

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

AIR FORCE FITNESS PROGRAM

CASE STUDIES ON THE IMPACT ON AIRCRAFT MAINTENANCE

by

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Contents

| | <i>Page</i> |
|---|-------------|
| DISCLAIMER | II |
| ACKNOWLEDGEMENTS | IV |
| ABSTRACT | VI |
| INTRODUCTION | 1 |
| AIR FORCE PHYSICAL FITNESS: EVOLUTION/HISTORY | 4 |
| AIR FORCE PHYSICAL FITNESS: CASE STUDIES | 11 |
| CONCLUSIONS AND RECOMMENDATIONS | 18 |
| GLOSSARY | 27 |
| BIBLIOGRAPHY | 28 |

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This research paper is dedicated to SMSgt Scott Sutherland, USAF, deceased. Scott was a production superintendant that worked for both me and my husband at Tyndall Air Force Base, Florida. Scott's life was cut short because of his lifestyle that included long hours at work, poor eating habits, and no fitness regimen. Scott passed away in 2002 after deciding to run a practice 1.5 mile to get ready for his annual AFPT. Scott was your typical maintenance airman, he looked fit, but like many of us, he never found enough off duty time to work out. Later we all found out, through Scotts' autopsy, that he had atherosclerosis (fat accumulations on the inside of his major arteries leading to his heart) that ultimately caused his death. Scott left behind his wife, Deb, and his recently adopted son.

Challenges including constant flying operations, lack of motivation, to non-support of leadership have made implementation of the fitness program in aircraft maintenance challenging. This paper is my attempt to provide two examples that may be of assistance to commanders who find themselves faced with the challenge of 24-hour operations (specifically focused on combat units that have deployments to extreme weather locations) and executing a physical fitness program.

This paper would not be possible without the help of the candid feedback from my advisors Lieutenant Colonel Lance Mathews and Major Joe Dene of the Air Force Judge Advocate General School. Also, thanks go to both Colonel Thomas Roshetko and Lieutenant Colonel Michael Slojkowski, students of Air War College. The three of us were fortunate enough to

share applicable data for our research papers. Although their papers focus on different areas of Air Force physical fitness (medical and pararescue specific areas), we all share the same passion that the program is broken and needs to be fixed.

Abstract

This paper reviews two case studies as examples to successfully implement the mandatory Air Force Physical Fitness Program (AFPT) in a 24-hour operational unit. The paper acknowledges the evolution and the forward strides the Air Force (AF) has made to provide a program allowing airman on-duty time to become “fit to fight.” However, AF squadrons appear to be focused on “fit to test” versus providing airman opportunities to change their lifestyles. This focus is evident in the non-compliance with the program within combat-coded aircraft maintenance squadrons. These squadrons are faced with the real world challenge of balancing the AFPT program within the confines of 24-hour operational flying requirements already supported with 12-hour daily shifts. The operational requirements, reduced manning, and four to six month Air Expeditionary Forces (AEF) rotations forces most maintenance squadrons to put less emphasis on enforcing the AFPT requirements of 90 minutes, three days a week for fitness training.

Chapter 1

Introduction

The 21st Century Air Force is truly expeditionary, so it is imperative we are all prepared to meet mission challenges. Maintaining a healthy lifestyle is often the first step to accomplishing this goal. A healthy lifestyle not only boosts energy levels, endurance and reduces stress in every day duties; it can potentially save an Airman's life in the deployed environment.

—CMSAF Rodney J. McKinley

This paper will review the current procedures within aircraft maintenance units responsible for supporting 24-hour combat-coded¹ operational flying units. Ensuring aircraft maintenance airman are “fit to fight” is imperative to the successful execution of combat operations in deployed locations around world. Challenges in these deployed environments include acclimation to sever weather conditions, longer than normal duty days, and relaxed (or no) standards regarding the execution of a fitness program in the forward operational location. Because of the challenges associated with deployed locations, coupled with already long hours associated with home station operations, it is imperative that squadron commanders follow the Air Force Instruction (AFI) 10-248 and its intent. “Motivat(ing) all members to participate in a year-round physical conditioning program that emphasizes total fitness ... commanders and

¹ Combat coded, Air Combat Command. Information in this paper does not take into consideration mobility command assets or training units assigned to Air Mobility Command, Special Operations Command, or Air Education and Training Command aircraft units.

supervisors must incorporate fitness into the AF *culture* establishing an environment for members to maintain physical fitness and health to meet expeditionary mission requirements.”²

The paper is split into four major sections. The introduction describes the basic problem aircraft maintenance squadrons are faced with today, with regards to the balance of operations and fitness. The second chapter, reviews the steps the Air Force has taken to bring the Air Force Physical Testing (AFPT) program to its current program. A review of the current Department of Defense (DoD) and AFIs are used to help understand the expectations placed upon all squadron commanders. This chapter then reviews basic definitions and programs that the AF follows today. It concludes with a comparison of United States Army and Marine Corps fitness programs.

