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Transportation Environment Data Bank Index

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Prepared by Sandia Laboratories, Albuquerque, New Mexico 87115
and Livermore, California 94550 for the United States Energy Research
and Development Administration under Contract AT(29-1)-789

Printed November 1976

Supersedes SAND75-0248A

Sandia Laboratories

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Category UC-71

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TRANSPORTATION ENVIRONMENT DATA BANK INDEX

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ABSTRACT

In an effort to determine the environment intensities to which energy materials in transit will be exposed, a "Data Bank" of environmental information has been established by Sandia Laboratories, Division 1285 for the ERDA Division of Environmental Control Technology. This document is an index which can be used to request data of interest.

Printed in the United States of America

Available from
National Technical Information Service
U. S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161
Price: Printed Copy \$5.00 Microfiche \$2.25

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TRANSPORTATION ENVIRONMENT DATA BANK INDEX

Introduction

The purpose of the Transportation Environment Data Bank is to store and make available descriptions of the environment of transportation expressed in engineering terms. The data are intended to provide environmental criteria to shipping container design and test engineers as a basis for their functions. The Transportation Environment Data Bank is a segment of a larger ERDA/DOD environmental Data Bank for weapons application.

For purposes of indexing and data retrieval, the data are catalogued under two major headings: Normal and Abnormal Environments. The diagram below illustrates the relationship between these environmental designations.

Normal environments are those which will be encountered at some level during every shipment. They have a high frequency of occurrence, but a relatively low intensity. The abnormal or accident environments, on the other hand, are characterized by higher intensities but lower frequency of occurrence. The very high intensities of environment occur very infrequently. The abnormal environments, while often called by different names to differentiate them, have actually the same engineering parameters as the normal. Thus, an acceleration is experienced by cargo as a truck crosses railroad tracks at 50 mph. A greater acceleration may result if it strikes a bridge abutment at the same speed. To make the difference clear in a succinct manner, the latter is termed, "impact." These short descriptions are shown in the index in parentheses where they apply.

The Environments

Twelve categories of environment have been identified as relevant to transportation. These include:

1. Acceleration/Time*	7. Pressure*
2. Acoustic Noise	8. Radiation*
3. Atmospheric Contents	9. Shock*
4. Fragmentation*	10. Temperature*
5. Humidity	11. Vibration
6. Precipitation	12. Wind*

Three factors operate to limit the number of these environments for which abnormal levels require consideration:

1. Some environments reach an absolute limit regularly, and the limit thus is within the normal range;
2. The abnormal aspects of some of them are encountered so infrequently as to be of little interest; and
3. Protection against the effects of some environments include protection against the abnormal.

After eliminating from consideration those listed environments falling within the above limitations, only the environments indicated by an asterisk in the above list are of interest in the abnormal considerations. Figure 1 presents the environments which relate to transportation and the details of the abnormal environments as to input and response.

Input may be defined as the environmental level which exists at the cargo interface, while response is considered as the way in which the cargo reacts to the environments. As an example, consider the pressure environment. Pressure has both normal and abnormal levels. The normal, which all cargo will experience, includes the variations in atmospheric pressure at a specific location, as well as the variations produced by changes in elevation, both on the earth's surface and while flying. The abnormal aspects of the pressure environment are the result of exposure to an explosion or to immersion (inputs); if the intensity level of input is sufficiently high, a crush response of the cargo will result.

Four of the environments are considered only in the normal aspects for reasons mentioned above. One environment, fragmentation, is considered only in the abnormal aspect. This is because no elements which will cause puncture to the cargo are present under normal conditions, i.e., will be encountered frequently during transportation.

* Environments with both normal and abnormal aspects.

Figure 1. Structure of the Transportation Environment Data Bank

The Data

Both input and response data contained in the Transportation Environment Data Bank relating to the normal environments are measured data. They were obtained from reliable sources, both within Sandia Laboratories and from other reputable agencies. When data were required, but not available, the Data Bank operators arranged for measurements to provide the information.

Most input data in the Data Bank under the heading of Abnormal Environments, however, were not measured directly. Because of the number and randomness of occurrence and type, it is impossible to provide engineering instrumentation for measurement. If an instrumented vehicle is subjected to a staged accident, it represents only the one type of event. Therefore, it is necessary to use statistical techniques to characterize the range of environmental intensities which may be experienced by cargo in accidents. The data to which these techniques are applied are often estimated. The basic data which are most useful to estimate abnormal inputs include the following.

<u>Abnormal Input</u>	<u>Useful Data Parameters</u>
1. Earthquake	Time History
2. Impact	Vehicle Velocity
3. Explosion	Pressure or Missile Velocity, Radius of Missile Travel
4. Projectile/Impalement	Package Velocity, Radius of Probe
5. Immersion	Depth
6. Lightning	Voltage, Amperage, Rise Time, etc.
7. Fire	Temperature, Heat Flux and Duration
8. Windstorm	Velocity, Pressure Differential

It is these types of data, or information which permit the derivation of these values, which are stored in the input section of the Abnormal Environment part of the Transportation Environment Data Bank. The response section of the Bank is expressed in terms of damage to cargo. Since the damage can be described and measured, measurements and descriptions are included wherever possible.

Mechanics of the Data Bank

The data which have been retrieved and entered in the Data Bank are on microfilm. Two forms of microfilm are used: aperture cards and microfiche. Facilities for viewing the data and obtaining hard copy are located at the bank site. When processing large requests for information, the Bank's operators have access to automated means for obtaining hard copy.

The two-part number listed after the title of a particular Data Bank entry is the access number for the data of file. The first number, e.g., 1614, is the file number. The number after the dash (-) is the number of file cards available on the subject. Requests for hard copies of data

should cite these two numbers. For large data requests, it is faster and cheaper for the data bank operators to transmit the data to the requestor in the form of duplicate microfilm aperture cards or duplicate microfiche. If the requestor has facilities for reading information in these formats, it should be so stated in the request.

When either raw data or published information is acquired, it is reviewed for engineering data content. Pertinent information is then extracted, collated, and microfilmed. The data cards and/or microfiche are filed in numerical order without regard to subject. This simple technique is possible because of a computerized indexing and retrieval program which was developed for efficient use of the Data Bank.

The use of a computer-aided system makes it possible to obtain a more flexible file, permits more complete data retrieval, shortens the time necessary for search, and makes feasible more frequent publication of a current index.

Data Sources

Normal environmental information for inclusion in the Data Bank is acquired by the Data Bank's operators from many sources. Military agencies, such as Aberdeen Proving Ground, Wright Air Development Center, Naval Ordnance Test Center, and Army QM R&E Center, and industrial groups, such as railroads, aircraft companies, and trucking concerns, have contributed information. A considerable portion of the information has been obtained from various project groups within Sandia Laboratories. The Data Bank's operators not only extract information from published sources, but engage in specific research activities to obtain data not otherwise available.

Abnormal environmental information is obtained primarily from U. S. Department of Transportation sources and reports produced by the National Transportation Safety Board. Contacts have been established with various individuals and agencies responsible for accident investigation in the various modes of transportation. An information sources file is maintained as an adjunct to the Bank which integrates this Data Bank's efforts with other Data Banks collecting related accident information such as accident rates, fatalities, etc.

Availability of the Data

The information in the Data Bank is available, within the limits of time, workload, and security regulations, to any requestor. Requests for data should be sent to Division 1285, Sandia Laboratories, Albuquerque, New Mexico, 87115. The request should either outline the specific area for which information is desired, or it should list specific entries, including serial numbers. Requests will be processed as time allows. Agencies outside of the ERDA complex will be furnished information subject to the review and release procedures established by the ERDA.

The Index

The index provided on the following pages is what the Bank's operators call a category index. Entry is made into this index by finding the environmental category of interest, such as shock, temperature, vibration, etc. The 12 categories are listed alphabetically.

Normal Environments

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....ACCELERATION/TIME.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

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....ACCELERATION/TIME.....INPUT.....TRANSPORTATION.....SHIP.....

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ACCELERATIONS ON PACKAGES STORED IN SHIPS HOLDS	UNC	00740-001+
ACCELERATION,EXPECTED PEAK VALUES,MARINE	UNC	00741-001+
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SHIP MOTIONS,T-2 TANKER,ESSO ASHVILLE,NORMAL OPERATIONS	UNC	00747-001+
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....ACCELERATION/TIME.....RESPONSE.....TRANSPORTATION.....AIRCRAFT.....

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AIRCRAFT RECORDINGS DURING A TURBULENCE INCIDENT	UNC	01090-001+

....ACCELERATION/TIME.....INPUT.....GENERAL.....SHIP.....

HYDRODYNAMIC ASPECT OF DYNAMIC DRILL SHIP POSITICNING	UNC	01981-020+
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....ACCELERATION/TIME.....INPUT.....GENERAL.....OTHER.....

APPROXIMATE DURATION OF SOME SHORT ACCELERATION LOADS	UNC	00734-001+
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.....ACOUSTIC NOISE.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

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SOUND PRESSURE LEVEL VS ANGLE AT 200 FEET,C124,3 ENGINES UP	UNC	00613-001+
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SOUND PRESSURE LEVEL,AVERAGE,COMPARISON OF C133A AND C124	UNC	00615-001+
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SOUND PRESSURE LEVEL,OVERALL,FOR 5 TURBOJET AIRCRAFT,200 FT	UNC	00620-001+
SOUND PRESSURE LEVEL,OVERALL,FOR 4 TURBOJET AIRCRAFT,400 FT	UNC	00621-001+
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SOUND PRESSURE LEVEL,OVERALL,MAXIMUM,4 USAF TURBOJET A/C	UNC	00623-001+
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.....ACOUSTIC NOISE.....INPUT.....TRANSPORTATION.....RAILROAD.....

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TYPHOON REPORT - PACIFIC OCEAN - 1963	UNC	01806-003+
TYPHOON REPORT - PACIFIC OCEAN - 1965	UNC	01807-003+
TYPHOON REPORT - PACIFIC OCEAN - 1966	UNC	01808-003+
TYPHOON REPORT - PACIFIC OCEAN - 1967	UNC	01809-003+
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TYPHOON REPORT - PACIFIC OCEAN - 1969	UNC	01811-002+
TYPHOON REPORT - PACIFIC OCEAN - 1970	UNC	01812-003+
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.....PRESSURE.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

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.....RADIATION.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

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.....SHOCK.....RESPONSE.....HANDLING.....OTHER.....

SHOCK, RESPONSE, 3000 LB FORKLIFT TRUCK (SEE 1744)	UNC	01747-057+
SHOCK, RESPONSE, 4000LB FORKLIFT TRUCK (SEE 1744)	UNC	01750-058+
SHOCK, VIBRATION, 7000 LB FORKLIFT TRUCK (SEE 1744)	UNC	01752-041+

.....SHOCK.....RESPONSE....TRANSPORTATION.....AUTOMOBILE.....

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SHOCK DATA, UNION CARBIDE TRUCK TEST	UNC	01314-013+

.....SHOCK.....RESPONSE....TRANSPORTATION.....RAILROAD.....

