



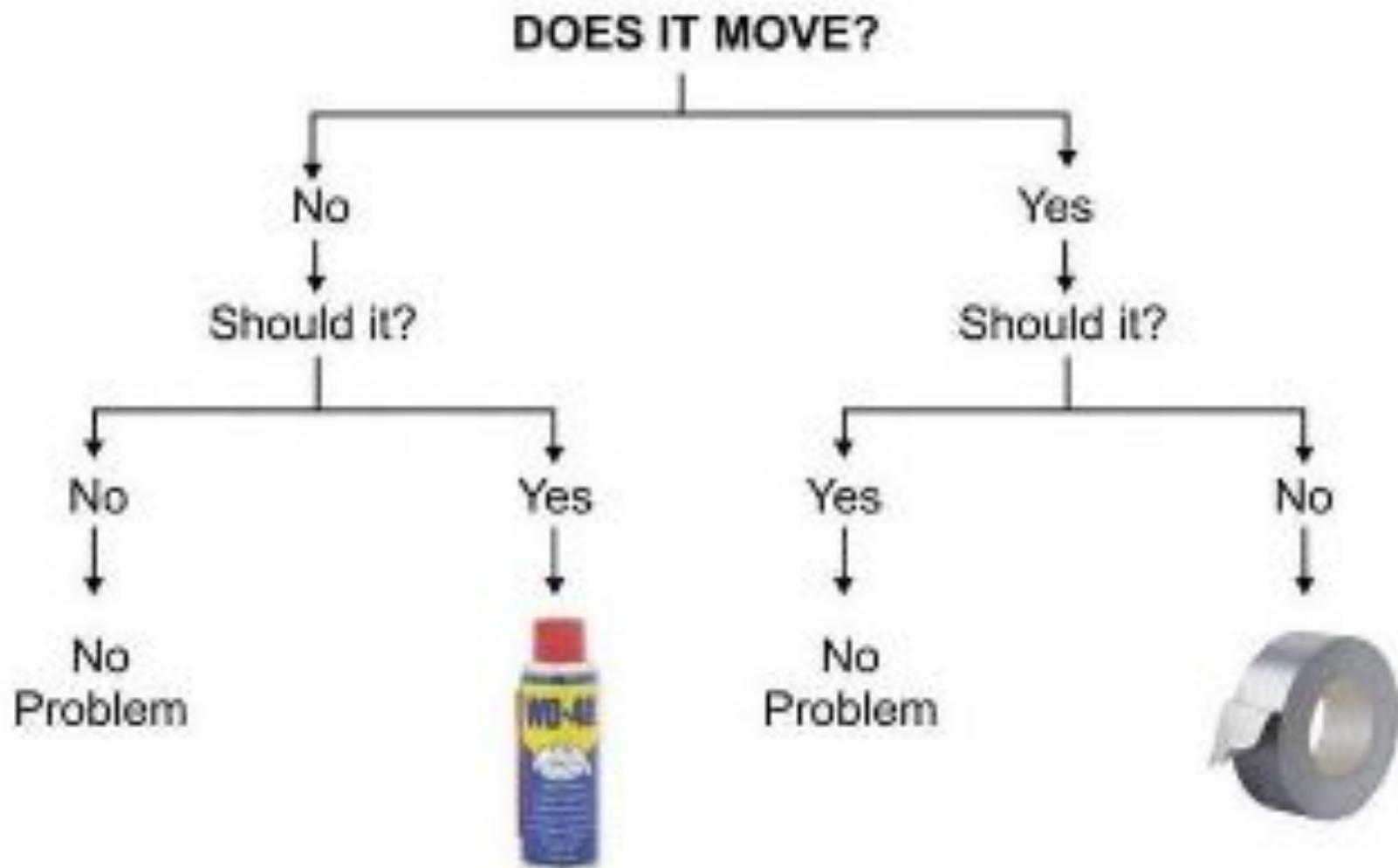
Safety Briefing

19 NOV 2011

Terry Norbraten

The way is just works...

Engineering Flowchart



FAA Safety Briefing Magazine

- Online at:

http://www.faa.gov/news/safety_briefing

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Current Issue	September/October	Jul/Aug
 November/December (PDF, 10.67 MB) <ul style="list-style-type: none">• Venturing Further A Field (PDF)• How a Runway Earns its Stripes (PDF)• Splat (PDF)• It Could Happen to Anyone (PDF)	 September/October (PDF, 12.40 MB) <ul style="list-style-type: none">• The Compleat Aviator (PDF)• Making the Magic Work (PDF)• Trust but Verify (PDF)• Too Old to Fly? (PDF)	 July/August (PDF, 7.37 MB) <ul style="list-style-type: none">• Above and Beyond (PDF)• Fly like a PRO (PDF)• It Takes a Pro to Make a Pro (PDF)• What do I do Now? (PDF)

FAA MedXPress

Student Pilot Medical Certificate to electronically complete the FAA Form 8500-8. Information entered into MedXPress will be transmitted to the FAA and will be available for your AME to review at the time of your medical examination.