The third chapter, examines aircraft maintenance squadrons and why they have problems executing the AFPT program. Airmen in aircraft maintenance already work 10-12 hour work days. Their commanders are challenged with balancing among other things, 30-40% manning reductions, 24-hour flying schedules, and a time-consuming fitness program. This sets the commander up for a math problem that sometimes equals a negative answer. Many maintenance commanders place physical fitness at a lower (or no) priority due to the importance of the operational flying mission. In this situation, only when Airmen fail their test and enter into the “marginal/poor” category, does the squadron commander become actively engaged in enforcing the AFPT program. To help balance the priority of fitness, the chapter also looks at the benefits of a “fit force.” These benefits help paint a picture of what good comes from a regular fitness routine. The chapter concludes with two specific case studies executed at base-level aircraft maintenance squadrons. These case studies illustrate attempts to meet the intent of the AFIs in

² Air Force Instruction 10-248. *Operations, Fitness Program*, 2007. Emphasis on “culture” was added by the author of this paper.

aircraft maintenance. These are two different ways to execute the AFPT, while balancing the overall hours maintenance airman spends at work. Since neither of the case studies are a 100% solution to the USAF-wide problem, each options benefit and drawbacks are discussed.

Finally, chapter four includes conclusions and overall recommendations. It highlights why executing the fitness program in maintenance is important for mission success. It also includes recommendations on how the AF as a whole can change the culture and provide a foundation that is amenable to executing the program. Finally, a connection between the maintenance case studies is applied to other 24-hour operational squadrons like security forces, air traffic control, and medical support squadrons. As this paper concludes, the AF has taken steps in the right direction to improving the importance of physical fitness. The problem actually lies in the culture of the AF and how it applies to the execution of this program at squadron level. As you will read, the AFPT program in aircraft maintenance it is nowhere close to changing the lifestyles of Airman--it is still simply making them "fit to test." This is unacceptable for long-term AF mission success.

Chapter 2

Air Force Physical Fitness: Evolution/History

There's only a very small percentage of Americans who wear the military uniform of our country, and I'm proud of you and proud to serve with you. All of the things you are accomplishing right here (Sather Air Base, Iraq) in the crucible are remarkable, and your actions here will dictate what America's reputation will be going forward.

—CSAF Norton Schwartz

Over the past 15 years the AF has changed the fitness measurement of their personnel from the 1.5 mile run format, to the cycle ergometry format, and back to the 1.5 mile run format. Based on various sources, the most likely reason changes were made was increased fitness knowledge within the civilian and military populations. The most recent change in 2003, by then CSAF General John P. Jumper, was to make our fitness program fall more in line with the “warrior culture” the AF was cultivating in response to the increased deployment tempo. A targeted “back to basics” emphasis was included. The intent of the change was not simply one of testing but one of a lifestyle change to ease the stress combat was putting on the AF Airman. General Jumpers’ initial message concluded with one simple phrase “if you are out of shape, fix it.”³

³ General John Jumper, *Fit to Fight*, Chief’s Site Picture, 30 July 2003.

Regulations

There are four primary directives and instructions that develop the structure of the AFPT program. The four focus on who is responsible for the respective programs in a waterfall approach. The first three are DOD level directives and the third is the AF specific guidance. All build the foundation for the AFPT program.

DOD Directive (DODD) 1010.10 *Health Promotion and Disease/Injury Prevention*, dated 22 August 2003, is the overarching guidance for all of the services. It is a bedrock document that connects physical fitness with the behaviors of individuals. The intent of this document is to “achieve and sustain a constantly fit and ready force...at home and abroad, in peacetime and in conflict.”⁴ The next two directives are focused on the physical fitness and body fat programs, again at the DOD level.

DODD 1308.1, *DOD Physical Fitness and Body Fat Program*, and DOD Instruction (DODI) 1308.3, *DOD Physical Fitness and Body Fat Program Procedures*, “implement policy, assign responsibilities and prescribe procedures governing physical fitness and weight/body fat standards, in the Armed Forces.”⁵ The intent of these two regulations is to direct the military services to create and conduct physical fitness programs at the Service level. It places the importance on executing the program at the commander and the supervisor level. Most importantly it clearly identifies the commander’s responsibility includes balancing the fitness program with the operational readiness of their units. DODI 1308.3, in paragraph 6.1.2.4., specifically directs the Services to provide time for physical fitness during duty hours. The remainder of the document explains how to execute the four areas of the fitness program and why the program is important.

⁴ DODD 1010.10, 22 August 2003, Para 1.4

⁵ DODI 1308.3, 5 November 2002, Para 1.1

The CSAF takes this direction and turns it into policy in AFI 10-248, *AF Fitness Program*. This document is the “how to guide” for all fitness in the AF. Although the intent is for physical fitness, this document also briefly discusses the importance of cessation programs to round out the healthy lifestyle changes expected by Airman. Again, as in the DoD documents, the emphasis in this document is on the commander and his or her promotion and execution of their fitness program. The focus of this document is year round physical fitness with an overall goal of developing a fit airman that can adapt to the stresses faced in daily and combat operations.

With this basic foundation of the DoD and AF level regulations that apply to the AFPT program, we will next review how the program is implemented, specifically the research behind the program, and define the three key pillars of the AFPT.

Programs

The AFPT is patterned after the ACSM model. This program is where the AF gets their definition of physical fitness. Physical fitness was “your ability to carry out daily tasks without being overly tired.”⁶ The AF based its four components on the ACSM model: 1) Cardio Respiratory; 2) Muscular Fitness; 3) Flexibility; and 4) Body Composition.

