awareness

- It is extremely important that all employees are aware of their surroundings and other factors that could affect their safety and the safety of those around them. Unfortunately, lack of attention at work can prove fatal.

Common Issues Affecting Loss of SITUATIONAL AWARENESS

- Drowsiness, caused by:
 - Heated locomotive control compartment, etc.

- Winter clothing that can adversely affect:
 - Hearing
 - Field of vision
 - Mobility

Common Issues Affecting Loss of SITUATIONAL AWARENESS

- Environmental conditions that reduce focus:
 - Poor footing
 - Poor visibility
 - Short daylight hours
 - Cold temperatures

“Situational Awareness” may also be affected by:

- Loss of a family member
- Unfamiliar territory
- Unfamiliarity with co-workers
- Disagreements
- Stress, depression
- Cell Phone Use
- Fatigue

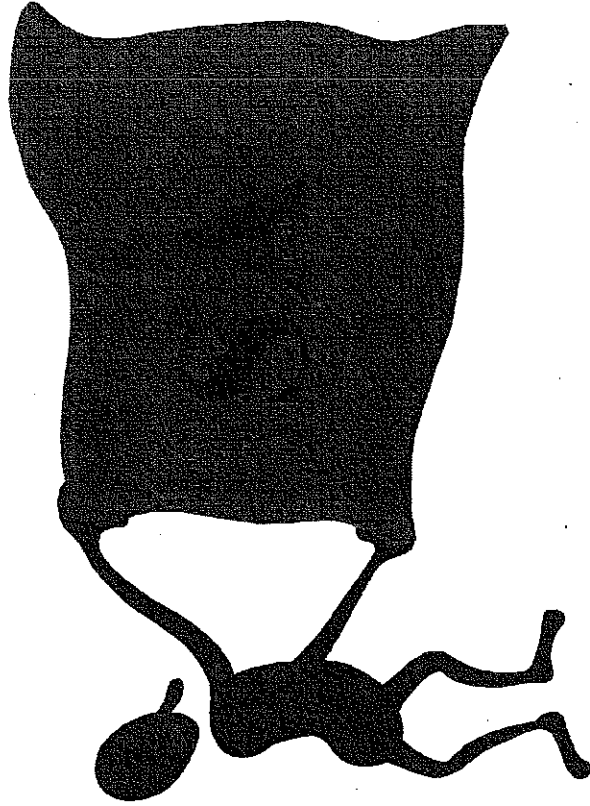
“Situational Awareness”

Remember:

- *Always* be aware of your surroundings;
- *Always* think safety, and work safely;
- **Don't Be a Statistic!**

Situational Awareness RED FLAGS

- Fixation on Problem
- Complacency or Fatigue
- Distraction
- Unresolved Discrepancy



Fixation on Problem

- Like the flight crew on the airliner that crash landed, the task at hand was taking the attention away from the actual operation of the aircraft.
- The mechanical problems that we face have to be dealt with in a safe manner.
- Troubleshooting cannot be made if it will endanger the operation of the train.

Complacency

- Rule violation **statistics** may or may not be a factor in determining whether age or amount of service on the job can contribute to such violations.
- Violations have occurred from employees with few years and with many years of service.
- It can happen at any time if focus is not maintained at all times.
- Connex violations have taken place on continuous time jobs as well as split-shift jobs.

Fatigue

- As we have studied over the last several years, FATIGUE is a major factor of a loss of Situational Awareness.
- With many Metrolink Jobs having a SPLIT shift, FATIGUE can be factor that needs to be spotlighted.

Fatigue Monthly Newsletter

- Connex has a program that provides employees with a monthly newsletter:

ShiftWorker

- To help the workforce and their families keep a reminder of the lifestyle of a round the clock working environment.

Distraction

- Distractions come in many forms to the operating crew.
- Society is now learning that the ELECTRONIC AGE that we are experiencing has a dark side.
- The Electronic Device has become one of the most DISTRACTING factors that we have faced.

Electronic Device

- Connex, Metrolink, Union Pacific, Burlington Northern Santa Fe, and the Federal Railroad Administration have made it perfectly clear the Rules, Regulations, and Policies concerning electronic device usage by an employee on the railroad.

Electronic Device

- Through Emergency Order #26 and through Connex Electronic Device Policy, there should be no doubt about when, where, how and why a cell phone can or cannot be used.

Unresolved Discrepancy

- If there are any questions concerning the usage of any electronic devices, please contact ANY manager so that a resolution can be determined so there will be no doubt.

Unresolved Discrepancy

- Family and Friends can also be a major distraction.
- Sometimes it is hard to leave your home life at home.
- When operating the train, a complete focus on what is going with the job at hand must be maintained and the dealings with issues at home must be dealt with at a later time.

