TRIP REPORT : RAM-PAC INTERNATIONAL

Engineering Note #3740.520-EN-184

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Originator: Al Jaques

Trip Report : Ram-Pac International

Al Jaques

In the final design of the D0 Detector, the three cryostats (CC and both EC's) will ride on a pair of hardened ways so as to move the EC's out and away from the CC cryostat to provide access between cryostats for repairs and such. Each of the cryostats sits on a carriage which has a pair of Tychoway rollers placed at each corner to roll on the hardened ways. When in position, the full weight of the cryostats is to be relieved from the rollers with the use of a pair of 90-ton jacks flanking the pair of rollers at each corner.

Due to confined space, these jacks had to be custom made, triple cylinder, single block units. Five manufacturers were presented with the problem and three came back with proposals. All three satisfied the technical requirements but Ram-Pac International was easily the lowest priced.

Ram-Pac International, Inc. is a subsidiary of Hader Industries, Inc. located approximately 15 to 20 mile west of downtown Milwaukee in Pewaukee, Wisconsin. Ram-Pac was created roughly 3 years ago solely as a manufacturing source for high-pressure hydraulic components through the purchase of Century-Fox and Duff-Norton hydraulics. Hader is currently a \$5 million a year business with it's subsidiary, Ram-Pac, clearing \$3 million yearly. Hader Industries came referred through Jim Woodin of Richard Dudgeon, Inc. in Stamford, Connecticut.

Hader Industries was established approximately 35 years ago by it's current president Wayne K. Hader. It's primary service was in the remanufacture and rebuilding of hydraulic components (mainly for fork lifts). During recent business negotiations with Ram-Pac concerning the custom 90-ton triple jacks, we have been communicating with Don R. Shez, Marketing Manager. Mr. Shez is a former manager of the Hydraulics Department for OTC Industrial Division in Owatonna, Minnesota.

A trip to Ram-Pac/Hader Industries revealed a number of automated Cincinnati Millacron machines and various other manually-operated machining equipment. Mr. Shez stated that there was currently no in-house engineering and that almost 50% of Ram-Pac's products are manufactured to customer specifications. The bulk of there business is heavy-duty, large diameter cylinders in the areas of OEM, industrial distribution and hydraulic tool manufacturing.

Ram-Pac has sold approximately \$120,000 worth of equipment to Fermilab, D0 specifically, in the past year and a half through Herm Stredde of the D0 group. In 1986, \$81,000 worth of heavy duty cylinders were purchased from Ram-Pac followed by purchases of \$12,600 and \$27,600 in 1987. These cylinders (16) are used in the D0 building to support the entire cryostat assembly. There was an initial problem with weld leaks in some of the cylinders which was

brought to the attention of Ram-Pac. Ram-Pac quickly corrected the problem and there have been no problems with any of the equipment since.

Due to their size and flexibility, they are able to provide us with the 90-ton jacks in a shorter period of time and without the penalty of numerous overhead costs. These benefits contributed to our decision to purchase 28 90-ton triple jacks for \$36,260 (@ \$1,295). Ram-Pac catalogues can be found with George Mulholland, D0 group, Gary Trotter, D0 group, or Al Jaques, Mech. Support Dept.

REVISION

DESCRIPTION

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DATE
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1/4-20 TAPPED HOLES
1/2 DEEP, 6 HOLES

10-32 TAPPED HOLES
1/2 DEEP, 2 HOLES

1" O.D. RING GROOVES, 2 REQD.

ALL FLUID LINES 1/4 DIA.

SWIVEL BASE

TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN	DATE	FERMIL NATIONAL ACCELERATOR LAB 300 SOUTH MICHIGAN ST. ANN ARBOR, MICH. 48106 DO DETECTOR 90 TON JACK PROPOSAL
FRACTIONS	DECIMALS	DENNIS SCHMITT	7/18/88	
DIMENSIONS AND TOLERANCES PER ANSI Y14.5 STANDARDS.	DECIMALS			
SPEAK SHARP EDGES 1/8" MAX. DO NOT SCALE DIMENSIONS.	DECIMALS			
USED ON	MATERIAL	SCALE	FILMED	DRAWING NUMBER
				3740,210-MC-273227