It is important to note that the American College of Sports Medicine (ACSM) program is a very basic program that focuses on life style changes that can be made to increase one’s daily ability to respond to stress. It lays out the appropriate level of exercise at 3 days, not to exceed 5 days, in order to maintain a lifestyle that is appropriate for having a happy and healthy life. The next two institutes reviewed agree that moderation and habit forming lifestyle changes make it easier to function and may even prolong life.

Doctor Kenneth Cooper arguably is the original author of the AFPT program. While serving in the AF, as Director of Aerospace Medical Laboratory in 1970, he developed basic principles

⁶ ACSM, *Exercise*, p.9

that airman could apply to their daily routine. Dr. Coopers program was proven around the 12-minute aerobic test and the 1.5 mile run. He, as a medical expert, understood the importance of fitness as preventative medicine. Although he worked to prove fitness should be part of the daily work routine it was not adopted as a whole in the AF in the 1970s, it was only adapted for the USAF astronaut program. Dr. Cooper's contributions to the military fitness program still continue today, some 40 years later. According to US DoD Military Health System, Dr. Cooper "introduced the world to aerobics."⁷

Dr. Cooper and Dr. Joe Arends, a former Navy flight surgeon, started up a practice in South Texas once he separated from the Air Force. The Cooper Aerobics center was wellness-focused and continues to focus on fitness as a preventative medicine. A key individual that provided fitness expertise to the Cooper Aerobics center was Mr. Covert Bailey. Now retired, Mr. Bailey provided 30 years of expertise in the area of physical activity, fat metabolism, and weight. Mr. Bailey's main focus was on changing the metabolism of those who were deemed "fat" through nutritional and fitness education. In his words fat people have "something inside making us gain weight faster than other people do. Something in our body chemistry is favoring the deposit of fat."⁸ This concept is the basis for the Health and Wellness Center (HAWC) program. The HAWC is the AF answer to providing nutritional and physical fitness advice to airman, specifically those who fail their AFPT.

As this paper will discuss later, the problem with the AFPT program is it is used in a reactionary manner. Similar to Dr. Coopers' complaint almost 40 years ago, the AF is still focused on fixing the problem after the problem occurs. Although the HAWC is available to

⁷ US DOD Military Health System, *Kenneth H. Cooper*, p.1

⁸ Bailey, Covert. *Fit or Fat*. p.3

personnel who have not failed the AFPT, typically it is only used for rehabilitation after surgery and for those in the “marginal/poor” testing category of the AFPT program.

Sister Service Fitness Programs

The purpose of reviewing the other service fitness programs is due to the increased “in lieu of” taskings the AF is being asked to share with the Army, and sometimes in support of Marines as well. As mentioned above, the DODDs and DODIs direct all services to develop fitness programs to ensure their respective Airman, Seaman, Soldiers and Marines are physically fit to meet the rigors of daily operations.

As previously discussed, the Air Force has recently transitioned to a “warrior-type” fitness program. The intent of this program is to change the culture of the AF from one focused on tests to one that prioritizes fitness in a daily routine. The annual program is focused on four distinct areas: cardio, muscular, flexibility and body composition. The responsibility for executing this program rests with the commander. Although there have been great strides to make the program more “Army like,” it is evident that there are still several steps that need to be made to reach the warrior type fitness goal.

The United States Army (USA) places fitness as priority #1. Fitness is key to executing their mission. The USA differs from the AF in their culture--their culture is focused on doing what it takes to develop soldiers to accomplish this mission. Fitness is an item on their mission essential task lists (METL). The METL is a checklist that determines what is needed for a fully qualified soldier to function properly in combat. The USA uses the same four critical areas for their annual test, however their approach is different. Similar to the AF, the USA provides their commanders with Field Manual (FM) 21-20 to execute their fitness program. The primary focus of FM 21-20 is “to prepare soldiers to meet the physical demands of war. This manual can be

used by all as a source book.”⁹ In addition to FM 21-20, the *US Army Fitness Training Book* is published by the Department of the Army. This handbook focuses on the exercises a platoon can use to build weekly fitness program. It is a “Fitness for Dummies” handbook written by the Army for the Army. Generally, USA units start every day with fitness, before the operations starts, and it is lead normally by the platoon commander or the top enlisted soldiers. Real time focus, at the lowest level, allows remediation on a daily basis to fix fitness problems before they become a disease. This is not to say the USA does not have unfit soldiers. However, how they deal with those personnel is drastically different than the procedures in the AF.¹⁰

Similar to the USA, the United States Marine Corps (USMC) places physical fitness at the top of their priorities to develop combat Marines. Marine Corps Order P6100.12, *Marine Corps Physical Fitness Test and Body Composition Program Manual* (MCPFTBCP), sets all standards for fitness in the USMC. The MCPFTBCP “provides the guidance for [Commanding Officers] to implement and maintain the requirements and standards within the Marine Corps ... Every Marine must be physically fit, regardless of age, grade, or duty assignment.”¹¹ It is similar in nature to both AFI 10-248 and FM 21-20, however it differs in sheer bulk and where the responsibility lies. The USMC places the responsibility for fitness on the individual Marine. As seen in the combat conditioning program (CCP), the group physical training is focused towards preparing Marines for combat. The CCP is “by Marines and for Marines ... combining aerobic and anaerobic fitness to create strength, power and endurance for the battlefield knowing the combat has no quarters, half-times, or timeouts.”¹² CCP is a mixture of combat-oriented conditioning mixed with martial arts. CCP is just one of many examples of how individual

⁹ Powers, Rod. “Army Field Manuals,” p.1

¹⁰ Army personnel must accomplish morning PT and if they are not within standards they are responsible for attending a second PT session in the afternoon until they are back in standard.

