

BID SOLICITATION



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
CAPITOL HILL
PROVIDENCE RI 02908

BID NUMBER: B06271
TITLE: TRUCK MOUNTED ATTENUATOR
BID OPENING DATE AND TIME:
05/12/2006 11:00 AM

BUYER: LISA HILL
PHONE #: (401) 222 - 2142 ext. 116

B TRANSPORTATION
I DOT MAINTENANCE BUSINESS OFFICE
L 360 LINCOLN AVE
L WARWICK RI 02888
T
O

S TRANSPORTATION
H DOT MAINTENANCE DIVISION
I MAIN OFFICE
P 360 LINCOLN AVE
T WARWICK RI 02888
O

Requisition Number(s): R70B067417

Item	Class-Item	Quantity	Unit	Unit Price	Total
	<p>ALL VENDORS MUST INCLUDE SPECIFICATIONS WITH BID PROPOSAL (EVEN THOSE BIDDING BRAND SPECIFIED). FAILURE TO SUBMIT SPECIFICATIONS WITH BID PROPOSAL MAY RESULT IN DISQUALIFICATION OF BID. ITEMS IN CATALOGS MUST BE CLEARLY MARKED AND PAGES TABBED.</p>				

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer. When delivering offers in person to One Capitol Hill, vendors are advised to allow at least one hour additional time for clearance through security checkpoints.

DELIVERY: _____

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Item	Class-Item	Quantity	Unit	Unit Price	Total
	<p>THE FOLLOWING ADDITIONAL TERMS AND CONDITIONS APPLY TO THIS INVITATION FOR BIDS:</p> <ol style="list-style-type: none"> ALL VEHICLES MUST BE DELIVERED WITHOUT DEALER'S NAME OR ADVERTISING OF ANY TYPE VISIBLE ON THE BODY. EACH VEHICLE DELIVERED TO THE STATE MUST BE ACCOMPANIED BY A "CERTIFICATE OF ORIGIN" CONTAINING THE MANUFACTURER'S VEHICLE IDENTIFICATION NUMBER (VIN), THE NUMBER OF ENGINE CYLINDERS AND ENGINE TYPE, A GENERAL DESCRIPTION OF THE BODY, AND THE MODEL NAME OR NUMBER. CERTIFICATE OF ORIGIN MUST BE ASSIGNED TO STATE OF RI/FLEET OPERATIONS, ONE CAPITOL HILL, PROVIDENCE, RI 02908, UNLESS THE VEHICLE IS BEING PURCHASED BY THE RHODE ISLAND STATE POLICE. IF SO, CERTIFICATE OF ORIGIN MUST BE ASSIGNED TO RHODE ISLAND STATE POLICE, 311 DANIELSON PIKE, NORTH SCITUATE, RI 02857. BIDS MUST BE PREDICATED ON THE BASIS OF THE BIDDER'S FULL AND UNENCUMBERED TITLE TO THE VEHICLE(S) AS OF THE DATE OF DELIVERY TO THE STATE. BIDS SUBJECT TO LIEN OR ASSIGNMENT AT THE TIME OF DELIVERY TO THE STATE, OR WHICH STIPULATE THIRD PARTY OR JOINT PAYMENT, WILL BE REJECTED. TITLE CERTIFICATES MUST BE PROVIDED AT THE TIME OF DELIVERY TO THE STATE. WHERE THE FIRM SUBMITTING THE BID IS ACTING AS AN AGENT FOR ANOTHER CORPORATE ENTITY, (SPECIFICALLY WITH RESPECT TO LEASE ARRANGEMENTS), THE BID MUST IDENTIFY THE CORPORATION WHO WILL BE NAMED IN ANY SUBSEQUENT AWARD AS THE BIDDER OF RECORD. UNLESS OTHERWISE INDICATED, ALL VEHICLES WILL BE DELIVERED TO STATE FLEET OPERATIONS AT ONE CAPITOL HILL, PROVIDENCE, R.I. 				

