

WHITMORE ENTERPRISES

DESIGNING AND MANUFACTURING

BLOOD PRESSURE MONITORING & RECORDING DEVICES • HYPOBARIC & HYPERBARIC CHAMBER CONTROLS
RESEARCH TREADMILLS, ERGOMETERS, & HUMAN BODY VOLUMETERS
AND SPECIALIZED MEDICAL & AEROSPACE RESEARCH DEVICES

RT. 5 BOX 369

SAN ANTONIO, TEXAS 78211

Henry B. Whitmore
(512) 624 - 2121
or 532 - 3344

12 January 1976

Report, Monthly Progress

Contract No. NAS 9-14858

Development of Treadmill

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SELECTION AND TEST OF MATERIALS TO BE USED IN FABRICATION OF ROLLERS FOR FUTURE TREADMILLS: Test results on Prototype No. 2 Treadmill proved the phenolic wheels used on this model to be satisfactory in every respect except for the noise produced by the hard rollers operating on a steel track.

SELECTION OF MATERIALS TO BE USED IN FUTURE ROLLER CONSTRUCTION: During this past month we manufactured a complete new set of rollers. These were machined out of a hard rubber core wheel with a softer rubber tread. These were machined to size and fitted with a pair of ball bearings for each wheel. We replaced the phenolic wheels on Prototype No. 2 with these wheels and conducted a series of tests. The noise level was greatly reduced and treadmills performance was essentially the same, except for a higher resistance in operating the treadmill with the softer wheels. The treadmill needed to be adjusted to a steeper angle to operate at the same speed as before with the phenolic wheels.

We feel the advantages of the new wheels out weighs the disadvantages of the higher resistance and this will further be decreased on the next treadmill when components will be much lighter in return reducing the resistance.

THE CONSTANT SPEED AND INERTIA DEVICE: On Prototype No. 2 the constant speed and inertia device was installed on the top front portion of the treadmill. In this location the obstruction gave the feeling of walking or running with your toes up to a wall or obstruction.

We relocated this device inside the treadmill frame leaving the top of the treadmill completely unobstructed. This gives a greater freedom in walking and running. Some more work is required to overcome some of the mechanical problems in this area.

Whenever it is convient for the Technical Monitor to visit Whitmore Enterprises we would appreciate his evaluation of these areas.

DF

October 29, 1974

MEMORANDUM

TO: BC73/George R. Gaffney
FROM: DF/William E. Thornton
SUBJECT: Modification of Contract NAS 9-14377

As discussed this morning, it would be of considerable advantage to have the subject contract changed as follows:

Delay delivery of the prototype tread mill and leave it with the contractor until final delivery.
Accept this unit at this time with acceptance inspection at the contractor facility.

The above changes will be made at no additional cost to the government.

The reason for these changes is to allow proper utilization of the prototype as a test bed for instrumentation and control design for the next version which is currently being designed. I am working with the contractor on such design and testing at his facility. Such preliminary testing will result in marked improvement in the final design.

The first prototype is complete and exceeds both anticipated performance and design and fabrication quality.

William E. Thornton
Technical Monitor

DF/WETHornton:ss:10/29/74:2421