

JACE T300

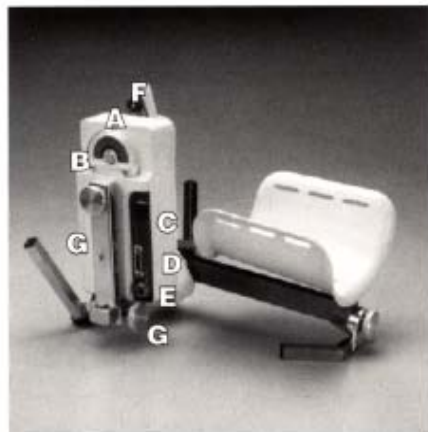
T O E - C P M

O P E R A T I N G M A N U A L

JACE T300

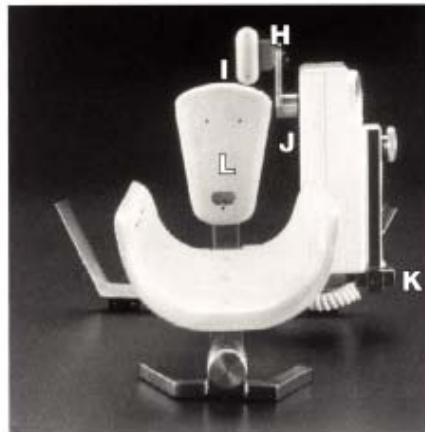
T O E - C P M

COMPONENTS	2	TROUBLE SHOOTING	13
PRODUCT DESCRIPTION	4	CARE AND CLEANING	14
SAFETY PRECAUTIONS	5	LIMITED WARRANTY	14
OPERATIONS	5	REPLACEMENT PARTS	14
Step 1 Unpacking the Unit	5		
Step 2 Assemble Unit	5		
Step 3 Assemble Softgoods	6		
Step 4 Patient Fitting	7		
Step 5 Controller Operation	8		
Step 6 Setting Parameters	10		

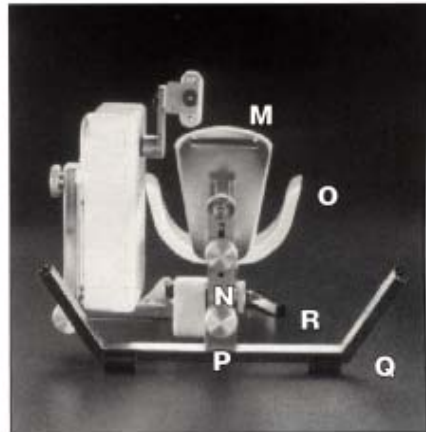


DRIVE ASSEMBLY

- A** DRIVE UNIT
- B** DRIVE UNIT GONIOMETER
- C** POWER SWITCH (ON/OFF)
- D** CONTROLLER JACK
- E** POWER CORD JACK
- F** DRIVE UNIT ARM
- G** DRIVE UNIT ADJUSTMENT KNOB

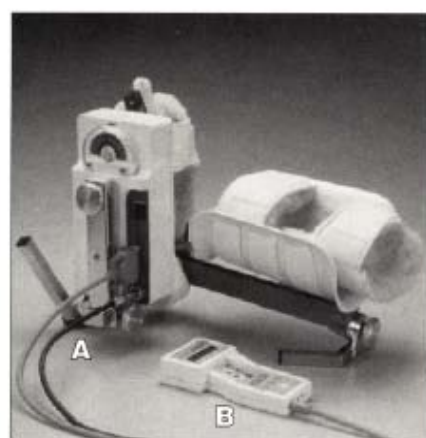


- H** TOE ARM ADJUSTMENT KNOB
- I** TOE PLATFORM
- J** TOE PIVOT
- K** DRIVE UNIT SECURING KNOB
- L** FOOT PLATE



LEG STAND ASSEMBLY

- M** FOOT PLATE
- N** FOOT PLATE PIVOT KNOB
- O** CALF CRADLE
- P** LEG ANGLE ADJUSTMENT KNOBS
- Q** FLOOR MOUNTING STAND
- R** BED MOUNTING STAND