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Requisition Number(s): R70B067417

Item	Class-Item	Quantity	Unit	Unit Price	Total
1.0	<p>070-06 TRUCK MOUNTED ATTENUATOR, PER ATTACHED SPECIFICATIONS.</p> <p>YEAR _____ MAKE _____ MODEL _____ ATTENUATOR MODEL _____ ANTICIPATED DELIVERY DATE _____</p> <p>ALL VENDOR SPECIFICATIONS MUST BE SUBMITTED IN TRIPLICATE.</p> <p>THE OPPORTUNITY FOR PAYMENT WITHIN 5-10 BUSINESS DAYS EXISTS THROUGH THE USE OF AN ACH OR PURCHASE CARD (CREDIT CARD) PAYMENT PROCEDURE. OFFERERS ARE TO ADVISE US IF THEY WOULD ACCEPT EITHER PAYMENT METHOD AND PRICE ACCORDINGLY.</p>	4.00	EA		

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Item	Class-Item	Quantity	Unit	Unit Price	Total
	CONTACT PERSON: PAUL BERTHIAUME (401) 222-2378				
				TOTAL:	_____

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TRUCK MOUNTED ATTENUATOR SPECIFICATIONS

Quantity: 4

Agency: RIDOT Highway & Bridge Maintenance

Contact Person: Paul Berthiaume

Telephone: (401) 222-6765 ext 4749

194" Wheelbase/84" CA/49" AF/282"OAL

Single Channel – Straight 'C' 12.64 SM, 50,000
PS1

High strength low alloy steel; 10.125" x 3.062"
x 0.312" (257.2mm x 77.8mm x 8.0mm) 437.9"
(11122mm) maximum OAL, limited to 29,000 lbs.
max GVWR.

2-Axle, Front/Suspension, Front

I-beam type – 8,500 lb. Cap. Spicer D-880S
Steering Wheel – Two Spoke, black PVC, 15.5"
Dia. Includes Ross TAS-40 power steering gear.

Taper-Leaf Springs, Parabolic –8,500 lb. Cap.
Includes shock absorbers.

3-Axle, Rear/Suspension, Rear

17,500 lb. Single-Speed – Spicer 17060S
Single reduction with 190 wheel ends.
Note: When specifying an axle ratio, check
performance guidelines for storability and
grade ability

Multi-Leaf Springs – Vari-Rate Suspension
20,000 lb. Cap
Includes 4500 lb. auxiliary rubber spring

5.57 Axle Ratio

4-Brakes/Brake Equipment
Air Brakes – Straight Truck w/16.5 x 7.0 Rear 0

Brakes

Air compressor, Cummins, 15.2 CFM Capacity.
Monitor Q-Plus with ABS, Bendix Anti-Lock Brake System, 4-channel. Includes 15" x 4" front brakes, dual direct reading air pressure gauges, brake lines color coded nylon, instrument panel mounted yellow knob parking brake control valve, automatic slack adjusters front and rear, two rear spring parking brake chambers, three drain valve(s) and two air tanks (Reference Body builders Book for location). rear brake size and components dependent.

Air Dryer, Bendix AD/IP w/Heater, Standard Position

Automatic drain valve includes Bendix DV-2 W/heater. Mounted inside left frame rail, back of Cab.

5-Engine/Engine Equipment

Cummins (5.9L) ISB 230 HP @ 2300 RPM, Governed @ 2500 RPM

Starting Motor – 12-Volt, 29 MT, Delco, Radiator Modine, 516 sq. in Cross Flow, 4.25" Core Aluminum, 2 row, over/under system with 270 sq. in Charge air cooler, (17S) 130 Amp, Leece-Naville 12-Volt, Brush Type, ped Mounted, Alternator 8LHP2170PH, (91A) Single, Horizontal Muffler & Short Tail Pipe, Right Side.

Aluminized steel, frame mounted. 50 State engine Includes Borg Warner SA75 viscous screw on type fan clutch. Includes Donaldson single stage dry type air cleaner. Includes Racer, with electric type heater and sight glass – engine mounted fuel/water separator, 520 lb-ft. torque @ 1600 RPM, 2500 RPM Governed speed, 230 peak HP (Max). Component manufacturer warranty applies. Subject to change by manufacturer without notice. Torque; 520 ft. lbs @ 1600 rpm.

6a – Allison Vocational Transmission

Allision 2500 5-Speed, RDS On-Off Series

RDS Series On-Off Rated; wide ratio, 300 HP input power, 550 lb-ft. input torque, 33,000 lbs. GVW 33,000 lbs. GCW and 3 year model warranty. PTW standard.

7 – Exhaust

Single, Horizontal Muffler & Short Tail Pipe, Right Side

Aluminized steel, frame mounted.

8 – Electrical/Alternator/Battery

Back-Up Alarm – Electric, 102 dBA

Body Builder Special Wiring Harness

For chassis, 6 feet additional length to accommodate drop frame beverage body Application.

130 Amp, Leeco-Naville 12-Volt, Brush Type, Pad Mounted, Alternator

8LHP2170PH

12-Volt, Motorcraft, Two-625 CCA, 1250 CCA Total, Battery

Includes steel battery box with plastic lid, mounted LH forward under cab.

