

Mr. Bill Korman  
Korman Signs, Incorporated  
3029 Lincoln Avenue  
Richmond, Virginia 23228

Dear Mr. Korman:

Thank you for your letter of May 23, 2002, requesting Federal Highway Administration (FHWA) acceptance of a number of your company's portable sign stands as crashworthy traffic control devices for use in work zones on the National Highway System (NHS). Accompanying your letter were reports of crash testing conducted by General Testing Services and video of the tests. You requested that we find these devices acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features." On June 13, 2002, you met with Mr. Artimovich of my office and provided information in addition to that in the original request.

**Introduction**

The FHWA guidance on crash testing of work zone traffic control devices is contained in two memoranda. The first, dated July 25, 1997, titled "INFORMATION: Identifying Acceptable Highway Safety Features," established four categories of work zone devices: Category I devices were those lightweight devices which could be self-certified by the vendor, Category II devices were other lightweight devices which needed individual crash testing, Category III devices were barriers and other fixed or massive devices also needing crash testing, and Category IV devices were trailer mounted lighted signs, arrow panels, etc. The second guidance memorandum was issued on August 28, 1998, and is titled "INFORMATION: Crash Tested Work Zone Traffic Control Devices." This later memorandum lists devices that are acceptable under Categories I, II, and III.

A brief description of your requests, including designation of the sign stands and the sizes and substrates you wish to use follows:

**Request Number 1:**

Stands: SS560, SS560A, SS560E, SS560AE

Signs: 60x60 or smaller Diamond or Square  
48x60 or smaller Rectangle

Substrates: 0.100, and .080 Al., 5/8 or 1/2 Plywood, 6.35mm SP, Endurance, HDPE,  
10mm CP, Alpolic, Roll Up, 3-4mm ACS

Other: With or without 48x30 or smaller supplementary panel using 10mm CP,  
Alpolic, or Roll Up  
With or without flags, light or ballast

Mounting Ht: 60 inches for diamond, 63 inches for rectangle, 21 inches for supplemental

**Request Number 2:**

Stands: SS548, SS548A, SS548E, SS548AE, SS548C, SS548CE, SS548CA, SS548CAE

Signs: 48x60 or smaller Rectangle

Substrates: Alpolic, 10mm CP, Roll Up

Other: With or without flags, lights, or ballast

Mounting Ht: 21 inches

**Request Number 3:**

Stands: SS548E, SS548AE, SS548CE, SS548CAE

Signs: 60x60 or smaller Diamond or Square  
48x60 or smaller Rectangle

Substrate: Roll Up

Other: With or without 48x30 or smaller supplementary panel using 10 mm CP, Alpolic, or Roll Up

With or without flags, or ballast

Mounting Ht: 48 to 60 inches for diamond or rectangle, 21 inches for supplemental sign

**Request Number 4:**

Stands: Type III Barricade

Signs: 60x60 or smaller Diamond or Square  
60x48 or smaller Rectangle

25 Square Foot or smaller combination of signs

Substrate: Alpolic

Other: With or without ballast

Mounting Ht: N/A

**Request Number 5:**

Stand: SS1

Signs: 48x48 or smaller Diamond or Square  
48x60 or smaller Rectangle

Substrates: .100 and .080 Al., 5/8 and 1/2 Plywood, Endurance, 6.35mm SP, HDPE, 10mm CP, Alpolic, Roll Up, 3-4mm ACS

Other: With or without flags, or ballast

Mounting Ht: 13 to 14 Inches for diamond, 24 inches for rigid rectangle

13 to 28 inches for roll-up rectangle for 48x60 and 48x24 inch signs

**Request Number 6:**

None: Deleted from original request. Repeated elsewhere in this submittal

**Request Number 7:**

Stands: SS548, SS548AE, SS548CE, SS548CAE  
 Signs: 60x60 or smaller Diamond or Square  
 48x60 or smaller Rectangle  
 Substrates: 10mm CP, Alpolic, Roll Up  
 Other: With or without flags, light, or ballast  
 Mounting Ht: 19 to 21 inches

**Request Number 8:**

Stands: SS548, SS548A, SS548C, SS548CA  
 Signs: 60x60 or small Diamond or Square  
 Substrate: Roll Up  
 Other: With or without flags, or ballast  
 Mounting Ht: 19 to 21 Inches

**Request Number 9:**

Stands: SS548UC, SS548UCA, SS548UCX, SS548UCAX  
 Signs: 60x60 or smaller Diamond or Square  
 48x60 or smaller Rectangle  
 Substrate: Roll Up  
 Other: With or without flags, or ballast  
 Mounting Ht: 21 Inches

**Request Number 10:**

Stands: SS560UC, SS560UCA, SS560UCX, SS560UCAX  
 Signs: 60x60 or smaller Diamond or Square  
 48x60 or smaller Rectangle  
 Substrate: Roll Up  
 Other: With or without flags, or ballast  
 Mounting Ht: 60 Inches

**Request Number 11:**

Stands: SS548UCR, SS548UCRA, SS560UCR, SS560UCRA, SS548UCRX,  
 SS548UCRAX, SS560UCRX, SS560UCRAX  
 Signs: 60x60 or smaller Diamond or Square  
 48x60 or smaller Rectangle  
 Substrate: Roll Up  
 Other: With or without flags, or ballast  
 Mounting Ht: 13 Inches

**Request Number 12:**

Stands: SS548, SS548E, SS548A, SS548AE, SS548C, SS548CE, SS548CA,  
 SS548CAE  
 Signs: 48x48 or smaller Diamond or Square

48x60 or smaller Rectangle  
 Substrates: .080 Al, Endurance, 6.35mm SP, 10mm CP, HDPE, Alpolic, 3-4mm ACS  
 Other: With or without flags, light, or ballast  
 Mounting Ht: 19 Inches

Abbreviations used in the above requests are:

Al.: Solid aluminum substrate

SP: Solid plastic (ABS) substrate

CP: Corrugated plastic

HDPE: Hollow core blow molded high density polyethylene waffle pattern substrate

Alpolic: 2 mm aluminum laminate composite substrate

ACS: Aluminum composite substrate/aluminum laminate 3 or 4 mm thick.

Enclosure #1 is a summary of the acceptances that this request embraces, with an indication of the mounting height of each sign that was tested and is to be considered for acceptance.

### **Testing**

Full-scale automobile testing was conducted on your company's devices. Generally, two stand-alone examples of the device were tested in tandem, one head-on and the next placed six meters downstream turned at 90 degrees, as called for in our guidance memoranda. In some cases, different combinations of sign sizes and/or substrates were used on the two stands tested in order to qualify a broader range of hardware. The "worst case scenario" tests for the head-on and 90-degree impacts were discussed in advance with Mr. Artimovich. Enclosure #2 is a summary of the 37 crash tests conducted to support the requests. Enclosure #3 is another summary which relates the individual stands to the tests conducted as part of this submission, as well as to earlier FHWA letters of acceptance which support the individual request. Enclosure #4 is a summary of the product description and a glossary of terms used to describe the variations in your company's stands. Enclosure #5 contains a drawing of each stand, for reference.

