



NAUTILUS SPORTS/MEDICAL INDUSTRIES

Nutilus Sports/Medical Industries, since its inception in 1970, has pioneered many physical fitness concepts. But it took almost 50 years of research and trial-and-error experimentation to reach the present state of the art. Nautilus exercise equipment culminated primarily from the diligent work and diverse experience of one man: Arthur Jones.

Arthur Jones invented the Nautilus machines and discovered the basic requirements of full-range exercise. He searched for and found the safest and most productive exercise system ever developed.

The value of an exercise largely depends on the quality of the overload or resistance. The barbell, for example, is a highly productive tool if it is used properly. Even when the barbell is used properly, there are basic problems.

First, a barbell provides limited rotary resistance. Human beings are rotary animals. Basic movement occurs around the axis of a joint. A barbell is not a rotational device, since it is totally dependent on the straight-line nature of gravity for its resistance. Only a rotational machine applies proper resistance to the body's rotary movement.

Second, a barbell provides limited direct resistance. Barbell exercises for the torso—such as the bent-over row, bent-armed pullover, overhead press and bench press—possess a common shortcoming. These exercises rely on the smaller and weaker arm muscles for execution. The work and resistance are filtered through these smaller structures. Such exercises involve a weak link that prevents efficient work for the stronger torso muscles.

Arthur Jones set out to solve this weak-link dilemma. He began a search for ways to provide direct exercise, to apply resistance directly to the body part that the involved muscles move. Direct exercise for the torso muscles requires resistance being placed against the upper arms.

In 1948, he built the first prototype Nautilus machine. It was a pullover model designed to apply rotary and direct resistance to the upper arms and against muscles that work around the axes of the shoulders. This prototype was a major design breakthrough. It solved the problems of rotary and direct resistance, and exposed other deficiencies of the barbell. One of these is the requirement for variable resistance.

As a muscle contracts, its effective strength changes. It does not remain the same. Optimum exercise provides correct variable resistance in every possible position.

Because of changing leverage and directions of movement, the resistance supplied by a barbell changes, but it varies arbitrarily. It does not vary according to the need of the muscle. Although the resistance provided must vary, it must vary in relation to the muscular requirements. A barbell's resistance varies inconsistently and incorrectly. Efficient exercise requires variable and balanced resistance; resistance that is properly balanced to the potential strength of the muscle in every position.

The requirements for variable and balanced resistance led to the concept of a cam. A Nautilus cam is a pulley with an off-center axis. Placing a cam appropriately in an exercise machine alters the trainee's leverage.

The cam configuration was designed to vary the resistance properly throughout the range of movement. Since the profile of one of the early cams resembled the silhouette of the chambered nautilus shell, Nautilus was the ideal name for the revolutionary exercise tool named after it.

Nautilus machines have evolved to stand for quality resistance. Quality resistance is based on satisfying the requirements for full-range exercise: rotary resistance, direct resistance, variable resistance, balanced resistance, positive work, negative work, stretching, pre-stretching, resistance in the position of full-muscular contraction, and unrestricted speed of movement. Nautilus machines satisfy all the ten requirements for full-range exercise. And only Nautilus provides a complete line of full-range exercise machines that work all the major muscle groups with quality resistance.

NAUTILUS FIRST IN FITNESS

Since 1970, Nautilus has continued to develop ever-improving tools for exercise. More recently, computerized Nautilus machines have demonstrated that a trainee's motivational and physical factors can be objectively controlled and recorded. Expected release in the near future of these computerized testing and training machines to the medical community has stirred interest throughout the world.

Today, Nautilus Sports/Medical Industries, with headquarters in Florida, and plants in Texas and Virginia, manufactures over 30 different exercise machines. Each one is illustrated and described in this catalog.

DUO HIP & BACK
HIP ABDUCTION
HIP ADDUCTION
HIP ABDUCTION-ADDUCTION
HIP FLEXION
LEG EXTENSION
LEG CURL
SIDE LEG CURL
DUO SQUAT

LATERAL RAISE
OVERHEAD PRESS
DOUBLE SHOULDER
70° SHOULDER
ROWING TORSO
SUPER PULLOVER
WOMEN'S PULLOVER
PULLOVER
BEHIND NECK
TORSO ARM
MEN'S CHEST
WOMEN'S CHEST
DUO DECLINE PRESS
DOUBLE CHEST
10° CHEST
40° CHEST/SHOULDER

MULTI-BICEPS
MULTI-TRICEPS
BICEPS/TRICEPS

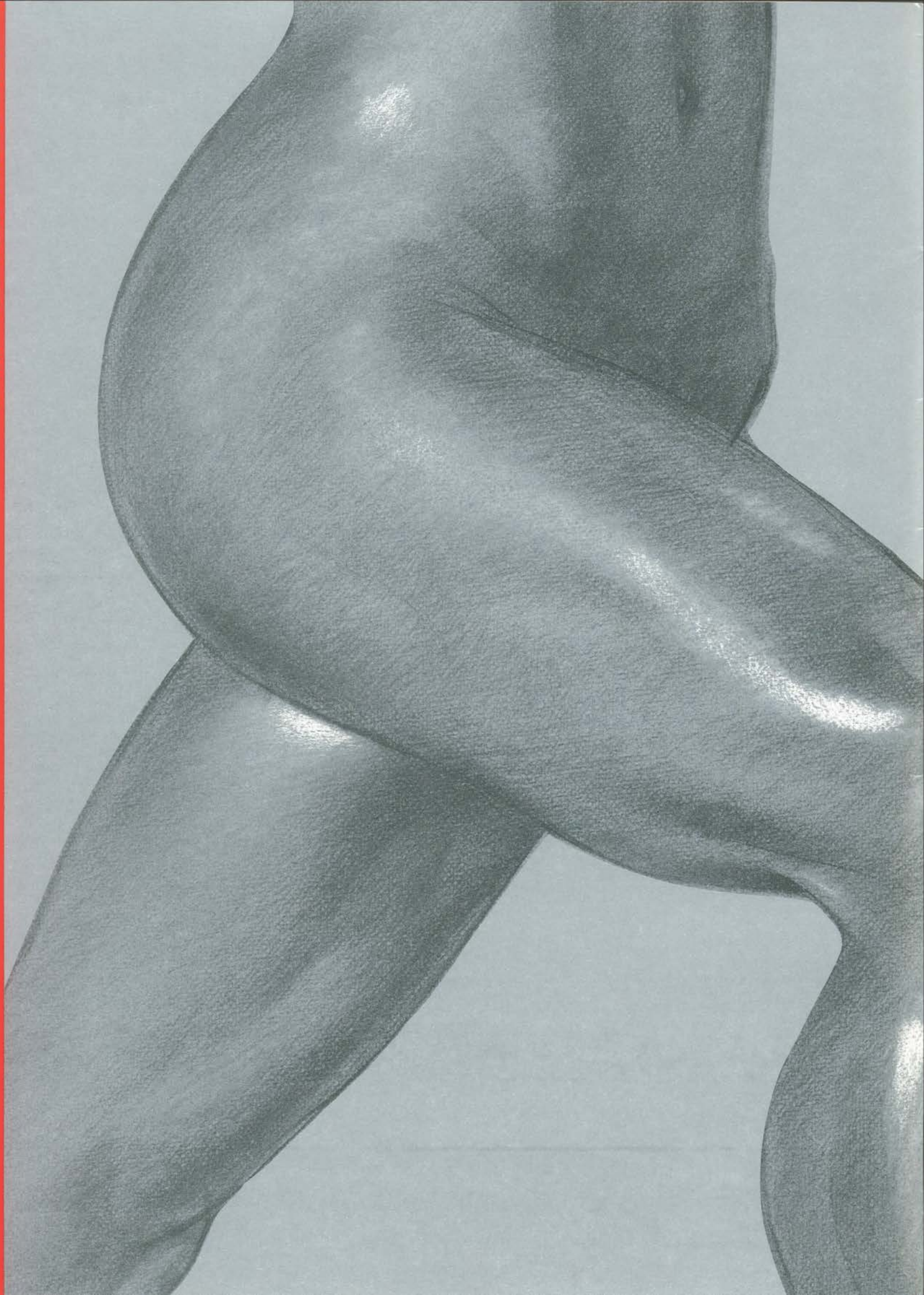
ABDOMINAL
ROTARY TORSO
LOWER BACK

4-WAY NECK
NECK & SHOULDER

MULTI-EXERCISE



HIPS & LEGS





DUO HIP & BACK

Full-range exercise for the strongest muscles of the body, the gluteus maximus of the buttocks, is possible with this machine. Independent movement arms make certain that the resistance is equally divided between the right and left hip extensors. The Duo Hip & Back is important for improving running and jumping performance, cosmetic strengthening and firming, and hip and thigh rehabilitation.

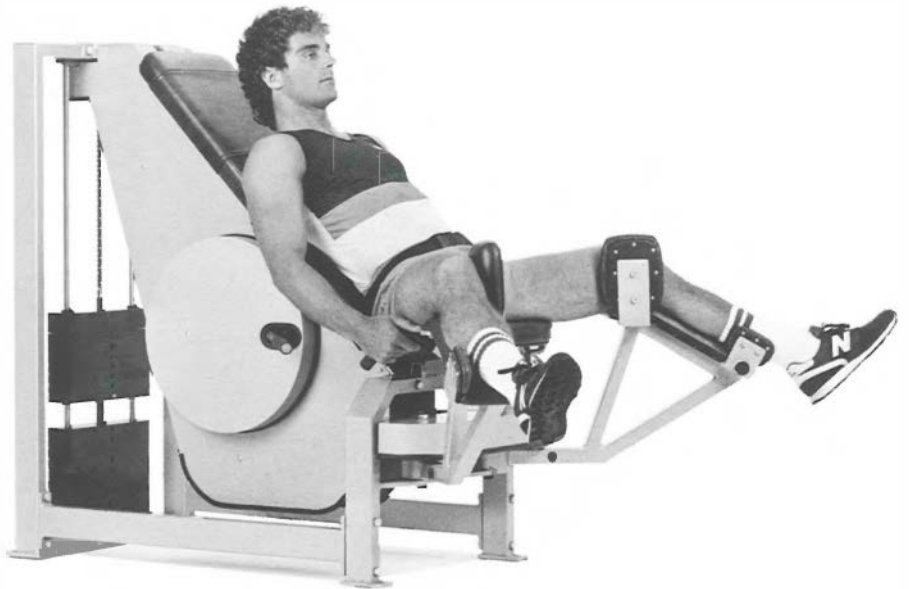
HIP ABDUCTION

Abduction means movement away from the midline of the body. The gluteus medius muscles on the outer hips are responsible for abducting the thighs. The Hip Abduction machine applies resistance to the outside of the thighs as the legs are spread in a deliberate manner.



