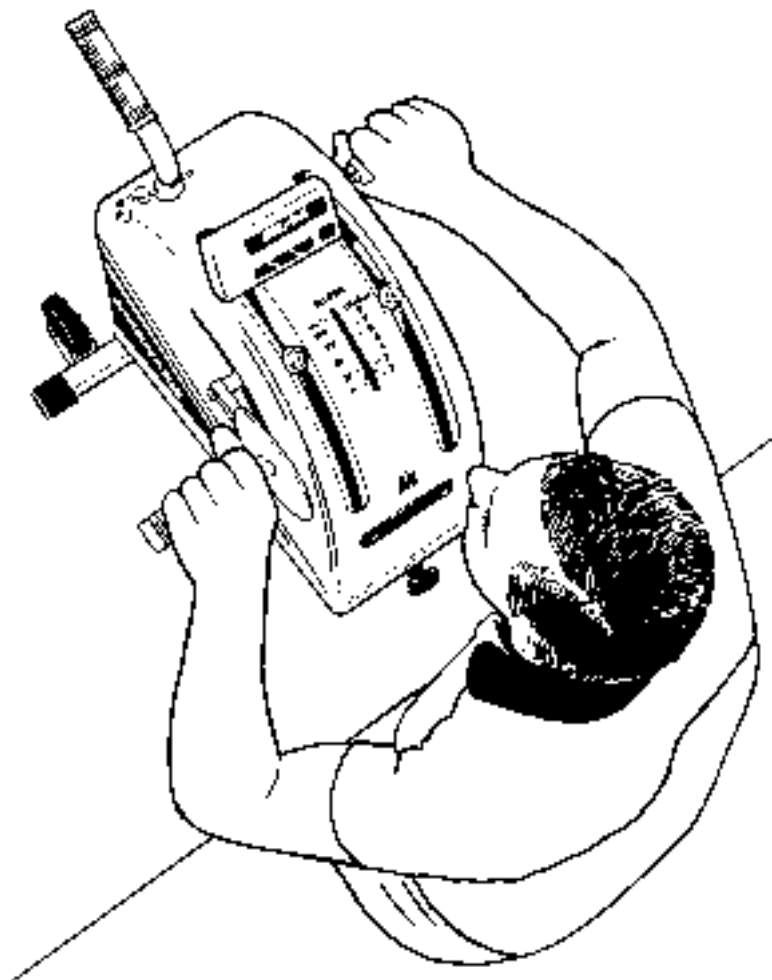


 **MONARK**
EXERCISE AB

MANUAL

Rehab Trainer
881E



English

Svenska

English

Congratulations on your decision to purchase a product manufactured by Monark in Sweden. Monark has been the world's leading manufacturer of high quality ergometers and exercise cycles for more than 40 years.

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ASSEMBLY INSTRUCTIONS

The parts shown below are not assembled.

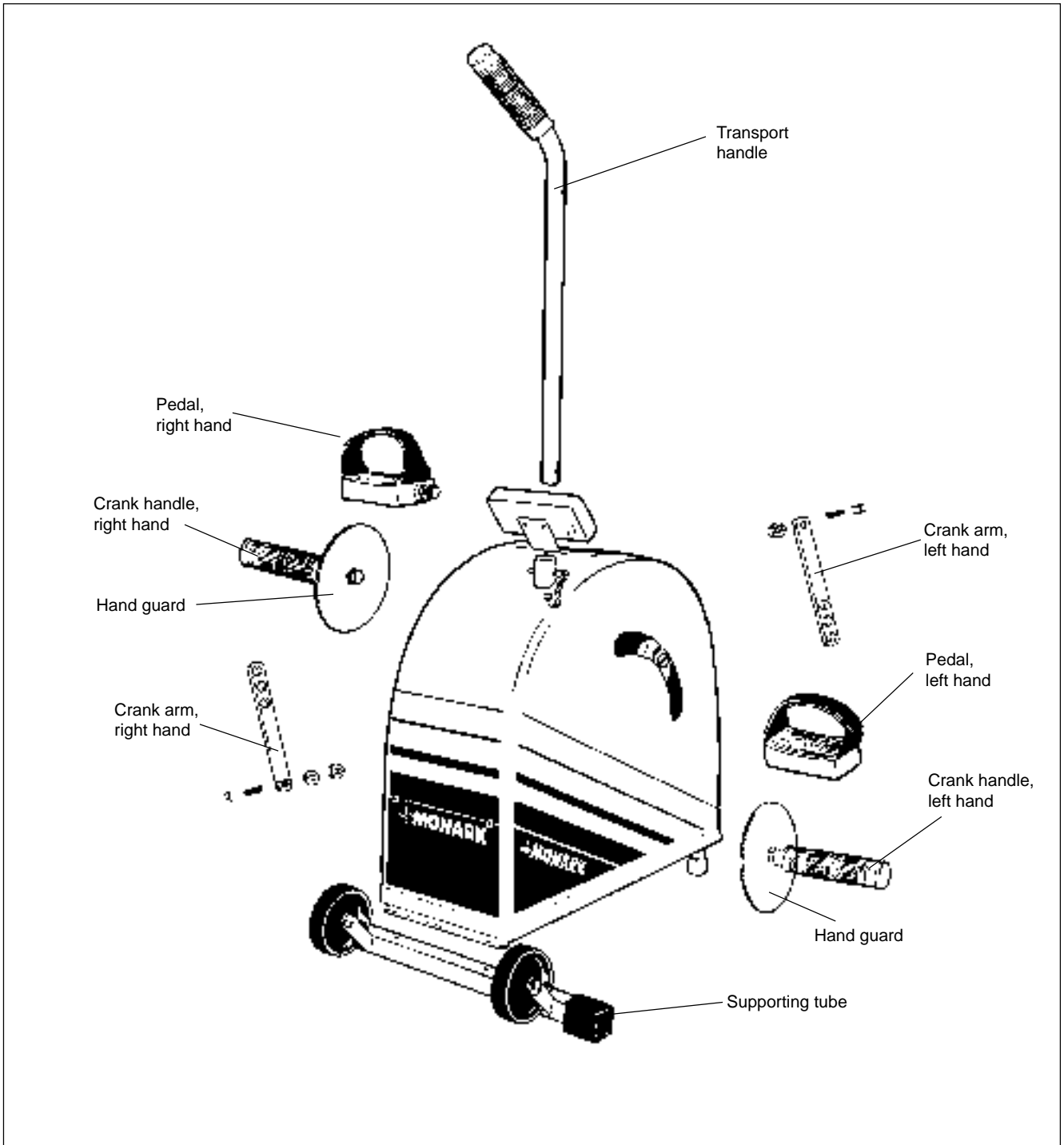


Fig 1

ASSEMBLY INSTRUCTIONS *cont.*

Assemble supporting tube with two screws M6 x 27 and two spring washers. See fig 2.

Pull out the pin and assemble the transport handle. Put the transport handle in its highest position when the Rehab Trainer is moved on the transport wheels. See fig 3.

Assemble crank arm marked R (Right) including two star locks and bolt M8 x 40 on the right hand side. Crank arm marked L (Left) including lock head and bolt M8 x 40 to be assembled on the left hand side.

Pedals

Assemble the pedal marked R (Right) on the right hand side. The pedal axle has a right hand thread and must be threaded onto the crank clockwise. The pedal marked L (Left) to be assembled on the left hand side. The pedal axle marked L has a left hand thread and must be threaded onto the crank counter clockwise.

Crank handle

The crank handle marked R (Right) is to be assembled on the right hand side with the hand guard placed on the axle. The axle has a right hand thread and must be threaded onto the crank clockwise. The crank handle marked L (Left) is to be assembled on the left hand side with the hand guard placed on the axle. The axle has a left hand thread and must be threaded onto the crank counter clockwise.

NOTE! The pedals or the crank handles can be assembled in three different positions on the crank arms. See page 6, fig 7.