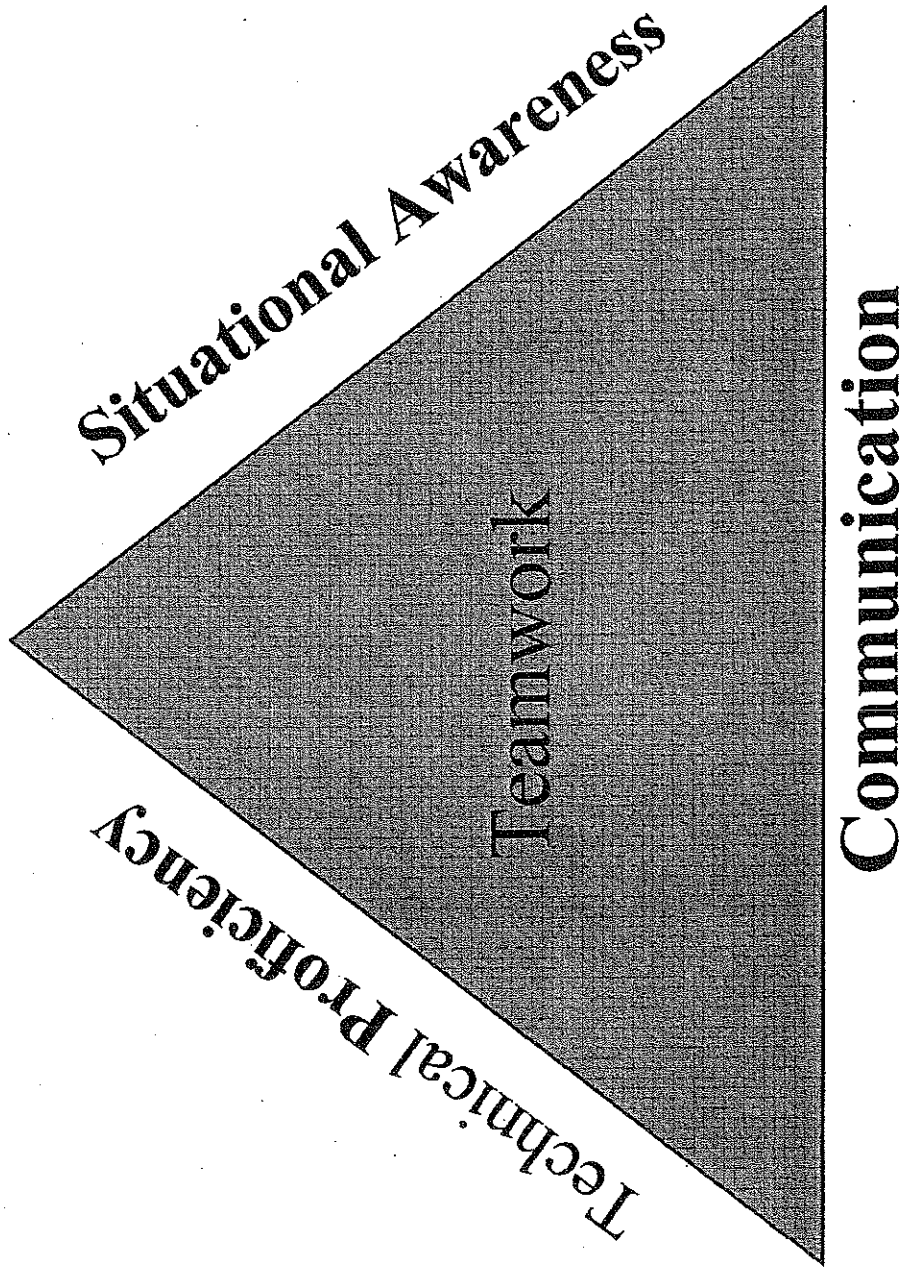
MAINTAIN Situational Awareness

- **Planning, Preparation, and
Vigilance**
- **Avoid Distractions**
- **Prioritize Decision Making**
- **Recognize a Deteriorating
Situation**

Maintain Situational Awareness

- What we can do to problems that caused the loss of situational awareness?
 - Recognize
 - Communicate
 - Resolve
 - Monitor