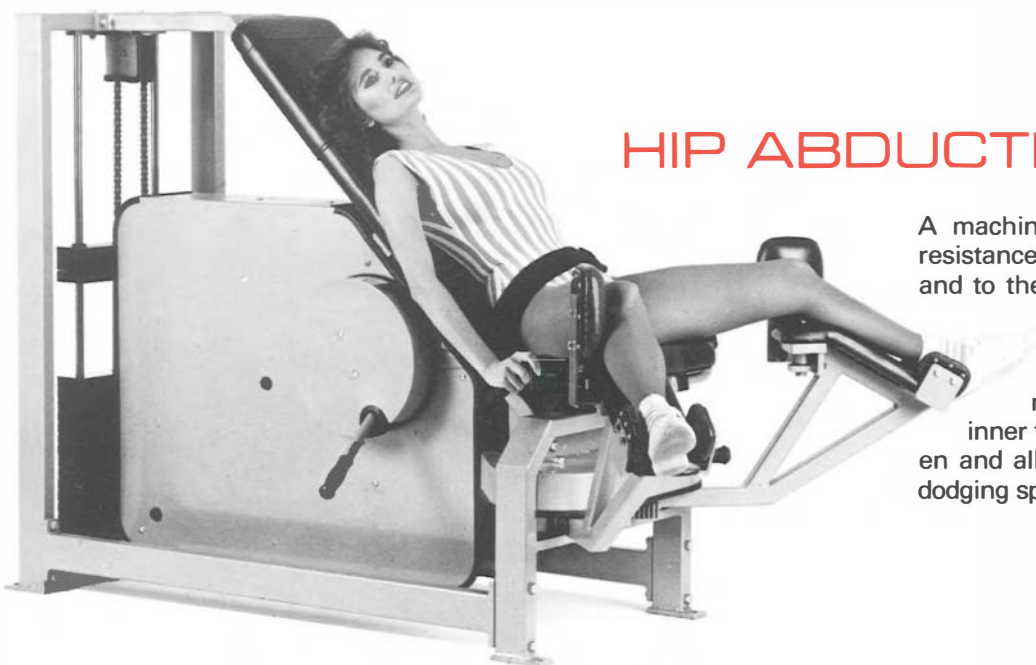
HIP ADDUCTION

Adduction means movement of an extremity toward the midline of the body. The Hip Adduction machine works the muscles of the inner thighs, which are responsible for bringing the legs together. The machine is designed so the individual can, by a hand lever, set the distance the legs are moved from the midline of the body. Both legs are then closed and spread against the resistance.



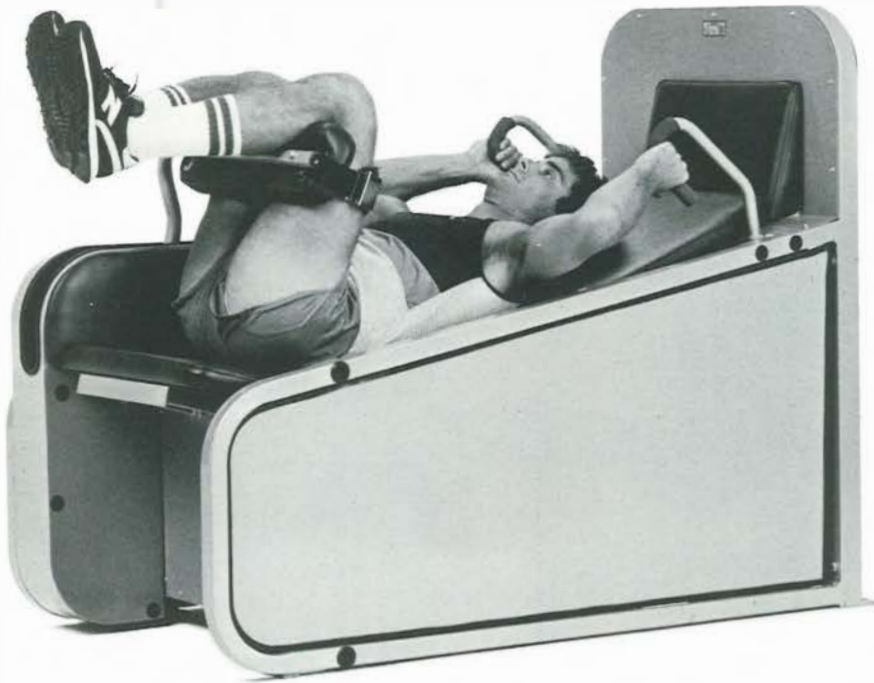
HIP ABDUCTION-ADDUCTION

A machine that performs the dual role of applying resistance to the muscle group that abducts the thighs, and to the muscle group that adducts the thighs. On the right side of the machine is an adjustment handle to set the resistance arms for the individual's range of movement. Direct, full-range exercise for the outer hips and inner thighs is important for figure-conscious women and all athletes involved in starting, stopping, and dodging sports.



HIP FLEXION

The major muscles of the front hip area are frequently referred to as the iliopsoas group. When acting from above, they flex the thigh on the pelvis. When acting from below with the thighbone fixed, the muscles of both sides bend the lumbar spine and pelvis forward. The Hip Flexion machine provides resistance against the top sides of the thighs through an arc of movement. The arc ranges from an extended, though slightly bent-legged, position to a contracted position with the hips flexed against the pelvis and the thighs near the chest.



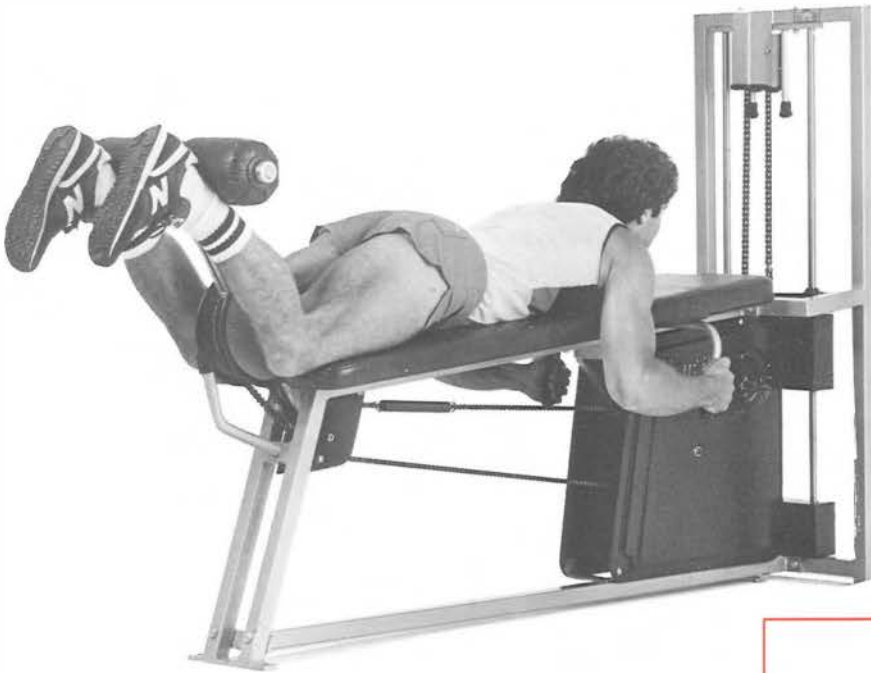
LEG EXTENSION

The knee is the largest joint of the human body. It is also one of the most complex and vulnerable joints. Three major muscle groups contribute to the stability of the knee. Of these, the quadriceps of the front thigh and the hamstrings of the back thigh are the most important. The Leg Extension is designed to provide direct exercise for the quadriceps. These muscles serve to rotate the calf around the knee joint, extending and straightening the leg. A 250-pound, selectorized weight stack is connected to the Leg Extension. The Super Leg Extension comes equipped with a 400-pound weight stack.



LEG CURL

The second group of muscles bolsters and safeguards the knee are those of the back thigh. Consisting of three separate muscles, they are collectively known as the hamstrings. The primary function of the hamstrings is to flex the leg on the thigh. Besides protecting the knee, the hamstrings are important to running and jumping. Conditioning of these muscles also contributes cosmetic benefit to the back thighs.



SIDE LEG CURL

Originally designed so a pregnant woman could conveniently and comfortably exercise her hamstrings. By lying on her side to perform the exercise, minimum compression forces are exerted on her abdominal area. Extensive testing revealed that other women and men also enjoyed using the Side Leg Curl. The primary difference between the Side Leg Curl and the regular Leg Curl is that the hips must be partially flexed in the starting position of the Side Leg Curl, but not flexed in the starting position of the Leg Curl.



DUO SQUAT

The most demanding and most productive of all Nautilus machines, the Duo Squat exercises the complete lower body to a degree not possible with barbells and conventional equipment. The patented Nautilus negative cam provides the trainee with variable, balanced resistance for superior involvement of the quadriceps, hamstrings, and gluteals. The Duo Squat is completely adjustable for the shortest or tallest person. The independent movement arms allow easy entry and safe exit. The Duo Squat has a 410-pound weight stack. The Super Duo Squat comes equipped with a 510-pound weight stack and a movement-restraining bar.