ACCESSORIES

- A** POWER SUPPLY CORD
- B** CONTROLLER

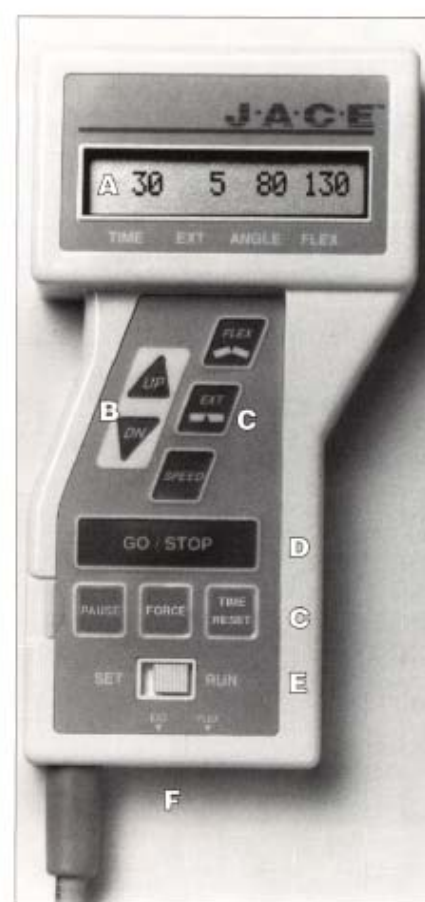
SOFTGOODS

- A** FOOT PAD
- B** CALF SUPPORT PAD (WITH STRAPS)
TOE ASSEMBLY (2) (not shown)



CONTROLLER

- A** LCD (LIQUID CRYSTAL DISPLAY) WINDOW
- B** CONTROL BUTTONS
- C** PARAMETER ADJUSTMENT BUTTONS
- D** GO/STOP BUTTON
- E** SET/RUN SWITCH
- F** EXTERNAL DEVICE JACKS (2)





JACE T300

TOE - CPM

The JACE T300 TOE CPM is a Continuous Passive Motion (CPM) system for rehabilitation therapy of the Great Toe. The T300 permits either in-bed or on-floor use, with an adjustable range of motion from 60° (plantar flexion, referred to as flexion) to 90° (dorsiflexion, referred to as extension) of the Great Toe.

The T300 is designed for safe, reliable patient operation, and maximum patient comfort. During the first two cycles of operation, the T300 records the force exerted by the patient's toe for every 16° of motion. An increase in force during operation, due to the presence of a foreign object or significant patient resistance is detected immediately and the T300 automatically reverses direction.

The T300 handheld controller allows the operator/patient to control all T300 functions. The controller is used to set, execute, and monitor desired angled parameters for flexion and extension within a 2° tolerance, as well as angular speed settings from 4°/minute to 180°/minute.

The T300 is designed to easily interface with external devices such as neuromuscular electrical stimulators. These plug directly into standard jacks in the base of the controller.

To ensure patient safety, the T300 is designed to meet UL 544 safety requirements. The Power Supply operates on 120 Volts AC to supply a nominal 12 Volts DC to the unit.

SAFETY PRECAUTIONS

THE JACE T300 CPM IS INTENDED FOR PHYSICIAN-PRESCRIBED USE ONLY. BEFORE ACTUAL USE, READ AND UNDERSTAND ALL OPERATING INSTRUCTIONS.

KEEP THE CONTROLLER WITHIN REACH OF PATIENT DURING OPERATION.

DO NOT OPERATE UNIT IN A VOLATILE ATMOSPHERE, OR IN THE PRESENCE OF FLAMMABLE ANESTHETICS.

USE ONLY WITH JACE POWER ADAPTER (Part No. TK000294)

CONTACT YOUR JACE SYSTEMS REPRESENTATIVE FOR REQUIRED SERVICE OR MAINTENANCE.

DESIGNED TO MEET ALL UL 544 SAFETY REQUIREMENTS.

POWER SUPPLY OPERATES ON 120 VOLT AC PROVIDING A NOMINAL 12 VOLT DC SUPPLY TO UNIT.