¹¹ Marine Corps Order P6100.12, para 1, 3

¹² Shusko, Joseph Lt Col. “Functional Fitness/Combat Conditioning”, p68.

Marines strive to excel at fitness because it is part of their culture, one where failing is the difference between life and death.

The three predominant service fitness programs are different. They are different for the basic reason that the jobs between the three services were different. The USAF has traditionally been deployed in locations that were away from the “danger” and direct combat, where the USA and USMC lives in direct contact with the enemy. Today, the combat scenario we once knew is changing for all services. With the advent of “in lieu of taskings” (where AF is requested to do jobs normally done by the Army due to manning shortages) and an increased combat requirement placed on all military services, it is no longer good enough to “test the test” in the AF. Currently AF personnel do not accomplish any maritime requirements, so to look at the US Navy PT test in response to this thesis would not be applicable. The culture must change to allow for the next chapter in the AF history, one involving more frequent direct contact with enemy combatants. Fitness is key in making this transition a little bit easier.

Chapter 3

Air Force Physical Fitness: Case Studies

Generally speaking, studies of workers show that those who are physically fit face each day with more enthusiasm and better sense of well-beingworkers who are in shape are less likely to be careless on the job, and that means fewer industrial accidents they tend to take fewer breaks during the workday, they do their jobs faster, and they operate more efficiently.

—Kenneth H. Cooper, M.D.

Although many squadrons may have a difficult time fitting the requirements of the program into the daily mission, the legal ramifications of simply ignoring the remediation of AF members the “poor/marginal” categories is too steep to let it go by the wayside. Any airman that fails their AFPT twice within 90 days will be enrolled in a very robust program that is focused on nutritional, exercise education, and constant supervision through HAWC staff, squadron level physical fitness leaders, and quite often the squadron commander and first sergeant. The intent of this paper is to make it clear that the squadron *cannot wait until their Airman fail before they take action*. They must be creative in meeting the intent of three times a week, 90 minute sessions for the health of their Airman. They need a barometer of how fit their force is before it is too late.

Fitness Benefits

Books on physical fitness and the benefits are certainly not in short supply. For this short paper alone approximately 40 literary texts were reviewed. From this list a few books and

studies are worthy of note. For example, Rod K. Dishman's book, *Advances in Exercise Adherence*, has multiple studies that have been done worldwide to prove the benefits of regular exercise. A few of those benefits include: active men gaining 1.25 years on their lives, reducing mortality rate in normotensive and hypertensive patients, reducing cardiovascular disease by 3.6% in active women, and lowering risks due to cancers by 17% lower by participating in leisure-time physical activity.¹³ It also highlights only 50% of the younger population participate in exercise, and that rate decreases the older we get.¹⁴

Dishman's book also focuses on the reasons (listed as social-cognitive models) why people may be less inclined to exercise. One of the models listed that is most applicable to this paper, is the "Health-Belief Model." The basis of this model is that if a person thinks something will kill them they are motivated to do something about it. Key to this model is "an individual should decide to exercise regularly if a sedentary lifestyle is perceived as a threat to some aspect of healthy [living] and if regular physical activity is seen as decreasing that risk."¹⁵ It is safe to say that many of us follow this model. Of note, his book highlights the benefits of social marketing and population interventions, which will be discussed in further detail in the recommendations section of the paper.

Another study highlighting the benefits of physical fitness is a survey accomplished by the National Health and Nutrition Examination. This study looked at the correlation between waist circumference and associated risks. The bottom line is the more obese you become the more the risk for diabetes and other chronic diseases increase.¹⁶

¹³ Dishman, Rod. *Advances in Exercise Adherences*, p. 32, 42, 45

¹⁴ Ibid. p. 183

¹⁵ Ibid. p. 114

¹⁶ Hunt, Kristin Gunderson. Support Groups Boost Wellness Initiatives

Two more fitness studies, done in the civilian workforce, show that exercise and increased productivity are directly linked. The first case, covered in the New Zealand Dominion Post, directly connected productivity increases to the employer's addition of a gym and healthy eating options. Through these changes to the work place, the company was able to overcome manning shortages and reduced medical bills.¹⁷ Another workplace related survey, done by Steelcase Inc., was focused on efforts to overcome low productivity. Similar to the company in New Zealand, Steelcase Inc. provided exercise equipment and paid breaks to accommodate exercise during the work day. The employees who reported increase their exercise frequency also "improved worker satisfaction, wellness and productivity."¹⁸

Finally, in Dr. Cooper's book, *The New Aerobics*, studies proved "aerobics ... will lessen [a man's] chance for prematurely developing coronary heart disease or related vascular ailments."¹⁹ His book also points out that aerobics holds specific benefits for females as well. Those include reduced or avoided pain after childbirth if one is muscularly fit. Also, in menopausal women, exercise reduces the effects of osteoporosis. Post-menopausal depression has shown to greatly reduce with participation in a regular exercise program.²⁰

While benefits of regular exercise and healthy lifestyle are apparent, the benefits are worthless if the program is not executed or impossible to execute in specific military organizations. The next section of this chapter will look specifically at two examples of executing physical fitness programs at two base level aircraft maintenance squadrons.