### **Findings**

Damage was limited to moderate cracking of the windshield in a number of tests, as noted in Enclosure #2, plus various damage to the bumper, hood, and roof of the test vehicles. There were no instances of passenger compartment penetration or intrusion.

The results of the testing met the FHWA requirements and, therefore, the devices described in the various requests above and detailed in the enclosed tables and drawings are acceptable for use on the NHS under the range of conditions tested, when proposed by a State.

Please note the following standard provisions that apply to FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of FHWA and NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number WZ-100 shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- They may include patented components and if so are considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature. They are selected by the contractor for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of proprietary products on Federal-aid projects. On the other hand, if proprietary devices are specified for use on Federal-aid projects, except exempt, non-NHS projects, they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternative exists or; (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.

Sincerely yours,

Carol H. Jacoby, P.E.  
Director, Office of Safety Design

Enclosure

Korman Signs Inc.  
 Summary of Accepted Devices  
 By Mounting Height

		.125 AI	.100 AI	.080 AI	5/8 Plywood	1/2 Plywood	Endurance	6.35 mm SP	10mm CP	HDPE	3-4mm ACS	Alpolic 350	Roll up	w/Supl. Panel	w/wo Flags	w/Light	w/wo Ballast
1	SS560	60	60	60	60	60	60	60	60	60	60	60	60	21	yes	yes	yes
2	SS560E	60	60	60	60	60	60	60	60	60	60	60	60	21	yes	yes	yes
3	SS560A	60	60	60	60	60	60	60	60	60	60	60	60	21	yes	yes	yes
4	SS560AE	60	60	60	60	60	60	60	60	60	60	60	60	21	yes	yes	yes
5	SS560UC												60	21	yes		yes
6	SS560UCX												60	21	yes		yes
7	SS560UCA												60	21	yes		yes
8	SS560UCAX												60	21	yes		yes
9	SS560UCR												13		yes		yes
10	SS560UCRX												13		yes		yes
11	SS560UCRA												13		yes		yes
12	SS560UCRAX												13		yes		yes
13	SS548			19			19	19	19-21	19-21	19-21	19-21	19-21		yes	yes	yes
14	SS548E			19			19	19	19-21	19-21	19-21	19-21	48-60	21	yes	yes	yes
15	SS548A			19			19	19	19-21	19-21	19-21	19-21	19-21		yes	yes	yes
16	SS548AE			19			19	19	19-21	19-21	19-21	19-21	48-60	21	yes	yes	yes
17	SS548C			19			19	19	19-21	19-21	19-21	19-21	19-21		yes	yes	yes
18	SS548CE			19			19	19	19-21	19-21	19-21	19-21	48-60	21	yes	yes	yes
19	SS548CA			19			19	19	19-21	19-21	19-21	19-21	19-21		yes	yes	yes
20	SS548CAE			19			19	19	19-21	19-21	19-21	19-21	48-60	21	yes	yes	yes
21	SS548UC												21		yes		yes
22	SS548UCX												21		yes		yes
23	SS548UCA												21		yes		yes
24	SS548UCAX												21		yes		yes
25	SS548UCR												13		yes		yes
26	SS548UCRX												13		yes		yes
27	SS548UCRA												13		yes		yes
28	SS548UCRAX												13		yes		yes
29	SS1		14	14	14	14	14	14	14	14	14	14	13		yes		yes
30	Type III Bar.											yes		yes			yes
Notes: Maximum Sign size = 60x60 diamond/square, or 48x60 rectangle																	
Check Product Literature for actual capacity																	
Rigid rectangular signs mounting height is usually 2-3 inches higher than diamond shape																	







Korman Signs Inc.  
 Summary of Crash Tests

Request Number	5	5	7	7,8	7,8	7,8	8	9	9	11	11
Test Reference	87A	87B	88B	81B	6A	6B	76B	5A	5B	7A	7B
Stand	SS1	SS1	SS548E	SS548A	SS548E	SS548E	SS548	SS548UC	SS548UC	SS548UCR	SS548UCR
Sign Size	48x48	48x48	60x60	60x60	60x60	60x60	60x60	60x80	60x60	48x60	48x60
Sign Type	.08 Al	.08 Al	Alpolic	Roll Up	Alpolic	Alpolic	Roll Up	Roll Up	Roll Up	Roll Up	Roll Up
Orientation	Head On	90 Degree	90 Degree	90 Degree	Head On	90 Degree	90 Degree	Head On	90 Degree	Head On	90 Degree
Height to Bottom	13	13	21	19	21	21	21	21	21	13	13
Height to Top	72	72	105	103	105	105	105	105	105	73	73
Height to Top of Mast	72	72	105	103	105	105	90	33	33	25	25
Stand Weight	20	20	40	31	40	40	38	32	32	24	24
Sign Weight	18	18	18	8	18	18	7	8	8	8	8
Rib Thickness				1/4, 1/4			3/16, 3/16	3/16, 3/8	3/16, 3/8	3/16, 3/8	3/16, 3/8
Vehicle Damage	Dents	Hole/Roof	Dents	Minor	Minor	Minor	Uncertain	Slight	Slight	Minor	Minor
Windshield Damage	None	Cracking	None	None	None	Cracking	Cracking*	Cracking	Cracking	Cracking	Cracking
Intrusion	None	None	None	None	None	None	None*	None	None	None	None
Flags	VFO2436	VFO2436			VFO2436	VFO2436					
Flag Weight	0.6	0.6			0.6	0.6					
Light					yes	yes					
Light Weight					4.8	4.8					
Ballast	Yes**	Yes**	No	No	No	No	No	No	No	No	No
Test Facility	KSI	KSI	KSI	KSI	GTL	GTL	KSI	GTL	GTL	GTL	GTL
Date of Test	3/6/02	3/6/02	8/9/01	10/2/01	10/18/01	10/18/01	8/30/01	10/18/01	10/18/01	10/18/01	10/18/01
Related WZ Letters	WZ-29, 103	WZ-29, 103	WZ-29	WZ-29	WZ-29	WZ-29	WZ-29	WZ-21, 29	WZ-21, 29	WZ-21, 29	WZ-21, 29

\* Interpretation: Vehicle damaged prior to this test.