TORSO





LATERAL RAISE

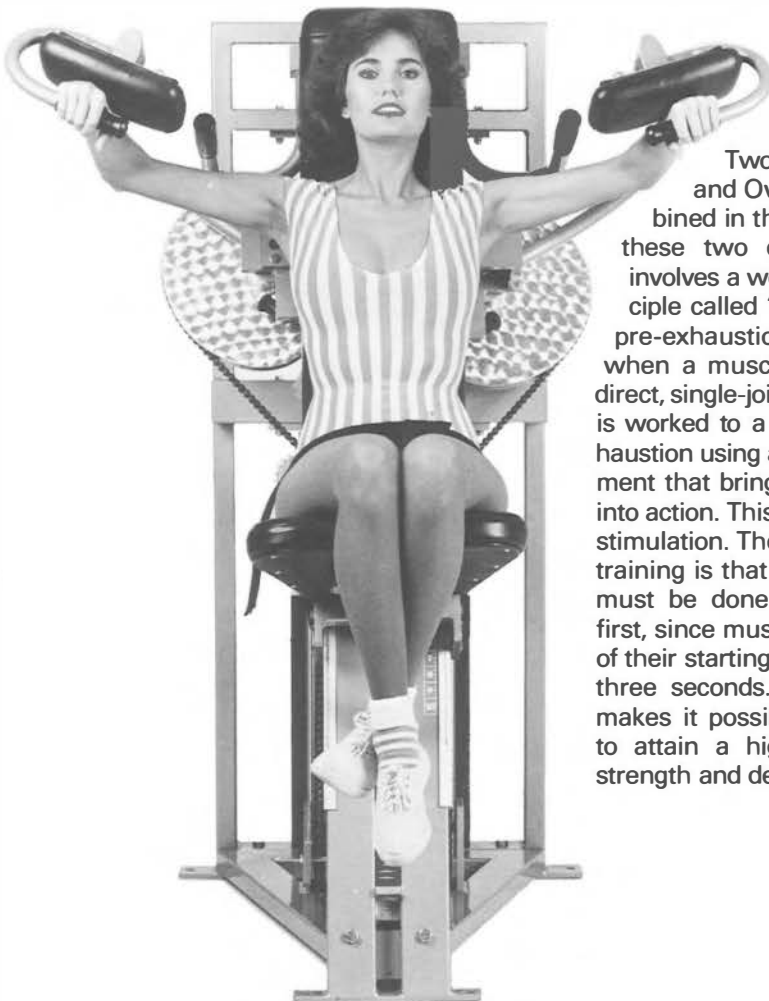
Smooth, efficient, direct exercise for the deltoids is employed in this single-joint machine. The seat and hand grips are adjustable for proper support and stabilization.



OVERHEAD PRESS

The ideal complement to the Lateral Raise, the Overhead Press brings into action the triceps and deltoids to maximize training benefits. The new negative cam makes this machine a winner for both athletes and non-athletes.

DOUBLE SHOULDER

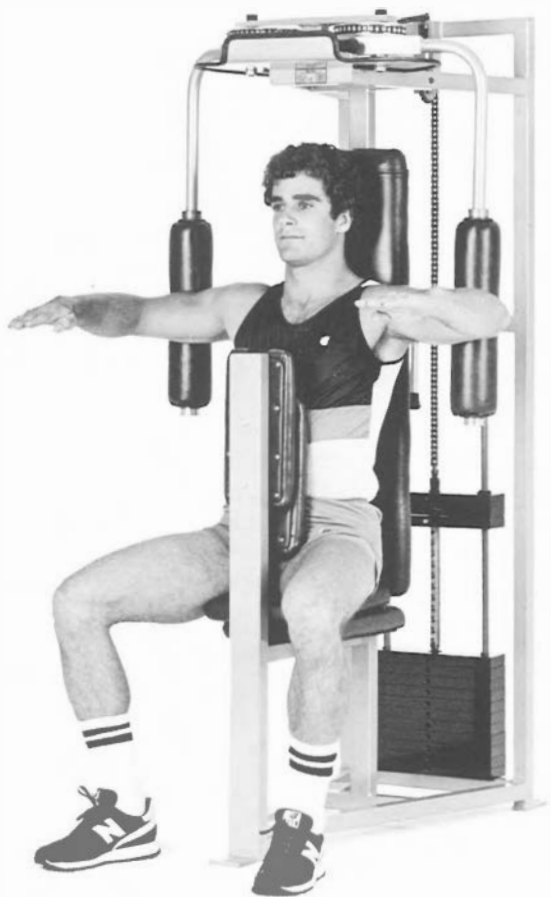


Two exercises, Lateral Raise and Overhead Press, are combined in this machine. Performing these two exercises back-to-back involves a well-known training principle called "pre-exhaustion." The pre-exhaustion principle occurs when a muscle is fatigued on a direct, single-joint station, and then is worked to a deeper level of exhaustion using a multiple-joint movement that brings surrounding muscles into action. This permits greater muscle stimulation. The key for pre-exhaustion training is that the secondary exercise must be done immediately after the first, since muscles recover 50 percent of their starting level of strength within three seconds. The Double Shoulder makes it possible for serious athletes to attain a higher level of shoulder strength and development.



70° SHOULDER

This machine adds the finishing touches to the upper torso, primarily the deltoids and trapezius. Many therapists also employ the 70° Shoulder in arm and shoulder rehabilitation.

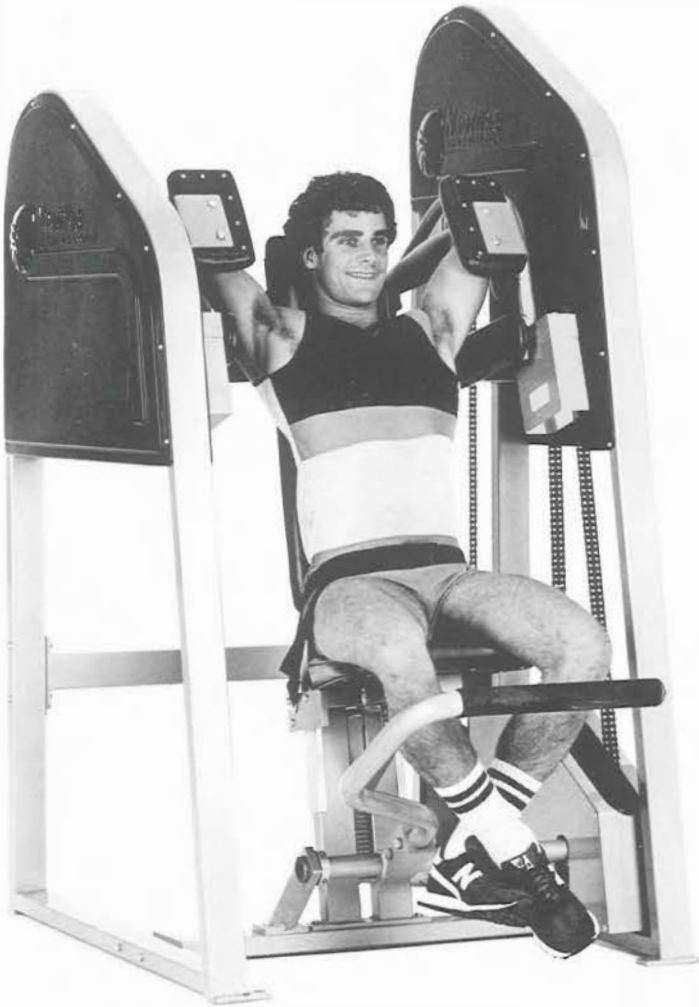


ROWING TORSO

Often called "the posture machine" by experienced trainers, the Rowing Torso strengthens the posterior deltoids, rhomboids, and trapezius. Exercising these muscles is instrumental for combating rounded shoulders in all age groups.

SUPER PULLOVER

This machine provides rotary work for muscle groups of the back torso, primarily the latissimus dorsi. The latissimus dorsi is the largest and strongest muscle of the upper body. An adjustable seat enables various-sized individuals to align their shoulder joints precisely with the axis of rotation of the machine. A large, ruggedly constructed machine, the Super Pullover is built to withstand hard, continuous use.



WOMEN'S PULLOVER

Specifically designed to complement the female body, the Women's Pullover functions like the Super Pullover. Using a smaller cam and having a shorter distance between the elbow pads and hand bar, it allows individuals with a shorter distance between shoulder and elbow to gain maximum benefit from this rotary exercise. Manufactured in response to the ever-increasing use of Nautilus equipment by women, the Women's Pullover has become a valuable part of the Nautilus system.

