REPORT NUMBER: 222-MGA-2009-006.1

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 210 SEAT BELT ASSEMBLY ANCHORAGES

TRANS TECH BUS
2009 TRANS TECH RONDAK BUS
NHTSA NO.: C90903

PREPARED BY:
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BURLINGTON, WI 53105

TEST DATES: SEPTEMBER 20, 2010

FINAL REPORT DATE: NOVEMBER 30, 2010

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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SECTION 1
PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2009 Trans Tech Rondak Bus, NHTSA No.: C90903, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-210-09 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 210, "Seat Belt Assembly Anchorages".

This program is sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No.: DTNH22-06-C-00030.

SECTION 2
TEST DATA SUMMARY

Seat belt assembly anchorage tests were conducted from September 20, 2010. All tests were conducted by MGA Research Corporation at the Wisconsin Operations. The test vehicle, a 2009 Trans Tech Rondak Bus, NHTSA No.: C90903, appears to meet all the requirements of FMVSS 210.

SEAT BELT ANCHORAGES

Seat belt anchorages for a replacement seat installed in the S3 seating position were tested in accordance with OVSC TP-210-09. Seat belt anchorages and specially made high strength webbing straps were used to conduct the test. The seat belt anchor points held the minimum required load of 21,780 N for each designated seating position. Data from these tests are presented on Data Sheet No. 11.

ADMINISTRATIVE DATA SHEET

Test Vehicle: **2009 TRANS TECH RONDAK BUS** NHTSA No.: **C90903**
Test Lab: **MGA RESEARCH CORPORATION** Test Dates: **09/20/10**

INCOMPLETE VEHICLE (IF APPLICABLE)

Manufacturer:	Ford Motor Company
Model:	E-350 SRW
VIN:	1FD2E35L88DB33670
Certification Date:	05/08

COMPLETED VEHICLE (SCHOOL BUS)

Manufacturer:	Trans Tech Bus
Make/Model:	Trans Tech Rondak
VIN:	1FD2E35L88DB33670
NHTSA No.:	C90903
Color:	White
GVWR:	4,355 kg / 9,600 lb
Manufacture Date:	08/09
Certification Date:	05/08

DATES

Vehicle Receipt:	10/01/09
Start of Compliance Test:	09/20/10
Completion of Compliance Test:	09/20/10

Compliance Test: All tests were performed in accordance with the references outlined in TP-210-09.

Recorded By: 

Approved By:  Date: 09/20/10

GENERAL TEST DATA SHEET

Test Vehicle: **2009 TRANS TECH RONDAK BUS** NHTSA No.: **C90903**
Test Lab: **MGA RESEARCH CORPORATION** Test Dates: **09/20/10**

SCHOOL BUS IDENTIFICATION

Model Year/Mfr./Make/Model:	2009 Trans Tech Rondak
Passenger Capacity:	(1 Driver, 14 Passengers)
NHTSA No.:	C90903
VIN:	1FD2E35L88DB33670
Conventional or Forward Control:	Conventional
GAWR (Certification Label) FRONT:	1,837 kg / 4,050 lb
GAWR (Certification Label) REAR:	2,760 kg / 6,084 lb
GVWR (Certification Label) TOTAL:	4,355 kg / 9,600 lb

TEST CONDITIONS

Date(s) of Test:	09/20/10
Ambient Temperature (°C):	21°C
Required Temperature Range (°C):	0°C to 32°C

SEAT IDENTIFICATION

Seat Manufacturer:	FREEDMAN SEATING COMPANY
Model Name & Number:	
Description of Seats:	Seat frames are constructed of 1 inch square welded steel tubing. The seat back has a 22 gauge (0.03 inches) steel pan in the form of spot welded straps in a grid pattern and is covered with 25 mm of soft foam. The outer main uprights of the seat back frame are covered by 45 mm Styrofoam and 10 mm of thick soft foam. The seat cushion is constructed of a 10 mm metal frame and foam pad. The seat back and cushion are wrapped with 0.5 mm of vinyl.

SECTION 3
COMPLIANCE TEST DATA

The following data sheet documents the results of testing on the 2009 Trans Tech Rondak Bus, NHTSA No.: C90903.