\*\* 50 lb Sand Bag



Request #	Stands	Max Size(s)	Mounting Ht.	.125 AL	.100 AL	.080 AL	5/8 Plywood	1/2 Plywood	6.35 mm SP	Endurance	HDPE	Alpolic 350	10mm CP	Roll Up	w/ Supp. Panel	w/wo Flags	w/ Light	w/wo Ballast	Test Reference	
1	SS560	60x60	60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4A, 4B 56A, 56B 55A, 55B	
	SS560A	48x60		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	SS560E			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	SS560AE	48x30 Supp.	21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
2	SS548											✓	✓	✓		✓	✓	✓	86B 69B 61A 8A, 8B	
	SS548A											✓	✓	✓		✓	✓	✓		
	SS548E											✓	✓	✓		✓	✓	✓		
	SS548AE	48x60	21 to 24									✓	✓	✓		✓	✓	✓		
	SS548C											✓	✓	✓		✓	✓	✓		
	SS548CE											✓	✓	✓		✓	✓	✓		
	SS548CA SS548CAE											✓	✓	✓		✓	✓	✓		
3	SS548E	60x60	48 min.											✓	✓	✓		✓	58A, 56B	
	SS548AE													✓	✓	✓		✓	73B, 85B	
	SS548CE													✓	✓	✓		✓	1A, 1B	
	SS548CAE	48x30 Supp.	21											✓	✓	✓		✓	4A, 4B,	
4	Type III Barricade	60x60 60x48	direct mt. to a rail									✓						✓	58A, 59B, 60A 2A, 3B	
5	SS1	48x48 rigid	14		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	66A, 66B, 73B, 87A, 87B, WZ-78A, WZ-103	
		48x48 roll up	16																	
	w/wo sand bag	48x60 rigid	24																	
		48x60 roll up	24																	
7	SS548E	60x60	19									✓	✓	✓		✓	✓	✓	68B, 76B, 81B 6A, 6B	
	SS548AE		21									✓	✓	✓		✓	✓	✓		
	SS548CE											✓	✓	✓		✓	✓	✓		
	SS548CAE											✓	✓	✓		✓	✓	✓		
8	SS548	60x60	19											✓		✓		✓	76B, 81B WZ-29	
	SS548A		21											✓		✓		✓		
	SS548C													✓		✓		✓		
	SS548CA													✓		✓		✓		

Request #	Stands	Max. Size(s)	Mounting Ht.	.125 Al.	.100 Al.	.080 Al.	5/8 Plywood	1/2 Plywood	6.35mm SP	Endurance	HDPE	Alpollic 350	10mm CP	Roll Up	w/Supp. Panel	w/wo Flags	w/Light	w/wo Ballast	Test Reference	
9	SS548UC	60x60	21											✓		✓		✓	99A, 99B	
	SS548UCA	48x60													✓		✓		✓	5A, 5B
	SS548UCX														✓		✓		✓	WZ-29, WZ-57
	SS548UCAX														✓		✓		✓	WZ-17, WZ-32
10	SS580UC	60x60	60											✓	✓	✓		✓	99A, 99B	
	SS580UCA	48x60													✓	✓	✓		✓	WZ-29, WZ-57
	SS580UCX														✓	✓	✓		✓	WZ-17, WZ-32
	SS580UCAX														✓	✓	✓		✓	
11	SS548UCR	60x60	13											✓		✓		✓	7A, 7B	
	SS548UCRA	48x60													✓		✓		✓	99A, 99B
	SS580UCR														✓		✓		✓	WZ-21
	SS560UCRA														✓		✓		✓	
	SS548UCRX														✓		✓		✓	
	SS548UCRAX														✓		✓		✓	
	SS580UCRX														✓		✓		✓	
	SS580UCRAX														✓		✓		✓	
12	SS548	48x48	19			✓			✓	✓	✓	✓	✓			✓	✓	✓	10A, 10B WZ-59, WZ-78A WZ-103	
	SS548E	48x60	21			✓			✓	✓	✓	✓	✓			✓	✓	✓		
	SS548A					✓			✓	✓	✓	✓	✓			✓	✓	✓		
	SS548AE					✓			✓	✓	✓	✓	✓			✓	✓	✓		
	SS548C					✓			✓	✓	✓	✓	✓			✓	✓	✓		
	SS548CE					✓			✓	✓	✓	✓	✓			✓	✓	✓		
	SS548CA					✓			✓	✓	✓	✓	✓			✓	✓	✓		
	SS548CAE					✓			✓	✓	✓	✓	✓			✓	✓	✓		

**SS560:** X footprint stand with telescopic steel square tube legs. The sign support assembly consists of a pivoting steel tube upright that contains a telescopic steel tube mast topped with 3 flag holders, built in sign rigid and roll up sign holders, and is connected to the base via two vertically positioned extension springs. This stand supports rigid or roll up signs at a normal operating height of 60 inches (1524mm) above the ground.

**SS560E:** Same as the SS560 except the telescopic mast is longer to accommodate 60x60 signs

**SS560A:** Same as the SS560 except the legs are square aluminum tubing.

**SS560AE:** Same as the SS560A except the telescopic mast is longer to accommodate 60x60 signs.

**SS560UC:** Same base and upright construction as SS560 except special telescopic mast supports only roll up signs via a clamping mechanism that captures the vertical rib.

**SS560UCX:** Same as SS560UC without mechanical clamping assembly. Made to accept 1x1/snap button.

**SS560UCA:** Same as SS560UC except the legs are square aluminum tubing.

**SS560UCAX:** Same as SS560UCA without mechanical clamping assembly. Made to accept 1x1/snap button.

**SS560UCR:** Same X footprint stand as SS560 but the sign support assembly consists of a rigid tube welded to the base and supports only roll up signs via a clamping mechanism that captures the vertical rib.

**SS560UCRX:** Same as SS560UCR without mechanical clamping assembly. Made to accept 1x1/snap button.

**SS560UCRA:** Same as SS560UCR except the legs are square aluminum tubing.

**SS560UCRAX:** Same as SS560UCRA without mechanical clamping assembly. Made to accept 1x1/snap button.

**SS548:** Same as SS560 but reduced in size and weight accordingly for mounting signs at an operating height of 21 inches (533mm) above the ground. This stand supports rigid or roll up signs.

**SS548E:** Same as SS548 except telescopic mast is longer to accommodate 60x60 signs or to allow roll up signs only to be mounted up to a maximum height of 60 inches (1524mm).

**SS548A:** Same as SS548 except legs are square aluminum tubing.

**SS548AE:** Same as SS548A except mast is longer to accommodate 60x60 signs or to allow roll up signs only to be mounted up to a maximum height of 60 inches (1524mm).

**SS548C:** Same as SS548 except legs and mast telescope to make the unit more compact.

**SS548CE:** Same as SS548C except mast is longer to accommodate 60x60 signs or to allow roll up signs only to be mounted up to a maximum of 60 inches (1524mm).

**SS548CA:** Same as SS548C except legs are square aluminum tubing.

**SS548CAE:** Same as SS548CA except mast is longer to accommodate 60x60 signs or to allow roll up signs only to be mounted up to a maximum of 60 inches (1524mm).

**SS548UC:** X footprint stand with telescopic steel square tube legs. The sign support assembly consists of a pivoting steel tube upright that is connected to base via two vertically positioned extension springs. The upright contains a clamping mechanism that captures the vertical rib of a roll up sign at a 21 inch (533mm) mounting height. The unit is more compact and weighs less than conventional stands and only supports roll up signs.

**SS548UCX:** Same as SS548UC without mechanical clamp assembly. Made to accept 1x1/snap button.

**SS548UCA:** Same as SS548UC except legs are made from aluminum square tubing.

**SS548UCAX:** Same as SS548UCA without mechanical clamp assembly. Made to accept 1x1/snap button.

**SS548UCR:** X footprint stand with telescopic steel square tube legs. The sign support assembly consists of a rigid tube upright welded to the base and supports only roll up signs via a clamping system that captures the vertical rib.