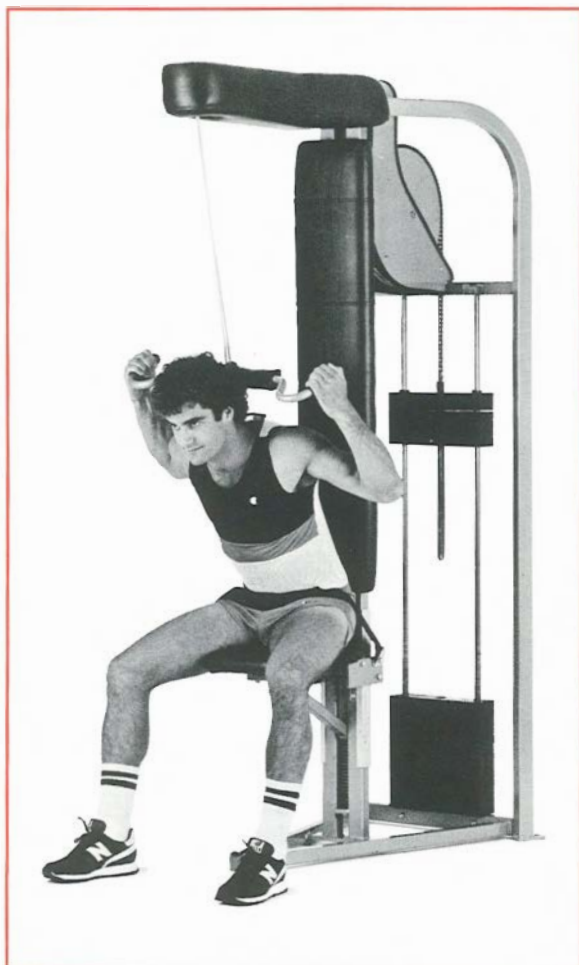
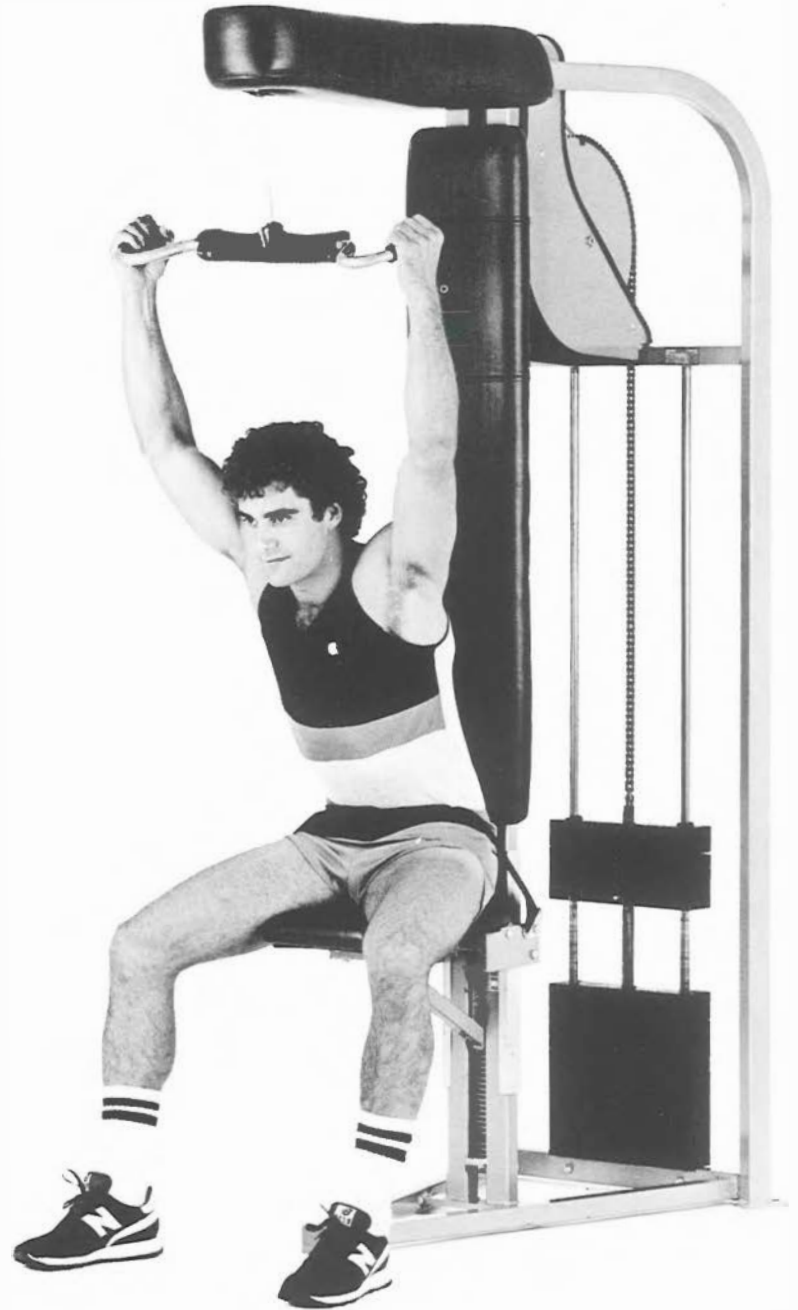


PULLOVER (PLATELOADING)

The original full-range machine, the Plateloading Pullover is built to work the latissimus dorsi of the back. Only two Nautilus machines, the Plateloading Pullover and Plateloading Biceps/Triceps, do not have selectorized weight stacks. In the Pullover, barbell plates must be loaded on a platform at the rear of the machine to provide the desired resistance. Seat adjustment is accomplished by elevation pads.

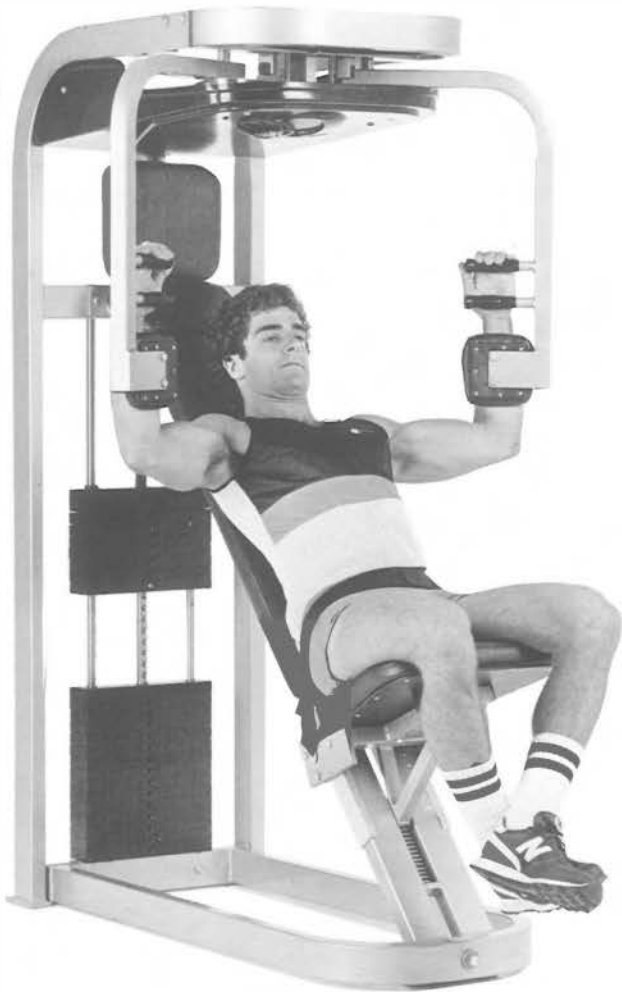
BEHIND NECK

The Behind Neck machine approaches exercising the latissimus dorsi muscles from a different direction than the Pull-over. The Pullover rotates the arms perpendicular to the torso, while the Behind Neck moves the arms parallel to the torso. The Behind Neck supplements the Pullover. Alternated in a weekly training program, they provide the only source of complete exercise for the largest muscles of the upper body.



TORSO ARM

This machine works the torso muscles of the back and the biceps of the upper arms. Work is accomplished by pulling a parallel-grip bar from above the head to behind the neck. An early addition to the Nautilus system, the Torso Arm machine supplies progressive, variable resistance.



MEN'S CHEST

The primary function of the pectoralis major muscles is to bring the upper arms down and across the torso. Function dictates design—this principle is embodied fully in the Men's Chest machine. An adjustable seat allows the trainee's shoulders, regardless of his torso length, to be placed directly under the twin cams for efficient rotary resistance.



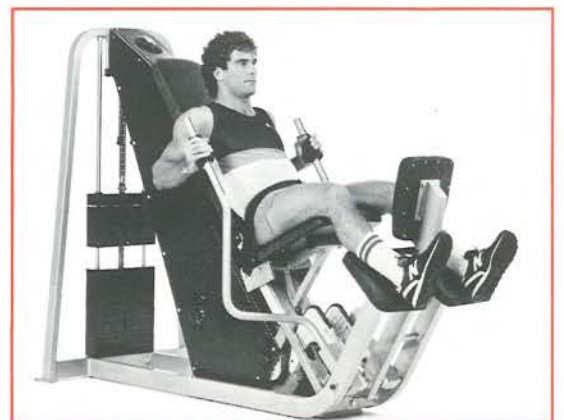
WOMEN'S CHEST

The Women's Chest machine meets the specific needs of women entering Nautilus fitness programs. Similar to the Men's Chest, the machine has smaller cams which allow lighter beginning weights to compensate for the differences in strength between men and women. The mechanics of this machine enhance stretching at the beginning of the exercise, which allows for total range of motion and complete pectoral contraction.



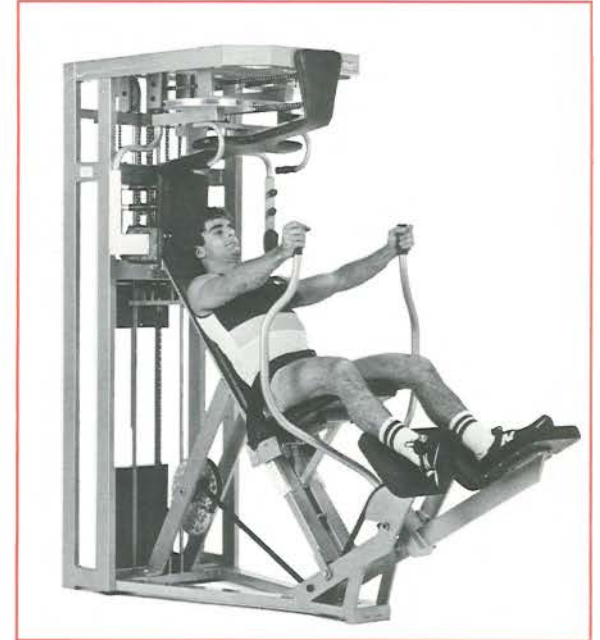
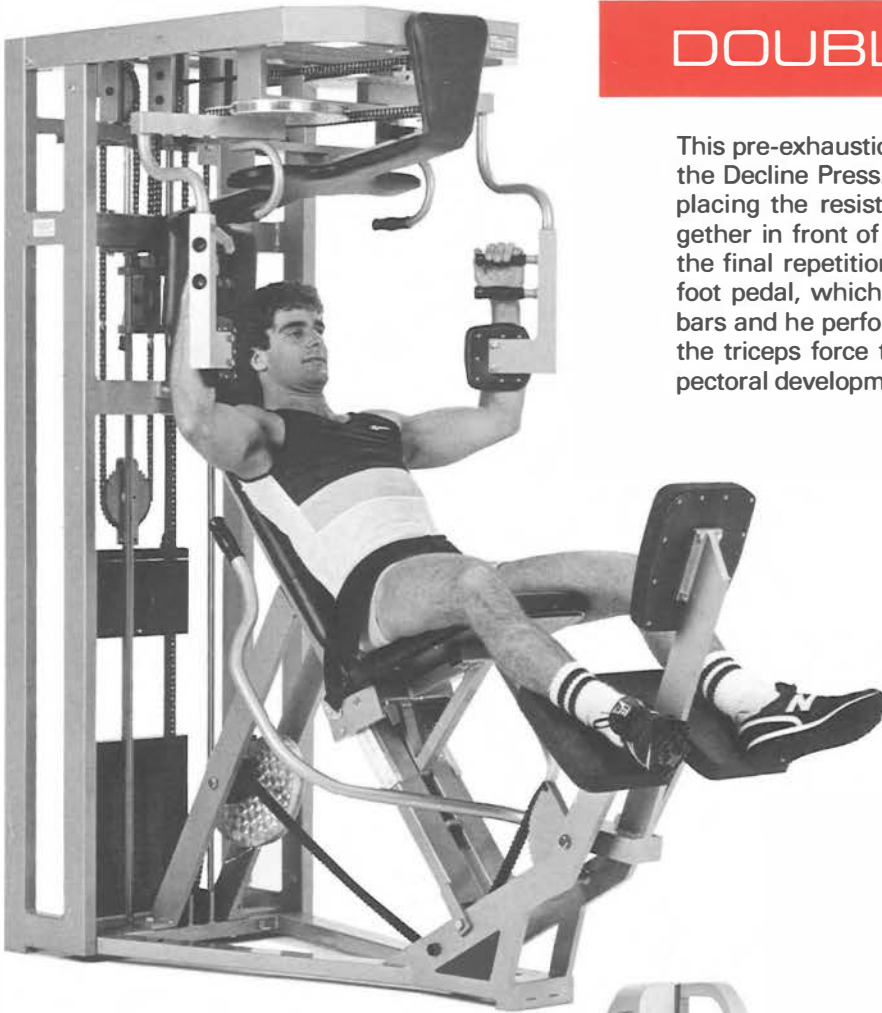
DUO DECLINE PRESS

