PT REFINEMENT TRAINING PACKAGE

HEADQUARTERS, 16TH MILITARY POLICE BRIGADE
(AIRBORNE)
FORT BRAGG, NORTH CAROLINA 28307-5000

AFZA-AP-CO (350) 7 January 1999

MEMORANDUM FOR All Leaders

SUBJECT: Physical Fitness Training Program

1. The intent of this program is to develop each soldier to his/her maximum physical fitness and inculcate a physical training ethic that will last a lifetime.

2. Our **goal** is to increase everyone's S3 (Strength, Stamina and Speed) and we must continually assess our soldiers toward this goal. Use this booklet as a guide/tool to help you achieve this goal. To do this, we must train to **standard**. On run/aerobic days, the standard is to achieve an average training heart rate (THR) for 20 to 30 minutes and on alternate strength training days, achieve the appropriate muscle failure in order to progress; understanding that adequate rest and nutrition between training periods are essential as well. Each soldier will be instructed in his THR upon inprocessing the unit.

3. Our PT Program is designed to improve the following physical fitness components: Cardiorespiratory (CR) endurance, muscular strength, muscular endurance, flexibility, and body composition. However, we will focus primarily on CR endurance, muscular strength, and muscular endurance. I expect you to continually assess your soldiers' fitness relative to these components and structure PT that will build on individual strengths and improve individual weaknesses.

4. Plan and execute PT IAW the Army's FITT factors while employing the Army's exercise principles: Regularity, Overload & Progression, Balance, Specificity & Recovery, and Variety (ROBSRV). An example of how to apply these Factors and Principles follows:

Frequency: Monday - Friday @ 0630 with aerobic training typically on Mondays, Wednesdays, and Fridays and muscular strength/endurance training on Tuesdays and Thursdays. This may vary as needed based upon availability of facilities or if 3 days per week is required for muscular strength training. (Soldiers are encouraged to conduct individual muscular strength/endurance training on Saturday or Sunday.) This routine complies with the Regularity and Recovery exercise principles.

Intensity: Sustain each soldier's THR for 20-to-30 minutes on aerobic days and achieve muscle failure on muscular strength/endurance days. Concentrate on the Progression and Overload principles (i.e., how long and how hard to exercise and how

gradually increased and that each PT session pushes each soldier beyond his normal PT limits.

Time: To achieve the above effects, exercise periods will usually last for 30-to-90 minutes. Leaders will normally have from 0630-0900, including personal hygiene and breakfast, to achieve PT Standards.

Type: Focus on running on aerobic days and upper body muscle failure on muscular strength/endurance training days. Based on an assessment of your soldiers, I want you to emphasize those running exercises contained herein to improve each soldier's 2-mile run time and cardiorespiratory endurance. Concentrate on upper body strength, and sit-up and push-up improvement on muscular strength/endurance training days. Use the following guidelines:

Muscular Strength: Apply the amount of resistance it takes to achieve muscle failure in 3-7 repetitions.

Muscular Endurance: Apply the amount of resistance it takes to achieve muscle failure in 12+ repetitions.

Muscular Strength/Endurance: Apply the amount of resistance it takes to achieve muscle failure in 8-12 repetitions.

Note: The leadership challenge here is twofold: (1) incorporate the exercise principles of **Balance**, **Variety**, and **Specificity** when choosing the type of exercise and (2) tailor the number of sets and repetitions to individual needs.

5. Our PT Refinement Program complements FM 21-20 and details several "assessment" techniques. In order to build a program that applies the factors and principles I've just described, we must know where our soldiers' strengths and weaknesses lie in each of the five components of physical fitness - - cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition. It is important to note that we are doing nothing more here than taking the training management cycle that is outlined for us in FM 25-100 and applying it to our PT program. Once we know our relative strengths and weaknesses, we can then establish goals which individuals can and should attain.

6. **Intensity, Intensity, Intensity** is the key to success. For the most part, the factors - - Frequency, Time, and Type are governed by our PT plan. Intensity, however, is where effective leaders make the difference in PT as it's the leader who is responsible for assessing his soldiers and for determining the Progression and Overload that each

individual needs to optimize his physical fitness potential.

7. **Athletic Activity:** Athletic activities reinforce physical abilities and help build esprit and teamship. Although these activities are strongly encouraged, they will never be conducted during PT sessions as their incorporation may detract from the established physical fitness training concepts and inhibit PT plans. However, after the respective training standard has been achieved, commanders may conduct athletic activities as they deem appropriate.

8. **Physical Training Strategy:**

a. Frequency: Conducted 0630-0900 daily (including breakfast and personal hygiene). No other training/activity will be conducted. All personnel will participate, to include those on profile, whose unit leadership will ensure that they also have a supervised and appropriately tailored PT training period (consider aerobic fitness machines for profiles such as Stairmasters, Lifecycles, etc.). Routinely, aerobic days and muscular strength training days will be alternated (e.g., M.W.F.=aerobic days while T.T.=muscular strength days).

b. Standard: Sustain training heart rate 20-30 minutes on aerobic days; achieve appropriate muscle failure on muscular strength days.

c. Running Environment: Interval training should, when possible, be conducted at some oval running track; distance running and some speed work running such as Fartlek sessions can be just as easily instructed on straight away running courses or cross-country courses.

d. Running/Aerobic Routines: Use the routines prescribed in this program or approved by the commander. Conduct speed work at least once a week and if this is a weakness then conduct this training twice a week.

e. PT Special Events w/frequency:

(1) Within 90 days, new soldiers will be administered a PT assessment, which will include a diagnostic APFT, in order to evaluate their fitness level.

(2) Train-up ruckmarches. Consider doing this in conjunction with other unit training (i.e., should not always be conducted during PT sessions). Ensure the proper

frequency of this type of training in order to build up to the 12.5 mile distance. All ruck marches must be conducted IAW the planning considerations listed in FM 21-18. Boots must always be worn.
AFZA-AP-CO (350)
SUBJECT: Physical Fitness Training Program

(3) Quarterly unit (collectively) 4 mi. run.

(4) Semi-annual APFT and weigh-in.

(5) Annual 20km (12.5 mile) road march (with 15 to 72 lb. rucksack, LCE, Kevlar, BDUs, individual weapon and boots) conducted as an individual physical readiness event and scheduled apart from the routine PT session.

f. Weight Training: Use routines specified in this program unless otherwise authorized by the unit commander. When possible, conduct this training in a gym with appropriate weight training facilities. If gyms are not available in the morning, this would be a good reason for altering the PT session time. Consider reverse cycle training (i.e., bring soldiers into the gym in the late afternoon prior to night training).

g. Leader Training: Leaders (first line supervisors) should know their soldiers' PT assessments and progress. All leaders will receive leader training on this PT program to include how to execute PT sessions herein within 90 days of assignment. No leader will instruct PT until he has been certified or is an MFT.

h. PT Instruction: Training Objectives (task, condition, and standards) will be read and when appropriate demonstrated to all soldiers at every PT session.

i. Teach PT Standards: All new soldiers will be instructed and evaluated on how to measure their training heart rates and what is meant by appropriate muscle failure upon in-processing. Place this on the in-processing checklist.

j. Athletic Activities: Try to schedule weekly, usually in the late afternoon.

9. **PT Goals/Assessment Events (perform initial assessment of all soldiers and periodically reassess for improvement).**

a. Unit goals:

(1) Quarterly conduct 4 mi. run $\leq$36 min.

(2) Unit average APFT>250

b. **Individual PT Assessment Goals/Standards**:

(1) Annual 20km (12.5 mile) road march < 4 hours (with 15 to 72 lb. rucksack, Kevlar, individual weapon, BDUs and boots). ******

(2) Strive to meet the following Superior, Excellent, and Good **PT Assessment Goals/Standards:**

		Superior	Excellent	Good
APFT		>290	>275	>225*
3 mi. run	(Male)	<21 min.	<22:30 min.	<24 min.
	(Female)	<22:30 min.	<24 min.	<25:30 min.
4 mi. run	(Male)	<30 min.	<33 min.	**≤36 min.****
	(Female)	<32 min.	<34 min.	**≤36 min.****
6 mi. run	(Male)	<48 min.	<51 min.	<54 min.
	(Female)	<51 min.	<54 min.	<57 min.
Bench Press (Free Weights)		IAW Assessment Tables		
Pull-Ups		IAW Assessment Tables		

* XVIII Abn Corps Goal
**** XVIII Abn Corps Standard**

9. Superior PT Fitness Award: Those soldiers who receive superior on all the above PT assessment events and can meet the Corps ruck march standard will be awarded the Brigade Superior Physical Fitness Award. Awardees will receive a Brigade PT Superior Fitness T-shirt; a Brigade Certificate of Achievement and names/pictures posted on the Brigade Superior Fitness Honors Board.

10. Physical Readiness Training: Train as we fight! Build-in the most rigorous physical demands on your soldiers in conjunction with METL training. Consider competitive

physical readiness training. For example, our MP Pentathlon Training Package is a test of critical combat skills and physical readiness. PT Tips are included in the following enclosure to aid junior leaders in executing their PT program.
AFZA-AP-CO (350)
SUBJECT: Physical Fitness Training Program

11. Remember, you, the leader are accountable for your soldiers meeting the Standard -- Physical Fitness Training is no exception. Airborne!

Encl
PT Tips
PT Refinement Program

TERRY S. MOREAU
COL, MP
Commanding

"PT TIPS" FROM THE BRIGADE COMMANDER

Getting Started: Use the 7-Step Planning Process found in FM 21-20, and then add leader certification.

1. Analyze the mission.
2. Develop fitness objectives.
3. Assess the unit/individuals.
4. Determine training requirements.
5. Select fitness tasks (found in this training package).
6. Develop a training schedule.
7. Conduct and evaluate training.

STRENGTH TRAINING

1. Ensure leader training/certification prior to workout prescriptions, particularly high risk exercises like the bench press.

2. Use a spotter and safety collars, particularly on that last RM (repetition maximum) and then just enough to complete the repetition.

3. Spotter should never grab the bar, thereby unbalancing the lifter - lift only enough to complete the repetition.

4. Stress big muscles first-e.g, chest (bench press, pushups), LAT'S (Lat row, pull downs) etc., then arms (e.g.biceps, triceps).

5. Focus on upper body.

6. 3-6 repetitions to bulk; 7-12 for balanced bulk and endurance; 12 repetitions for toning and endurance.

7. Focus on each muscle group until muscle failure, move on to the next.

8. Consider ability groups for efficiency, encouragement, and competition.

9. Overload and progress (either by weight or repetitions).

Note: Remember the standard-muscle failure, geared toward individual needs, IAW PT Principles (ROBSRV): the challenge--overload and progression for everyone. Don't forget aggressive flexibility (10-15 seconds per stretch) at beginning and ending.

AEROBIC FITNESS

- Mix it up.

- 2 to 6 miles; Each individual betters his old time

- Interval Training: Speed work on the track, fartleks, ability groups almost a requirement.

- Leaders must know individual assessments/capabilities to judge progression.

- Don't forget your watch at start and finish. (Know the distance, don't guess)

- In special PT, consider to sustain heart rate: swimming, stationary bikes, etc--a good way to hit/sustain THR within PT hours vs walking

- Consider challenging your soldiers by staggering start times by ability (i.e., start your fastest runners 5 minutes after everyone else and challenge them to catch runners in front of them)

Note: Remember the standard--THR for 20-30 minutes for each soldier; train IAW PT Principles, leaders challenge: overload and progression for everyone. Don't forget aggressive flexibility (10-15 seconds per stretch) at beginning and ending.

Choosing appropriate running distances.

(1) The bottom line in choosing the appropriate running distances for physical fitness training is to avoid doing <u>too much too soon.</u> A soldier's progress in mileage and speed should be a gradual one. An unrelenting increase in mileage from one week to the next will ultimately result in injuries. As a general rule, mileage should only be increased approximately 10 percent per week. This basic principle of gradual progress applies to speed work as well. In addition to excessive distance, the most common mistake (according to orthopedic surgeons) in a running program is a sudden increase in intensity, such as speed work. These "single severe sessions" can result in an assortment of injuries primarily to the feet, ankles, and knees.

(2) Here are some specific running guidelines for soldiers:

- Avoid increases in mileage of more than 10% per week
- Avoid single runs longer than 3 x the average daily mileage
- Avoid excessive speed training before achieving a solid, consistent weekly mileage foundation (single severe sessions)

- Avoid frequent hill training; a return to previous mileage after a layoff, and continuous high mileage (more than 25 miles per week)

16TH MILITARY POLICE BRIGADE (AIRBORNE)
PT REFINEMENT PROGRAM

TABLE OF CONTENTS

PROPER WARM-UP & COOL-DOWN

(FM 21-20 gives some good warm-up and cool-down exercises)

WARM-UP: Before beginning any vigorous physical activity, you should gradually prepare the body to avoid muscle or tendon injury. A proper warm-up will gradually increase muscle temperature, circulation, blood pressure, joint range of motion and neuromuscular-pattern preparation. The following is a proper sequence of warm-up activities to be performed for 5-7 minutes prior to vigorous exercise.

- Slow, double-time in place for 1-2 minutes. This will cause gradual increase in heart rate, blood pressure, circulation, and muscle temperature.

- Slow joint rotation exercise (e.g., arm circles, knee/ankle rotation) to gradually increase joint range of motion. Rotation exercises should be performed for 5-10 seconds at each joint.

- Stretching the muscles to be used for the upcoming activity. Slow, static stretching will "loosen up" muscles and tendons, and enable them to achieve greater ranges of motion with less chance of injury. Hold stretch positions for 10-15 seconds. Avoid bouncing or bobbing movements.

- Calisthenics exercises listed in FM 21-20 may be performed to increase the level of intensity before the conditioning period (e.g., side straddle hop).