STEP 1

UNPACKING THE UNIT

- After unpacking the T300, check for the following components:
 - JACE T300 Leg Stand Assembly
 - Drive Unit Assembly
 - Handheld Controller*
 - Blanket Support Rod
 - One set of Softgoods
 - Power Supply
 - Operating Manual*
 - Name Tag*
 - Accessory Bag

***NOTE:** These items can be stored in the accessory bag.

SAVE ALL PACKING MATERIAL FOR FUTURE SHIPPING REQUIREMENTS.

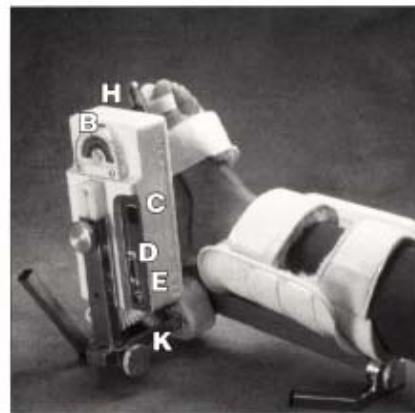
STEP 2

ASSEMBLE UNIT

- The Power ON/OFF Switch (C) on the side of the Drive Unit

should be in the OFF position.

- Mount Drive Unit on side of Leg Stand for right foot, as shown. Tighten the Drive Unit Securing Knob (K). The Drive Unit Goniometer (B) indicates the angular position of the Drive Assembly relative to the Leg Stand. An internal microswitch senses which foot the unit is set to receive.

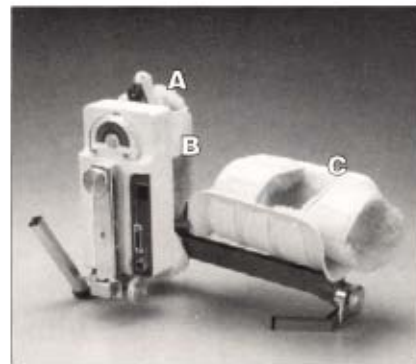


FOR RIGHT FOOT
(For left foot see instructions)

- 3 Orient the Toe Platform correctly on the Toe Arm. When changing to the left foot, remove the Toe Platform from the Toe Arm by unscrewing the Toe Arm Adjustment Knob (H), turn the Toe Platform over and replace Platform and tighten Knob securely.
- 4 Connect the Controller to the Drive Unit by inserting the plug into jack (D). Tighten thumb screws on either side of the plug.

- 5 Connect the Power Supply to the Drive Unit (E). Tighten the knurled nut securely.
- 6 Plug Power Supply into a standard grounded 120 Volt AC wall outlet.

REFER TO ALL SAFETY PRECAUTIONS PRIOR TO USE.



STEP 3

ASSEMBLE SOFT GOODS

- 1 Each set of Softgoods includes:
 - A Toe Assembly (2)
 - B Foot Pad
 - C Calf Support Pad (with straps)
- 2 Attach the Toe Assembly (A) to the Toe Platform with the long strap toward the drive unit.
- 3 Wrap strap and foam around toe and cut off excess foam. Slide strap through slot under toe platform. Secure strap.
- 4 Using Velcro Strips, attach the Foot Pad (B) and the Calf Support Pad (C) as shown.
- 5 Unit is ready for operation. Set Power Switch to the ON position.

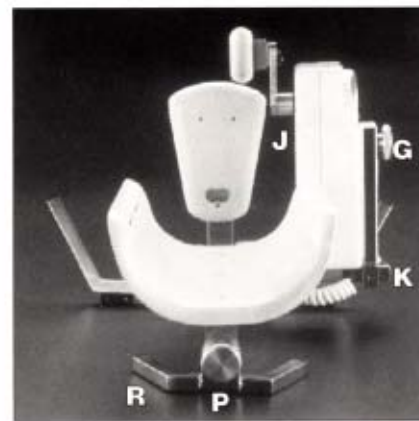
CARE/CLEANING: Softgoods are made of a washable synthetic fleece material for easy care and patient comfort.

NOTE: Each softgoods kit is intended for use by one patient only.