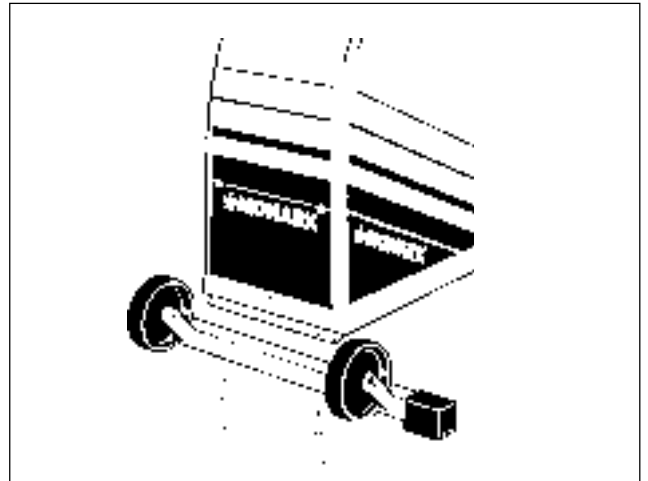


Fig 2

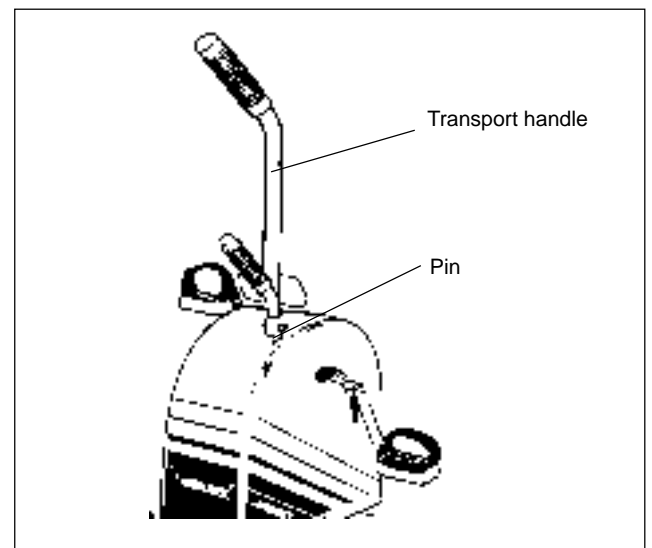


Fig 3

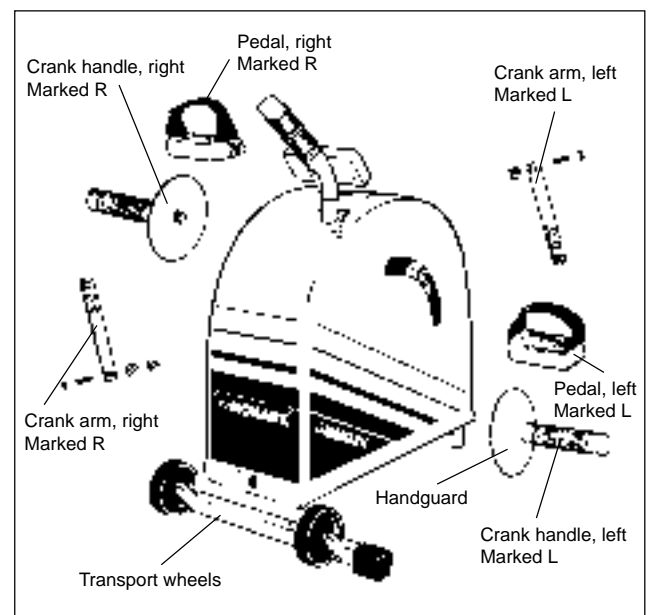


Fig 4

CALIBRATION

Calibration is done at the factory. If you for some reason want to check the calibration, do as follows:

Tighten the brake belt through turning the control knob so that the pointer goes up to about 25-50 Watt at rotation of the crank.

Put the Rehab Trainer at the edge of a table as shown in fig 5.

Loosen the screws for the clamping plate, so that the end of the brake belt is loose. See fig 5.

Fasten a 2 kg weight (our Article No 9000-212) to the brake belt. See fig 5. This weight should now be read on the scale at 2 kp. See fig 6.

Should there be a deviation between the position of the pointer and the 2 kp mark on the scale, adjust the loading spring by turning the adjusting screw until the correct position is obtained. See fig 5 and 6. Turn clockwise if the pointer is placed too high and turn counter clockwise if the pointer is placed too low.

Remove the weight and fasten the brake belt with the screw for the clamping plate so that the pointer does not go below the zero ("0") mark on the scale.

The height level of the cranks is adjustable when loosening the nuts according to fig 7. Set the crank arms at the desired position and fasten with the nuts.

If the cranks are not in line, adjust these. Set first the left hand crank straight upwards. Then loosen the right hand crank by undoing the screw as per fig 7. Adjust the position of the right hand crank so that it is in line with left hand crank and fasten the screw.

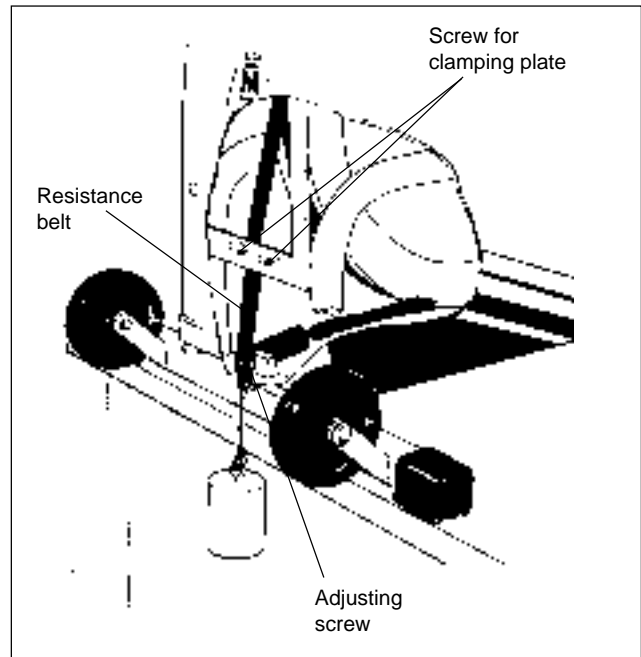


Fig 5

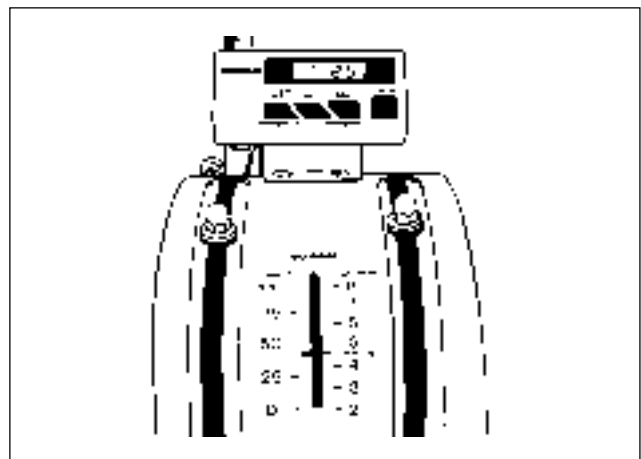


Fig 6

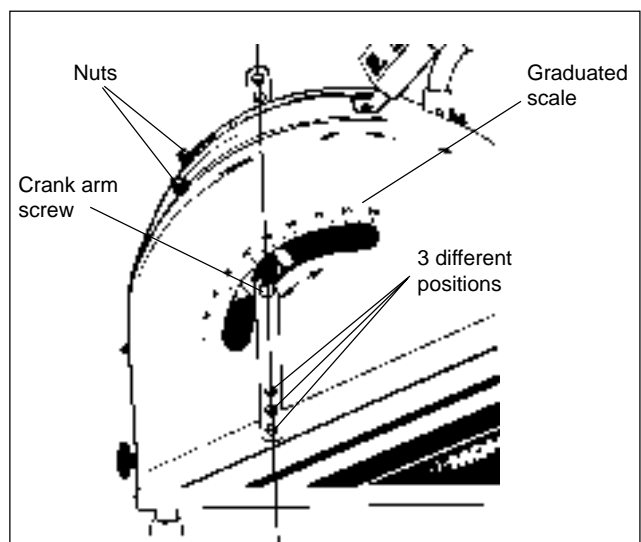


Fig 7

OPERATION INSTRUCTIONS

Monark Rehab Trainer model 881E is an arm and leg ergometer provided with a belt brake. The power can be read in Watts at 50 pedal revolutions per minute. Moreover, the work can be read in kilopondmeters (kpm). The Rehab Trainer is also equipped with an electronic meter, showing pedal revolutions per minute, the total pedal revolutions and time function.

When cycling the test person puts supplies the flywheel into a certain kinetic energy. This is braked by means of a brake belt which runs around the bigger part of the brake surface of the flywheel.

The workload is changed either by using another pedalling speed or by increasing or decreasing the tension of the brake belt against the flywheel by means of the work load control knob.