DATA SHEET 11

SEAT BELT ASSEMBLY ANCHORAGES

Test Vehicle: **2009 TRANS TECH RONDAK BUS** NHTSA No.: **C90903**
Test Lab: **MGA RESEARCH CORPORATION** Test Dates: **09/20/10**

SEAT LOCATION: S3

		PASS/FAIL
1.	Are all seat belt assembly anchorages designed for forward facing occupant position?	**PASS**

Seat Location	Seating Location	Anchor Type	Measured Spacing (mm) *	Measured Angle **	Load Application Angle (degrees)	
					Side View Horizontal Load Angle	Plan View From Vehicle Center Line
S3	Left	1	196	26.7°	11.1°	0.0°
	Right	1	274	26.7°	10.8°	0.0°

*The spacing for an individual seat belt assembly anchorage shall be at least 165 mm apart as measured between the vertical center lines of the bolt holes.

**Specified angle range above horizontal to be 20° to 75°.

Seat Location	Seating Location	Required Load (Newtons)	Actual Max. Test Load (Newtons)	PASS/FAIL
S3	Left	21,780 – 21,956	21,878	**PASS**
	Right	21,780 – 21,956	21,895	**PASS**

Comments: None

Recorded By: _____

Approved By: _____ Date: 09/20/10

SECTION 4

INSTRUMENTATION AND EQUIPMENT LIST

Equipment	Description	Model / Serial No.	Cal. Date	Cal. Due Date
Load Cell	PCB	1315-101-01A / 664	03/24/10	09/24/10
Load Cell	PCB	1315-101-01A / 703	07/13/10	01/13/10
Inclinometer	Digital Protractor	Pro 360 / 001	Daily	Daily
Steel Tape	Stanley	Powerlock / 184	12/09/09	12/09/10
Camera	Sony	DSC-575	---	---

SECTION 5

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Test Vehicle:	**2009 TRANS TECH RONDAK BUS**	NHTSA No.:	**C90903**
Procedure:	**FMVSS 222**	Test Dates:	**12/21/09 – 09/20/10**

Left Side View of School Bus

Test Vehicle: **2009 TRANS TECH RONDAK BUS** NHTSA No.: **C90903**
Procedure: **FMVSS 222** Test Dates: **12/21/09 – 09/20/10**

