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MISSION STATEMENTS



► HOIST® Fitness Systems, Inc.

The HOIST® headquarters are located in a 130,000 square foot facility in San Diego, CA, home to the pioneering research, development and production of unrivaled fitness equipment for over 25 years. With a long history of innovation and quality, the industry has come to expect from HOIST®, our standards have become the very measure of excellence in the realm of strength training equipment worldwide



The American Council on Exercise

The American Council on Exercise (ACE®) is a non-profit organization committed to promoting safe and effective physical activity for all segments of society. As America's Authority on Fitness™, ACE protects against ineffective products, programs and trends through public outreach education, certification and educational research. ACE further protects the public by setting certification and continuing education standards for fitness professionals.





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"THE HUMAN BODY IN MOTION"





WELCOME

The HOIST® Fitness System's Ride Orientated Circuit Interval Training (ROC-IT TM) line is the culmination of research and technology to understand human movement and the design of equipment to effectively fit the human body on motion. This manual is designed to help you integrate safe and effective ROC-IT TM programs, designed to appropriately train and address the varying needs of your different clients.

PREFACE

HOIST® Fitness Systems, in conjunction with the American Council on Exercise (ACE®) is proud to present the HOIST® ROC-IT ™ program manual for strength and conditioning design for healthy adults. This manual provides information to better understand the benefits of the ROC-IT line, guidelines on designing and implementing a variety of circuits, and examples of safe and effective, research-based programs that can be easily implemented within your facility. Always remember, the key to successful programming is the safety of all participants. ACE and HOIST® encourages you to thoroughly screen all participants for exercise readiness and to refer individuals for whom exercise may create risk to their physicians. For additional information on the material presented in the manual, please review the selected reference list provided at the end of this manual.





INTRODUCTION

The human body is designed to move and develop in response to the stresses placed upon joints, bones and muscles. A regular pattern of physical activity including cardiovascular training, muscular conditioning and flexibility produces significant physiological and psychological changes to improve overall fitness and quality of life. Some of these changes include improvements in metabolism, blood glucose and lipid levels, body composition, physical capacity, psychological and emotional state, bone density, and blood pressure.

Yet, despite the overwhelming volume of research demonstrating the benefits to being physically active, only 45.9 % of the adult U.S population currently participates in physical activity levels consistent with the U.S. Surgeon General's recommendations for 30 minutes of moderate intensity physical activity on most days of the week (CDC&P, HHS, 2003). This level of inactivity is reflected in the prevalence of Americans considered overweight and obese which continues to rise, increasing from 65.7 % and 30.6 % in 2001 – 2002 to 66.3 % and 32.3 % in 2003 – 2004 respectively (CDC, 2005).

Technology and automation contribute to this inactivity and increase the potential for developing compensations in body posture and movement. These compensations alter the muscle's normal length-tension and force-coupling relationships that increase the potential that joints will load and move abnormally and that muscles will function abnormally. This in turn progresses the likelihood of developing injury and pain. The restoration and maintenance of normal joint alignment, joint movement, muscle balance and function is therefore critical for optimal health and longevity.

Our activities of daily living often necessitate simultaneous movement of multiple muscles and joints, integrated into movement patterns in multiple planes of motion, while maintaining the ability to stabilize all body segments against external loads and reactive forces. The capacity of an exercise program to train the body to achieve this ability is defined as "functional training."

Traditional machine-based exercises are not considered functional by virtue of their inability to mimic activities of daily living. Their static or fixed design imposes limitations to unrestricted joint movement and necessitates continuous adjustments by the joints to follow the more unnatural, fixed movements of the machine. This is certainly not ideal and in many instances increases the potential for injury.

Additionally, the traditional machine user is typically supported by pads and back rests which offer little opportunity to engage the core musculature that stabilize the spine under loading.

Technological advancements in the design of strength training equipment has resulted in more functional, unsupported, ground-based equipment that better mimics our activities of daily living. These pieces join free weight training in allowing more unrestricted, natural joint movements and may be instrumental in establishing or maintaining normal muscle function. While these training modalities are conducive to healthier joint movement, they also require greater levels of joint integrity and spinal stabilization that most individuals simply do not possess.

The influx of these pieces into the market however, has created an aggressive trend towards functional training and sports conditioning. This emerging trend does raise concern as fitness professionals must fully comprehend their intended use and understand the consequences of misuse. The intent of this manual is to act as a resource to inform club owners, personal trainers and consumers of the benefits of the ROC-ITTM line and provide guidelines on designing and implementing safe and effective circuits.

Dynamic adjustment is the essence behind the design of the ROC-ITTM line. The machines constantly adapt to make the user an integral part of the machine's movement by adjusting the position of the user in relation to the moment arm of the machine. The ROC-ITTM line embodies a unique training experience that achieves the unrestricted joint movement and core activating benefits of functional training modalities coupled with the stabilizing benefits of machine-based equipment. The forward and rearward rocking mechanism achieves optimal biomechanical positions throughout the exercise range of motion to allow the more natural, more comfortable, functional movements seen with free weight training. Additionally, the rocking mechanism constantly shifts an individual's center of gravity to impose small and appropriate challenges to the core musculature, while offering adequate levels of body stabilization.

The ROC-ITTM line represents a training technology optimally suited to meet the training needs of diverse population groups ranging from the de-conditioned and sedentary to the more conditioned and athletic.

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THE MANY BENEFITS THE ROC-ITTM PRODUCT LINE OFFERS

HOIST® Fitness Systems has a long-standing reputation within the fitness industry for innovative design, personalized features, quality craftsmanship and durability, and safety. The ROC-IT™ line offers the following features and benefits:

- Easy step-in design with the stack attachment option on either side of the unit to fit your facility layout needs
- > Simplified and minimal adjustment points to the right side and color-coded safety yellow
- Oversized handles for improved grip strength and comfort with bulbed, baseball-like bat-ends to prevent hand slippage
- Adjustable head and neck support for rearward rocking pieces to maintain a neutral cervical spine
- Dynamic rocker to constantly adjust the user position in relation to the moment arm in order to achieve optimal biomechanical positions throughout the functional exercises
- Integrated towel holder, accessory tray (for iPods®, MP3 players and Walkmans®), water bottle holder, and location for a your personalized decals that can be placed immediately under the instructional placards
- > An easy-to-use adjustable ratchet seat for upward adjustment and spring loaded for downward adjustment
- Enclosed silent weight stack for safety and privacy, using a sequential numbering and color system for ease of use
- > Contoured foot rests that provide a perpendicular platform for support and stability while machine and user move
- Spacing between plates to prevent finger pinches
- Lanyard weight stack pull pins with a magnetic rim to safely secure pins in use

The innovative biomechanical design of the ROC-IT™ product line allows unrestricted, more natural and comfortable, functional movements.









ROC-IT™ 101 SEATED DIP

The ROC-IT™ 101 Seated Dip, a functional movement for the Triceps muscle places the body in a slight forward lean in the start position, rocking rearward to a more stable end position with arms aligned at the sides of a vertical body, more naturally mimicking the end position of parallel bars. The end position with arms aligned to the sides reduces excessive shoulder stress and instability.













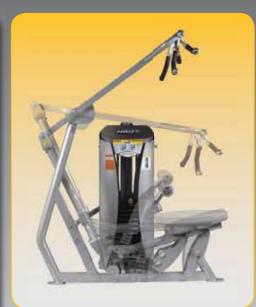
ROC-IT™ 102 BICEPS CURL

The ROC-IT^{IM} 102 Biceps Curl accommodates varying arm lengths and shoulder widths with a movable base pulley and provides options for pronated, neutral or supinated grip positions. It positions the user in a slight forward lean at the start position to improve arm extension for Biceps recruitment, rocking rearward at the end position to reduce shoulder and back involvement which emphasizes more Biceps loading. The rearward rocking motion closely mimics the natural movements of performing a standing dumbbell curl without involving the lower back.



ROC-IT™ 201 LAT PULLDOWN

The ROC-IT™ 201 Lat Pulldown places the user in a slight forward lean in the start position, increasing the stretch to the lats and traps. The pull phase rocks the user into a 20-30 ° rearward lean to mimic a more natural pull-up movement and avoids unsafe low back hyperextension while maintaining loading on anterior portion of body. Two exercise arm handles accommodate different body sizes and arm lengths and self align to track natural arm movement at the joint while the forward, unsupported movement of the torso results in greater activation of the core musculature to maintain balance.













ROC-ITTM 203 SEATED MID ROW

The ROC-IT™ 203 Seated Mid Row places the user in a slight forward lean in the start position to reduce the risk of lumbar flexion, but avoids any need for uncomfortable chest pads. The pull phase rocks the user into a 20-30 ° rearward lean to avoid unsafe low back hyperextension, pulling the arms handles down into a low row position to recruit more fibers of the mid and lower back. The arms and handles self align to track natural arm motion allowing various end positions between the low and mid back with pronated, neutral or supinated grip positions. The forward, unsupported movement of the torso results in greater activation of the core musculature to maintain balance.



ROC-IT™ 301 CHEST PRESS

The ROC-IT™ 301 Chest Press places the user in a start position with the arm handles aligned at chest level, rocking rearward to an end position with the arm handles aligned with the chin mimicking the natural angular or ached press movement from the chest. The arm handles accommodate a neutral or overhand grip position while the foot assist bar facilitates optimal positioning of arm handles to control the degree of chest stretching desired. This reduces the stresses placed upon the anterior shoulder capsule associated with horizontal extension and internal rotation of the arm.