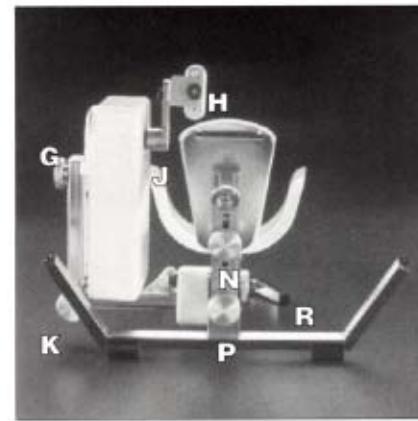
STEP 4

PATIENT FITTING

- P Leg Angle Adjusting Knobs
 - N Foot Plate Pivot Knob
 - J Toe Pivot
 - G Drive Unit Adjustment Knob
 - K Drive Unit Securing Knob
 - H Toe Arm Adjustment Knob
 - R Bed Mounting Stand
- 1 Prior to fitting patient, adjust the leg angle for in-bed use, using knob(s) (P). Leg angle adjustment is also necessary for on-floor use.
 - 2 Set the Toe Arm angle to 0°. If the T300 is not in this position, refer to Step 6, Section B "Setting Parameters with Motion," to reposition Toe Arm.
 - 3 Position the patient's leg in the T300. Using the Foot Plate Pivot Knob (N), adjust length and rotation of Foot Plate for patient comfort.



- 4 Locate the Toe Pivot (J) opposite the first joint of the Great Toe, using the Drive Unit Adjustment Knob (G) and Securing Knob (K) to reposition the Drive Unit as required.
- 5 Use Toe Arm Adjustment Knob (H) to locate the Toe Platform directly under the patient's Great Toe.
- 6 Secure patient to T300 with the



- Calf Support Pad Straps, the Foot Strap and the Toe Strap.
- 7 Tighten all adjustment knobs securely.



STEP 5

UNDERSTANDING THE CONTROLLER

A LCD WINDOW DISPLAYS:

- **TIME** - Displays Accumulated Run Time in minutes. "Pause Countdown" - At the end of travel in each direction, the TIME indicator counts down the Pause Time in minutes and seconds.
- **EXT** - Displays the preset Extension Limit in degrees.
- **ANGLE** - Displays the instantaneous angle of the Toe Arm during operation.
- **FLEX** - Displays the preset Flexion Limit in degrees. (Flashing display for EXT/FLEX indicates the current direction of travel. FLEX Limit is always at least 1° greater than EXT Limit.)

B SET MODE FUNCTION BUTTONS:

- **UP/DOWN** - Used to reset a displayed operating parameter. The rate of change increases when continually depressing an UP/DOWN (arrow) button; momentarily releasing it slows the rate for greater control.
- **FLEX** - Displays the selected angle for maximum Flexion Limit. Used with the UP/DOWN buttons to set a new Flexion Limit.
- **EXT** - Displays the selected angle for maximum Extension Limit.

NOTE: These functions are normally set without the Toe Plate in motion. An alternate mode permits setting with motion as described in Step 6, Section B, "Setting Parameters with Motion." (See Page 12)

- **PAUSE** - Displays the settings for Flexion and Extension Pause times. Used with the UP/DOWN buttons to adjust the Pause time settings.

- **FORCE** - Displays maximum Force settings for Flexion and Extension. Used with UP/DOWN buttons to reset Force limits.

NOTE: These two parameters are used in conjunction with FLEX and EXT to display and set values for FLEX Pause/Force and EXT Pause/Force.

- **SPEED** - Displays selected angular Speed of the T300. Used with the UP/DOWN buttons to set a new Speed.
- **TIME RESET** - Resets accumulated RUN time to zero. Push Time Reset Button, The UP/DOWN arrow to reset run time.

C RUN MODE FUNCTION BUTTONS:

- **GO/STOP** - Initiates or Interrupts operation of the T300. Pressing the button a second time in succession reverses the direction of travel.

- **SPEED** - Used with the UP/DOWN buttons; controls the speed of the T300. This is the only parameter adjustment that can be made in the RUN MODE.