NOTE: A medical examination by an FAA-designated Aviation Medical Examiner (AME) is required to complete the certification process. The FAA MedXPress system is not available for submission of FAA Air Traffic Control Specialist exams at this time.

Login to your account here. If you do not have an account, click Request an Account to create a new one.

Email Address:

Password:

[Forgot your password?](#)

Login

Request an Account

WARNING: This is a Federal Aviation Administration (FAA) computer system. FAA systems, including all related equipment, networks, and network devices (specifically including Internet access) are provided for the processing of official U.S. Government

Other FAA Resources Online

The screenshot shows the FAA website's 'Training Resources & Guides' page. At the top, there is a navigation bar with links for 'FAA Home', 'About FAA', 'Jobs', 'News', and 'A-Z Index', along with a user menu 'I Am A ...'. The FAA logo and name are on the left. A search bar is located in the top right. Below the navigation bar, a dark blue menu highlights 'Training & Testing'. The breadcrumb trail reads 'FAA Home » Training & Testing » Training Resources & Guides'. On the left, a sidebar lists 'Training Resources & Guides' with sub-links for 'Schools', 'Airmen Testing', and 'FAA Academy'. The main content area is titled 'Training Resources & Guides' and includes 'Print' and 'Email' icons. It is divided into two columns: 'Resources' and 'Guides'. The 'Resources' column lists various training programs and aids, including 'Aircraft Certification Technical Training Program', 'Airmen Testing Information', 'Controlled Flight Into Terrain (CFIT) Training Aid (PDF)', 'FAA-Industry Training Standards (FITS)', 'Inspection Job Aid (MS Word)', 'List of Test Centers (PDF)', 'National Simulator Program', 'Pilots' (with sub-links for 'Testing' and 'Training'), 'Precision Runway Monitoring (PRM)', 'Reducing Pilot Deviations', 'Scholarships and Grants', 'Search for Aviation Safety Seminars and Events', 'Simulation and Integration of Ground, Network, and Air Links (SIGNAL)', and 'Wake Turbulence Training Aid (PDF)'. A note below the last item states: 'Note: The referenced wake turbulence video is currently not available.' The 'Guides' column lists 'Airman Knowledge Test Questions', 'Airman Testing Standards', 'Airworthiness Inspector's Handbook', 'Best Practices for Mentoring in Flight Instruction (PDF)', 'Guide for Aviation Medical Examiners', 'Knowledge Test Guides', 'List of Tests, Number of Questions & Passing Scores (PDF)', and 'Training Handbooks'. On the right, a box titled 'Do You Want To...?' contains links for 'Get pilot training information', 'Find a handbook or manual', 'Apply for scholarships & grants', 'Join in the aircraft certification technical training program', and 'Get pilot testing information'.

FAA Home About FAA Jobs News A-Z Index I Am A ...

Federal Aviation Administration

Aircraft Airports Air Traffic Data & Research Licenses & Certificates Regulations & Policies Training & Testing

FAA Home » Training & Testing » Training Resources & Guides

Training Resources & Guides

Schools
Airmen Testing
FAA Academy

Training Resources & Guides

Print Email

Resources

- [Aircraft Certification Technical Training Program](#)
- [Airmen Testing Information](#)
- [Controlled Flight Into Terrain \(CFIT\) Training Aid \(PDF\)](#)
- [FAA-Industry Training Standards \(FITS\)](#)
- [Inspection Job Aid \(MS Word\)](#)
- [List of Test Centers \(PDF\)](#)
- [National Simulator Program](#)
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 - [Training](#)
- [Precision Runway Monitoring \(PRM\)](#)
- [Reducing Pilot Deviations](#)
- [Scholarships and Grants](#)
- [Search for Aviation Safety Seminars and Events](#)
- [Simulation and Integration of Ground, Network, and Air Links \(SIGNAL\)](#)
- [Wake Turbulence Training Aid \(PDF\)](#)

Note: The referenced wake turbulence video is currently not available.

Guides

- [Airman Knowledge Test Questions](#)
- [Airman Testing Standards](#)
- [Airworthiness Inspector's Handbook](#)
- [Best Practices for Mentoring in Flight Instruction \(PDF\)](#)
- [Guide for Aviation Medical Examiners](#)
- [Knowledge Test Guides](#)
- [List of Tests, Number of Questions & Passing Scores \(PDF\)](#)
- [Training Handbooks](#)

Do You Want To... ?

- [Get pilot training information](#)
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- [Apply for scholarships & grants](#)
- [Join in the aircraft certification technical training program](#)
- [Get pilot testing information](#)

Wings: Pilot Proficiency Program

My WINGS

[WINGS User's Guide](#)

[WINGS Advisory Circular](#)

Welcome to your personalized My WINGS Page!

The WINGS – Pilot Proficiency Program is designed to help you build a program of recurrent training consistent with your distinctive flight requirements. To accomplish each Phase of WINGS, you can attend safety seminars, take online courses, and demonstrate flight proficiency. You must earn 6 credits to complete a Phase of WINGS - 3 knowledge activity credits and 3 flight activity credits. To ensure you receive a well-rounded learning experience, only selected activities fulfill certain credit requirements. (You can see more details of the WINGS Program by clicking on the blue banner below.)

