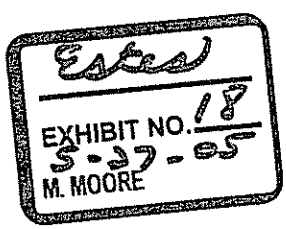
SAFETY TEST
VEHICLE CRASH TEST LETTER

VC05890 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8367
1997 MVSS DEVELOPMENT - 301.
TEST DATE 04/22/96

TEST PURPOSE	PRIMARY, 1997 USA 301 DEVELOPMENT. OBSERVE FUEL SYSTEM INTEGRITY.	
IMPACT TYPE	TARGET SPEED; 30.1 MPH DAMAGE LOCATION; REAR BARRIER TYPE; REAR TYPE IV BARRIER SURFACE; PLYWOOD	
VEHICLE	BODY CLASS; ZJ CAR LINE; J BODY; 74 ENGINE; 5.2 LITRE. ENGINE NOTE; ELECTRONIC FUEL INJECTION TRANSMISSION; 4 SPEED AUTO 4x4 TRANS. NOTE; VIN AS TESTED; 1J4GZ78Y8?C242703 VIN AS BUILT; 1J4GZ78Y8TC242703	 MOD. MOD.
TEST SPEED	30.2 MPH BY ELECTRONIC TRAP.	
TEST WEIGHT (LBS)	4827 TOTAL, 2801 FRONT, 2026 REAR	
OCCUPANTS	LEFT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY. RIGHT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY.	AD-53 AD-60
BUILD CONDITION	1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997. 5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4. POWER STEERING, ABS BRAKES, AIR CONDITIONING. FULL CENTER CONSOLE AND OVERHEAD CONSOLE. P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE SPARE. 1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN. TRAILER HITCH SINGLE SIDE BRACKET ON LEFT REAR.	
TARGET WEIGHT (LBS)	4185 TOTAL, 2336 FRONT, 1849 REAR, REP MAX OPT WT. NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.	
FUEL AND BALLAST	21.5 GALLONS OF STODDARD SOLVENT. 300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA. 250 LBS OF BALLAST SECURED TO REAR FLOORPANS.	



SAFETY TEST
VEHICLE CRASH TEST LETTER

VC05890 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8367
1997 MVSS DEVELOPMENT - 301.
TEST DATE 04/22/96

POST TEST REMARKS THERE WERE NO FUEL LEAKS AT IMPACT. FUEL SYSTEM INTEGRITY WAS MAINTAINED.

REPORT CODES

A = TRANSDUCER DATA	B = ALL FILM DATA
C = HIGH SPEED FILM	D = ENGINEER'S REPORT
E = DUMMY KINEMATICS	F = STEERING COLUMN
G = UNDERBODY	H = A-POST
I = DYNAMIC CRUSH	J = ENGINE COMPARTMENT
K = DOOR CRUSH	L = FORCE/CRUSH/ENERGY
M = SPECIAL	N = CATALOG EDP DATA
* = REPORT REQUESTOR	

DISTRIBUTION

D.J. MCKENZIE	422-05-01 (AB)
J.B. ESTES	514-15-58 (AB)

DATE 04/23/96 TIME 13.03.15.

CHRYSLER MOTORS
SAFETY TEST
VEHICLE CRASH TEST REQUEST

ITEM ZJ8367 CHARGE NO. DISCOVER ISSUE DATE 041696

VC 5890 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI.
1997 MVSS DEVELOPMENT - 301.

TEST DATE 4/22/96 ENGINEER Collings
SPEED [illegible] MPH SOURCE [illegible]

TEST PURPOSE PRIMARY, 1997 USA 301 DEVELOPMENT.
OBSERVE FUEL SYSTEM INTEGRITY.

IMPACT TYPE
TARGET SPEED; 30.1 MPH
DAMAGE LOCATION; REAR
BARRIER TYPE; REAR TYPE IV
BARRIER SURFACE; PLYWOOD

VEHICLE
BODY CLASS; ZJ
CAR LINE; J
BODY; 74
ENGINE; 5.2 LITRE
ENGINE NOTE; ELECTRONIC FUEL INJECTION
TRANSMISSION; 4 SPEED AUTO 4x4
TRANS. NOTE;
VIN AS TESTED; 1J4GZ78Y8?C242703 MOD.
VIN AS BUILT; 1J4GZ78Y8TC242703 MOD.