**SS548UCRX:** Same as SS548UCR without mechanical clamp assembly. Made for 1x1/snap button.

**SS548UCRA:** Same as SS548UCR except legs are made from aluminum square tubing.

**SS548UCRAX:** Same as SSUCRA without mechanical clamp assembly. Made for 1x1/snap button.

**SS1:** Tripod Stand with rigid steel legs and telescopic mast that supports a roll up or rigid sign.

**Type III Barricade:** Any Type III barricade that has been accepted as crashworthy by the FHWA.

**Alpolic:** Signs with this designation are manufactured from Alpolic 350 a 2mm aluminum composite material and covered with 3M Diamond Grade reflective sheeting or without any sheeting.

**Al:** Signs with this designation indicate alloy 5052H38 solid aluminum sheet in the thickness gauge and size specified and covered with 3M Diamond Grade reflective sheeting or without any sheeting.

**Roll Up:** Signs with this designation indicate either mesh fabric, 3M RS-34, or 3M RS-24 Diamond Grade roll up material with cloth or plastic pockets and either two or three cross braces (ribs) depending on the sign shape and application.

**SP:** Indicates a solid plastic substrate most commonly ABS.

**CP:** Indicates a corrugated plastic substrate.

**HDPE:** Indicates a hollow core blow molded high density polyethylene waffle pattern substrate.

**Endurance:** Indicates a corrugated thermoplastic material manufactured by Relxite Corporation.

**Flag:** Indicates a 24x24 vinyl flag mounted on a 3/4x36 wooden dowel KSI Model No. VFO2436.

**Light:** Empcolite Model 212 Type B flashing light with batteries, and plastic mounting adapter.

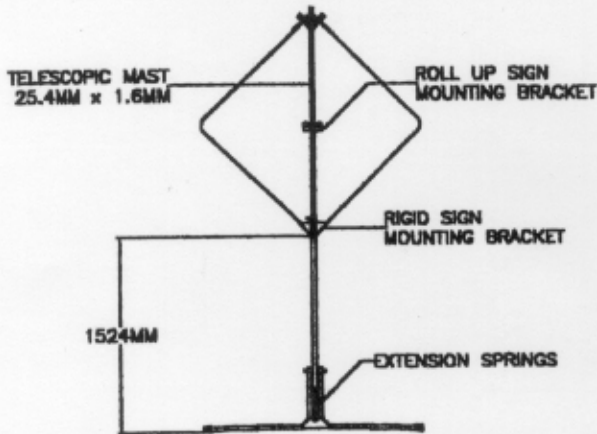
**Ballast:** Sand bags weighing 45 to 55 lbs.

**Supp. Panel:** This term refers to an additional sign mounted under the primary sign using Alpolic, Roll Up, or 10mm CP.

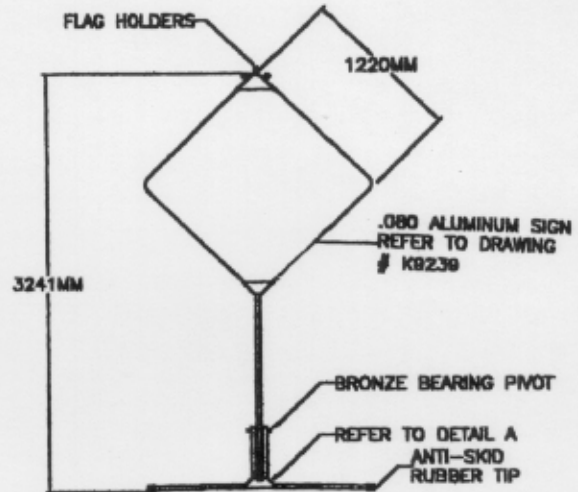
**3-4mm ACS:** An aluminum composite material similar to Alpolic 350 but provided in a thickness of either 3 or 4 mm.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
<h1>SS560</h1>				

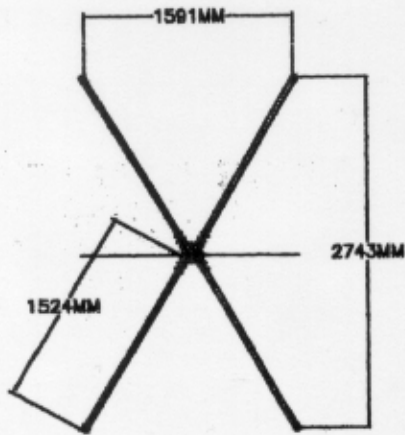
BACK VIEW



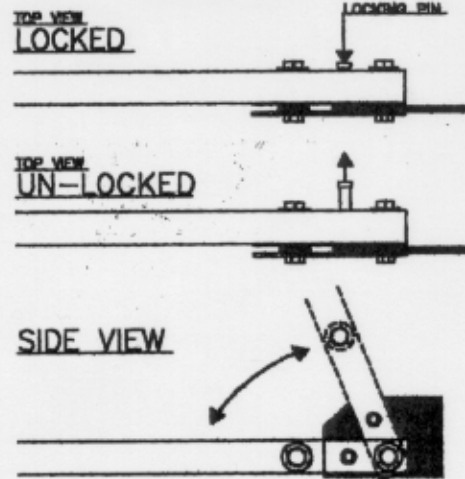
FRONT VIEW



TOP VIEW



DETAIL -A-



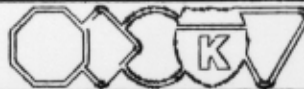
BASE  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91MM STEEL LEG MTG.FLANGES

LEGS  
31.75MM X 1.6MM SQUARE STEEL TUBING

TELESCOPIC MAST 25.4MM X 1.6MM SQUARE STEEL TBG.

SPRINGS - EXTENSION TYPE

FINISH - ZINC



**Korman Signs**

SCHMATIC DRAWING FOR MODEL SS560  
HEAVY DUTY FLEXIBLE SIGN STAND WITH  
AN .080 ALUMINUM SIGN

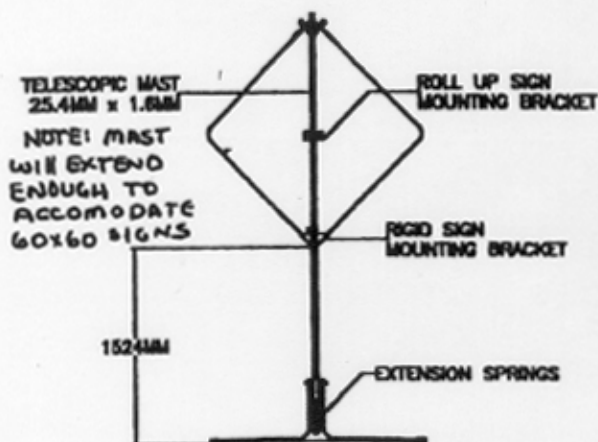
SIZE	FSCM NO.	DWG NO.	REV
		C9219C	
SCALE--NOT TO SCALE		9/23/99	SHEET
			Dsc