- Slow mimicking of the activities to be performed (e.g., shadow boxing for the boxer, lifting a lighter weight to warm up for the heavier one, swinging a golf club a few times before hitting the ball). This allows for neuromuscular preparation for the upcoming activities.

COOL-DOWN: Stopping suddenly after vigorous exercise can be very dangerous, even fatal. You should gradually decrease your activity to bring the body back to its resting state. The following is a proper sequence of cool-down activities.

- Don't stop suddenly - slow the activity down (e.g., walk 1-2 minutes after running). The body has a limited blood supply. Adequate blood flow to the brain and heart must be maintained, while large quantities are being pumped to the exercising muscles. Stopping suddenly may cause blood to pool in those muscles and restrict adequate quantities to the heart and brain. This may result in fainting, heart attack or stroke.

- Repeat the stretches done in the warm-up to ease muse tension and acute soreness. Be careful not to overstretch, since muscles are very warm from the previous activity.

ASSESSMENTS

- FLEXIBILITY

-MUSCULAR STRENGTH ASSESSMENTS

- MUSCULAR ENDURANCE ASSESSMENTS

FLEXIBILITY

INTRODUCTION: We can define flexibility as the range of motion of a joint and the muscles and tendons surrounding that joint area. Flexibility is a component of fitness that is often neglected in the total fitness picture, which includes cardiorespiratory endurance, body composition, flexibility, muscular strength, and muscular endurance. Good flexibility improves the soldier's ability to accomplish physical tasks and lowers the risk of injury or strain. A well-planned physical training program including both strength and flexibility exercises, will improve a soldier's resistance to injury and make muscles and tendons more elastic and less likely to tear under stress. Soldiering tasks such as lifting, loading, climbing, parachuting and rappelling, require an adequate level of flexibility and strength to perform them successfully without injury. No single test can assess total body flexibility, but a sit and reach or floor touch test can assess hamstring and lower back flexibility. These areas are related to soldiering skills and are commonly susceptible to strain. The following two assessments are good indicators of lower body flexibility and are easily administered:

a. **FLOOR TOUCH TEST:** The soldier stands in bare or stocking feet with feet together and hands at opposite sides of the body. The soldier leans forward slowly, bends at the waist with the knees straight and attempts to touch the floor with the fingertips of each hand. The soldier must maintain this position for 3 seconds without bobbing or bouncing. If the soldier is unable to touch the floor, this indicates a lack of lower back and hamstring flexibility.

b. **YARDSTICK PROTOCOL:** Place a yardstick on the floor; the soldier sits on the floor at the 0" end of the yardstick in bare or stocking feet, with the legs 5"-10" apart and the yardstick between them. The soldier then slowly reaches forward as far as possible with both hands on the yardstick, and holds that position without bouncing or bobbing, keeping the fingertips even. Another soldier braces the subject's feet with his to avoid slipping. The soldier performs the sit and reach three times and the best of these trials is recorded using the scale below:

Fitness Category	Inches Reached
Excellent	22 and up
Good	19" - 21"
Fair	14" - 18"
Poor	12" - 13"
Very Poor	11" or less

2. **FLEXIBILITY EXERCISES:** Flexibility exercises should be included in all physical fitness programs. The FITT (Frequency, Intensity, Type, Time) guideline should be followed.

Frequency - Daily, during warm-up and cool-down
Intensity - Tension or slight discomfort, **NOT PAIN**
Type - Stretches that are assumed slowly and gradually
Time - 10 seconds - 2 minutes
10 - 15 seconds for warm-up/cool-down
30 seconds or longer for flexibility improvement

3. **INDIVIDUAL STATIC STRETCHING:** Assume all stretch positions slowly until tension or slight discomfort is felt. Hold all stretch positions for 10 -15 seconds for warm-up and cool-down. Developmental stretching for flexibility improvement requires holding each stretch for 30 seconds or longer. Select stretching exercises from the following illustrations for the muscle groups appropriate for your needs.

FLEXIBILITY ASSESSMENT

METHODS TO ASSESS FLEXIBILITY

PURPOSE: To identify common assessments that can be performed in a very short period of time, which are excellent tools to accurately assess individuals' flexibility capabilities within a unit.

1. Test Administration:

    a. There is a limited possibility that the subject could pull a muscle or strain his back.

    b. A short warm-up should precede the test.

2. Equipment:

    a. A yardstick

    b. Tape to keep the measuring device in place on the floor.

    c. Testing forms to record the data.

3. Yardstick Flexibility Test Protocol:

    a. Stretch prior to the assessment.

    b. Restrain from fast, jerky movements.

    c. Subject should be in bare or stocking feet.

    d. A yardstick should be used and:

        (1) It should be placed on the floor with a tape placed across it at right angles to the 15-inch mark.

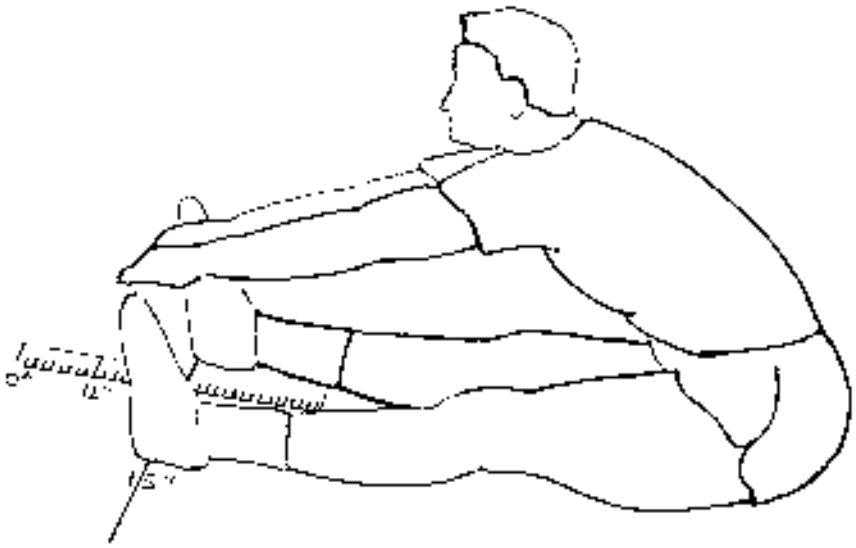
        (2) It should be placed between the legs with legs extended at right angles to taped line, 5" - 10" apart.

        (3) The heels rest on the floor at the 15" mark on the yardstick.

        (4) The subject slowly reaches forward with both hands as far as possible on the yardstick and holds that position.

(5) The partner's feet brace the subject's feet so that during the reach, the heels do not slip over the 15" mark on the yardstick.

Yardstick Description:



MUSCULAR STRENGTH ASSESSMENT

METHODS TO ASSESS MUSCULAR STRENGTH

PURPOSE: To identify muscular strength assessments, which are excellent tools to accurately assess an individual's muscular strength capabilities using the one repetition (1-RM).

1. **One Repetition Maximum (1-RM)**

a. Identify equipment:

- The assessment should be conducted using equipment available for training program i.e., barbells; multi-station machines, such as Universal; and single-station machines, such as Nautilus.

- Conduct the assessment using the same equipment for both pre and post assessments. (Note: You cannot accurately compare the results of one piece of equipment with another.)

- Record your results

b. Procedures

- Before attempting to find your 1-RM., learn how to perform the exercises correctly by gradually conditioning the muscles and connective tissue through careful monitoring of the number of sets, repetitions and weight used for the first two to three weeks of five to six workouts.

- Estimate the weight that an individual can use in one MAX effort through a full range of motion using good form based on current or past performance.

- Load weight to about three-quarters of your estimated maximum.

- Do a warm-up set of approximately 10 repetitions.

- Increase the weight in sound increments, i.e., 5 - 10 pounds for free weights and 10 pounds for machines.

- Do one repetition through a full range of motion with a minimum of sixty-seconds rest between sets.

- Attempt to find the 1-RM between the fifth and sixth lift. If you cannot find you 1-RM by the sixth lift, allow 48 hours for the muscle to recover.

c. The score of this test is the maximum number of pounds that can be lifted in one repetition. Record your results.

d. Start your program using 50% of the 1-RM.

Establishing realistic short, mid, and long-term goals is extremely difficult without some point of reference. The leg press and bench press are two of the best exercises to assess overall strength. The charts below can assist you in assessing one's muscular strength.

Muscular Strength Fitness Classification Chart
One Repetition Maximum

Bench Press - Females

Body Weight (1bs)	100	100-124	125-149	150-174	175+
Fitness Category	Pounds Pressed				
Poor	41	35	43	33	45
Fair	41-59	35-57	43-64	33-53	45-66
Good	60-78	58-80	65-85	54-72	67-86
Excellent	79-96	81-102	86-107	73-92	87-106
Superior	97+	103+	108+	93+	107+

This chart was taken from Johnson BL, Nelson, JK. Particle Measurement for Evaluation Education. Minneapolis: Burgess Publishing Co., 1979.

Muscular Strength Fitness Classification Chart
One Repetition Maximum (1-RM)

Bench Press - Males

Body Weight (lbs)	100	100-124	125-149	150-174	175+
Fitness Category	Pounds Pressed				
Poor	65	31	77	74	84
Fair	65-96	31-92	77-117	74-123	84-137
Good	97-127	93-153	118-157	124-172	138-190
Excellent	128-158	154-215	158-197	173-221	191-243
Superior	159+	216+	198+	222+	244+

MUSCULAR ENDURANCE ASSESSMENT

METHODS TO ASSESS MUSCULAR ENDURANCE

Purpose: To identify common assessments that can be performed with little or no equipment in a very short period of time, which are excellent tools to accurately assess an individual's muscular endurance capabilities within a unit.

PUSH-UP: The push-up measures the strength and endurance of the chest, shoulder and triceps muscles. It is not a measure of form. Assume the front-leaning rest position by placing your hands where they are comfortable for you. Your feet may be together or up to 12 inches apart. When viewed form the side, your body should form a generally straight line from your shoulders to your ankles. On the command "Go", begin the push-up by bending your elbows and lowering your entire body as a unit until your arms are parallel to the ground. Then return to the starting position by raising your entire body until your arms are fully extended. Your body must remain in a generally straight line and move as a unit for the entire repetition. An altered front-leaning rest position is the only authorized rest position. That is, you may sag in the middles or flex your back, but you must return to the correct starting position before continuing. If you rest on the ground or raise either hand or foot from the ground to "shake it out," the event will be terminated. You may reposition your hands during the event.

Establishing realistic, short, mid, and long-term goals is extremely difficult without some point of reference. The charts below were developed based on the Army Physical Fitness Test to assist the commander in establishing goals for each individual soldier.

MUSCULAR ENDURANCE FITNESS CLASSIFICATION CHART
TWO-MINUTE PUSH-UP MALES

AGE	17-21	22-26	27-31	32-36	37-41	42-46	47-51	52 +
FITNESS CATEGORY								
SUPERIOR	72+	70+	68+	63+	62+	56+	52+	46+
EXCELLENT	62-71	60-69	58-67	53-62	52-61	46-55	42-51	36-45
GOOD	52-61	50-59	48-57	43-52	42-51	36-45	32-41	26-35
FAIR	42-51	40-49	38-47	33-42	32-41	26-35	22-31	16-25
POOR	15-41	15-39	15-37	13-32	12-31	11-25	10-21	08-15
VERY POOR	00-14	00-14	00-14	00-12	00-11	00-10	00-09	00-07

SOURCE: SOLDIER PHYSICAL FITNESS SCHOOL, ARMY PHYSICAL FITNESS TEST STUDY N-3266

MUSCULAR ENDURANCE FITNESS CLASSIFICATION CHART
TWO MINUTE PUSH-UP FEMALES

AGE	17-21	22-26	27-31	32-36	37-41	42-46	47-51	52+
FITNESS CATEGORY								
SUPERIOR	48+	46+	45+	44+	43+	42+	40+	39+
EXCELLENT	38-47	36-45	35-44	34-43	33-42	32-41	30-39	29-38
GOOD	28-37	26-35	25-34	24-33	23-32	22-31	20-29	19-28
FAIR	18-27	16-25	15-24	14-23	13-22	12-21	10-19	09-18
POOR	08-17	06-15	06-14	05-13	05-12	05-11	04-09	04-08
VERY POOR	00-07	00-05	00-05	00-04	00-04	00-04	00-03	00-03

SOURCE: SOLDIER PHYSICAL FITNESS SCHOOL, ARMY PHYSICAL FITNESS TEST STUDY N-737

SIT-UP: The sit-up measures the strength and endurance of the abdominal and hip flexor muscles. Assume the starting position by lying on your back with your knees bent at approximately a 90 degree angle. This angle is formed by your upper and lower leg. your feet may be together or up to 12 inches apart. Another individual will hold your ankles with the hands only. No other method of bracing or holding the feet is authorized. The heel is the only portion of the foot which must remain in contact with the ground. Your fingers will be interlocked behind your head, and your arms and elbows need not touch the ground. Begin raising your upper body forward to the vertical position. The vertical position means that the base of your neck is over the base of your spine. After you have reached or surpassed the vertical position, lower your body to the ground until the upper portion of your back touches the ground. At the end of each repletion, the score will count the number of repetitions you have performed correctly. If you fail to attain the vertical position, fail to keep your fingers interlocked behind your head, arch or bow your back and raise your buttocks off the ground in order to raise your upper body, or allow your knees to exceed a 90-degree angle, that repetition will not count; the scorer will repeat the number of your last correct repetition. If a mat is used, the soldier will keep both feet completely on the mat throughout the event. The up position is the only authorized rest position. Correct performance, not speed is important. You have 2 minutes to do as many correct sit-ups as possible.

The charts below were developed based on the Army Physical Fitness Test to assist the commanders in establishing short, mid, and long-term goals for soldiers.