Although there are Advanced and Master Levels for pilots wishing to demonstrate a higher level of skill and proficiency, most pilots will be satisfied with accomplishments at the Basic Level. While you may earn additional Phases by completing 3 additional knowledge activities and 3 additional flight activities, the program only requires you to complete a Phase once every 12 calendar months.

Pilots may earn a Phase of WINGS using a seaplane, and get a distinctive Sea WINGS pin for that accomplishment. Be sure to modify your WINGS Profile to show you hold a seaplane rating. The system will confirm that you actually hold a Seaplane rating when you request the Sea WINGS pin.

Helpful Tips:

- We have preselected some activities for you in the checklist below. If you would like to change the activity we've picked for you, you can find a different activity using the Search link under the More Choices column.
- To print your WINGS completion certificate, go to your WINGS Logbook and click on the Phase number. Then click on the "Print Certificate for Phase x" link.



Additional WINGS Information [Click Here](#)

[Basic WINGS](#)

[Advanced WINGS](#)

[Master WINGS](#)

[WINGS Logbook](#)



Congratulations. You completed Basic Phase 1 on October 22, 2011!

This phase has been documented in your Logbook. [View Certificate](#)

[Start Working On Phase 2 >](#)



tnorb@comcast.net
(Airman)

[Logout](#)

WINGS - At a Glance

Flight Review Expires: Oct 31, 2013

Phases In Progress

Basic WINGS: [Activities](#)

Advanced WINGS: [Activities](#)

Highest Phase Achieved

Basic WINGS: [Phase 1](#)

Advanced WINGS: None

Master WINGS: None

[Claim Reward!](#)

Old WINGS Program: n/a

WINGS Tools

[WINGS Profile](#)

[External Credit Review](#)

[Help](#)

Wings

- Online at:
<https://faasafety.gov/WINGS/pub/default.aspx>
- Very easy to sign up, take courses, find out about safety seminars and validate flight training towards qualification

Post 9/11 GI Bill

UNITED STATES
DEPARTMENT OF VETERANS AFFAIRS



Search All VA Web Pages

Search
[Open Advanced Search](#)

[Home](#) [Veteran Services](#) [Business](#) [About VA](#) [Media Room](#) [Locations](#) [Contact Us](#) [GI Bill home](#)



[GI BILL HOME](#) [APPLY FOR BENEFITS](#) [POST 9/11 GI BILL & OTHER PROGRAMS](#) [RESOURCES](#) [SUPPORT](#) [COMMUNITY](#) [CONTACT](#)

The Post 9/11 GI Bill

The Yellow Ribbon Program

Transfer of Post-9/11 GI-Bill
Benefits to Dependents
(TEB)

Marine GYSGT John David
Fry Scholarship

Debt Information

Montgomery GI Bill

Active Duty (MGIB-AD)
Selected Reserve (MGIB-SR)

Other programs

Reserve Educational
Assistance (REAP)
Survivors & Dependents
Assistance (DEA)
Veterans Educational

The Post-9/11 GI-Bill

Beginning August 1, 2011, break (or interval pay) will no longer be payable under MGIB-AD except during periods your school is closed as a result of an Executive Order of the President or an emergency (such as a natural disaster or strike). For example, if your Fall term ends on December 15th and your Spring term begins January 10th, your January housing allowance will cover 15 days in December and your February housing allowance will cover 21 days in January.

The Post-9/11 GI Bill provides financial support for education and housing to individuals with at least 90 days of aggregate service on or after September 11, 2001, or individuals discharged with a service-connected disability after 30 days. You must have received an honorable discharge to be eligible for the Post-9/11 GI Bill.

[For more information see our Post-9/11 GI Bill pamphlet](#)

The Post-9/11 GI Bill is effective August 1, 2009. Approved training under the Post-9/11 GI Bill includes graduate and undergraduate degrees, vocational/technical training, on-the-job training, flight training, correspondence training, licensing and national testing programs, and tutorial assistance. All training programs must be approved for GI Bill benefits.

Choosing a School



Apply For Benefits



VetSuccess



Benefits resources

Rate Tables

Benefit Comparison Tools

Education resources

Education Programs

Choosing a School

Tillman Scholarship

Verify attendance

(W.A.V.E.)

Student handouts, brochures, and regulations

Flight Training

Flight training is available for such programs as:

- Rotary wing qualification
- B747-400 Qualification
- Dual engine Qualification
- Flight engineer

Qualification Requirements

In order to qualify, you must have a private pilot's license and valid medical certification before beginning training.

Not available under the Dependents' Educational Assistance program (Chapter 35).