REVISIONS

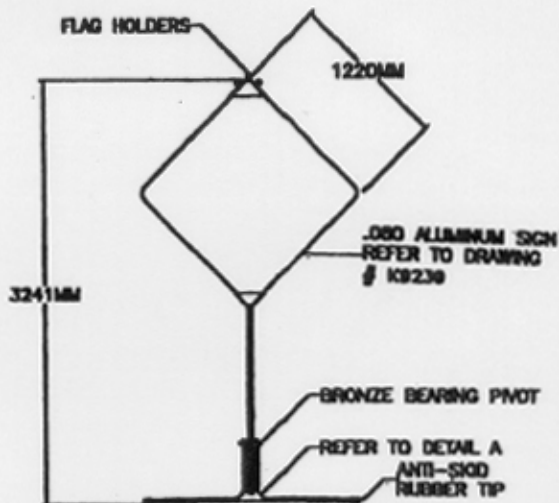
ZONE	REV	DESCRIPTION	DATE	APPROVED
------	-----	-------------	------	----------

# SS560E

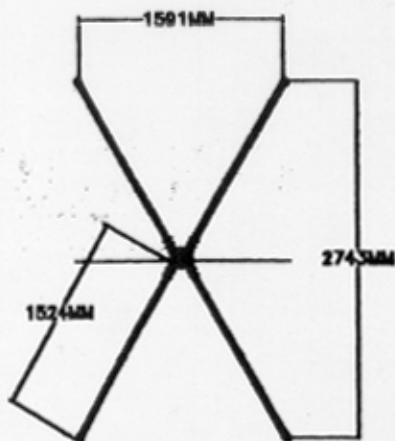
BACK VIEW



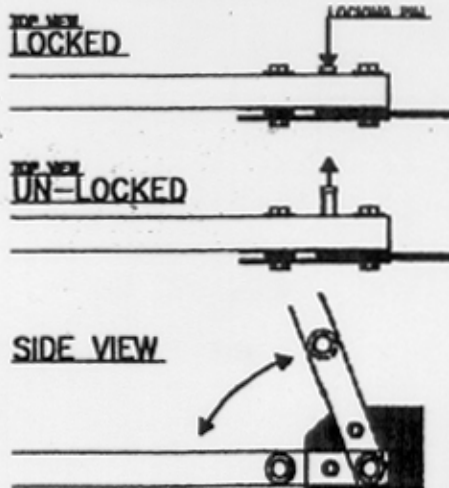
FRONT VIEW



TOP VIEW



DETAIL -A-



BASE  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91MM STEEL LED MTG. FLANGES

LEGS  
31.75MM X 1.6MM SQUARE STEEL TUBING

TELESCOPIC MAST 25.4MM X 1.6MM SQUARE STEEL TBG.  
SPRINGS - EXTENSION TYPE

FINISH - ZINC

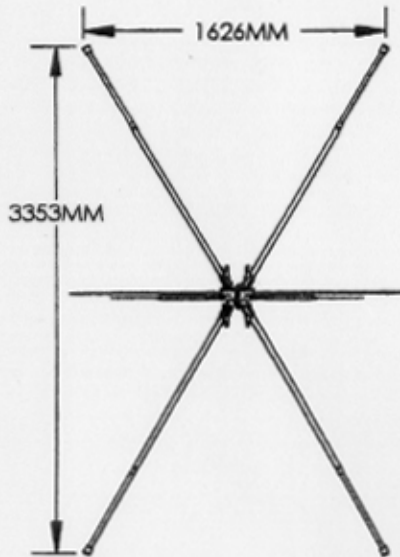
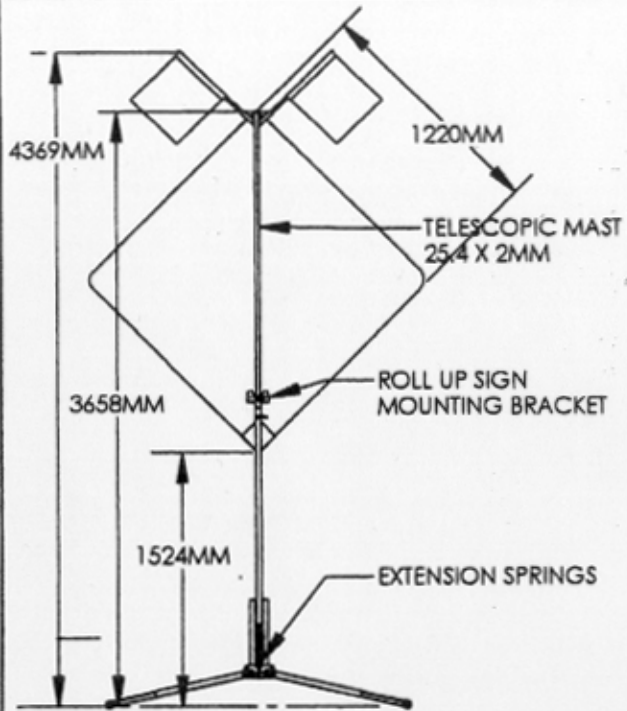


**Korman Signs**

SCHMATIC DRAWING FOR MODEL SS560E  
HEAVY DUTY FLEXIBLE SIGN STAND WITH  
AN .080 ALUMINUM SIGN

SIZE	FSCM NO.	DWG NO.	REV
		C9219C	
SCALE - NOT TO SCALE		9/25/99	SHEET
			DSC

# SS560A



FLAGS  
REFER TO DWG.  
K9239A (OPTIONAL)

RIGID ALPOLIC 350  
SIGN - REFER TO DWG.  
K9249

FLAG HOLDERS

RIGID SIGN  
MOUNTING BRACKET  
OPTIONAL  
SUPPLEMENTARY PANEL

1524MM (60")

BRONZE BEARING  
PIVOT

SEE LATCH DETAIL

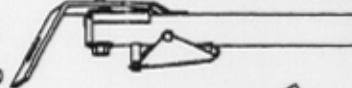
### LEG LATCH DETAIL

TOP VIEW  
LOCKED

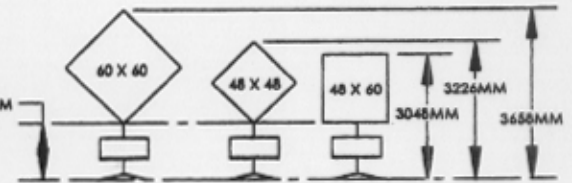
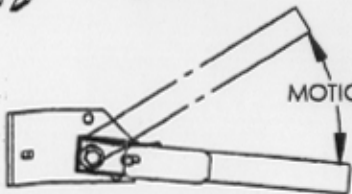


KICK RELEASE LEVER

TOP VIEW  
UN-LOCKED



SIDE VIEW



BASE:  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91 MM STEEL LEG MITG. FLANGES

LEGS:  
31.75MM X 2.56MM SQUARE ALUMINUM TUBING

TELESCOPIC MAST - 25.4MM X 2.56MM SQUARE  
ALUMINUM TBG.