¹⁷ Wellness at Work Helps Productivity, *The Dominion Post*

¹⁸ Steelcase Inc., Exercise and Work Productivity go Hand-in-Hand. p.1

¹⁹ Cooper, Kenneth. *The New Aerobics*, p.11

²⁰ Ibid, p. 140

Case Studies

Both squadrons were responsible for supporting combat-coded training and combat missions. The first case study looks at an Aircraft Maintenance Squadron (AMXS), directly responsible for on-equipment (aircraft) maintenance. The second case will look at a Maintenance Squadron (MXS), responsible for all off-equipment (component) repair.²¹ Both studies include the pros and cons of each option. Neither is the “whole answer” nor complies 100% with the AFI, however they are options that meet the *intent* of providing a change in the maintenance culture. These suggestions provided both squadrons an opportunity for their Airman to increase fitness while encouraging fitness as a daily priority. In order to keep the squadron leadership anonymous no base has been listed or associated with these case studies in this research paper.

For reference both units operate 24-hour operations, broken into three shift support, 5 days a week (with a greater than 50% chance of working a sixth day due to mission requirements unable to be accomplished during the work week). The respective units are manned at 60-80% of their authorized manning level, subjected to extreme weather conditions (including 60 mph winds and temperatures that drop below 0°F during winter operations) for at least 75% of the shift, and are scheduled to work 8-10 hours per day for home station operations, and 12-hours for deployed station operations. Finally, both squadrons held 5 day a week program focused towards rehabilitating unit members that failed the AFPT with a score of “marginal” or “poor.” The PT sessions associated with these individuals were held 3 times a week, and were led by a qualified

²¹ Component repair is the repair of parts off aircraft. Examples include extensive engine work that cannot be completed on the aircraft or avionics equipment that takes too long to test and repair on aircraft. In order to increase aircraft available for flying, available parts are removed and replaced and then repaired in another shop, off aircraft.

Physical Training Leader (PTL) per the AFI. Members with an AFPT score of “excellent” or “good” rarely, if ever, attended these sessions.

AMXS Case Study: The squadron involved was responsible for on-equipment aircraft maintenance supporting two combat-coded units, directly supporting 26 aircraft. This squadron’s primary mission was to provide all generation efforts for flying (training) aircrews according to their combat operation plans. The squadron was deployed for 14 months straight, with a rotational schedule with a sister squadron for the third rotation.²²

The squadron’s PT program was build around squadron fitness one day a week, per shift. This rotational shift provided mandatory workout opportunities 3 times a week. The shift schedule was Tuesday for Mid Shift, Wednesday for Swing Shift, and Thursday for Day Shift. Each day of exercise was headed by two or three PTLs, certified by the HAWC. Each AMXS Airman was responsible to sign in when they attended their prescribed workout day. Flight level and squadron level supervision were encouraged to attend one of the three provided fitness programs each week.

This fitness program offered the following advantages: verified participation in PT at least once a week; observed fitness level by direct line and squadron level supervisors; and also provided leadership opportunities for PTLs. Finally, squadron and flight level supervisors participated, which sent a message that this program was important to the squadron and allowed for “on the spot” evaluation of fitness level before failure.

This way of executing a fitness program also had some drawbacks. First, the rotational schedule was only possible by adding an additional hour of work to cover the flying operations. With the benefits of providing an opportunity to work-out by shift, this program did not provide each person in the squadron with 3 times a week opportunity as required by the AFI. Finally,

²² Sister squadron refers to a unit not assigned to that base, with the same aircraft mission that has the same mission.

although there was participation in the program from the Aircraft Maintenance Unit Officer in Charge and Chief, the squadron commander did not actively participate nor support the program once either unit deployed.

MXS Case Study: The second squadron program for review is also similar in responsibilities to the first squadron. They provided support for 2 combat-coded flying squadrons. They were responsible for all off equipment repair, maintenance that could not be accomplished on aircraft. They provided repair capabilities with a dispatch process. Most repairs were done in shop and were not directly tied to a flying schedule. The squadron provided two-shift operations. However, there were several sections that provide three-shift or on-call support based on the daily flying schedule.

This squadron fitness program allowed flight and section chiefs to determine when their personnel attend PT training. Each flight was responsible for providing 90 minutes of time, 3 days a week, for physical fitness. Squadron Airman participate in smaller groups, typically 5 persons or less, led by the section non-commissioned officer (typically rank of Staff Sergeant or Technical Sergeant). Squadron PT sessions, which included all personnel assigned, is executed once a month on designated training days. During this scheduled exercise period the squadron commander, first sergeant, and all flight level supervisors participated. Like AMXS there are several benefits and drawbacks to this exercise program.

Benefits for this exercise schedule included the following: direct supervisors were able to work their schedules accordingly, allowing each individual the opportunity to participate in exercise three days a week; section level supervisors typically participated and could evaluate fitness level before failure, similar to the first case study; with smaller numbers of personnel in the gym at any one time there was not a big influx on gym equipment, showers, or locker space;

and esprit de corps in each flight increased due to the opportunity to work out together, in a non work environment.