Payment Amounts

While the participation requirements are the same for all GI Bill programs, the payment amount varies depending on the GI Bill program you are utilizing, and the type of Flight School you are attending. (*Payments are issued after the training is completed and the school submits the information to the VA.*)

Under The Post-9/11 GI Bill

- If you are enrolled in any degree program that consists of flight training at a public Institution of Higher Learning you can be reimbursed up to the resident in-state cost of the training and will be eligible to receive your housing allowance and the books & supplies stipend.
- If you are enrolled in any degree program that consists of flight training at a private Institution of Higher Learning you can be reimbursed up to the full cost of the training or \$17,500 per academic year, whichever is less. You will also be eligible to receive your housing allowance and the books & supplies stipend.
- If you are enrolled in any type of vocational flight training you can be reimbursed up to the full cost of training or \$10,000 per academic year, whichever is less, you WILL NOT receive the housing allowance or books & supplies stipend.

The logo for the Monterey Navy Flying Club is a circular emblem. The word "MONTEREY" is written in a semi-circle at the top. Below it, the words "NAVY FLYING CLUB" are stacked in large, bold, sans-serif capital letters. The background of the emblem is a light blue gradient.

MONTEREY NAVY FLYING CLUB

Night Flying

A yellow and blue biplane is shown in flight, angled upwards and to the right. The word "NAVY" is written in blue on the lower wing. A blue star with a white outline is visible on the upper wing. The tail section also features a blue star with a white outline.

What do we need to know?

Outline

- Aeromedical Factors
 - Vision in Flight
 - Light sensitive cells
 - Night Vision
 - Hypoxia
 - Adaptation
 - Illusions
 - Landing Illusions
- Considerations
- Pilot and Aircraft Equipment
- Wx and Rules
- Emergencies
 - Single Engine Failure

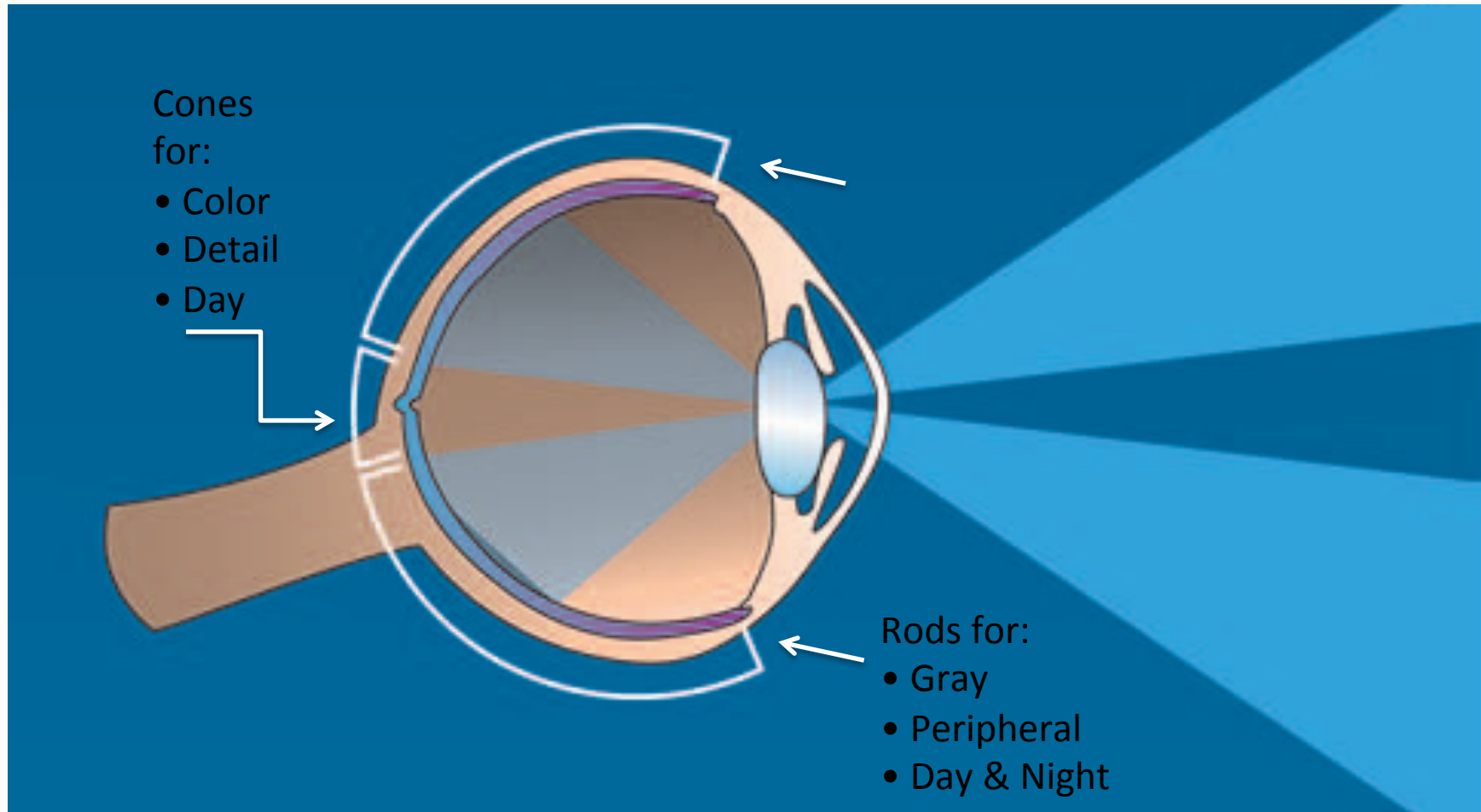
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Vision in Flight