Muscular Endurance Fitness Classification Chart
Two-Minute Sit-Up Males

AGE	17-21	22-26	27-31	32-36	37-41	42-46	47-51	52+
Fitness Category Superior	82+	77+	72+	69+	63+	59+	57+	56+
Excellent	72-81	67-76	62-71	59-68	53-62	49-58	47-56	46-55
Good	62-71	57-66	52-61	49-58	43-52	39-48	37-46	36-45
Fair	52-61	47-56	42-51	39-48	33-41	29-38	27-36	26-35
Poor	22-51	17-46	15-41	15-38	14-32	14-28	12-26	11-25
Very Poor	00-21	00-16	00-14	00-14	00-13	00-13	00-11	00-10

Source: Soldier Physical Fitness School, Army Physical Fitness Test Study N-3266

Muscular Endurance Fitness Classification Chart
Two-Minute Sit-Up Females

AGE	17-21	22-26	27-31	32-36	37-41	42-46	47-51	52
Fitness Category Superior	80 +	75 +	70 +	65 +	60 +	57 +	54 +	52+
Excellent	70-79	65-74	60-69	55-64	50-59	47-56	44-53	42-51
Good	60-69	55-64	50-59	45-54	40-49	37-46	34-43	32-41
Fair	50-59	45-54	40-49	35-44	30-39	27-36	24-33	22-31
Poor	20-49	15-44	15-39	15-34	15-29	12-26	10-23	10-21
Very Poor	00-19	00-14	00-14	00-14	00-14	00-11	00-09	00-09

Source: Soldier Physical Fitness School, Army Physical Fitness Test Study N-737

PULL-UP (for males): The pull-up measures the strength and endurance of the back muscles and biceps. You will mount the bar and come to dead arm hang with arms fully extended and feet free of the ground. The bar may be grasped with both palms facing either toward or away from the body. At this time you will begin your pull-up by raising your body until your chin clears the top of the bar. Movements of the legs or body are allowed as long as no object, other than the horizontal bar, is used for support. Only the hands can be used to suspend the body from the bar during the event. After clearing the bar with your chin you will return to fully extended dead-arm hang. This is one repetition. Repeat until the procedure can no longer be performed or until you drop from the bar. You may rest either in the up or the down position as long as both hands remain in contact with the bar and your feet do not touch the ground or any other supporting object. Resting the chin on the bar is not an authorized rest position. Flipping the hand to the opposite direction during the event is authorized as long as no support is used. The use of Rosin/five finger-type gloves for this event is authorized. Any modified glove which helps support the soldier is not authorized.

If two of the first three pull-ups are done incorrectly the tester will stop you, explain your errors and send you to the back of the line. A minimum of five minutes will be allowed for rest prior to the retest. Correct performance and not speed is important. There is no time limit on this event. Do as many correct repetitions as you can.

The chart below was developed by the Soldier Physical Fitness School to assist commanders in establishing short, mid, and long-term goals for male soldiers.

Muscular Endurance Fitness Classification Chart
Two-Minutes Pull-Up Male

AGE	17-21	22-26	27-31	32-36	37-41	42-46	47-51	52 +
Fitness Category Superior	18 +	17 +	16 +	15 +	14 +	13 +	12 +	11 +
Excellent	14-17	13-16	12-15	11-14	10-13	09-12	08-11	07-10
Good	12-13	10-12	09-11	08-10	07-09	06-08	05-07	04-06
Fair	08-10	07-09	06-08	06-07	05-06	04-05	03-04	3
Poor	04-07	04-06	04-05	03-05	03-04	3	2	2
Very Poor	00-03	00-03	00-03	00-02	00-02	00-02	00-01	00-01

Source: Soldier Physical Fitness School, Army Physical Fitness Test Study N-3266

Flexed-Armed Hang (For Females):

The flexed-arm measures the strength and endurance of your back muscles and biceps. You will be assisted to the starting position. The starting position is obtained when both palms grasp the bar facing the same direction either toward or away for the body, the elbow as flexed and the chin is above the horizontal bar. You will tell the grader when you are ready. At this time the support will be removed, the command "GO" will be given and the tester will start the clock. The event is completed when you can no longer hold the arms in a flexed position or you drop from the bar. At this time the clock is stopped and your score in seconds is recorded. After beginning the event, resting the chin on the bar is not authorized. The use of rosin/five finger-type gloves is authorized. Any modified glove which helps support the soldier is not authorized. Correct performance is important. There is no time limit on this event. Hang as long as you can.

The chart below was developed by the Soldier Physical Fitness School to assist commanders is establishing short, mid and long-term goals for female soldiers.

Muscular Endurance Fitness Classification Chart
Flexed-Arm Hang (Females)

AGE	17-21	22-26	27-31	32-36	37-41	42-46	47-51	52 +
Fitness Category Superior	80 +	75 +	70 +	60 +	55 +	49 +	39 +	37 +
Excellent	70-79	64-74	60-69	51-59	45-54	44-48	34-38	33-36
Good	52-69	49-64	46-59	41-50	36-44	34-43	29-33	28-32
Fair	32-51	33-48	30-45	25-40	20-35	18-33	16-28	14-27
Poor	20-34	18-32	15-29	14-24	12-19	11-17	09-15	06-13
Very Poor	00-19	00-17	00-14	00-13	00-11	00-10	00-08	00-05

Source: Soldier Physical Fitness School, Army Physical Fitness Test Study N-737

PUSH-UP AND SIT-UP IMPROVEMENT

1. **FITT PRINCIPLE FOR PUSH-UP/SIT-UP**

a. **FREQUENCY:** How often should we work on push-ups and sit-ups?

(1) If you are overloading and following the principle of progression, then your training sessions should be limited to 3 - 4 times a week with rest days in between to allow muscles to recover. Many soldiers, once they have reached a level with which they are satisfied, do a certain number of push-ups and sit-ups on a daily basis. The important point to remember here is that the body adapts to the stress placed on it.

(2) Example: A man's job is working on an assembly line lifting 80lb parts off a conveyor and placing them on a shelf. The first few days or weeks that the man has the job, he will be very sore unless he has prepared himself beforehand. Eventually, the muscles used in the task will adapt, the soreness will leave and the man can do the job 5 or 6 days a week with no noticeable problems. His body has made the adaptation; however, his progress will stop there and his muscular strength and endurance will not continue to increase substantially.

(a) The same applies to push-ups and sit-ups. If we do 30 or so of each every day when we get up, our muscles will get strong enough to do that, and not too much more. If we want to improve, we must overload, that is, push ourselves to work harder.

(b) If the overload is substantial, then the muscles require more rest or recovery. To get back to frequency, if the purpose of our training is to increase push-up and sit-up performance, then working out 3 - 4 times a week on these exercises is all we can handle. The additional overload will cause us to need additional recovery time.

b. **INTENSITY:** How hard should we work?

(1) We regulate the intensity for push-ups and sit-ups by manipulating the sets, the rest between sets, and the repetitions. Overload and progression again play key roles. If our maximum number of push-ups is 30, and we have a goal of someday doing 90, a logical progression should be followed.

(2) A reasonable path to follow would be to gradually increase sets and repetitions to meet our goal. Since to increase both push-up and sit-ups, we will mainly be working with muscular endurance, the same type of workouts will work for both events. Intensity is based on one's current level of fitness and therefore will be regulated differently for each individual.

(3) After covering the FITT principle, we will describe a 6-week training program for a soldier who starts with a maximum push-up effort of 30 and a maximum sit-up effort of 50. This will make it easier to understand intensity and the role of overload and progression.

(4) It is important to note at this time that a certain amount of discomfort is associated with intensity and overloading. Notice I said discomfort and not pain. The more intense the activity and the greater the overload up to a point, the greater the discomfort. Does this mean that in order to improve, you have to do workouts that are extremely uncomfortable? No! That's where progression comes in. The slower the progression, the less discomfort you experience. Remember that within the word progression is the word progress. Your progress will be measured by a combination of intensity, overload, and our next factor, time.

c. **TIME:** How long must a push-up/sit-up improvement session be?

(1) For beginners and poorly conditioned soldiers, some fairly intensive work for 5 - 7 minutes should be enough to enable soldiers to improve in both push-up and sit-up performance. This involves doing 4 - 6 timed sets of push-ups and 3 - 4 timed sets of sit-ups with short rest periods in between:

SET # 1	PUSH-UP	30 SECONDS
2	PUSH-UP	30 SECONDS
3	PUSH-UP	20 SECONDS
4	PUSH-UP	20 SECONDS
5	PUSH-UP	15 SECONDS
6	PUSH-UP	15 SECONDS

NOTE: 15 seconds rest between sets

SET # 1	SIT-UP	60 SECONDS
2	SIT-UP	45 SECONDS
3	SIT-UP	30 SECONDS
4	SIT-UP	30 SECONDS

NOTE: 15 seconds rest between sets
TOTAL TIME: 6 minutes, 55 seconds

(2) The identical workout can be accomplished by alternating sets of push-ups and sit-ups. This will allow specific muscles additional recovery time between sets, which will in most cases enable soldiers to perform more repetitions per timed set.

(3) By allowing the longer recovery time, however; endurance training for specific muscles is somewhat hindered. Remember for the APFT, soldiers will have to do push-ups and sit-ups for 2 minutes continuously.

(4) As soldiers progress, 15-30 minutes of specific push-up/sit-up work is possible depending on the fitness levels of soldiers and the time spent administratively (getting into formations, giving instructions, etc.).

(5) Since most soldiers cannot do push-ups continuously for 2 minutes, particularly for multiple sets, short work intervals are used into the timed sets; the same goes for sit-ups. Once every two weeks or 6 - 8 workouts, soldiers should do at least one set each of push-ups and sit-ups for the entire 2 minutes. This is an excellent way to measure progress on the two events.

d. **TYPE:** What kind of a push-up and sit-up should be done?

(1) There are many variations of both the push-up and sit-up. In your regular push-up/sit-up work out, you should incorporate as many of the variations as is practical. Normally this will be 3 - 4 different kinds of each. Doing this on a regular basis develops more of the supporting musculature, thus, test performance will also improve. For example, doing push-ups with your feet elevated, increases the resistance by placing more weight on your hands. It also attacks the muscle from a slightly different angle. Placing your hands wide apart forces the outer portions of the pectoral to do most of the work. Push-ups with hands close, places more work on the inner pectorals and triceps.

(2) Through experimentation, soldiers should find the hand placement that feels most comfortable and the one that gives them the best results on the test. Training, however, should include a variety of types for better overall development.

(3) The various types of sit-ups develop different portions of the abdominal muscles, the hip flexor muscles, and the external oblique muscle. Since the upper abdominal and the hip flexors are the ones primarily used in the APFT event, (when your feet are being held) we must train these for specificity.

(4) Types of Sit-ups

(a) Feet elevated sit-up (hand behind head)

(b) Feet elevated twisted sit-up (hand behind head)

NOTE: Additional weight can be held across the chest to increase resistance.

(c) Feet elevated curl (arms across chest)

(d) Regular sit-up (feet held)

NOTE: Explain that holding the feet allows the hip flexors to perform a large portion of the work. Explain the short range of motion of the sit-up muscle.

(e) Regular twisting sit-up (hands behind head)

(f) Curl-up (hands across chest)

(g) Abdominal crunch (elbows and knees come together in one motion).

PUSH-UP AND SIT-UP
TRAINING "PRESCRIPTIONS"

Listed below are the Task, Conditions, and Standards ("Prescriptions") for exercise events that can be used during Anaerobic PT sessions. The PT Facilitator must ensure that 5-7 minutes of warm-up exercises, between 45-90 minutes of exercises, and 5-7 minutes of cool-down exercises are given during the PT session. When appropriate, training events may be combined in order to achieve the 45-90 minute standard.

1. Task: **"Abnormal Abs"**

Conditions: PT groups will do 2 sets of each exercise for times given. (PR) = Partner required. This session should last approximately 30 minutes with 1 for 1 rest intervals. This session may be combined with an upper body muscle routine.

Standards:

	(PR) 2 sets Leg Throwdown	@ 60 sec/30 sec
	2 sets Leg Extension	@ 60 sec/30 sec
*	(PR) 2 sets Rocky Sit-ups	@ 60 sec/30 sec
	2 sets Leg Spreaders	@ 60 sec/30 sec
	(PR) 2 sets Regular Sit-up	@ 60 sec/30 sec
	2 sets Crunches	@ 60 sec/30 sec

PR = Partner Required

* Feet elevated crunches with elbows alternating, right to left knee, left to right knee during each repetition.

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 30 minutes

2. Task: **" Joker's Wild"**

Conditions: Given a standard deck of playing cards, PT facilitator turns one card up, announces the card to PT group (e.g. 10 of spades), and instructs group to perform 10 repetitions of wide-armed push-ups. The face value of the card determines number of repetitions while the facilitator announces type of push-up or sit-up that will be performed, based on color of card pre-determined. Face cards (J,Q,K, Ace) = 15 repetitions; Joker if used) = 20 reps. Black = pushups; Red = situps.

Standards:

52 Varying sit-up & push-up exercises using a 52 card Poker deck. Muscle failure is gradually achieved by progressing through the sets until the exercisers have difficulty in performing the required number of repetitions. The instructor must monitor the exercisers carefully to ensure the appropriate level of muscle failure is achieved.

Duration: 30 minutes.

3. Task: "**Push-up Ladder" (Pyramid)**

Conditions: Begin with one minute of regular push-ups for warm-up. Jog in place. PT facilitator will then instruct group to execute one repetition each of push-up and sit-up, then resume jogging in-place. Again, the facilitator will instruct group to execute two repetitions each of push-up and sit-up, and resume jogging. This process will continue, up to 15 repetitions of each exercise, and then reverse order until 1 repetition is complete (1,2,3,....15, then 14.....1).

Standards:

60 sec. push-ups (warm-up), jog in place;
1 push-up, 1 sit-up, jog in-place;
2 push-ups, 2 sit-ups, jog in place;
Continue above until 15 reps of each exercise is complete;
Then reverse the order.