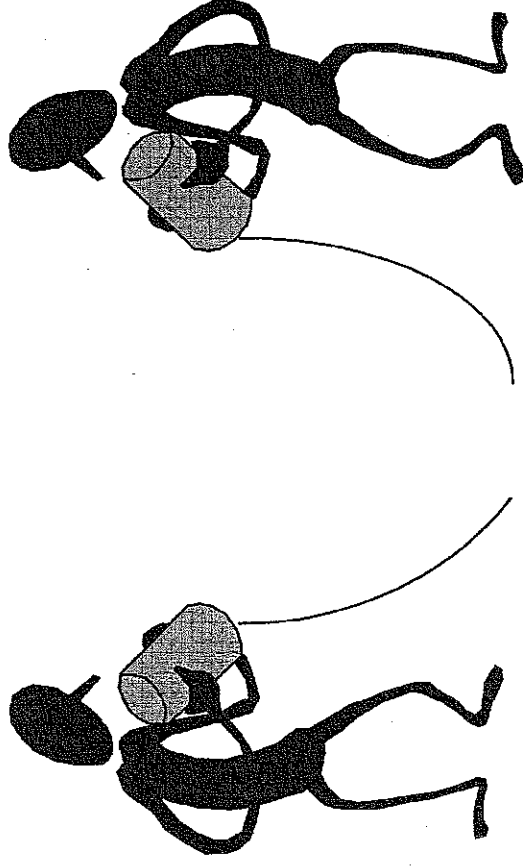
CRM Elements



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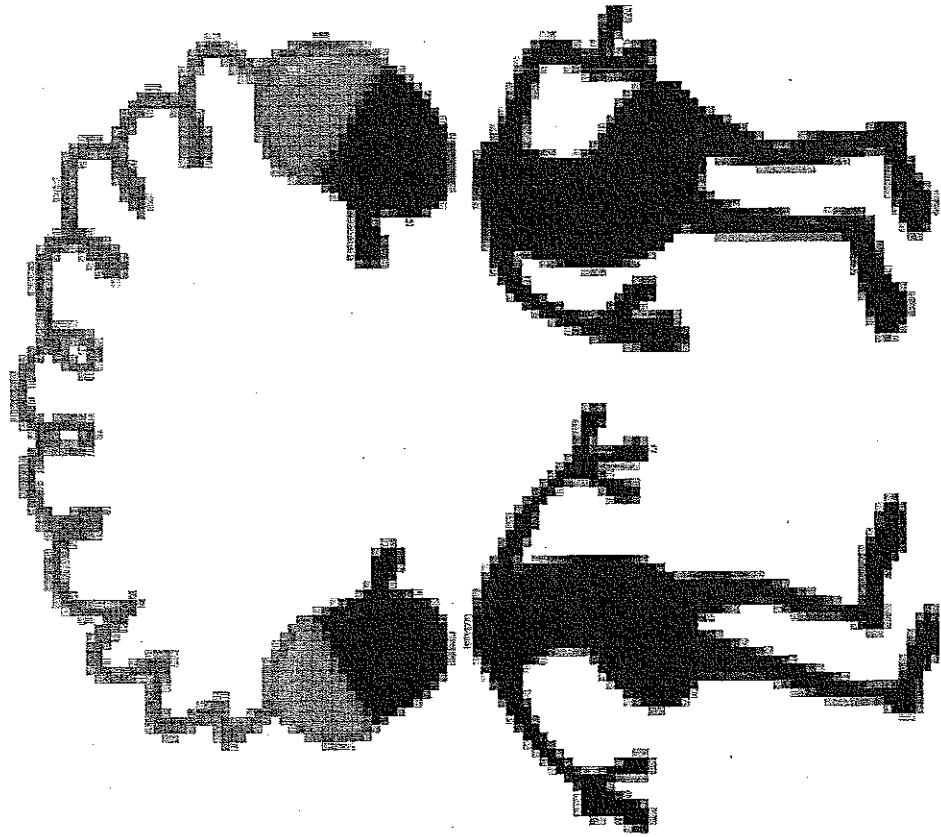
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Communication

- Flow of information between all crew members
- Ability to interpret body language, tonality and verbal cues
- Effective use of assertiveness in decision making/problem solving



Communication

- ***Asking questions when communication is not clear***
- ***Restating or paraphrasing to check understanding***
- ***Recording information***

Job Briefing

- **5000 - Job Briefing**
- Prior to beginning work, all train and engine crew members must participate in a "Job Briefing" to ensure that they have a clear and common understanding of all safety critical tasks to be performed, and their individual responsibilities in performing those tasks.
- When operating conditions change, an additional job briefing must be conducted with all affected crew members to ensure uniform and complete understanding.

Job Briefing

- **NOTE:** *When obtaining moves from a supervisor at a yard, employees must inquire about other crews that might be switching on the same or adjacent tracks.*
- *To avoid injury or damage when engines may be working at both ends of the same track, crews switching must have a clear understanding of the movements to be made.*
- *This information does not relieve employees of their responsibility to be vigilant for movements on any track, at any time, in any direction.*

Job Briefing

- **For Crews:**
- a) All new or temporary operational requirements affecting the train's movement that are necessitated by changes in written instructions such as Timetables, General Orders, Bulletins, Notices or Circulars, Operational Supplemental Instructions, etc., or operational requirements of the Train Manifest.
- b) Whether authority to proceed has been received, and how far that authority extends.
- c) If the authority is not for the entire trip, when and where an additional job briefing will need to take place.

Job Briefing

- d) Where required, the need to check with the proper person to ensure that current copies of all required forms, governing the movement of the train, have been received.
- e) If additional forms must be obtained during the trip, when and where these forms must be obtained.
- f) Any job related safety issues, including the Safety Instruction of the Day.
- g) Who will be responsible for securing equipment to be left unattended.

Job Briefing

- All new or temporary operational requirements affecting the train's movement that are necessitated by changes in written instructions such as:
 - Timetables
 - General Orders
 - Bulletins
 - Notices or Circulars
 - Operational Supplemental Instructions
 - Operational requirements of the Train Manifest
 - Surveys
 - Connex Safety Instruction of the Day

Job Briefing

- Whether authority to proceed has been received, and how far that authority extends.
- If the authority is not for the entire trip, when and where an additional job briefing will need to take place.
- Where required, the need to check with the proper person to ensure that current copies of all required forms, governing the movement of the train, have been received.