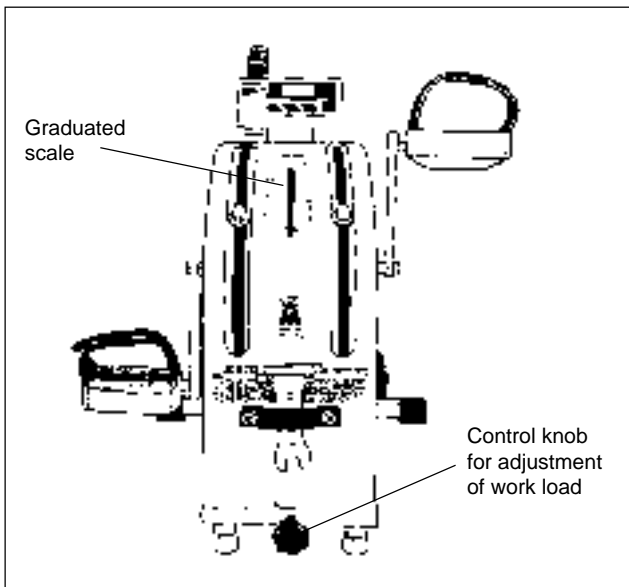


Fig 12

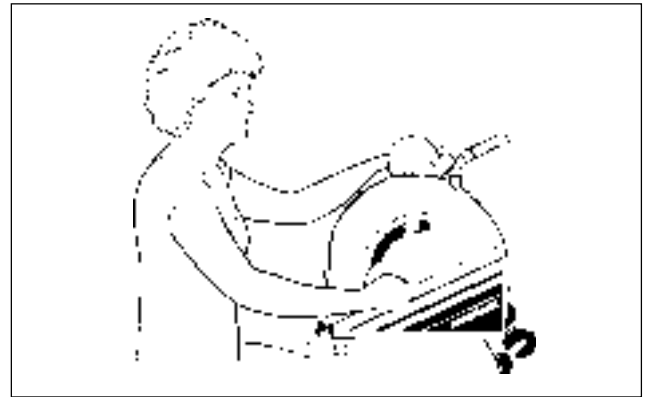


Fig 8 Arm exercise in a sitting position with the ergometer placed on a table

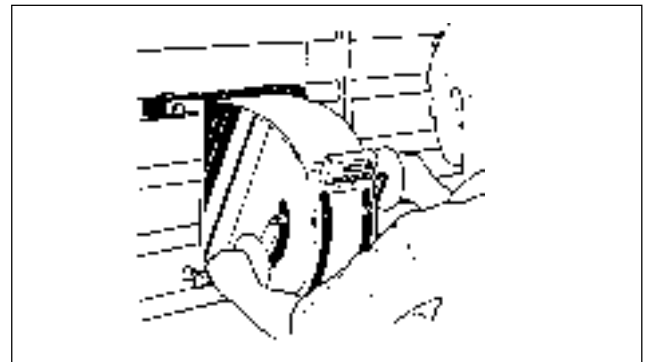


Fig 9 Arm exercise with the ergometer hanging on wall bars.

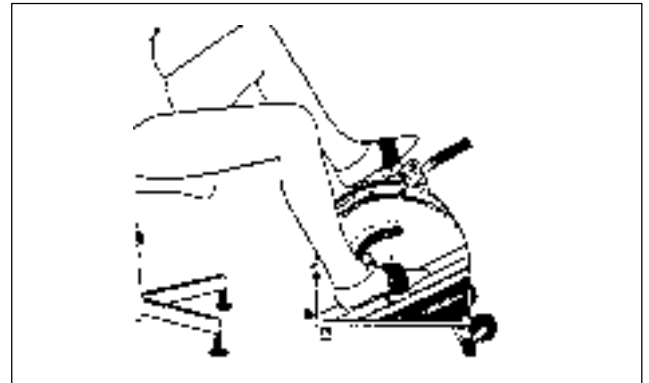


Fig 10 Leg exercise in a sitting position with the ergometer placed on the floor.

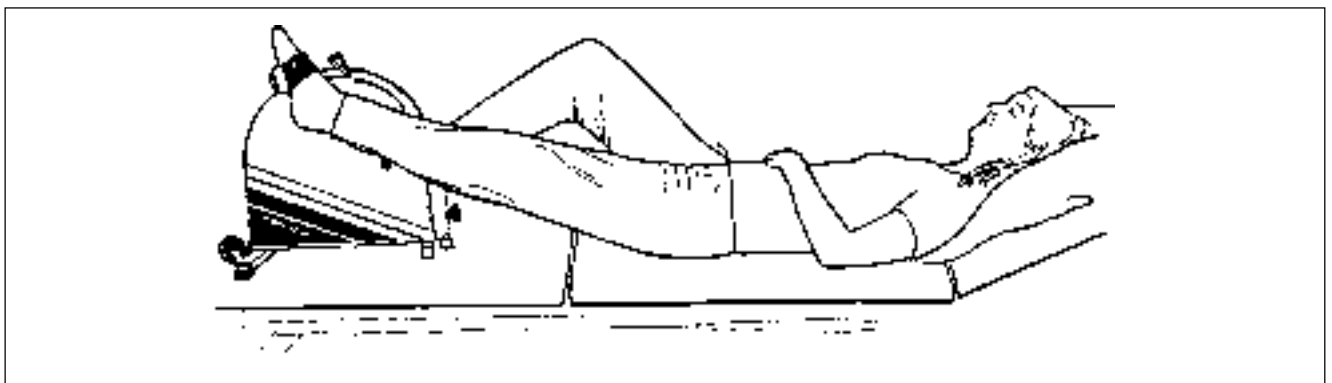


Fig 11 Leg exercise in a lying position at the same level as the ergometer.

OPERATION INSTRUCTIONS *cont.*

The total work can be read in kilopondmeter. In our example we have chosen 50 watt as work load. When 250 revolutions are finished, we can read the result that the work is about 1500 kilopondmeter.

PEDAL REVOLUTIONS												
<i>Chosen work load</i>												<i>Total pedal revolutions</i>
	25	50	75	100	125	150	175	200	225	250	275	300
	kpm											
25	75	150	225	300	375	450	525	600	675	750	825	900
50	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800
75	225	445	675	900	1125	1350	1575	1800	2025	2250	2475	2700
100	300	600	900	1200	1500	1800	2100	2400	2700	3000	3300	3600

Fig 13

Meter functions

The buzzer gives an audible signal after half the exercise time and when there are 30 seconds left. It gives repeated signals for 20 seconds after the end of the pre-set time.

Start by pressing the button for function. Press as many times as is necessary to get the marker on "REV" according to fig 15. To reset, press the reset button so that display according to fig 15 is shown.

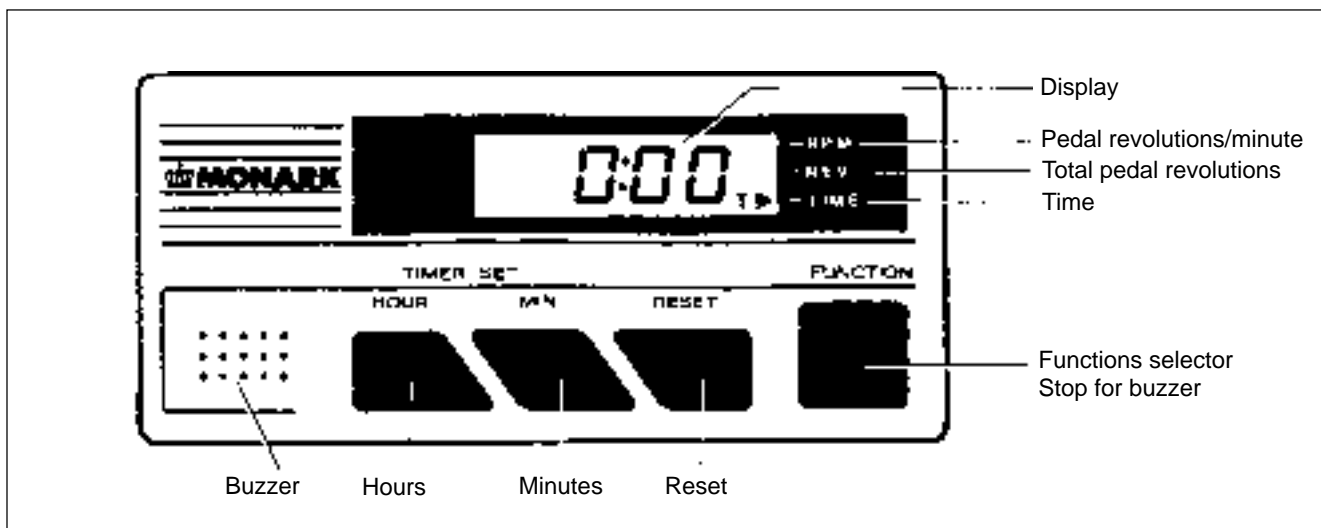


Fig 14

OPERATION INSTRUCTIONS *cont.*

Press the function button once so that the marker stands at "TIMER" according to fig 16. If the display is not reset, press the reset button so that a display like fig 17 is shown. After 5 seconds the display changes automatically to fig 16.

Let's imagine that you will exercise for 1 hour and 15 minutes. Press the buttons for hours and minutes, so that a display like fig 18 is shown. The countdown starts 5 seconds after the time has been entered.

When setting time exceeding one hour, the meter shows time in hours and minutes but not in seconds, which are then existing only in the computer. This means that when the countdown starts after about 5 seconds, the display shows 1.14 at the same time as the computer invisibly, counts the remaining seconds up to 1 hour and 14 minutes.

At time below one hour both minutes and seconds are shown on the display.

Press the function button once, so that the display shows "SCAN". See fig 19.

The displaying will now automatically change between the function at intervals of 3.5 seconds.

Scan cycles through the functions as shown in fig. 20.