Muscle failure is gradually achieved by progressing through the sets until the exercisers have difficulty in performing the required number of repetitions. The instructor must monitor the exercisers carefully to ensure the appropriate level of muscle failure is achieved.

Duration: 30 minutes

4. Task: **"5 x 35" or "5 x 40"**

Conditions: PT group will conduct stretching exercises emphasizing arms, chest, back, and lower back. A partner is required. This session should last approximately 30 to 40 minutes with 1 for 1 rest intervals. First partner will assume the push-up position and on the command "go" execute 35 or 40 push ups with the partner evaluating form and keeping count. Second partner will execute the same exercise once first partner has completed. The set cycle is then repeated. Once the second partner completes his second set of push-ups, the first partner then executes 35 - 40 sit-ups with feet held by second partner. Second partner then does the same for one complete set. Again this cycle is repeated for the 2nd set. Then by deducting 5 repetitions from the last point, the first partner executes 30 or 35 push-ups and so on.

Standards:

2 (sets) x 35 (reps) = PU/SU	2 (sets) x 40 (reps) = PU/SU
2 (sets) x 30 (reps) = PU/SU	2 (sets) x 35 (reps) = PU/SU
2 (sets) x 25 (reps) = PU/SU	2 (sets) x 30 (reps) = PU/SU
2 (sets) x 20 (reps) = PU/SU	2 (sets) x 25 (reps) = PU/SU
2 (sets) x 15 (reps) = PU/SU	2 (sets) x 20 (reps) = PU/SU
2 (sets) x 10 (reps) = PU/SU	2 (sets) x 15 (reps) = PU/SU
2 (sets) x 05 (reps) = PU/SU	2 (sets) x 10 (reps) = PU/SU
	2 (sets) x 05 (reps) = PU/SU

After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by ether increasing the number of set, repetitions, resistance, speed or reduce the rest between sets. Muscle failure is gradually achieved by progressing through the sets until the exercisers have difficulty performing the required number of repetitions. Instructors monitor carefully to ensure each soldier achieves muscle failure.

Duration: 30 - 40 minutes.

5. Task: **"Elevation Elation"**

Conditions: PT groups do elevated regular push-ups, followed by elevated wide-arm and close hand push-ups, for 45 sec each, alternating partners between each exercise. Once completed, the exercises are repeated for 30 sec, followed by 15 sec. PT groups then repeat the process (45, 30, 15 sec) for elevated regular, crunch, and abdominal sit-ups.

Standards:

Elevated Regular Push-ups	3 (sets) @ 45 sec/30 sec/15 sec
Elevated Wide Arm Push-ups	3 (sets) @ 45 sec/30 sec/15 sec
Elevated Close Hand Push-ups	3 (sets) @ 45 sec/30 sec/15 sec
Elevated Regular Sit-ups	3 (sets) @ 45 sec/30 sec/15 sec
Elevated Crunch Sit-ups	3 (sets) @ 45 sec/30 sec/15 sec
Elevated Abdominal Sit-ups	3 (sets) @ 45 sec/30 sec/15 sec

After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets. Muscle failure is gradually achieved by progressing through the sets until the exercisers have difficulty performing the required number of repetitions. Instructors monitor carefully to ensure each soldier achieves muscle failure.

Duration: 20 minutes

6. Task: **"Bosom Buster"**

Conditions: Partners do elevated, regular, then modified (knees on ground) regular push-ups for 1 set @ max repetition (15 sec rest intervals), then elevated, regular, and modified wide arms push-ups for 1 set @ max repetition (15 sec rest intervals), followed by elevated regular, and modified close hand push-ups for 1 set @ max repetitions (15 sec rest intervals). Partner alternates between regular, wide-arm, and close-hand push-up sessions.

Standards:

Elevated Normal Hand Interval Push-ups	1 (set) @ max repetitions
Regular Normal Hand Interval Push-ups	1 (set) @ max repetitions
Modified Normal Hand Interval Push-ups	1 (set) @ max repetitions
Elevated Wide Arm Push-ups	1 (set) @ max repetitions
Regular Wide Arm Push-ups	1 (set) @ max repetitions
Modified Wide Arm Push-ups	1 (set) @ max repetitions
Elevated Close Hand Push-ups	1 (set) @ max repetitions
Regular Close Hand Push-ups	1 (set) @ max repetitions
Modified Close Hand Push-ups	1 (set) @ max repetitions

Each set should end with the exercisers inability to perform another repetition. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 20 minutes

7. Task: **"Total Body Workout"**

Conditions: Begin with the neck raise. Lie flat on your back and raise your head for three sets in bobbing fashion for 60/45/30 seconds. PT facilitator will then instruct the group to turn over and do three sets of seconds of close-hand push-ups. PT facilitator will then line the group and conduct the Walking Lunger. (Walking Lunger: take an extended stride, bend at the knee and touch it to the ground, take another stride and repeat.) Groups will go at least a distance of 40 meters. Continue until the three listed sets are completed. Side Straddle Hop sets will be completed after the Walking Lunger, etc. IAW the number of sets and standards below.

Standards:

Neck Raise	3 (sets) @ 60 sec/45 sec/30 sec.
Push-up Close Hand	3 (sets) @ 45 sec/30 sec/15 sec.

*Walking Lunger	3 (sets) @ 40 meters.
Side Straddle Hop	3 (sets) @ 60 sec/45 sec/30 sec.
Push-up Regular	3 (sets) @ 45 sec/30 sec/30 sec.
Supine Bicycle	3 (sets) @ 60 sec/45 sec/15 sec.
*Walking Lunger	3 (sets) @ 40 meters.
Side Straddle Hop	3 (sets) @ 60 sec/45 sec/30 sec.
Push-up Wide Arm	3 (sets) @ 45 sec/30 sec/15 sec.
Leg Extensions	3 (sets) @ 60 sec/45 sec/30 sec.

*Personnel who have bad knees will do the Steam Engine in lieu of the Walking Lunger.

After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 25 minutes

8. Task: **"The Burn Out"**

Conditions: Start with 2 minutes of regular push-ups. PT facilitator will then instruct group to execute wide-arm, close-hand, uneven and diamond push-ups for 45 seconds. Do the same exercises again for 30 seconds. Once completed the PT facilitator will then instruct the group to do 45 seconds of regular push-ups. Stretch out arms for 1 minute. PT facilitator will instruct the group to do 2 minutes of regular sit-ups. Once completed the PT facilitator will instruct the group to execute the abdominal curl, abdominal crunches, and elevated sit-ups for 45 seconds with 15 second rest intervals.

Standards:

Regular Push-ups	1 (set) @ 2 minutes.
Wide Arm Push-ups	2 (set) @ 45 sec/30 sec.
Close Hand Push-ups	2 (set) @ 45 sec/30 sec.
Uneven Push-ups	2 (set) @ 45 sec/30 sec.
Diamond Push-ups	2 (set) @ 45 sec/30 sec.
Stretch	1 minute
Regular Push-ups	1 (set) @ 45 sec.
Regular Sit-ups	1 (set) @ 2 minutes.
Abdominal Curl	1 (set) @ 45 sec.
Abdominal Crunches	1 (set) @ 45 sec.
(PR) Elevated Sit-ups	1 (set) @ 45 sec.

PR= Partner Required.

After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved. e.g., when another set can no longer be properly

performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 15-20 minutes

9. Task: **"Arms and Abs"**

Conditions: Using straight back chairs and a towel provided by the soldier. PT facilitator will instruct the group to put two chairs shoulder distance apart (chair backs facing in) and do dips 3 x 15 straight and 3 x 15 seated. Once completed, the PT facilitator will then instruct the groups to do push-ups of 20 regular, wide-arm, and close-hand with a 10 second rest between sets. PT facilitator will then instruct the group to do partner resisted french curls and arm curls using the towel. For french curls, the partner will take the towel behind the person doing the exercise. The doer will place both hands behind his head and grab the towel, the partner will apply resistance to the doer and 3 x 10 reps will be completed. PT facilitator will then take the group over to the chin-up bar. Males will do 3 x 6-10 reps of chin-ups, females will do 3 x 4-8 reps of chin-ups. To do the abdominal portion of this exercise see chart below. Alternating between partners, every abdominal set will be performed IAW the below times until 3 sets of each exercise is performed.

Standards:

Arms	Abs	
3 x 15 Dips	Flutter Kicks	@ 60 sec/45 sec/15 sec
3 x 15 Dips	Crunches	@ 60 sec/45 sec/15 sec
* 20 Push-ups Regular	Supine Bicycle	@ 60 sec/45 sec/15 sec
* 20 Push-ups Wide	Leg Extension	@ 60 sec/45 sec/15 sec
* 20 Push-ups Close	Flutter Kicks	@ 60 sec/45 sec/15 sec
PR 3 x 10 Arm Curls	Leg lifts	@ 60 sec/45 sec/15 sec
PR 3 x 10 French Curls	Leg Throwdown	@ 60 sec/45 sec/15 sec
3 x 6-10 Chin-ups (M)	Rocky Sit-up	@ 60 sec/45 sec/15 sec
3 x 4-8 Chin-ups (F)	Sit-ups	@ 60 sec/45 sec/15 sec
	Crunches	@ 60 sec/45 sec/15 sec

* = Elevated.
PR = Partner Required.

After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved. (e,g,. when another set can no longer be properly performed). Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 35 minutes.

10. Task: **"Belly Buster"**

Conditions: Partners do two sets each of four different exercises: kick-outs, leg lifts, flat-footed crunches, and elevated crunches. Each exercise should be performed to maximum repetitions with virtually no rest in between sets.

Standards:

Kick Outs	2 sets @ max repetitions
Leg Lifts	2 sets @ max repetitions
Flat- Footed Crunches	2 sets @ max repetitions
Elevated Crunches	2 sets @ max repetitions

Each set should end with exercisers inability to perform another repetition. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 20 minutes

11. Task: **"Pull-Up Burn"**

Conditions: PT Facilitator will divide soldiers into two groups, with each group performing 5 sets of pull-ups and 5 sets of chin-ups, with the number of repetitions being reduced by 2 every set. It is recommended that this prescription is combined with other PU/SU or strength training prescriptions.

Standards:

1st set pull-ups	10 repetitions	4th set pull-ups	4 repetitions
1st set chin-ups	10 repetitions	4th set chin-ups	4 repetitions
2nd set pull-ups	8 repetitions	5th set pull-ups	2 repetitions
2nd set chin-ups	8 repetitions	5th set chin-ups	2 repetitions
3rd set pull-ups	6 repetitions		
3rd set chin-ups	6 repetitions		

Each set should end with a proper pull-up/chin-up or the exercisers inability to perform another repetition. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: Approximately 30 minutes.

12. Task: "**Ultimate Abs**"

Conditions: PT facilitator will conduct the workout in this specific sequence. The PT Instructor will instruct the group to perform 3 sets of 30 regular sit-ups with 1-minute of rest between sets. The PT facilitator will then instruct the group to perform the crunches (15 of each type) with no rest between sets. The PT facilitator will then instruct the group to perform 3 sets of 30 flutter kicks (4 count) with 1-minute rest between sets. The PT facilitator will then instruct the group to perform 3 sets of 30 leg spreaders (4 count) with 1-minute rest between sets. When the sets become no longer challenging, decrease the rest time between sets and/or increase the repetitions to achieve muscle failure.

Standards:

Sit-up (regular) 3 sets with 1-minute rest between sets

Crunches:

1. Legs Bent 45-degree angle (knees together, feet on the ground)
2. Legs Bent 45-degree angle (knees apart, feet on the ground)
3. Legs Bent, upper legs @ 90-degree angle
   (feet in the air, knees apart)
4. Legs Bent, upper legs @ 90-degree angle
   (feet in the air, knees apart)
5. One Leg Bent 45-degree angle, one foot on the ground
   One leg straight 6 inches off the ground
6. Same as #5 but reverse legs
7. One Leg Bent, upper legs @ 90-degree angle foot in the air
   One leg straight 6 inches off the ground
8. Same as #7 but reverse legs

Flutter Kicks 3 sets (4 count) with 1-minute rest between sets

Leg Spreader 3 sets (4 count) with 1-minute rest between sets

Muscle failure is gradually achieved by progressing through the sets until the exercisers have difficulty in performing the required number of repetitions. The instructor must monitor the exercisers carefully to ensure the appropriate level of muscle failure is achieved.

Duration: 30 minutes

CARDIORESPIRATORY FITNESS

AEROBIC TRAINING FOR CARDIORESPIRATORY ENDURANCE

1. Aerobic training results in improved cardiorespiratory endurance. Aerobic Training involves exercise that demands oxygen without producing an intolerable oxygen debt. As a result, it can be continued for an extended period of time. Aerobic training activates the oxygen transport system, which in turn brings about a series of physiological changes within the body called the "training effect." The changes include greater heart and lung efficiency and better muscle function.

2. Definition - Any activity which uses the large muscles of the body, is continuous and rhythmic, and is sufficiently vigorous to raise the heart rate to a training level, is an aerobic activity.

3. Examples of aerobic exercises:

Walking/jogging/running
Swimming or aquatics
Cycling
Aerobic exercise to music
Cross-country skiing

BASIC PRINCIPLES AND FIT PRINCIPLES

The variables of frequency, intensity, time and type apply to any aerobic program regardless of the level of fitness. The variables must be scientifically and carefully manipulated to develop one's fitness potential and to avoid injury and overtraining.

4. **Frequency** of training. Refers to how often one should work out aerobically at training heart rate.

a. Frequency is related to how intensely and how long one trains.

b. Research indicates that a training effect can be obtained from a minimum of 3 workouts per week.

c. One may work out much more than 3 days per week provided a training base has been developed and increases have been progressive (10% per week).

d. Hard workouts should be scheduled on alternating days.