ROC-IT™ 401 LEG EXTENSION

The ROC-ITTM 401 Leg Extension places the user in a slight forward lean with hips lowered below the knees in the start position and rocks rearward moving the user to a end position allowing greater range of motion and a more natural hinge movement which reduces shearing forces and stresses on the knee joint. The rearward rock lowers the hips to maintain a posterior pelvic tilt to better load the Quadriceps group and reduce low back muscle involvement typically seen with traditional leg extension machines. The easy-to-use adjustable back pad accommodates different upper limb lengths while the self-adjusting roller accommodates different lower limb lengths to reduce potential stress across the ankle joint.

ROC-IT™ 402 LEG CURL

The ROC-IT™ 402 Leg Curl places the user in a slight forward lean with hips lowered below the knees in the start position and rocks rearward moving the user to a end position allowing a greater range of motion. The placement of the upper stabilizing shin pad on the tibia coupled with rearward rocking movement creates a more natural hinge movement, reducing shearing forces and stresses on the knee joint in comparison to traditional thigh pads. The rearward rock and pad placement also prevent forward travel of the body during contraction as evidenced with traditional seated and lying leg curl machines which increase the anterior tilt of the pelvis and low back strain. The easy-to-use adjustable back pad accommodates different upper limb lengths while the self-adjusting roller accommodates different lower limb lengths to reduce potential stress across the ankle joint.













ROC-IT™ 501 SHOULDER PRESS

The ROC-IT™ 501 Shoulder Press places the user in a start position with neutral grip position to reduce potential shoulder impingement with arm handles positioned in front of the midline of the body to reduce exaggerated back arching throughout the movement. The rearward rocking to a posterior lean optimally aligns the arms with the torso overhead to decrease external rotation of the arm and shoulder capsule stress, but also decreases any exaggerated low back arching traditionally found with shoulder press machines





CIRCUIT TRAINING

We have become increasingly hard pressed to find time to exercise. It is estimated that 13.7 % of the U.S. population currently holds a health club or gym membership and 22.2 % use gym or club facilities, yet only 42.6 % of that population actually visits the gym with regularity (defined as greater than 100 days per year). One key reason for this statistic is the lack of available time to exercise. Consequently, circuit training or express workouts have grown in popularity in response to this need. Circuit training programs allow individuals the opportunity to participate in time-efficient workouts that ofter both cardiovascular and resistance components within one training session.

While circuit training offers the physiological benefits of both aerobic and muscular conditioning, it offers additional psychological and emotional improvements in the forms of improved self-efficacy, motivation, adherence, support and overall enjoyment of the exercise experience. The group dynamics of circuit training build relational fitness, a concept that implies improvements both physiologically and psychologically. While the program itself produces the physiological improvements, it is the relationships, the experience and the support systems developed through the group-like exercise setting that are vital for continued program participation. This concept, when coupled with effective exercise programming that is both engaging and offers good exercise variety, is critical for success.

Guidelines for developing circuit training programs exist, but effective program design exists where creativity meets safe, practical programming ideas. Circuits training programs can take on any theme, but should always follow sound training principles and meet the needs of the target population.

SAFETY CONSIDERATIONS

While exercise is strongly encouraged by all professional medical and fitness agencies, it does involve some degree of risk for harm or injury. While poor equipment, exercise technique, program design and supervision may increase the likelihood of musculoskeletal injury in individuals, it is important to remember that exercise provokes cardiovascular risk only in individuals with pre-existing heart disease.

Regardless, perform a pre-participation screening on all new participants upon entering a facility that offers exercise equipment or services. The screening procedure should be valid, simple, cost- and time-efficient and most importantly, appropriate for the target population. For individuals participating in self-guided activity (activity initiated and guided by the individual with little or no input or supervision from a qualified fitness professional), the individual should complete a minimal health appraisal questionnaire. The Physical Activity Readiness Questionnaire (PAR-Q) is recognized by health and fitness experts as a minimal, yet safe pre-exercise screening measure for low-to-moderate (but not vigorous) exercise training.

The American College of Sports Medicine and the American Heart Association have created a more complex screening tool to provide more information regarding risk identification, risk stratification, and the need for medical clearance prior to commencing physical activity. Stratification of risk is important to identify those in need of referral to a healthcare provider for more extensive medical evaluation; to ensure the safety of exercise testing and participation; and to determine the appropriate type of exercise test or program.

Participants should always notify trainers or exercise leaders to any special health concerns that mandate monitoring or referral to more-qualified professionals. Additionally, educating participants to be mindful of potentially harmful symptoms that may develop under the exercise challenge ensures their safety. Symptoms of pain, tightness or discomfort in the chest, neck, jaw, arms and other areas and unusual shortness of breath or fatigue associated with normal exercise intensities necessitate immediate termination of exercise and referral to a physician.

Exercisers should always maintain their optimal hydration levels before, during and following exercise and should drink fluids or water as directed by a qualified professional. They should also follow sound dietary practices as directed by the current USDA dietary guidelines or qualified professionals.

Recommend that exercisers wear clothes constructed from breathable or wicking fabrics to enable efficient thermoregulation of body heat and minimize the risk for heat-related illnesses.



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GENERAL PROGRAMMING GUIDELINES

Proper training guidelines and program variation can make circuit training safe, effective and enjoyable for all participants regardless of age, conditioning status or skill level. This section will provide guidelines for effective circuit training program design as well as stretches and movement patterns that participants can follow as part of their warm-ups and cool-down.

CIRCUIT TRAINING

- 1. The objectives of circuit training are traditionally to improve both muscle conditioning and cardiovascular fitness within the same training session (time-efficient), facilitate orientations to new facilities or equipment, or to facilitate development of motor skills with novice exercisers. However, any training objective is achievable with a little programming creativity and equipment availability. This includes most sport- or skill-specific, high-intensity, anaerobic, or rehabilitative goals
- 2. Circuit training is intended to target the major muscle groups of the body and is usually designed with 8 - 12 stations, but can be created with fewer or more if consistent with the training goals
- 3. The duration of circuit training varies, but normally lasts 1 - 12 weeks given the repetitive nature of the exercise programs that can cause burnout or boredom. However, creative programming that offers variety and progression towards individual or group goals can be implemented indefinitely
- A. Participation in circuit training programs is traditionally between one and four non-consecutive days per week. Individuals who exercise more infrequently find circuits beneficial as their limited availability prevents them from meeting the recommendations of the American College of Sports Medicine (ACSM) of 2 - 3 days a week of resistance training and 3 - 5 days a week for cardiovascular exercise
- 5. Circuit programs strive to improve muscular endurance and cardiovascular fitness. Higher repetitions sustained for longer periods coupled with shorter rest intervals bests achieves this objective. A lower-intensity, higher-repetition exercise format is ideal to achieve this objective and normally involves 10 20 repetitions. If consistent with training goals, lower repetition circuits of higher intensities may be utilized

- 6. To accommodate higher repetitions, intensities are usually maintained between 50 - 70 % 1 RM (1 repetition max, the maximal amount of weight an individual can lift for one repetition with good form). However, as circuits can be used to achieve almost any training objective, the intensity ranges can be far broader
- 7. To maximize muscular endurance and cardiorespiratory improvements, rest intervals are intentionally shortened to 15 45 seconds between stations. Rest intervals are usually structured relative to the length of the work interval that determines the energy pathway utilized. Shorter, more intense work intervals may necessitate a 1:2 or 1:3 work: rest ratio (for example: 15 sec work interval and 30 second rest interval), while longer, less intense work intervals may require a 1:1 or 1:2 work: rest ratio. To further emphasize the cardiovascular challenge, shorter rest intervals involving a 2:1 work: rest ratio may be implemented with longer, less intense work intervals (for example: 30 second work interval and a 15 second rest interval)
- 8. To ensure adequate muscle recovery and greater cardiovascular challenge, the exercise order typically alternates between the upper and lower extremity and between pushing and pulling movements. Additionally, to maximize program effectiveness and maintain program safety, circuits are designed to begin with the larger muscle groups in the beginning stations and progress towards smaller muscle groups in the latter stations
- 9. Stations are completed as a circuit and repeated as time permits. Traditional circuits involve completion of 1 - 3 circuits pending time availability and conditioning level of the exercisers



WARM-UPS, STRETCHING AND COOL-DOWNS

An aerobic warm-up followed by static muscle stretching (moving a muscle to the point of tension, then holding the stretch for 15 – 30 seconds) prior to exercise has long been recommended as standard practice to reduce the risk injury during exercise. Some recent research has called into question the efficacy of static stretching after a warm-up. In some research, it has failed to demonstrate significant reductions in injury rates versus warm-up followed by no stretching. Additionally static stretching has also shown some reductions in athletic performance.

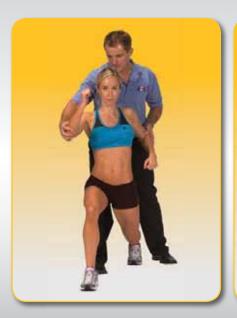
Generally, warm-up and stretching before exercise warms the body, joints, tendons and muscles to reduce stiffness and allows greater joint movement. Additionally, it improves blood flow, posture, neuromuscular coordination, movement efficiency, and reduces muscle tension, anxiety, and post-exercise muscle soreness.