This schedule also had many drawbacks. The most glaring disadvantage was squadron leadership only participated in squadron PT on training days. Due to the flexible schedules, based on low work periods, flight and squadron level supervision rarely had advanced notice to participate in exercise with the Airman in the squadron. The only exception was once a month, on training days when the squadron participated in a run with all personnel assigned to the squadron. There was also a potential for reduced operational support if the supervisor did not pay attention to the flying schedule. Red ball maintenance²³ could not be anticipated. If the maintenance personnel had to be recalled while at PT there was an increased chance of mission cancellation. Also in the scenario the fitness leader was not necessarily a PTL. Finally, this set-up allowed for fitness to be missed due to mission requirements. The squadrons standing rule was the flying schedule had priority over fitness if the decision came between the two.

As one can see, both exercise schedules provided at least once a month oversight of all Airman in the squadron. Neither of the case studies ensured 100% compliance with the AFI requiring squadron led fitness to be provided 90-minutes, three times a week. Both squadrons provided work arounds and arguably met the intent of “changing the lifestyle” of their Airmen. The programs were focused on making airman “fit to fight,” and not fit to test. The final chapter provides an analysis of why it is critical for the AF to change its culture, making fitness a priority.

²³ Red ball maintenance are unanticipated breaks to the aircraft within two hours of the scheduled take off time

Chapter 4

Conclusions and Recommendations

Unit-based fitness programs did not effectively promote a healthy life-style or influence Airmen to make fitness a year-round commitment This condition occurred because Air Force guidance requiring unit commanders issue policy emphasizing year round individual fitness was not an adequate control, in itself, to hold members accountable for maintaining a healthy lifestyle ... thereby promoting a “fit to test” culture contrary to the Air Force total fitness objective

—AFPT Audit Report, 11 December 2008

As seen in the previous pages there are very tangible benefits gained from working out on a normal basis. These benefits far outweigh the problems supervisors experience when building and executing a PT program. The AF has identified these benefits and have put into place AFIs to assist in changing the *culture* at the base level. Evident in the two case studies above, the best of intentions are nothing if they are not executed. This is not to say that the base level maintenance squadrons do not want to provide their personnel with the adequate time to become “fit to fight,” it simply is very difficult balancing operational requirements with fitness requirements. This final section of this paper will look into recommendations, based off of the research, on how to change this culture. Finally, a focused wrap up on a few recommendations specifically pointed to changing the *culture* versus just paying lip service to the fitness program.

Conclusions

First, as already mentioned, the AF *culture* has not changed. As evident in the latest AF Fitness Program Audit Report, directed by Chief Master Sergeant of the Air Force (CMSAF)

Gerald McKinley, the AF trend is teaching the test. This report, released 11 December 2008, looked at 16 different units. Although none of them were specifically marked “aircraft maintenance” one can logically assume that the units chosen were representative of the AF as a whole. The ultimate finding of the report is directly correlated to the thesis of this research paper, “proper physical conditioning is essential to work in the diverse weather conditions required to support global contingency operations.”²⁴ A top down enforcement of the PT program must be executed now. From the Wing Commander down to the Airman, accountability must be demanded. Simply ignoring the program, and scratching ones head on why the Airman can’t get it right is not the answer. The responsibility for execution and support has to stay with the commander, in order for the forward strides to make a difference.

Secondly, the increased global contingency operations directly impacts AMXS and MXS squadrons. This situation coupled with reduced manning, longer and more frequent deployment periods, and 24-hour operational support increase the likelihood that fitness will take a back seat in priority. Although the AF has the correct intent regarding providing fitness requirements to airman, it may be incomplete. Squadron commanders are faced with conflicting priorities. Although they may not be able to meet the exact “letter of the law” regarding the AFI, they can meet the intent with creative scheduling. Creative scheduling can fix the issue in the short term, however a long term solution must be enforced by the most senior officers of the AF--either manning must increase, or additional duties are decreased. A hard look at what is actually needed to support the real world mission, coupled with the reality of maintenance manning is necessary. Although manning in flying squadrons is important, the focus on a realistic work

²⁴ Air Force Audit Agency. Air Force Fitness Program, p.5

load, based on the capability in maintenance needs to be evaluated. Surge²⁵ capabilities cannot be the norm; it is breaking the back (literally in some cases) of the Airman responsible for maintaining those aircraft.

Next, as shown in case study 1, squadron level leadership (specifically the commander) is crucial for the success of any fitness program. Changes in the program may be necessitated, however based on the basic interaction of people, without real support at the commander's level, no changes will ever fix the problem.

For example, the squadron commander cannot simply ignore the fitness program until their Airmen fail the fitness test. Not only does the squadron lose the Airman for more hours if they fail, the AF as a whole assumes more medically related appointments. Airman who passes the annual fitness test is out of the work place for 270 minutes per week for regularly scheduled PT sessions. For an Airman who fails to pass the fitness test, 458 minutes is associated with fitness related events (5 day a week, PTL lead exercises, plus at least one remedial event). This does not include the time for each PTL that must supervise the failing Airman. That is an additional 450 minutes, on top of the already scheduled three times a week requirements. If one is already faced with reduced manning, why would a squadron commander ever desire to double the amount of time his Airman is away for physical fitness associated requirements? Clearly commanders have a busy schedule and don't sit down with pen to paper and determine how many minutes an airman in flight X is gone from the organization. What they do have to report on, through ARTS/SORTs, is the readiness of these same airman.