- There are two kinds of light-sensitive cells in the eyes: rods and cones
- Cones are responsible for color vision
- The fovea contains a concentration of cones (the center of the visual field where detail, color sensitivity, and resolution are highest)

Rods and Cones



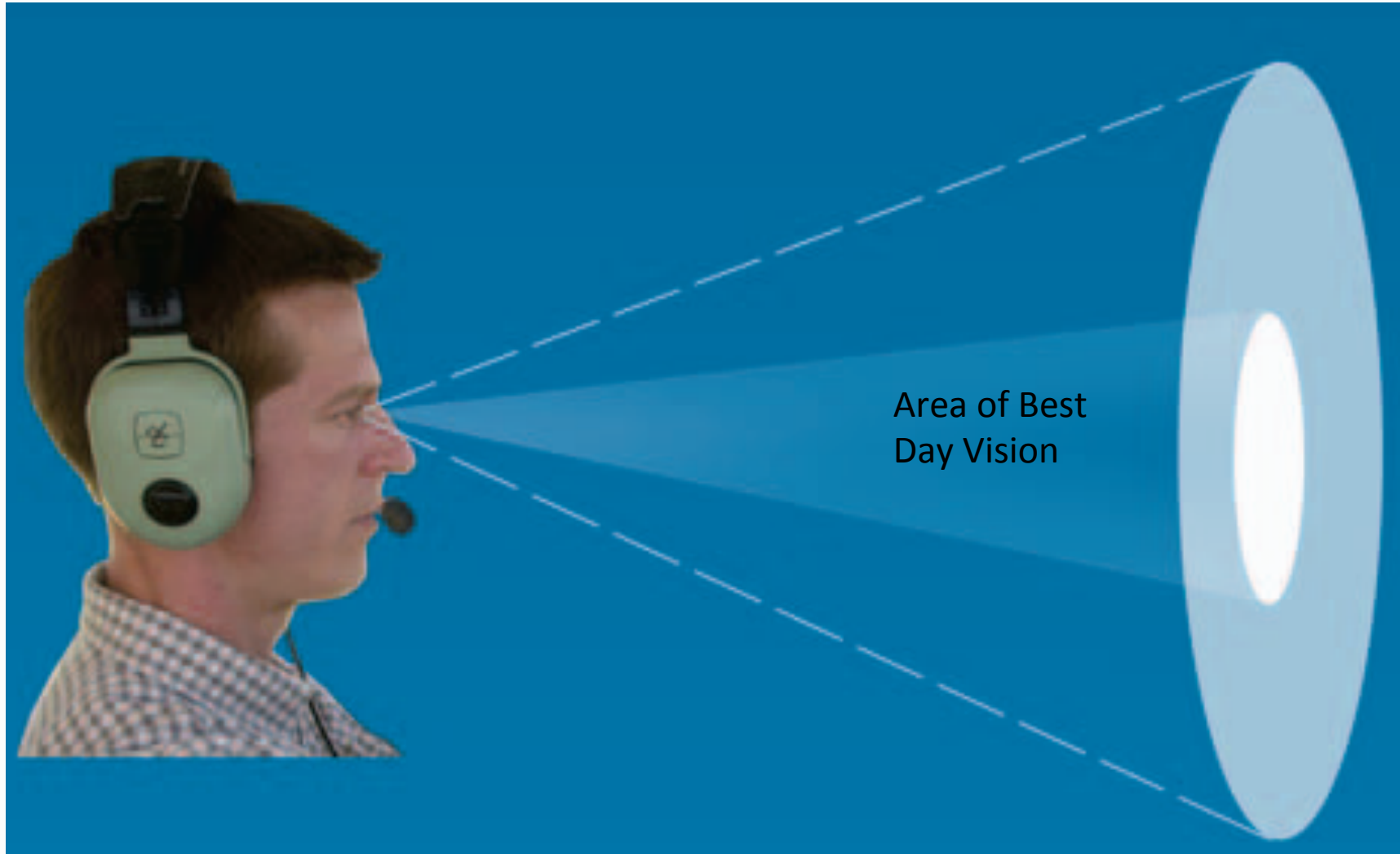
Vision in Flight

- Rods are unable to discern color but are very sensitive at low light levels
- If a large amount of light overwhelms them, they take a long time to “reset” and adapt to the dark again
- In low light, the middle of the visual field is not very sensitive, but farther from the fovea, the rods are more numerous and provide the major portion of night vision

Human Eye Blind Spot



Day Vision



Empty Field Myopia

- Empty-field myopia is a condition that usually occurs when flying above the clouds or in a haze layer that provides nothing specific to focus on outside the aircraft. This causes the eyes to relax and seek a comfortable focal distance which may range from 10 to 30 feet. For the pilot, this means looking without seeing

