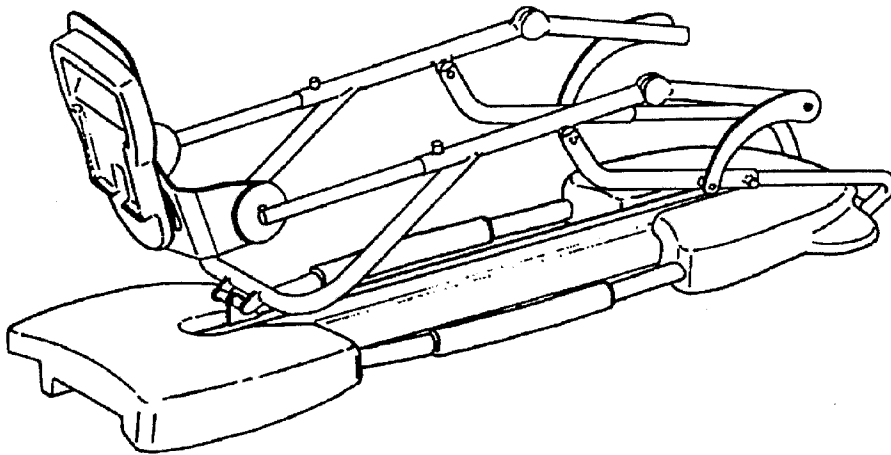


Servicing Manual



KINETEC

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Spectra S1

SPECTRA SERVICING MANUAL

MAIN COMPONENTS

DIFFERENT FAILURE SITUATIONS

The machine doesn't recognize the connected motor during the auto diagnostic

Nothing on the display of the hand control

Bad messages on the display of the hand control

Incomplete messages on the display or first line squares dark

One or more keys of the keypad are not working

The movement reverses before the limits

The movement doesn't reverse with the high load (*see method "MET09041" for more details*)