5. **Intensity** of training:

a. Intensity is the vigor with which one exercises. It is directly related to the heart rate. The harder one exercises the higher the heart rate.

b. Researchers have found that improvement in the CR system is directly related to the intensity with which one performs the aerobic activity.

c. Most exercise physiologists agree that the physiological changes associated with training occur between 60% and 90% of what one is capable of doing at maximum exertion. The following formula is designed to calculate the heart rate which will bring about the "training effect." Intensities below 60% are not adequate. Intensities exceeding 90% may bring about injury or illness.

d. **THR -** "Training Heart Rate" refers to the heart rate per minute one should reach while exercising in order to insure sufficient intensity. The following is an easy to use formula when determining THR:

220 - age = maximum heart rate (MHR)
80% X MHR = THR

6. Duration **TIME** of training. Refers to the length of time one should exercise at his training heart rate.

a. Duration is inversely related to intensity. The more intense the activity, the shorter the duration and vice versa.

b. The minimum duration to bring about the training effect is 20 minutes at training heart rate.

7. **Type** of Activity

There are advantages and disadvantages to every activity. These must be considered in designing an individual's physical training program. It is important to select a training activity which fits the individual's needs and desires.

8. Ability Group Runs enable soldiers to train in groups of near-equal ability. Each group runs at a pace intense enough to produce a training effect for all soldiers in it.

PHASES OF THE AEROBIC TRAINING SESSION

1. Warm-up (5 -7 minutes) - consists of light calisthenics, easy jogging, and easy stretching exercises. Strenuous exercise without warm-up should be avoided.

2. Conditioning phase (20 -30 minutes minimum) - consist of the actual aerobic activity performed at THR.

3. Cool-down (5 -7 minutes) - consists of tapering down the conditioning phase activity by reducing intensity or by walking.

a. A big hazard after exercise is pooling of the blood in the legs, thereby a decreased blood flow to the vital organs. Continuing to walk aids in returning blood flow to the heart.

b. Walk until heart rate drops below 100 beats per minute and then stretch the exercised muscle groups.

RUNNING TECHNIQUES

In terms of technique, while there are certain basics, a lot depends on your body type. You have to run in a way that feels comfortable to you. If you admire the style of Carl Lewis or Mary Slaney, that's fine. But don't copy a style that doesn't suit you. There are some helpful hints to get you going:

a. **The Proper Stride.** Running is easier when you run with good form. To improve your form, concentrate first on stride.

- Good stride consists of a fluid, continuous motion that is marked by two distinct phases: the **Float Phase**, when the runner is airborne, and the **Contact Phase**, when one foot is touching the ground. During the contact phase, the runner's leg both supports the body and drives it forward. Most runners spend about 40 percent of their time airborne. The proportion of flight time reaches about 50 percent with increased speed.

- To maintain a smooth stride, it is important first of all, to stay relaxed. Running with fists tightly clenched and shoulders hunched will most likely cause tension and make your stride short and jerky. To keep your hands and shoulders relaxed, try touching your thumb to your forefinger or middle finger as if holding a dime. Concentrate on keeping your cheeks loose and relaxed and your back and shoulder muscles from contraction and pulling up. Your elbows should be bent at approximately ninety degrees, not too much, not too little, Concentrate on a smooth stride in which the legs reaches a full, natural forward extension during the float phase. The knee should be flexed slightly as the foot strikes the ground.

b. **The Perfect Alignment**

- Symmetry is a major distinction between running and walking. When you walk, your feet land on either side of an imaginary line running in front of you, and your body's center of gravity oscillates back and forth over this imaginary line. No such

swaying occurs in running. Your center of gravity should move as if in a channel directly over the line. Likewise, your feet should land on top of the line every time they hit the ground. This alignment is important to running efficiently; no motion or energy is wasted in unnecessary lateral movements.

- The simplest way of gauging symmetry is to be aware of your arm movements. If one arm swings out to the side more than the other, or if it crosses over the median line of your body, your form overall is probably unbalanced. A minor asymmetry may not matter; even Olympic and professional runners often have slight irregularities in their form. But for less experienced runners, any noticeable deviation may slow them down, or even produce injuries by overstressing tendons and ligaments.

c. **Running Tips**

- As you are running a mile or two miles, and you get tired, you can use your arms to help keep you going. Try this: start running and try to move your arms faster than your legs. It's almost impossible without a lot of practice. So when you're running your 2-mile run on the next APFT, try pumping your arms a little harder. This will help you keep up a fast pace.

- Lower your elbows a little when you begin to get tired to increase the pendulum effect on your arms. The tendency when you get tired is to let everything rise up, but try to avoid this.

- For long-distance running, lift your legs only as far as necessary to keep the stride going. Here, the most important thing is efficiency. Any extra lift is wasted motion.

- The most efficient way to run over a distance is with a kind of heel/toe action - not landing heavily on your heels but landing almost flat, with the heel just barely touching before the rest of your foot and then rocking forward onto the ball of your foot.

- Make sure you've got good running shoes. Not basketball shoes or tennis shoes. For running, you need a shoe that properly positions and cushions your foot to protect your ankles, knees, and hips. Refer to FM 21-20 for procedures in selecting proper shoes.

- Use proper warm-up exercises. Before each run, "warm up" your feet and leg muscles for 5 minutes.

- Heel Cord Stretch: Stand with your feet well out from a wall, your hands against it, and your body straight. Lean forward as if doing a push up, keeping your heels on the floor. Hold for 5 to 10 seconds, then return to a stand. Repeat 5 to 10 times.

- Hamstring Stretch: Sit with your left leg extended, and your right leg tucked back. Reach to touch your toe with your hands. Repeat 5 times, and then repeat the exercise with your left leg tucked back.

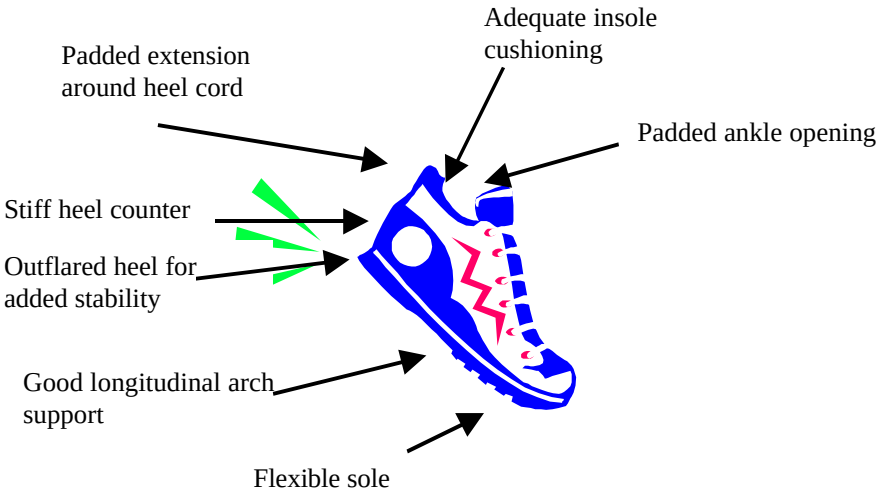
- Increase distance and running time a little bit at a time.

- Run regularly.

- If you have foot or leg pain when running, STOP! Don't try to "run through the pain".

- Also, do heel cord and hamstring stretches after each run.

E. Winning Running Shoes: Standard tennis shoes are not appropriate for running. To help your feet withstand the additional stress of running, look for shoes with these features:



CARDIORESPIRATORY TRAINING

In developing a cardiorespiratory training program trainers should consider integrating Interval Training, Fartlek Training, Fast Continuous Training, and Slow Continuous Training into a coordinated and objective oriented training plan. The principles of fitness remains as critical here as with any other fitness training. The training heart rate (THR) training 65-90% MHR (maximum heart rate , i.e....220 - age = MHR) may be used to gauge the efficiency of a aerobic training. This mode of training also helps establish aerobic endurance. It is appropriate for people who are just beginning a fitness program as well as avid trainers. When discussing the below training methods, it is important to remember that the basic principles of frequency, intensity and duration apply to any training program, regardless of the method used and that gradual improvement in the ability to perform is made by careful and very gradual increases in overload.

1. Interval training is a series of repeated bouts of exercise alternated with periods of relief.

Example using running:

run: hard (85 to 90% of max) 400 meters
run: easy (50% of max) 400 meters
repeat

2. Terms associated with interval training:

a. **Work Interval** - the portion of the workout considered the work - a specific distance performed at specific pace or within a prescribed time. Example: run 400 meters in 2 minutes.

b. **Relief Interval -** the rest time between work interval. Example: jog easy 400 meters in 4 minutes.

c. **Work Relief Ratio** - the ratio of work compared to relief intervals. Example: a ratio of 1:2 means the duration of rest is twice as long as the duration of work.

d. **Workout Prescription -**

Run 5 x 400 @ 2:00 & 4:00

5 = number of repetitions
400m = training distance in meters
2:00 = training or work in minutes and seconds
4:00 = time of relief interval (relief time)

3. Benefits of interval training

a. Allows for completion of more quality work (higher intensity work) than continuous training.

b. Applies the principle of specificity. If one wants to run faster, one must train faster (for a short period of time followed by a rest, with several repetitions).

c. Adds variety and stresses different muscles.

d. Assist in rounding out otherwise dull and unchallenging running routines.

4 . Interval training may be conducted as a unit PT activity, especially when soldiers want to improve their 2- mile run times. To administer a group PT session using a 400 meter track for running:

a. Divide the unit into 4 or 5 ability groups (5 minute milers together, 6-minute milers together). Each group will run the prescribed number of 400yd repetitions at its prescribed pace. An individual in the groups move to the outside of the track and yield to the faster groups.

b. If three groups are used, Group 1 runs first, then performs the relief interval while Groups 2 and 3 are running their work interval. The time of each group's relief interval is approximately twice the time it takes to complete the succeeding run. This work-to-relief ratio 1:2 has been found to be satisfactory in that the heart rate of the majority of the group will be at or below the recommended 140 beats minute before they begin their next interval. By having four people run in each of the six running lines in each group, 24 people may run in one workout. More may participate by increasing the number of people each lane. The fastest person, however, must be first in each lane and the slowest person last. This is done to make certain that each person can run at his or her own pace.

CARDIORESPIRATORY FITNESS TRAINING "PRESCRIPTIONS"

Listed below are the Task, Condition, and Standards for exercise events that can be used during Aerobic PT sessions. PT facilitator must ensure that 5-7 minutes of warm-up exercises, between 45-90 minutes of exercises, and 5-7 minutes of cool-down exercises are given during the PT session. When appropriate, training events should be combined in order to achieve the 45-90 minute standard.

1. Task: **"Whistler's Mother"**

Conditions: All participants start on command (whistle) and run work interval for 20 sec and relief interval for 40 sec. Each interval is announced by a loud blow of a whistle.

Standards: Run 20 X @ 20 sec + 40 sec jog on oval track (walk 3 mins after 10 intervals)

This event should end with participants achieving Training Heart Rate (70% - 80%) depending on fitness level) for 20 minutes.

Duration: 23 minutes

2. Task: **"Rabbit Intervals"** (Sprint Intervals)

Conditions: All participants run 100 meter sprint speed interval and jog 100 meter relief intervals (e.g. on an oval track, run the straight-aways and jog the curves). Participants should be broken down into 3 ability groups (> 6:30 milers; 6:31 - 7:30 milers; 7:31 & above milers). Run 1-1.5 mile at moderate pace.

Standards: Run 10 X 100 @ sprint speed on oval track, followed by 1-1.5 mile run @ moderate pace

This event should end with participants achieving an average Training Heart Rate (70% - 80% depending on fitness level) for 20 minutes.

Duration: 22 minutes

3. Task: **"The One-O-One-Interval"**

Conditions: Participants run distance as stated with jog pace for relief (rest) between events. Group runs should be conducted in ability groups.

Standards: 1 x 400 @ 1:30 - 1.35
1 x 1600 @ 6:45 - 6:50
1 x 800 @ 3:25 - 3:30
1 x 400 @ 1:30 - 1:35
(example time using 6:30 miler)

This event should end with participants achieving an average Training Heart Rate (70% - 80 % depending on fitness level) for 20 minutes.

Duration: Approximately 30 minutes.

4. Task**: "2x4x8's" (2 x 400; 4 x 200; and 8 x 100 meters)**

Conditions: All participants will run 2x400 meter sprint speed intervals and jog 400 meter relief intervals after each sprint. All participants will then run 4x200 meter sprint speed intervals, with 200 meter relief intervals after every one. Finally, all participants will then run 8x100 meter sprint intervals (with 2-3 minute rest period between each sprint). Participants should be broken down into appropriate ability groups.

Standards: Run 2x400, 4x200, 8x100 meter sprint intervals with corresponding relief interval/rest periods after each sprint.

This event should end with participants achieving an average Training Heart Rate (70%-80% depending on fitness level) for 20 minutes.

Duration: Approximately 30 Minutes

5. Task: **"Last-Man-Up-Run"**

Conditions: Ability group are placed evenly-spaced in a single-file line on a track or smooth, flat course. During a continuous 2 to 3- mile run of moderate intensity, the man in the last position sprints to the front (40 - 50 yards at near maximum effort) where he resumes the moderate pace of the group and becomes the leader. Once he reaches the front, the soldier now at the rear, immediately sprints to the front. This is repeated throughout the entire run.

Standard: Ability Group Times
1 - 14:00 and faster.
2 - 14:01-16:00.

3 - 16:01-slower.

Instructors will closely monitor to ensure sprinters and sprinting at near maximum effort and that the group pace is around 60-70% of THR. This event should end with participants achieving an average Training Heart Rate (70%-80%) depending on fitness level) for 20 to 30 minutes.

Duration: Time depends upon fitness ability of group.

6. Task: **"Ability Group Run"**

Conditions: PT Facilitator will assign a group leader to each ability group. Each ability group will run at 70% - 80% of their training heart rate. After completion of the ability group run, groups perform PT refinement at ability group level by utilizing aerobic exercises, (i.e., sprints, telephone poles, etc.).