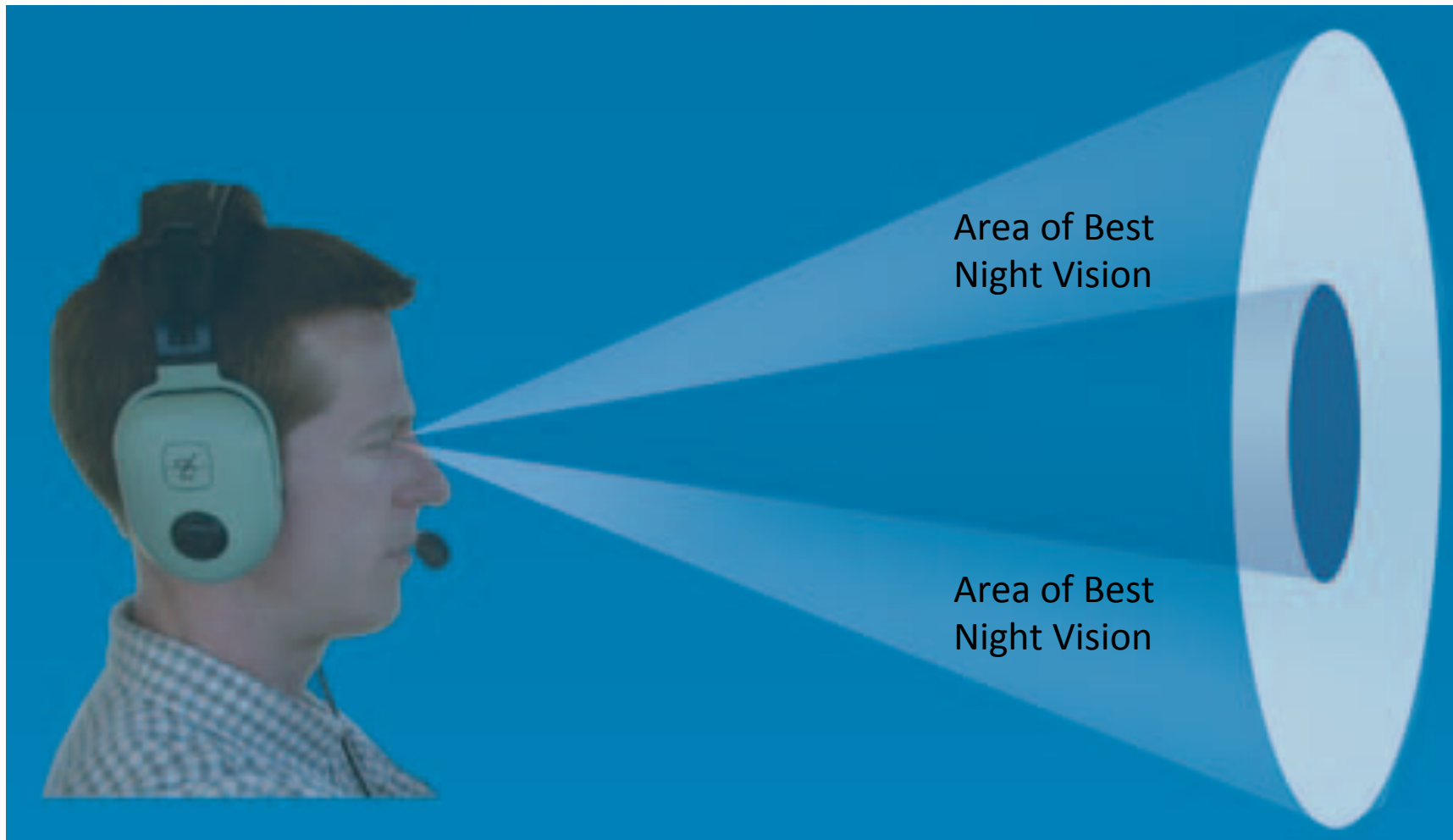
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Night Vision

- The concentration of cones in the fovea can make a night blind spot in the center of the field of vision. To see an object clearly at night, the pilot must expose the rods to the image. This can be done by looking 5° to 10° off center of the object to be seen.

Night Vision



Hypoxia

- For the pilot suffering the effects of hypoxic hypoxia, a simple descent to a lower altitude may not be sufficient to reestablish vision. For example, a climb from 8,000 feet to 12,000 feet for 30 minutes does not mean a descent to 8,000 feet will rectify the problem. Visual acuity may not be regained for over an hour. Thus, it is important to remember, altitude and fatigue have a profound effect on a pilot's ability to see.

Adaptation

- Dark adaptation is impaired by exposure to cabin pressure altitudes above 5,000 feet, carbon monoxide inhaled in smoking and from exhaust fumes, deficiency of Vitamin A in the diet, and by prolonged exposure to bright sunlight.