Muscles contain specialized nerve receptors that regulate muscle flexibility. These receptors contain nerves, some sensitive to static stretching and some sensitive to dynamic stretching (actively moving the muscles to an end-point of the range of motion, holding the stretch for only 1 – 2 seconds). Ideal muscle preparation involves activation of both types of nerves to prime the entire neuromuscular pathways for activity. It is therefore believed that the goal of a pre-exercise regimen is to warm the joints to reduce any potential risk for injury and to prepare the neuromuscular pathways for activity.

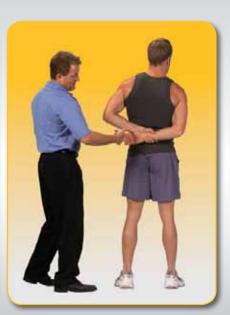
Slow, controlled dynamic stretching is considered the most optimal mode of stretching to achieve this neuromuscular preparation. These stretches are more advanced and challenging, and consequently most appropriate for more conditioned individuals given their need for greater levels of balance and stabilization during partial or full body movements, and stretching of multiple muscles simultaneously.

The goals of post-exercise or cool-down stretching on the other hand are to improve flexibility and reduce potential post-exercise muscle stiffness and soreness. Static or dynamic stretching modalities effectively achieve these goals.

The introductory program will incorporate the more traditional warm-up and static stretching protocol whereas the intermediate and advanced programs progress towards dynamic warm-ups as a replacement. The post-exercise or cooldown phase incorporates both static and dynamic stretches.









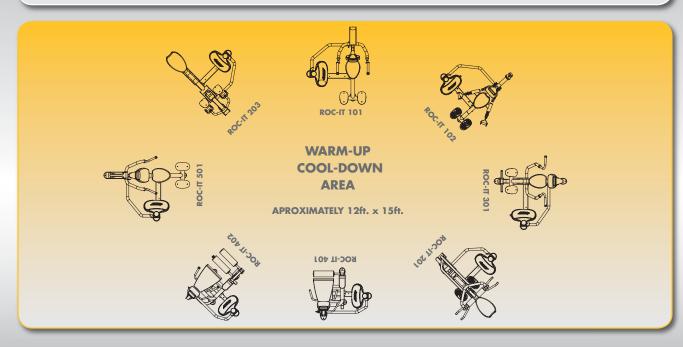
This phase introduces exercisers to the ROC-ITTM circuit line with a low-intensity, yet challenging exercise experience that provides an excellent opportunity for users to familiarize themselves with circuit training and this unique equipment line. The lower initial intensities will allow the user to integrate their movements with those of the machines and effectively develop their exercise technique, natural joint mechanics and core involvement. Prior to commencing this program, it is highly recommended that each participant receive a comprehensive orientation to the operation of the equipment.

The initial program consists of 3 – 4 components completed sequentially. This includes a 10 – 15 minute warm-up/static stretch, a 20-minute 8-piece ROC-ITTM circuit, an optional 10 or 15-minute cardiovascular exercise, and a 10-minute cool down stretch totaling 30 – 60 minutes.

ROC-IT CIRCUIT LINE ARRANGEMENT

During this introductory phase, it is recommended that the equipment be arranged in a circular fashion with all pieces facing inward. This facilitates the development of relational fitness discussed previously. The equipment should be arranged around a central area, approximately 15′ x 15′, but no smaller than 12′ x 12′ (assuming eight participants) which will serve as the warm-up and cool down area. The circuit arrangement progresses from larger to smaller muscle groups alternating pushing and pulling exercises between the upper and lower extremities. This allows adequate rest intervals for muscle recovery between exercises that recruit the same muscles (for example: the Biceps assist in the execution of a Lat Pulldown and Seated Mid Row). Arrange the equipment as indicated in a circle format with the central area inside the circle designated as the "Warm-up and Cool-down Area"

- ▶ 1. ROC-IT 301 Chest Press
- 2. ROC-IT 201 Lat Pulldown
- 3. ROC-IT 401 Leg Extension
- 4. ROC-IT 402 Leg Curl
- ▶ 5. ROC-IT 501 Shoulder Press
- ▶ 6. ROC-IT 203 Seated Mid Row
- 7. ROC-IT 101 Seated Dip
- 8. ROC-IT 102 Biceps Curl





WARM-UP AND STATIC STRETCHING

Using the modality of choice (treadmill, elliptical, recumbent or upright bicycle, rower, etc.) complete 4 - 5 minute warm-up at an intensity equivalent to a four out of 10 on an effort scale. A zero reflects resting effort while a 10 reflects maximal effort.

Following the warm-up, perform each of the following stretches taking the stretch to the point of resistance or tension, then holding each stretch for 15 – 20 seconds.

STANDING CHEST STRETCH:

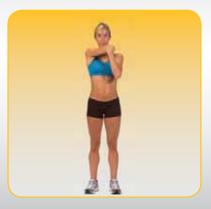
- 1. Stand level with, and slightly to the left of a machine or door jam that reaches level, or just above shoulder height
- 2. Raise the right arm to shoulder height and bend the elbow to 90 ° to point the hand towards the ceiling.
- 3. Gently exhale and slowly lean slightly forward or rotate the torso way from the machine
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side





STANDING POSTERIOR SHOULDER STRETCH:

- 1. Stand with one arm raised out front to just below chin height. Bend the arm to reach across to the opposite shoulder
- 2. Reach below and grasp the raised elbow with the opposite hand
- 3. Gently exhale and slowly pull the elbow across the front of the body without rotating the torso
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side





STANDING QUADRICEPS STRETCH:

- 1. While standing, support the body for balance by holding onto one of the machines or support.
- 2. Bend one knee drawing that heel towards the buttocks and grasp the raised foot with one hand
- 3. Slightly bend the supporting leg, exhale, gently lean backwards and slowly pull the heel towards your buttocks without over-compressing the bent knee
- ▶ 4. Relax briefly, repeat the stretch, then repeat to the opposite side



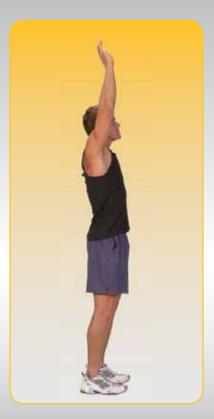




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STANDING UPPER BACK STRETCH:

- 1. Stand facing a machine or support, with feet together and arms overhead. Slowly exhale, contract the abdominals and bend forward at the hips to place the outstretched arms on the machine or support as a support with thumbs facing each other
- 2. While maintaining a relaxed, extended position in the arms and legs, exhale and push downward on the machine or support to arch the back upwards
- 3. Relax briefly, repeat the stretch, then repeat to the opposite side









STANDING CALF STRETCH:

- 1. Lean forward against a wall or machine with one leg bent forward and the opposite leg extended behind
- 2. With both feet facing, gently exhale and press the rear heel flat into the floor as the body weight shifts forward, increasing the stretch in the rear leg.
- Relax briefly, repeat the stretch, then repeat to the opposite side





KNEELING HIP FLEXOR STRETCH:

- 1. Stand with feet spread 2 feet apart, toes pointing forward, then slowly lower the body to the floor, bringing the rear knee to touch the floor. Maintain a 90° knee bend in the front knee. If kneeling is uncomfortable, this stretch can be performed standing
- 2. Once kneeling, roll the back foot under so that the rear toes point away from your body
- 3. Place hands upon the hips or front thigh and gently exhale as body weight shifts forward, maintaining an upright or slight backwards lean in the torso
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side







LOWER BACK (CAT AND COW) STRETCH:

- 1. Kneel on all fours, placing hands directly under the shoulders, knees directly under the hips, and toes pointing backwards. If kneeling is uncomfortable, stand and bend until the torso is parallel to the floor using a machine to support the upper body
- 2. Inhale, contract the abdominals and round the back as high as possible
- 3. Exhale, relax the abdominals and allow the body to return to a neutral or slightly sagging position
- ▶ 4. Relax briefly, repeat the stretch





SEATED HAMSTRINGS STRETCH:

- 1. Sitting on the floor, extend one leg out in front of the body and gently bend the opposite leg to tuck the heel against the inside of the extended thigh
- 2. Slowly exhale and reach forward to grasp the foot of the extended leg. Gently pull the torso towards the extended foot.