This exercise is a big improvement over the standard bench press. First, it provides a greater range of movement. Second, it has independent movement arms to insure equal involvement of both sides of the body. Third, it incorporates the negative Nautilus cam for efficient, variable, balanced resistance. Fourth, the foot pedal may be used for negative-only exercise. Fifth, the seat, hand grips, and stroke can be adjusted for more valid strength comparisons.



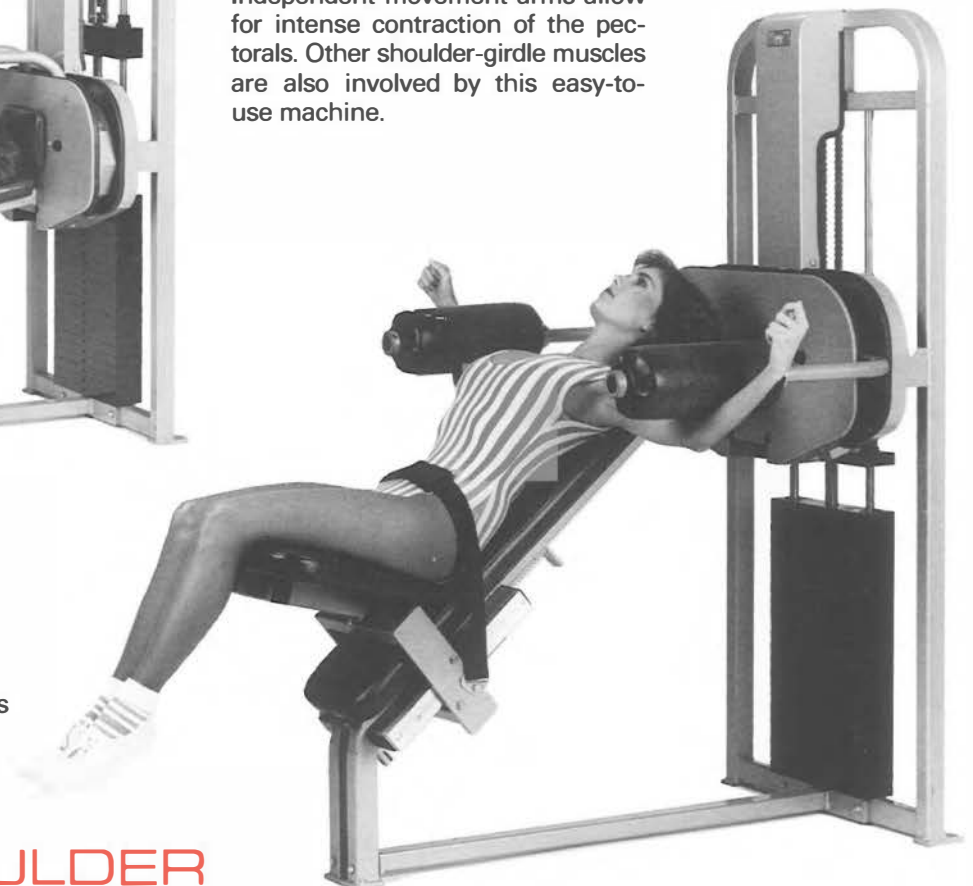
DOUBLE CHEST

This pre-exhaustion machine consists of two exercises, the Arm Cross and the Decline Press. The Arm Cross isolates the pectoralis major muscles by placing the resistance on the elbows. The trainee brings his elbows together in front of his body as rotation occurs around the shoulders. After the final repetition of the Arm Cross, the trainee immediately pushes the foot pedal, which raises two bars beside the chest. His hands grasp the bars and he performs a decline pressing motion. As the elbows straighten, the triceps force the pectorals to a deeper state of exhaustion. For super pectoral development the Double Chest machine is unsurpassed.



10° CHEST

Independent movement arms allow for intense contraction of the pectorals. Other shoulder-girdle muscles are also involved by this easy-to-use machine.



Specifically designed for upper chest and shoulder development, this rotary machine is a favorite of fitness-minded men and women everywhere. Efficient seat adjustments allow proper shoulder-joint alignment with the twin cams.

40° CHEST/SHOULDER

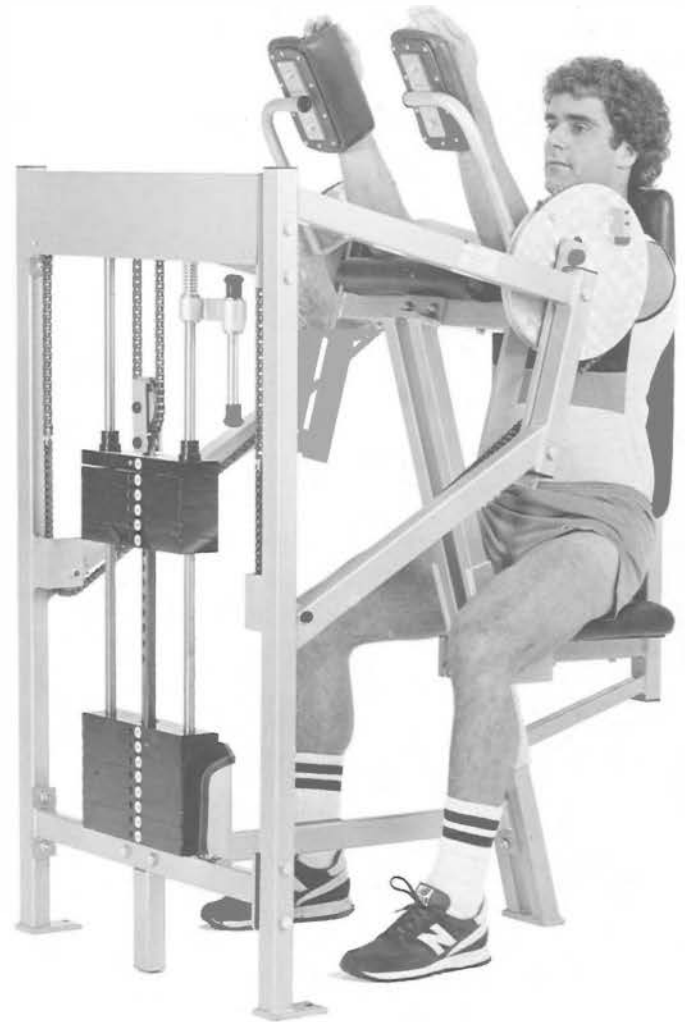
ARMS



MULTI-BICEPS

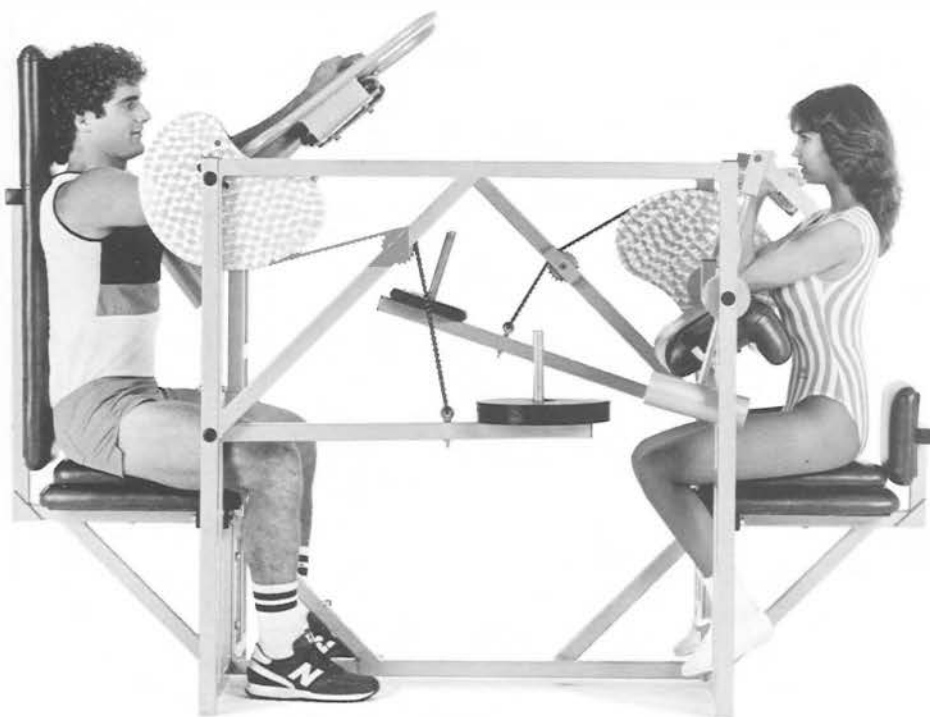


An unusually versatile machine, the Multi-Biceps provides biceps work in at least eight ways: (1) both arms together, (2) both arms alternating, (3) both arms duo-poly style, (4) one arm separately, (5) one arm negative accentuated, (6) isometric, (7) infimetric, and (8) akinetic. The last three styles are performed with the movement-restraining bar in the central position. An adjustable seat ensures full range-of-motion training.



MULTI-TRICEPS

This is the perfect training partner to the Multi-Biceps. Like the biceps machine, the Multi-Triceps is capable of being used in at least eight ways. By keeping the elbows in line with the rotating cams, the triceps will be stimulated to new levels of strength and fitness.