BUILD CONDITION
1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997.
5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4, POWER STEERING, ABS BRAKES, AIR CONDITIONING.
FULL CENTER CONSOLE AND OVERHEAD CONSOLE.
P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE SPARE.
1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN.
TRAILER HITCH SINGLE SIDE BRACKET ON LEFT REAR.

TARGET WEIGHT (LBS) 4185 TOTAL, 2336 FRONT, 1849 REAR, REP MAX OPT WT. NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.

TEST WEIGHT (LBS) [illegible] TOTAL, [illegible] FRONT, [illegible] REAR

FUEL BALLAST 21.5 GALLONS OF STODDARD SOLVENT.

LUGGAGE BALLAST 300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.

OTHER BALLAST [illegible]

POST TEST REMARKS

DC 02073

CHRYSLER MOTORS
SAFETY TEST
VEHICLE CRASH TEST REQUEST

OCCUPANTS	LEFT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY. RIGHT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY.	AD NO 53 AD NO 60
MECHANICAL REQ	PLACE SEAT IN MID TRACK POSITION. FUEL PUMP TO BE RUNNING DURING TEST. RUN FUEL PUMP PRE TEST TO CHECK CONNECTIONS. PRESSURE CHECK PRE AND POST TEST. STATIC ROLL POST TEST. PAINT REAR DIFFERENTIAL AND GAS TANK FOR VIEWING. PAINT TANK AND TARCET AS PER 3RD SHEET 106. PAINT FILLER NECK AREA FOR VISIBILITY.	
INSTRUMENTATION REQ	SEE 3RD SHEET NO. 106 FOR ACCELEROMETER REQUIREMENTS AND LOCATIONS (THE 4 SILL ACCELEROMETERS ARE TO BE BI-AXIAL). TRIAXIAL ON AECM BRACKET. MONITOR AECM SQUIB, SAFING AND INT. ACCELEROMETER. ADD TRI-AXIAL ACCELEROMETERS LEFT AND RIGHT AT : FRONT SEAT RISER REARWARD FLANGE 6 IN. INBOARD FROM SILL. (UNDER SEAT'S FRONT OUTER CORNER) ON B-PILLAR REARWARD OF RETRACTOR ON LOWER RADIUS OF B-PILAR TO FLOOR. ON B-PILLAR BETWEEN RETRACTOR & ACCESS HOLE AT THE APPROXIMATE HEIGHT OF THE STRIKER BRACKET. THESE LOCATIONS ARE MARKED APPROXIMATELY BY PEN ON THE VEHICLE. QUESTIONS CAN BE DIRECTED TO J.B. ESTES 733-2519 OR KUMAR SINGARAJAN 733-3615 INSURE AIRBAGS DO NOT FIRE.	
PHOTOGRAPHIC REQ	1-LEFT SIDE OVERALL CAMERA TO VIEW ENTIRE VEHICLE. 1-RIGHT SIDE OVERALL CAMERA TO VIEW ENTIRE VEHICLE 1-CATWALK CAMERA TO VIEW ENTIRE VEHICLE. 2-PIT CAMERAS FOR ANALYSIS OF REAR UNDERBODY. 1-PIT CAMERA CLOSE UP OF TRACK BAR BRACKET. PRE AND POST TEST PHOTOS OVERALL AND UNDERBODY ON 8 X 10 PAPER IN COLOR. 1-VELOCITY CAMERA	
FILM ANALYSIS	VEHICLE VELOCITY, ONLY IF REQUESTED. DYNAMIC CRUSH.	
REMARKS	MAKE 1 FILM COPY AND 1 VHS COPY, SEND TO: J.S. ESTES 514-15-58 PLEASE RETURN VEHICLE POST TEST TO JTE. ATTENTION PAM MORTON @ 733-8727	
T[illegible]E. REPORT	301 FUEL SYSTEMS REPORT REQUIRED.	

DC 02074

CHRYSLER MOTORS
SAFETY TEST
VEHICLE CRASH TEST REQUEST

REPORT CODES

A = TRANSDUCER DATA	B = ALL FILM DATA
C = HIGH SPEED FILM	D = ENGINEER'S REPORT
E = DUMMY KINEMATICS	F = STEERING COLUMN
G = UNDERBODY	H = A-POST
I = DYNAMIC CRUSH	J = ENGINE COMPARTMENT
K = DOOR CRUSH	L = FORCE/CRUSH/ENERGY
M = SPECIAL	N = CATALOG EDP DATA
* = REPORT REQUESTOR	

DISTRIBUTION

D.J. MCKENZIE	422-05-01 (AB)
J.B. ESTES	514-15-58 (AB)