The CPM is noisy

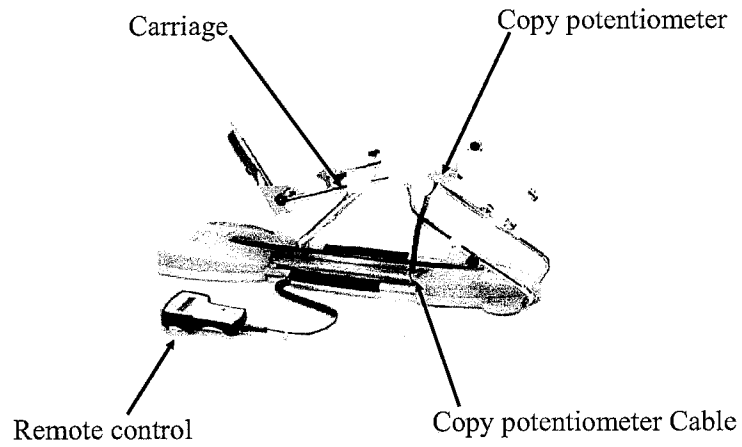
SPARE PARTS TO BE KEPT IN STOCK FOR ABOUT 10 MACHINES

REQUIRED TOOLS

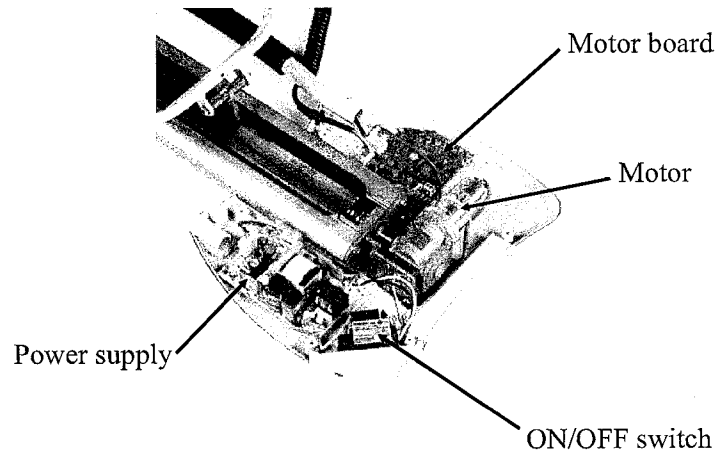
RETURNING THE UNIT TO OUR WORKSHOPS

REPAIR INFORMATIONS

MAINS COMPONENTS



MAINS COMPONENTS



SPECTRA SERVICING MANUAL

The machine doesn't recognize the connected motor during the auto diagnostic

Junction cable is unplugged

→ plug the junction cable

Check the continuity of the communication line

→ change the junction cable

→ change the fuse of the motor PCB

→ change the spiral cable for hand control

→ change the motor PCB

Nothing on the display of the hand control

The product is unplugged

→ plug the product in a wall-socket

The product is switched off

→ switch on the product

The hand control is unplugged

→ plug the hand control

Check AC voltage of the wall-socket

→ plug in an other wall-socket

Check input AC voltage on the power supply PCB

→ change primary fuses

→ change the power supply PCB

→ change the junction cable (between power entry module and power supply)

Check output DC voltage on the power supply PCB (12V \pm 0.5 DC)

→ change the power supply fuse

→ change the power supply PCB

Check input DC voltage on the motor PCB (12V \pm 0.5 DC)

→ change the junction cable (between power supply and motor PCB)

Check V+ on the connector panel of the hand control (12V \pm 0.5 DC)

→ change the junction cable (between motor PCB and connector panel of the hand control)

Check V+ on the hand control connector (12V \pm 0.5 DC)

→ change the spiral cable for hand control

→ change the display

→ change the hand control

Bad messages on the display of the hand control

Switch OFF/ON

Check the proximity of the ribbon cable with pins of LCD

→ cut the pins of the LCD and add silicone or insulating part between the pins and the ribbon cable (see Figures 2 and 3)

→ change the hand control

SPECTRA SERVICING MANUAL

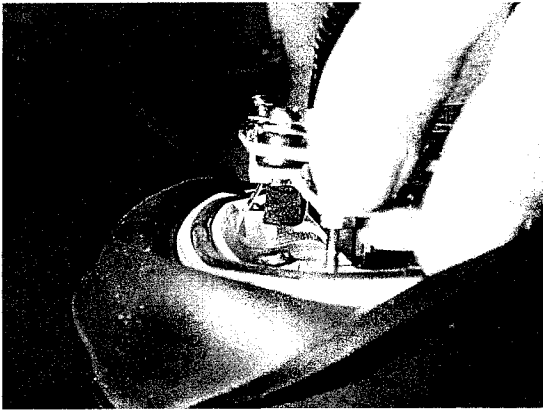


Figure 2

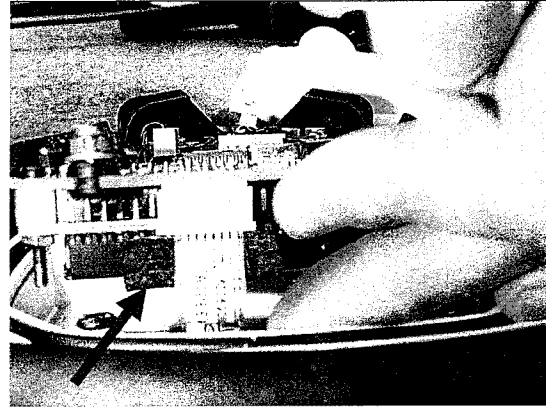


Figure 3

Incomplete messages on the display or first line squares dark

- change the display
- change the hand control

One or more keys of the keypad are not working

- The ribbon cable is unplugged
 - plug the ribbon cable
- The ribbon cable is broken
 - change the keypad
- Change the hand control

The movement reverses before the limits

- Check if the angle value changes continuously
 - change the copy potentiometer

The movement doesn't reverse with the high load

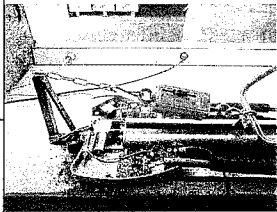
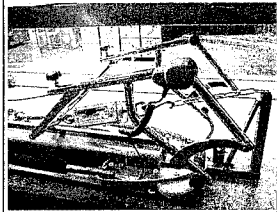
- Check the values with a dynamometer
 - change the motor and the gearbox
 - change the motor PCB

The CPM is noisy

- Ball screw is noisy
 - grease the ball screw every 1000 hours
 - readjust the ball screw with the motor
 - change the ball screw
- Mechanical articulations are noisy
 - grease mechanical articulations

SPECTRA SERVICING MANUAL

RÉGLAGE DES LOADS / LOAD ADJUSTMENT

Régler la machine à chaud avec les forces suivantes		Adjust the unit after running several minutes with following load
Flexion maxi = 40 ±5 daN		Maxi Flexion = 40 ±5 daN
Extension maxi = 35 ±5 daN		Maxi Extension = 35 ±5 daN

Ces valeurs sont réglées par paramètres dans la poignée.