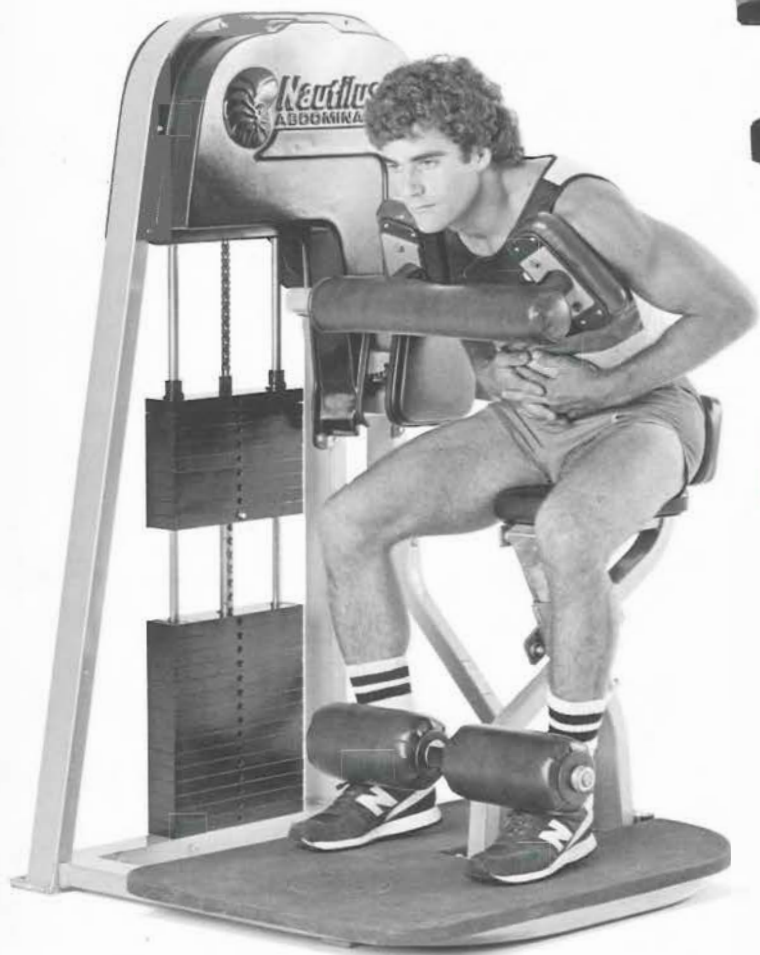


BICEPS/TRICEPS

The Biceps/Triceps does not have a selectorized weight stack. Weight must be added in the form of barbell plates. Since it has two stations, two individuals can use it simultaneously. Both stations supply rotary, direct, variable, and balanced resistance for the involved muscles.

WAIST



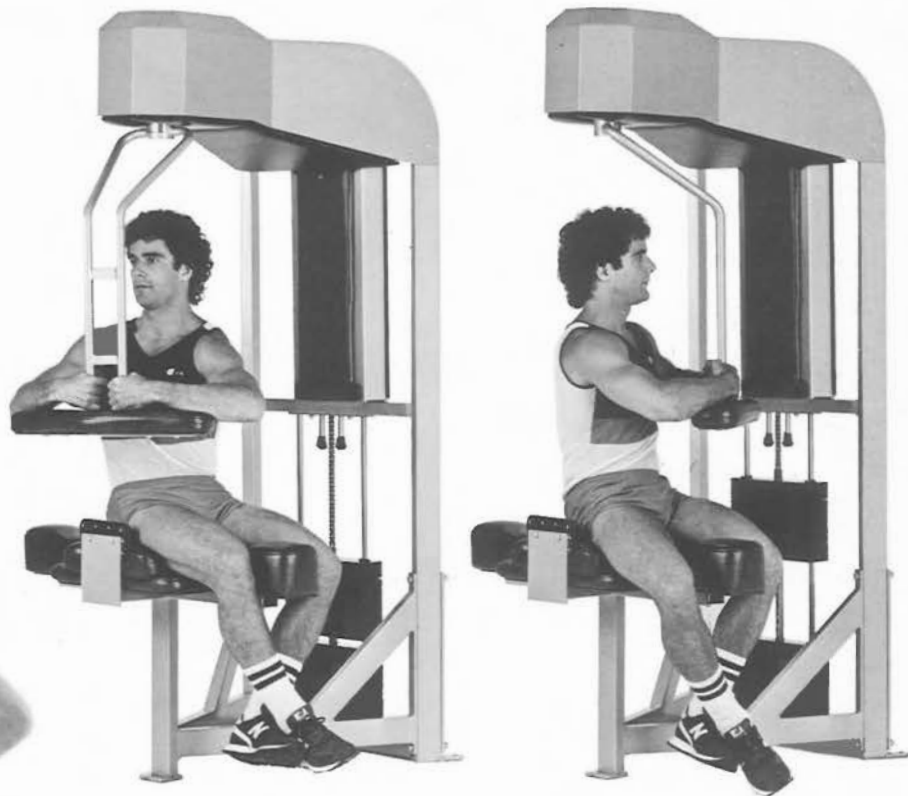


ABDOMINAL

This machine was over six years in the developmental stage. Since the muscles of the midsection not only protect the inner organs, but are important cosmetically, the Abdominal machine is a welcome addition to the Nautilus system. The machine comes with an adjustable seat and adjustable torso pads. Such adjustments are important because the range of movement of the rectus abdominis is limited.

LOWER BACK

Lower-back ailments afflict 80 percent of the American people. Proper exercise for the spinal erector muscles with the new Nautilus Lower Back machine can prevent and help rehabilitate a large percentage of the cases. Nautilus does this strengthening without dangerous compression forces. The Lower Back has a 250-pound weight stack. Larger and stronger individuals will need the 410-pound stack on the Super Lower Back.



ROTARY TORSO

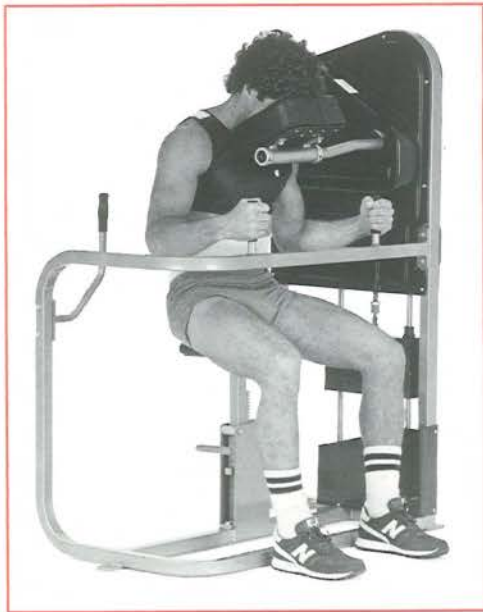
The Rotary Torso works internal and external obliques. The external oblique draws the trunk to its side of the spine while rotating the torso to the opposite side. The internal oblique both flexes and rotates the torso toward its side. Strengthening the obliques delivers broad support for an enormous range of twisting, turning, hitting, and throwing activities. Plus, the Rotary Torso provides improved protection for the inner organs and lower spine.