9 – Fuel Tanks

Tank – Steel (Deep) 50 U.S. gal. (189L.) Single RH-D-Style steel, top draw, 16” tank depth, under Cap right side.

**10-Gal. Single Fuel Tank
Charge Applied, Based on Tank Selection**

Driver, 40% Reclining, Elliot cloth w/Bazaar Cloth Insert

Hi-back with integral headrest, folding/recycling back, no arm rest, non-suspension. Seats are color coordinated to cab trim level. All seats include seat belts.

2 Passenger, 20/40, Folding, Elliot Cloth w/Bazaar Cloth Insert

Rear Bench, Elliot cloth w/Bazaar Cloth Insert
Includes full width and folding back.

11 – Cab Equipment

XLT Trim Package

(88N) Driver, 40% Reclining, Elliot Cloth w/ Bazaar Cloth Insert.

Hi-back with integral headrest, folding/reclining back, no arm rest, non-suspension. Seats are color coordinated to cab trim level. All seats include seat belts, (85N) 2 Passenger, 20/40, Folding, Elliot cloth w/Bazaar Cloth Insert.

Hi-back with integral headrest, folding back, intermediate folding center back creates arm rest with cup holder, non-suspension, (87H) Rear Bench, Elliot cloth w/Bazaar Cloth Insert.

Includes full width and folding back. Includes molded cloth headliner, RH and LH coat hooks, cloth sun visors with passenger side mirror, Rigitex beck panel trim, hanging bin with hooks, molded door trim panels with lower map pocket with carpet on face, soft foamed arm rest, manual Air Conditioning, Power Equipment Group, Radio AM/FM Cassette, Front Tow Hooks, Bright Front Headlight Bezel, Chromed Plastic Grille, Chromed Front Bumper. Flint Gray Interior color.

Mirrors, Dual Stainless Steel – w/Heated & Lighted Heads

Rectangular, 7 ½” x 16 ½” West Coast style, 102” wide spacing.

Mirrors, 2 Auxiliary Convex – Stainless Steel 8” dia., mounted below primary mirrors.

Radio AM/FM Stereo – Vistoon w/Cassette & Clock

Includes four speakers.

12 – Front Wheels/Tires

Wheels, Front 22.5 x 7.5 Painted Steel Disc, 10-Hole

(285.75MM BC) hub piloted, flanged nut, metric mount, 7.50 DC rims with steel hubs, white.

Tires, Front Two 10R22.5G Goodyear Unisteel G159

13 – Rear Wheels/Tires

Wheels Rear 22.5 x 7.5 painted Steel Disc, 10-Hole

(285.75MM BC) hub piloted, flanged nut, metric mount, 7.50 DC rims with steel hubs, white.

Tires, Rear Four 10R22.5G Goodyear Unisteel G124 M/S

Interior Colors for: Primary (Gray)

Primary Colors for: Primary (White)

Attenuator Body

- 12” Specially Designed attenuator Body by Stanley
- Body weight to comply with attenuator certification
- 8” – 10” structural longills
- Longills ends boxed with 10. ga smooth steel plate to form bottom
- All steel primed and painted black with NFGA undercoating to protect steel from concrete.
- Concrete to fill longisill area full length and width to top of longills Crossmembers on 12” centers 96” wide outside.
- 12 ga. Steel diamond plate floor
- Outside stake pockets with chain rail
- 40” steel header with full width window
- 40” steel slatted racks on sides and rear
- Two special compartments to access road safety cones from ground level Safety chains as needed.
- Folding seat, grab handles
- Reflective safety stripping
- Rubber flaps, back up alarm
- FMVSS #108 lighting
- Undercoating to meet OSHA and NFGA specifications
- Completely installed
- Body weight approx. 9,000 lbs.
- Rear of body-mount 2, one on each side rear #500TIR LED_red strobes
- Front on grill-2 one on each side LED light strip #01-6653065A0-0 amber
- Work lights – one for each work station and one for rear body work area mounted according to DOT specifications
- Mount and install one 4’x 8’ 15 lamp LED arrow board with controls mounted in cab per RIDOT specs.

SPECIFICATION FOR TRUCK MOUNTED ATTENUATOR MODEL TL3 WITH TWO 90° TILT FOR TRANSPORT MODES OR EQUAL

SCOPE

1. Product

The specifications describe a truck mounted attenuator (TMA) which is mounted to a shadow vehicle for purposes of protecting the work crew in front of the shadow vehicle and protecting the motorist that might drive into the lane closed off by the shadow vehicle. Shadow vehicles should be trucks in a weight range of 12,000 lbs. To 25,200 lbs. And preferably 20,000 lbs., which is the weight of the truck tested for certification.