SPRINGS - EXTENSION TYPE

FINISH - ZINC



**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS560A  
FLEXIBLE SIGN STAND WITH A 2MM ALPOLIC SIGN

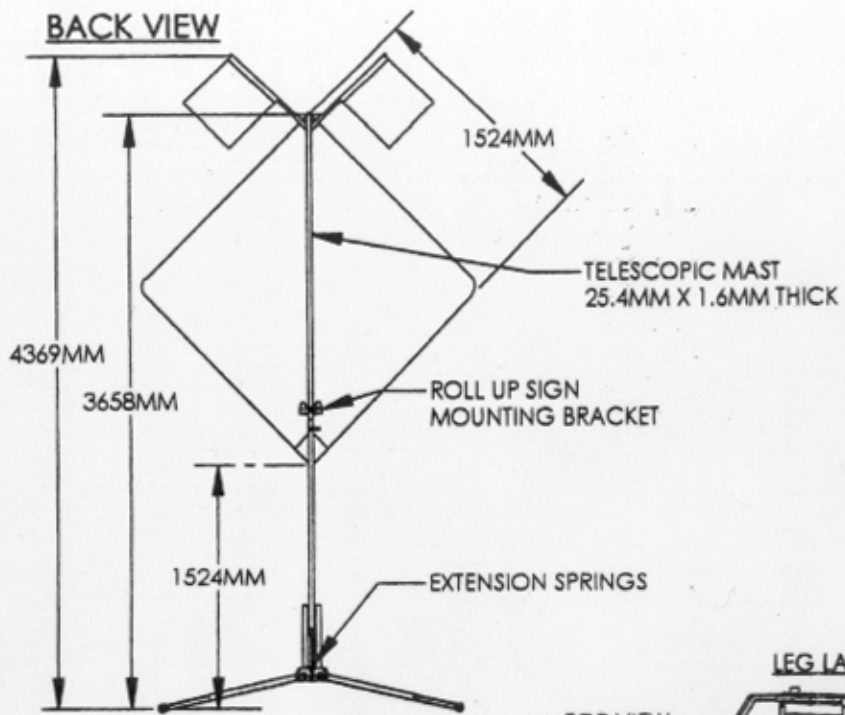
SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

DWG. NO. C9209A



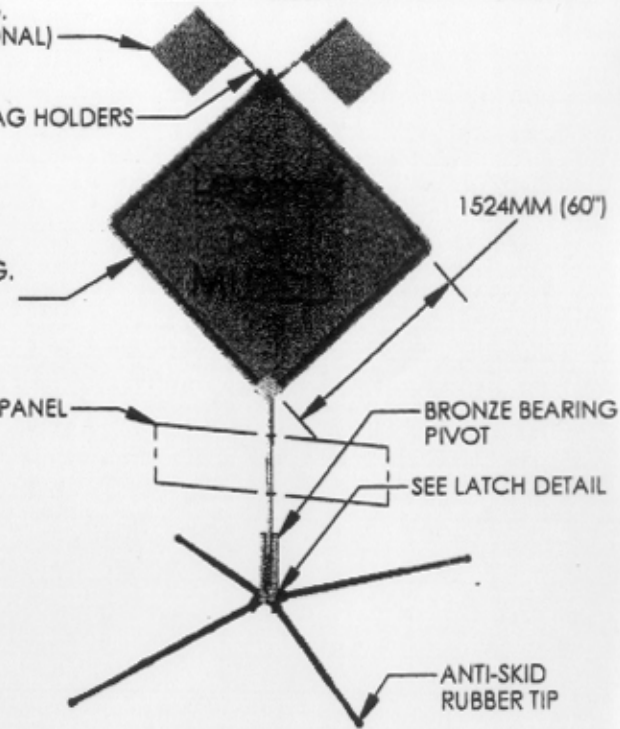
# SS560AE



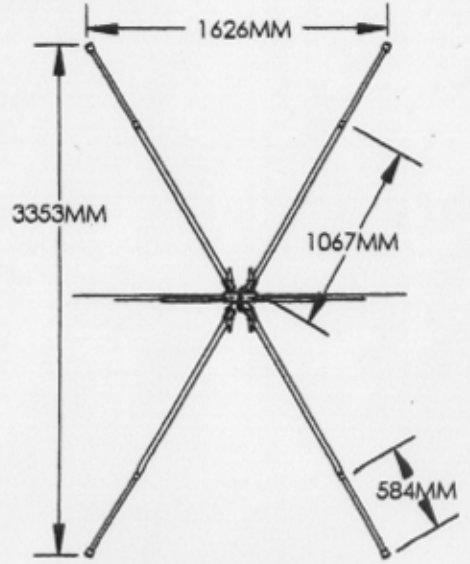
FLAGS REFER TO DWG. K9239A (OPTIONAL)

FLAG HOLDERS

RIGID ALPOLIC 350 SIGN -- REFER TO DWG. K9249



**TOP VIEW**

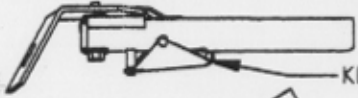


**LEG LATCH DETAIL**

TOP VIEW LOCKED

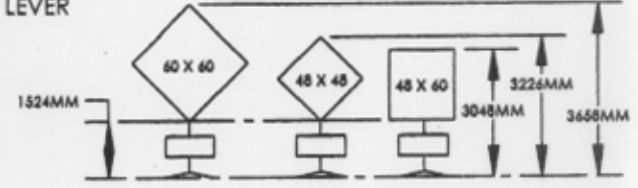
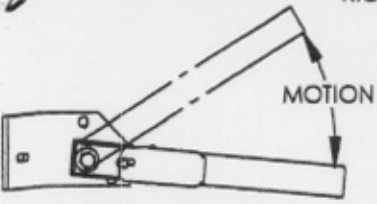


TOP VIEW UN-LOCKED



KICK RELEASE LEVER

SIDE VIEW



**BASE:**  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MFG. FLANGES

**LEGS:**  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM. TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS, RESPECTIVELY

MAST - 25.4MM X 1.6MM THICK SQUARE STEEL TBG.

SPRINGS - EXTENSION TYPE

FINISH - ZINC



**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS560AE  
FLEXIBLE SIGN STAND WITH A 60"X60" ALPOLIC 350 SIGN

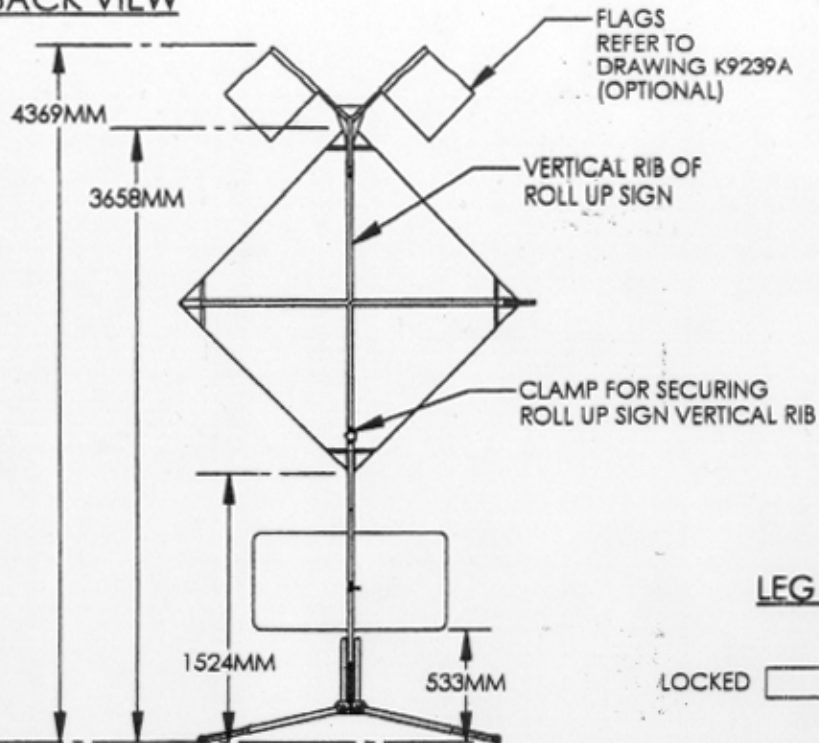
SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