Maintaining Adaptation

- For 30 minutes before a night flight, avoid any bright light sources, such as headlights, landing lights, strobe lights, or flashlights
- If a bright light is encountered, close one eye to keep it light sensitive
- Red flight deck lighting also helps preserve night vision, but red light severely distorts some colors and completely washes out the color red. This makes reading an aeronautical chart difficult

Maintaining Adaptation

- A dim white light or a carefully directed flashlight can enhance night reading ability
- While flying at night, keep the instrument panel and interior lights turned up no higher than necessary. This helps to see outside references more easily.
- If the eyes become blurry, blinking more frequently often helps

Illusions

- ***Autokinesis***

- caused by staring at a single point of light against a dark background for more than a few seconds. After a few moments, the light appears to move on its own

- ***False Horizon***

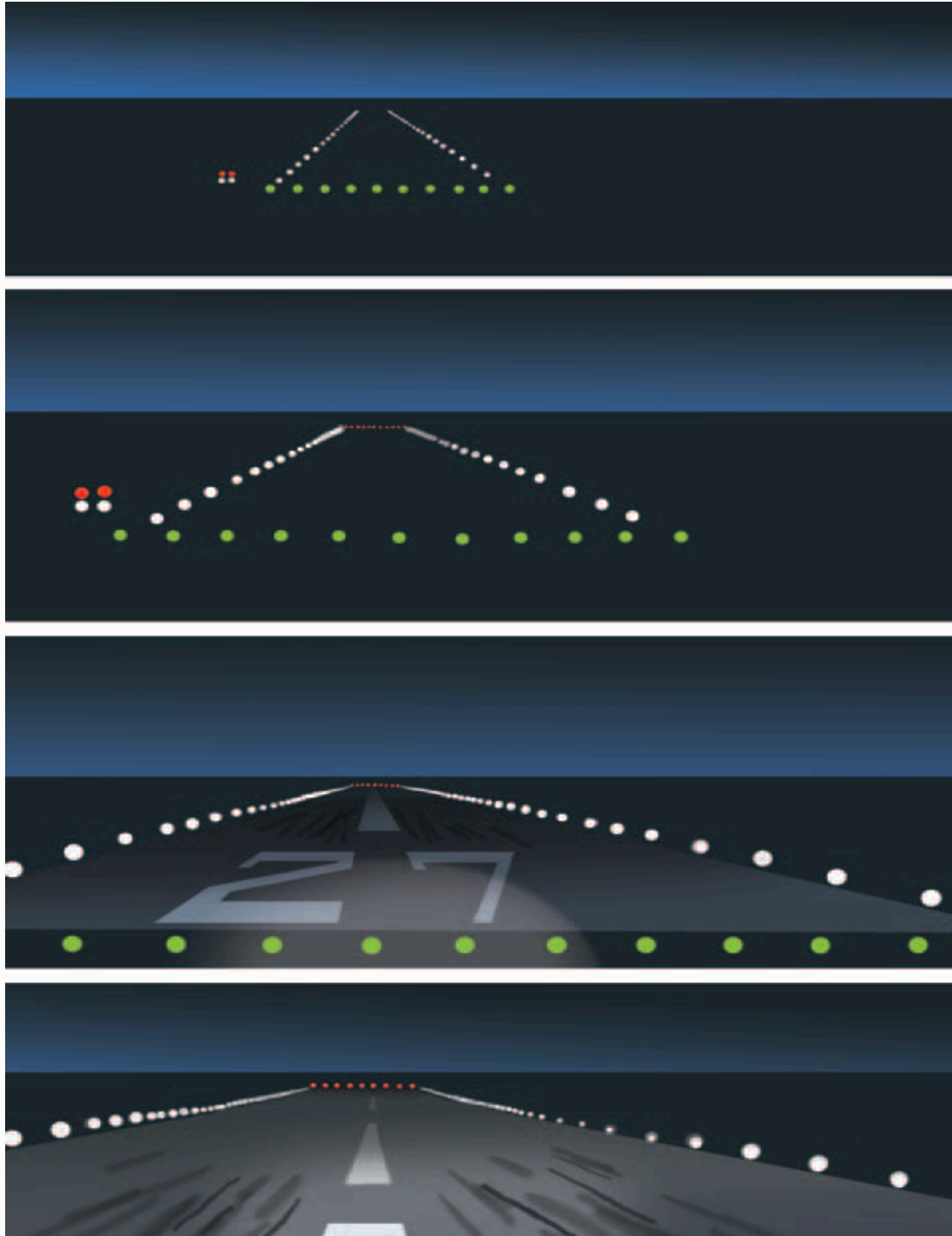
- can occur when the natural horizon is obscured or not readily apparent.
- can be generated by confusing bright stars and city lights.
- can also occur while flying toward the shore of an ocean or a large lake

Landing Illusions

- Above featureless terrain at night, there is a natural tendency to fly a lower-than-normal approach
- Elements that cause any type of visual obscurities, such as rain, haze, or a dark runway environment can also cause low approaches

Landing Illusions

- Bright lights, steep surrounding terrain, and a wide runway can produce the illusion of being too low, with a tendency to fly a higher-than-normal approach
- A set of regularly spaced lights along a road or highway can appear to be runway lights.
- Pilots have even mistaken the lights on moving trains as runway or approach lights.
- Bright runway or approach lighting systems can create the illusion that the airplane is closer to the runway, especially where few lights illuminate the surrounding terrain



**Roundout
when tire
marks are
visible**

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Considerations

- If the trip includes flying at night over water or unpopulated areas with the chance of losing visual reference to the horizon, the pilot must be prepared to fly IFR.
- Will the flight conditions allow a safe emergency landing at night?
- Preflight all aircraft lights, interior and exterior, for a night flight. Carry at least two flashlights—one for exterior preflight and a smaller one that can be dimmed and kept nearby.