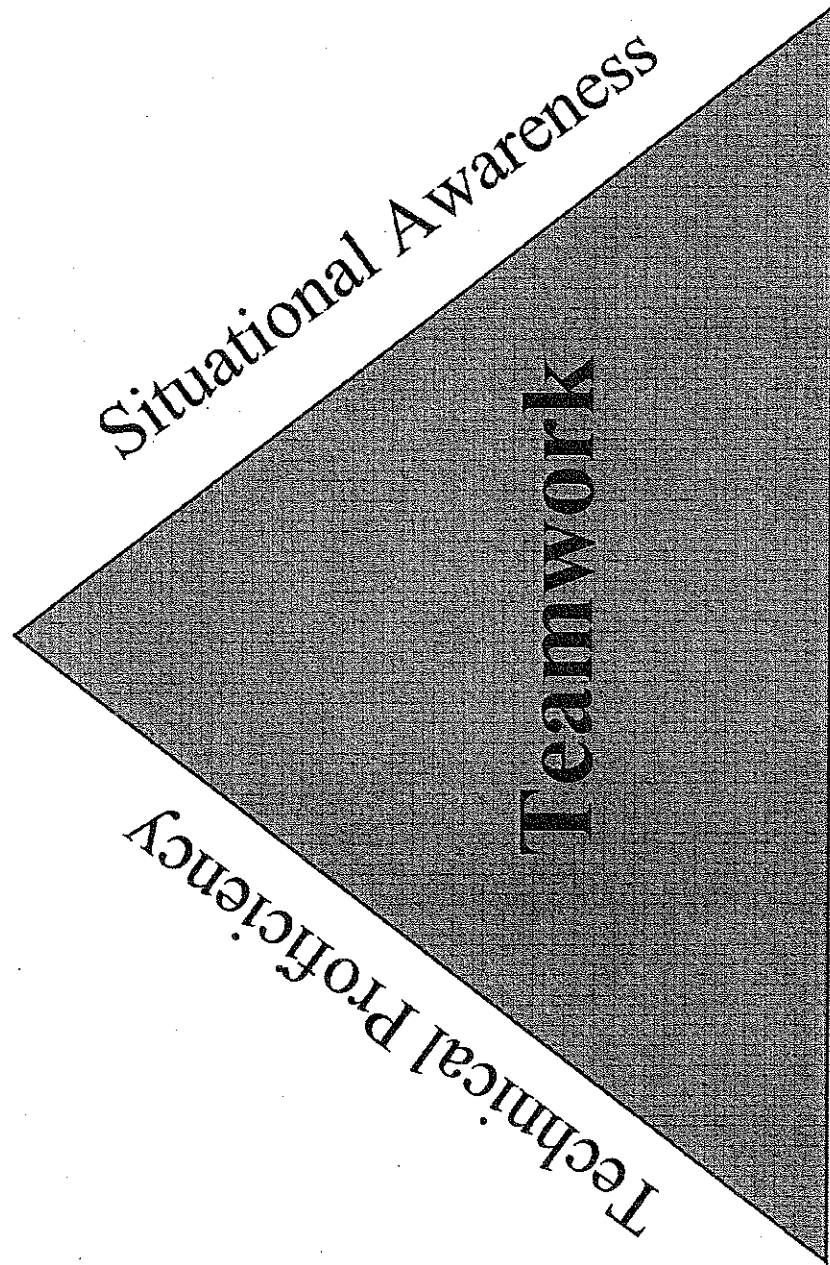
Job Briefing

- If additional forms must be obtained during the trip, when and where these forms must be obtained.
- Who will be responsible for securing the equipment to be left unattended?
- The schedule of the trains that will be operated by your crew and the anticipated scheduled meets and/or train connections.

Job Briefing

- The nuances of the job concerning:
 - Deadheading trains
 - Who will secure trains when changing ends
 - Required Crew Air Tests
 - Where and how to leave unattended trains when required
 - When the job has a layover or interim release, hotel, transport van schedules, and other pertinent layover information

CRM Elements



TEAMWORK: A CREW THAT ...

- **Is Technically Proficient**
- **Maintains Situational Awareness**
- **Communicates with One Another**

TEAMWORK

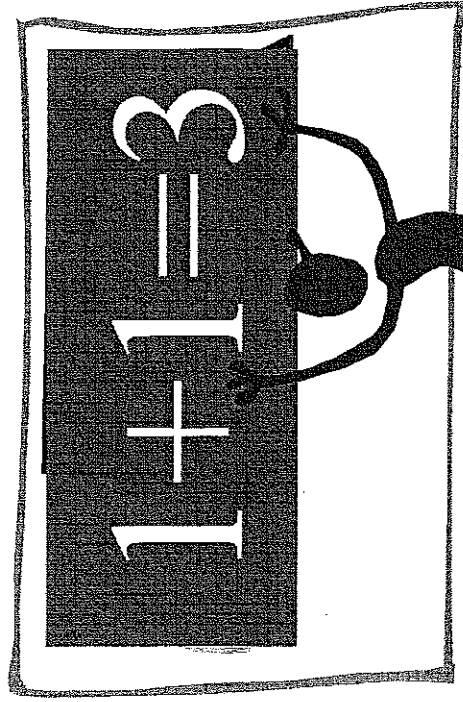
- Teamwork involves sharing, interacting, cooperating, and communicating as well as applying positive conflict resolution techniques.
- A team monitors the influence of technical proficiency, situational awareness, and communication on the team's performance

TEAMWORK

- Currently at Connex, we have a new Engineer Training program that is in it's early stages. We have 6 Student Engineers that are currently on the road in training.
- Part of the TEAMWORK concept is the way you were taught.
- We could use the valuable experience that you possess to help with the training program.

Synergy

- The old saying "Two heads are better than One" holds true here!
- "The whole is greater than the sum of the parts"



TEAMWORK

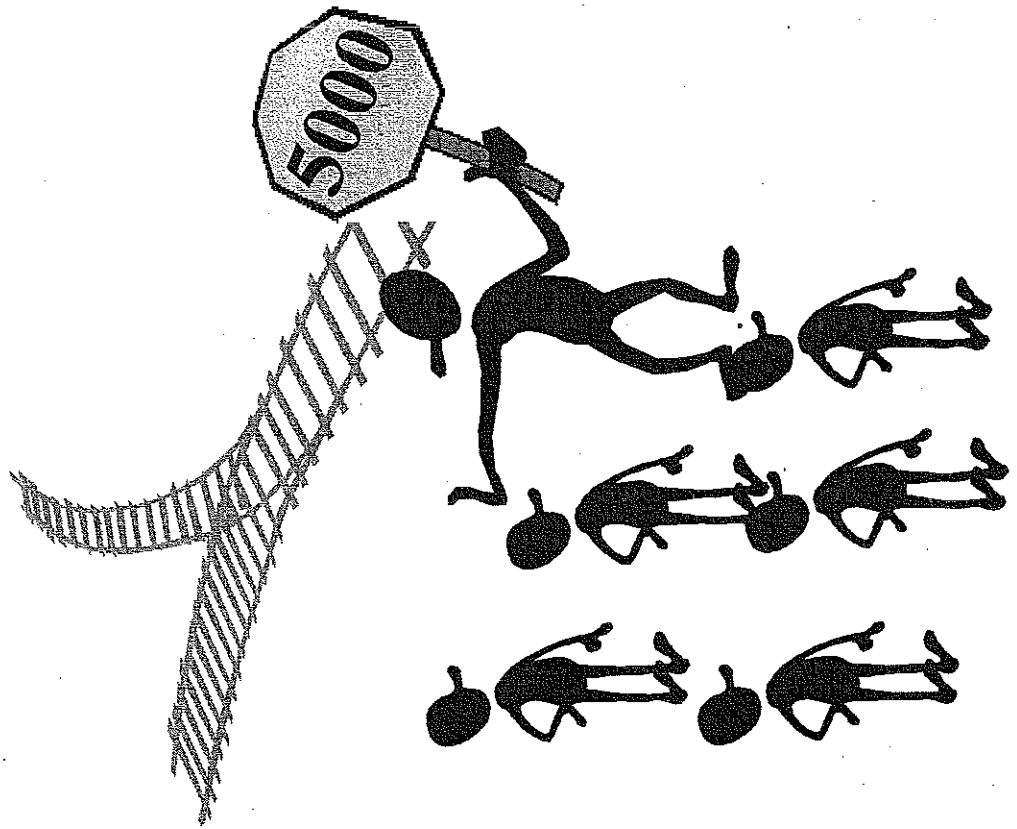
- Metrolink has stipulated that on the head end of Metrolink Trains, there will be a:

"SECOND SET OF EYES"

JOB BRIEFINGS -

Promote Teamwork

- Prior to Beginning Work, Clear and Common Understanding of ALL Safety Critical Tasks to be Performed.
- When Operating Conditions CHANGE Additional Job Briefings **MUST** be Conducted - Insure Uniform Understanding for ALL



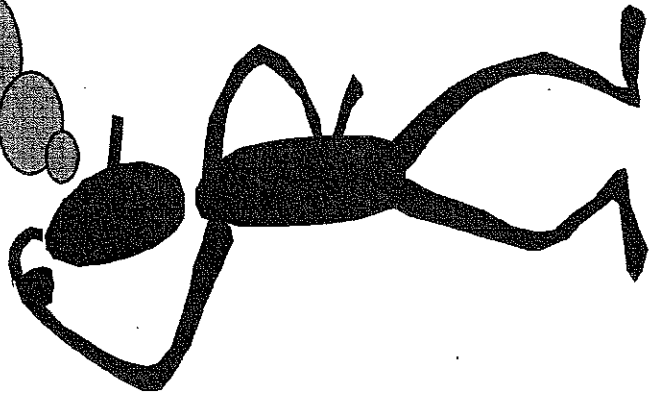
Crew Resource Management

IS:

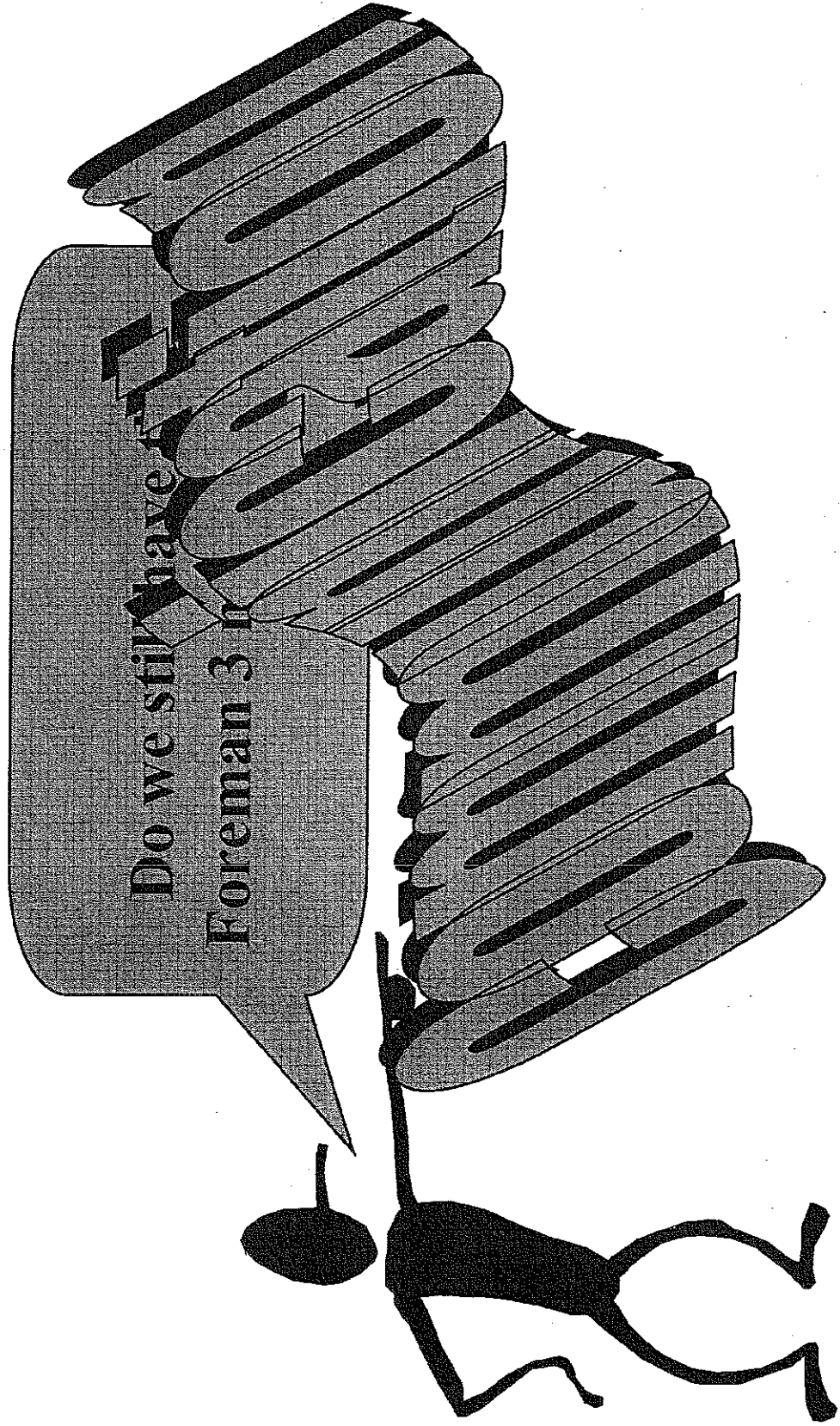
- Heightened individual awareness of attitudes and behaviors
- Formula for individuals to improve teamwork
- Process for the entire crew
- Focus on crew as a team, not collection of individuals
- System for improving crew performance