Right Side View of School Bus

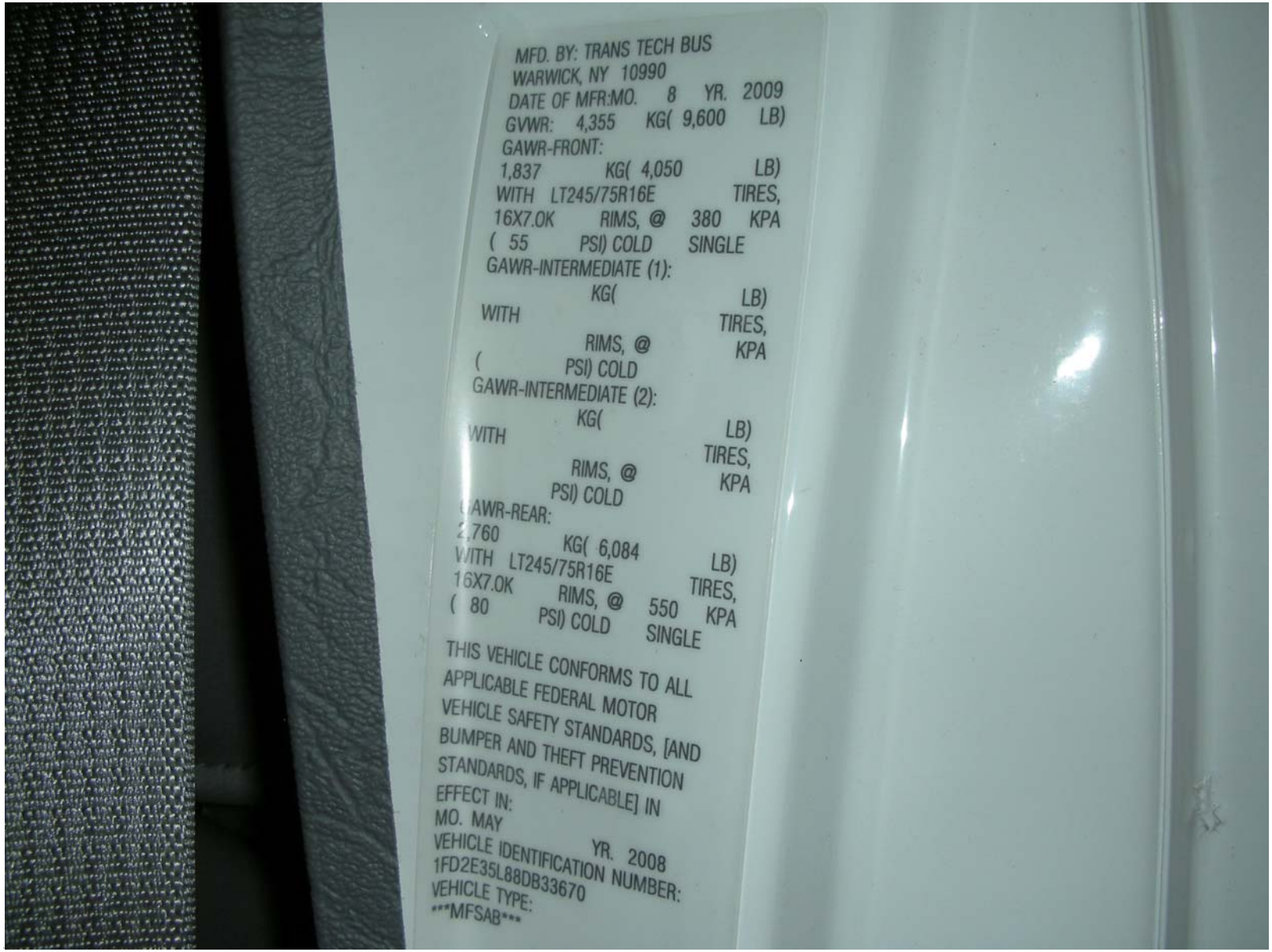
Test Vehicle:	**2009 TRANS TECH RONDAK BUS**	NHTSA No.:	**C90903**
Procedure:	**FMVSS 222**	Test Dates:	**12/21/09 – 09/20/10**