Standard: Ability Group Times
1 - 14:00 and faster.
2 - 14:01-16:00.
3 - 16:01-slower.

This event should end with participants achieving Training Heart Rate (70% - 80% depending on fitness level) during the duration of the run.

Duration: Time depends upon distance of ability group run.

7. **Fartlek Training (Speed Play)**

A method of training in which the intensity of the activity or exercise is varied throughout the exercise session, allowing for high intensity work to be followed by recovery or lower intensity work. The frequency, intensity and duration of the workout is determined by the exerciser. An example using running: after an easy jog warm-up, run 85-90% effort for 150 meters, then jog easy until heart rate returns to between 130-140 beats per min. This can be performed in ability groups, and done by charging the hills and jogging the flats or by running telephone poles (i.e., the distances between them).

Examples of Fartlek Sessions:

a. Task: **"The Hill Fartlek"**

Conditions: Ability groups charge hill then turn around and jog down the hill to the original starting place. Ability groups can do 2-4 repeats followed by a moderate paced 1 - 1.5 mile run. (May combine with the "Telephone Pole Fartlek")

Standard: Ability Group Times
1 - 14:00 and faster.
2 - 14:01-16:00.
3 - 16:01-slower.

This event should end with participants achieving and attaining the Training Heart Rate (70%-80% depending on fitness level) for 20-30 mins.

Duration: Time depends upon ability groups.

b. Task: **"Telephone Pole Fartlek"**

Conditions: Ability groups will alternate running fast and slow from telephone pole to telephone pole on a 2 - 4 mile course. The first and last mile should be ran at a moderate pace as a partial warm-up and cooling down process.

Standard: Ability Group Times
1- 14:00 and faster
2- 14:01 - 16:00
3- 16:01 - slower

This event should end with participants achieving an average Training Heart Rate (70% - 80% depending on fitness level) for 20-30 minutes.

Duration: Time depends upon number of telephone intervals that have to be ran to sustain an average THR for 20-30 minutes.

8. Task: **Individual Assessment Run** (2 mile, 3 mile, 4 mile, or 6 mile run distances).

Conditions: Given one of the above distances and stop watch, individuals start individually and run at the fastest possible pace for the given distance.

Standard: Improve run times from one workout session to the next.

This differs from the usual, comfortable pace in that the pace is faster, resulting in earlier fatigue and less distance covered. The intensity of the run should be approximately 85% of MHR (220 - age) . This type of training requires one to "push" and to concentrate on relaxing while pushing the pace. It could be used as a time trial or a pre-test before the APFT. This could be performed in ability groups, provided everyone knows the destination, so faster runners can run ahead and are not held back by the group.

9. Task: **"The Survival Run"** (**Slow Continuous Training)**

Conditions: Soldiers will run a seven to ten mile rolling terrain running course, with water points located at 4, 8 and finish points. A medic team (in tactical vehicle) will be tasked to provide medical support throughout the event. After appropriate stretching, the unit will be broken down into two ranks and the run will begin. During the run, it is recommended that no cadence will be called.

Standards: Completing this event should result in each participant reaching and maintaining 60 - 70% MHR for an extended period of time.

As the name implies, this method involves working at relatively low intensities (60 - 70% MHR) for long distances or longer period of time. It is sometimes referred to as endurance or aerobic power training or slow long distance. It is particularly appropriate for weight control if performed for long periods of time. The key is that it is continuous and long in duration, rather than intermittent as in interval training. This activity is particularly adaptable to ability group runs. Considerable planning must take place before a run of this nature may be conducted. Here are some planning guidelines:

- Avoid increases in mileage of more than 10% per week
- Avoid single runs longer than 3 x the average daily mileage
- Avoid excessive speed training before achieving a solid, consistent weekly mileage foundation (single severe sessions)
- Avoid frequent hill training; a return to previous mileage after a layoff, and continuous high mileage (more than 25 miles per week)

10. Task: **"Olympic Burnout" (Interval Training, 1 up/1 down)**

Conditions: During physical fitness training on a 1/4 mile track., PT Facilitator will lead soldiers through approximately 5-7 minutes of warm-up exercises followed by 1 complete jog around the 1/4 mile track. From a designated start point, soldiers will sprint 1/4 of the entire track and then jog 1/4 of the track. Soldiers will then sprint 1/2 of the track, and then jog 1/4 of the track. Soldiers will then sprint 3/4 of the track, then jog 1/4 of the track.; followed by a sprint of the full distance of the track and another jog of 1/4 track. Soldiers will gradually work down the 1/4 intervals in the same fashion they were worked up. Upon completion, soldiers will then jog 1 complete lap as a cool down. The PT Facilitator will then lead the soldiers through appropriate cool down stretches.

Standards: Soldiers will sprint the indicated distance in the shortest time possible, reaching the standard of achieving 85% of the THR for 20-30 minutes.

Duration: Approximately 30-45 minutes

***INTERVAL TRAINING TIMES**

Listed below are some interval training times for leaders to use as a reference:

MILE TIME	400 METER TIME
4:45 - 5:00	1:05 - 1:09
5:00 - 5:30	1:10 - 1:17
5:31 - 6:00	1:18 - 1:25
6:01 - 6:30	1:26 - 1:33
6:31 - 7:00	1:34 - 1:41
7:01 - 7:30	1:42 - 1:49
7:31 - 8:00	1:50 - 1:57
8:01 - 8:30	1:58 - 2:05
8:31 - 9:00	2:06 - 2:13
9:01 - 9:30	2:14 - 2:21
9:31 - 10:00	2:22 - 2:29
10:01 - AND UP	2:30

FORMULA FOR DETERMINING PACE

Mile Time (1600M) = 8:00 Minutes
400 Meter = 2:00 Minutes
Subtract 1-4 seconds = 1:56 - 1:59

Warm-up - Jog 800 meters
Stretch - Hamstring, Calves, Lower back
Report to group and timer
Run with your pace group

*President's Council on Physical Fitness - Interval Training.

11. Task: **"The Circle" (Circuit Training)**

Conditions: Start with participants evenly dispersed at each workout station. The PT Facilitator (equipped with stopwatch and whistle) will instruct each station to execute their respective exercise for 2 minutes. Once completed, all participants (at the command of PT Facilitator) will run in place until instructed to rotate either to the left or right to the next exercise station. The PT Facilitator will then command the participants to start the next exercise. A full rotation is completed when soldiers reach their original starting station. There will be a total of three rotations, with the duration for

each exercise being reduced to 1 minute for the second rotation and 45 seconds for the last rotation.

Standards:

Example exercise stations:

Regular Push-Up	3 rotations @ 2 minutes/1minute/45 sec
Wide Arm Push-Up	3 rotations @ 2 minutes/1minute/45 sec
Sit-Ups	3 rotations @ 2 minutes/1minute/45 sec
Rocky Sit-Up	3 rotations @ 2 minutes/1minute/45 sec
Supine Bicycle	3 rotations @ 2 minutes/1minute/45 sec
Flutter Kicks	3 rotations @ 2 minutes/1minute/45 sec
Side Staddle Hop	3 rotations @ 2 minutes/1minute/45 sec

This event should end with participants achieving an average Training Heart Rate (70% - 80% depending on fitness level) for 20-30 minutes.

Duration: 30-45 minutes

12. Task: **"Ruck Marching (Individual and Unit)"**

Conditions: Soldiers will participate in ruck marches of various distances (i.e., 4 mile, 6 mile, 8 mile, 12.5 mile) either individually or as members of a unit effort. Although the uniform will vary depending on the type of ruck march, soldiers will always wear combat boots -- with the intent of gradually conditioning them for greater distances.

Standards: Leaders must prepare their soldiers for ruck marches IAW the planning considerations in FM 21-18, Foot Marches. Per XVIII Abn Corps and Fort Bragg Regulation 350-15, the minimum acceptable standard for Corps personnel is to complete a 20km (12.5) road march, conducted as an individual task, in four hours annually. Uniform for this road march will be BDU's, helmet, load carrying equipment, individual weapon and rucksack with a fighting load (minimum of 15 lbs, maximum 72 lbs).

Note: Running with combat boots. Army Regulation 350-41 specifically states that the preferred shoe for running is the running shoe. However, "since soldiers wear boots in combat, some physical training in boots, to include limited running and rapid road marching, may be appropriate...activities conducted in combat boots should progressively increase in duration to allow soldiers to adapt to performing in boots." According to the XVIII Abn Corps CSM and IG Office, there is currently no policy or guidance that prohibits running in combat boots, even while rucking. Common sense must prevail when training in combat boots. Gradual increases in distances and intensity are critically important. Commanders must be sensitive to circumstances and conditions that may increase the risk of orthopedic-type injuries to their soldiers.

STRENGTH TRAINING

On today's battlefield, soldiers require a high level of muscular strength and endurance to function effectively. No fitness program is complete without muscular strength and endurance development.

Muscle Strength is the greatest amount of force a muscle or muscle group can exert in a single maximum effort (How much you can lift one time?).

Muscle Endurance is the ability of a muscle or muscle group to exert repeatedly or continuously over a period of time (How many times can you perform an exercise against a given resistance?).

1. **SEVEN PRINCIPLES OF EXERCISES:**

a. Progression - As strength improves overload should increase to continue progress. Increase in overload should not exceed 10% per week.

b. Regularity - 2 to 3 workouts per week are necessary in order to see substantial strength gains.

c. Overload - Resistance should be at least 50% of one repetition maximum (1 RM) or greater (muscle failure).

d. Variety - Use a variety of exercises and equipment to avoid boredom and to thoroughly train desired muscle groups.

e. Recovery - Allow a minimum of 48 hours recovery and no longer than 96 hrs between hard workouts for the same muscle groups. Rest between sets of exercise during a multiple set routine should be 30 seconds to 3 minutes depending on the intensity of the set.

f. Balance - Exercise all major muscle groups on a regular basis. Sequence exercise routine so that larger muscle groups are exercised first, then smaller groups.

g. Specificity - Training programs should emphasize strength improvement of the muscle groups used in specific soldiering skills.

2. **TRAINING TIPS AND TERMINOLOGY**

a. Do not train alone for two reasons: intensity (motivation) and safety. Become familiar with proper spotting techniques.

b. Do not hold your breath when lifting. Exhale during the actual push or pull: and inhale just prior to this push-pull of the muscle.

c. Exercise the larger muscle groups first, finishing with the smaller ones.

d. Exercise in a full range of motion by beginning from a prestretched position and moving to a fully contracted position.

e. Perform exercises in a slow, controlled manner.

f. When first beginning a program, begin with a relatively light weight (50% of 1 RM) and increase slowly until you find a weight that will cause "muscle failure" between 8 to 12 repetitions.

g. repetition refers to the number of times a lift or exercise is executed.

h. A set is the number of repetitions executed each time an exercise is performed.

i. "Muscle failure" refers to the point during an exercise when you are no longer able to correctly perform or complete a repetition through the full range of motion.

j. The amount of weight you lift should periodically increase to adjust to new strength gains and provide progression in the training program.

k. Always use proper form when performing and exercise. Unnecessary twisting or arching of the body may cause serious injury.

l. Allow at least 48 hours recovery between strength workouts for the same muscle groups to avoid overtraining.

m. The "push-pull" method of training refers to working alternating exercises between antagonistic muscle groups.

n. Train the entire body, not just specific areas. You may concentrate more heavily on weak areas, but do not neglect the rest of the body.

o. When first starting a program, do not work at maximum intensity. Gradually increase intensity over a 2-6 week training period. This will allow the body to adapt to the new stress without unnecessary muscle soreness.

3. **PROGRAM DEVELOPMENT**

a. Assessment - find your current level of fitness or strength level, use the individual assessments form herein to assist in assessing strength and to gauge progression.

b. Use the army's FITT principle for daily exercise activities.

(1) **Frequency** - 2 to 3 times per week.

(2) **Intensity** - work at least 50% or more of 1 RM to muscle failure.

(a) Strength improvement - heavy weight (75 - 100% of 1 RM)/low repetition (1 - 8 reps).

(b) Endurance improvement - light weight (50 - 74% of RM)/high repetitions (12 - 20 reps).

(c) Combination of strength and endurance improvement - moderate weight (at least 60%, but generally 70 - 80%)/achieve muscle failure between 8 - 12 reps.

(3) **Time** - a multiple set routine may take anywhere from 1 to 2 hours for a total body workout. However, a single set routine done to muscle failure can be completed in approximately 30 minutes.

(4) **Type** - the type of resistance work done will be dependent upon individual or unit fitness goals and the available equipment. As a guideline, it is recommended that you do at least one exercise for each of the major muscle groups. The following is an exercise sequence that will train all major muscle groups.

(a) Leg press
(b) Leg raise
(c) Leg extension
(d) Leg curl
(e) Heel raise
(f) Toe raise
(g) Bench press
(h) Seated row

(i) Overhead press
(j) Lat pull down
(k) Shrug
(l) Tricep extension
(m) Bicep curl
(n) Sit-up

c. Reassess your unit's fitness, chart improvements made, and establish new fitness goals. Muscle strength and endurance are important and often neglected components of fitness. A well designed training program to develop these components will enhance your unit's mission performance.

STRENGTH TRAINING
"TRAINING PRESCRIPTIONS"

Listed below are the Task, Conditions and Standards for exercise events that can be used during Anaerobic PT sessions. PT facilitators must ensure that 5-7 minutes of warm-up exercises, between 45-90 minutes of exercises, and 5-7 minutes of cool-down exercises are given during the PT session. When appropriate, events should be combined in order to achieve the 45-90 minute standard. Weights/repetitions should be tailored to individual goals (strength vs. endurance). If weight equipment is not available, PT facilitators may substitute the individual exercise with a suitable replacement (e.g., chair dips in place of regular dips; partner resistant exercises, etc.). Safety is paramount; remember to follow gym rules and always use a spotter.