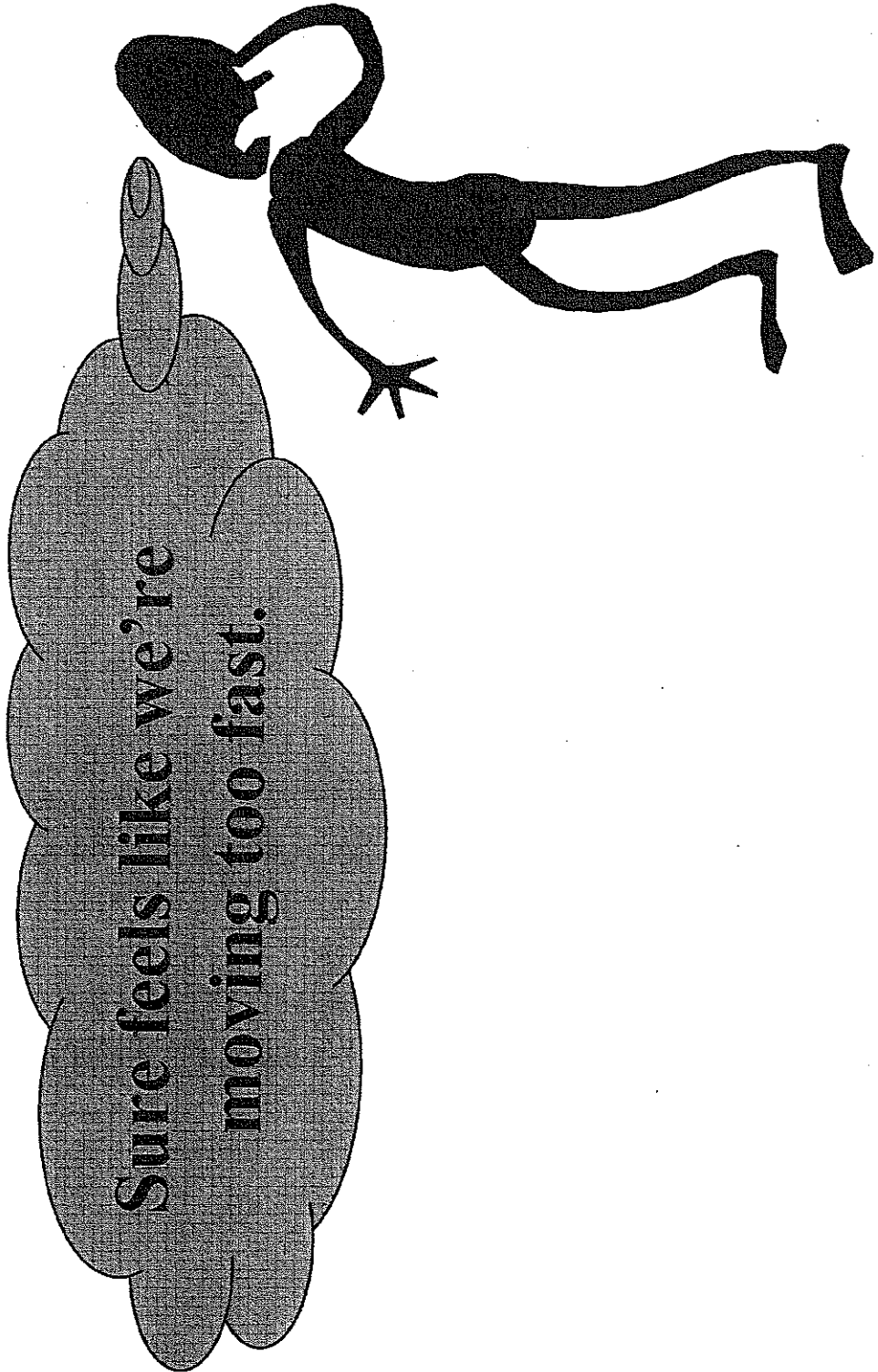
Crew Resource Management

Does the Engineer
remember we have a
"Form B" about 3 miles ahead?

