



1. QUADRADRICEP EXTENSION

Quadricep extension exercise with weight resistance through range of motion. Adjustable back rest aids in elongatin muscle groups for exerting maximum force. Reciprocal exercising to counter balance weaker abdominal muscles.

■ 2. HAMSTRING FLEXION

Hand grips stabilizers enable a more active flexion exercise. Adjustable thigh straps prevent knee and leg raising when using larger weight loads.

3. PRONE HAMSTRING CURL

Back rest relocates to a horizontal position for this exercise.

4. ISOMETRIC QUADRICPEP EXTENSION

Position pull pin at vertical stop, position shin arm at desired location. To exercise, extended shin against padded leg rest.



5. ISOMETRIC HAMSTRING FLEXION

Apply same method as Isometric Quadricep Extension. Passive stretching may be applied by pulling back on weight arm. Use thigh strap for both exercises.

When following these instructions, think of the hub of the torque unit as the center of a clock.

I. MUSCLE STRENGHTENING

- (1) Quadriceps When standing on the outside and facing the torque unit to be used, place the weight holding arm straight down at the 6 o'clock position. Now pull the "pull pin knob" and set the padded resistance arm at the 5 o'clock position. Place the desired weights on the weight holding rod. The patient should sit against the backrest to straighten the knee. The pad should be against the ankle. The Velcro strap is not needed for this exercise.
- (2) <u>Hamstring</u> When standing on the outside and facing the torque unit to be used, place the weight holding arm vertically downward at 6 o'clock. Now pull the "pull pin knob" and set the padded resistance arm at 8 o'clock. The Velcro strap will restrict the femur from rising up. The patient should <u>not</u> lean against the backrest but instead should lean forward holding onto the seat between their knees with both hands or hold hand grips. The roller shin pad should strike an area above the heel over the Achilles tendon. Place the weights on the weight holding rod and the patient is ready to exercise. **For below the knee amputees, just raise the pad.

II. STRETCHING OF CONTRACTURES

- (1) A Knee That Will Not Bend (Flex) Fasten the femur to the seat with the Velcro strap. When standing on the outside and facing the torque unit to be used, place the padded resistance arm and the weight arm vertically downward at 6 o'clock. Lift both "locked together" arms up and place the pad over the patient's ankle to stretch the contractured quads. Place the weights on the weight holder.
- (2) A Knee That Will Not Straighten (Extend) Fasten the femur to the seat with the Velcro strap. When standing on the outside and facing the torque unit to be used, place the weight arm vertically downward at 6 o'clock. Pull the "pull pin knob" and set the padded resistance arm at 9 o'clock. Place the pad behind the ankle and add the desired weights needed to stretch the contractured knee.

II. ISOMETRIC KNEE EXERCISES

- (1) Quadriceps When standing on the outside and facing the torque to be used, place the padded resistance arm vertically downward at 6 o'clock. Pull the "pull pin knob" and set the weight resistance arm at 9 o'clock. Release the pin. Do not let go of the weight arm. Rotate the arm clockwise until it hits the stop. Hold onto the weight resistance arm until the front of the patient's ankle is against the pad. No weights are needed and the patient is now ready to do isometric exercises in the extended end of the range.
- (2) <u>Hamstring</u> When standing on the outside and facing the torque unit to be used, place the padded resistance arm vertically downward at 6 o'clock. Pull the "pull pin knob" and set the weight resistance arm at 1 o'clock. Hold onto

the weight resistance arm until the patient's heel cord is against the pad. No weights are at a 90 degree flexed position.

*** It should be noted that all three of these uses could be varied for individual patients by changing the relationship of the resistance arm to the weight arm.