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BOXCAR SHOCK CRITERIA SUMMARY	UNC	B1203-002+
ATMX CAR SHOCK CRITERIA SUMMARY	UNC	B1210-002+
SHOCK/VIERATION ENVIRONMENT SUMMARY, RAIL TRANSPORT	UNC	B1320-011+
SHOCK SPECTRA SUMMARY, SIX-ATMX CAR TRAIN	UNC	C1215-012+
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SHOCK SPECTRA, BOXCAR, VERTICAL AXIS	UNC	01205-064+
SHOCK SPECTRA, BOXCAR, LATERAL AXIS	UNC	01206-059+
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SHOCK SPECTRA, SERIES 500 ATMX CAR, VERTICAL AXIS	UNC	01212-053+
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SHOCK SPECTRA, 3RD STRUCK CAR, SIX-ATMX CAR TRAIN	UNC	01219-085+
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.....SHOCK.....RESPONSE....TRANSPORTATION.....OTHER.....

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.....SHOCK.....INPUT.....GENERAL.....OTHER.....

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.....SHOCK.....INPUT.....HANDLING.....OTHER.....

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.....SHOCK.....RESPONSE.....HANDLING.....OTHER.....

MAXIMUM DROPS, PACKAGES IN TRANSIT	UNC	01608-004+
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RADIATION,MEAN DAILY TOTAL,FLAT SURFACE,LOCATIONS,US/CANADA	UNC	00495-004+
TYPHOON REPORT - PACIFIC OCEAN - 1959	UNC	01802-003+
TYPHOON REPORT - PACIFIC OCEAN - 1960	UNC	01803-003+
TYPHOON REPORT - PACIFIC OCEAN - 1961	UNC	01804-003+
TYPHOON REPORT - PACIFIC OCEAN - 1962	UNC	01805-004+
TYPHOON REPORT - PACIFIC OCEAN - 1963	UNC	01806-003+
TYPHOON REPORT - PACIFIC OCEAN - 1965	UNC	01807-003+

.....TEMPERATURE.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

TEMPERATURES,CARGO COMPARTMENT,C119C AIRCRAFT,ALASKA,WINTER	UNC	00061-001+
TEMPERATURES,AIRCRAFT COMPARTMENT	UNC	00062-001+
TEMPERATURES,MAXIMUM/MINIMUM,IN AIR AND AIRCRAFT CARGO HOLDS	UNC	00064-001+
TEMPERATURES,COMPARTMENT,C141A	UNC	00066-001+
FREQUENCY OF OCCURENCE OF AIRCRAFT ICING PARAMETERS	UNC	01089-002+
TEMP/TIME DATA AIRCRAFT,TRUCK,TRAIN,ATMX	UNC	01288-004+

.....TEMPERATURE.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

TEMPERATURE/TIME DATA,TRUCK (SEE 1288)	UNC	01309-004+
TEMPERATURE,TRUCK CARGO, HIGH AND LOW	UNC	01327-027+

.....TEMPERATURE.....INPUT.....TRANSPORTATION.....RAILROAD.....

TEMPERATURE,INTERNAL AIR,RAILROAD BOXCAR IN DESERT	UNC	00056-001+
TEMPERATURE TESTS,INTERNAL,RAILROAD FREIGHT CARS WINTER	UNC	00057-001+
TEMPERATURE/TIME DATA, RAIL AND ATMX CARS (SEE 1288)	UNC	01310-004+
TEMPERATURE, HIGH, STANDING BOXCARS	UNC	01401-020+

.....TEMPERATURE.....INPUT.....TRANSPORTATION.....SHIP.....

TEMPERATURES AND RELATIVE HUMIDITY,SHIP HOLD	UNC	00058-001+
TEMPERATURES,MAXIMUM AND MINIMUM,AT SEA	UNC	00059-001+
HUMIDITY,RELATIVE,APOARD SHIP	UNC	00232-001+
TEMPERATURE IN SHIPS HOLDS	UNC	01262-003+

.....TEMPERATURE.....RESPONSE.....TRANSPORTATION.....AIRCRAFT.....

TEMP/TIME DATA AIRCRAFT,TRUCK,TRAIN,ATMX	UNC	01288-004+
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.....TEMPERATURE.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

TEMPERATURE/TIME DATA,TRUCK (SEE 1288)	UNC	01309-004+
TEMPERATURE,TRUCK CARGO, HIGH AND LOW	UNC	01327-027+

.....TEMPERATURE.....RESPONSE.....TRANSPORTATION.....RAILROAD.....

TEMPERATURE/TIME DATA, RAIL AND ATMX CARS (SEE 1288)	UNC	01310-004+
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.....VIBRATION.....INPUT.....GENERAL.....RAILROAD.....

PARAMETRIC STUDIES RR FRT CAR MATH MODEL HARMONIC ROLL          UNC    01980-005+
RIDE QUALITY OF A CONTAINER FLAT CAR                          UNC    01982-006+

.....VIBRATION.....INPUT.....HANDLING.....OTHER.....

SUMMARY,DYNAMIC ENVIRONMENT,FORKLIFT TRUCKS                  UNC    01744-031+
SHOCK,VIBRATION, 2000 LB FORKLIFT TRUCK (SEE 1744)           UNC    01745-047+
VIBRATION, INPUT/RESPONSE,3000 LB FORKLIFT (SEE 1744)        UNC    01748-075+
VIBRATION,INPUT/RESPONSE, 4000 LB FORKLIFT (SEE 1744)        UNC    01751-061+
SHOCK, VIBRATION, 7000 LB FORKLIFT TRUCK (SEE 1744)          UNC    01752-041+

.....VIBRATION.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

DYNAMIC ENVIRONMENT,TURBOJET CARGO AIRCRAFT                  UNC    A1533-002+
VIBRATION,MOST PROBABLE EXTREME,PROPELLER DRIVEN AIRCRAFT    UNC    B0420-001+
VIBRATION DATA,AIRCRAFT                                     UNC    00424-001+
VIBRATIONS,MAXIMUM LATERAL AND VERTICAL,HELICOPTER FLOOR     UNC    00433-001+
VIBRATION,KC-135 FLOOR,VERTICAL,LATERAL,LONGITUDINAL        UNC    00846-001+
VIBRATION,FLOOR,PROPELLER,JET,HELICOPTER AIRCRAFT           UNC    00847-001+
VIBRATION,H-37 HELICOPTER FLOOR,VERTICAL,LATERAL FORE/AFT    UNC    00848-001+
VIBRATION,C-123 FLOOR,LONGITUDINAL,VERTICAL,LATERAL AXES     UNC    00851-001+
VIBRATION,C-130 FLOOR,VERTICAL,LATERAL,LONGITUDINAL AXES     UNC    00852-001+
RESPONSE OF TURBOJET/PISTON ENGINE A/C TO RUNWAY ROUGHNESS    UNC    00910-006+
VIBRATION,AIR-RIDE VAN AND C-130,C-133 AIRCRAFT              UNC    01148-009+
VIBRATION NC135 AFT PASSENGER COMPARTMENT                    UNC    01318-010+
VIBRATION SUMMARY,HELICOPTER,HH43,UH1,OH6,CH46,CH47          UNC    01321-009+
VIBRATION, CARGO FLOOR, UH-1 HELICOPTER                      UNC    01322-007+
VIBRATION,CARGO FLOOR,OH-6 HELICOPTER                        UNC    01323-007+
VIBRATION,CARGO FLOOR, CH-46 HELICOPTER                      UNC    01324-043+
VIBRATION,CARGO FLOOR,CH-47 HELICOPTER                       UNC    01325-031+
VIBRATION, C130A,C130B CARGO FLOOR                           UNC    01356-001+
VIBRATION C130,C133 TAKE OFF AND CRUISE                      UNC    01357-001+
C-133 UTILIZATION                                           UNC    01400-001+
VIBRATION, CSA CARGO FLOOR - SUMMARY- SEE 1440 TO 1444       UNC    01439-029+
VIBRATION, CSA CARGO FLOOR, STANDARD VIBRAN (SEE 1439)       UNC    01440-085+
VIBRATION, CSA CARGO FLOOR, FORMAT 2 VIBRAN, (SEE 1439)      UNC    01441-030+
VIBRATION, CSA CARGO FLOOR, PSD (SEE 1439)                   UNC    01442-088+
VIBRATION, CSA CARGO FLOOR, PSD,(SEE 1439)                   UNC    01443-095+
DYNAMIC ENVIRONMENT,C141 JET CARGO AIRCRAFT - FIRST FLIGHT   UNC    01534-024+
DYNAMIC ENVIRONMENT,C141 JET CARGO AIRCRAFT -SECOND FLIGHT   UNC    01535-032+
DYNAMIC ENVIRONMENT,CSA JET CARGO AIRCRAFT                    UNC    01536-096+

.....VIBRATION.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

VIBRATION-ACCELERATIONS IN HIGHWAY OPERATION OF TRUCKS        UNC    00370-001+
VIBRATION IN ROAD VEHICLES                                    UNC    00374-001+

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.....VIBRATION.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

VIBRATION,MAXIMUM,ON TRUCKBED,VARIETY OF ROAD OPERATIONS	UNC	00377-001+
VIBRATION,MAXIMUM ACCELERATION IN CARGO TRUCK	UNC	00379-001+
VIBRATION DATA,TYPICAL,VAN TRAILER,NORMAL SUSPENSION	UNC	00397-001+
VIBRATION,FLAT-BED TRACTOR-TRAILER	UNC	00401-001+
VIBRATION,TRUCK FLOOR,EMPTY AND FULLY LOADED	UNC	00849-001+
DYNAMIC ENVIRONMENT ON A FLAT BED TRACTOR/TRAILER (AEC/DOD)	UNC	01006-008+
FINAL ANALYSIS,AEC/DOD FLATBED TRUCK TEST	UNC	01083-041+
VIBRATION ENVIRONMENT,AEC VAN WITH TRANSIT RIG SHIPPING CONT	UNC	01245-061+
VIBRATION/SHOCK, 2 1/2 TON TRUCK	UNC	01264-008+
VIBRATION/SHOCK AIR SUSPENSION VAN	UNC	01277-006+
SHOCK/VIBRATION SUMMARY,UNION CARBIDE TRUCK TEST	UNC	01312-007+
VIBRATION DATA, UNION CARBIDE TRUCK TEST	UNC	01313-045+
VIBRATION,TRUCK,TANDEM AXLE,AIR BAG SUSPENSION	UNC	01361-001+
VIBRATION IN COMMON MOTOR CARRIERS	UNC	01742-007+

.....VIBRATION.....INPUT.....TRANSPORTATION.....RAILROAD.....

SHOCK/VIBRATION ENVIRONMENT SUMMARY, RAIL TRANSPORT	UNC	B1320-011+
VIBRATION,RAIL TRANSPORT,SUMMARY OF DATA ON	UNC	00355-001+
VIBRATION DATA,RAIL	UNC	00357-001+
VIBRATION TESTS,RAILROAD,SPEED 40MPH	UNC	00358-001+
VIBRATION TESTS,RAILROAD,SPEED 73MPH	UNC	00359-001+
VIBRATION TESTS,RAILROAD,SPEED 80MPH	UNC	00360-001+
VIBRATIONS IN RAILROAD FREIGHT CARS AT SPEEDS FROM 31-73MPH	UNC	00362-001+
VIBRATIONS MEASURED ON ATMX 500 CAR AT SPEEDS 30-70MPH	UNC	00363-001+
VIBRATION ENVIRONMENT PRODUCED DURING RAIL TRANSPORT	UNC	00366-001+
VIBRATION,RAILROAD,SOFT SPRUNG CAR,VERTICAL AND LATERAL	UNC	00850-001+
VIBRATION, RAILROAD CONTINUOUS AND TRANSIENT	UNC	01031-001+
VIBRATION,RAILROAD ENVELOPES DIRECTIONAL COMPOSITES	UNC	01032-001+
SHOCK/VIBRATION SUMMARY,UNION CARBIDE RAIL TEST	UNC	01315-007+
VIBRATION DATA,UNION CARBIDE RAIL TEST	UNC	01316-065+
VIBRATION, RAIL BOX CAR W/EMPTY, HALF AND FULL LOAD	UNC	01328-084+

.....VIBRATION.....INPUT.....TRANSPORTATION.....SHIP.....