²⁵ Surge refers to maximum generation of aircraft for a specific period of time. Normally it equates to 50 percent or more flights in any one day, week, or month. Typically, surges are utilized to make up for lost aircrew training. A surge is not optimum for sustaining a fleet over a long time because these operations typically cause more breaks on the associated aircraft fleet assigned.

Fitness decreases stress and increases acclimation to new environments more quickly. As reported by Lt Col Alexander, in his article A Physically Fit Airman, most of the work upon arrival to a deployed location was “moving equipment, setting up base camps, and clearing space so we could operate the equipment essential to the mission.”²⁶ Although the focus of the article was creating a six week program prior to a deployment to help Army personnel, it was directly applicable to AF personnel. “These units need to be mission focused, have their deployable equipment combat ready, and have sound logistical systems, and the service members need to be physically fit.”²⁷

The article written by Lt Col Alexander helps explain the benefits of fitness. With increasing combat rotations (not only with the directly supported squadron, but also “supportive” roles) fitness is key to acclimation and dealing with extreme weather conditions. Fitness allows Airman to carry less body weight and increases productivity during the daily operations. According to Dr. Steven Blair, “by doing 30 minutes of moderate activity ... at least five days a week,”²⁸ one can extend one’s life and provide immediate fitness results.

Finally, once fitness is executed on a weekly basis at the squadron, the focus on fitness should be changed to accommodate conditioning airman to be successful in the “in lieu of” taskings. As mentioned earlier, the Army has a different culture of fitness. They are on their feet for most of the shift, carrying 40+ pounds of equipment, in hot or cold weather. With these “in lieu of” tasks increasing, it is imperative for the AF to ensure our Airman are trained to support all deployment taskings they are asked to fill. As written in the article, In Long Run, Military Alters It’s Training by William Levesque, “the four military services are rethinking the way they keep personnel fit, recognizing an undeniable link between injury and high-stress

²⁶ Alexander, Michael. A Physically Fit Airman. p.38

²⁷ Ibid, p.39.

²⁸ Hellmich, Nanci. Even if you’re fat, get fit to live longer, p.1

exercises.”²⁹ The article links the increased stresses put on the personnel in Iraq with the fitness of the force. It also places importance on “the tradition and culture that exists ... is a force to be reckoned with. It’s difficult to change that mind-set.”³⁰

If one cannot grasp the importance of training AF to work with the Army, one only needs to look closer at taskings on AF bases. All junior members of the AF are being asked to work as Security Forces (SF) augmentee. Aircraft Maintenance, even with its reduced manning, is not immune to these taskings. On average, a maintenance group, will provide at least 10-15 personnel at any time to augment SF.³¹ The likelihood of a junior airman becoming an SF augmentee is extremely high. The reason for this tasking is simple; more SF personnel are needed in the deployed location, leaving home station short. Additional training is necessitated to become an SF augmentee. Like the Army augmentee who typically works long hours, with tactical gear weighing up to 20 additional pounds, they are saddled with additional requirements. Any advantage we can provide Airman to successfully execute either of these jobs, coupled with their daily mission, we owe to them. As is shown by the case studies above, meeting the intent is achievable, even though neither case study complied fully with the AFI.

With the above conclusions evident in the research, the next section will go over four specific recommendations to aircraft maintenance. Although the author is most familiar with aircraft maintenance, there is an obvious connection with other 24-hour operational units (such as SF, Emergency Medical Technicians, and Air Field Operations) which can apply similar programs to their squadrons with success. Maintenance squadron commanders are not the only ones executing operations in support of flying 24-hours a day. Other squadrons, also in support of flying, are facing these same challenges. The recommendations listed in this research can be

²⁹ Levesque, William. In long run, military alters its training, p.1

³⁰ Ibid, p.1

³¹ (Average) based on fair share tasking for 28 Maintenance Group, Ellsworth AFB SD 2006-2008

directly applied to any squadron faced with challenges in manning and shift work. Certainly, aircraft maintenance is not alone in the struggle to make physical fitness fit in the daily operational battle rhythm.

Recommendations

Even in the face of increased deployments and decreased manning, maintenance units can no longer ignore the importance of fitness as part of the critical skill set Airman need to execute their daily jobs. The importance of fitness, both in peace time and in combat, has been extensively documented. The writer proposes four specific recommendations that maintenance units should apply immediately.

First, as mentioned multiple times above, there are no guarantees from fitness of a longer life. However, the reduction of health problems, increased work productivity, and overall decrease in medical costs are a win for Airmen and the AF as a whole. In a 1997 study done by Brooks AFB Texas, researchers showed “lower expenditures for healthy conditions related to excess body weight and reductions in lost workdays associated with these conditions.”³² The most important finding from this research is it that is too late to wait to implement a program once Airman fail their PT test. They showed an almost 50% increase in time away from work when a person fails the test. No squadron, whether maintenance or others, can afford to have their members away from work, especially when scheduling fitness is controllable. The sheer time associated with an airman that fails their PT test is unsuitable for 24-hour military operations (450 minutes for someone that does not pass vs. 270 minutes for someone that is within limits). Squadrons, especially aircraft maintenance, need to build a fitness program and execute it to promote a healthy lifestyle. Simply stating “we don’t have enough people and I already work them too much” is not a valid excuse. The intent of the fitness program needs to be

³² Robbins, AS. Costs of Excess Body Weight Amongst Active Duty Personnel. p.11

followed if not the letter of the law. It is not an easy path, and not everyone will appreciate it-- however the benefits to the Airman and the AF in the long run simply outweigh the challenges of scheduling fitness events.