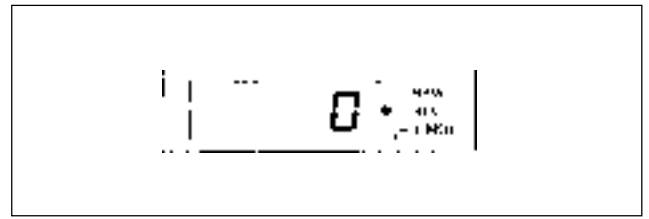


Fig 15

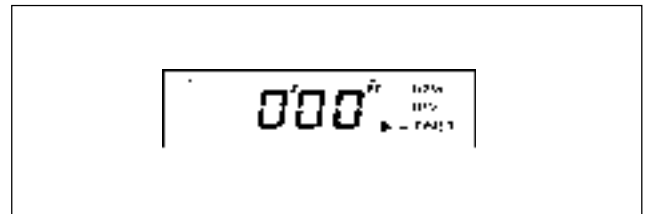


Fig 16

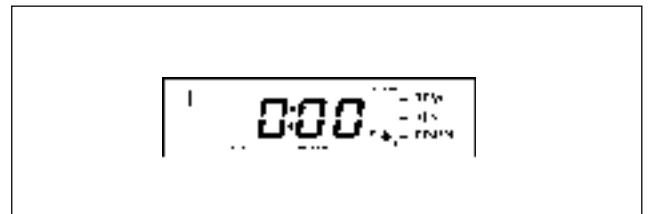


Fig 17

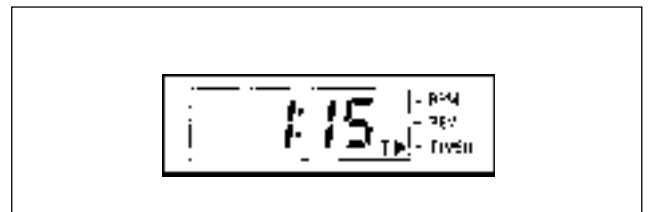


Fig 18

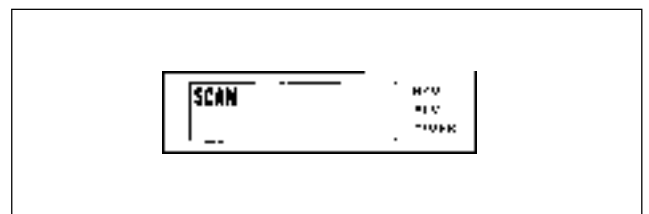


Fig 19

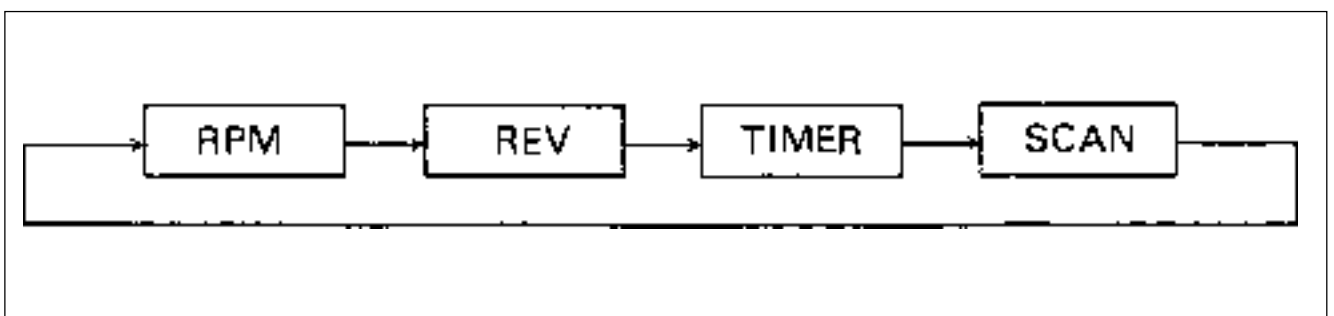


Fig 20

OPERATION INSTRUCTIONS *cont.*

When the marker stand at "RPM" pedal revolutions per minute are shown. Fig 21 shows 50 pedal revolutions per minute.

When the marker stands at "REV" the total number of revolutions achieved during the exercise is shown. Fig 22 shows a total of 500 pedal revolutions.

5 minutes after the cycling is finished, the meter is automatically shut off.

After the exercise is finished, the registered total number of pedal revolutions are kept in the meter.

If the exercise is stopped more than 5 minutes before the exercise time setting, the remaining time – when the meter is automatically shut off – will still be there, when the meter is started over again.

As to resetting, please see figures 15, 16 and 17 at page 9.

WARNING! Do not expose the electronic meter to direct sunlight or extremely high temperatures. Do not use any dissolvents when cleaning but a dry cloth.

Handling

Work is started with a slack brake belt. Thereafter, the belt should be stretched with the tensioning knob until the required workload is obtained. A metronome will assist the subject in maintaining the proper rotational speed. As the belt and wheel get warmed up, the friction will change, necessitating readjustment, especially if the trainer has been unused for any length of time.

Published test protocols for the arm ergometer have been limited. One of the few in print by Jones and Campbell, recommended increments of 50 kpm/min (approximately 8 Watts) for their Stage 1 study. (5)

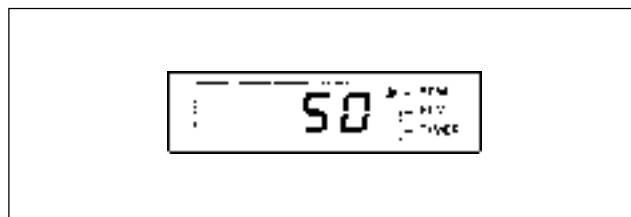


Fig 21

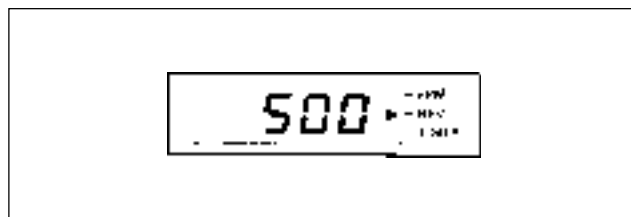


Fig 22

Table 1. Oxygen Consumption (L/min) at Workloads Below the Anaerobic Threshold:

Work (kpm/min)	(Approx Watts)	V02	Work (kpm/min)	(Approx Watts)	V02
150	24	.6	400	64	1.1
200	32	.7	450	72	1.2
250	40	.8	500	80	1.3
300	48	.9	550	86	1.4
350	56	1.0	600	96	1.5

HOW TO REPLACE BATTERIES

Remove the sliding lid and replace the batteries. Put the sliding cover back in its position.

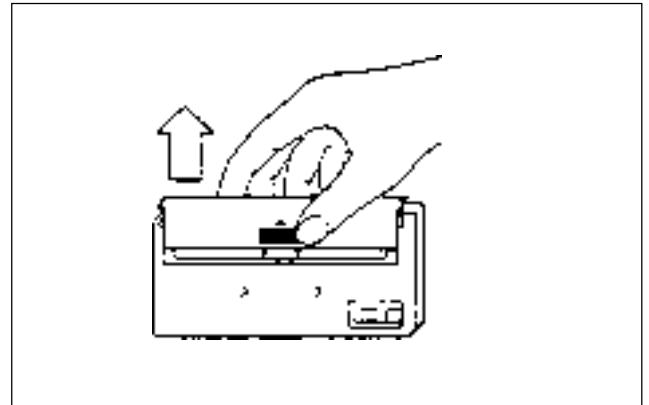


Fig 23

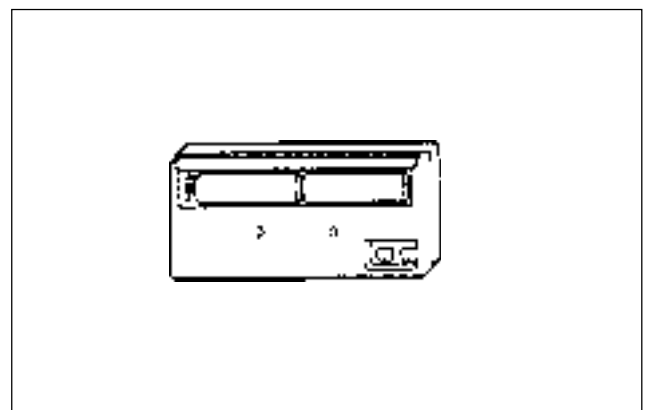


Fig 24

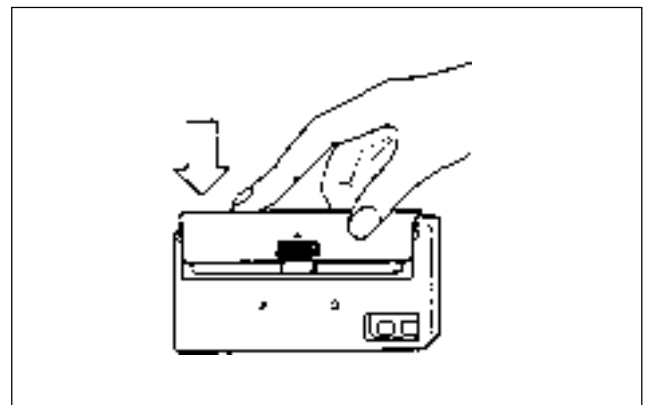


Fig 25

COMPARISON OF ARM WORK TO LEG WORK

When comparing arm ergometry or arm exercise to leg ergometry, there are several physiologic considerations. The maximum work that a muscle is able to perform is related to its size. Obviously, the muscle mass of the arms is considerably smaller than the legs and therefore the maximum work and maximum oxygen consumption of the legs will be greater. Hershfield and others added that the mechanical differences in the shoulder and hip joints increase metabolic demands when arm work is performed. (1)

Reybrouck and others found that at workloads below the "anaerobic threshold", when adequate oxygen is supplied to meet all the muscle's requirements, the oxygen consumption from arm work matches closely the oxygen consumption during equivalent leg work. (2) They noted that heart rate and ventilation were higher during arm work at the same oxygen consumption in leg ergometry.