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3. Relax briefly, repeat the stretch, then repeat to the opposite side







COOL DOWN STRETCHING

Repeat the same stretches and repetitions, but include the following stretches to the end of the sequence:

SEATED QUADRATUS STRETCH:

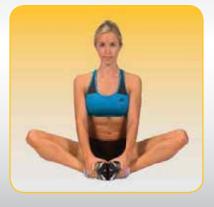
- 1. Sit on the floor with both legs spread as wide as possible, toes pointing towards the ceiling and back as neutral (upright) as possible
- 2. Raise one arm overhead while the opposite arm is placed across the lap
- 3. Gently exhale and slowly lean to the opposite side of the raised arm reaching towards the outstretched leg
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side





SEATED ADDUCTOR (INNER THIGH) STRETCH:

- 1. Sit on the floor with bent knees, neutral (upright) torso and heels touching each other
- Composition 2. 2. Grasp both ankles and pull the heels as close to the groin as possible
- 3. Place the elbows on the inside of each thigh, gently exhale and slowly push down with the elbows towards the floor
- ▶ 4. Relax briefly, repeat the stretch





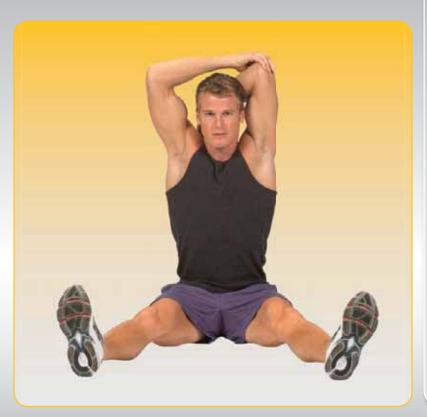


- 1. Sit on the floor with bent knees, arms outstretched one to two feet behind the body with hands pointing away from the body
- 2. Without moving the arms, gently exhale and slowly slide the buttocks towards the feet
- 3. Relax briefly, repeat the stretch



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SEATED OVERHEAD TRICEPS STRETCH:

- 1. Sit on the floor with bent knees and raise the right arm overhead to position the right elbow next to the right ear
- ▶ 2. Bend the elbow of the extended arm to touch the opposite shoulder blade

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- 3. Grasp the elbow with the opposite hand, gently exhale and slowly push the elbow behind the head
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side



INTRODUCTORY PROGRAM AT A GLANCE

CIRCUIT PROGRAM

- 1. Frequency (F):
 - Recommend two to three non-consecutive days a week, although an initial frequency of two nonconsecutive days per week is suggested. This allows new participants adequate recovery time to adapt to exercise and enhance cognitive thoughts and emotional feelings of a positive exercise experience
- 2. Intensity (I):
 - Recommend lower-intensities that never compromise exercise technique, emphasizing correct breathing (exhalations) with exertion
 - After the initial orientation week, increase resistances to create adequate challenge on the final repetition to induce a fatigue level that will not allow an additional repetition, but does not compromise exercise technique
- > 3. Repetitions (R):
 - Recommend an initial target of 10 12 repetitions per exercise. Progress the number of repetitions to 15 once the participant demonstrates the ability to complete 10 - 12 repetitions without compromising technique and without fatigue
 - Once 15 repetitions can be comfortably achieved, increase the resistance while decreasing the number of repetitions back to 10 - 12 and progress accordingly
- ▶ 4. Sets (S):
 - Initially recommend one circuit for the first week, progressing to two circuits as improvements in exercise tolerance and basic muscle conditioning are achieved
- ▶ 5. Time (T):
 - Recommend a tempo of one second to complete the pushing or pulling phase followed by a slow, controlled two second return
 - Follow a work to rest ratio of 1 part work (30 45 seconds) and 1 part rest (30 - 45 seconds). If the participant demonstrates increased difficulty and fatigue in completing the exercises, increase the duration of the rest interval to two parts rest
 - Recovery intervals involve passive rest with movement to the next station

WARM-UP & STRETCHING (10-15 MINUTES)

- 1. 4 5 minutes of general cardiovascular activity
- 2. 15 20 sec static stretches, 2 repetitions per stretch
 - Standing Chest Stretch
- Standing Posterior Shoulder Stretch
- Standing Quadriceps Stretch
- Upper Back Stretch
- Standing Calf Stretch
- Kneeling Hip Flexor Stretch
- Lower Back (Cat and Cow)
- Stretch
- Seated Hamstrings Stretch

CIRCUIT TRAINING (20 MINUTES)

- 1. 2 3 con-consecutive days per week
- 2. 50 70 % 1 RM or to a point of fatigue without compromise to technique
- 3. 10 15 repetitions, 1 3 circuits
- 4. 1: 1 or 1: 2 work to rest ratio with a one second pull/push phase and two second slow, controlled return. Emphasize passive recoveries with movement to the next station
 - ROC-IT 301 Chest Press
- ROC-IT 501 Shoulder Press
- ROC-IT 201 Lat Pulldown
- ROC-IT 203 Seated Mid Row

- ▶ ROC-IT 401 Leg Extension
- ▶ ROC-IT 101 Seated Dip
- ROC-IT 402 Leg Curl
- ROC-IT 102 Biceps Curl

CARDIOVASCULAR TRAINING (10-15 MINUTES)

- 1. 2 3 times per week
- 2. Preferred mode of cardiovascular activity
- 3. Intensity at a 6 7 out of ten on the effort scale or at an intensity where continuous talking (30 50 continuous words) proves challenging

COOL-DOWN STRETCHING (10 MINUTES)

- 1. 4 5 minutes of general cardiovascular activity
- 2. 15 20 sec static stretches, 2 repetitions per stretch
- Standing Chest Stretch

Quadriceps

Upper Back Stretch

Standing

Stretch

Shoulder Stretch

- Stretch Standing Posterior
 - Kneeling Hip Flexor Stretch

Standing Calf

- ▶ Lower Back (Cat
- and Cow) Stretch Seated
- Hamstrings Stretch > Seated Biceps
- Seated Quadratus Stretch
- Seated Adductor (Inner Thigh) Stretch
- Seated Overhead Triceps Stretch
 - Stretch



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INTERMEDIATE PHASE

After performing the ROC-ITTM introductory circuit consistently for three to four weeks, participants will likely notice some dramatic improvements in their muscle strength and cardiovascular conditioning, and are prepared to progress their exercise program. They have now achieved some physiological improvements in their fitness level and have additionally witnessed some changes in their perceptions, attitudes and behavior towards exercise in general. This change in behavior coupled with the success of any support systems established through the concept of relational fitness is a critical determinant for long-term adherence.

The most noticeable changes to the program progression towards more advanced circuit programming is a progressive increase in the circuit intensity and the introduction of more dynamic movements in the warm-up phase.

This program consists of three components completed sequentially. This includes a 10 – 15 minute warm-up with static stretching and dynamic movements, a 30-minute 8-piece ROC-IT^{IM} circuit with active recovery stations, and a 10-minute cool down stretch totaling approximately 40 – 60 minutes.

ROC-IT CIRCUIT LINE ARRANGEMENT

During this phase, you have the option of arranging the equipment more conventionally or leave it in its circular formation if so desired. This phase will ideally require a slightly larger warm-up / cool down and active recovery area of approximately 20' x 20' in dimension, but no smaller than 15' x 15' (assuming eight participants). The active recovery stations involve a 60 – 90 second cardiovascular activity. Position these stations adjacent to the machine if space permits or within a central area.

If arranged conventionally, position the ROC-ITTM line adjacent to each other or in two rows for convenience and accessibility. Allow a conveniently accessible central area or space adjacent to each machine where the participant will complete their active recoveries. The circuit arrangement should again progress from larger to smaller muscle groups alternating pushing and pulling exercises between the upper and lower extremities.

ROC-ITTM Station

- 1. ROC-IT 301 Chest Press
- 2. ROC-IT 201 Lat Pulldown
- ▶ 3. ROC-IT 401 Leg Extension
- 4. ROC-IT 402 Leg Curl
- ▶ 5. ROC-IT 501 Shoulder Press
- 6. ROC-IT 203 Seated Mid Row
- 7. ROC-IT 101 Seated Dip
- 8. ROC-IT 102 Biceps Curl

Cardiovascular Station

Active Recovery Station A: Step-Ups

Active Recovery Station B: Bent Knee

Active Recovery Station C: Oblique Crunches

Active Recovery Station D: Step Overs

Active Recovery Station E: Jumping Jacks or Jump Rope

Active Recovery Station F: High Knee Jogging or Marching

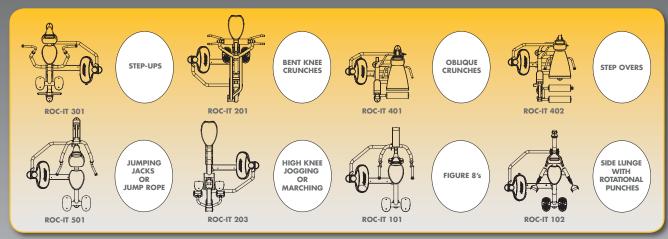
Active Recovery Station G: Figure 8's

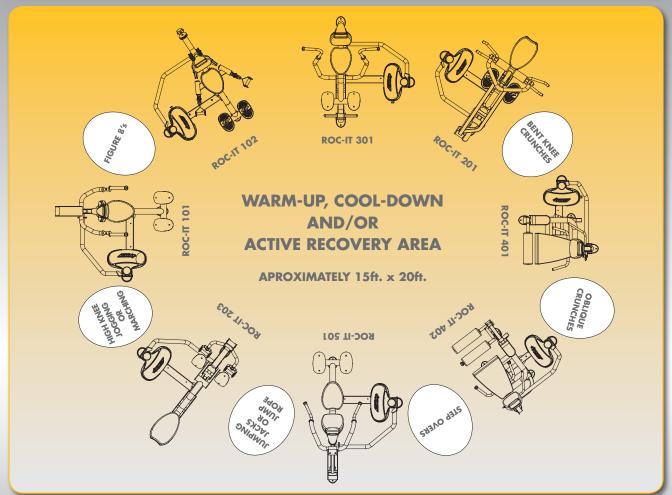
Active Recovery Station H: Side Lunge with Rotational Punches











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CARDIOVASCULAR (ACTIVE RECOVERY) STATIONS

These stations are examples for the active recovery phase. The choice of what stations one chooses should adhere to the following guidelines:

- The station is appropriate for the conditioning level and skill level of the participants
- > The station selected has the appropriate amount of space required to avoid any potential risks for injury
- ▶ The station is determined by available equipment that is in safe, working condition
- The station allows for progression of the cardiovascular challenge as the conditioning level of the participant improves
- The station minimizes explosive or ballistic movements
- The station does not target the same muscles of the exercise preceding and following it