NECK

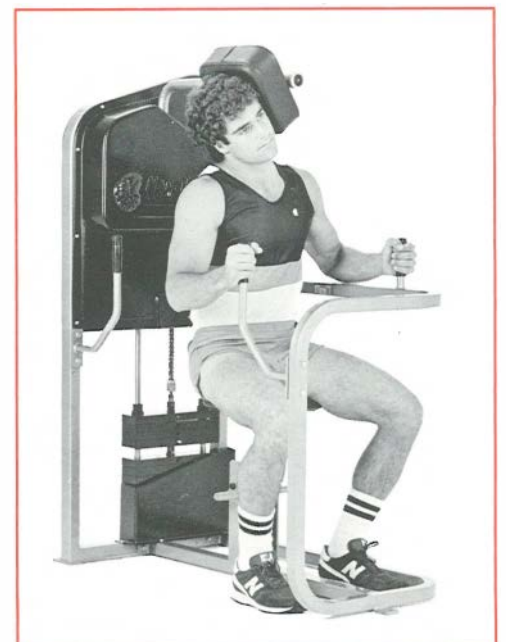


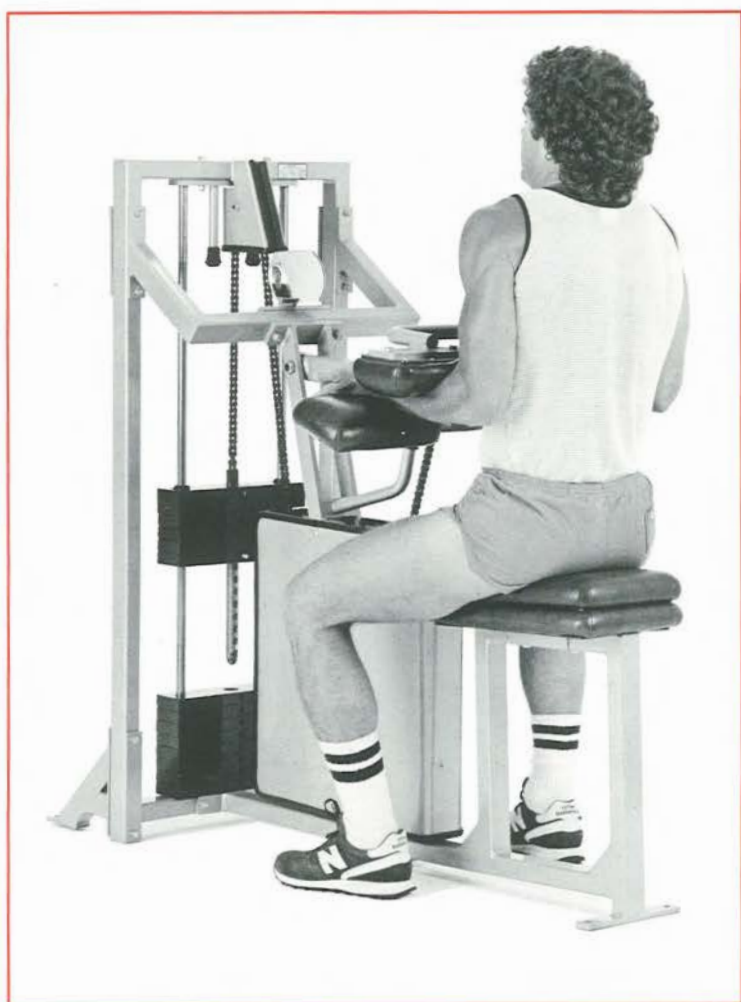
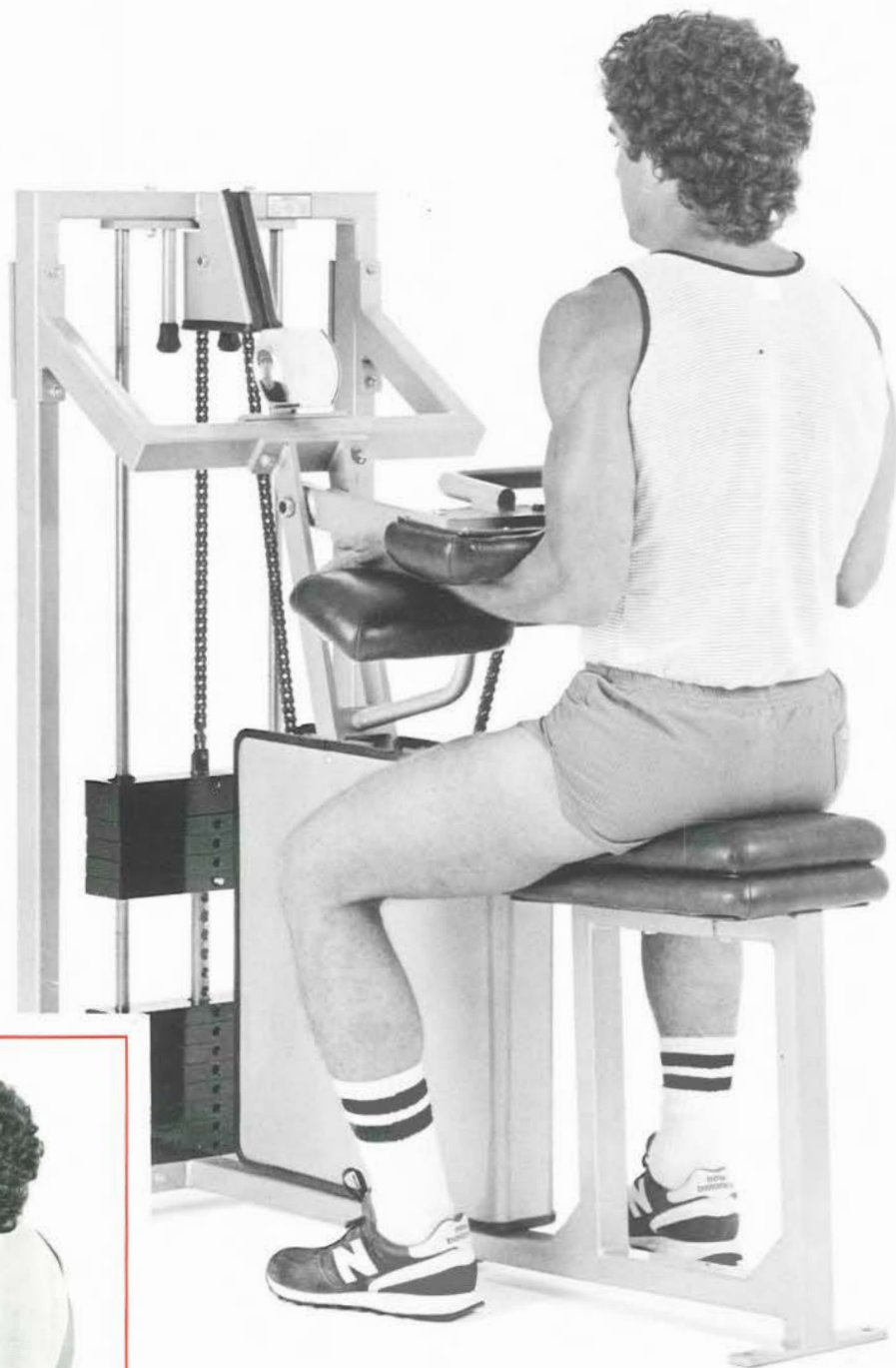




4-WAY NECK

The neck is one of the most important areas of the body and should be exercised accordingly. The 4-Way Neck provides direct, variable, rotary resistance to the neck's primary functions: anterior flexion, posterior extension, lateral contraction to the right, and lateral contraction to the left. A contoured head pad keeps the head in a safe, comfortable position during each of the four exercises.

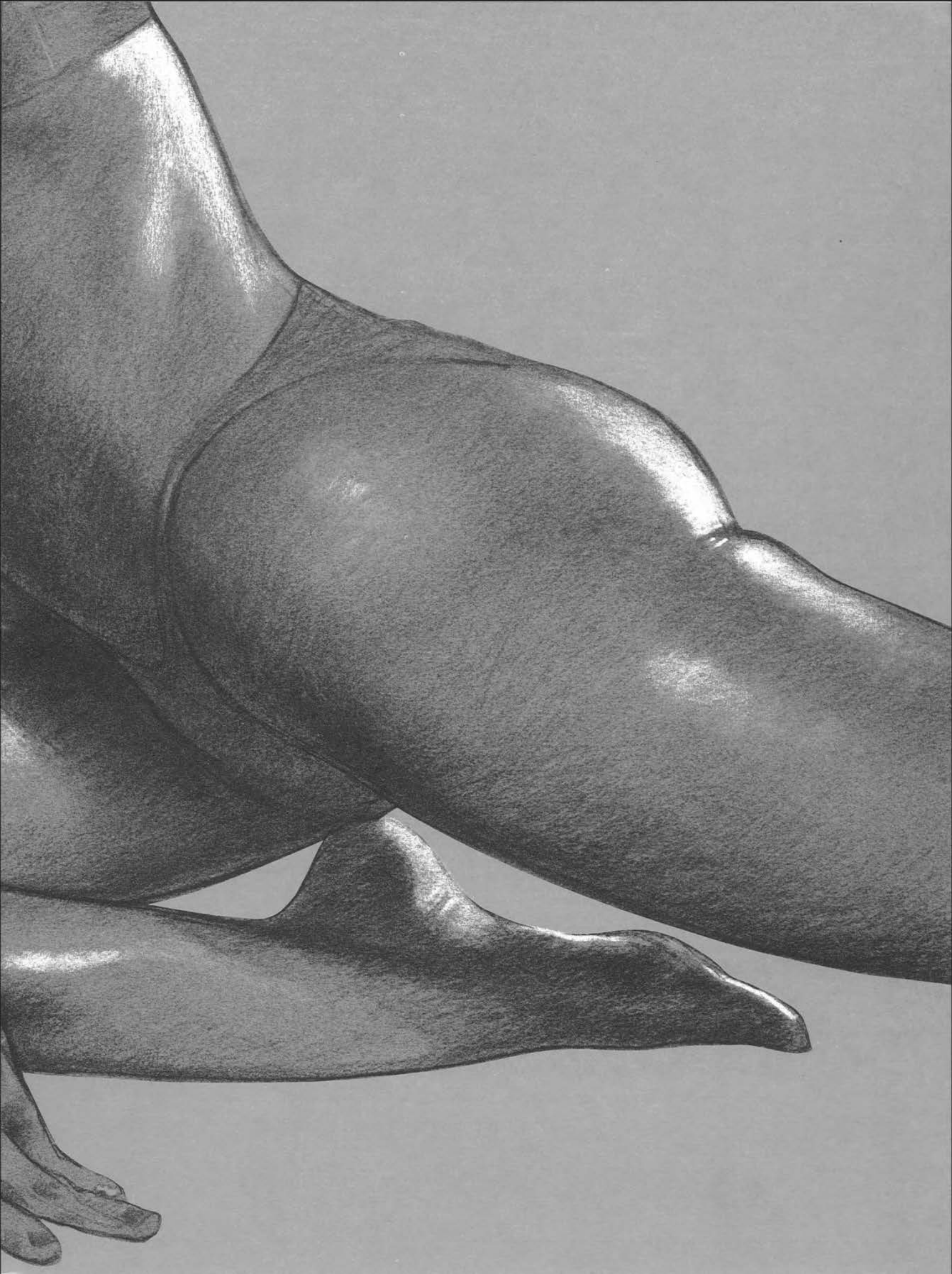




NECK & SHOULDER

A unique machine that provides direct exercise for the trapezius muscle. Though the trapezius is classified as a torso muscle, it supports the entire back side of the neck. The Neck & Shoulder is also called "the shrug machine" because performance of the exercise approximates an "I don't know" shrugging of the shoulders.





MULTI-EXERCISE

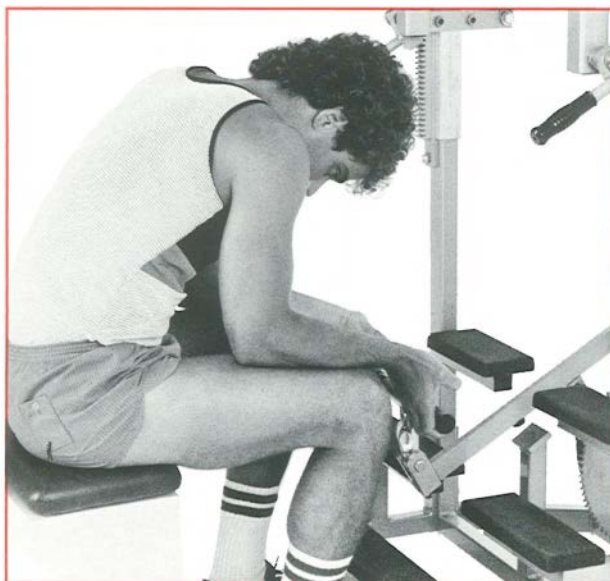
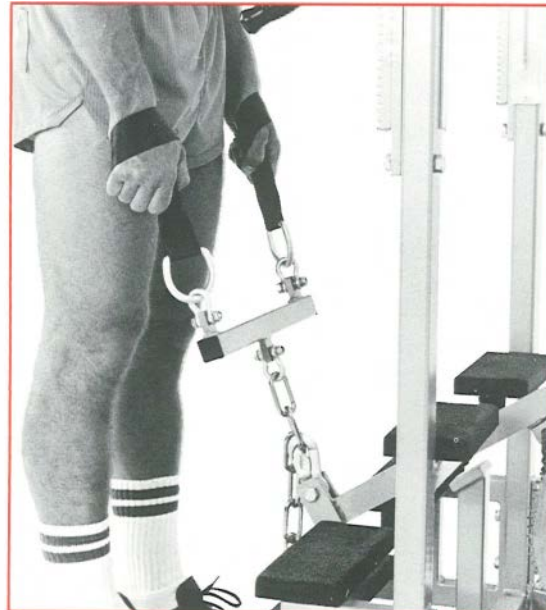
Variety is the key to this important addition to the Nautilus system. The machine is delivered with four accessories that attach to the industrial cable snap on the steel bar that conveys the resistance. The accessories are a heavily padded belt that fits around the body and attaches to the resistance, a 14-inch metal rod with rubber hand grips, a single hand strap with a round ring for fastening it to the steel bar, and a 14-by-1½-inch steel bar to which are linked two hand loops.