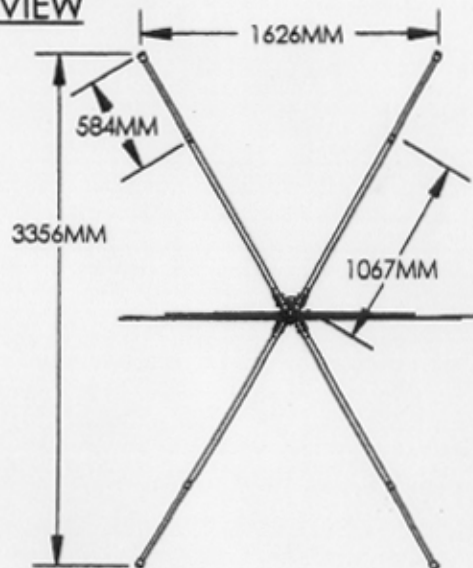
DWG. NO. C61202C

# SS560UC

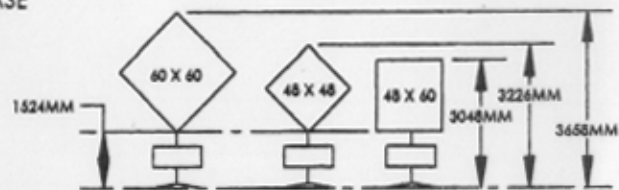
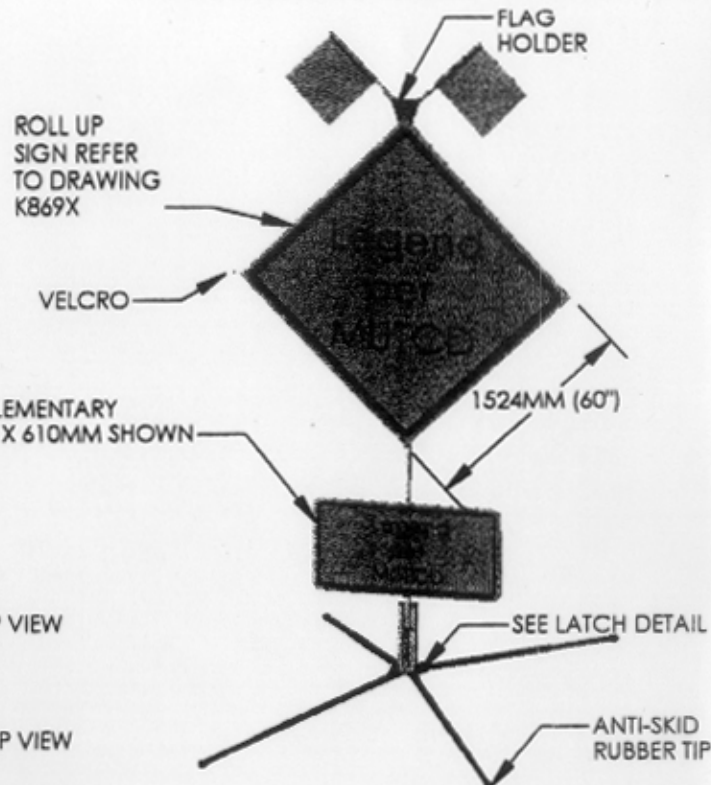
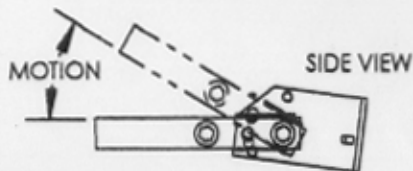
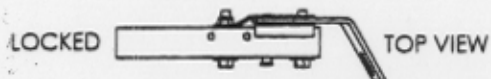
## BACK VIEW



## TOP VIEW



## LEG LATCH DETAIL



BASE:  
31.75MM X 2.1 MM SQUARE STEEL TUBING WITH  
4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELESCOPING 31.75MM AND 25.42MM SQUARE  
STEEL TUBING WITH 2MM AND 1.6MM THICKNESS,  
RESPECTIVELY

UPRIGHT - TELESCOPIC 25.42MM X 2.56MM WALL  
THICKNESS SQUARE ALUMINUM TUBING WITH  
SCREW TYPE CLAMP TO ATTACH VERTICAL RIB OF  
SIGN TO STAND  
FINISH - ZINC

SPRINGS - VERTICAL EXTENSION TYPE



**Korman Signs**  
INC.

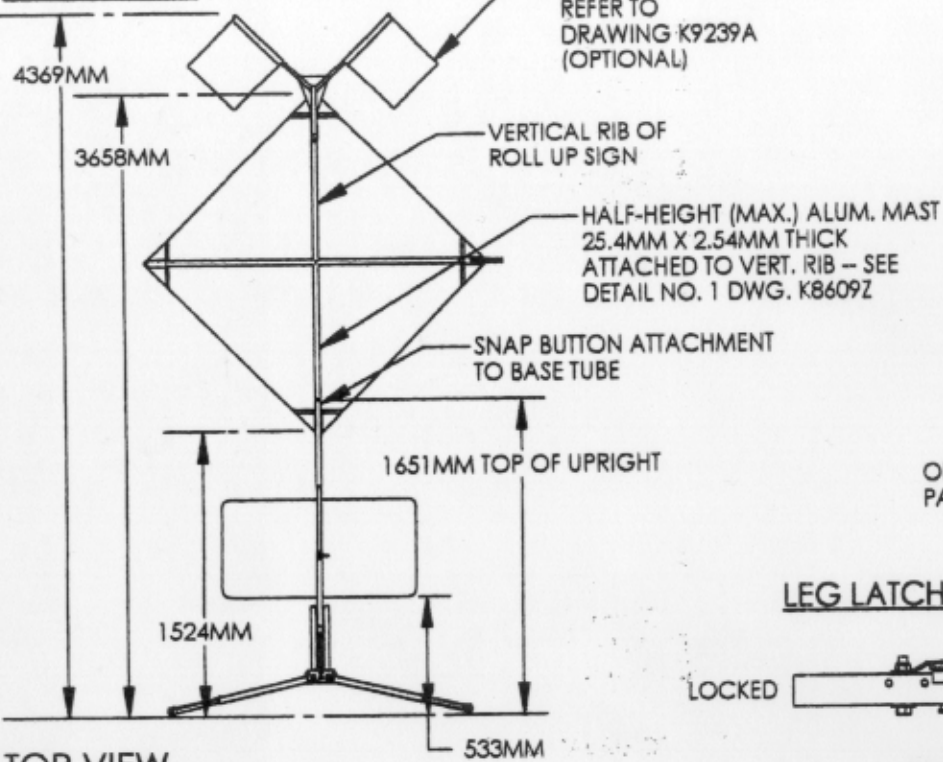
SCHEMATIC DRAWING FOR MODEL SS560UC  
FLEXIBLE SIGN STAND WITH A 6060DFUC ROLL UP SIGN