In rehabilitation or evaluation of disability, the expected sustained work capability of an individual is approximately 40% of maximum work and below the anaerobic threshold. (3) To use the equivalent work tables which have been published (reference 4), divide the V_{O_2} at the subject's workload by the patient's weight in kilograms. Divide this V_{O_2} ml/kg by 3.5. This will give the equivalent METs and then evaluate the tasks of which they are capable of performing at that MET level.

REFERENCES

1. Hershfield S, et al. Relative effects on the heart by muscular work in the upper and lower extremities. *Arch Phys Med Rehab*. Pages 249-257, May 1968.
2. Reybrouck T, et al. Limitations to maximum oxygen uptake in arm, leg and combined arm-leg ergometry. *J Appl Physiol* 38:774-669, 1975.
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5. Jones NL, Campbell EJM. Clinical exercise testing. WB Saunders Publishing, Phila, PA. Page 86, 1975.

Svenska

*Vi gratulerar till din nya motionsergometer.
Monark har i mer än 40 år varit en världsledande
tillverkare av ergometer- och motionscyklar med
mycket hög kvalitet.*

INNEHÅLL

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Kalibrering.....	16
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Byte av batterier.....	21

MONTERINGSINSTRUKTION

Nedanstående detaljer är ej monterade.

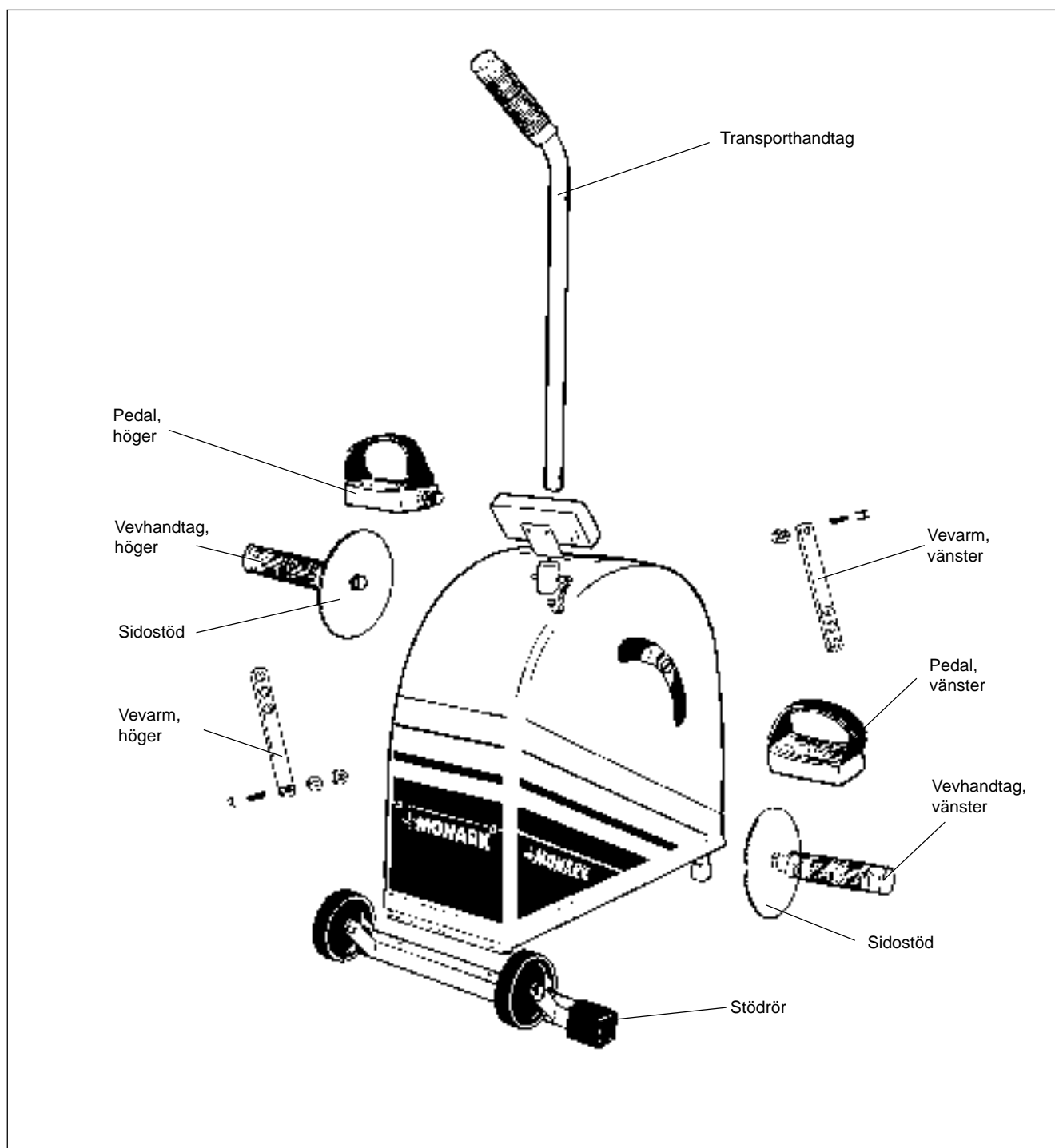


Fig 1

MONTERINGSINSTRUKTION *forts.*

Montera stödrör med två skruvar M6x27 samt två fjäderbrickor. Se fig 2.

Drag ut sprinten och montera transporthandtaget. Transporthandtaget skall sättas i sitt högsta läge när Rehab Trainern förflyttas på transporthjulen. Se fig 3.

Vevarm märkt R (Right) inkl två stjärnlåsklackar och bult M8x40 monteras på höger sida. Vevarm märkt L (Left) inkl låsklack och bult M8x40 monteras på vänster sida.

Pedaler

Pedal märkt R (Right) monteras på höger sida. Pedalaxeln är högergångad och skall gängas på veven i riktning medurs. Pedal märkt L (Left) monteras på vänster sida med sidostödet placerat på axeln. Axeln är vänstergångad och skall gängas på veven i riktning moturs.

Vevhandtag

Vevhandtag märkt R (Right) monteras på höger sida med sidostödet placerat på axeln. Axeln är högergångad och skall gängas på veven i riktning medurs. Vevhandtag märkt L (Left) monteras på vänster sida med sidostödet placerat på axeln. Axeln är vänstergångad och skall gängas på veven i riktning moturs.

OBS! Pedaler eller vevhandtag kan monteras i tre olika lägen på vevarmarna. Se sid 16, fig 7.