¾ Front View From Left Side of School Bus

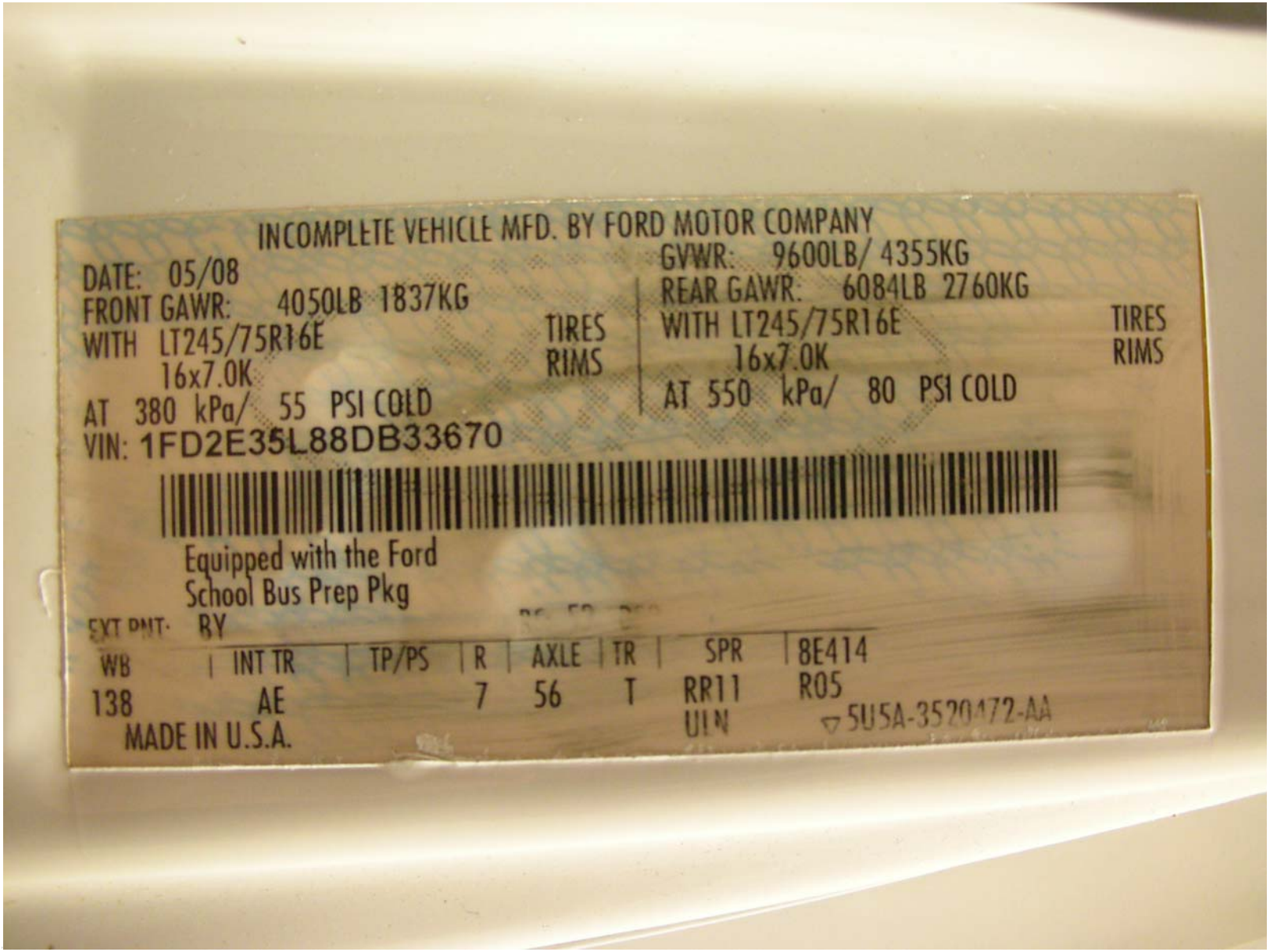
Test Vehicle:	**2009 TRANS TECH RONDAK BUS**	NHTSA No.:	**C90903**
Procedure:	**FMVSS 222**	Test Dates:	**12/21/09 – 09/20/10**

¾ Front View From Right Side of School Bus

¾ Rear View From Right Side of School Bus



Certification Label & Tire Placard



Incomplete Vehicle Label

Vehicle Interior View From Front to Rear

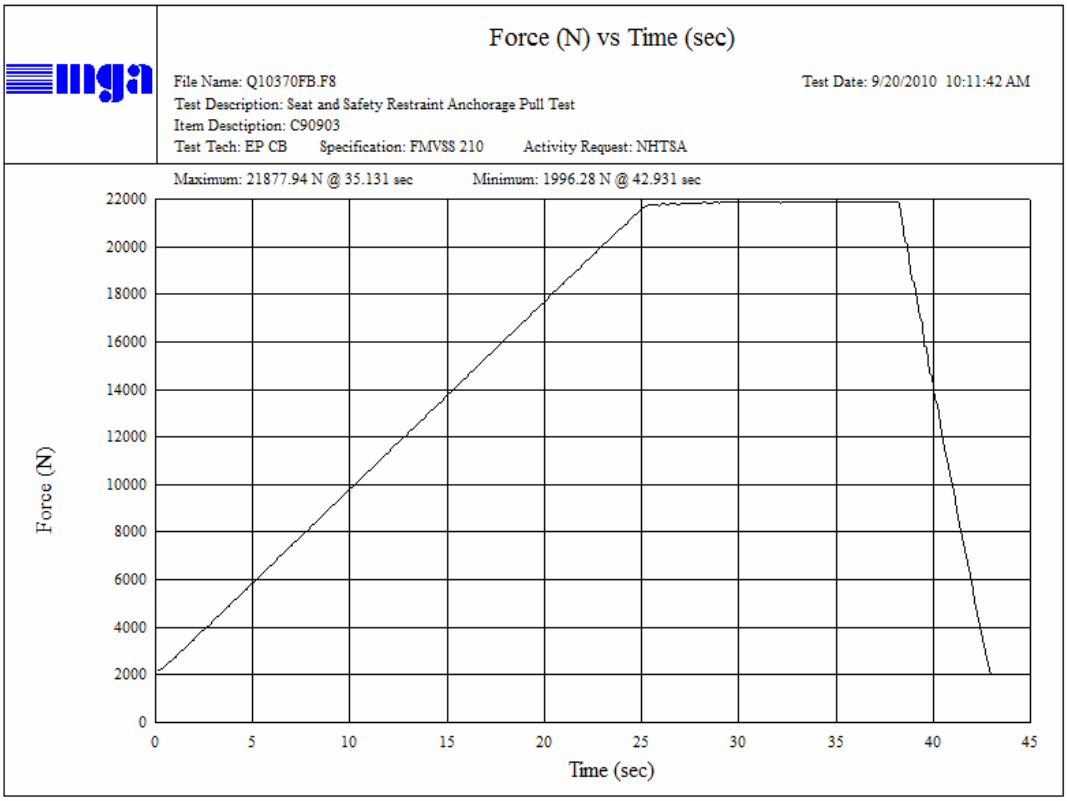
Test Vehicle: **2009 TRANS TECH RONDAK BUS** NHTSA No.: **C90903**
Procedure: **FMVSS 222** Test Dates: **12/21/09 – 09/20/10**