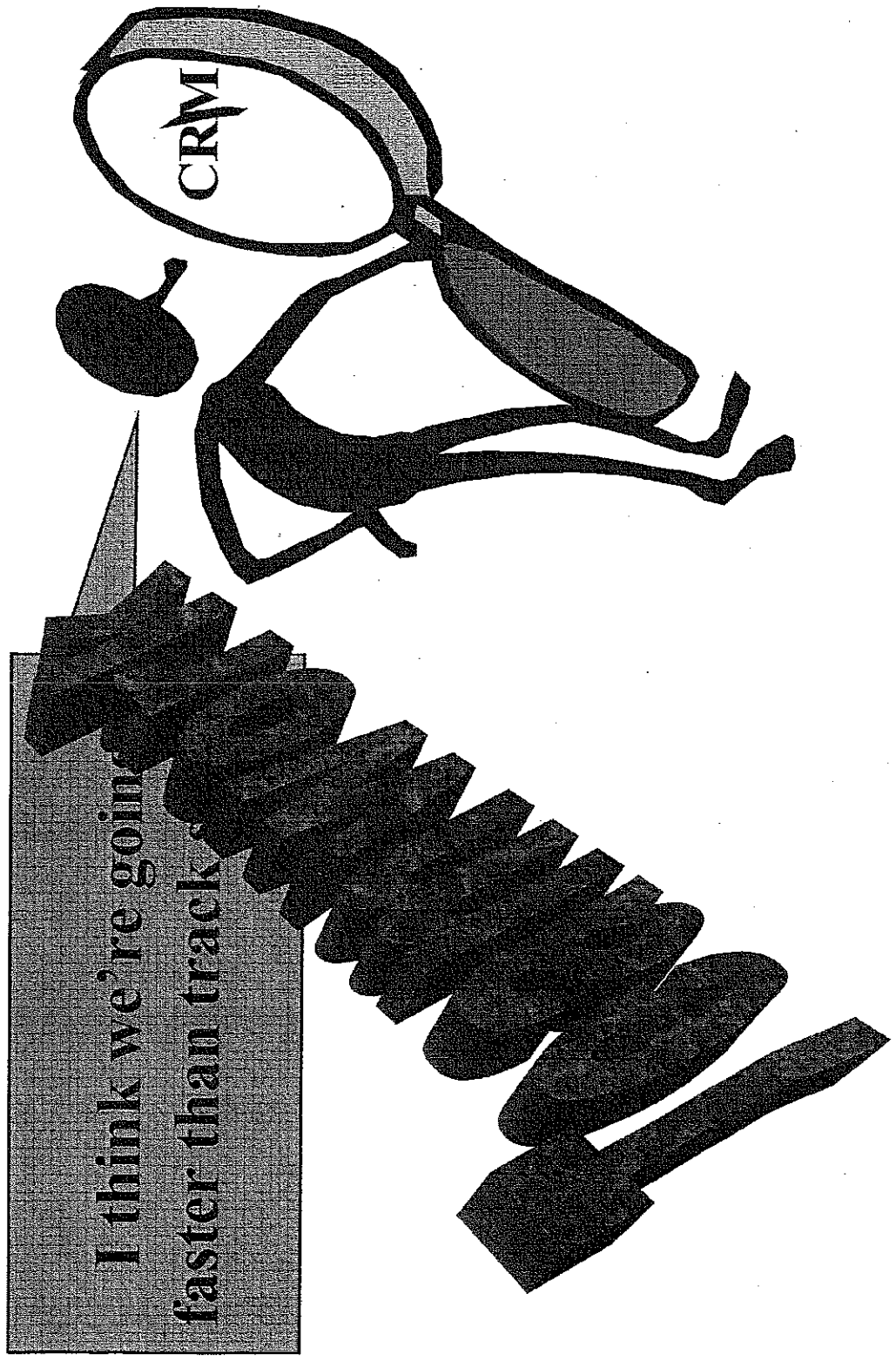


CRM- That Simple!





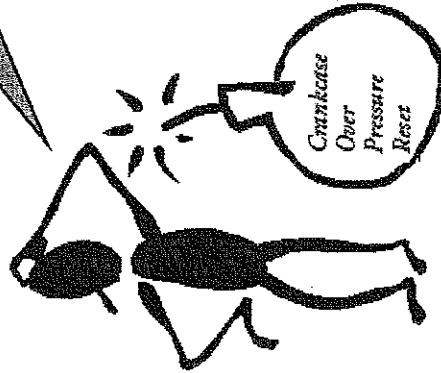
CRM - Helps to Maintain Safe Train Operation!



I think we're going
faster than track.

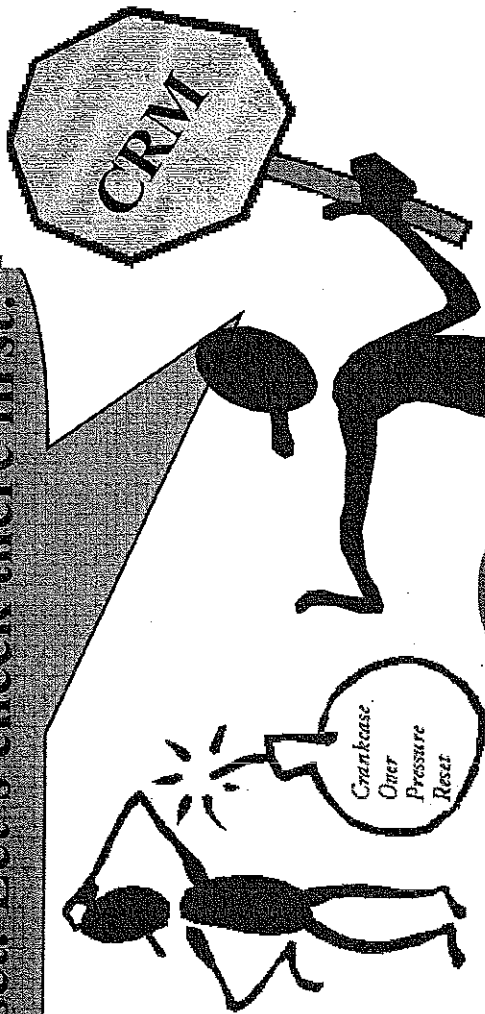
Crew Proficiency!

Here's the
problem, I'll just
reset it!