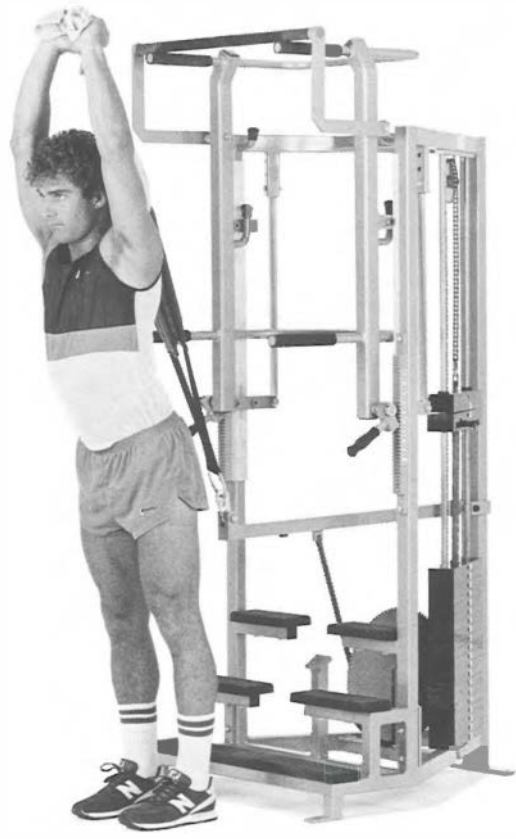
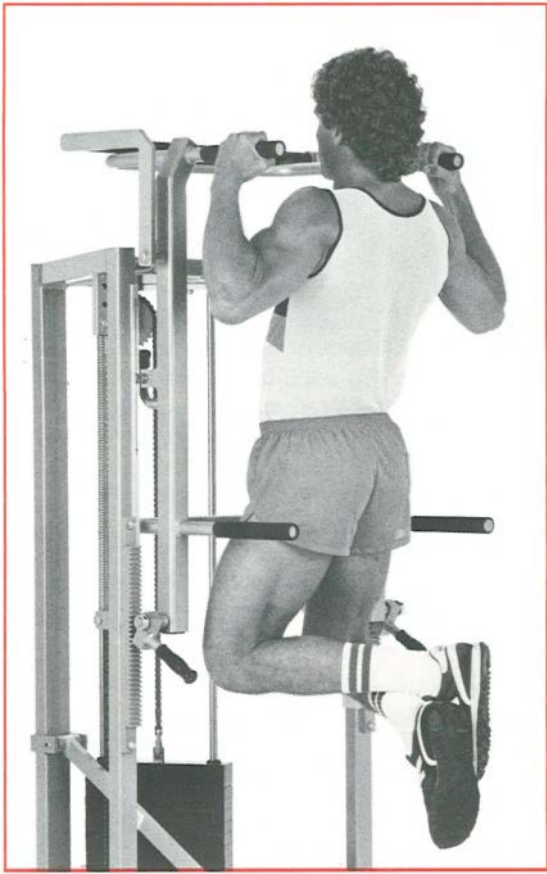
Two sets of parallel bars, at different heights, extend over three steps. Just below these bars are two handles which adjust a vertically moveable carriage over a one-foot distance. At the top of the carriage is a bar that can be moved from its position at the rear of the carriage into place over the steps.

Some of the recommended exercises on the Multi-Exercise are as follows. Calf raises using the steps, with or without the weight belt. Wrist, reverse wrist, and biceps curls using the rubber-grip bar. Chins, negative chins, behind-neck chins, negative behind-neck chins using the overhead bars, and the steps for negative exercise, all with or without the weight belt. The overhead bar can be used for hanging leg raises. The parallel bar can be used for positive and negative dips, with or without the weight belt. The double hand strap can be used for bent-over rows and shoulder shrugs.

The single hand strap allows side bends. Stiff-legged deadlifts can be accomplished with the rubber grip bar. Triceps extensions can be done by threading a light towel through the weight belt and lifting the resistance from behind the head.

In total, over 15 exercises may be performed on the Multi-Exercise.



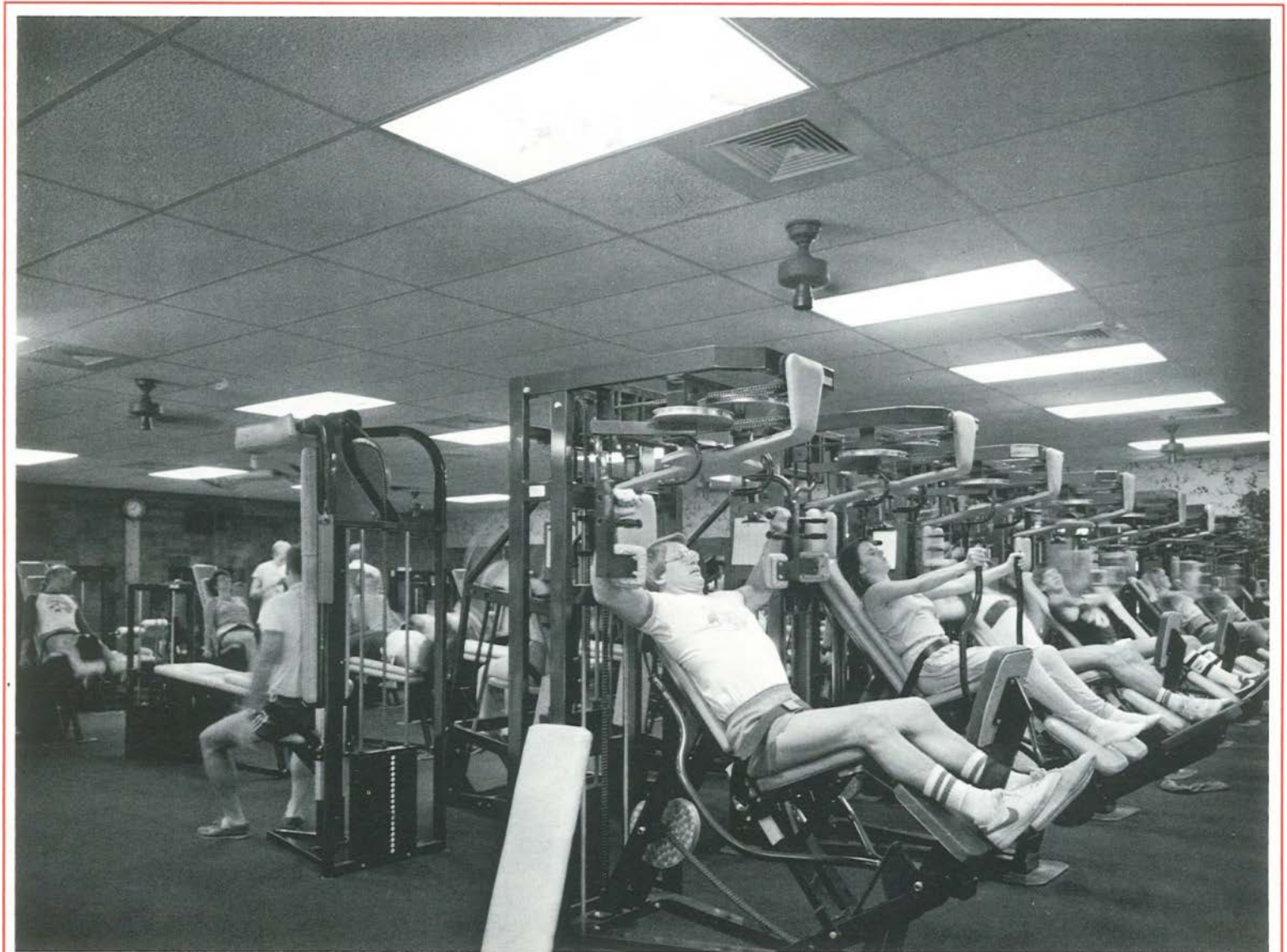


NAUTILUS SHOWS UP IN ALL THE RIGHT PLACES



Nautilus machines are used in fitness centers in every state of the Union and in more than 25 countries. The sale of Nautilus equipment to fitness centers, however, represents only a small percentage of the machines being sold. Nautilus machines are being used by sportsmedicine clinics, hospitals, rehabilitation centers, law enforcement agencies, the armed forces, professional sports teams, colleges, high schools, corporate recreation centers, exercise physiology laboratories, racquetball and tennis clubs, resorts and hotels, and private individuals.

Quite simply, where strength and fitness are required, there's Nautilus, and where there's Nautilus, there's quality.





HEALTH CLUBS
MILITARY
SPORTS
RECREATION
CORPORATE FITNESS
MEDICINE
SCHOOLS



Extensive research covering all aspects of conditioning and rehabilitation is being conducted by Nautilus Sports/Medical Industries. Results of this research will be incorporated into the production of machines to maintain quality consistent with scientifically proven advances. Nautilus therefore reserves the right to effect modifications in the design of machines shown. Nautilus, the leader, stands for quality. Quality in research, in design, in workmanship, in resistance...in the past, the present and the future.



Nautilus®

P.O. Box 1783, DeLand, FL 32721 ■ (904)228-2884, (800)874-8941 ■ Telex 756234

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