Post-Test of Seat S3 210 Test

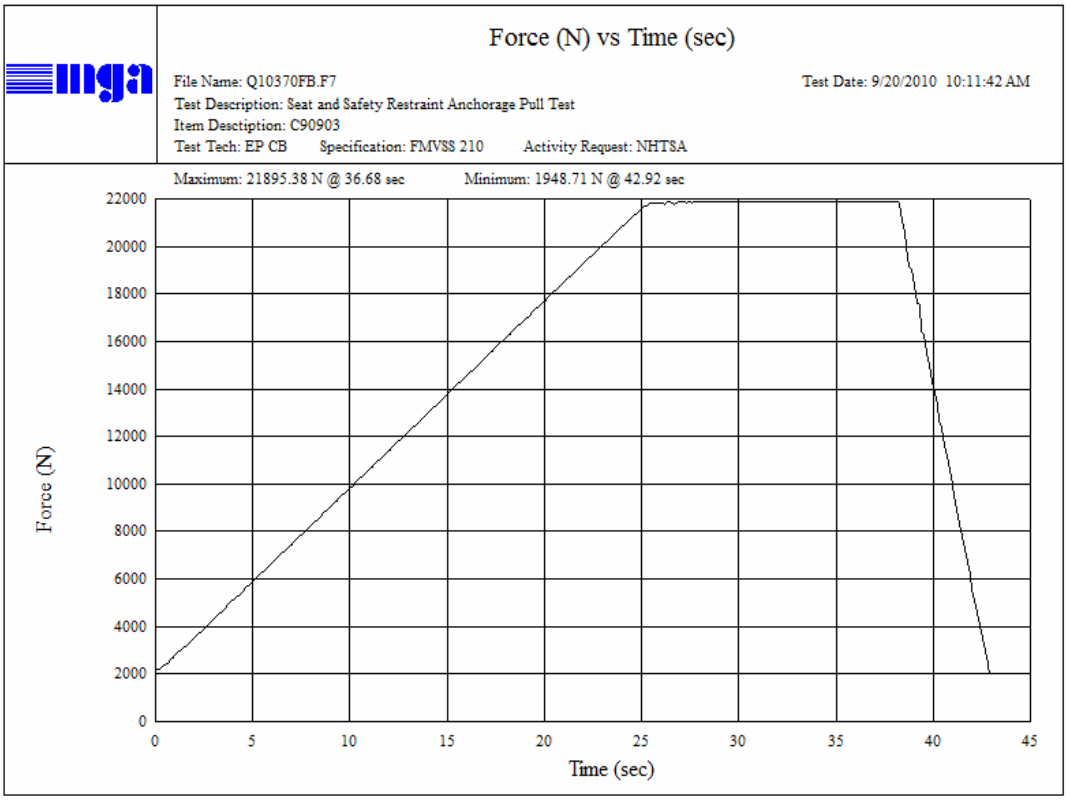
SECTION 6

TEST PLOTS

TABLE OF TEST PLOTS



Seat S3 Anchorage Type 1 FMVSS 210



Seat S3 Anchorage Type 1 FMVSS 210

SECTION 7

BUS FLOOR PLAN