A. STEP-UPS:

- Stand facing a 12 " riser (progress to 16 ") and follow a four contact step cycle (right foot up, left foot up, right foot down, left foot down) at a 96 (progress to 128) beat step rate choreographed to music
- The participant can lead with either foot
- Program a 30 45 second station and progress upwards towards 90 seconds as conditioning levels improve







B. BENT KNEE CRUNCHES:

- Lie supine on the floor or exercise mat and assume a bent knee position with a 90° bend at the knees and feet flat on the floor. Maintain a neutral spine or flatten the spine against the floor
- Hands can be placed by the sides, on thighs, or by the temples (or behind the ears for more experienced and conditioned individuals)
- Exhale gently, contract the abdominals and curl the torso upwards on a 1 - 2 second count until the shoulder blades lift off the floor
- Slowly lower the torso on a 1 2 second count, touching the head gently to the floor or exercise mat, repeat
- Perform controlled repetitions for 30 45 seconds or to fatigue and progress towards 60-90 seconds as conditioning levels improve







C. OBLIQUE CRUNCHES:

- Lie on the left side on the floor or exercise mat in a bent knee position with a 90° bend at the knees. Always maintain a neutral spine
- Rotate the torso right until both shoulders touch the floor or exercise mat
- Extend the left (lower) arm out in front of the torso and place the right hand on the right temple or behind the head with the elbow flared wide
- Exhale gently, contract the abdominals and obliques and curl the torso upwards on a 1 – 2 second count both shoulder blades lift off the floor
- Attempt to maintain the knees in contact with the floor or exercise mat at all times
- Slowly lower the torso on a 1 2 second count, touching the head gently to the floor or exercise mat and repeat
- Perform controlled repetitions for 15 20 seconds or to fatigue and repeat on the opposite side. Progress towards 30 45 seconds each side as conditioning levels improve.





D. STEP OVERS:

- Stand facing a 12 " riser (progress to 16") sideways and follow a step over cycle (right foot up, left foot up, right foot down on the other side, left foot down on the other side) at a 96 (progress up to 128) beat step rate choreographed to music
- The participant can lead with either foot
- Program a 30 45 second station and progress upwards towards 90 seconds as conditioning levels improve









E. JUMPING JACKS OR JUMP ROPE:

- Stand with both feet together and arms down at the sides
- Complete a jump pattern to an end position with feet 3 feet apart and arms together overhead
- Jump again, returning to the starting position and repeat
- If jumping rope, stand with feet together with the rope behind the heels. Swing the rope overhead and jump as it lowers in front of the feet
- Perform controlled repetitions for 30

 45 seconds or to fatigue and progress towards 60 - 90 seconds as conditioning levels improve







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F. HIGH KNEE JOGGING OR MARCHING:

- Jogging in place but driving the thighs high to bring them parallel to the floor
- Include movement of the upper body by maintaining a 90° bend at the elbows, squeezing the arms to the sides and driving the arms backward from the shoulders during the arm cycles
- Perform repetitions for 30-45 seconds or to fatigue and progress towards 60-90 seconds as conditioning levels improve







G. FIGURE 8'S:

- Stand facing a 12 " riser (progress to 16 ") sideways and follow a diagonal step over cycle (right foot up, left foot up, right foot down on the other side, left foot down on the other side) at a step cycle choreographed to music at a 96 (progress up to 128) beat step rate choreographed to music
- The participant leads with the inside foot of either foot and will pivot a full 180° on the trailing foot to rotate the body and complete the figure eight formation
- Program a 30 45 second station and progress upwards towards 90 seconds as conditioning levels improve













H. SIDE LUNGE WITH ROTATIONAL PUNCHES:

- Stand with feet together and step out in a lunge with the right leg, lowering the body to the floor while maintaining a 90° bend in the front leg with the knee aligned over the ankle.
- As the bottom of the lunge is approached rotate the torso right while throwing a left punch across the body
- Straighten your torso, then step back with the lead foot to bring the feet back together
- Repeat to the opposite side
- Program a 30 45 second station and progress upwards towards 90 seconds as conditioning levels improve





WARM-UP, STATIC STRETCHING AND MOVEMENT PREPARATION

Using the modality of choice (treadmill, elliptical, recumbent or upright bicycle, rower, etc.) complete 4 - 5 minute warm-up at an intensity equivalent to a four out of 10 on an effort scale. A zero reflects resting effort while a 10 reflects maximal effort. Following the warm-up, perform each of the following stretches or movements as directed.

STANDING SHOULDER AND TRAP STRETCH:

- 1. Stand with the right arm flexed behind your back as if scratching the back
- 2. Reach back to grasp the right forearm or wrist from behind with the left hand
- 3. Gently exhale, depress your shoulder, and pull the elbow across the midline of the back. Once this end point is reached, slowly turn the head to the right to increase the stretch
- 4. Hold this end point stretch for 3 5 seconds, then gently exhale and slowly return to the starting position
- 5. Relax briefly, repeat the movement and stretch 3 - 4 times, then repeat to the opposite side





STANDING SHOULDER ROTATIONS:

- 1. Stand with both feet together, grasp a towel or light pole (dowel) in front of the hips (overhand grip), gripping the towel or dowel with hands 3-4 feet apart
- 2. Exhale and slowly rotate the arms overhead and continue until the arms end up behind the hips
- 3. Attempt to maintain extended and symmetrical arms throughout the movement and avoid any rotations of the torso throughout the movement. If this proves to be too difficult, widen the grip and repeat
- 4. Hold the end point stretch behind the hips for 3 - 5 seconds, slowly reverse the direction returning to the starting position and repeat the movement 3 - 4 times









STANDING QUADRICEPS STRETCH:

- 1. While standing, support the body for balance by holding onto one of the machines (if necessary)
- 2. Bend one knee drawing that heel towards the buttocks and grasp the raised foot with one hand
- 3. Slightly bend the supporting leg, exhale, gently lean backwards and slowly pull the heel towards your buttocks without over-compressing the bent knee
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side
- 5. Hold the stretch for 15 20 seconds, relax briefly, repeat the stretch, then repeat to the opposite side





TRIANGLE STRETCHES:

- ▶ 1. Stand with feet three feet apart and turn the right leg 90 ° outwards. Extend the arms out to the sides keeping the palms facing upwards
- 2. While keeping both legs extended, gently exhale and slowly bend sideways at the hips reaching down to touch the extended right arm to the right foot while the left arm points towards the ceiling
- 3. Hold this end position 15 20 seconds, slowly returning to the starting position. Perform two repetitions and repeat the movement to the opposite side





KNEELING STABILITY BALL CHEST STRETCH:

- 1. Kneel with a stability ball placed in front. Contract the abdominals bending forward at the hips and place the folded forearms on top of the ball
- 2. While maintaining a relaxed, neutral spine, slowly shift the body weight forward 6" from the knees (progress to 12"), moving the ball forward
- 3. Hold the end point stretch for 3 5 seconds, then gently exhale and slowly return to the starting position
- 4. Relax briefly, repeat the movement and stretch 3 4 times, then repeat to the opposite side





LOWER BACK (CAT AND COW) STRETCH:

1. Kneel on all fours, placing hands directly under the shoulders, knees directly under the hips, and toes pointing backwards. If kneeling is uncomfortable, stand and bend until the torso is parallel to the floor using a machine to support the upper body

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- 2. Inhale, contract your abdominals and round your back as high as possible holding this stretch for 15 20 seconds
- 3. Exhale, relax the abdominals and allow the body to return to a neutral or slightly sagging position
- 4. Relax briefly, repeat the stretch, then repeat to the opposite side





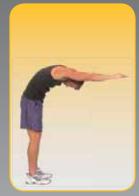


STANDING UPPER BACK STRETCH:

- 1. Stand facing a machine, with feet together and arms overhead. Slowly exhale, contract the abdominals and bend forward at the hips to place the outstretched arms on the machine as a support with thumbs facing each other
- 2. While maintaining a relaxed, extended position in the arms and legs, exhale and push downward on the machine to arch the back
- 3. Relax briefly, repeat the stretch, then repeat to the opposite side







STORK STAND TO INVERTED FLYERS WITH SHOULDER STABILIZATION:

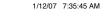
- 1. Stand adjacent to a machine using the left hand to hold it as a support (if necessary). Slowly lift the left leg, bringing the thigh parallel to the floor and balancing on the right leg
- 2. Gently exhale, contract the abdominals and bend forward at the hip, extending the left leg behind to reach a position where the torso and left leg are parallel to the floor. Avoid the tendency to rotate the torso to achieve this end position by keeping the hips and shoulders parallel with the floor
- 3. Slowly extend the right arm overhead (parallel to floor) with the thumb pointing towards the ceiling, then slowly move the arm out to the side. Hold this position for 3 – 5 seconds then slowly return to a standing position
- 4. Perform three repetitions and repeat to the opposite side. As conditioning levels improve, attempt to complete this movement without using a support





COOL DOWN STRETCHING

Repeat the entire Cool Down program from the Introductory Phase.