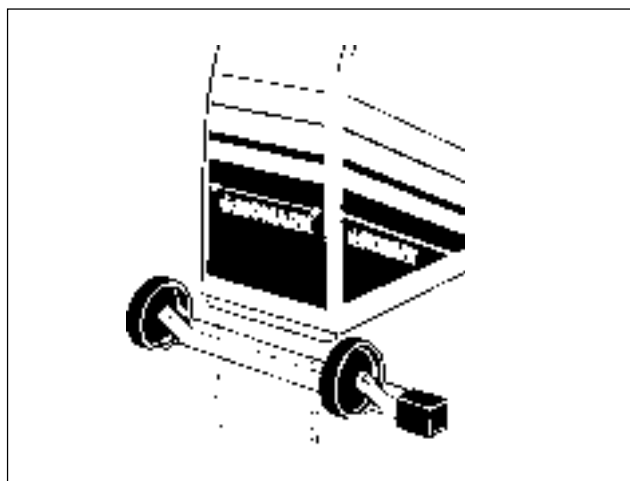


Fig 2

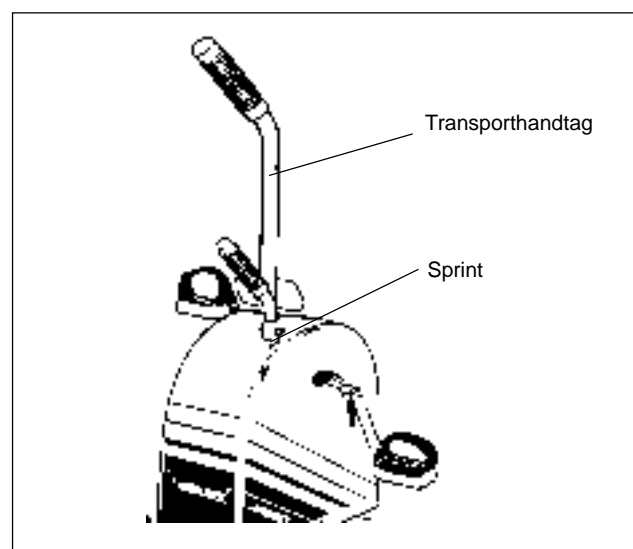


Fig 3

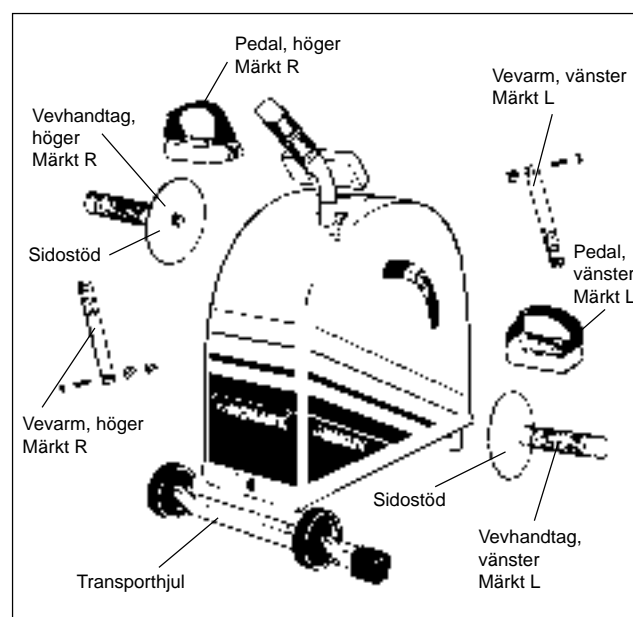


Fig 4

KALIBRERING

Kalibrering är gjord på fabrik. Vill man av någon anledning kontrollera kalibreringen, gör enligt följande:

Spänn upp bromsremmen genom att vrida åt belastningsratten, så att vid rotation av veven visaren går upp till mellan 25 och 50 Watt.

Placera Rehab-Trainern vid kanten av ett bord såsom fig 5 visar.

Lossa skruvarna för klämplattan, så att stoppremnen sitter löst. Se fig 5.

Fäst en vikt på 2 kg (vårt art nr 9000-212) i stoppremnen enligt fig 5. Denna vikt skall nu kunna avläsas på skalan vid 2 kp. Se fig 6.

Stämmer inte visarens läge med skalans 2 kp markering, justera belastningsfjädern genom att vrida justerskurven för belastningsfjädern till detta stämmer. Se fig 5 och 6. Vrid medurs om visaren står för högt och vrid moturs om visaren står för lågt.

Ta bort vikten och fäst stoppremnen med skruv och klämplatta i ett läge där visaren inte kan gå längre ner än till 0 på skalan.

Vevarnas höjdläge är justerbart, när muttrarna enligt fig 7 lossas. Ställ in vevarmarna i det gradtal som önskas och drag fast med muttrarna.

Om vevarna inte ligger i linje måste dessa justeras. Ställ först in vänster vev rakt uppåt. Lossa därefter höger vev genom att lossa skruven enligt fig 7. Justera högervevens läge, så att den ligger i linje med vänster vev och drag fast skruven.

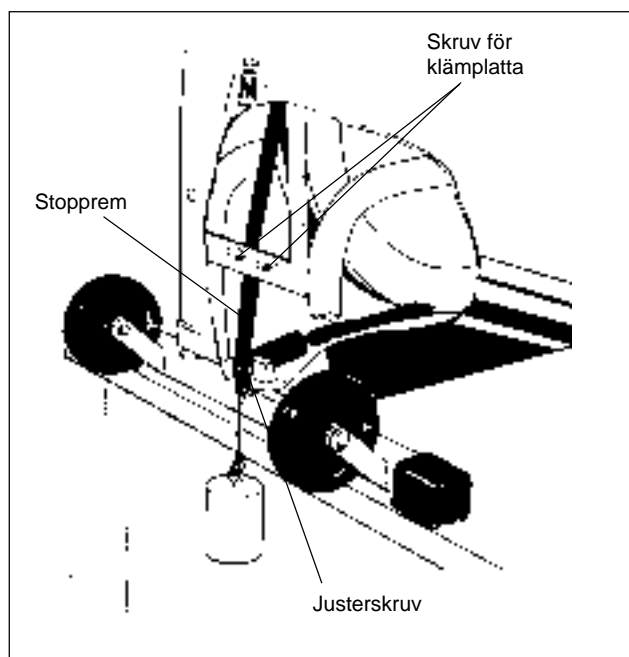


Fig 5

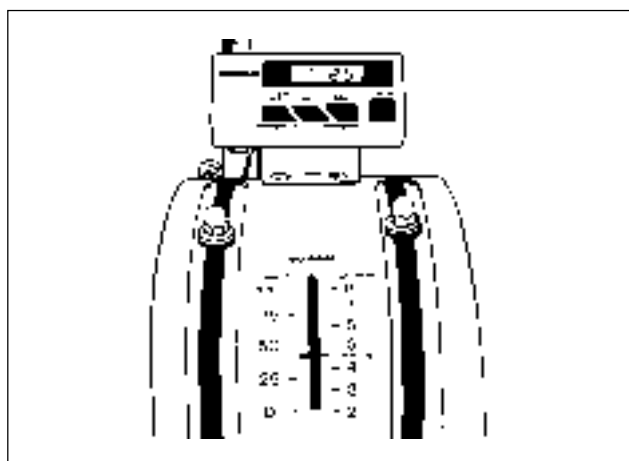


Fig 6

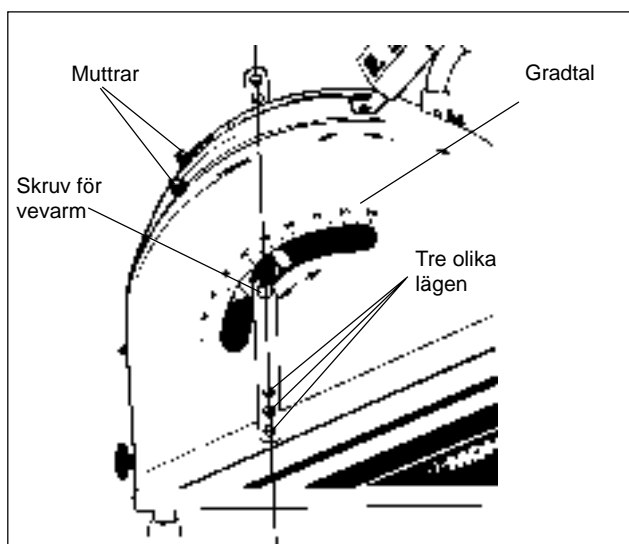


Fig 7

FUNKTIONSBESKRIVNING

Monark Rehab Trainer modell 881E är en arm- och benergometer försedd med broms vars effekt kan avläsas i watt vid 50 pedalvarv per minut. Dessutom kan arbetet avläsas i kilopondmeter (kpm). Rehab Trainern är också utrustad med elektronisk mätare som visar pedalvarvtalet per minut, pedalvarvtalet totalt samt en tidsfunktion.

Genom cykling tillför testpersonen bromshjulet en viss rörelseenergi som bromsas ut med ett bromsband som löper runt större delen av bromshjulets bromsbana.

Ändringar av bromseffekten sker antingen genom annan tramphastighet eller att med belastningsratten öka eller minska bromsbandets spänning mot bromshjulet.