TO CONTROL THE QUALITY OF RESISTANCE

One of the significant advantages of the double arm torque resistance apparatus is that the quality of the resistance can be controlled by a series of simple adjustments. Although there has been much complex literature written about this principle, it is really very simple to apply. The primary factor to remember is that when the <u>Resistance Arm</u> is at a horizontal level, the muscle group being exercised will experience maximum resistance and of course minimum resistance is experienced when the <u>Resistance Arm</u> is vertical. So by adjusting the relationship of the two arms, maximum or minimum resistance can be had at any point through the joint range. See the illustrations on the following page.

INSTRUCTIONS FOR USING THE NK TABLE

To strengthen leg muscle group, lift weight-bearing arm to a terminally extended, or partially flexed position and hold for three seconds. Relax extension and return leg to a vertical or hanging position, rest for five seconds, and repeat lift. Repeat each set ten to twenty times. Do not swing torque unit arms, rather push for extension, or pull for flexion at a SLOW STEADY SPEED. Using this procedure, a minimal amount of weight is required to strengthen the knee muscle group. Repetition of the same exercise procedure, rather than heavy weight lifts, is more applicable to rehabilitative exercises. Maximum weight amount for all P.R.E. tables is 75 pounds per torque unit.

MAINTENANCE

Maintenance of all NK tables consists of checking every four months for loose or worn out parts and replacing as needed. Hazardous tables should be taken of use until repaired, as injury may occur. All necessary replacement parts can be obtained by, writing or calling NK Products at 508 Chaney St. Ste. B, Lake Elsinore, CA. 92530 or call 1-800-462-6509.

How To Assemble N-K 330 Exercise Table

- 1. Upholstery seat and backrest. Put pre-finished paneling or Naugahyde on the backside of backrest to finish off.
- 2. On the left end of the upholstery table is a socket to place the flat Masonite covered board attached to a 1-1/4" SQ tube.
- 3. Set the upholstery seat on this board up side down, (be sure the seat has a California Law Label showing your furniture register number and list of material being used), then turn the table frame up side down and slide onto seat bottom. Push back all the way to curved handles and center frame side to side.
- 4. Reach to the rear angle iron cross piece and use your thumb to push back frame as far as it will go. While holding in this position drill a 1/8" pilot hole through the rear angle iron center hole and the front center hole only, (drill into wood about 1" only).
- 5. Install a # 10x1-1/4" Pan head Phillips self-taping screw into these two holes, it is not necessary to tighten these screws all the way at this time.
- 6. Now drill the other four holes with the 1/8" pilot drill and install the same screws into holes, tighten all screws securely.
- 7. Take the thigh strap, Velcro facing up and place the strap end (with out Velcro) onto the lip of the seat and back to edge of notch. Measure in 3-1/2" hold the strap in place and fold end in half, take the upholstery gun and staple the four corners down.
- 8. In the center of this square, screw a #10x1" Pan Head Phillips self tapping screw along with a $\frac{1}{4}$ " SAE washer to secure in place.
- 9. Next, take the chrome plated loop holder plate with four holes and slide over the center front lip of the seat. Push bracket in towards the back so 3/8" rod presses into the Naugahyde and padding. Hold in place in the center of lip and drill 1/8" pilot holes about 1" deep in rear holes. Screw in #10x1" Pan Head Phillips self-tapping screws. Finish by drilling front pilot holes and installing the remaining screws.
- 10. Take the red variable speed Milwaukee drill with a 3/8" 16 Tap and re-tap all the holes in the frame, (to clean out all holes).
- 11. Install two 3/8"16x1" Hex head bolts into the front Torque sockets. Screw in all the way and snug down slightly.