VIBRATION,MOST EXTREME PROBABLE,EXPECTED IN SEA TRANSPORT	UNC	B0404-001+
VIBRATION MEASUREMENTS ON SHIPBOARD DURING TRANSPORT	UNC	00202-001+
VIBRATION DATA,SHIPS	UNC	00405-001+
VIBRATION DATA,SHIPS IN STRAIGHT RUNS AT VARIOUS SPEEDS	UNC	00407-001+
VIBRATION,SHIPBOARD,NORMAL STEAMING AND HARD TURNS	UNC	00408-001+
VIBRATION DATA,SHIPS,HIGH SPEED MANEUVER AND CRASH BACK	UNC	00409-001+
VIBRATIONS,SHIPBOARD,FROM VARIOUS SOURCES	UNC	00415-001+
VIBRATIONS,MERCHANT SHIP SS WOLVERINE STATE	UNC	00418-025+

.....VIBRATION.....INPUT.....TRANSPORTATION.....OTHER.....

SUMMARY, DYNAMIC ENVIRONMENT OF TRANSPORTATION - 1973	UNC	A1354-018+
VIBRATION SUMMARIES OF EDB1354 IN PSD FORMATS	UNC	B1354-006+
VIBRATION-MAXIMUM ACCELERATIONS FOR VARIOUS VEHICLES	UNC	00368-001+
SHOCK + VIBRATION DATA OBTAINED FROM TRUCK + RAIL SHIPMENT	UNC	01003-006+
TRANSPORTATION VIBRATION ENVIRONMENTS	UNC	01176-002+

.....VIBRATION.....RESPONSE.....GENERAL.....AUTOMOBILE.....

STUDY OF PASSENGER RESPONSE TO IDEAL AND REAL VEH VIB	UNC	01941-001+
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.....VIBRATION.....RESPONSE.....HANDLING.....OTHER.....

SUMMARY,DYNAMIC ENVIRONMENT,FORKLIFT TRUCKS	UNC	01744-031+
SHOCK,VIBRATION, 2000 LB FORKLIFT TRUCK (SEE 1744)	UNC	01745-047+
VIBRATION, INPUT/RESPONSE,3000 LB FORKLIFT (SEE 1744)	UNC	01748-075+
VIBRATION,INPUT/RESPONSE, 4000 LB FORKLIFT (SEE 1744)	UNC	01751-061+
SHOCK, VIBRATION, 7000 LB FORKLIFT TRUCK (SEE 1744)	UNC	01752-041+

.....VIBRATION.....RESPONSE....TRANSPORTATION.....AIRCRAFT.....

VIBRATION NC135 AFT PASSENGER COMPARTMENT	UNC	01318-010+
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.....VIBRATION.....RESPONSE....TRANSPORTATION.....AUTOMOBILE.....

VIBRATION ENVIRONMENT,AEC VAN WITH TRANSIT RIG SHIPPING CONT	UNC	01245-061+
SHOCK/VIBRATION SUMMARY,UNION CARBIDE TRUCK TEST	UNC	01312-007+
VIBRATION DATA, UNION CARBIDE TRUCK TEST	UNC	01313-045+

.....VIBRATION.....RESPONSE....TRANSPORTATION.....RAILROAD.....

SHOCK/VIBRATION ENVIRONMENT SUMMARY, RAIL TRANSPORT	UNC	01320-011+
SHOCK/VIBRATION SUMMARY,UNION CARBIDE RAIL TEST	UNC	01315-007+
VIBRATION DATA,UNION CARBIDE RAIL TEST	UNC	01316-065+
VIBRATION, RAIL BOX CAR W/EMPTY, HALF AND FULL LOAD	UNC	01328-084+

.....VIBRATION.....RESPONSE....TRANSPORTATION.....OTHER.....

SHOCK + VIBRATION DATA OBTAINED FROM TRUCK + RAIL SHIPMENT	UNC	01003-006+
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.....WIND.....INPUT.....GENERAL.....OTHER.....

ENVIRONMENT CONDITIONS PREVAILING DURING TRANSIT	UNC	00078-001+
WIND VELOCITIES,WORLDWIDE,AND DISTRIBUTION IN TEMPERATE ZONE	UNC	00258-001+
WIND SPEED DISTRIBUTION IN THE UNITED STATES	UNC	01595-005+
GLAZE ICE, WIND LOADS AT EARTHS SURFACE	UNC	01722-001+

.....WIND.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

FATIGUE DAMAGE PARAMETERS,TRANSPORT AIRCRAFT	UNC	01085-001+
GUST LOAD FREQUENCY, AIRCRAFT FLIGHTS,40-45KILOFEET,IN STORM	UNC	01087-002+
AIRCRAFT RECORDINGS DURING A TURBULENCE INCIDENT	UNC	01090-001+

.....WIND.....RESPONSE....TRANSPORTATION.....AIRCRAFT.....

GUST LOAD FREQUENCY, AIRCRAFT FLIGHTS,40-45KILOFEET,IN STORM	UNC	01087-002+
AIRCRAFT RECORDINGS DURING A TURBULENCE INCIDENT	UNC	01090-001+

.....WIND.....INPUT.....GENERAL.....OTHER.....

WIND AND WAVE HEIGHTS - TROPICAL STORMS

TYPHOON REPORT - PACIFIC OCEAN - 1959

UNC 01636-002+

TYPHOON REPORT - PACIFIC OCEAN - 1960

UNC 01802-003+

TYPHOON REPORT - PACIFIC OCEAN - 1961

UNC 01803-003+

TYPHOON REPORT - PACIFIC OCEAN - 1962

UNC 01804-003+

TYPHOON REPORT - PACIFIC OCEAN - 1963

UNC 01805-004+

TYPHOON REPORT - PACIFIC OCEAN - 1965

UNC 01806-003+

TYPHOON REPORT - PACIFIC OCEAN - 1966

UNC 01807-003+

TYPHOON REPORT - PACIFIC OCEAN - 1967

UNC 01808-003+

TYPHOON REPORT - PACIFIC OCEAN - 1968

UNC 01809-003+

TYPHOON REPORT - PACIFIC OCEAN - 1969

UNC 01810-004+

TYPHOON REPORT - PACIFIC OCEAN - 1970

UNC 01811-002+

TYPHOON REPORT - PACIFIC OCEAN - 1974

UNC 01812-003+

UNC 01813-003+

Abnormal Environments

....ACCELERATION/TIME.....INPUT.....GENERAL.....AIRCRAFT.....

NTSB 1974 REPORT TO CONGRESS, AIRCRAFT	UNC	01904-004+
SUMMARY US CIVIL AVIATION STATISTICS 1965 - 1975	UNC	01923-007+

....ACCELERATION/TIME.....INPUT.....GENERAL.....AUTOMOBILE.....

NTSB 1974 REPORT TO CONGRESS, AUTOMOBILE	UNC	01905-001+
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....ACCELERATION/TIME.....INPUT.....GENERAL.....RAILROAD.....

NTSB 1974 REPORT TO CONGRESS, RAIL	UNC	01906-001+
TRAIN ACCIDENT RATES, 1965-1974	UNC	01920-004+

....ACCELERATION/TIME.....INPUT.....GENERAL.....SHIP.....

SUMMARY FRT SHIPS AND FRT BARGE ACCIDENTS 1965 - 1974	UNC	01985-003+
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(EARTHQUAKE)

....ACCELERATION/TIME.....INPUT.....GENERAL.....OTHER.....

EARTHQUAKES IN THE UNITED STATES	UNC	00948-004+
EARTHQUAKE, STRONG MOTION - ACCELOGRAMS G VS TIME	UNC	01526-004+
EARTHQUAKE, STRONG MOTION - ACCELOGRAMS G VS TIME	UNC	01527-004+
EARTHQUAKE - ROCK MOTION ACCELOGRAMS G VS TIME, DISTANCE	UNC	01528-001+
STRONG MOTION EARTHQUAKE ACCELOGRAMS - PART F	UNC	01570-004+
STRONG MOTION EARTHQUAKE ACCELOGRAMS - PART G	UNC	01571-004+
STRONG MOTION EARTHQUAKE ACCELOGRAMS - PART H	UNC	01572-004+
STRONG MOTION EARTHQUAKE ACCELOGRAMS- VOL I, PT I, DATA	UNC	01600-004+
STRONG MOTION EARTHQUAKE ACCELOGRAMS- VOL I, PT J, DATA	UNC	01601-004+
STRONG MOTION EARTHQUAKE ACCELOGRAMS- VOL I, PT K, DATA	UNC	01602-004+
STRONG MOTION EARTHQUAKE ACCELOGRAMS-VOL III, RES. SPECTRA	UNC	01603-003+
STRONG MOTION EARTHQUAKE ACCELOGRAMS-VOL IV, FOURIER SPECTRA	UNC	01604-002+
EARTHQUAKE, ANCHORAGE, 1964(ENGINEERING INFORMATION	UNC	01661-002+
EARTHQUAKE ACCELOGRAMS-DIGITIZED AND PLOTTED DATA	UNC	01852-002+
EARTHQUAKE ACCELOGRAMS-RESPONSE SPECTRA	UNC	01853-004+
EARTHQUAKE ACCELOGRAMS-RESPONSE SPECTRA	UNC	01854-003+
EARTHQUAKE ACCELOGRAMS-FOURIER SPECTRA	UNC	01855-003+

(IMPACT)

....ACCELERATION/TIME.....INPUT.....GENERAL.....AIRCRAFT.....

ACCIDENT RATES, CIVIL AIRCRAFT 1964 - 1974	UNC	01634-006+
CIVIL AIRCRAFT ACCIDENT TYPES, 1970 - 1974	UNC	01673-005+
AIRCRAFT ACCIDENT REPORTS - NTSB - 1972	UNC	01724-002+
AIRCRAFT ACCIDENTS, TYPE, RATE, NTSB 1970	UNC	01756-002+
AIRCRAFT ACCIDENTS, TYPE, RATE, NTSB 1973	UNC	01757-010+
AIRCRAFT ACCIDENTS INVOLVING FIRES 1963-1974 ANALYSIS	UNC	01940-002+
ACCIDENT RATES, CIVIL AIRCRAFT 1974	UNC	01942-004+
COMPARISON 1974 CIVIL A/C ACCIDENT RATES TO 1969-73	UNC	01943-007+

(IMPACT)ACCELERATION/TIME.....INPUT.....GENERAL.....AIRCRAFT.....

ACCIDENT RATES, CIVIL AIRCRAFT, 1963-1973 UNC 01959-007+

(IMPACT)ACCELERATION/TIME.....INPUT.....GENERAL.....AUTOMOBILE.....

TRUCK ACCIDENT SPEEDS A - SUMMARY UNC 01687-002+

STATISTICAL STUDY OF TRUCK ACCIDENT SPEEDS UNC 01698-012+

(IMPACT)ACCELERATION/TIME.....INPUT.....GENERAL.....RAILROAD.....

