



ENGINEERING AND TEST DIVISION
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TEST REPORT NO.: 419026-99-04-R23-0656

DAYTON T. BROWN, INC. JOB NO.: 419026-99-000




CUSTOMER: IMTRA MARINE PRODUCTS
30 SAMUEL BARNET BLVD
NEW BEDFORD, MA 02745

SUBJECT: MEDIUM WEIGHT HAMMER SHOCK TESTING OF ONE 1100 SERIES PILOT
CHAIR, SERIAL NO. DTB-1

PURCHASE ORDER NO.: 218505-02

ATTENTION: KENT REMY BERESFORD

THIS REPORT CONTAINS: THREE PAGES AND ONE ENCLOSURE

PREPARED BY	 K. MAY
TEST ENGINEER	 N. CHIAVARO
QUALITY DEPARTMENT	 D. THORNE
DATE	28 SEPTEMBER 2023

INFORMATION CONTAINED HEREIN MAY BE SUBJECT TO EXPORT CONTROL LAWS. REFER TO INTERNATIONAL TRAFFIC IN ARMS REGULATION (ITAR) OR THE EXPORT ADMINISTRATION REGULATION (EAR) OF 1979. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO OBTAIN ANY REQUIRED LICENSES TO EXPORT ANY CONTROLLED DATA.

THE DATA CONTAINED IN THIS REPORT WAS OBTAINED BY TESTING IN
COMPLIANCE WITH THE APPLICABLE TEST SPECIFICATION AS NOTED



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1.0 ABSTRACT

This test report details the results of the Medium Weight Hammer Shock Testing of one 1100 Series Pilot Chair, under reference (a) to the requirements of references (c) and (d). Any deviations are detailed in the applicable enclosure herein.

Results of the test are detailed in the following text.

The test item was operated during specified portions of testing.

The operation of the test item was conducted by Dayton T. Brown Inc. under the instruction by IMTRA Marine Products and NORSAP personnel.

The test results recorded in this report apply only to the sample(s) as received and relate only to those items tested.

This test report shall not be reproduced, except in full, without the written approval of Dayton T. Brown, Inc. (DTB).

2.0 REFERENCES

- (a) Customer Purchase Order No.: 218505-02
- (b) Dayton T. Brown, Inc. Job No.: 419026-99-000
- (c) Test Specification: DTB Quote #22-0381B, dated 18 May 2023,
- (d) Test Specification: MIL-DTL-901E



3.0 ADMINISTRATIVE INFORMATION

<u>Customer</u>	IMTRA Marine Products 30 Samuel Barnet Blvd New Bedford, MA 02745
Test Item Description	1100 Series Pilot Chair
Quantity Received	One
Part No.	N/A
Serial No.	DTB-1 (assigned by Dayton T. Brown, Inc.)
Date Received	28 August 2023
Dates Tested	5 September through 7 September 2023
Date Shipped	Remains at Dayton T. Brown, Inc. as of 25 September 2023

4.0 TEST PROGRAM OUTLINE

Test	Test Item Description	Results
Medium Weight Hammer Shock	1100 Series Pilot Chair, Serial No. DTB-1	See Enclosure 1 for test results.



Enclosure 1

Medium Weight Hammer Shock Test and Results



TEST REQUIREMENT

The medium weight hammer shock test shall be conducted in accordance with references (c) and (d).

TEST RESULTS

A pretest visual inspection of the test item revealed no anomalies.

All testing was performed in accordance with the referenced specifications.

Refer to the following pages of this enclosure for the test data.

The test item completed all phases of testing.

Refer to Enc 1 Pg 5 for results of anomalies and post-test visual inspection.



DAYTON T. BROWN, INC.

Medium Weight Hammer Shock:
Test and Test Item Classification and Mounting Hardware

JOB NUMBER: 419026-01-000 DATE: 5 SEP 23

TEST ITEM: 1100 Series Pilot Chair, Part No. N/A, Serial No. DTB-1

The test and test item(s) were classified as follows:

Shock Grade	A
Equipment Class	I
Shock Test Type	A
Mounting Location	Deck
Mounting Plane	Base
Mounting Orientation	Vertical Axis Specified

The test item fastener information was as follows:

Test Item Fastener (Bolt) Size (Diameter)	M8
Test Item Fastener (Bolt) Grade / Specification	Grade 12.9
Test Item Fastener (Bolt) Torque	40 ft/lbs

COMMENTS: _____

TECHNICIAN J. Bauer

ENGINEER N. Chiavaro



DAYTON T. BROWN, INC.
MEDIUM WEIGHT HAMMER SHOCK SETUP SHEET

JOB NUMBER: 419026-01-000 DATE: 5 SEP 23
TEST ITEM: 1100 Series Pilot Chair, Part No. N/A, Serial No. DTB-1