1. Task: **"Arm Blaster"**

Conditions: Given various weight equipment, soldiers will perform numerous weight training exercises to increase the muscular endurance of the upper body.

Standards:

Benchpress	3 x 15-20 reps-75% 1 RM
Incline Dumbbell Press	3 x 15-20 reps-75% 1 RM
Flat Bench Flys	3 x 15-20 reps-75% 1 RM
Tricep Press	3 x 15-20 reps-75% 1 RM
Push-ups	3 x 25-30 reps
Dips	3 x 10-20 reps
Arm Curl (Straight Bar)	15-20 reps
Alt Dumbbell Curls	15-20 reps
Concentration Curls	15-20 reps
Tricep Pushdowns	15-20 reps
Sit-ups	2 x 50 reps

1RM = Repetition Maximum
MAW = The maximum allowable weight to conduct only desired reps.

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: Approximately 35-40 minutes.

2. Task: **"The 10-8-6-4"**

Conditions: Given various weight equipment, soldiers will perform various weight training exercises to increase the muscular endurance/strength of the upper and lower body. Soldiers are broken down into two-man teams. Each soldier in the team completes 10 reps, then switches with his partner and the partner does 10 reps. Weight is added and 8 RM are completed, then 6 RM, then 4 RM, respectively (weight added to each set of reps). Rest interval is 1:1.

Standards:

Bench Press	4 sets @ 10-8-6-4 RM
Military Press (dumbbell or barbell)	4 sets @ 10-8-6-4 RM
Leg Curls	4 sets @ 10-8-6-4 RM
Leg Extensions	4 sets @ 10-8-6-4 RM
Tricep Extensions	4 sets @ 10-8-6-4 RM
Lat. Row and/or Pull Down	4 sets @ 10-8-6-4 RM
Bicep Curls (optional)	4 sets @ 10-8-6-4 RM

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 60 minutes

3. Task: **"The Burn Down 4-6-8-10"**

Conditions: Given various weight equipment, soldier will perform various weight training exercises to increase the muscular endurance/strength of the upper and lower body. Following a warm-up set (done at 60-70% RM) of each exercise, soldiers complete 4 reps then 6, then 8, then 10 reps using heavy weights. Weight is taken off and 6 RM are completed, then 8 RM, then 10 RM respectively with weight being taken off between sets without a rest interval between sets. A spotter/someone to take off the weight is required for this exercise.

Standards:

Bench Press	4 sets @ 4-6-8-10

Military Press	4 sets @ 4-6-8-10
Lat Row/Lat Pull Down	4 sets @ 4-6-8-10
Leg Extension	4 sets @ 4-6-8-10
Leg Curls	4 sets @ 4-6-8-10
Tricep Extension	4 sets @ 4-6-8-10

Each set should end with the exercisers inability to perform another repetition. Without rest (except for the time to change weights), another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 30-45 minutes.

4. Task: **"The Circuit Dominator"**

Conditions: Using Hammer weight training equipment or Nautilus Weight Training Equipment, a whistle and a stop watch. Soldiers are broken down in two-man teams. Teams rotate at the command of the PT facilitator. Each soldier in the team completes a 30 second set at each station. The PT facilitator then blows the whistle for the teams to rotate to a new station. Each team completes the entire circuit at a minimum of two times. Prior to start of the second circuit each soldier conducts two sets of sit-ups, 50 reps per set.

Standards:

Bench press	@ 30 sec.
Lateral pull downs	@ 30 sec.
Incline press	@ 30 sec.
Bent over rows	@ 30 sec.
Leg extensions	@ 30 sec.
Arm curls	@ 30 sec.
Leg curls	@ 30 sec.
Dips	@ 30 sec.
Incline sit-up	@ 30 sec.
Military press	@ 30 sec.

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

5. Task: **"The Limited Facility Workout"**

Conditions: Given limited workout facilities or opportunities (that are typically experienced while on deployments). This prescription is a combination of push-ups, sit-ups, pull-ups, and dips. Soldiers are broken down in two or three-man teams. Teams will switch types of exercises being conducted at the command of the PT facilitator. Dips will be performed with chairs or some other suitable make-shift apparatus.

Standards:

"Bosom Buster"	1 complete set
"Belly Buster"	1 complete set
Pull-Ups	3 to 5 sets (to muscle failure each set)
Dips	3 to 5 sets (to muscle failure each set)

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds another set will be performed until the standard of muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: Approximately 35-40 minutes.

6. Task: **"Single Set Burn Down"**

Conditions: Given assorted Nautilus or Universal Weight Training Equipment, soldiers will preferably start at one end of the weight room and work out on each and every available piece of equipment - with the intent of stressing every body part and/or muscle group. Soldiers will perform one warm-up set on each piece of equipment, focusing on 10-20 repetitions @ 60% RM. Soldiers will then perform one additional set on the same piece of equipment @ 80% RM until muscle failure is achieved. A spotter must be used for the last 2 repetitions. Soldiers will then rotate to the next available piece of equipment.

Standards:

Each Available Nautilus/Universal Weight Equipment	1 warm-up set @ 60% RM (10-20 repetitions)
	1 muscle failure set @ 80% RM (spotter for last

2 repetitions)

Each muscle failure set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds another exercise will be performed until the standard of muscle failure is achieved e.g., when another repetition can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: Approximately 45-50 minutes.

7. Task: "**Total Body Workout" (Tuesday &/or Thursdays)**

Conditions: Given various weight equipment, soldiers will perform various weight training exercises to increase the muscular endurance/strength of the upper and lower body. Soldiers are broken down into two-man teams. Soldiers will concentrate on two primary workouts during the normal duty week: Back/Biceps/Triceps on Tuesdays and Chest/Shoulders/Legs on Thursdays. The **"10-8-6-4"** or **"Burn Down 4-6-8-10"** prescriptions should be used for these workouts.

Standards:

a. **Tuesday - Back/Biceps/Triceps** (example workout):

Seated Row	4 sets @ 10-8-6-4 or 4-6-8-10
Bent Over Rows	4 sets @ 10-8-6-4 or 4-6-8-10
Lat Pull Down	4 sets @ 10-8-6-4 or 4-6-8-10
Tricep Extensions	4 sets @ 10-8-6-4 or 4-6-8-10
Tricep Press	4 sets @ 10-8-6-4 or 4-6-8-10
Bicep Curl	4 sets @ 10-8-6-4 or 4-6-8-10
Arm Curl (Straight Bar)	4 sets @ 10-8-6-4 or 4-6-8-10
Concentration Curls	4 sets @ 10-8-6-4 or 4-6-8-10

b. **Thursday - Chest/Shoulders/Legs** (example workout):

Leg Press	4 sets @ 10-8-6-4 or 4-6-8-10
Leg Extension	4 sets @ 10-8-6-4 or 4-6-8-10
Leg Curl	4 sets @ 10-8-6-4 or 4-6-8-10
Bench Press	4 sets @ 10-8-6-4 or 4-6-8-10
Overhead Press	4 sets @ 10-8-6-4 or 4-6-8-10
Shrug	4 sets @ 10-8-6-4 or 4-6-8-10
Flat Bench Flys	4 sets @ 10-8-6-4 or 4-6-8-10
Incline Dumbbell Press	4 sets @ 10-8-6-4 or 4-6-8-10

Each set should end with the exercisers inability to perform another repetition. After a rest approximately 30 seconds another set will be performed until the standard of

muscle failure is achieved e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

8. Task: **"Partner Resisted Exercises (PRE) Workout"**

Conditions: Given limited workout facilities or opportunities (that are typically experienced while on deployments). This prescription is a combination of Partner Resisted Exercises (PRE) that are designed to improve muscular strength. Soldiers are broken down in two-man teams and should be approximately the same size and strength. Speed of the exercise will be controlled to prevent injury to the participants (2 second concentric/positive movement, 4 second eccentric/negative movement). Each soldier should perform 2 sets of 8 to 12 repetitions of each exercise before changing roles with his partner.

Standards:

Single Leg Press	2 sets (muscle failure between 8th & 12th reps)
Single Leg Squat	2 sets (muscle failure between 8th & 12th reps)
Leg Extension	2 sets (muscle failure between 8th & 12th reps)
Leg Curl	2 sets (muscle failure between 8th & 12th reps)
Push-Up	2 sets (muscle failure between 8th & 12th reps)
Seated Row	2 sets (muscle failure between 8th & 12th reps)
Overhead Press	2 sets (muscle failure between 8th & 12th reps)
Pull-Down	2 sets (muscle failure between 8th & 12th reps)
Triceps Extension	2 sets (muscle failure between 8th & 12th reps)
Biceps Curl	2 sets (muscle failure between 8th & 12th reps)
Abdominal Twist	2 sets (muscle failure between 8th & 12th reps)
Abdominal Curl	2 sets (muscle failure between 8th & 12th reps)

Soldiers should perform each set with muscle failure occurring between the 8th and 12th repetitions. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, or reduce the rest between sets.

9. Task: "**The Dumbbell Routine**"

Conditions: Given limited workout facilities or opportunities (that are typically experienced while on deployments). This prescription involves the use of dumbbells only, working on all major muscle groups. It is recommended that at least two dumbbells from 20 lbs. each to 70 lbs. each are available (i.e., 2 X 20 lbs., 2 X 25 lbs., 2 X 30 lbs., etc.). Soldiers are broken down into two or three-man teams. Teams will switch types of exercises being conducted at the command of the PT facilitator.

Standards:

Dumbbell Bench Press	3 sets @ 8 to 10 RM @ 80% RM
Dumbbell Military Press	"
Dumbbell Pullovers	"
Incline Dumbell Press	"
Flat Bench Dumbbell Flys	"
Dumbbell Tricep Extensions	"
Alt Dumbbell Curls	"
Dumbbell Concentration Curls	"
Dumbbell Bent Over Rows	"
Dumbbell Shrugs	"
Dumbbell Lunges	"
Dumbbell Calf Raises	"

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds another set will be performed until the standard of muscle failure is achieved, e.g., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: Approximately 45-60 minutes.

10. Task: " **Murphy's Plan"**

Conditions: Given various weight equipment, soldiers will perform various weight training exercises to increase the muscular endurance strength of the upper body. Each set should be done at 60-70% RM.

Standards:	Bench press	2 X 10-20
	Pullover	2 X 10-20 (lying on back on floor or bench, weights at arms length behind head, bring weights over head & finish by your side. Keep arms straight)
	Lat Pulldown	2 X 10-20
	Preacher Curls	2 X 10-20
	Lat Raises	1 X 10-20 (raise dumbbells from sides to shoulder height; keep wrists & elbows bent slightly)

Vertical Hip Lift	2 X 20	(leg raises while holding yourself off the ground)
Bench Sit-ups	2 X 20	
Back Exts	1 X 15	(lying face down with legs secure and hips slightly elevated, move upper torso up from the floor to horizontal and return. Do not raise torso higher than hips)

Each set should end with the exercisers inability to perform another repetition. After a rest of approximately 30 seconds, another set will be performed until the standard of muscle failure is achieved eg., when another set can no longer be properly performed. Muscle failure may be achieved by either increasing the number of sets, repetitions, resistance, speed or reduce the rest between sets.

Duration: 45 minutes

11. Task: "**Runnersworld's Plan – 3 X 8-12, 2 X Week"**

Conditions: Given various weight equipment, soldiers will perform various weight training exercises to increase the muscular endurance strength of the upper and lower body. Each set should be done at 80% RM until muscle failure is achieved.

Standards:

Bench Press	3 X 8 - 12	leg extensions	3 X 8 - 12
Flys	"	leg curls	"
Bent arm pullovers	"	half squats	"
Lat pulls	"	leg press	"
Close grip lat pulls	"	lunges	"
Lateral raises	"		
Upright rowing	"		
Curls	"		

Abs	15 crunches between each set
Toe raises	20 X toes pointed in/out/straight

Duration: 45 minutes

12. Task: "**The Stickman's Plan"**

Conditions: Given various weight equipment, soldiers will perform various weight training exercises to increas the muscular endurance strength of the upper body. Each set should be performed at 60-70% of RM.

Standards:

Bench press	4 X 12 – 20 RM @ 60-70% RM
Seated rowing	"
Lats	"
Military press	"
Curls	"
Triceps	"
100 Situps (on incline board)	
100 Pushups (as many sets as needed to do 100)	
Pullups (1 X max reps)	
Crunches (1 X max reps)	

Muscle failure is gradually achieved by progressing through the sets until the exercisers have difficulty in performing the required number of repetitions. The instructor must monitor the exercisers carefully to ensure the appropriate level of muscle failure is achieved.

Duration: 45 minutes

PT REFINEMENT PROGRAM
INDIVIDUAL ASSESSMENT FORM

PERSONAL DATA

NAME:_____

AGE:_____ GENDER:_____ HEIGHT:_____

WEIGHT:_____

RESTING HEART RATE (60 SEC):_____

BLOOD PRESSURE:_____

	SCORE	FITNESS LEVEL	GOAL
1. FLEXIBILITY			
YARDSTICK			
2. MUSCULAR ENDURANCE			
A. 2 MINUTE PUSH-UP			
B. 2 MINUTE SIT-UP			
C. PULL-UP			
D. FLEXED-ARM HANG			
3. MUSCULAR STRENGTH	LBS	FITNESS LEVEL	GOAL
1-RM BENCH PRESS (FREE WEIGHT)			
4. CARDIORESPIRATORY	SCORE	FITNESS LEVEL	GOAL
A. RUCK MARCH			
B. 2-MILE RUN			
C. 3-MILE RUN			
D. 4-MILE RUN			
E. 6-MILE RUN			
5. BODY COMPOSITION			
A. % BODYFAT			
B. TARGET WEIGHT			
C. REQUIRED WEIGHT LOSS			
D. PRESENT BODY WEIGHT			
6. PT TEST SCORE			

HOT AND COLD WEATHER CONSIDERATIONS

XVIII Airborne Corps and Fort Bragg Reg 350-41 establishes policies and guidelines for heat and cold injury prevention. It is incumbent upon all leaders, especially subordinate unit commanders, to become familiar with the contents of this regulation prior to entering the hot and cold weather seasons.