D SET/RUN SWITCH:

Two (2) position switch allows selection of operating mode:

- **SET MODE** - Allows selection and adjustment of all operating parameters.
- **RUN MODE** - Stores preset parameters and enables operation of the T300.

IMPORTANT: Once RUN MODE is selected, all parameter settings are stored in memory, even when power to the T300 is interrupted through switching to OFF, unplugging the unit, or in the event of a power failure.

E ACCESSORY JACKS:

Allows use of external devices, such as a Neuromuscular Electrical Stimulator. During the Pause function at the end of travel in each direction, FLEX/EXT, the T300 activates any compatible external device that is connected through the Accessory Jack interfaces.

The Time Indicator in the LCD window switches to a countdown configuration during the preset Pause.

IMPORTANT SAFETY FEATURES:

While the T300 is in the RUN MODE, all parameter buttons, except GO/STOP and SPEED, operate in a display-only mode.

During the first two cycles of operation, the T300 records actual patient force profiles for every 16° of motion in each direction of travel. Any deviation caused by an obstacle in the path or by significant patient resistance during operation is detected and causes the T300 to automatically reverse direction. After (2) uninterrupted cycles, all buttons will become functional again.

**STEP 6
SETTING PARAMETERS
SET MODE**

All adjustments to the Range of Motion Limits must be made in the SET MODE.

- 1 Select SET MODE with the SET/RUN switch.
- 2 Turn Power ON with the Power Switch. The following message will appear in the LCD window:

Left Foot

or

Right Foot

followed by:

Selected Parameters

NOTE: If the wrong foot is displayed, turn the unit OFF, remove the Drive Assembly from the Leg Stand and change it to the other side. Refer to Step 2 on page 5.

**A - SETTING PARAMETERS
WITHOUT MOTION**

NOTE: The FLEX Limit Setting is always set at least one degree greater than the EXT Limit Setting.

- 1 Set Extension Parameters. Press the EXT button to display the current setting:

Extn. Limit _____

The display will show the Extension Range of Motion Limit from 60° Flexion to 90° Extension.

Use the UP/DOWN (arrow) buttons to set the desired Extension Limit.

Press the Pause Button to display the current setting of Extension Pause Time:

Extn. Pause _____

The display will show the Extension Pause Time setting, between 0 and 9 minutes, 59 seconds.

Use the UP/DOWN button to reset the Extension Pause Time.

Press the FORCE button to display the current setting of Extension Force:

Extn. Force _____

The display will show the Extension Force Limit, as a value from 1 to 7, proportional to a percentage of the maximum Extension Force profiled during the first two cycles of operation.

Use the UP/DOWN buttons to set the desired Extension Force.

- 2 Set Flexion Parameters. Press the FLEX button to display the current setting:

Flex. Limit _____

The display will show the Flexion Range of Motion Limit from 60° Flexion to 90° Extension.

Use the UP/DOWN buttons to adjust the Flexion Limit.

Press the PAUSE button to display the current setting of Flexion Pause Time:

Flex. Pause _____

The display will show the Flexion Pause Time setting, between 0 and 9 minutes, 59 seconds.

Use the UP/DOWN buttons to reset the Flexion Pause Time.

Press the FORCE button to display the current setting of Flexion Force:

Flex. Force _____

The display will show the Flexion Force Limit, as a value from 1 to 7, proportional to a percentage of the maximum Flexion Force profiled during the first two cycles of operation.

Use the UP/DOWN buttons to set the desired Flexion Force.

- 3 Set T300 Angular Speed. Press the SPEED button to display the current Speed setting:

Speed _____

The display will show an approximate angular Speed between 4° and 180° per minute.

Use the UP/DOWN buttons to set the Speed of the T300.

- 4 Reset the RUN time. Depress the TIME RESET button, then the UP/DOWN arrow to reset the accumulated RUN Time to zero, if so desired.

B Setting Parameters With Motion

(This mode is preferred for fitting patients who are experiencing extreme pain or anxiety.)

- 1 Press either the EXT or the FLEX button. The window will display the appropriate message:

Extn. Limit _____

or

Flex. Limit _____

- 2 Press and hold EXT or Flex again, while using the UP/DOWN buttons to move the T300 Toe Plate to the desired position.