Second, as mentioned multiple times before, squadron commanders must be held accountable for non-compliance with the AFI. They must be held accountable, if they in turn are going to hold the airman that fails accountable on their EPR or OPR. This recommendation is nothing new. Air University (AU – 2), Guidelines for Command, states the AF Fitness Program’s purpose is “to maintain the efficiency, health, and well-being of individuals and to present a proper military image.”³³ The squadron commander is the key to this program. Without the commander setting fitness as a priority, there can be a million changes to the program, however they will never succeed without the commander’s support. A simple fix ensuring fitness is a priority is to add fitness pass rates/scores to ARTS/SORTs³⁴ reports. These reports already cover their personnel readiness for combat. This report would simply be further detail allowing combatant commands a real view of the fitness of the forces being sourced to support the operational plans. However, the squadron commander can only change his/her unit. The AF has to change the *culture*.

In order to change the culture, the AF should follow the lead of some civilian businesses. The use of social marketing, or directed advertisements to change a person’s actions, is necessary from the highest levels. An example to follow is Lands Ends, a producer of outdoor wear, which offers onsite fitness programs aimed at “diabetics, women going through menopause, family

³³ AU-2, Guidelines for Command, P87.

³⁴ ART/SORTS: Air Expeditionary Forces Unit Type Code Reporting Tool and Status of Resources Training System are utilized by commanders to report the readiness of their personnel and equipment to the Component Command (ie. Air Combat Command). Currently physical fitness scores are not reported in either report.

members of military officers, those diagnosed with breast cancer, and working parents.”³⁵ They utilize different settings and advertisements to provide encouragement and availability of programs to help employees. Similarly, the AF can utilize the results of the AF Audit Agency survey done on the AF Physical Fitness Program as the beginning on who needs to be the primary focused.

Finally, and probably the most difficult, is the recommendation to change the execution of fitness in units responsible for 24-hour operations. As mentioned above, the AF has made several significant steps to creating an executable fitness program, but they are far from perfect. They need to pattern the AF program with the “best of” from the sister service programs. For example, similar to the *Army Fitness Training Handbook*, the AF should create a readily accessible tool that all members of the AF can use. A project similar to Lt Col Jeffrey Smith’s, *Commanding an Air Force Squadron in the Twenty-First Century*³⁶, accomplished while at Air War College. This book is a how to, compiled from lessons learned from previous squadron commanders, on how to execute the most difficult position an AF officer will ever hold, squadron command. This compilation helps prevent other squadron commanders from having to repeat the mistakes of others, and learn from previous experience. Another recommendation to change the culture is ask the Airman directly how the program can be run better. Similar to the CCP in the Marines, the AF PT program needs to be “by Airman, for Airman”. Human nature and numerous studies tell us that the more ownership in a process one has the more likely they are to support it³⁷.

Ownership in a process will not only increase the likelihood of execution, it will hopefully change the lifestyle one has while on active duty. A change toward fitness will reduce

³⁵ Hunt, Kristin Gunderson. Support Groups Boost Wellness Initiatives, P.1

³⁶ Smith, Jeffrey. *Commanding an Air Force Squadron in the Twenty-First Century*

³⁷ Dishman, Rod. *Advances in Exercise Adherence*

stress, physical diseases such as cancer and diabetes, and improve the quality of life Airman have while serving their country and beyond. The necessity for the change is not for a better OPR or EPR. It is for better Airmen who are mentally and physically prepared to hand the rigors of daily 24-hour operations. It is important to impart to Airmen that fitness can be the foundation that they can build a very productive career. Not only does fitness promise a better lifestyle, it also provides an outlet for stress relief and connection with family, friends, and Airman on another level than just “work.” The more trust one has in the Airman on their left and right, the more productive the AF as a whole will be.

Glossary

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| ACSM | American College Sports Medicine |
| AEF | Air Expeditionary Forces |
| AF | Air Force |
| AFB | Air Force Base |
| AFI | Air Force Instruction |
| AFPT | Air Force Physical Fitness Test |
| AMXS | Aircraft Maintenance Squadron |
| ART | Air Expeditionary Force Unit Type Code Reporting Tool |
| CMSAF | Chief Master Sergeant, Air Force |
| CO | Commanding Officer (USMC) |
| CSAF | Chief of Staff, Air Force |
| DOD | Department of Defense |
| FM | Field Manual |
| HAWC | Health and Wellness Center |
| MCPFTBCP | Marine Corps Physical Fitness Test and Body Composition Program Manual |
| MXS | Maintenance Squadron |
| OPLAN | Operational Plan |
| SF | Security Forces |
| SORTS | Status of Resources Training System |
| USA | United States Army |
| USAF | United States Air Force |
| USMC | United States Marine Corps |
| USN | United States Navy |

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