WEIGHT ON SHOCK TABLE FOR THE Vertical CONFIGURATION

Item	Weight (lbs)
Test Item, 1100 Series Chair	79
Dayton T. Brown Inc. Non-Standard Fixture Plate	1192
Dummy	205
Standard Channel Pairs (2)	204
Mounting Hardware for Fastening Fixture to Channels (Tees/Bolts) 8 Small Tees	32
MIL-S-901/MIL-DTL-901 Medium Weight Hammer Shock Test Standard Base Rails (2)	282
Test item mounting hardware	1
TOTAL WEIGHT	1995 lbs

Note: The selection of the quantity of channel pairs used for the Vertical test setup was made based on the following "A" and "B" dimensions.

The weight above the channels was: 1477 lbs.

Dimension	Inches
A Dimension (inches)	40
B Dimension (inches)	40

COMMENTS: _____

TECHNICIAN J. Bauer
ENGINEER N. Chiavaro



DAYTON T. BROWN, INC.
MEDIUM WEIGHT HAMMER SHOCK SETUP SHEET

JOB NUMBER: 419026-01-000 DATE: 5 SEP 23
TEST ITEM: 1100 Series Pilot Chair, Part No. N/A, Serial No. DTB-1

WEIGHT ON SHOCK TABLE FOR THE 30° front down and 30° side down CONFIGURATION

Item	Weight (lbs)
Test Item, 1100 Series Chair	79
Dayton T. Brown Inc. Non-Standard Fixture Plate	1192
Dummy	205
Standard Channel Pairs (2)	204
Mounting Hardware for Fastening Fixture to Channels (Tees/Bolts)	32
30 Degree Rails (2), MIL-S-901, Figure 16	1581
Test item mounting hardware	1
TOTAL WEIGHT	3294 lbs

Note: The selection of the quantity of channel pairs used for the 30° front down and 30° side down test setup was made based on the following "A" and "B" dimensions.

The weight above the channels was: 1477 lbs.

Dimension	Inches
A Dimension (inches)	40
B Dimension (inches)	40

COMMENTS: _____

TECHNICIAN J. Bauer
ENGINEER N. Chiavaro



DAYTON T. BROWN, INC.
MEDIUM WEIGHT HAMMER SHOCK TEST DATA SHEET

JOB NUMBER: 419026-01-000

TEST ITEM: 1100 Series Pilot Chair, Part No. N/A, Serial No. DTB-1

SHOCK BLOW NO.	DATE	CONFIGURATION	ACTUAL HAMMER DROP HEIGHT (FEET)	ACTUAL ANVIL TABLE TRAVEL (INCHES)	OBSERVATIONS	TECH INITIALS
1	9/5/2023	Vertical	1.0	3	The dust collar seems seperated from lower Base. Also, the bolt on base has moved and and started to dig into the base metal. All ops checks are good.	JB
2	9/5/2023	Vertical	2.0	3.0	The bolt on the base has continued to move almost pulling throught the hole. All ops checks are good.	JB
3	9/5/2023	Vertical	2.0	1.5	No Visual changes. Ops checks good.	JB
4	9/5/2023	30 degree Side Down	2.5	3.0	The seat turned during hit, but able to move back and forth. The seat turned and bent right side down, up/down didn't work. Was able to get up/down unstuck, but then it locked in extended. Did ops check the next day was able to get the chair to move up and down	FDB/JB
5	9/6/2023	30 degree Side Down	2.5	1.5	The seat turned during hit. Ops checks good.	JB
6	9/6/2023	30 Degree Front Down	2.5	3.0	The dust collar separated on lower base. Ops checks good.	FDB
7	9/6/2023	30 Degree Front Down	2.5	1.5	The dust collar went back into place. Ops checks good.	FDB

COMMENTS

TECHNICIAN J. Bauer

ENGINEER N. Chiavaro

Test equipment utilized for the program reported herein was within its assigned interval of calibration.
Details are on file at Dayton T. Brown, Inc. and will be made available upon request.