RAIL ACCIDENT SPEED STATISTICS UNC 01020-025+

RAIL ACCIDENT STATISTICS, 1969 UNC 01666-002+

RAIL ACCIDENT STATISTICS, 1971 UNC 01667-002+

FREIGHT TRAIN ACCIDENTS, NUMBER OF CARS INVOLVED UNC 01729-007+

(IMPACT)ACCELERATION/TIME.....INPUT.....GENERAL.....OTHER.....

APPROXIMATE DURATION OF SOME SHORT ACCELERATION LOADS UNC 00734-001+

(IMPACT)ACCELERATION/TIME.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

ANALYSIS OF DIRECTION OF LOADS IN AIRCRAFT ACCIDENTS UNC 00751-001+

ACCELERATION OF FLOOR-AIRCRAFT CRASHES UNC 00752-001+

ACCELERATION, AIRCRAFT CRASH-VARIOUS ANGLES OF IMPACT UNC 00753-008+

FLOOR ACCELERATIONS, TRANSPORT AIRCRAFT ACCIDENTS UNC 01629-001+

CIVIL AVIATION ACCIDENT DATA - 1962 TO 1972 UNC 01664-009+

AIRCRAFT ACCIDENT - BOEING 707 - 8/28/73 UNC 01801-001+

AIRCRAFT ACCIDENT - BOEING 747 - 4/12/72 UNC 01818-001+

A RISK AND COMPARATIVE ANALYSIS OF NAVY AIRCRAFT DATA UNC 01857-001+

ARMY ROTARY WING AIRCRAFT ACCIDENTS-COST STUDY 1970-71 UNC 01895-016+

(IMPACT)ACCELERATION/TIME.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

TRUCK ACCIDENT ENVIRONMENT ANALYSIS TAC - STUDY UNC 01944-002+

ACCELERATIONS, AUTOMOBILE CRASH (HEAD-ON) UNC 00737-001+

DECELERATION PATTERNS FOR AUTOMOBILE HEAD-ON COLLISIONS UNC 00738-001+

TRUCK ACCIDENTS, NHTSA, FINAL REPORT UNC 01875-019+

TRUCK ACCIDENTS, NHTSA, VOL.6, NO.4 UNC 01876-003+

TRUCK ACCIDENTS, NHTSA, VOL.6, NO.5 UNC 01877-004+

TRUCK ACCIDENTS, NHTSA, VOL.6, NO.6 UNC 01878-008+

TRUCK ACCIDENTS, NHTSA, VOL.6, NO.7 UNC 01879-006+

TRUCK ACCIDENTS, NHTSA, VOL.6, NO.8 UNC 01880-011+

TRUCK ACCIDENTS, NHTSA, VOL.6, NO.9 UNC 01881-014+

CAR ACCIDENT, NHTSA, VOL.6, NO.11 UNC 01898-005+

TRUCK ACCIDENT, NHTSA, VOL.6, NO.10 UNC 01899-005+

TRUCK ACCIDENT, NHTSA, VOL.6, NO.12 UNC 01900-004+

TRUCK/PICKUP TRUCK W/CAMPER AND TRAILER COLLISION UNC 01901-015+

(IMPACT)

....ACCELERATION/TIME.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

AUTO COLLISION W/AND COLLAPSE OF BRIDGE, SILOAM, NC	UNC	01952-014+
TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+
SCHOOLBUS/AUTO COLLISION/ROLLOVER, ASHLAND, OREGON	UNC	01954-017+
COLLISION OF TRUCK AND BUS, NEAR HAMILTON, GA JUN 1975	UNC	01955-009+
COLLISION OF WYNNEBAGO MOTOR HOME W/BRIDGE 1 JUL 1975	UNC	01956-015+
COLLISION OF TRUCK AND CAR, LOVINGTON, NM 3 JAN 1976	UNC	01957-006+
CAR COLLISION, FRONT-TO-FRONT IMPACT TEST AT 50 MPH	UNC	01958-002+
TRUCK TRACTOR-TRAILER/GROUND/ROLLOVER VOL 7, NO 1	UNC	01962-004+
TRUCK TRACTOR-SPORTS VAN IMPACT VOL 7, NO 1	UNC	01963-005+
TRUCK CAR ACCIDENT, BALTIMORE, MD, ON INTERSTATE	UNC	01964-006+
TRUCK CAR ACCIDENT, REAR END UNDER-RIDE IMPACT, VOL 7	UNC	01965-006+
GASOLINE TRUCK ACCIDENT, SEATTLE, WA 4 DEC 1975	UNC	01966-001+
TRACTOR TRAILER/CAR/SCHOOL BUS, REAR END, ROLLOVER	UNC	01967-005+
CAR BUS ACCIDENT, OVERLAND PARK, KANSAS 7 OCT 1975	UNC	01968-005+
STATION WAGON/TRAIN ACCIDENT, BALTIMORE, MD DEC 1975	UNC	01969-006+
TRACTOR TRAILER, REAR END AND ROLLOVER NY 1 JUL 1975	UNC	01970-005+
TRUCK ACCIDENT, TIRE BLEW OUT, IMPACT, NY 21 JUN 1975	UNC	01971-005+
STATION WAGON/SCHOOL BUS, HEAD ON, HAMBURG, NY SEP 1975	UNC	01972-005+
TRUCK/SCHOOL BUS/TRAIN ACCIDENT, ARKANSAS 11 SEP 1975	UNC	01973-005+
TRACTOR TRAILER, FRONT TO SIDE IMPACT FEB 1975	UNC	01974-006+
TRUCK CAR ACCIDENT INTERSECCION, BALTIMORE, MD FEB 1975	UNC	01975-006+
CAR/POLE/TRAIN SIDESWIPE IMPACT, LOS ANGELES 25 SEP 1975	UNC	01976-004+
TRUCK CAR ACCIDENT, REAR END, SAN DIEGO FREEWAY JAN 1976	UNC	01977-005+

(IMPACT)

....ACCELERATION/TIME.....INPUT.....TRANSPORTATION.....RAILROAD.....

REAR END COLLISION AND DERAILMENT MEEKER, LA MAY 1975	UNC	01924-012+
RAIL ACCIDENT, HEAD-END, EL MONTE, CA 2 APR 1973	UNC	01925-004+
RAIL ACCIDENT, HEAD-ON, LUFKIN, TEXAS 18 NOV 1973	UNC	01926-003+
RAIL ACCIDENT, HEAD-ON, COBDEN, ILLINOIS 2 DEC 1973	UNC	01927-003+
RAIL ACCIDENT, HEAD-ON, PLAINVIEW, TEXAS 15 DEC 1973	UNC	01928-003+
RAIL ACCIDENT, HEAD-ON, ST LOUIS, MISSOURI 22 JUN 1974	UNC	01929-004+
RAIL ACCIDENT, HEAD-ON, MEMPHIS, TEN 24 JAN 1975	UNC	01930-003+
RAIL ACCIDENT, SIDE-ON, EARLS, TEXAS 29 NOV 1974	UNC	01931-003+
RAIL ACCIDENT, OPEN SWITCH, WINDHAM, CHIO 22 NOV 1973	UNC	01932-002+
RAIL ACCIDENT, RAKING, LAKE JUNCTION, NJ 17 JUN 1974	UNC	01933-004+
RAIL ACCIDENT, REAR END, HURRICANE, ALASKA 5 JUL 1975	UNC	01945-012+
RAIL ACCIDENT, REAR END, LEETONIA, OHIO 6 JUN 1975	UNC	01946-014+
RAIL ACCIDENT, REAR END, DUPO, ILLINOIS 3 JAN 1975	UNC	01947-004+
RAIL ACCIDENT, GRADE CROSSING, DEL MAR, CA 27 FEB 1974	UNC	01948-003+
RAIL ACCIDENT, BROKEN RAIL, THOMPSONTOWN, PA DEC 1974	UNC	01949-002+
RAIL ACCIDENT, GRADE CROSSING, TRACY, CA 9 MAR 1975	UNC	01950-015+
RAIL ACCIDENT, GRADE CROSSING, ELWOOD, IL 19 NOV 1975	UNC	01951-012+

(IMPACT)

....ACCELERATION/TIME.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

TRUCK ACCIDENTS, NHTSA, FINAL REPORT	UNC	01875-019+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 4	UNC	01876-003+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 5	UNC	01877-004+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 6	UNC	01878-008+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 7	UNC	01879-006+

TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 8	UNC	01880-011+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 9	UNC	01881-014+
CAR ACCIDENT, NHTSA, VOL 6, NO. 11	UNC	01898-005+
TRUCK ACCIDENT, NHTSA, VOL 6, NO. 10	UNC	01899-005+
TRUCK ACCIDENT, NHTSA, VOL 6, NO. 12	UNC	01900-004+
TRUCK/PICKUP TRUCK W/CAMPER AND TRAILER COLLISION	UNC	01901-015+
AUTO COLLISION W/AND COLLAPSE OF BRIDGE, SILOAM, NC	UNC	01952-014+
TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+
SCHOOLBUS/AUTO COLLISION/ROLLOVER, ASHLAND, OREGON	UNC	01954-017+
COLLISION OF TRUCK AND BUS, NEAR HAMILTON, CA JUN 1975	UNC	01955-009+
COLLISION OF WINNEBAGO MOTOR HOME W/BRIDGE 1 JUL 1975	UNC	01956-015+
COLLISION OF TRUCK AND CAR, LOVINGTON, NM 3 JAN 1976	UNC	01957-006+
CAR COLLISION, FRONT-TO-FRONT IMPACT TEST AT 60 MPH	UNC	01958-002+
TRUCK TRACTOR-TRAILER/GROUND/ROLLOVER VOL 7, NO 1	UNC	01962-004+
TRUCK TRACTOR-SPORTS VAN IMPACT VOL 7, NO 1	UNC	01963-005+
TRUCK CAR ACCIDENT, BALTIMORE, MD, ON INTERSTATE	UNC	01964-006+
TRUCK CAR ACCIDENT, REAR END UNDER-RIDE IMPACT, VOL 7	UNC	01965-006+
GASOLINE TRUCK ACCIDENT, SEATTLE, WA 4 DEC 1975	UNC	01966-001+
TRACTOR TRAILER/CAR/SCHOOL BUS, REAR END, ROLLOVER	UNC	01967-005+
CAR BUS ACCIDENT, OVERLAND PARK, KANSAS 7 OCT 1975	UNC	01968-005+
STATION WAGON/TRAIN ACCIDENT, BALTIMORE, MD DEC 1975	UNC	01969-006+
TRACTOR TRAILER, REAR END AND ROLLOVER NY 1 JUL 1975	UNC	01970-005+
TRUCK ACCIDENT, TIRE BLEW OUT, IMPACT, NY 21 JUN 1975	UNC	01971-005+
STATION WAGON/SCHOOL BUS, HEAD ON, HAMBOURG, NY SEP 1975	UNC	01972-005+
TRUCK/SCHOOL BUS/TRAIN ACCIDENT, ARKANSAS 11 SEP 1975	UNC	01973-005+
TRACTOR TRAILER, FRONT TO SIDE IMPACT FEB 1975	UNC	01974-006+
TRUCK CAR ACCIDENT INTERSECTION, BALTIMORE, MD FEB 1975	UNC	01975-006+
CAR/POLE/TRAIN SIDESWIPE IMPACT, LOS ANGELES 25 SEP 1975	UNC	01976-004+
TRUCK CAR ACCIDENT, REAR END, SAN DIEGO FREEWAY JAN 1976	UNC	01977-005+

(IMPACT)

....ACCELERATION/TIME.....RESPONSE....TRANSPORTATION.....RAILROAD.....