- 12. Install the four Monaco floor glides into bottom of runners, tighten securely suing the special ground off $\frac{1}{2}$ " open-end wrench.
- 13. Place the 1-1/2" x .095 Square black Plastic glide plugs into ends of floor runner and tap in lightly until seated.
- 14. Screw into backrest receptacle lug a 3/8"x1" Trigon black knob.
- 15. Re-tap the seat adjustment receptacle lug and put a Trigon knob into it also. Slide this piece into receptacle under the seat all the way and tighten knob securely.
- 16. Grab the table frame by the front legs and take off the T platform, turn right side up and set on floor. Take the thigh straps and feed through center loops.
- 17. Take a set of the Royce Union Motto Cross Grips and using a rawhide mallet pound on to the 7/8" handles
- 18. Grind the 1-1/4" SQ end cap corners off slightly to reduce the chance of grabbing when adjusting the backrest. Take the adjusting backrest metal T bracket and put the 1-1/4" x .095 Plastic glide end caps in all tube ends.
- 19. The backrest pad should have either a finished panel or Naugahyde on the backside to finish off. Lay the upholstered back rest up side down on the table. Take the hole jig, (brown wood piece with 3 hole in a T pattern) and lay on top of backside on the backrest. Drill the lower hole on the vertical T arm first with a 1/8" Drill bit about 1" in.
- 20. Lay T arm on the back and install a ¼"20 x 2-1/4" HH Lag Bolt, use ¼" SAE washers under bolt head on all bolts. After tightening first bolt, square T arm up with bottom of backrest and drill the other two holes with the 1/8" pilot drill. Install the final two bolts with washers
- 21. Put backrest into rest socket to see if it is vertically straight.
- 22. Put N-K Sticker on bottom of front, cross frame brace. Center sticker up on 13".
- 23. Take two assembled Torque units and color buff on polisher, also two shin arms, weight rods and weight collars. (One for each N-K 331 Unit).
- 24. On right side of upholstery table put the ³/₄" tube with a stop into the round receptacle. Slip the stationary Torque Unit arm over this rod. With a cotton cloth wipe the Torque Unit off to take off the hand prints and polishing compound.

- 25. With the adjusting weight holding arm facing you take the retainer ring pliers and remove the retainer ring. Remove this arm.
- 26. Place the plastic safety shield over the head and pull pin housing on this arm, be sure shield is tight on head. You may have to air grind to fit.
- 27. Replace adjusting weight arm back onto dial shaft and replace retainer ring.
- 28. Clean arms again then put plastic bag over Torque Unit and tape around lower part of center arm to hold in place.
- 29. Lay Torque on Unit table, take a small center punch and put into lower stationary arm small hole, wiggle around to clean hole out. Put a 10/32" x 3/8" round head machine screw in hole and screw on a 10/32" HH Nut inside the arm.
- 30. Put Torque Unit into N-K 401 box with one end sealed and mark and X on the side of the box where pull pin knob is.
- 31. Take shin arm roller pads (kamway 4" x 7") and put PVC Plastic tube, size 1"ID x 7-3/4" long into center hole of pad. Push in with hand, if you cannot get in right place use air nozzle and spray air in along side of tube then adjust pad on tube.
- 32. Grease shin tube with white all-purpose grease then slide plastic tube onto shaft. Take a ¼" 20x7/8" HHM Bolt put on a ¼" Fender washer then a ¼" 20 Tube Connector, black. Pound into end of metal tube and tighten lightly.
- 33. Take a medium plastic bag, cut off so bag when placed over foam roller pad is about an inch from bottom of foam roller. This plastic bag makes it easier to slip on Naugahyde cover.
- 34. Put on Latex rubber gloves, take Naugahyde cover and pull down over foam roller, keep working cover down until it is in proper place.
- 35. Re-tap lug with a 3/8" 16 Tap check inside of tube to see if any burr has developed, if so file smooth then install a 3/8" 16 x 1 Trigon Black Knob. Be sure to grind end of knob stud smooth and level end to remove burr. This step is very important in preventing chrome from gouging when tighten onto the chrome surface.
- 36. Put into plastic bag and tape end. Leave out of Torque unit box for now.
- 37. Take the weight rod collar and re-tap out hole with a $\frac{1}{4}$ " 20 tap. Install a $\frac{1}{4}$ " 20 x 1/2" Thumb screw Zinc plated.