DATE 04/23/96 ELECTRONIC DATA PROCESSING VEHICLE CRASH ENGINEERING
TIME 15.06.47. EDP TEST LETTER DEPT 5320

VC05890 ITEM ZJ8367
VC05890 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8367
1997 MVSS DEVELOPMENT - 301.
TEST DATE 04/22/96

TEST PURPOSE	PRIMARY, 1997 USA 301 DEVELOPMENT. OBSERVE FUEL SYSTEM INTEGRITY.	
IMPACT TYPE	TARGET SPEED; 30.1 MPH DAMAGE LOCATION; REAR BARRIER TYPE; REAR TYPE IV BARRIER SURFACE; PLYWOOD	
VEHICLE	BODY CLASS; ZJ CAR LINE; J BODY; 74 ENGINE; 5.2 LITRE ENGINE NOTE; ELECTRONIC FUEL INJECTION TRANSMISSION; 4 SPEED AUTO 4X4 TRANS. NOTE; VIN AS TESTED; 1J4GZ78Y8?C242703 VIN AS BUILT; 1J4GZ78Y8TC242703	MOD. MOD.
TEST SPEED	30.2 MPH BY ELECTRONIC TRAP.	
TEST WEIGHT (LBS	4827 TOTAL, 2801 FRONT, 2026 REAR	
OCCUPANTS	LEFT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY. RIGHT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY.	AD-53 AD-6[illegible]
BUILD CONDITION	1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997. 5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4, POWER STEERING, ABS BRAKES, AIR CONDITIONING. FULL CENTER CONSOLE AND OVERHEAD CONSOLE. P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE SPARE. 1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN. TRAILER HITCH SINGLE SIDE BRACKET ON LEFT REAR.	
TARGET WEIGHT (LBS)	4185 TOTAL, 2336 FRONT, 1849 REAR, REP MAX OPT WT. NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.	
FUEL AND BALLAST	21.[illegible] GALLONS OF STODDARD SOLVENT [illegible]00 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA. 250 LBS OF BALLAST SECURED TO REAR FLOORPANS.	
POST TEST REMARKS	THERE WERE NO FUEL LEAKS AT IMPACT. FUEL SYSTEM INTEGRITY WAS MAINTAINED.	

DC 02082

DATE 04/23/96 ELECTRONIC DATA PROCESSING VEHICLE CRASH ENGINEERING
TIME 15.06.47. EDP TEST LETTER DEPT 5320

VC05890 ITEM ZJ8367
VC05890 30 MPH REAR BARRIER, JJ74, 5.2L MPI ITEM ZJ8367
1997 MVSS DEVELOPMENT - 301.
TEST DATE 04/22/96

EDP TECHNICIAN S. MARCHENIA

No. of Pages 58
CC

J. B. ESTES 514-15-58
D. J. MCKENZIE 422-05-01

DC 02083

TITLE: Page Index of EDP plots Pages 001 - 058

********** VC05890A **********

TITLE: Transducer Summary Reports Pages 001 - 005

********** VC05890B **********

TITLE: Vehicle Channels Pages 006 - 054

TITLE: Moving barrier Channels
Pages 055 - 058

INTER COMPANY CORRESPONDENCE

DATE 05/01/96

TO
DISTRIBUTION

FROM	DEPARTMENT	PLANT/OFFICE	CIMS NUMBER
R. M. HAUT	5320	CTC	481-00-27

SUBJECT:
REAR DYNAMIC CRUSH ANALYSIS
VC05890 30 MPH REAR BARRIER, ZJ '74, 5.2L MPI ITEM ZJ8367
1997 MVSS DEVELOPMENT - 301.
TEST DATE 04/22/96

TEST PURPOSE	PRIMARY, 1997 USA 301 DEVELOPMENT. OBSERVE FUEL SYSTEM INTEGRITY.	
IMPACT TYPE	TARGET SPEED: 30.1 MPH DAMAGE LOCATION: REAR BARRIER TYPE: REAR TYPE IV BARRIER SURFACE: PLYWOOD	
VEHICLE	BODY CLASS: ZJ CAR LINE: J BODY: 74 ENGINE: 5.2 LITRE ENGINE NOTE: ELECTRONIC FUEL INJECTION TRANSMISSION: 4 SPEED AUTO 4x4 TRANS. NOTE: VIN AS TESTED: 1J4GZ78Y8?C242703 VIN AS BUILT: 1J4GZ78Y8TC242703	MOD. MOD.
TEST SPEED	30.2 MPH BY ELECTRONIC TRAP.	
TEST WEIGHT (LBS)	4827 TOTAL, 2801 FRONT, 2026 REAR	
OCCUPANTS	LEFT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY. RIGHT FRONT, HYB II, BALLAST. RESTRAINT-BELTS ONLY.	AD-53 AD-60
BUILD CONDITION	1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997. 5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4, POWER STEERING, ABS BRAKES, AIR CONDITIONING. FULL CENTER CONSOLE AND OVERHEAD CONSOLE. P225/70 R15 TIRES ON ALUMINUM RIMS & FULL SIZE SPARE. 1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN. TRAILER HITCH SINGLE SIDE BRACKET ON LEFT REAR.	
TARGET WEIGHT (-85)	4185 TOTAL, 2335 FRONT, 1849 REAR, REP MAX OPT WT. NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.	
FUEL AND BALLAST	21.5 GALLONS OF STODDARD SOLVENT. 300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.	

