

TRAINING NOTES



Strength Training

LIEUTENANT COLONEL ROBERT M. HENSLER

Today's light infantrymen need a robustness of character, both physical and mental, that will enable their units to deal routinely with stress and the unexpected. A high-intensity strength training program, as part of a unit's overall physical training (PT) program, can contribute a unique blend of physical and mental conditioning to significantly aid in developing this robustness.

In the 1st Battalion, 22d Infantry, 10th Mountain Division (Light Infantry) at Fort Drum, high-intensity strength training has, in fact, provided a combat multiplier for the battalion in terms of both physical and mental conditioning. Other units may find the battalion's strength training program helpful in implementing similar programs.

This program is specifically designed to achieve the following goals:

- Develop and maintain an acceptable level of muscular strength for the accomplishment of light infantry missions.
- Train the chain of command on how to organize and conduct unit strength training programs in both garrison and field environments.
- Instill discipline, self reliance, and mental toughness in all soldiers.
- Hasten the return of injured

soldiers to full duty status through a program of strength reconditioning coordinated by the battalion's physician assistant.

The battalion S-3 schedules the use of the weight room (affectionately called "The Sweatbox") so that each platoon-sized element in the battalion can conduct strength training twice a week during duty hours.

The battalion can be broken down for scheduling into 19 platoon-sized elements as follows:

- Nine rifle platoons.
- Three rifle company headquarters sections.
- Scout platoon.
- 81mm mortar platoon.
- TOW platoon.

- Communications platoon.
- S-4 section and support platoon.
- Staff (S-1, S-2, S-3, medical platoon).
- Battalion and company headquarters.

The major scheduling challenge occurs when the entire battalion is in garrison, but it can be done, as illustrated in Table 1. What is important is that some sort of unit integrity be maintained. The size of the group is influenced, of course, by the available strength training equipment and the size of the facility. The underlying principle, though, is that each individual is actively engaged in strength training.

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0700-0800	Co A	HHC	MAKE-UP	HHC	HHC
0900-1000	Co A	Co B	SCHEDULE THROUGH S-3	HHC	MAKE-UP SCHEDULE
1000-1200	Co A	Co B	↓	HHC	THROUGH S-3
1300-1400	HHC	Co C	Co A 1300-1700	Co C	Co B
1400-1700	HHC	Co C	↓	Co C	Co B

Table 1

ing, as either trainee or coach, every minute of the allotted period.

Because our battalion has its own facility with 11 weight machines, training is done in pairs, and there is room to perform partner-assisted manual resistance exercises with half of the group. The facility can accommodate a group of up to 44 soldiers (11 X 2 X 2).

Machine and partner-assisted exercises are combined for two reasons—there is not enough time for an entire platoon to get through a workout using only the machines, and skill at performing the partner-assisted exercises is maintained for subsequent workouts during field training.

Scheduling must also consider the availability of leaders and staff sections. Unless all soldiers can participate, the team-building aspect of the training is lost. Strength training is particularly effective in developing unit cohesion, an aspect to be discussed later.

A strength training session for a platoon-sized element with 11 machines lasts about 45 minutes. Before assembling in formation in The Sweatbox, the platoon completes warm-up and stretching exercises under the supervision of its chain of command. Also before beginning the training, the tasks, conditions, and standards are announced to the group. The unit then breaks down into predetermined buddy groups and moves to the first exercise position.

A complete workout consists of five or six machine exercises and four or five manual resistance exercises per man. The manual resistance exercises are selected specifically to exercise muscle groups other than those the machines exercise. All exercises are divided into A or B group to ensure that all major muscles are worked either by the machines or by manual resistance. An example is shown in Table 2.

The machines are positioned in the room to facilitate the training unit's movement through the exer-

GROUP A	GROUP B
MACHINE	MACHINE
Leg extension (quadriceps)	Lateral raise (deltoids)
Leg curls (hamstrings)	Overhead press (deltoids/triceps)
Men's chest (pectorals)	Multi-biceps
Pullover (laterals)	Multi-triceps
Torso arm (laterals)	Abdominals
MANUAL RESISTANCE	MANUAL RESISTANCE
Pushup (pectorals)	Leg press (quadriceps)
Lateral raise (deltoids)	Leg curls (hamstrings)
Triceps	Bent arm fly (pectorals)
Biceps	Pulldown (laterals)
Abdominal	Seated row (laterals)

Table 2

cise period. A horseshoe configuration works well. Each soldier has an opportunity to be both a trainee and a coach. A trainee goes through five machine exercises without a break. A whistle is blown every one and a half or two minutes, directing the soldiers to move to the next station. The goal is for a soldier to achieve muscular failure on each exercise in 8 to 12 repetitions. (Momentary muscular failure occurs when a soldier cannot perform another correct repetition through the range of motion required for the exercise.)

After a trainee has rotated through the machine portion of the workout, he moves to an area where manual resistance exercises are done with the same time restrictions—one and a half to two minutes per exercise.