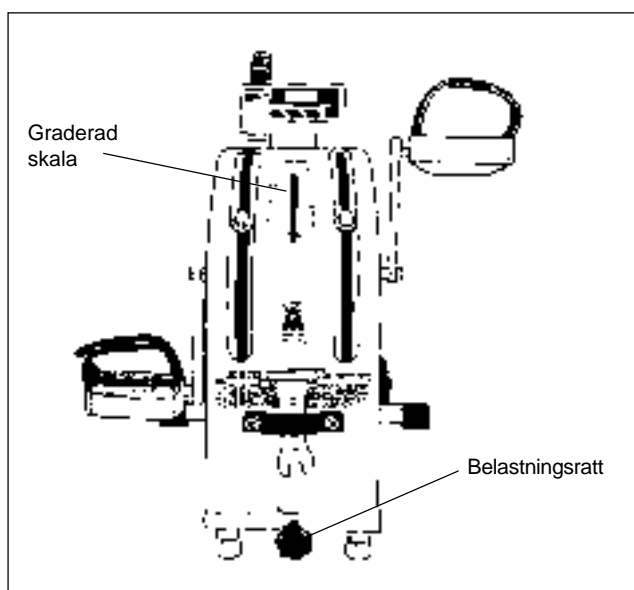


Fig 12

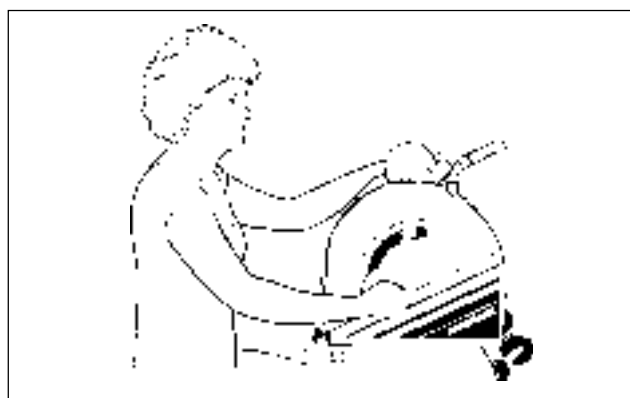


Fig 8 Armträning sittande med ergometern stående på ett bord.

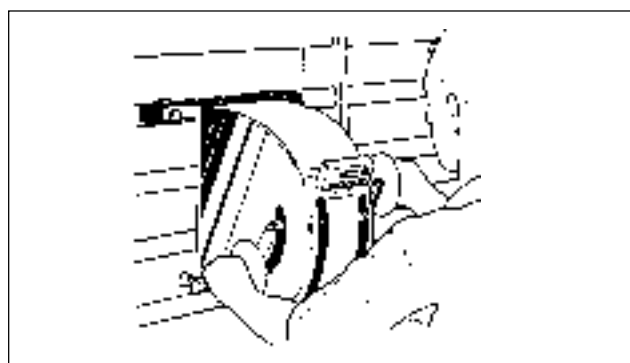


Fig 9 Armträning med ergometern hängade i ribbstol.

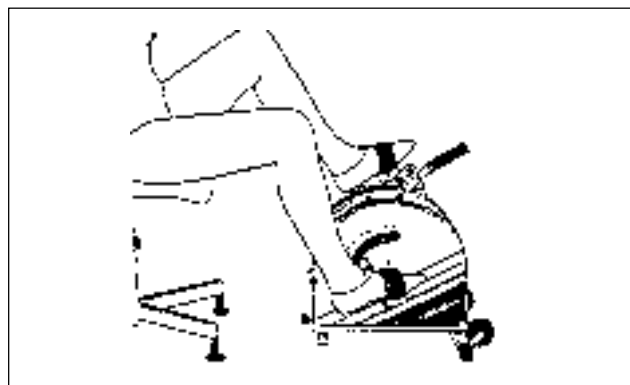


Fig 10 Benträning sittande med ergometern stående på golvet.

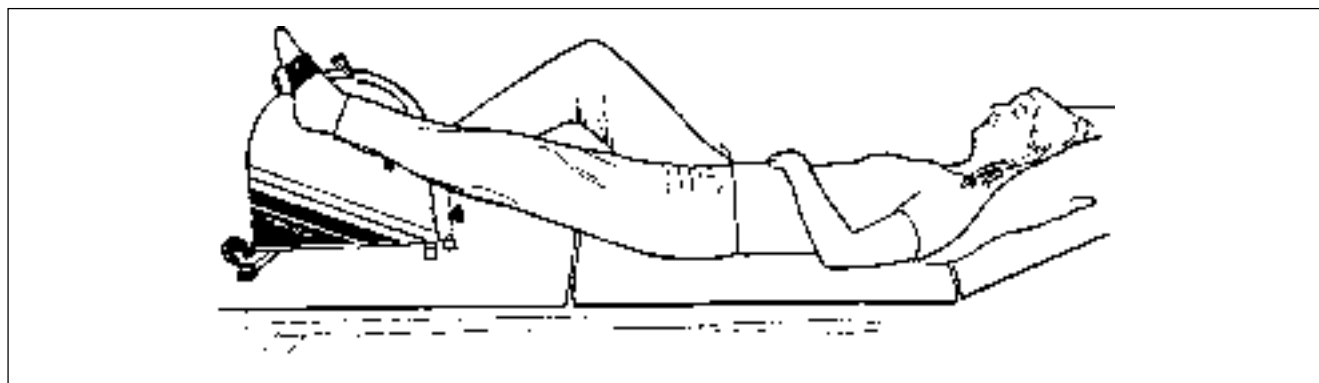


Fig 11 Benträning liggande i samma nivå som ergometern står placerad.

FUNKTIONSBESKRIVNING *forts.*

Totala arbetet som utförs, kan avläsas i kilopondmeter. I vårt exempel har vi valt 50 watt som belastning. När 250 pedalvarv avverkats, kan vi då avläsa att arbetet är ca 1500 kilopondmeter.

PEDAL REVOLUTIONS												
<i>Vald belastning</i>												<i>Totalt antal pedalvarv</i>
	25	50	75	100	125	150	175	200	225	250	275	300
	kpm											
25	75	150	225	300	375	450	525	600	675	750	825	900
50	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800
75	225	445	675	900	1125	1350	1575	1800	2025	2250	2475	2700
100	300	600	900	1200	1500	1800	2100	2400	2700	3000	3300	3600

Fig 13

Mätarens funktion

Summern avger en ton efter halva träningstiden och vid 30 sekunder kvar samt avger upprepade toner under 20 sekunder efter den inställda tidens slut.

Börja med att trycka på knappen för funktion. Tryck så många gånger som krävs för att få fram markering

på "REV" enligt fig 15. Om displayen inte är 0-ställd, tryck på knappen för 0-ställning, så att registrering enligt fig 15 visas.

Tryck en gång på knappen för funktion, så att markeringen står på "TIMER" enligt fig 16. Om displayen

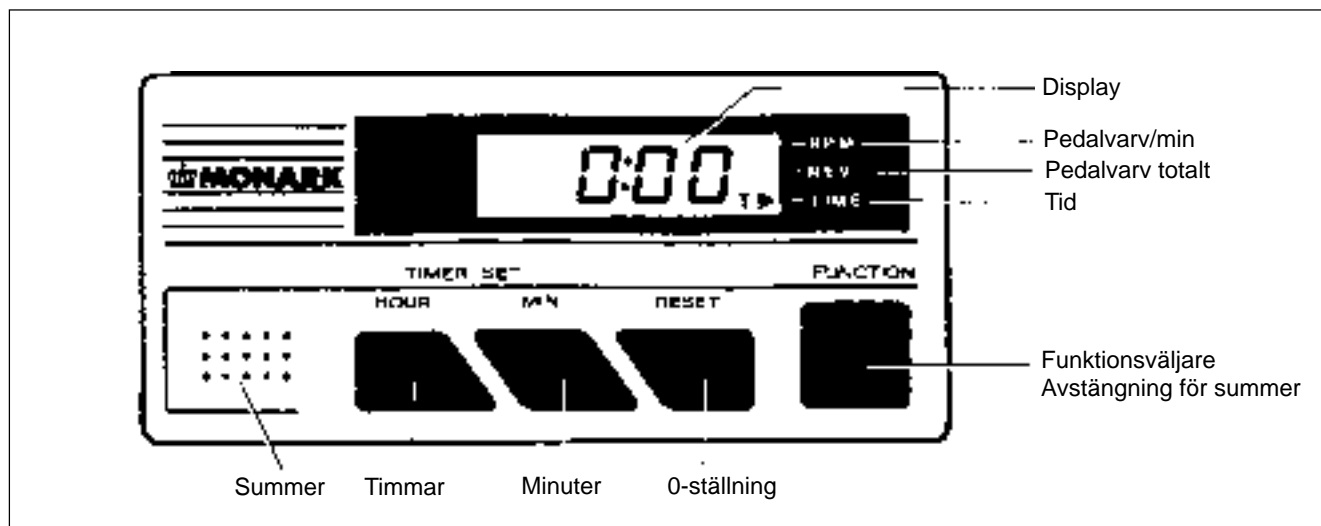


Fig 14

FUNKTIONSBESKRIVNING *forts.*

inte är 0-ställd, tryck på knappen för 0-ställning, så att registrering enligt fig 17 visas. Efter 5 sekunder växlar registreringen automatiskt över enligt fig 16.

Vi tänker oss, att Du tänker träna i en timma och 15 minuter. Tryck på knapparna för timmar och minuter, så att registrering enligt fig 18 visas. Nedräkningen börjar 5 sekunder efter att tiden matats in.

Vi inställning på tid över en timma, visar mätaren tiden i timmar och minuter men inte i sekunder, som då bara finns i datorn. Detta innebär, att när nedräkningen startar efter 5 sekunder, så visar displayen 1.14 samtidigt som datorn osynligt räknar återstående sekunder till en timma och 14 minuter.

Vid en tid under en timma visas både minuter och sekunder på displayen.