The Traffix Scorpion TMA 10,000 is available in three basic models.

- a. Model A: is a TL-2 device tested a 70 km/hr., figures 1 & 2 for use on trucks needing low speed protection or as a replacement cartridge for trucks already equipped with a TL-2 attenuator cartridge.
- b. Model B: uses a strut section in addition to the TRL-2 cartridge section to achieve A higher speed device, figures 3 & 4. The rear cartridge section has a hinged hydraulic coupling with fluid on both sides of the cylinders and solenoid valve lockouts. The rear cartridge can be raised to 90° where a scissors lock engages to lock the cartridge in the 90° position. An operators switch has an up and down button and the down button releases the lockout and lowers the cartridge. The release of the up or down button stops the cartridge at that angle. The Model B has a 10° tilt at the strut to allow clearance at driveways fig. 5. During construction when the shadow vehicle truck has to drive in and out of sloped areas such as the drainage median or a driveway, the strut can be temporarily raised 10° to travel over this terrain. In the normal transport mode, the rear cartridge is elevated and locked at 90° for the Model B.
- c. Model C: uses a 90° hydraulic tilt attached to the strut, fig. 6. This allow the Model C system to raise the strut to the vertical position with the cartridge in a horizontal position over the top of the truck for normal transport mode.

The Scorpion MA 10,000 is mounted to a truck at a road clearance height of 12" +/-1". In the deployed mode shown in fig. 7, the system extents 13' to the rear of the truck.

2. Product Specification

Construction – The Scorpion TMA 10,000 consists of three basic components. A steel backup is attached to the rear of the truck with an all-steel support structure fig. 8. An all aluminum tube frame extends out 13' from the backup. Inside the tube frame is a series of four aluminum boxes filled with energy absorbing aluminum honeycombing fig. 9.

Materials – The backup support structure uses all steel angles, plates, and C-channels welded using wire feed mix welding. The tube frame construction uses all aluminum tube and plate construction welded using wire feed mix welding on both sides of the tube/plate interface. The aluminum boxes use closed end-sealing rivets for joining the sheet metal. The aluminum honeycomb is joined to the aluminum face sheets using oven cured epoxy resin.

Aluminum tubing – 6063 Aluminum T4
Aluminum plate – 5052 aluminum 0.250”
Aluminum sheet – 5052 Aluminum 0.062”
Aluminum honeycomb – Commercial Grade 1” and ½” cell size
Aluminum rivets – 3/16” sealed
Backup bolts – 1” and 7/8” bolts grade #5

3. Dimensions and Weights

The outside dimensions of the crushable attenuator portion are to be 152” long plus or minus one inch, 95” plus or minus one inch wide, and 25” plus or minus one inch deep. The cantilevered crushable attenuator portion shall weigh a maximum of 1,375 lbs.

Note: In the “up” or travel position, the top of the TMA shall be a maximum of 10’8” from the ground (as installed on the truck). The lowest portion of the unit in the travel position shall not be less than 12” plus or minus one inch from the ground.

4. Performance Requirement

The attenuator is to have been tested and certified to NCHRP 350 for test level 3 tests: 3-50, 3-51, 3-52, and 3-53. It is required that in order to be considered responsive for this bid requirement, that all angular impact testing be successfully completed and federally certified to meet ALL NCHRP 350 test level 3 requirements.

The cartridge and strut sections of the attenuator shall be constructed with two structurally redirective side members. The side members are to be made of two 4 ½” diameter rolled and curved aluminum tubes having a 0.30” wall thickness. The redirective structural aluminum tube members shall protect the full truck width and have a side-to-side width of 95” plus or minus one inch.

5. Structural Steel Backup

The structural steel truck mounting backup; the truck support hardware and all hydraulic components shall be identical for the TL-2 and TL-3 models. Upgrading from the TL-2 to the TL-3 attenuator shall be accomplished by adding the strut attenuator to the cartridge attenuator system without changing the backup, support structure, or hydraulics.

6. Replacement Cartridge and Strut

The cartridge and strut attenuator sections shall be constructed with progressively collapsing modular components, which can be replaced, in successive stages depending on the accident severity; the first cartridge attenuator module shall provide a 5 mph bumper, the second cartridge attenuator module shall provide a 45 mph or 70 kph cushion for light 1800 lb. vehicle, the third cartridge attenuator module shall provide a 62.5 mph or 100 kph cushion for the light 1800 lb. vehicle, the fourth strut attenuator module working in concert with the cartridge module shall provide a 62.5 mph or 100 kph cushion for heavy 4400 lb. vehicles.