In the 16th Military Police Brigade (Airborne), subordinate unit commanders have the authority to modify or discontinue physical readiness training when adverse hot or cold weather requires it. Consideration should first be given to moving physical training indoors, if possible, before canceling training altogether. As a standard method of notification, unit commanders should execute the alert notification roster to pass this information.

HEAT INJURY PREVENTION: (Dial 6-8490)

Between 15 May and 15 October, Womack Army Medical Center records hourly the WBGT Index. Recommended modification of physical activity by heat category are as follows:

Heat Category	WBGT Index	Non acclimated Personnel	Acclimated Personnel
I	78 - 81.9	Normal duties	Normal duties
II	82 - 84.9	Use discretion in planning intense activity and exposure to sun should be limited. Provide constant supervision. Drink 1/2 to 1 quart of water per hour.	Normal duties drink 1/2 to 1 quart of water per hour
III	85 - 87.9	Outdoor classes in the sun and strenuous activity should be canceled or rescheduled for when conditions are favorable. Drink 1 to 1 1/2 quarts of water per hour.	Use discretion in planning intense physical activity. Intensity of work and exposure to sun should be limited. Provide constant supervision.
IV	88 - 89.9	All physical training and strenuous outdoor activity should be canceled or rescheduled for when conditions are favorable.	Strenuous outdoor activity should be minimized for all personnel with less than 12 weeks training in hot weather. Thoroughly acclimatized personnel can carry on limited activity not to exceed 6 hour periods. Drink 1 1/2 to 2 quarts of water per hour.
V	90>	All strenuous activity and non-essential duty should be canceled or rescheduled for when conditions are favorable. Drink	All strenuous activity/non-essential duty should be canceled or rescheduled until

condition is favorable. Work 30 minutes, rest 30 minutes. Drink at least 2 quarts of water per hour. Rest.

COLD INJURY PREVENTION (DIAL 6-8490 OR 6-SAFE/7233)

Between 15 November and 15 April the Fort Bragg Installation will record current weather and the forecast for the worst possible wind and temperature estimates for the upcoming 12 hours. In absence of this information, unit commanders or their delegated representatives can use the information provided by the local television or radio stations.

Recommended countermeasures for windchill categories are as follows:

WINDCHILL	COUNTERMEASURES
30 F and below	Alert personnel to the potential for cold injuries
25 F and below	Leaders inspect personnel for wear of cold weather clothing Provide warm-up tents/areas/hot beverages
0 F and below	Leaders inspect personnel for cold injuries Increase the frequency of guards rotation to warming areas. Discourage smoking
-10 F and below	Initiate the buddy system - have personnel check each other for cold injuries.
-20 F and below	Modify or curtail all but mission essential field operations

WIND CHILL CHART FOR FAHRENHEIT TEMPERATURES

ESTIMATED WIND SPEED (IN MPH)	ACTUAL THERMOMETER READING											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	EQUIVALENT TEMPERATURE (FAHRENHEIT)											
CALM	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-60
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-22	-37	-53	-69	-85	-100	-116	-132	-148
WINDS GREATER THAN 40 MPH HAVE LITTLE ADDITIONAL EFFECT	**LITTLE DANGER** <5 hrs w/ dry skin Greatest hazard from false security				**INCREASING DANGER** Exposed flesh may freeze within one minute			**GREAT DANGER** Exposed flesh may freeze within 30 sec.				
Trenchfoot and Immersion foot may occur at any point on this chart.												

PREVENTION OF COLD INJURIES DUE TO EXPOSURE TO TEMPERATURES BELOW 50 FARENHEIT

INFORMATION ON THIS CARD IS PROVIDED TO ASSIST LEADERS IN RISK DECISION MAKING AND CONTROL DEVELOPMENT AS PART OF THE RISK MANAGEMENT PROCESS. RISK DECISIONS AND CONTROLS SHOULD BE DEVELOPED FOR ALL TRAINING. LEADERS MUST ENSURE THAT THESE RISK DECISIONS/CONTROLS ARE IMPLEMENTD INTO UNIT TRAINING PLANS AND THAT TRAINING IS SUPERVISED.

RECOMMENDATIONS

	MINIMUM UNIFORM			OTHER FACTORS
WIND CHILL CATEGORY	**FIELD UNIFORM**	**PT UNIFORM**	**OFF DUTY ACTIVITIES**	
LITTLE DANGER	POLY PRO (T&B) ECWCS** (T&B) BALACLAVA TRIGGER FINGER MITTENS GORE-TEX BOOTS*	PFU SWEATS BLACK KNIT CAP BLACK GLOVES W/ INSERTS	COAT HAT EAR PROTECTION GLOVES BOOTS	- INCREASE LEADER SURVEILLANCE - NO FACIAL CAMOUFLAGE - INCREASE HYDRATION - PROVIDE WARM-UP AREAS WITH HOT DRINKS, ETC. - SKIN COVERED AND DRY
INCREASING DANGER	POLY PRO (T&B) COAT & TROUSER LINERS ECWCS** (T&B) BALACLAVA/PILECAP ECW MITTENS BOOTS ECW (TYPE I)	PFU SWEATS POLY PRO (T&B) BALACLAVA TRIGGER FINGER MITTENS	COAT HAT EAR PROTECTION GLOVES BOOTS	- RESTRICT NON-ESSENTIAL OUTDOOR TRAINING - LOW ACTIVITY: 30-40 MIN WORK CYCLE - SEDENTARY ACTIVITY: 15-20 MIN WORK CYCLE - USE BUDDY SYSTEM - NO EXPOSED SKIN
GREAT DEANGER	POLY PRO (T&B) SHIRT, COLD WX TROUSER LINER ECWCS** (T&B) BALACLAVA/PILECAP ECW MITTENS BOOTS ECW (TYPE II)	PFU SWEATS POLY PRO (T&B) BALACLAVA TRIGGER FINGER MITTENS	HEAVY COAT LONG UNDERWEAR HAT & SCARF MITTENS CW BOOTS	- CONSIDER INDOOR TRAINING - HIGH INTENSITY ACTIVITY: <15 MIN WORK CYCLE - CONSIDER CANCELING LOW OR SEDENTARY ACTIVITY/OUTDOOR TNG - COVER ALL EXPOSED SKIN

GORE-TEX BOOTS = Matterhorn/Rocky Mountain/ or similar GORE-TEX insulated leather boots **ECWCS = Extended Cold Weather Clothing System (GORE-TEX)

CONSOLIDATED SPECIAL PT PROGRAM

1. **Purpose**: The purpose of the Consolidated Special PT Program is to segregate soldiers within the Brigade that have failed to meet the minimum standards in any of the physical fitness categories (APFT, 4 mile run, 20K ruck march, overweight) and give them specialized/focused training to get them to standard or identify those with apathy/basic lack of motivation and eliminate them from service. Soldiers on profile will also be placed on Special PT and given programs to optimize their training within their profile limits. Soldiers who cannot perform to standard should remain a minimum of 90 consecutive days in the program unless they are dismissed sooner for apathy.

2. **Program Management**: The CSPTP will be run and managed in the following manner and at the Brigade/Battalion level unless otherwise authorized by the Brigade Commander:

a. Commanders/1SG will assess their soldiers in these areas:

(1) APFT

(2) 4 mile run in 36 minutes

(3) 20k ruck march

(4) Height/weight/body fat content

(5) Soldiers on profile

b. Unit 1SGs will submit a list of names to the Program Coordinator at the Brigade/Battalion level as soon as the soldier is identified as not meeting an established standard. Unit 1SGs will also forward a copy of the soldier's initial counseling and any valid profile.

c. The Program Coordinator will consolidate the list and inform the Special Fitness Trainer (SFT) of soldiers who will attend the special PT sessions. Based on the number of enrollees and their particular limiting profile, the Program Coordinator and the SFT will decide how many PT Facilitators are needed for the week.

d. The Program Coordinator will return for clarification any profile that is too vague. 1SGs will clarify and send back to the Program Coordinator

e. Special PT will be held at 0630 by the SFT. The PT Facilitators and the enrollees will form two ranks and report.

f. When accountability is established, the SFT will give the task/conditions/standards for each target group. A PT Facilitator will lead each of the specific groups (i.e. running, sit-ups, etc.)

g. The SFT and the PT Facilitators will verbally assess each soldier during the cool down period, giving them an informal idea of their daily performance.

h. Each week the PT Facilitators will provide the SFT with an overall assessment of each soldier, on the Weekly Progress Report. The SFT will then counsel each soldier weekly, in writing, on his or her progress.

i. The SFT will forward all weekly written counselings to the Program Coordinator for review NLT COB the first duty day of each month, with Weekly Progress Reports attached.

j. The Program Coordinator will inform the commanders/1SG of their soldier's progress, attendance, and attitude.

3. **Completing the Program**: Soldiers should remain on the special PT program for 90 days; at the end of this period the individual will be retested and the outcome of that test will determine if the soldier will remain in the program or be released.

a. Soldiers will be evaluated and given a diagnostic test weekly. If a soldier failed any part of the APFT, the entire APFT will be conducted and passed (not just that event). If the test is passed the soldier will be released from the program at the conclusion of the 90-day period.

b. Overweight soldiers will be weighed and taped weekly. Overweight soldiers must be enrolled in the overweight program. If a soldier does not make weight after six months on the program, the unit commander will initiate separation action, based on individual performance. The unit commander will inform the Battalion Commander/DBC when a soldier reaches six months on the overweight program.

4. **General**:

a. The Brigade/Battalion Commander, Deputy Brigade Commander and CSMs will be briefed on the success of both the soldiers enrolled and the program itself. The Program Coordinator will brief the CSM on any unit that fails to provide adequate support for the running of this program.

b. The unit Commanders and 1SGs will monitor this program.

c. The BDE/BN CSM will appoint the Program Coordinator in writing for not less than six months.

d. All personnel serving as Program Coordinators have priority for Master Fitness Trainer Courses.

Assessment table

The following assessment tables will simplify the scoring and make it easier for units to see areas that need improvement and where improvement has been made. The scoring system has the same standard as the APFT(i.e. 60 pts. Passing and 100 pts max).

YARDSTICK PROTOCOL (¼" =1pt: ½"= 3pts: ¾" =4 pts)

Distance	points
22"	100
21"	95
20"	90
19"	85
18"	80
17"	75
16"	70
15"	65
14"	60
13"	55
12"	50
11"	45
10"	40

BENCH PRESS

The bench press is expressed in a percentage of the soldiers body weight. To compute the score divide the weight lifted by the soldier's body weight to get the percentage. (i.e. a 160 pound soldier lifts 168 pounds- (168/160) x100= 105%

MALE (3%=2 pts)		FEMALE (1%=1 pt)	
%	pts	%	pts
135	100	80	100
120	90	70	90
105	80	60	80
90	70	50	70
75	60	40	60
60	50	30	50
45	40	20	40

PULLUP (Male)

Reps	Age	17-21	22-26	27-31	32-36	37+
18		100				
17		96	100			
16		92	96	100		
15		88	92	96	100	
14		84	88	92	96	100
13		80	84	88	91	96
12		76	80	84	87	91
11		72	76	80	82	87
10		68	72	76	78	82
9		64	68	72	73	78
8		60	64	68	68	73
7		56	60	64	64	68
6		52	56	60	60	64
5		48	52	56	56	60
4		44	48	52	52	56
3		40	44	48	48	52
2		36	40	44	44	48
1		32	36	40	40	44

FLEX ARM HANG (Female)

Time	age	17-21	22-26	27-31	32-36	37+
80		100				
75		96	100			
70		91	96	100		
65		87	90	95		
60		82	85	90	100	
55		78	80	85	95	100
50		73	76	80	89	95
45		69	72	75	84	89
40		64	67	70	78	84
35		60	62	65	72	78
30		55	57	60	66	70
25		51	53	55	60	66
20		46	48	50	55	60

3 mile run (9sec+2 points)

Male Time	Female Time	Score
21:00	22:30	100
21:45	23:15	90
22:30	24:00	80
23:15	24:45	70
24:00	25:30	60
24:45	26:15	50
25:30	27:00	40

4 Mile Run

Male time(9 Sec=1pt)	Female Time(6sec=1pt)	Score
30:00	32:00	100
31:35	33:00	90
33:00	34:00	80
34:30	35:00	70
36:00	36:00	60

6 Mile Run (9 sec=1pt)

Male Time	Female Time	Score
48:00	51:00	100
49:30	52:30	90
51:00	54:00	80
52:30	55:30	70
54:00	57:00	60
55:30	58:30	50
57:00	60:00	40

FORT BRAGG

16TH MP BDE(ABN)
503D MP BN (ABN)
21ST MP CO (ABN)
65TH MP CO (ABN)
108TH MP CO (AASLT)
118TH MP CO (ABN)
42D MP DET
122D MP DET (PWIC)
82D MP CO (ABN) (DIV)

FORT DRUM

10TH MP BN (PROV)
10TH MP CO (DIV)
177TH MP CO
511TH MP CO

FORT CAMPBELL

716TH MP BN
163D MP CO
101ST MP CO (AASLT) (DIV)
194TH MP CO

FORT BENNING

988TH MP CO
3RD MP PLT(DIV)

FORT McCLELLAN

209TH MP CO

FORT STEWART

3RD MP BN (PROV)
B CO 3RD MP BN
3RD MP CO (DIV)
293RD MP CO

FORT POLK

519TH MP BN
91st MP DET
204th MP CO
258th MP CO

TAMPA, FL

317TH MP BN (RC)
320TH MP CO (RC)
351ST MP CO (RC)
805TH MP CO (RC)
810TH MP CO (RC)