Tryck en gång på knappen för funktion, så att displayen visar "SCAN". Se fig 19.

Växling kommer nu automatiskt att ske mellan funktionerna med 3,5 sekunders mellanrum.

Funktionerna visas alltid på displayen i den följd som fig 20 visar.

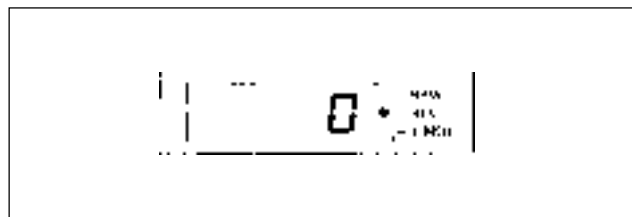


Fig 15

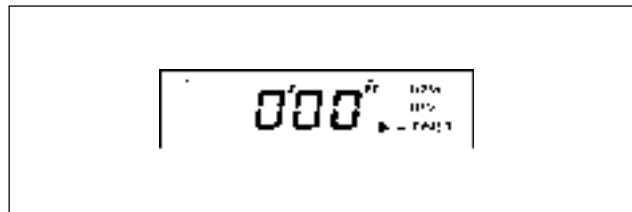


Fig 16

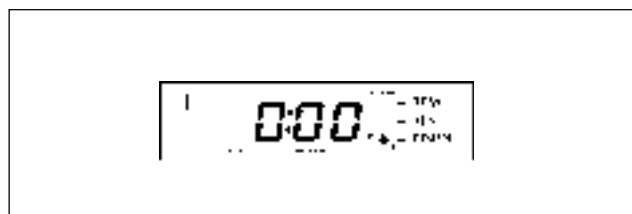


Fig 17

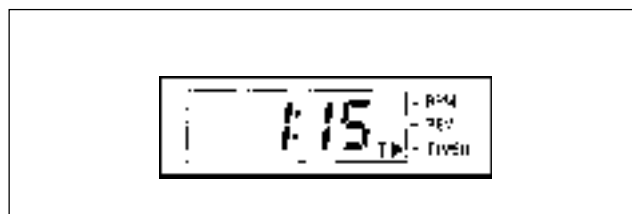


Fig 18

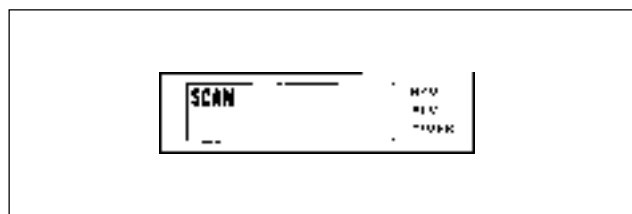


Fig 19

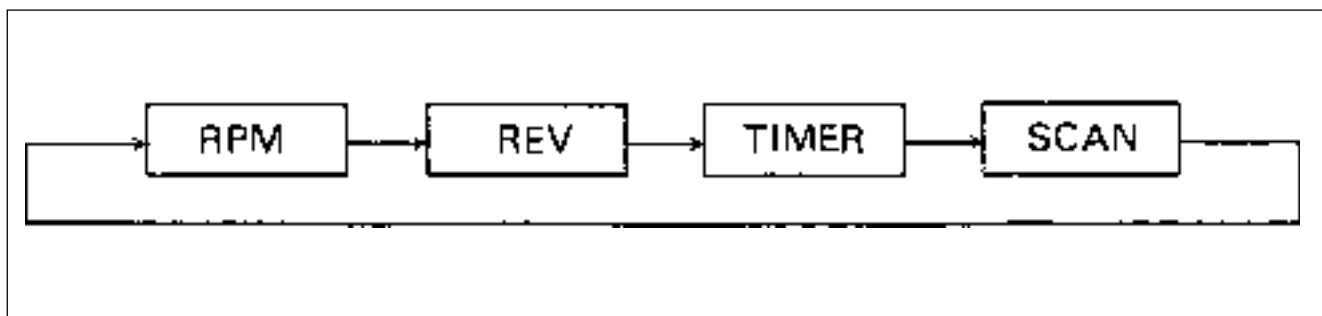


Fig 20

OPERATION INSTRUCTIONS *cont.*

När markeringen står på "RPM" visas pedalvarvtal per minut. Fig 21 visar 50 pedalvarv per minut.

När markeringen står på "REV" visas totala antalet pedalvarv under träningen. Fig 22 visar 500 pedalvarv.

5 minuter efter avslutad träning stängs mätaren automatiskt av.

Efter avslutad träning ligger registrerat totalt antal pedalvarv kvar i mätaren. Om träningen avslutas mer än 5 minuter före inmatad träningstid, kommer den återstående tiden – när mätaren automatiskt sängs av – att ligga kvar när mätaren startas på nytt.

Beträffande 0-ställning, se fig 15, 16 och 17 på sid 19.

WARNING! Utsätt inte mätaren för direkt solljus eller extremt höga temperaturer. Använd inga lösningsmedel vid rengöring, utan endast en torr trasa.

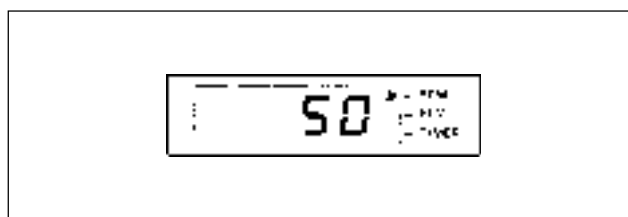


Fig 21

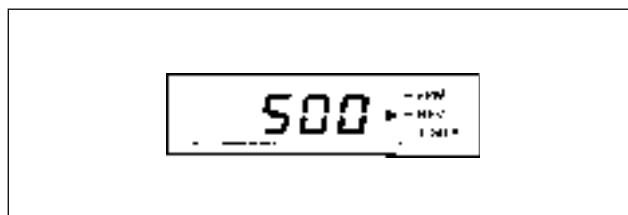


Fig 22

BYTE AV BATTERIER

Tag loss det skjutbara locket och byt ut batterierna.
Sätt åter locket på plats.

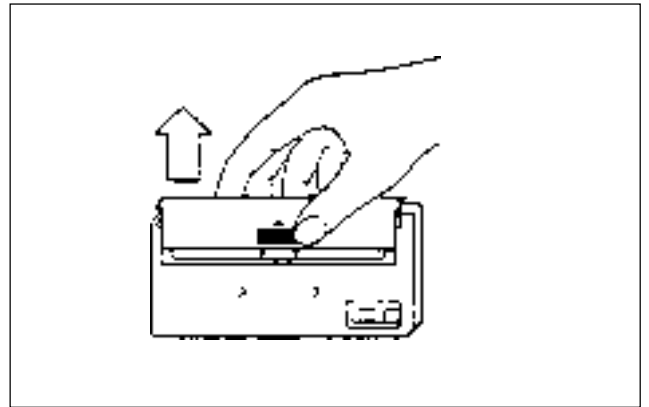


Fig 23

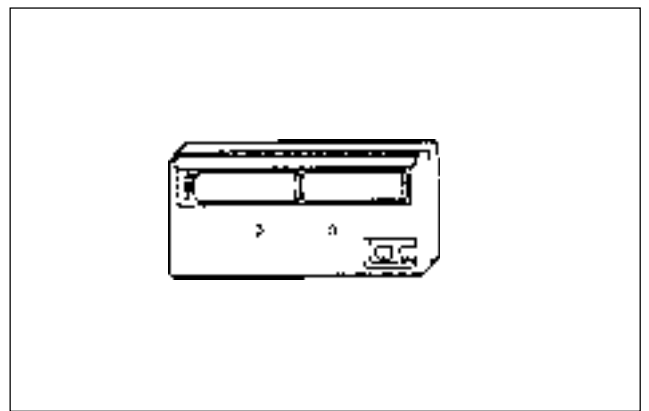


Fig 24

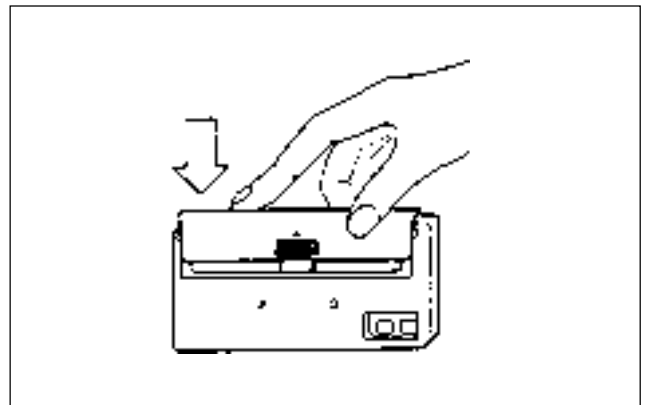


Fig 25



SE-780 50 Vansbro, Sweden. Tel +46 (0)281 594940. Fax +46 (0)281 71981
e-mail: info@monarkexercise.se www.monarkexercise.se