Product Specification Continued

7. Hydraulic 90° and 180° Tilt: Power Up and Down Feature

Hydraulic system shall have hydraulic fluid on both sides on the cylinders to prevent corrosion and enhance user safety. By hydraulically powering the TMA down and hydraulically locking it in the down or use position, it will eliminate the possibility of an impacting vehicle under riding the TMA in the use of deployed position.

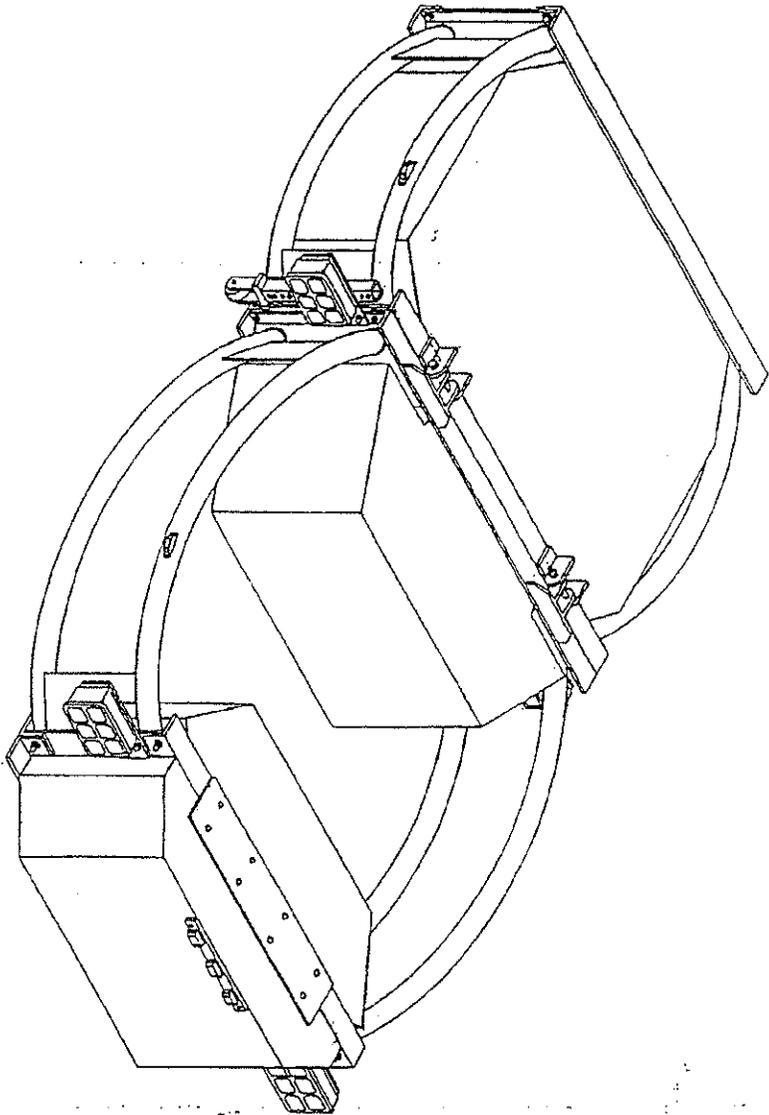


FIG. 3: Scorpion TMA Model B or C - TL3

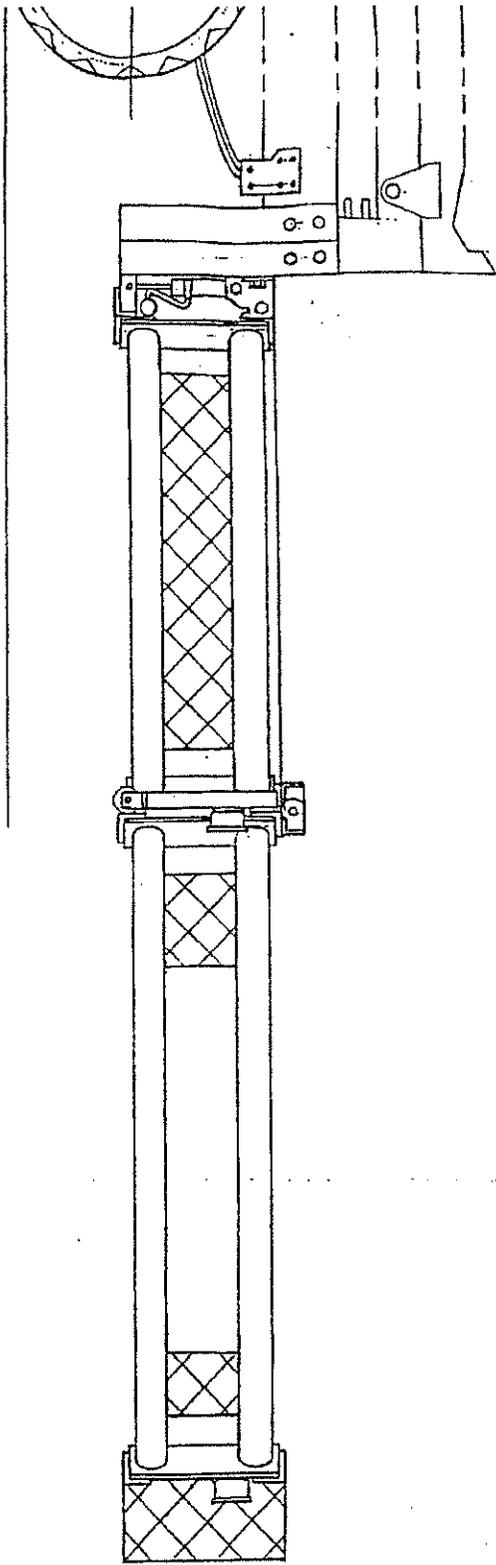
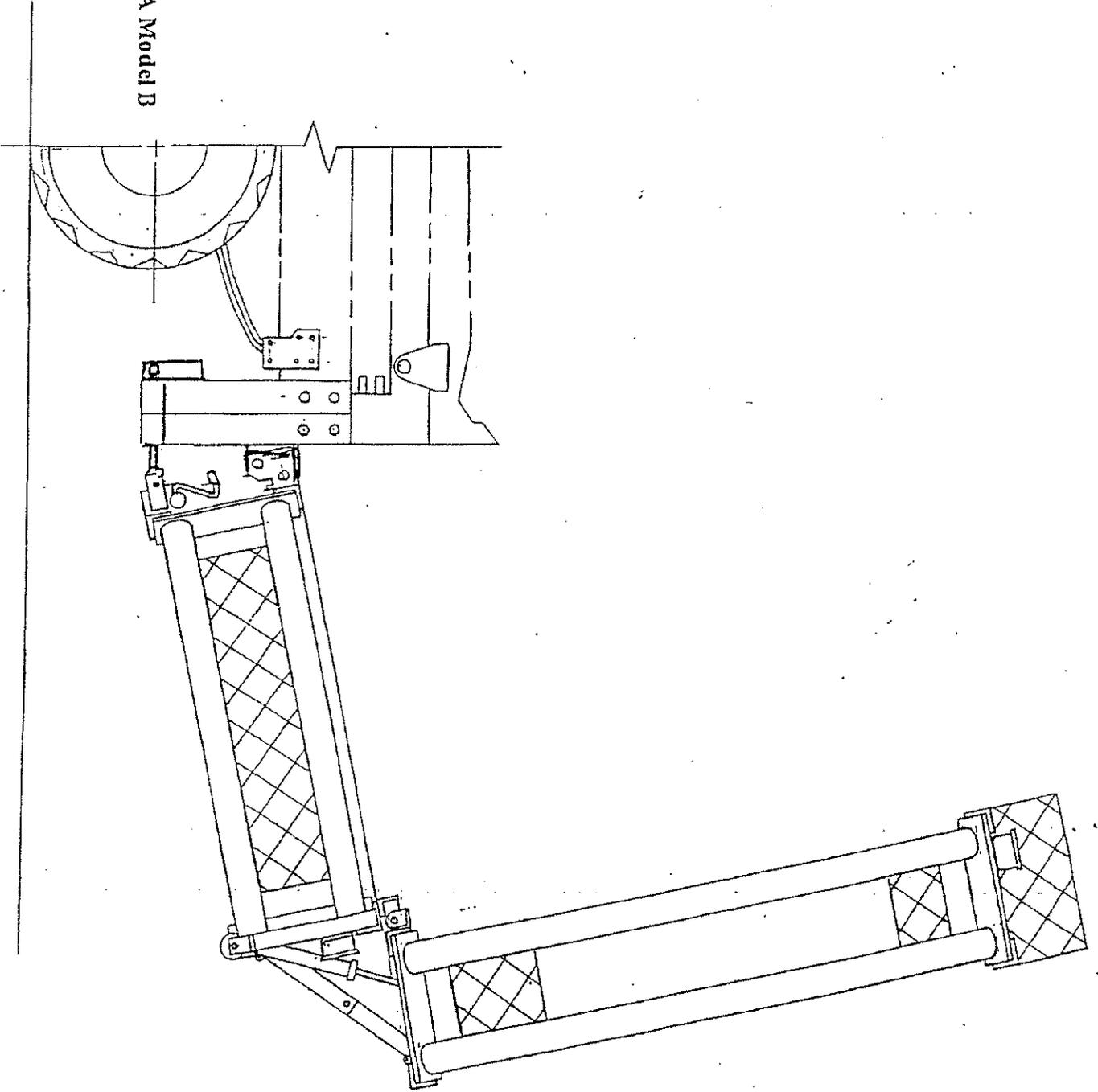