DC 02144

250 LBS OF BALLAST SECURED TO REAR FLOORPANS.

POST TEST REMARKS THERE WERE NO FUEL LEAKS AT IMPACT. FUEL SYSTEM INTEGRITY WAS MAINTAINED.

DYNAMIC CRUSH, PITCH, AND REAR WHEEL MOTION RELATIVE TO THE FRONT SIDE HAVE BEEN DETERMINED BY FILM ANALYSIS. TIME WAS BASED ON CAMERA TIMING DATA.

DYNAMIC CRUSH 20.4 +OR- 1 INCH AT 80. +OR- 5 MSEC.

S.A. Helquist

S. A. HELQUIST

K. M. HAUT

GRAPHS - 4

GLOSSARY OF TERMS

USED IN STANDARD REPORTS

AD	ANTHROPOMORPHIC DEVICE
ADT	ANTHROPOMORPHIC TEST DEVICE
BASE COORD	BASE COORDINATE SYSTEM
C/L	CENTERLINE
CAR COORD	CAR COORDINATE SYSTEM
CCW	COUNTER CLOCKWISE
CORR-IN	SEPARATION IN INCHES (MINUS INITIAL LENGTH)
CORR-MM	SEPARATION IN MM (MINUS INITIAL LENGTH)
CORR-P	CORRECTED (ZEROED) PITCH
CORR-R	CORRECTED (ZEROED) ROLL
CORR-Y	CORRECTED (ZEROED) YAW
CW	CLOCKWISE
EFI	ELECTRONIC FUEL INJECTOR
ENG	ENGINE
ENGPY	ENGINE PITCH AND YAW
FESM	FRONT END SHEET METAL
FIDUCIAL	REFERENCE POINT OR TARGET
FS	FRONT SILL TARGET
FWD	FORWARD
IP	INSTRUMENT PANEL TARGET
LBS	POUNDS
LCP.LQP	LEFT C-POST & QUARTER PANEL TARGETS
LFS.LMS.LRS	LEFT FRONT SILL, MID SILL, & REAR SILL TARGETS
LT	LEFT
MS	MID SILL TARGET
NORMALIZE	PUT ON A COMMON BASIS
NOSE-DOWN	LEADING END BELOW TRAILING
NOSE-UP	LEADING END ABOVE TRAILING
PERF	PERFORMANCE
REF	REFERENCE
REL	RELATIVE TO (ONE-DIMENSIONAL)
RCP.RQP	RIGHT C-POST & QUARTER PANEL TARGETS
RFS.RMS.RRS	RIGHT FRONT, MID, & REAR SILL TARGETS
ROLL-LEFT	LEFT SIDE LOWER THAN RIGHT
ROLL-RIGHT	RIGHT SIDE LOWER THAN LEFT
RS	REAR SILL TARGET
RT	RIGHT
SEP	SEPARATION OF (THREE-DIMENSIONAL)
SYS	SYSTEM
TBI	THROTTLE BODY INJECTOR
TIME.MS	TIME IN MILLISECONDS
U/B	UNDERBODY
VS	VERSUS
X	LONGITUDINAL AXIS (INCREASING TOWARD TRAILING EDGE)
XF	X-FILTERED
Y	LATERAL AXIS (INCREASING TO THE RIGHT)
YAW-LEFT	LEADING EDGE TO LEFT
YAW-RIGHT	LEADING EDGE TO RIGHT
Z	VERTICAL AXIS (INCREASING UPWARD)
ZEROED	SHIFTED TO START AT ZERO
ZERO-IN	ZEROED INCHES
ZERO-MM	ZEROED MILLIMETERS

IMPACT ANALYSIS
DEPARTMENT 5320
05/01/96 15.48
TEST VC05890