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Pilot and Aircraft Equipment

- Good flashlight(s).
 - One (blue or red lens)
 - Another (clear lens) for preflight/postflight
- Cockpit organization
 - Charts / Maps
 - Clean the windshield
- Aircraft Position and Anti-collision / strobe lights
 - Landing light on – w/in 10 miles of an airport
 - Cockpit lighting (as dim as possible)

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Wx and MNFC Rules

- VFR minimums: 2500 / 5
- IFR equipped and rated and current if
> 100NM from MRY
- 3 T/Os and LDGs to a full stop w/in 60 days for
currency

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Emergencies

- Most nighttime accidents occur due to adverse Wx conditions, or poor pilot judgment

In any case:

- Maintain positive aircraft control
- Analyze the situation
- Land as soon as conditions permit

Single Engine Failure

- Establish glide A/S
- Turn towards airport, or away from congested area
- If altitude permits, determine cause of engine failure and attempt restart if possible
- If no restart, plan approach to unlighted area
- Mayday to ATC, squawk 7700
- Maintain orientation with wind direction to avoid landing downwind

Single Engine Failure

- Complete appropriate emergency checklist (at least boldface items)
- Complete landing checklist and illuminate area with landing light
- Establish normal landing attitude at the slowest possible speed
- If visual cues are lost, maintain level landing attitude until contact with the ground
- Secure aircraft and evacuate

References

- The Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25A)
http://www.faa.gov/library/manuals/aviation/pilot_handbook
- The Airplane Flying Handbook (FAA-H-8083-3A)
http://www.faa.gov/library/manuals/aircraft/airplane_handbook
- Airman's Information Manual (AIM)



QUESTIONS?



NASA ASRS

Aviation Safety Reporting System

[http://asrs.arc.nasa.gov/
publications/callback.html](http://asrs.arc.nasa.gov/publications/callback.html)

Call Back 380

Situation: Watch Out for the "Other Guy"

You may be following all the rules, but there is no guarantee that everyone else is. This SF340 flight crew had an all-too-close encounter when a crop duster approached out of the sun, at the wrong altitude and apparently not watching out for traffic.

While level at 8,000 feet, we experienced a near collision with a turboprop crop duster. The other aircraft was coming from our 11 o'clock position and traveling northwest to southeast. It passed 300-500 feet in front of our aircraft and less than 100 feet above our altitude. The duster was so close that we could feel its wake turbulence as it went by. Our TCAS was operating and showed no other aircraft. Center and Approach Control gave no traffic warnings. No evasive action was taken as the encounter was over before we could take any.

We were doing everything correctly at the time of the incident. All of our checklists were complete and there was very little distraction inside our cockpit. We had followed all ATC instructions and our aircraft was in the correct location for our flight plan and ATC guidance. It is possible that the crop duster was blocked by my sun visor and possibly the window pillar, as this creates a blind spot in the direction of the other aircraft. That aircraft was also coming at us from the sun and at the wrong altitude for the direction of flight. Although we had all of our exterior lights on and were following instructions and standard operating procedures, it's always necessary to watch out for "the other guy." Even if TCAS is installed and you're under ATC direction, "see and avoid" is still every pilot's responsibility.

Situation: Who's On Base

Tower assumed that the reporter's aircraft would "beat" another aircraft to the runway. The reporter assumed that the other aircraft would make a 45-degree entry to the left downwind. The result was not a "towering" success.

It was VFR— clear with unlimited ceiling. I was instructing in the right seat. We contacted Tower just south of [the] Class D [airspace]. We received instructions to make left traffic and were cleared to land. We executed a 45-degree entry to a left downwind. Abeam the Tower, I requested a short approach to give the student a simulated engine-out arrival.

The Tower Controller had cleared another aircraft to "enter left traffic." He told me later that he thought we would beat the aircraft to the runway. Just past abeam the runway end, the other aircraft established not on a downwind, but perpendicular to the runway on a left base and streaked in front of us (... way inside the normal power-on base leg area). I took the controls and executed an evasive turn to the right....

The other aircraft clearly didn't follow instructions to enter the pattern for left traffic and instead headed directly to a left base entry. We received no traffic advisories on the conflict and came very close to colliding with the other aircraft. We saw and avoided, fortunately. [I] really wouldn't like to come that close to a midair again.