RAIL ACCIDENT, HEAD-END, EL MONTE, CA	2 APR 1973	UNC	01925-004+
RAIL ACCIDENT, HEAD-ON, LUFKIN, TEXAS	18 NOV 1973	UNC	01926-003+
RAIL ACCIDENT, HEAD-ON, COBDEN, ILLINOIS	2 DEC 1973	UNC	01927-003+
RAIL ACCIDENT, HEAD-CN, PLAINVIEW, TEXAS	15 DEC 1973	UNC	01928-003+
RAIL ACCIDENT, HEAD-ON, ST LOUIS, MISSOURI	22 JUN 1974	UNC	01929-004+
RAIL ACCIDENT, HEAD-ON, MEMPHIS, TEN	24 JAN 1975	UNC	01930-003+
RAIL ACCIDENT, SIDE-ON, EARLS, TEXAS	29 NOV 1974	UNC	01931-003+
RAIL ACCIDENT, OPEN SWITCH, WINDHAM, OHIO	22 NOV 1973	UNC	01932-002+
RAIL ACCIDENT, RAKING, LAKE JUNCTION, NJ	17 JUN 1974	UNC	01933-004+

(IMPACT)

....ACCELERATION/TIME.....RESPONSE....TRANSPORTATION.....RAILROAD.....

RAIL ACCIDENT, REAR END, HURRICANE, ALASKA	5 JUL 1975	UNC	01945-012+
RAIL ACCIDENT, REAR END, LEETONIA, OHIO	6 JUN 1975	UNC	01946-014+
RAIL ACCIDENT, REAR END, DUPO, ILLINOIS	3 JAN 1975	UNC	01947-004+
RAIL ACCIDENT, GRADE CROSSING, DEL MAR, CA	27 FEB 1974	UNC	01948-003+
RAIL ACCIDENT, BROKEN RAIL, THOMPSONTOWN, PA	DEC 1974	UNC	01949-002+
RAIL ACCIDENT, GRADE CROSSING, TRACY, CA	9 MAR 1975	UNC	01950-015+
RAIL ACCIDENT, GRADE CROSSING, ELWOOD, IL	19 NOV 1975	UNC	01951-012+

(PUNCTURE)FRAGMENTATION.....INPUT.....GENERAL.....OTHER.....
 FRAGMENTS, MASS, VELOCITY, STANDARD ARTILLERY SHELLS UNC 01814-002+

(PUNCTURE)FRAGMENTATION.....INPUT.....TRANSPORTATION.....AIRCRAFT.....
 ROTOR FRAGMENT CONTAINMENT-JET ENGINE FAILURE - 1972 UNC 01781-010+

(PUNCTURE)FRAGMENTATION.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....
 SEVERITIES TRAN ACCIDENT VOL 3 MOTOR CARRIER SEE A1630 UNC A1663-001+
 TRUCK ACCIDENT-FLORIDA-8/8/71 UNC 01695-003+
 TRUCK ACCIDENT REPORTS, NHTSA, NO. 7 UNC 01753-005+
 TRUCK ACCIDENT REPORTS, NHTSA, NO. 8 UNC 01754-004+
 TRUCK ACCIDENT REPORTS, NHTSA, NO. 9 UNC 01755-005+

(PUNCTURE)FRAGMENTATION.....INPUT.....TRANSPORTATION.....RAILROAD.....
 SEVERITIES TRAN ACCIDENT VOL 4 TRAIN SEE A1630 UNC A1986-001+
 RAIL ACCIDENT, HOUSTON, TEXAS 21 SEPT, 1974 UNC 01893-014+

(PUNCTURE)FRAGMENTATION.....INPUT.....TRANSPORTATION.....SHIP.....
 IMPACT, PENETRATION, SHIP COLLISION AND GROUNDING UNC 01550-001+

(PUNCTURE)FRAGMENTATION.....INPUT.....TRANSPORTATION.....OTHER.....
 SEVERITIES OF TRANSPORTATION ACCIDENTS VOL 1 SUMMARY UNC A1630-006+

(PUNCTURE)FRAGMENTATION.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....
 CARGO RESPONSE TRUCK AND RAIL ACCIDENTS UNC 01688-002+
 TRUCK ACCIDENT-FLORIDA-8/8/71 UNC 01695-003+

(PUNCTURE)FRAGMENTATION.....RESPONSE.....TRANSPORTATION.....RAILROAD.....
 CARGO RESPONSE TRUCK AND RAIL ACCIDENTS SEE EDB1688 UNC 01699-002+
 RAIL ACCIDENT, HOUSTON, TEXAS, 19 OCT 1971 UNC 01846-006+
 RAIL ACCIDENT, CRESCENT CITY, 19 AUG 1970 UNC 01847-009+
 RAIL ACCIDENT, HOUSTON, TEXAS 21 SEPT, 1974 UNC 01893-014+

(EXPLOSION)FRAGMENTATION.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....
 TRUCK ACCIDENT-NEW JERSEY 9/21/72 UNC 01690-003+
 TRUCK ACCIDENT-GEORGIA-6/4/71 UNC 01694-003+
 TRUCK ACCIDENT-VIRGINIA-3/9/72 UNC 01696-003+

.....PRESSURE.....INPUT.....GENERAL.....OTHER.....
 TYPHOON REPORT - PACIFIC OCEAN - 1959 UNC 01802-003+
 TYPHOON REPORT - PACIFIC OCEAN - 1960 UNC 01803-003+
 TYPHOON REPORT - PACIFIC OCEAN - 1961 UNC 01804-003+
 TYPHOON REPORT - PACIFIC OCEAN - 1962 UNC 01805-004+

TYPHOON REPORT - PACIFIC OCEAN - 1963	UNC	01806-003+
TYPHOON REPORT - PACIFIC OCEAN - 1965	UNC	01807-003+
TYPHOON REPORT - PACIFIC OCEAN - 1966	UNC	01808-003+
TYPHOON REPORT - PACIFIC OCEAN - 1967	UNC	01809-003+
TYPHOON REPORT - PACIFIC OCEAN - 1968	UNC	01810-004+
TYPHOON REPORT - PACIFIC OCEAN - 1969	UNC	01811-002+
TYPHOON REPORT - PACIFIC OCEAN - 1970	UNC	01812-003+
TYPHOON REPORT - PACIFIC OCEAN - 1974	UNC	01813-003+
TROPICAL CYCLONES	UNC	01856-002+

(CRUSH)PRESSURE.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

GASOLINE TRUCK ACCIDENT, SEATTLE, WA	4 DEC 1975	UNC	01966-001+
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(CRUSH)PRESSURE.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

CARGO RESPONSE TRUCK AND RAIL ACCIDENTS	UNC	01688-002+	
GASOLINE TRUCK ACCIDENT, SEATTLE, WA	4 DEC 1975	UNC	01966-001+

(CRUSH)PRESSURE.....RESPONSE.....TRANSPORTATION.....RAILROAD.....

CARGO RESPONSE TRUCK AND RAIL ACCIDENTS SEE EDB1688	UNC	01699-002+
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(IMMERSION)PRESSURE.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

SEVERITIES TRAN ACCIDENT VOL 2 CARGO AIRCRAFT SEE 1630	UNC	A1662-001+
A/C ACCIDENT DEHAVILLAND DHC 16 FEB 1970	UNC	01679-003+
A/C ACCIDENT DC9 MAY 1970	UNC	01682-003+
A/C ACCIDENT SKYVAN SERIES 3 JULY 1970	UNC	01683-003+

(IMMERSION)PRESSURE.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

SEVERITIES TRAN ACCIDENT VOL 3 MOTOR CARRIER SEE A1630	UNC	A1663-001+
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(IMMERSION)PRESSURE.....INPUT.....TRANSPORTATION.....RAILROAD.....

SEVERITIES TRAN ACCIDENT VOL 4 TRAIN SEE A1630	UNC	A1986-001+
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(IMMERSION)PRESSURE.....INPUT.....TRANSPORTATION.....OTHER.....

SEVERITIES OF TRANSPORTATION ACCIDENTS VOL 1 SUMMARY	UNC	A1630-006+
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(EXPLOSION)PRESSURE.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

HYDROGEN TRANSPORT AND HANDLING EXPLOSION	UNC	01758-001+
TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+
COLLISION OF WINNEBAGO MOTOR HOME W/BRIDGE 1 JUL 1975	UNC	01956-015+

(EXPLOSION)PRESSURE.....INPUT.....TRANSPORTATION.....RAILROAD.....

RAIL ACCIDENT, EAST ST LOUIS, ILLINOIS - 1/22/72	UNC	01706-003+
RAIL ACCIDENT, CRETE, NEBRASKA - 2/18/69	UNC	01707-003+
RAIL ACCIDENT, HOUSTON, TEXAS - 10/19/71	UNC	01708-001+
RAIL ACCIDENT, DECATUR, ILL 19 JULY, 1974	UNC	01889-012+
RAIL ACCIDENT, BENSON, AR 24 MAY, 1973	UNC	01891-016+

(EXFLOSION)PRESSURE.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+
COLLISION OF WINNEBAGO MOTOR HOME w/BRIDGE 1 JUL 1975	UNC	01956-015+

(EXPLOSION)PRESSURE.....RESPONSE.....TRANSPORTATION.....RAILROAD.....

RAIL ACCIDENT, DECATUR, ILL	19 JULY, 1974	UNC	01889-012+
RAIL ACCIDENT, BENSON, AR	24 MAY, 1973	UNC	01891-016+
RAIL ACCIDENT, HOUSTON, TEXAS	21 SEPT, 1974	UNC	01893-014+

(LIGHTNING)RADIATION.....INPUT.....GENERAL.....OTHER.....

VOLTAGE AND CURRENT CHARACTERISTICS OF LIGHTNING STRIKE	UNC	00464-002+
PROPERTIES OF LIGHTNING STROKES	UNC	00999-001+

(LIGHTNING)RADIATION.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

LIGHTNING THREAT TO AIRCRAFT	UNC	01000-002+
LIGHTNING HAZARD TO AIRCRAFT	UNC	01415-006+

(CFUSH)SHOCK.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

SEVERITIES TRAN ACCIDENT VOL 3 MOTOR CARRIER SEE A1630	UNC	A1663-001+
TRUCK ACCIDENT REPORTS, NHTSA, NO. 7	UNC	01753-005+
TRUCK ACCIDENT REPORTS, NHTSA, NO. 8	UNC	01754-004+
TRUCK ACCIDENT REPORTS, NHTSA, NO. 9	UNC	01755-005+
TRUCK ACCIDENT, NHTSA, VOL.6, NO.10	UNC	01899-005+
TRUCK ACCIDENT, NHTSA, VOL.6, NO.12	UNC	01900-004+
TRUCK/PICKUP TRUCK W/CAMPER AND TRAILER COLLISION	UNC	01901-015+
TRUCK TRACTOR-TRAILER/GROUND ROLLOVER VOL 7, NO 1	UNC	01962-004+
TRUCK TRACTOR-SPORTS VAN IMPACT VOL 7, NO 1	UNC	01963-005+
TRUCK CAF ACCIDENT, BALTIMORE, MD, ON INTERSTATE	UNC	01964-006+
TRUCK CAF ACCIDENT, REAR END UNDER-RILE IMPACT, VOL 7	UNC	01965-006+

(CFLSH)SHOCK.....INPUT.....TRANSPORTATION.....RAILROAD.....