NOTE: While setting parameters with motion, the displayed limit value "jumps" to the current angular position of the T300 Toe Plate, then tracks the changing position of the Toe Plate as the UP/DOWN buttons are pressed.

RUN MODE

- 1 Set the SET/RUN switch to RUN.

NOTE: When RUN MODE is selected, the T300 stores all preset parameters in memory, even if the T300 is turned OFF or unplugged, or in the event of a power failure.

- 2 When the T300 is ready for operation the display will read:

Press Go To Start

- 3 Press the GO/STOP button to start operation of the T300. Press it again to restart the T300 in the opposite direction.

OPTIONAL ORTHOSIS

An optional splint can be provided to fashion a custom orthosis for the patient. The orthotic fits on the device and replaces the standard softgoods. The orthosis can be ordered through your Jace Systems representative.

IMPORTANT SAFETY FEATURES:

While the T300 is in the RUN MODE, all parameter buttons, except GO/STOP and SPEED, operate in a display-only mode.

During the first two cycles of operation, the T300 records actual patient force profiles for every 16° of motion in each direction of travel. Any deviation caused by an obstacle in the path or by significant patient resistance during operation is detected and causes the T300 to automatically reverse direction.

ERASING FORCE PROFILES:

Unplugging the T300, switching the Power Switch to the OFF position or changing parameters erases current force profiles but does not affect the pre-set parameters stored in memory.

TROUBLE SHOOTING:

The T300 is designed to assist the user in resolving common operating errors by displaying various messages:

Set Orth. (UP)?

This message indicates that the T300 Toe Plate is outside the present Range of Motion Limits. Press and hold the UP button to relocate the Toe Plate within the preset Range of Motion. The T300 will display the message:

Push Go to Start

Press the GO/STOP button to resume operation of the T300.

No Orthosis!!

or

Orthosis Dif>#

Check that the Drive Assembly is securely fastened to the Base,

and that the Controller cable is properly connected to the Drive Assembly. This prompt will also occur if power switch is not turned off when changing from right to left foot or vice versa.

Low Power <10.4V Attn: CORRECTIVE ACTION REQUIRED

This indicates that the power supply is inadequate. Check all power cables and connections. Have an electrician check the 120 Volt AC outlet.

Check Parameters

or

Select Parameters

Switch to SET Mode and select parameters as described in Step 6.

CARE/CLEANING

CAUTION: Disconnect unit from power source when cleaning. Do not immerse the unit. Avoid spilling liquids (or other contaminants) into the moving parts or electrical components of the T300.

The surfaces of the T300 may be wiped with a soft cloth or sponge dampened with a mild soap solution. A 10% solution of household bleach (Sodium Hypochlorite) and water may be used as a disinfecting wipe.

LIMITED WARRANTY:

The JACE CPM Model T300 is warranted against defects in material and workmanship for one (1) year from the date of initial purchase. During the warranty period defective parts will be repaired or replaced by JACE Systems, Inc. at no charge to the customer, when such defective parts have been properly packaged and returned prepaid to JACE Systems, Inc.

This warranty is rendered void if damage to the unit is a result of accident, mishandling, misuse, or abuse. Furthermore, no warranty will apply to damage resulting from the customer's use of parts, fittings, or accessories not specified by JACE Systems, Inc. or from service or modifications performed by unauthorized personnel.

JACE Systems, Inc. shall not be liable for incidental or consequential damages including loss or use, property damage, or to the extent allowed by law, personal injury, which

results from breach of warranty. This warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability and fitness for particular purpose.

REPLACEMENT PARTS:

DESCRIPTION	PART NO.
Softgoods Kit	93KA0301
Foot Plate Assembly	13AA0201
Handheld Controller	11CA0102
Power Supply	TK000294
Operating Manual	94MA0201

JACE T300
T O E - C P M

For Additional Information Call
1-800-800-4CPM
856-669-6600



© Copyright 1991, JACE SYSTEMS, INC. #9/91-9979J-2500-0

SUPERIOR BY DESIGN