Job Sub: 419026-01

TEST: MEDIUM WEIGHT HAMMER SHOCK

<u>ITEM</u>	<u>MANUFACTURER</u>	<u>MODEL</u>	<u>DTB NO.</u>	<u>ACCURACY</u>	<u>CAL DUE DATE</u>
SHOCK MACHINE, HAMMER	NEW ENGLAND TRAWLER	MEDIUM WEIGHT	04V-021	Maintenance Only	--
Scale, Crane Hanging 6000 lbs.	Adam Equipment	IHS 6a	38-63	± 2 lbs.	02/04/2024
GAUGE, PRESSURE 200 PSI	ASHCROFT	200 PSI	60-183	± 0.5% of F.S.	11/26/2023
TORQUE WRENCH, 20 - 100 FT LBS.	PROTO	J6012C	69-121	± 3% CW ± 6% CCW	01/14/2024



Photo 1 - File No. T20230905-5519
Weight of Fixture Plate



Photo 2 - File No. T20230905-5521
Weight of 1100 Series Chair



Photo 3 - File No. T20230905-5524
Weight of Dummy



Photo 4 - File No. T20230905-5525
Pretest, Test item and dummy set up



Photo 5 - File No. T20230905-5539
Pretest, test item and dummy setup in vertical orientation