SEVERITY: 5 TRAIN ACCIDENT VOL 4 TRAIN SEE A163C	UNC	A1986-001+
RAIL ACCIDENT, HOUSTON, TEXAS 21 SEPT, 1974	UNC	01893-014+

(CRUSH)SHOCK.....INPUT.....TRANSPORTATION.....OTHER.....

SEVERITIES OF TRANSPORTATION ACCIDENTS VOL 1 SUMMARY UNC A1630-006+

(CPUSH)SHOCK.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

TRUCK ACCIDENT, NHTSA,VOL.6, NO.10	UNC	01899-005+
TRUCK ACCIDENT, NHTSA,VOL.6, NO.12	UNC	01900-004+
TRUCK/PICKUP TRUCK W/CAMPER AND TRAILER COLLISION	UNC	01901-015+
TRUCK TRACTOR-TRAILER/GROUND/ROLLOVER VOL 7, NO 1	UNC	01962-004+

	TRUCK TRACTOR-SPORTS VAN IMPACT VOL 7, NO 1	UNC	01963-005+
	TRUCK CAR ACCIDENT, BALTIMORE, MD, ON INTERSTATE	UNC	01964-006+
	TRUCK CAR ACCIDENT, REAR END UNDER-RIDE IMPACT, VOL 7	UNC	01965-006+
(CRUSH)	SHOCK.....RESPONSE.....TRANSPORTATION.....RAILROAD.....		
	RAIL ACCIDENT, HOUSTON, TEXAS, 19 OCT 1971	UNC	01846-006+
	RAIL ACCIDENT, CRESCENT CITY, 19 AUG 1970	UNC	01847-009+
	RAIL ACCIDENT, HOUSTON, TEXAS 21 SEPT, 1974	UNC	01893-014+
(IMPACT)	SHOCK.....INPUT.....GENERAL.....AIRCRAFT.....		
	AIRCRAFT ACCIDENT REPORTS - NTSB - 1972	UNC	01724-002+
	AIRCRAFT ACCIDENTS, TYPE, RATE, NTSB 1970	UNC	01756-002+
	AIRCRAFT ACCIDENTS, TYPE, RATE, NTSB 1973	UNC	01757-010+
(IMPACT)	SHOCK.....INPUT.....GENERAL.....AUTOMOBILE.....		
	TRUCK ACCIDENT SPEEDS A - SUMMARY	UNC	01687-002+
	STATISTICAL STUDY OF TRUCK ACCIDENT SPEEDS	UNC	01698-012+
(IMPACT)	SHOCK.....INPUT.....GENERAL.....RAILROAD.....		
	RAIL ACCIDENT SPEED STATISTICS	UNC	01020-025+
	RAIL ACCIDENT STATISTICS, 1969	UNC	01666-002+
	RAIL ACCIDENT STATISTICS, 1971	UNC	01667-002+
	FREIGHT TRAIN ACCIDENTS, NUMBER OF CARS INVOLVED	UNC	01729-007+
(IMPACT)	SHOCK.....INPUT.....GENERAL.....OTHER.....		
	APPROXIMATE DURATION OF SOME SHORT ACCELERATION LOADS	UNC	00734-001+
(IMPACT)	SHOCK.....INPUT.....HANDLING.....OTHER.....		
	IMPACTS DUE TO LARGE DROPS WHEN LOADING	UNC	00342-001+
	MAXIMUM DROPS, PACKAGES IN TRANSIT	UNC	01608-004+
(IMPACT)	SHOCK.....INPUT.....TRANSPORTATION.....AIRCRAFT.....		
	SEVERITIES TRAN ACCIDENT VOL 2 CARGO AIRCRAFT SEE 1630	UNC	A1662-001+
	ANALYSIS OF DIRECTION OF LOADS IN AIRCRAFT ACCIDENTS	UNC	00751-001+
	ACCELERATION OF FLOOR-AIRCRAFT CRASHES	UNC	00752-001+
	ACCELERATION, AIRCRAFT CRASH-VARIOUS ANGLES OF IMPACT	UNC	00753-008+
	CRASH TEST, DC-7 AIRCRAFT	UNC	01104-007+
	CRASH TEST, CONSTELLATION AIRCRAFT	UNC	01105-018+
	FLOOR ACCELERATIONS, TRANSPORT AIRCRAFT ACCIDENTS	UNC	01629-001+
	CIVIL AVIATION ACCIDENT DATA - 1962 TO 1972	UNC	01664-009+
	ANALYSIS OF CARGO A/C CRASH RECORDS CAB DATA	UNC	01668-005+
	CRASH IMPACT CONDITIONS, MULTI ENGINE TRANSPORT A/C	UNC	01670-029+
	SURVEY OF A/C CRASH SURVIVABILITY, CARGO AT A/C CG	UNC	01671-004+
	ACCIDENT DATA, MULTIENGINE AIRCRAFT	UNC	01672-010+
	A/C ACCIDENT DC8 62 SEPT 1970	UNC	01676-003+
	A/C ACCIDENT MARTIN 404 OCT 1970	UNC	01677-003+
	A/C ACCIDENT CONVAIR 580 DEC 1968	UNC	01678-003+

A/C ACCIDENT DEHAVILLAND DHC 16 FEB 1970	UNC	01679-003+
A/C ACCIDENT DOUGLAS C540 APRIL 1970	UNC	01680-003+
A/C ACCIDENT DC 9 JAN 1970	UNC	01681-003+
A/C ACCIDENT DC9 MAY 1970	UNC	01682-003+
A/C ACCIDENT SKYVAN SERIES 3 JULY 1970	UNC	01683-003+
A/C ACCIDENT DC9 32 SEPT 1970	UNC	01684-003+
A/C ACCIDENT DC8 63F SEPT 1970	UNC	01686-003+
AIRCRAFT ACCIDENT - BOEING 707 - 1/16/74	UNC	01800-001+
AIRCRAFT CRASH ENVIRONMENTS - NAVY	UNC	01819-001+
AIRCRAFT ACCIDENT - CONVAIR 600 - 9/27/73	UNC	01820-001+

(IMPACT)

.....SHOCK.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

AIRCRAFT MIDAIR COLLISIONS	UNC	01822-002+
AIRCRAFT DITCHING INVESTIGATION	UNC	01823-002+
A/C CRASH, E707, BOSTON, 3 NOV 1973	UNC	01843-023+
A RISK AND COMPARATIVE ANALYSIS OF NAVY AIRCRAFT DATA	UNC	01857-001+
ARMY ROTARY WING AIRCRAFT ACCIDENTS-COST STUDY 1970-71	UNC	01895-016+

(IMPACT)

.....SHOCK.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

TRUCK ACCIDENT ENVIRONMENT ANALYSIS TAC - STUDY	UNC	01944-002+
ACCELERATIONS, AUTOMOBILE CRASH (HEAD-ON)	UNC	00737-001+
DECELERATION PATTERNS FOR AUTOMOBILE HEAD-ON COLLISIONS	UNC	00738-001+
ACCIDENT REPORT, TRUCK - VENTURA, CALIFORNIA, 8-18-71	UNC	01659-003+
TRUCK ACCIDENT-NEW JERSEY 9/21/72	UNC	01690-003+
TRUCK ACCIDENT-ARIZONA 8/31/70	UNC	01691-003+
TRUCK ACCIDENT-VIRGINIA 4/13/72	UNC	01692-003+
TRUCK ACCIDENT-PENN-9/5/71	UNC	01693-003+
TRUCK ACCIDENT-GEORGIA-6/4/71	UNC	01694-003+
TRUCK ACCIDENT-FLORIDA-8/8/71	UNC	01695-003+
TRUCK ACCIDENT-VIRGINIA-3/9/72	UNC	01696-003+
TRUCK ACCIDENT-TENN-5/13/72	UNC	01697-002+
RAIL/ROAD VEHICLE ACCIDENT, OKLAHOMA - 4/5/71-SEE 1710	UNC	01711-001+
RAIL/ROAD VEHICLE ACCIDENT, NEW YORK -3/24/72	UNC	01712-003+
RAIL/ROAD VEHICLE ACCIDENT, ILLINOIS -1/24/70-SEE 1714	UNC	01715-001+
TRUCK ACCIDENT REPORTS, NHTSA, NO. 7	UNC	01753-005+
TRUCK ACCIDENT REPORTS, NHTSA, NO. 8	UNC	01754-004+
TRUCK ACCIDENT REPORTS, NHTSA, NO. 9	UNC	01755-005+
TRUCK ACCIDENT REPORTS - BOSTON UNIV., 1973	UNC	01770-004+
TRUCK ACCIDENT REPORTS - NHTSA, NO. 3	UNC	01771-003+
RAIL-HIGHWAY GRADE CROSSING ACCIDENTS, 1972 (SEE 1775)	UNC	01776-001+
RAIL-HIGHWAY GRADE CROSSING ACCIDENTS, 1973 (SEE 1777)	UNC	01778-001+
TRUCK ACCIDENT - TENNESSEE - 8/27/73	UNC	01783-001+
TRUCK ACCIDENT - VIRGINIA - 4/13/72	UNC	01784-002+
TRUCK ACCIDENT - TEXAS - 3/7/73	UNC	01785-002+
TRUCK ACCIDENT - ICWA - 4/3/73	UNC	01786-001+
TRUCK ACCIDENT - VIRGINIA - 3/28/74	UNC	01787-003+
TRUCK ACCIDENT - MASSACHUSETTS - 10/1/73	UNC	01788-002+
TRUCK/BUS ACCIDENT, NEW JERSEY, 19 OCT 1973	UNC	01845-014+
TRUCK ACCIDENTS, NHTSA, FINAL REPORT	UNC	01875-019+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 4	UNC	01876-003+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 5	UNC	01877-004+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 6	UNC	01878-008+

TRUCK ACCIDENTS,NHTSA,VOL6,NO.7	UNC	01879-006+
TRUCK ACCIDENTS,NHTSA,VOL6,NO.8	UNC	01880-011+
TRUCK ACCIDENTS,NHTSA,VOL6,NO.9	UNC	01881-014+
ACCIDENTS,CANADA,RAM CONTAINERS	UNC	01888-013+
AUTO COLLISION W/AND COLLAPSE OF BRIDGE, SILOAM, NC	UNC	01952-014+

(IMPACT)

.....SHOCK.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....

TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+
SCHOOLBUS/AUTO COLLISION/ROLLOVER, ASHLAND, OREGON	UNC	01954-017+
COLLISION OF TRUCK AND BUS, NEAR HAMILTON, GA JUN 1975	UNC	01955-009+
COLLISION OF WINNEBAGO MOTOR HOME W/BRIDGE 1 JUL 1975	UNC	01956-015+
COLLISION OF TRUCK AND CAR, LOVINGTON, NM 3 JAN 1976	UNC	01957-006+
CAR COLLISION, FRONT-TO-FRONT IMPACT TEST AT 60 MPH	UNC	01958-002+
GASOLINE TRUCK ACCIDENT, SEATTLE, WA 4 DEC 1975	UNC	01966-001+
TRACTOR TRAILER/CAR/SCHOOL BUS, REAR END, ROLLOVER	UNC	01967-005+
CAR BUS ACCIDENT, OVERLAND PARK, KANSAS 7 OCT 1975	UNC	01968-005+
STATION WAGON/TRAIN ACCIDENT, BALTIMORE, MD DEC 1975	UNC	01969-006+
TRACTOR TRAILER, REAR END AND ROLLOVER NY 1 JUL 1975	UNC	01970-005+
TRUCK ACCIDENT, TIRE BLEW OUT, IMPACT, NY 21 JUN 1975	UNC	01971-005+
STATION WAGON/SCHOOL BUS, HEAD ON, HAMBURG,NY SEP 1975	UNC	01972-005+
TRUCK/SCHOOL BUS/TRAIN ACCIDENT, ARKANSAS 11 SEP 1975	UNC	01973-005+
TRACTOR TRAILER, FRONT TO SIDE IMPACT FEB 1975	UNC	01974-006+
TRUCK CAR ACCIDENT INTERSECTION, BALTIMORE,MD FEB 1975	UNC	01975-006+
CAR/POLE/TRAIN SIDESWIPE IMPACT,LOS ANGELES 25 SEP 1975	UNC	01976-004+
TRUCK CAR ACCIDENT,REAR END,SAN DIEGO FREEWAY JAN 1976	UNC	01977-005+

(IMPACT)

.....SHOCK.....INPUT.....TRANSPORTATION.....RAILROAD.....

SEVERITIES TRAN ACCIDENT VOL 4 TRAIN SEE A1630	UNC	A1986-001+
COLLISIONS,RAIL,HEAD ON AND REAR END	UNC	01665-006+
RAIL ACCIDENT TANK CAR RUPTURE, FIRE	UNC	01675-036+
TRANSPORT ACCIDENTS OF RAM 1948-1965 SEE EDB 1689	UNC	01700-011+
RAIL ACCIDENT, COTULLA, TEXAS - 12/1/73	UNC	01701-001+
RAIL ACCIDENT, INDIO, CALIFORNIA - 6/25/73	UNC	01702-001+
RAIL ACCIDENT, SALEM, ILLINOIS - 6/10/71	UNC	01703-002+
RAIL ACCIDENT, MAQUIN, ILLINOIS - 5/24/72	UNC	01704-001+
RAIL ACCIDENT, TAFT, LOUISIANA - 2/21/73	UNC	01705-006+
RAIL ACCIDENT, EAST ST LOUIS, ILLINOIS - 1/22/72	UNC	01706-003+
RAIL ACCIDENT, CRETE, NEBRASKA - 2/18/69	UNC	01707-003+
RAIL ACCIDENT, HOUSTON, TEXAS - 10/19/71	UNC	01708-001+
RAIL ACCIDENT, HERNDON, PENNSYLVANIA - 3/12/72	UNC	01709-003+
RAIL/ROAD VEHICLE ACCIDENT, OKLAHOMA - 4/5/71	UNC	01710-002+
RAIL/ROAD VEHICLE ACCIDENT, NEW YORK -3/24/72-SEE 1712	UNC	01713-001+
RAIL/ROAD VEHICLE ACCIDENT, ILLINOIS -1/24/70	UNC	01714-002+
RAIL-HIGHWAY GRADE CROSSING ACCIDENTS, 1972	UNC	01775-002+
RAIL-HIGHWAY GRADE CROSSING ACCIDENTS, 1973	UNC	01777-002+
RAIL ACCIDENT,ONEONTA,NY 12 FEB, 1974	UNC	01890-012+
RAIL ACCIDENT,MUSTANG,OK, 1SEPT,1974	UNC	01892-010+
RAIL ACCIDENT, HEAD-END, EL MONTE,CA 2 APR 1973	UNC	01925-004+
RAIL ACCIDENT, HEAD-ON, LUFKIN, TEXAS 18 NOV 1973	UNC	01926-003+
RAIL ACCIDENT, HEAD-ON, COBDEN, ILLINOIS 2 DEC 1973	UNC	01927-003+
RAIL ACCIDENT, HEAD-ON, PLAINVIEW, TEXAS 15 DEC 1973	UNC	01928-003+
RAIL ACCIDENT, HEAD-ON, ST LOUIS,MISSOURI 22 JUN 1974	UNC	01929-004+

(IMPACT)SHOCK.....INPUT.....TRANSPORTATION.....RAILROAD.....

RAIL ACCIDENT, HEAD-ON, MEMPHIS, TEN	24 JAN 1975	UNC	01930-003+
RAIL ACCIDENT, SIDE-ON, EARLS, TEXAS	29 NOV 1974	UNC	01931-003+
RAIL ACCIDENT, OPEN SWITCH, WINDHAM, OHIO	22 NOV 1973	UNC	01932-002+
RAIL ACCIDENT, RAKING, LAKE JUNCTION, NJ	17 JUN 1974	UNC	01933-004+
RAIL ACCIDENT, REAR END, HURRICANE, ALASKA	5 JUL 1975	UNC	01945-012+
RAIL ACCIDENT, REAR END, LEETONIA, OHIO	6 JUN 1975	UNC	01946-014+
RAIL ACCIDENT, REAR END, DUPO, ILLINOIS	3 JAN 1975	UNC	01947-004+
RAIL ACCIDENT, GRADE CROSSING, DEL MAR, CA	27 FEB 1974	UNC	01948-003+
RAIL ACCIDENT, BROKEN RAIL, THOMPSONTOWN, PA	DEC 1974	UNC	01949-002+
RAIL ACCIDENT, GRADE CROSSING, TRACY, CA	9 MAR 1975	UNC	01950-015+
RAIL ACCIDENT, GRADE CROSSING, ELWOOD, IL	19 NOV 1975	UNC	01951-012+

(IMPACT)SHOCK.....INPUT.....TRANSPORTATION.....SHIP.....

IMPACT, PENETRATION, SHIP COLLISION AND GROUNDING	UNC	01550-001+
COLLISION - TUG/BARGE WITH BRIDGE	UNC	01725-001+

(IMPACT)SHOCK.....INPUT.....TRANSPORTATION.....OTHER.....

SEVERITIES OF TRANSPORTATION ACCIDENTS VOL 1 SUMMARY	UNC	A1630-006+
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(IMPACT)SHOCK.....RESPONSE.....HANDLING.....OTHER.....

MAXIMUM DROPS, PACKAGES IN TRANSIT	UNC	01608-004+
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(IMPACT)SHOCK.....RESPONSE.....TRANSPORTATION.....AIRCRAFT.....

SHOCK SPECTRA, STAGED A/C CRASH TESTS	UNC	01669-018+
SURVEY OF A/C CRASH SURVIVABILITY, CARGO AT A/C CG	UNC	01671-004+
A/C CRASH, B707, BOSTON, 3 NOV 1973	UNC	01843-023+

(IMPACT)SHOCK.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

CARGO RESPONSE TRUCK AND RAIL ACCIDENTS	UNC	01688-002+
TRANSPORT ACCIDENTS OF RAM 1948 TO 1965-UNITED KINGDOM	UNC	01689-011+
TRUCK ACCIDENT-FLORIDA-8/8/71	UNC	01695-003+
TRUCK ACCIDENTS, NHTSA, FINAL REPORT	UNC	01875-019+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 4	UNC	01876-003+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 5	UNC	01877-004+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 6	UNC	01878-008+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 7	UNC	01879-006+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 8	UNC	01880-011+
TRUCK ACCIDENTS, NHTSA, VOL 6, NO. 9	UNC	01881-014+
ACCIDENTS, CANADA, RAM CONTAINERS	UNC	01888-013+
AUTO COLLISION W/AND COLLAPSE OF BRIDGE, SILOAM, NC	UNC	01952-014+
TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+

(IMPACT)SHOCK.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

SCHOOLBUS/AUTO COLLISION/ROLLOVER, ASHLAND, OREGON	UNC	01954-017+
COLLISION OF TRUCK AND BUS, NEAR HAMILTON, GA JUN 1975	UNC	01955-009+
COLLISION OF WINNEBAGO MOTOR HOME W/BRIDGE 1 JUL 1975	UNC	01956-015+

COLLISION OF TRUCK AND CAR, LOVINGTON, NM	3 JAN 1976	UNC	01957-006+
CAR COLLISION, FRONT-TO-FRONT IMPACT TEST AT 60 MPH		UNC	01958-002+
GASOLINE TRUCK ACCIDENT, SEATTLE, WA	4 DEC 1975	UNC	01966-001+
TRACTOR TRAILER/CAR/SCHOOL BUS, REAR END, ROLLOVER		UNC	01967-005+
CAR BUS ACCIDENT, OVERLAND PARK, KANSAS	7 OCT 1975	UNC	01968-005+
STATION WAGON/TRAIN ACCIDENT, BALTIMORE, MD	DEC 1975	UNC	01969-006+
TRACTOR TRAILER, REAR END AND ROLLOVER NY	1 JUL 1975	UNC	01970-005+
TRUCK ACCIDENT, TIRE BLEW OUT, IMPACT, NY	21 JUN 1975	UNC	01971-005+
STATION WAGON/SCHOOL BUS, HEAD ON, HAYBURG, NY	SEP 1975	UNC	01972-005+
TRUCK/SCHOOL BUS/TRAIN ACCIDENT, ARKANSAS	11 SEP 1975	UNC	01973-005+
TRACTOR TRAILER, FRONT TO SIDE IMPACT	FEB 1975	UNC	01974-006+
TRUCK CAR ACCIDENT INTERSECTION, BALTIMORE, MD	FEB 1975	UNC	01975-006+
CAR/POLE/TRAIN SIDESWIPE IMPACT, LOS ANGELES	25 SEP 1975	UNC	01976-004+
TRUCK CAR ACCIDENT, REAR END, SAN DIEGO FREEWAY	JAN 1976	UNC	01977-005+

(IMPACT)

.....SHOCK.....RESPONSE.....TRANSPORTATION.....RAILROAD.....

CAR/CAR RESPONSE TRUCK AND RAIL ACCIDENTS SEE EDB1688		UNC	01699-002+
RAIL ACCIDENT, ONEONTA, NY	12 FEB, 1974	UNC	01890-012+
RAIL ACCIDENT, MUSTANG, OK,	1 SEPT, 1974	UNC	01892-010+
RAIL ACCIDENT, HEAD-END, EL MONTE, CA	2 APR 1973	UNC	01925-004+
RAIL ACCIDENT, HEAD-ON, LUFKIN, TEXAS	18 NOV 1973	UNC	01926-003+
RAIL ACCIDENT, HEAD-ON, COBDEN, ILLINOIS	2 DEC 1973	UNC	01927-003+
RAIL ACCIDENT, HEAD-ON, PLAINVIEW, TEXAS	15 DEC 1973	UNC	01928-003+
RAIL ACCIDENT, HEAD-ON, ST LOUIS, MISSOURI	22 JUN 1974	UNC	01929-004+
RAIL ACCIDENT, HEAD-ON, MEMPHIS, TEN	24 JAN 1975	UNC	01930-003+
RAIL ACCIDENT, SIDE-ON, EARLS, TEXAS	29 NOV 1974	UNC	01931-003+
RAIL ACCIDENT, CREEP SWITCH, WINDHAM, OHIO	22 NOV 1973	UNC	01932-002+
RAIL ACCIDENT, RAILING, LAKE JUNCTION, NJ	17 JUN 1974	UNC	01933-004+
RAIL ACCIDENT, REAR END, HURRICANE, ALASKA	5 JUL 1975	UNC	01945-012+
RAIL ACCIDENT, REAR END, LEETONIA, OHIO	6 JUN 1975	UNC	01946-014+
RAIL ACCIDENT, REAR END, DUPO, ILLINOIS	3 JAN 1975	UNC	01947-004+
RAIL ACCIDENT, GRADE CROSSING, DEL MAR, CA	27 FEB 1974	UNC	01948-003+
RAIL ACCIDENT, BROKEN RAIL, THOMPSONTOWN, PA	DEC 1974	UNC	01949-002+
RAIL ACCIDENT, GRADE CROSSING, TRACY, CA	9 MAR 1975	UNC	01950-015+
RAIL ACCIDENT, GRADE CROSSING, ELWOOD, IL	19 NOV 1975	UNC	01951-012+

.....TEMPERATURE.....INPUT.....GENERAL.....OTHER.....