Pour accéder au mode PARAMETRES:

1. Appuyer simultanément sur: Limit ↓, Limit ↑ et -
2. Code: Limit ↓, Limit ↑, - and +
3. Confirmation: +, -, Limit ↑ and Limit ↓

ATTENTION, vous avez la possibilité d'accéder aux options « LOAD MVT Lo », « LOAD MVT Hi » et « LOAD MOTEUR 1 ».

EN AUCUN CAS, vous ne devez modifier les valeurs du « LOAD MVT 1 et 2 » lors du réglage du load en Flexion.

Réglage de « Flexion maxi » :

- Sélectionner (à l'aide des touches + ou -) le menu « LOAD MOTEUR 1 », valider par la touche Limit ↑ pour accéder au réglage.
- La force de l'attelle est réglable en ajustant le paramètre « % COMPENSATION LEVEL: XXX » par les touches + ou -.
- Ne pas oublier de valider par la touche Limit ↑.

These values are adjusted by parameters in the hand controller.

To access to the PARAMETERS's mode:

1. Press simultaneously on: Limit ↓, Limit ↑ and -
2. Code: Limit ↓, Limit ↑, - and +
3. Confirmation: +, -, Limit ↑ and Limit ↓

BE CAREFUL, you can modify "LOAD MVT Lo", "LOAD MVT Hi" and "LOAD MOTEUR 1".

NEVER, you have to change "LOAD MVT 1 and 2" during adjustment in Flexion.

Adjustment of "maxi Flexion":

- Select (with keys + or -) the menu "LOAD MOTEUR 1", valid by Limit ↑ to access to the adjustment.
- The unit's force is adjusted by parameter "% COMPENSATION LEVEL: XXX" by keys + or -.
- Don't forget to valid by Limit ↑.

SPECTRA SERVICING MANUAL

Réglage de « Extension maxi » :

- Sélectionner (à l'aide des touches + ou -) les menus « LOAD MVT1 Lo » et « LOAD MVT2 Lo », valider par la touche **Limit** ↑ pour accéder au réglage.
- La force de l'attelle est réglable en ajustant le paramètre « % COMPENSATION LEVEL: XXX » par les touches + ou -.
- Ne pas oublier de valider par la touche **Limit** ↑.

ATTENTION : les paramètres « LOAD MVT1 Lo » et « LOAD MVT2 Lo » doivent être identiques.

Adjustment of "maxi Extension" :

- Select (with keys + or -) the menus "LOAD MVT1 Lo" and "LOAD MVT2 Lo", valid by **Limit** ↑ to access to the adjustment.
- The unit's force is adjusted by parameter "% COMPENSATION_LEVEL: XXX" by keys + or -.
- Don't forget to valid by **Limit** ↑.

WARNING: parameters "LOAD MVT1 Lo" and "LOAD MVT2 Lo" must be identical.

Attention: When changing compensation parameters, keep as a general rule these values...

Load MVT 1 Lo 70%
Load MVT 1 Hi 80%
Load MVT 2 Lo 70%
Load MVT 2 Hi 80%
Load Moteur 80%

ATTENTION : après toute intervention sur l'attelle, réinitialiser les paramètres en faisant un « standard value » :

- Faire OFF/ON
- A l'apparition du message SPECTRA, appuyer simultanément sur **Limit** ↑ et **Limit** ↓.

WARNING: after all intervention on the CPM, reinitialize the parameters with a "standard value":

- Switch OFF/ON
- When the message SPECTRA is displayed, press simultaneously **Limit** ↑ and **Limit** ↓.