Photo 6 - File No. T20230905-5540
Post Blow No. 1 inspection



Photo 7 - File No. T20230905-5541
Post Blow No. 1 inspection



Photo 8 - File No. T20230905-5542
Post Blow No. 2 inspection



Photo 9 - File No. T20230905-5545
Post Blow No. 3 inspection



Photo 10 - File No. T20230905-5546
Pretest, 30 degree Side Down, setup



Photo 11 - File No. T20230905-5547
Pretest, 30 degree Side Down, setup



Photo 12 - File No. T20230905-5548
Post Blow No. 4 inspection



Photo 13 - File No. T20230905-5549
Post Blow No. 4 inspection



Photo 14 - File No. T20230905-5550
Post Blow No. 4 inspection



Photo 15 - File No. T20230905-5551
Post Blow No. 4 inspection



Photo 16 - File No. T20230906-5575
Pretest, setup for Blow No. 5



Photo 17 - File No. T20230906-5576
Pretest, setup for Blow No. 5



Photo 18 - File No. T20230906-5577
Post Blow No. 5 inspection



Photo 19 - File No. T20230906-5578
Post Blow No. 5 inspection

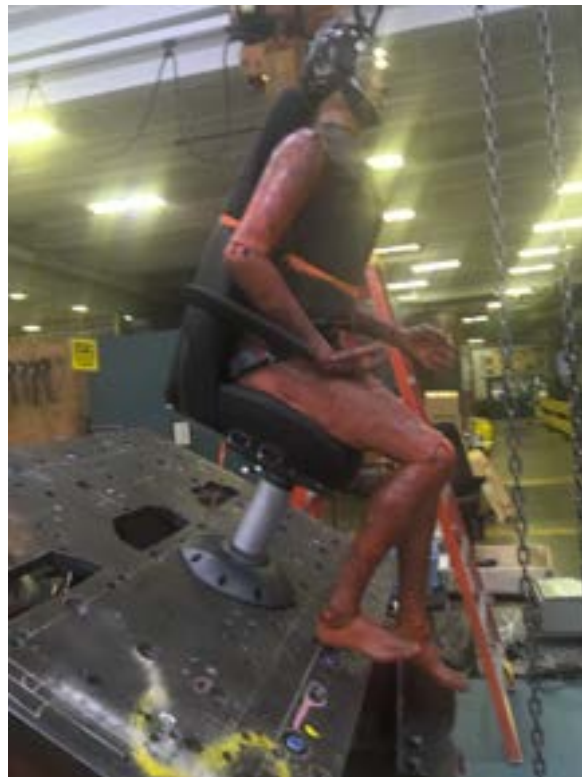


Photo 20 - File No. T20230906-5587
Pretest, 30 degree Front Down, setup



Photo 21 - File No. T20230906-5588
Pretest, 30 degree Front Down, setup

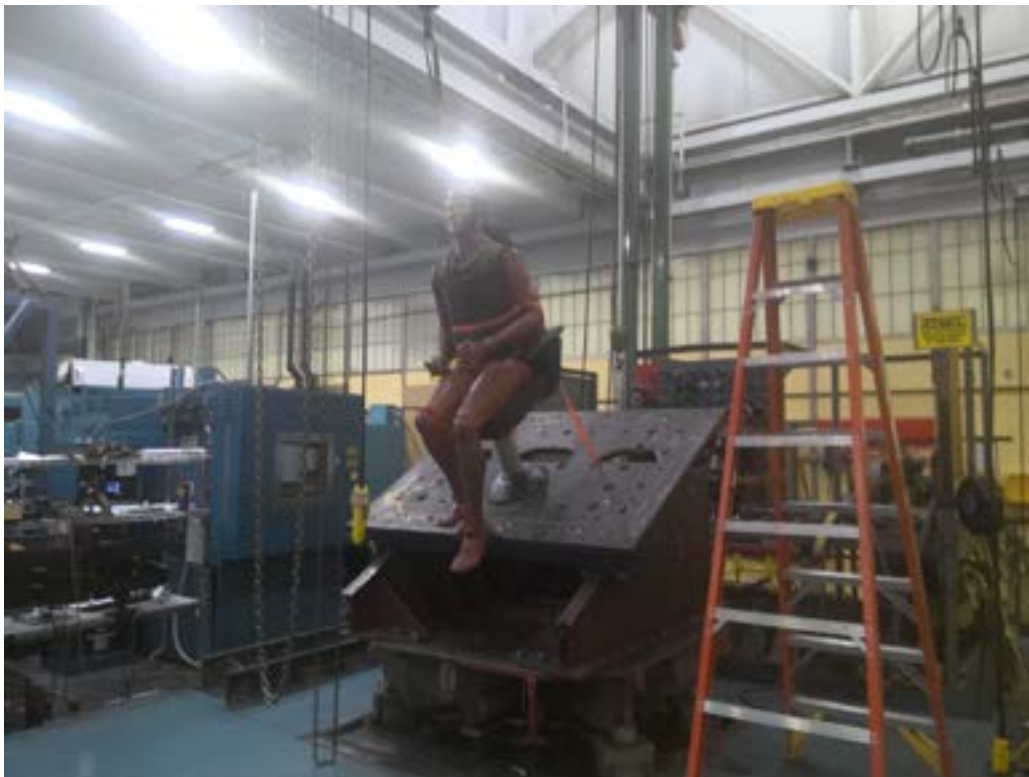


Photo 22 - File No. T20230906-5589
Pretest, 30 degree Front Down, setup



Photo 23 - File No. T20230906-5590
Post Blow No. 6 inspection

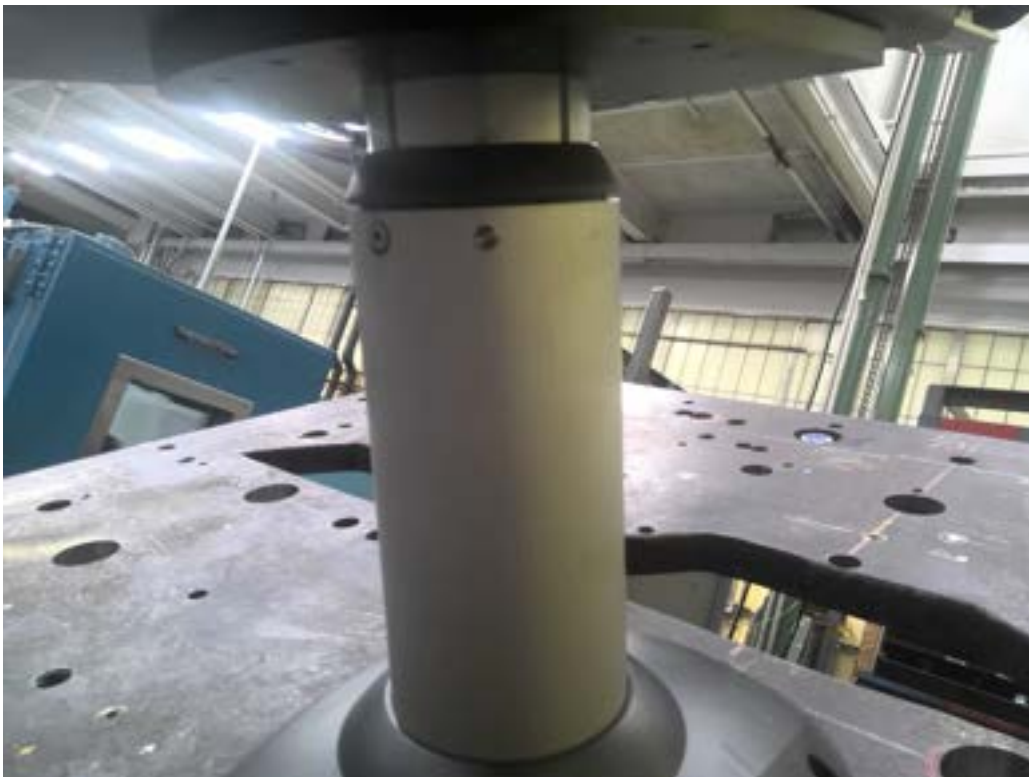


Photo 24 - File No. T20230906-5591
Post Blow No. 6 inspection



Photo 25 - File No. T20230906-5592
Pretest, setup for Blow No. 7



Photo 26 - File No. T20230906-5593
Post Blow No. 7 inspection