TYPHOON REPORT - PACIFIC OCEAN - 1959		UNC	01802-003+
TYPHOON REPORT - PACIFIC OCEAN - 1960		UNC	01803-003+
TYPHOON REPORT - PACIFIC OCEAN - 1961		UNC	01804-003+
TYPHOON REPORT - PACIFIC OCEAN - 1962		UNC	01805-004+
TYPHOON REPORT - PACIFIC OCEAN - 1963		UNC	01806-003+
TYPHOON REPORT - PACIFIC OCEAN - 1965		UNC	01807-003+

(FIRE)

.....TEMPERATURE.....INPUT.....GENERAL.....AIRCRAFT.....

AIRCRAFT ACCIDENT REPORTS - NTSC - 1972		UNC	01724-002+
AIRCRAFT ACCIDENTS, TYPE, RATE, NTSC 1970		UNC	01756-002+
AIRCRAFT ACCIDENTS INVOLVING FIRES 1963-1974 ANALYSIS		UNC	01940-002+

(FIRE)TEMPERATURE.....INPUT.....GENERAL.....RAILROAD.....
 FREIGHT TRAIN ACCIDENTS, NUMBER OF CARS INVOLVED UNC 01729-007+

(FIRE)TEMPERATURE.....INPUT.....GENERAL.....OTHER.....
 FIRES, LIQUID HYDROCARBON FUEL, HEAT TRANSFER IN UNC 00517-011+
 BURNING CONDITIONS OF PETROLEUM LIQUIDS UNC 00518-001+

(FIRE) /TEMPERATURE.....INPUT.....TRANSPORTATION.....AIRCRAFT.....
 SEVERITIES TRAN ACCIDENT VOL 2 CARGO AIRCRAFT SEE 1630 UNC A1662-001+
 CIVIL AVIATION ACCIDENT DATA - 1962 TO 1972 UNC 01664-009+
 FIRE INFORMATION AIRCRAFT ACCIDENTS UNC 01674-002+
 A/C ACCIDENT MARTIN 404 OCT 1970 UNC 01677-003+
 A/C ACCIDENT CONVAIR 580 DEC 1968 UNC 01678-003+
 A/C ACCIDENT DOUGLAS C540 APRIL 1970 UNC 01680-003+
 A/C ACCIDENT 747 12 SEPT 1970 UNC 01685-003+
 A/C ACCIDENT DCB 63F SEPT 1970 UNC 01686-003+
 AIRCRAFT ACCIDENT - BOEING 707 - 1/16/74 UNC 01800-001+
 AIRCRAFT ACCIDENT - DC 8 - 6/20/73 UNC 01821-001+
 A/C CRASH, B707, BOSTON, 3 NOV 1973 UNC 01843-023+

(FIRE)TEMPERATURE.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....
 SEVERITIES TRAN ACCIDENT VOL 3 MOTOR CARRIER SEE A1630 UNC A1663-001+
 FIRE TEMPERATURES-TRUCK UNC 00520-001+
 ACCIDENT REPORT, TRUCK - VENTURA, CALIFORNIA, 8-18-71 UNC 01659-003+
 TRUCK ACCIDENT-VIRGINIA 4/13/72 UNC 01692-003+
 TRUCK ACCIDENT-PENNA-9/5/71 UNC 01693-003+
 TRUCK ACCIDENT-TENN-5/13/72 UNC 01697-002+
 TRUCK ACCIDENT REPORTS, NHTSA, NO. 8 UNC 01754-004+
 HYDROGEN TRANSPORT AND HANDLING EXPLOSION UNC 01758-001+

(FIRE)TEMPERATURE.....INPUT.....TRANSPORTATION.....AUTOMOBILE.....
 TRUCK ACCIDENT - VIRGINIA - 4/13/72 UNC 01784-002+
 TRUCK ACCIDENT - TEXAS - 3/7/73 UNC 01785-002+
 TRUCK ACCIDENT - MASSACHUSETTS - 10/13/73 UNC 01788-002+
 ACCIDENTS, CANADA, RAM CONTAINERS UNC 01888-013+
 CAR ACCIDENT, NHTSA, VOL. 6, NO. 11 UNC 01898-005+
 TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS UNC 01953-011+
 COLLISION OF WINNEBAGO MOTOR HOME W/BRIDGE 1 JUL 1975 UNC 01956-015+
 TRUCK FIRE-ACCIDENT DATA - 1969 UNC 01960-009+
 TRUCK FIRE-ACCIDENT DATA - 1971 UNC 01961-011+
 TRUCK CAR ACCIDENT, BALTIMORE, MD, ON INTERSTATE UNC 01964-006+
 GASOLINE TRUCK ACCIDENT, SEATTLE, WA 4 DEC 1975 UNC 01966-001+

(FIRE)TEMPERATURE.....INPUT.....TRANSPORTATION.....RAILROAD.....
 SEVERITIES TRAN ACCIDENT VOL 4 TRAIN SEE A1630 UNC A1986-001+
 FIRE TEMPERATURES-RAIL UNC 00519-001+

RAIL ACCIDENT TANK CAR RUPTURE, FIRE	UNC	01675-036+
TRANSPORT ACCIDENTS OF RAM 1948-1965 SEE EDB 1689	UNC	01700-011+
RAIL ACCIDENT, COTULLA, TEXAS - 12/11/73	UNC	01701-001+
RAIL ACCIDENT, INDIO, CALIFORNIA - 6/25/73	UNC	01702-001+
RAIL ACCIDENT, SALEM, ILLINOIS - 6/10/71	UNC	01703-002+
RAIL ACCIDENT, MAQUIN, ILLINOIS - 5/24/72	UNC	01704-001+
RAIL ACCIDENT, TAFT, LOUISIANA - 2/21/73	UNC	01705-006+
RAIL ACCIDENT, EAST ST LOUIS, ILLINOIS - 1/22/72	UNC	01706-003+
RAIL ACCIDENT, HOUSTON, TEXAS - 10/19/71	UNC	01708-001+
RAIL ACCIDENT, HERNDON, PENNSYLVANIA - 3/12/72	UNC	01709-003+
RAIL ACCIDENT, DECATUR, ILL 19 JULY, 1974	UNC	01889-012+
RAIL ACCIDENT, ONEONTA, NY 12 FEB, 1974	UNC	01890-012+
RAIL ACCIDENT, BENSON, AR 24 MAY, 1973	UNC	01891-016+
RAIL ACCIDENT, MUSTANG, OK, 1 SEPT, 1974	UNC	01892-010+

(FIRE)TEMPERATURE.....INPUT.....TRANSPORTATION.....SHIP.....

FIRE TEMPERATURES-SHIP	UNC	00521-001+
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(FIRE)TEMPERATURE.....INPUT.....TRANSPORTATION.....OTHER.....

SEVERITIES OF TRANSPORTATION ACCIDENTS VOL 1 SUMMARY	UNC	A1630-006+
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(FIRE)TEMPERATURE.....RESPONSE.....TRANSPORTATION.....AIRCRAFT.....

A/C CRASH, B707, BOSTON, 3 NOV 1973	UNC	01843-023+
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(FIRE)TEMPERATURE.....RESPONSE.....TRANSPORTATION.....AUTOMOBILE.....

CARCO RESPONSE TRUCK AND RAIL ACCIDENTS	UNC	01688-002+
TRANSPORT ACCIDENTS OF RAM 1948 TO 1965-UNITED KINGDOM	UNC	01689-011+
ACCIDENTS, CANADA, RAM CONTAINERS	UNC	01888-013+
CAR ACCIDENT, NHTSA, VOL.6, NO.11	UNC	01898-005+
TRUCK ACCIDENT, EXPLOSION/FIRE, EAGLE PASS, TEXAS	UNC	01953-011+
COLLISION OF WINNEBAGO MOTOR HOME W/B-IDCE 1 JUL 1975	UNC	01956-015+
TRUCK CAR ACCIDENT, BALTIMORE, MD, ON INTERSTATE	UNC	01964-006+
GASOLINE TRUCK ACCIDENT, SEATTLE, WA 4 DEC 1975	UNC	01966-001+

(FIRE)TEMPERATURE.....RESPONSE.....TRANSPORTATION.....RAILROAD.....

CARCO RESPONSE TRUCK AND RAIL ACCIDENTS SEE EDB1688	UNC	01699-002+
RAIL ACCIDENT, DECATUR, ILL 19 JULY, 1974	UNC	01889-012+
RAIL ACCIDENT, ONEONTA, NY 12 FEB, 1974	UNC	01890-012+
RAIL ACCIDENT, BENSON, AR 24 MAY, 1973	UNC	01891-016+
RAIL ACCIDENT, MUSTANG, OK, 1 SEPT, 1974	UNC	01892-010+

.....WIND.....INPUT.....GENERAL.....OTHER.....

TROPICAL CYCLONES	UNC	01856-002+
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.....WIND.....INPUT.....TRANSPORTATION.....AIRCRAFT.....

HELICOPTER DOWNWASH DATA

UNC 01760-001+

(STORM)

.....WIND.....INPUT.....GENERAL.....OTHER.....

TORNADOES, FREQUENCY AND LOCATION - UNITED STATES

UNC 01541-011+

WIND AND WAVE HEIGHTS - TROPICAL STORMS

UNC 01636-002+

TYPHOON REPORT - PACIFIC OCEAN - 1959

UNC 01802-003+

TYPHOON REPORT - PACIFIC OCEAN - 1960

UNC 01803-003+

TYPHOON REPORT - PACIFIC OCEAN - 1961

UNC 01804-003+

TYPHOON REPORT - PACIFIC OCEAN - 1962

UNC 01805-004+

TYPHOON REPORT - PACIFIC OCEAN - 1963

UNC 01806-003+

TYPHOON REPORT - PACIFIC OCEAN - 1965

UNC 01807-003+

TYPHOON REPORT - PACIFIC OCEAN - 1966

UNC 01808-003+

TYPHOON REPORT - PACIFIC OCEAN - 1967

UNC 01809-003+

TYPHOON REPORT - PACIFIC OCEAN - 1968

UNC 01810-004+

TYPHOON REPORT - PACIFIC OCEAN - 1969

UNC 01811-002+

TYPHOON REPORT - PACIFIC OCEAN - 1970

UNC 01812-003+

TYPHOON REPORT - PACIFIC OCEAN - 1974

UNC 01813-003+

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