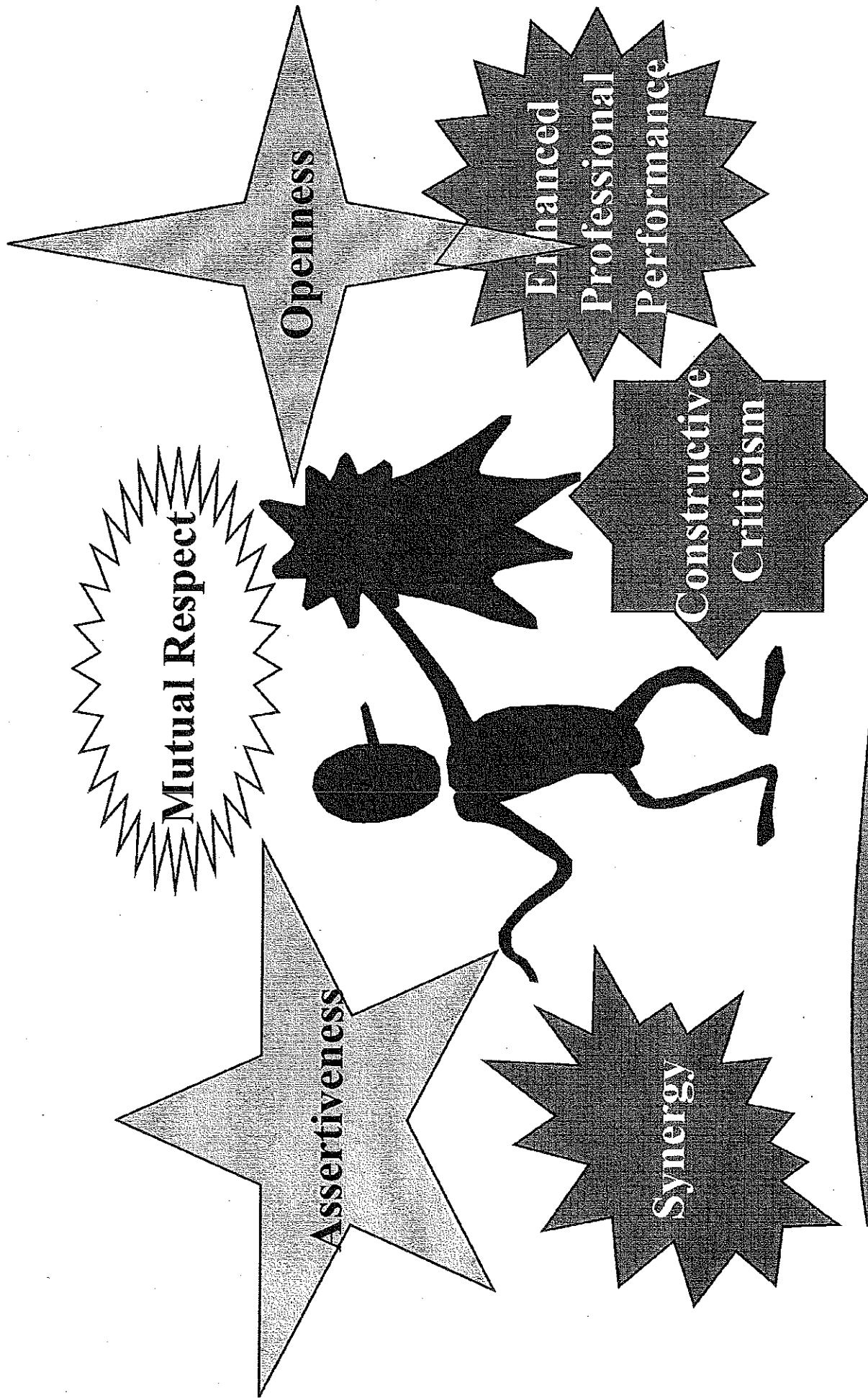


Crew Proficiency!

Wait, I think there is something
in the Troubleshooting Guide
about that reset. Let's check there first!



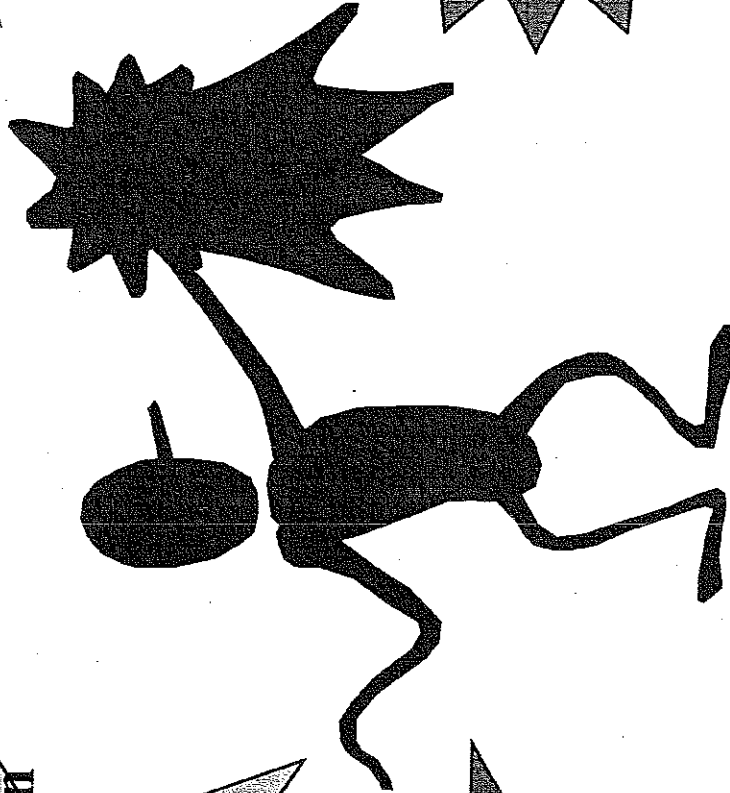
Situational Awareness



Decreased Risk of Accidents / Incidents

Teamwork

**Situational
Awareness**



Communication

**Technical
Proficiency**

Crew Resource Management