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SPARE PARTS TO BE KEPT IN STOCK FOR ABOUT 10 MACHINES

PART NUMBER	DESIGNATION	Nb.
4650001868	Complete set of pads	2
4635002526	Flexible coupling	1
4635008475	Ball screw 16x5mm	1
4610007864	Complete hand control	1
4610007921	Spiral cable of the hand control	1
4610007905	Gear motor	1
4610007939	Motor PCB	1
4670021581	Connection kit for motor PCB New Model	1
4610007971	Junction cable between motor PCB and hand control connector	1
4610006543	Power supply board	1
4610004539	Copy potentiometer	1
4610007012	Motor PCB fuse 2A	5
4610007434	Timed fuse 750mA/250V/6.3x32mm	10
4610006634	Power cord UL	1
4615003122	Keypad 4 keys	2
4615002653	Keypad 11 keys	2

REQUIRED TOOLS

- Stabilized power supply (0-30V DC / 2.5A)
- Amperemeter, ohmmeter, voltmeter
- Allen wrenches
- Pin drift (2.5mm)
- Flat screwdrivers
- Grease
 - Ball screw: WHITE LITHIUM GREASE
 - Sliding parts on the nut support: WHITE LITHIUM GREASE
 - Rubber strips: WHITE LITHIUM GREASE
 - Knee articulation points: LPS 2
- Cruciform screwdrivers
- Goniometer (angle adjustment)
- 0 - 60 daN dynamometer (load adjustments)
- Dynamometer attachment tools.
- Silicone: LOCTITE 5900 (black)

RETURNING THE UNIT TO OUR WORKSHOPS

Please do not include pads when returning the knee CPM unit to our workshops due to health and safety standards within our company. These pads will be systematically incinerated.

REPAIR INFORMATION

If you want repair information you must have the serial number of the unit.

SPECTRA SERVICING MANUAL

**FICHE DE CONTROLE SAV
AFTER SALES CHECK LIST
SPECTRA**

Panne:

Breakdown:

Code Panne:

Breakdown code:

Numéros / Number : Série / Serial : Client Pays / Country :

Devis n° / Offer N°:

Date de première expédition:

First delivery date:

TT:

Facturé :

Yes

No

Invoice

Garantie :

Yes

NO

Warranty

Vérification mécanique / Mechanical Checking

Vérifier l'aspect général (vis - bouton - embout - carter - etc...)

Check the general look (screws - plastic - cover etc...)

Vérifier le -10°/120° mécanique (attention butée angulaire -10°)

Check the ROM at the maximum without mechanical problem.

Vérifier tous les coulissements

Check all the sliding

Vérifier le collage des vis

Check if the screw are correctly tightened and glued

Vérifier le graissage de la vis à bille, butée à aiguille et les gallons

Check the greasing of the ball bearing screw, and rubber strips, ball thrust bearing

Vérifier le graissage de toutes les articulations

Check the greasing on all articulations

Vérifier le collage des vis du jambier avec chariot

Check if the screws which fix the lower leg support and the ball bearing support are glued

Vérifier le serrage de la clavette du potentiomètre et le centrage

Check if the copy potentiometer pin is tightened

SPECTRA SERVICING MANUAL

Vérifier l'articulation crurale
Check the articulation assy

Vérifier le bruit de la vis à bille et du moteur
Check the noise

Vérification électrique / *Electrical checking*

Vérifier la consommation moteur / *check the motor consumption :*
Grand Fémur - Charge 10 Kg - Flexion montante entre 30° et 60° - après rodage 1 nuit
Large femur - load 10kg - flexion between 30° and 60° - after running 1 night

Vérifier le courant en vitesse maxi < 700mA
Check the currant in maximum speed < 700mA

 mA

Vérifier toutes les fonctions du clavier
Check all the function of the key board

Vérifier les fusibles 750 m A T
Check the value of the fuse 750m A T

Vérifier la fixation de la carte dans la poignée de commande (vis)
Check the tightening of the screws inside the hand control and put some varnish

Vérifier la tenue de la connectique (carte moteur ; carte alim ; pot)
Check the connection (motor card; power supply; copy potentiometer)

Vérifier load Flexion 40 DaN +/-5
Check the load Extension 35 DaN +/-5

 DaN DaN

Vérifier les segments LCD
Check the well conditioning of the LCD

Réinitialisation des compteurs («standard value» ou «config usine»)
Re-init the counter ("standard value" or "config usine")

Vérifier le test électrique Séquence 16
Check the electrical security

 TICKET

Vérifier le / *Checking date :*

Nom / *Name :*

Commentaires / *Comments :*