INTERMEDIATE PROGRAM AT A GLANCE

CIRCUIT PROGRAM

- 1. Frequency (F):
- Recommend three non-consecutive days a week. Consider four non-consecutive days a week, but be mindful of burnout or boredom due to the increased frequency of programming. Implementing variety in the cardiovascular stations may overcome this potential obstacle
- 2. Intensity (I):
 - As conditioning levels improve, exercise intensities will gradually increase by adding greater resistance, but never compromise exercise technique.
 - As this program involves active recoveries and a significantly greater challenge, start this phase initially with lower-intensities that are attainable, yet challenging
 - The intensities however need to be consistent with exercise goals. Individuals seeking to improve muscle conditioning (muscular endurance) should select resistances that challenge the muscles to fatigue with higher repetitions, while those seeking gains in muscular strength should select resistances that challenge the muscles to fatigue with lower repetitions
- 3. Repetitions (R):
 - The repetition range should initially start with higher repetitions in the range of 12 - 15.
 - Consistent with exercise goals, gradually progress the number of sessions to a range of 8 12 for muscular strength and maintain a 12 15 repetition range for muscular endurance
- 4. Sets (S):
 - As this program involves active recoveries and a significantly greater challenge, recommend one circuit for the first week, progressing to two to three circuits as conditioning and exercise tolerance improve
- ▶ 5. Time (T):
 - Recommend a tempo of one second to complete the pushing or pulling phase followed by a slow, controlled two second return during resistance training
 - Initially follow a work to rest ratio of 1 part work (30 - 45 seconds) and 2 parts rest (30 - 45 active recovery and a 30 - 45 second passive recovery). If the participant demonstrates increased difficulty and fatigue in completing all exercises and cardiovascular stations, increase the duration of the passive rest interval to two parts rest
 - As conditioning levels improve, reduce or eliminate the passive recovery portion and increase the duration of the cardiovascular station towards 60 - 90 seconds

WARM-UP & STRETCHING (10-15 MINUTES)

- 1. 4 5 minutes of general cardiovascular activity
- 2. Combination of static stretches (15 20 sec) and dynamic movements (3 - 5 sec)
- Standing Shoulder and Trap Stretch
- Standing Shoulder Rotations
- Standing Quadriceps Stretch
- **Triangle Stretches**
- Standing Upper Back Stretch
- Lower Back (Cat and Cow) Stretch
- **Kneeling Stability Ball Chest** Stretch
- Stork Stand to Inverted Flyers with Shoulder Stabilization

CIRCUIT TRAINING (20 MINUTES)

- 1. 1 4 non-consecutive days per week
- 2. Generally 50 70 % 1 RM or to a point of fatigue without compromise to technique, consistent with exercise goals. Intensities can be increased to greater than 70 % of maximal
- 3.8 15 repetitions, 1 4 circuits. Be mindful of total time of the circuit program by carefully structuring the number of circuits with the extended cardiovascular stations
- 4. 1: 2 exercise to active and passive recoveries ratio with a one second pull/push phase and two second slow, controlled return. Progress to eliminating the passive recovery and increasing the duration of the active recovery

ROC-ITTM Station

- **ROC-IT 301 Chest Press**
- ROC-IT 201 Lat Pulldown
- ROC-IT 401 Leg Extension
- ROC-IT 402 Leg Curl
- **ROC-IT 501 Shoulder Press**
- **ROC-IT 203 Seated Mid Row**
- **ROC-IT 101 Seated Dip**
- ROC-IT 102 Biceps Cur

Cardiovascular Station

- A: Step-Ups
- B: Bent Knee Crunches
- C: Oblique Crunches
- D: Step Overs
- E: Jumping Jacks or Jump Rope
- F: High Knee Jogging or Marching
- G: Figure 8's
- H: Side Lunge with Rotational Punches

COOL-DOWN STRETCHING (10 MINUTES)

- 1. 4 5 minutes of general cardiovascular activity
- 2. 15 20 sec static stretches, 2 repetitions per stretch
- Standing Chest Stretch
- **Standing Posterior** Shoulder Stretch
- Standing Quadricep Stretch
- Upper Back Stretch
- Standing Calf Stretch
- Kneeling Hip Flexor Stretch
- and Cow) Stretch
- Lower Back (Cat
 - Seated Hamstring Stretch
- Seated Quadratus Stretch
- Seated Adductor (Inner Thigh) Stretch
- Seated Overhead Triceps Stretch
- Seated Biceps Stretch



The ROC-ITTM advanced circuit introduces more sport- and skill-specific stations to the program. Traditional program design focuses on health-related parameters of physical fitness (muscular strength and endurance, aerobic fitness, flexibility and body composition) and largely ignores the skill-related components (balance, agility, coordination, speed, power, and reaction time) normally reserved for athletics, rehabilitation, and motor skill development in childhood. While balance training currently enjoys significant popularity as a central modality to core conditioning, the inclusion of the other skill-related parameters offer programs much needed creativity, uniqueness, relevance, aerobic and anaerobic conditioning, and enjoyment (assuming they are appropriate for the client).

ELEMENTS OF PHYSICAL FITNESS

SKILL-RELATED

HEALTH-RELATED

AGILITY
BALANCE
COORDINATION
SPEED
POWER
REACTION TIME

AEROBIC FITNESS

FLEXIBILITY

BODY COMPOSITION

MUSCULAR STRENGTH

MUSCULAR ENDURANCE

Both elements of physical fitness are essential to functional training, but given the complexity of skill training exercises, trainers must exercise great caution and offer appropriate exercise technique instruction when including many of these exercises. It is recommended that these drills, normally executed at speed, be completed slowly and progress as mastery of the skills is acquired. Additional pre-requisites to including skill drills and exercises include a good strength base with joint integrity, effective ability to stabilize the core and some basic experience performing ground based exercises. Once these pre-requisites are attained, participants can begin the advanced circuit.

This program consists of three components completed sequentially. This includes a 10 - 15 minute warm-up with static stretching and dynamic movements, a 30 - 40 minute 8-piece ROC-ITTM circuit with active recovery stations, and a 10 - 15 minute cool down stretch totaling approximately 50 - 70 minutes.

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ROC-IT CIRCUIT LINE ARRANGEMENT

During this phase, the same option of arranging the equipment more conventionally or in its circular formation applies. The dynamic nature of the active recovery stations, this phase will require an area of approximately 20' x 20' in dimension, but no smaller than 15' x 15' (assuming eight participants). The active recovery stations involve a 30 – 60 second skill exercise or movement that will continue to challenge the cardiovascular system. Given the intensity of these exercises and movements, one active recovery station may include two exercises or movements, splitting the time interval equally. Position these stations adjacent to the machine if space permits or within a central area, although it may make better use of space and program administration to use a combination of each.

The circuit arrangement should again progress from larger to smaller muscle groups alternating pushing and pulling exercises between the upper and lower extremities.

ROC-ITTM Station

- 1. ROC-IT 301 Chest Press
- 2. ROC-IT 201 Lat Pulldown
- > 3. ROC-IT 401 Leg Extension
- 4. ROC-IT 402 Leg Curl
- > 5. ROC-IT 501 Shoulder Press
- ▶ 6. ROC-IT 203 Seated Mid Row
- > 7. ROC-IT 101 Seated Dip
- ▶ 8. ROC-IT 102 Biceps Curl

Cardiovascular Station

Active Recovery Station A: Squat jumps, mountain climbers

Active Recovery Station B: Stork stands to squat touches

Active Recovery Station C: Seated core progressions

Active Recovery Station D: Prone ball walk-outs to knee tucks

Active Recovery Station E: Russian twists

Active Recovery Station F: Reaction time drills

Active Recovery Station G: Dumbbell deadlifts, push-presses

Active Recovery Station H: Line drill, cone drills

ACTIVE RECOVERY STATIONS

- These stations are examples for the active recovery phase. The choice of what stations one should use should adhere to the following guidelines:
- The station is appropriate for the conditioning level and skill level of the participants. Select alternative exercises or movements for individuals for whom explosive, ballistic jumping-type activities are contraindicated.
- The station selected has the appropriate amount of space required to avoid any potential risks for injury
- The station is determined by available equipment that is in safe, working condition
- > The station allows for progression of the cardiovascular challenge as the conditioning level of the participant improves
- The station minimizes explosive or ballistic movements
- > The station does not target the same muscles of the exercise preceding and following it





A. SQUAT JUMPS, MOUNTAIN CLIMBERS (POWER):

- For squat jumps, start by standing with feet parallel and hip width apart. Following correct squatting technique crouch down into a squat position until thighs are parallel to the floor allowing a minimal pause before exploding upwards into a vertical jump. An arm swing will assist in the vertical jump
- Absorb landing impact forces by flexing into the same crouching position again allowing only a minimal pause before exploding upwards again
- Always emphasize proper technique, starting slowly and accelerating movement speeds as the technique is mastered
- Begin with a 15 20 second interval, progressing towards 30 seconds as conditioning levels and tolerance improve
- For the mountain climbers, assume a press up position with hands positioned directly under shoulders, legs extended and engaging abdominal muscles to maintain a rigid, straight body position
- Lift the left leg off the floor, flexing at the hip and knee and driving the leg towards the chest.
 Kick the left leg back and repeat the process to the opposite side
- Always emphasize proper technique, starting slowly and accelerating the movement speeds as technique is mastered
- Begin with a 15 20 second interval per exercise, progressing towards 30 seconds each as conditioning levels and tolerance improve











B. STORK STAND TO SQUAT TOUCHES (DYNAMIC BALANCE):

- Start by slowly lifting the right leg, bringing the thigh parallel to the floor and balancing on the left leg. Raise the right arm out to the side with a 90 ° bend at the elbow (hand pointing towards the ceiling)
- Using a support if necessary, perform a single leg squat, maintaining balance and body alignment as one reaches across with the right arm to touch the floor in front or to the left of the right foot
- Proper from involves correct squat technique coupled with a slow, controlled rotation of the torso
- Always emphasize proper technique, starting slowly and accelerating the movement speeds as technique is mastered
- Begin with a 15 20 second interval per leg, progressing towards 30 seconds per leg as conditioning levels and tolerance improve