Throughout, the "coach" (buddy) plays an important role. He helps the trainee by adjusting the seat and the weight settings, correcting his form, recording results, and exhorting him to meet the challenge. The coach may also provide "negative" resistance during the machine and partner-assisted exercises to increase the overall benefit of the workout. After half of the group has executed the workout (5 machine exercises plus 5 manual resistance exercises times 2 minutes), the senior trainer orders coaches

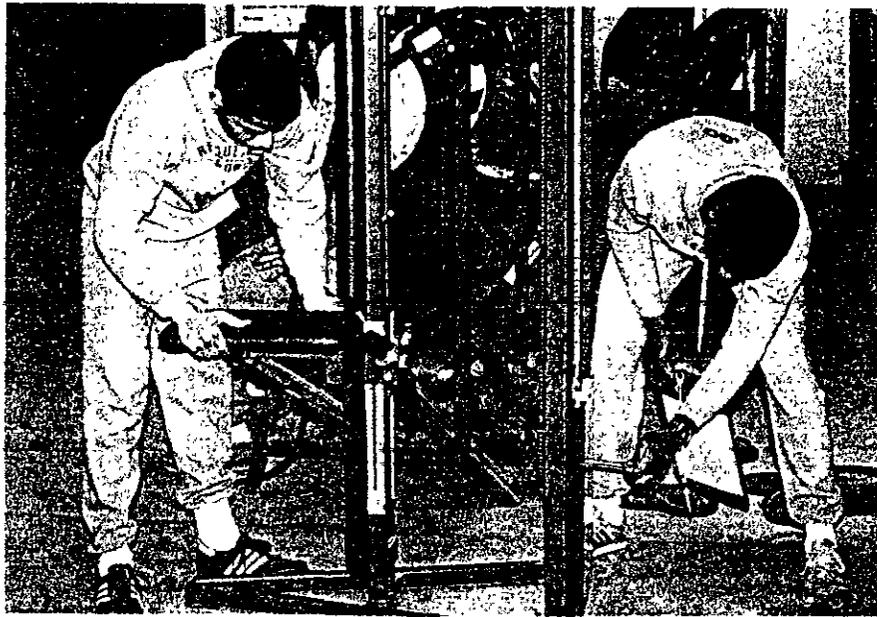
and trainees to switch roles. (The coaches now experience what the soldiers call "payback.")

Getting a platoon through this exercise regimen in 45 minutes is no easy task. Movement between machines must become a drill. Coaches must know their function and do their tasks quickly (especially seat and weight settings) to reduce the delay time between machines to a minimum.

Several sets of pushups and situps are also included, normally after the workout, to ensure that they are done according to Army Physical Fitness Test standards. The standards are maintained through total chain-of-command involvement and presence. (The saying is that in The Sweatbox rank has no privilege.)

Here are some of the payoffs the battalion has gained by doing strength training this way:

- The most obvious and direct benefit is improved physical performance—especially upper body strength. The battalion executed a 25-mile road march at night with rucksacks in 20- to 25-degree weather as the lead event of its post-train-up external evaluation. The results were impressive: 322 out of 337 soldiers finished with their squads in the specified time. A review of the soldiers' performance as recorded on their individual progress cards suggested an across-



the-board increase in physical capacity.

- The principle of leadership by example is always reinforced. The standards are the same for all: 8 to 12 repetitions until muscular failure occurs, although the weight will vary. The entire chain of command participates, from battalion commander through private.

- Strength training is the height of performance-oriented training. Everyone is involved in doing tasks to certain standards. Different weight settings allow soldiers to challenge themselves according to their specific entry levels of fitness. Recorded prior performance is the pre-test from which soldiers develop advanced goals. This training is a great workshop for junior leaders on how to conduct performance-oriented training, reminding them that everything they do is training. Strength training is frequently used as an example of how to conduct performance-oriented training in other areas.

- The intensity with which strength training is conducted contributes to the development of what social scientists call horizontal and vertical social bonding. This is a fancy way of saying that the soldiers feel closer as a unit after the experience. The workout, because it is so intense, becomes the "enemy"

against which everyone pits himself. A soldier gets through the period with the help of a "buddy" who may be his squad leader, platoon sergeant, platoon leader, or even the first sergeant.

- Strength training done this way adds a lot of variety to the battalion's overall PT program. If a soldier did nothing but multiple sets of pushups and situps, he would become strong only to a point. The weaker muscle group involved in doing the exercise (possibly the deltoids or triceps for the pushup) would fail first and ultimately limit performance on the other groups. He would also probably get a little tired of it.

- Once soldiers develop proficiency and confidence in the use of the equipment, they are more likely to take up strength training as a hobby. The Sweatbox is open during weekends for this purpose.

The key to a successful strength training program, in a unit that spends more than 100 days a year in the field, is sustainment. Strength training must be done in the field just as regularly as in garrison to sustain performance levels. The short-term objective of strength training in the field is to decrease the loss of strength, especially in the upper body, that occurs after extended field training. A well-exe-

cuted program of strength training in the field can actually demonstrate long-term gains.

FM 21-20 has an adequate display of partner-assisted resistance exercises, but our battalion has also created other partner-assisted exercises that duplicate the motion achieved on most of the machines.

Twice-a-week workouts of proper intensity, when combined with the many other activities during PT, are enough to sustain strength for mature soldiers, and to develop strength in younger, less physically mature ones. Since most young men in infantry units have not reached full maturity, a well-organized program can have a very positive synergistic effect on them. There is enough time during the remainder of the week to balance strength training with aerobic activities to achieve total fitness. In fact, when the whole battalion is in garrison, a platoon-sized element is constantly rotating through The Sweatbox all day long.

There are times when physical training is the most important task the battalion does on a given day. This attitude of commitment is central, not just to the strength training program but to the overall PT program in general. The monetary investment for a battalion is about \$23,000, which is not a great deal of money considering the program's many benefits.

This battalion has made a commitment to achieving a high level of total fitness, one component of which is improved muscular strength. Its program of high-intensity strength training is achieving its intended purpose with a host of additional training benefits as well.

Lieutenant Colonel Robert M. Hensler commanded the 1st Battalion, 22d Infantry when he wrote the article. He now commands the 3d Ranger Battalion, 75th Ranger Regiment, at Fort Benning. He has spent the last seven years serving at battalion and brigade level with light infantry units in Panama and the United States. He also formerly served a tour in the Department of Physical Education at the United States Military Academy.