- 38. Put collar on to weight rod and secure thumbscrew into groove. On the small gray band saw cut the clear plastic tube ³/₄" ID x 1"OD x 8" long. Put over weight rod from screw end up to collar. Check to see if tube end is square, if not use special cutting jig to square up. Put jig into square receptacle on right hand side of table. You will note this jig has an adjustment on the top of jig, which will enable you to determine the length you want cut off. Slide rod up through round hole tubing to proper height, using a razor knife lay on top of round tube and pull in while tuning rod. Do this procedure for both ends of plastic tube. The plastic tube should be about 1/16" above the last thread and flush against the collar but not tightly.
- 39. Cut a piece of Styrofoam sheet and wrap weight rod in it. Tape both ends and place into center of Torque unit box all the way down. Take a piece of foam cushion 1-1/2" x 5" x 7" and stuff in center of box down on top of weight rod.
- 40. Take the roller shin pad metal slider up and place into box down to foam cushion. Using carton tape, seal end of box.
- 41. Take the finished table frame and sit on two sawhorses, put horses close to floor glides to give your self plenty of room to tape.
- 42. Take white butcher paper size 8" x 12" and wrap around rear vertical legs and floor runners inside of frame, secure with masking tape. Sit a piece of wood (saved from seat production 1-1/8" x 8" x 29" with two pieces of 3/4" x 6" x 6" wood tabs stapled on each end of board) on to floor runners and against rear vertical legs.
- 43. Now take the two Torque unit boxes and sit on edge with knob markings UP, center the boxes on the board and finally tape around center of boxes securing the frames back vertical legs, wrap tape at least twice around. Next wrap around boxes top to bottom EACH box twice around.
- 44. Take an N-K 330 Box and staple one end with the carton stapler, fold end flaps so that there is a 1" gap between flaps.
- 45. Turn box over and bend flaps down. Sit box so the flap seam line inside of box runs front to back of table. With two people lift the table straight up and drop into box seat side up.
- 46. Take a piece of 1/8" Styrofoam sheet 32"x32" and lay on top of seat cushion.
- 47. Get the N-K 331 Tray box and fold up sides and staple in place to create a tray. Sit this tray on top of Styrofoam sheet on seat in between stabilizer handles.

- 48. Place the backrest into tray, cushion down metal arm to rear of table. Place the operating instructions along with "Demand the Best" exercise sheet, showing some of the exercise you can do.
- 49. Close box flaps front to back first then side-to-side and staple in place. Mark model number on box and color of Naugahyde. You are now ready to ship!

Parts & Price List For NK330 Torque Unit

1.	Weight Holding Rod 9"	NK330TV-1
2.	Weight Securing Cuff	NK330TV-2
3.	Thumb Screw 1/4 20 1/2"	NK440-401-3
4.	Adjustable Weight Arm	NK330-401-4
5.	Pull Pin Knob (plastic)	NK330-401-5
6.	Pull Pin Knob (metal)	NK330-401-5M
6.	Pull Pin Spring	NK330-401-6
7.	Pull Pin	NK330-401-7
8.	Plastic Safety Shield	NK330-401-8
9.	Retainer Ring	NK330-401-9
10.	Dial & Shaft	NK330-401-10
11.	Center Arm Bearing Housing	NK330-401-11
12.	Roller Bearing	NK330-401-12
13.	Stationary Shin Arm	NK330-401-13
14.	Roll Pin $5/16 \times 1^{3}/4$ "	NK330-401-14
15.	Star Knob 3/8 x 1"	NK330-401-15
16.	Roller Shin Pad	NK330-401-16
17.	Adjustable Shim Bar	NK330-401-16

NK-330 TU – Complete Torque Unit

NK-330 LR – Complete Shin Roller Pad Assembly

ORDER FROM: NK Products Company, Inc.

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