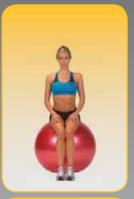


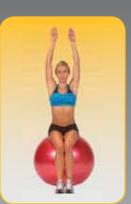
C. SEATED CORE PROGRESSIONS (CORE STABILIZATION AND STATIC BALANCE):

- Sit upright on a properly inflated and appropriately sized* stability ball with both feet placed on the floor 12 "apart to start
- The exercise will progress over time by manipulating the following variables to increase the balance challenge, yet allow the maintenance of balance for 10 15 seconds without compromise to technique or upright posture. The variables should be manipulated in the following order and be added to the existing challenge only when the previous challenge is mastered as the position is held effectively for 10 15 seconds:
- Narrowing base of support by moving feet and knees towards each other
- 2. Raise center of mass by lifting the arms overhead or create postural asymmetry by keeping one arm elevated while extending the other out to the side
- 3. Create asymmetry by rotating the body in one direction
- 4. Remove sensory input by closing eyes, then tilting the head to one side (eyes closed)
- 5. Reduce points of contact by lifting one foot off the floor (start at variable number one with single foot)
- 6. Introduce additional unstable surfaces by placing the feet onto a medicine ball (start at variable one with feet on medicine ball)
- Progress the challenges over time, holding each position 10 - 15 seconds for a total of 60 seconds initially and progressing towards a total of 90 seconds

 * Ball should be inflated to allow only 6 – 10" of compression when sustaining the weight of the body and allow the thighs to lie roughly parallel to the floor while sitting.













D. PRONE BALL WALK-OUTS TO KNEE TUCKS (CORE CONDITIONING):

- Lie prone on a stability ball and slowly walk the body out into a press-up position with body parallel to the floor, hands positioned directly under the shoulder and lower legs placed on top of the ball. The exercise intensity can be increased by positioning the apex of the ball further down the lower limb
- Exhale, bend the knees, pulling them towards the chest while pushing the buttocks upwards into the air.
- Slowly return to the starting position and repeat
- Begin with a 30 second interval, progressing towards 60 seconds as conditioning levels and tolerance improve







E. RUSSIAN TWISTS (CORE CONDITIONING):

- Lie back on a stability ball and slowly walk the body out to a table top position with the torso and thighs parallel to the floor, and a 90° bend at the knees
- Raise the arms directly over the chest interlocking the fingers
- Gently exhale and slowly rotate the torso right until the extended arms are parallel with the floor
- Rotate 180 ° completely to the left until the extended arms are parallel with the floor
- Begin with a 30 second interval, progressing towards 60 seconds as conditioning levels and tolerance improve





F. MEDICINE BALL DRILLS (REACTION TIME):

- This drill will require additional space or attention to participants in adjacent areas as the drill involves a moving medicine ball
- This drill can be performed with a partner (trainer or exercise leader) or alone
- If working with a partner, stand next to each other approximately 5 feet from a BOSU® trainer. The purpose of this drill is to react to a medicine ball bouncing off a BOSU® trainer. Using a 2 4 pound medicine ball, have one partner throw the ball against the BOSU® and instruct the other partner to catch it before it touches the ground. This drill can also be performed alone
- If space limitations exist, have the partner stand on the BOSU with eyes closed and react to your call as you throw the medicine ball in their vicinity
- Perform repetitions for 30 seconds or to fatigue and progress towards 60 seconds as conditioning levels improve







G. DUMBBELL DEADLIFTS, PUSH-PRESSES (STRENGTH):

- These compound movements integrate entire body movement and considered functional
- Holding dumbbells, perform a series of deadlifts with proper form before progressing into the Push-press exercise
- These are both advanced compound movements and require proper instruction to their technique beforehand
- Always emphasize proper technique, starting slowly and accelerating the movement speeds as technique is mastered
- Begin with a 15 20 second interval per exercise, progressing towards 30 seconds each as conditioning levels and tolerance improve





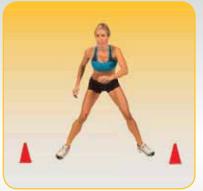
H. LINE DRILLS, CONE DRILLS (AGILITY):

- For the line drill, place a strip of tape, yardstick or bar six inches in front of both feet
- Hopping on both feet, hop over the bar then hop backwards over the bar. Repeat for 15 - 20 seconds progressing towards 30 seconds each as conditioning levels and tolerance improve. This drill can be also progressed by using an alternating split stance foot position

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- Always emphasize proper technique, starting slowly and accelerating the movement speeds as technique is mastered
- For the cone drill, place two cones five to 10 feet apart. Start standing next to one and shuffle sideways to the opposite cone and return to the starting cone. Foot placements should shuffle and not cross over
- Repeat for 15 20 seconds progressing towards 30 seconds each as conditioning levels and tolerance improve
- Always emphasize proper technique, starting slowly and accelerating the movement speeds as technique is mastered







WARM-UP, STATIC STRETCHING AND MOVEMENT PREPARATION & COOL DOWN STRETCHING

Follow the Intermediate Phase program.



ADVANCED PROGRAM AT A GLANCE

CIRCUIT PROGRAM

- 1. Frequency (F):
- Recommend three non-consecutive days a week. Due to the intensity of the active recovery stations, a fourth day a week might not allow adequate recovery between workout sessions
- 2. Intensity (I):
- As conditioning levels improve, exercise intensities will gradually increase by adding greater resistance, but never compromise exercise technique
- As this program involves active recoveries and a significantly greater challenge, start this phase initially with lower-intensities that are attainable, yet challenging. This is achieved by implementing shorter bouts of work, slower movement speeds and lower intensities of resistance
- The intensities however need to be consistent with exercise goals. Individuals seeking to improve overall functional ability should select moderate intensities (low-to-moderate resistance, movement speeds and bout durations) while those seeking more explosive gains reflecting sports performance should select higher intensities (higher resistances, faster movement speeds, longer bout durations)
- > 3. Repetitions (R):
 - The repetition range using the ROC-IT™ line should be consistent with goals, but a range of 6 – 12 for muscular strength and a range of 12 – 15 for muscular endurance are suggested
 - The number of repetitions indicated for the exercises or movements in the active recovery stations is not specified and is determined by duration (length of time). Emphasize quality of movement (technique) over quantity of movement (repetitions) until mastery of the skills is achieved
- 4. Sets (S):
 - As this program involves active recoveries and a significantly greater challenge, recommend one circuit for the first week, progressing to two to three circuits as conditioning and exercise tolerance improve
- 5. Time (T):
 - Recommend a tempo of one second to complete the pushing or pulling phase followed by a slow, controlled two second return during the resistance training on the machines
 - Initially follow a work to rest ratio of 1 part work (30 45 seconds) and 1 part rest (30 45 active recovery). If the participant demonstrates increased difficulty and fatigue in completing all exercises and cardiovascular stations, increase the duration of the passive rest interval to two parts rest
 - As conditioning levels improve, increase the duration of the active recovery stations towards 60 90 seconds

WARM-UP & STRETCHING (10-15 MINUTES)

- ▶ 1. 4 5 minutes of general cardiovascular activity
- 2. Combination of static stretches (15 20 sec) and dynamic movements (3 – 5 sec)
- Standing Shoulder and Trap Stretch
- Standing Shoulder Rotations
- > Standing Quadriceps Stretch
- Triangle Stretches
- Standing Upper Back Stretch
- Lower Back (Cat and Cow) Stretch
- Kneeling Stability Ball Chest Stretch
- Stork Stand to Inverted Flyers with Shoulder Stabilization

CIRCUIT TRAINING (20 MINUTES)

- ▶ 1. 1 3 non-consecutive days per week
- 2. Generally 50 70 % 1 RM or to a point of fatigue without compromise to technique, consistent with exercise goals Intensities can be increased to greater than 70 % of maximal
- ▶ 3. 6 15 repetitions, 1 3 circuits. Be mindful of total time of the circuit program by carefully structuring the number of circuits with the extended cardiovascular stations
- 4. 1: 1 exercise to active recoveries ratio with a one second pull/push phase and two second slow, controlled return. Progress to increasing the duration of the active recoveries

ROC-ITTM Station

- ▶ ROC-IT 301 Chest Press
- ROC-IT 201 Lat Pulldown
- ROC-IT 401 Leg Extension
- ROC-IT 402 Leg Curl
- ROC-IT 501 Shoulder Press
- POCITIONS A LAND
- ROC-IT 101 Seated Dip
- ROC-IT 102 Biceps Cur

Cardiovascular Station

Squat Jumps, Mountain Climbers

- Stork Stand to Squat Touches
- Seated Core Progressions
- Prone Ball Walk-outs to Knee Tucks
- Russian Twists
- ROC-IT 203 Seated Mid Row Medicine Ball Drills
 - Dumbbell Deadlifts, Push-presses
 - ▶ Line Drills, Cone Drills

COOL-DOWN STRETCHING (10 MINUTES)