FIG. 7: Scorpion TMA in Attenuator Mode

FIG. 5: TMA Model B



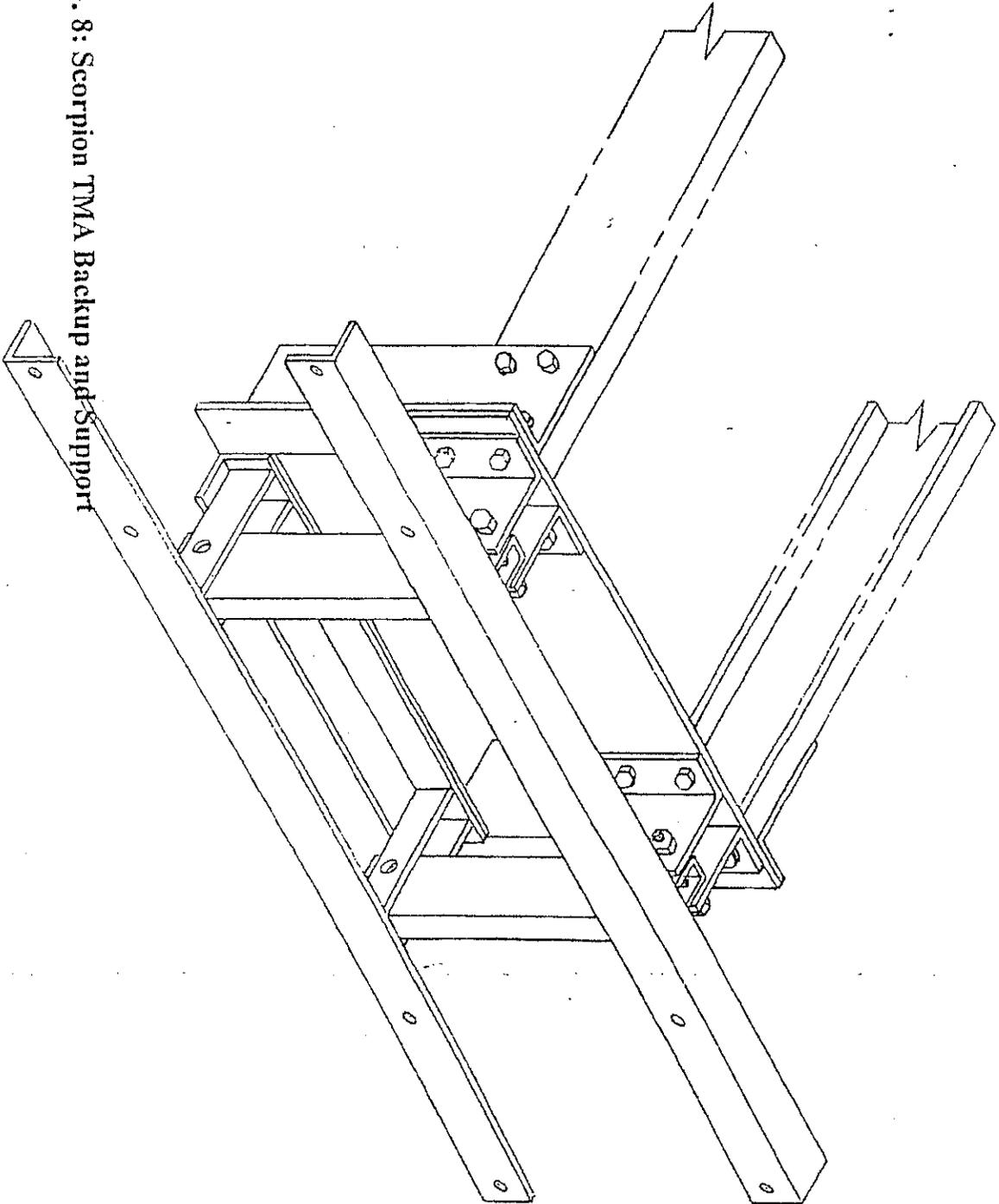
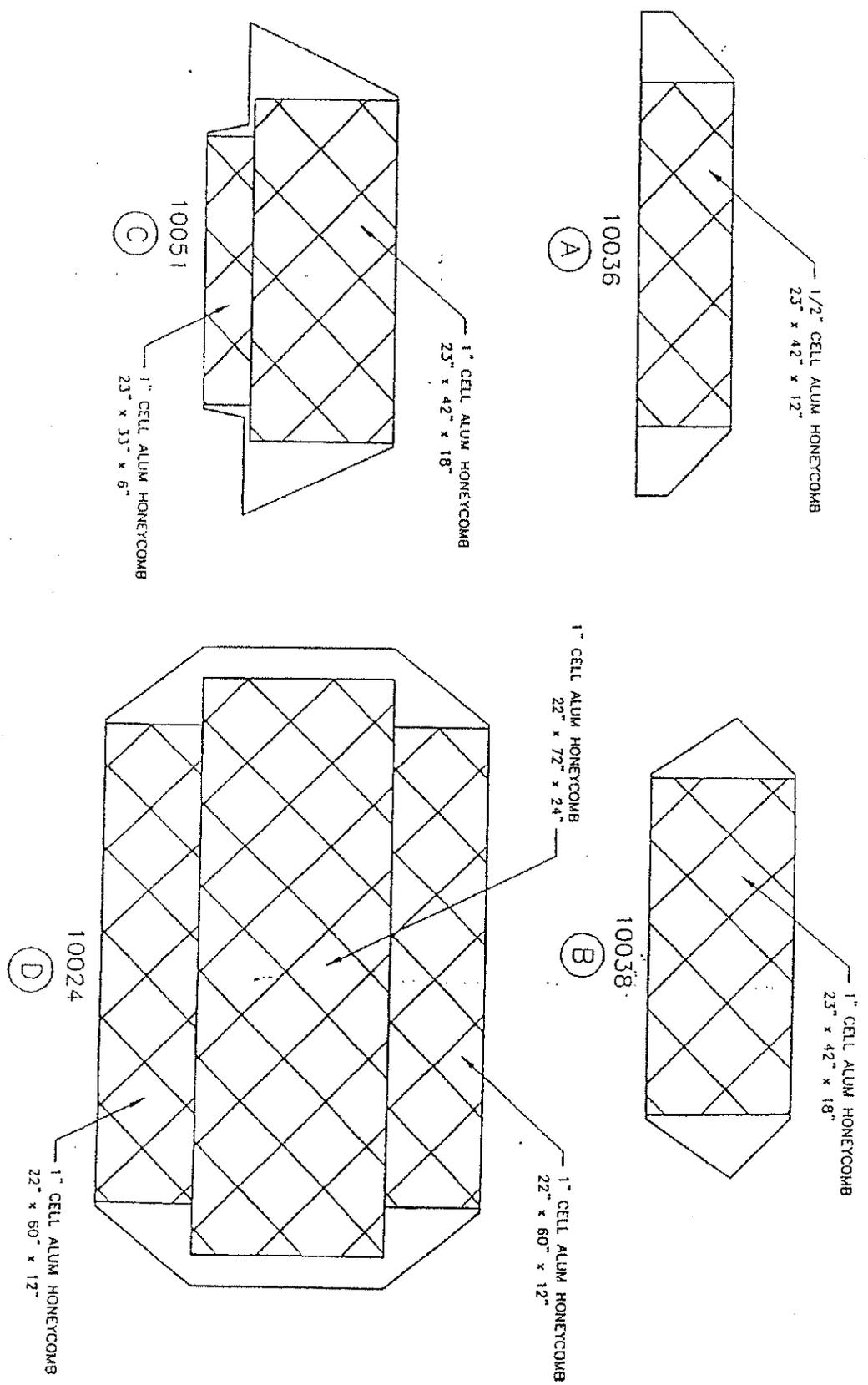


FIG. 8: Scorpion TMA Backup and Support

NOTES:

FIG. 9: TMA Model B or C Energy Absorbers



TMA/FCZ Devices, Inc.		10066	
ENERGY ABSORBANT CARTRIDGE		10066	
Part No.	10066	Part No.	10066
Rev.	1.0	Rev.	1.0
DATE	1/1/78	DATE	1/1/78
DESIGNED BY		DESIGNED BY	
CHECKED BY		CHECKED BY	
APPROVED BY		APPROVED BY	
DATE		DATE	