- ▶ 1. 4 5 minutes of general cardiovascular activity
- 2. 15 20 sec static stretches, 2 repetitions per stretch
- Standing Chest Stretch
- Standing Posterior Shoulder Stretch
- Standing Quadricep > Stretch
- Upper Back Stretch
- Standing Calf Stretch
- Kneeling Hip Flexor Stretch
- Lower Back (Cat and Cow) Stretch
- Seated Hamstring Stretch
- Seated Quadratus Stretch
- Seated Adductor (Inner Thigh) Stretch
- Seated Overhead Triceps Stretch
- Seated Biceps
 Stretch



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WORKOUT LOGS

INTRODUCTORY PHASE	
WARM-UP STRETCHING AND MOV	'EMENTS
Standing Shoulder and Trap Stretch Standing Shoulder Rotations Standing Quadriceps Stretch Triangle Stretches	Stork Stand to Inverted Flyers Standing Upper Back Stretch Lower Back (Cat and Cow) Stretch Kneeling Stability Ball Chest Stretch
CIRCUIT PROGRAMMING Number of Circuits:	Length of Active Recovery: secs
	Repetitions Weight
ROC-IT 301	
ROC-IT 201 Lat Pulldown	
ROC-IT 401 Leg Extension	
ROC-IT 402 Leg Curl	
ROC-IT 501 Shoulder Press	
ROC-IT 203 Seated Mid Row	
ROC-IT 101 Seated Dip	
ROC-IT 102 Biceps Curl	
CARDIOVASCULAR TRAINING Mode: Time:	: Intensity:
COOL DOWN STRETCHING	
Standing Chest Stretch Standing Posterior Shoulder Stretch Standing Quadriceps Stretch Upper Back Stretch Standing Calf Stretch Kneeling Hip Flexor Stretch	Lower Back (Cat and Cow) Stretch Seated Hamstrings Stretch Seated Quadratus Stretch Seated Adductor (Inner Thigh) Stretch Seated Overhead Triceps Stretch Seated Biceps Stretch

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WORKOUT LOGS

INTERMEDIATE PHASE	
WARM-UP STRETCHING AND MOVEM	IENTS
 Standing Shoulder and Trap Stretch Standing Shoulder Rotations Standing Quadriceps Stretch Triangle Stretches 	Stork Stand to Inverted Flyers Standing Upper Back Stretch Lower Back (Cat and Cow) Stretch Kneeling Stability Ball Chest Stretch
CIRCUIT PROGRAM Number of Circuits:	Length of Passive Recovery: secs Weight / Cardio Repetitions Station Time
ROC-IT 301 Step-Ups	
ROC-IT 201 Lat Pulldown Bent Knee Crunches	
ROC-IT 401 Leg Extension Oblique Crunches	
ROC-IT 402 Leg Curl Step Overs	
ROC-IT 501 Shoulder Press Jumping Jacks/Rope	
ROC-IT 203 Seated Mid Row High Knee Jogs	
ROC-IT 101 Seated Dip Figure 8's	
ROC-IT 102 Biceps Curl Side Lunge Punches	
COOL DOWN STRETCHING Standing Chest Stretch Standing Posterior Shoulder Stretch Standing Quadriceps Stretch Upper Back Stretch Standing Calf Stretch Kneeling Hip Flexor Stretch	Lower Back (Cat and Cow) Stretch Seated Hamstrings Stretch Seated Quadratus Stretch Seated Adductor (Inner Thigh) Stretch Seated Overhead Triceps Stretch Seated Biceps Stretch

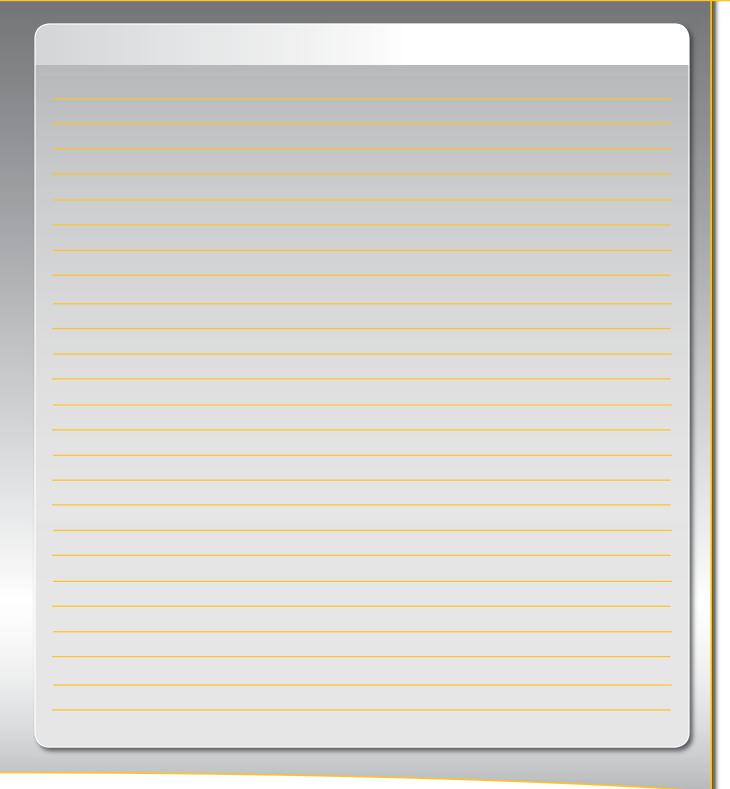


WORKOUT LOGS

ADVANCED PHASE				
WARM-UP STRETCHING AND MOVEM	/ARM-UP STRETCHING AND MOVEMENTS			
Standing Shoulder and Trap StretchStanding Shoulder RotationsStanding Quadriceps StretchTriangle Stretches	 Stork Stand to Inverted Flyers Standing Upper Back Stretch Lower Back (Cat and Cow) Stretch Kneeling Stability Ball Chest Stretch 			
CIRCUIT PROGRAM Number of Circuits:	Length of Active Recovery: secs Weight / Cardio Repetitions Station Time			
□ ROC-IT 301□ Chest Press Squat Jumps, Mountain Climbers				
ROC-IT 201 Lat Pulldown Stork Stand to Squat Touches				
ROC-IT 401 Leg Extension Seated Core Progressions				
ROC-IT 402 Leg Curl Prone Ball Walk-outs to Knee Tucks				
ROC-IT 501 Shoulder Press Russian Twists				
ROC-IT 203 Seated Mid Row Medicine Ball Drills				
ROC-IT 101 Seated Dip Dumbbell Deadlifts, Push-presses				
ROC-IT 102 Biceps Curl Line Drills, Cone Drills				
COOL DOWN STRETCHING				
Standing Chest Stretch	Lower Back (Cat and Cow) Stretch			
Standing Posterior Shoulder Stretch Standing Quadriceps Stretch	Seated Hamstrings Stretch Seated Quadratus Stretch			
Upper Back Stretch	Seated Adductor (Inner Thigh) Stretch			
Standing Calf Stretch	Seated Overhead Triceps Stretch			
Kneeling Hip Flexor Stretch	Seated Biceps Stretch			



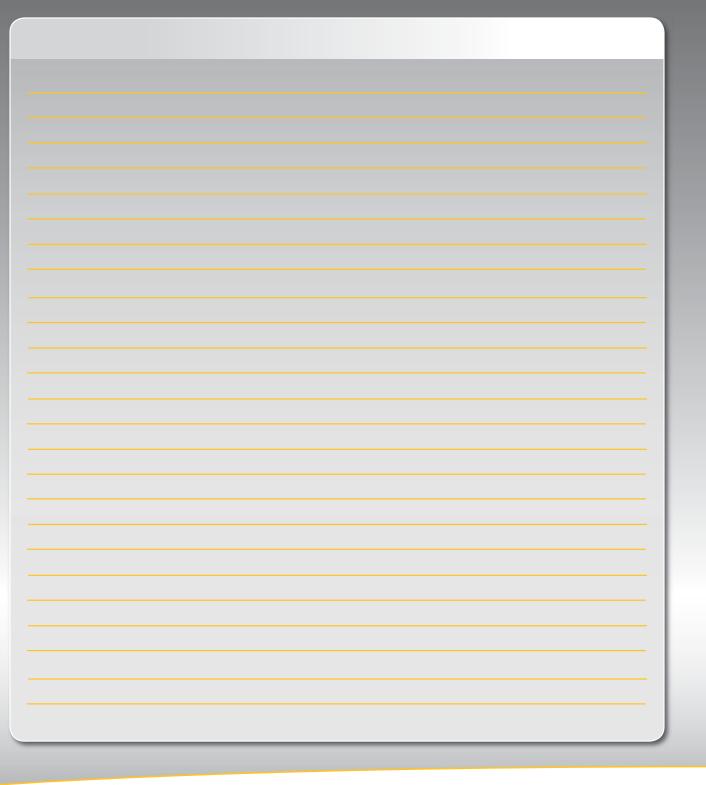
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The HOIST® headquarters is located in a 130,000 square foot facility in San Diego, California, home to the pioneering research, development and production of superior fitness equipment for over 25 years. With a long history of innovation and quality the industry has come to expect from HOIST®, our standards have become the very measure of excellence in the realm of strength training equipment worldwide.



*10 Years: Applies to defects from the manufacturer only.

** Lifetime: Warranty for the lifetime of the product and applies to defects from the manufacturer only.

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DUAL ACTION SMITH™

SPLIT WEIGHT CABLING™

RIDE ORIENTED XERCISE™

EZ-LOC LATCHING MECHANISM™

RIDE ORIENTED CIRCUIT-INTERVAL

TRAINING™

† Other Patents Pending



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