SCALE: NOT TO SCALE

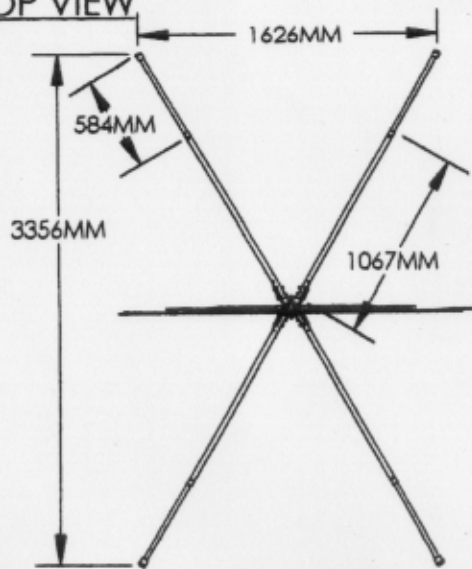
DATE: 6/11/02 DRAWN BY: DCC

DWG. NO. C61102A

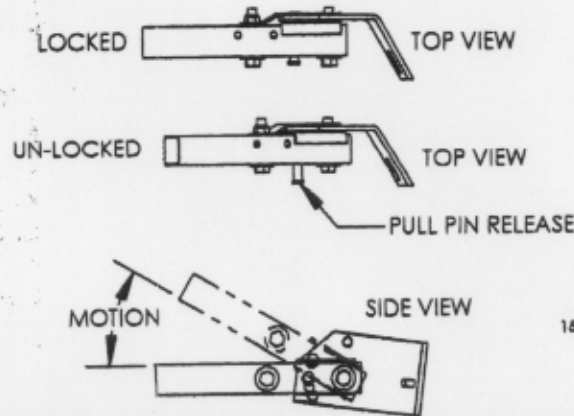
# BACK VIEW



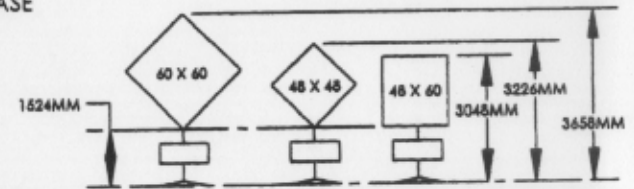
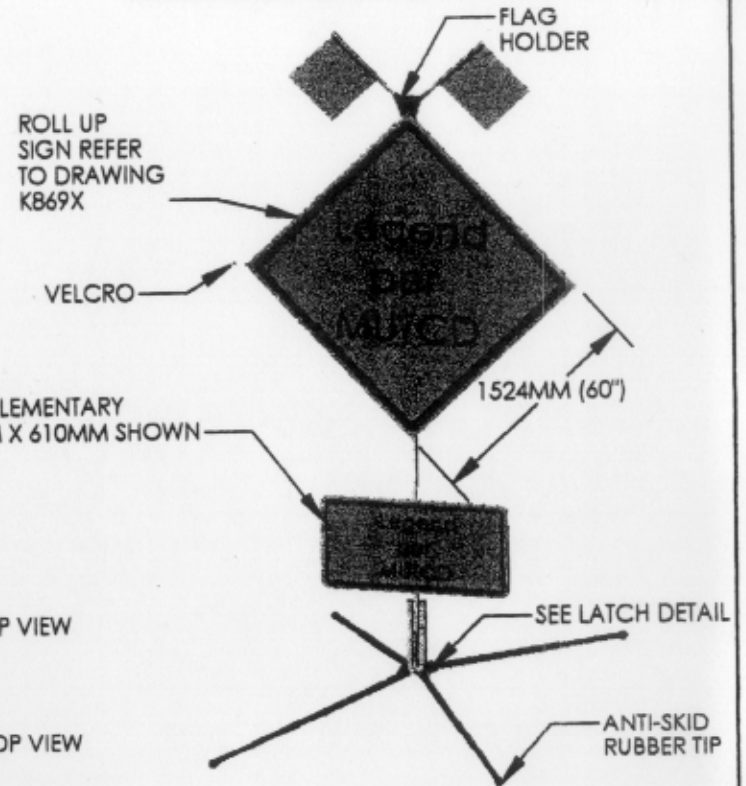
# TOP VIEW



# LEG LATCH DETAIL



# SS560UCX



BASE:  
31.75MM X 2.1 MM SQUARE STEEL TUBING WITH  
4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELESCOPING 31.75MM AND 25.42MM SQUARE  
STEEL TUBING WITH 2MM AND 1.6MM THICKNESS,  
RESPECTIVELY

UPRIGHT - TELESCOPIC 25.42MM X 2.56MM WALL  
THICKNESS SQUARE ALUMINUM TUBING

FINISH - ZINC/ALUMINUM

SPRINGS - VERTICAL EXTENSION TYPE



**Korman Signs**  
INC.

SCHEMATIC DRAWING FOR MODEL SS560UCX  
FLEXIBLE SIGN STAND WITH A 6060DFUCX ROLL UP SIGN

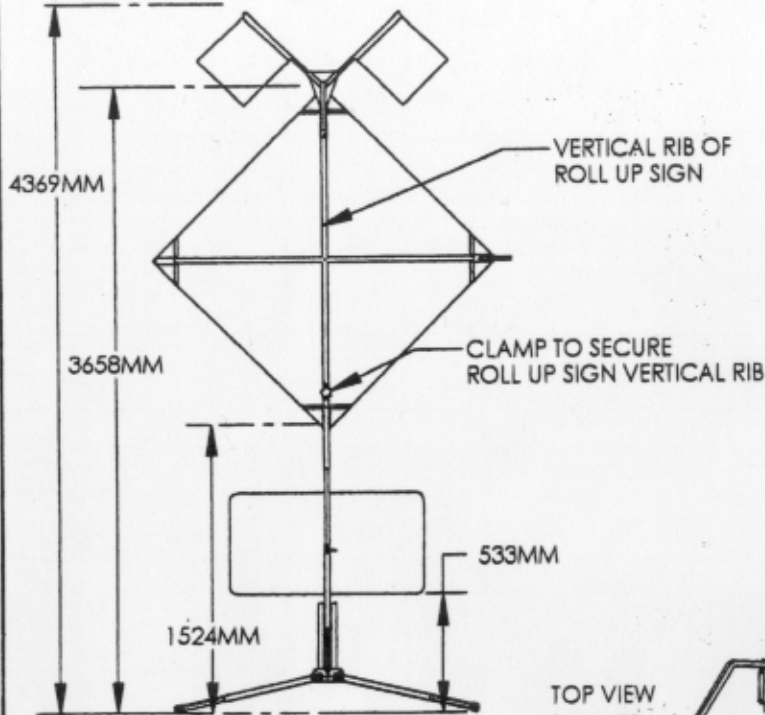
SCALE: NOT TO SCALE

DATE: 6/11/02 DRAWN BY: DCC

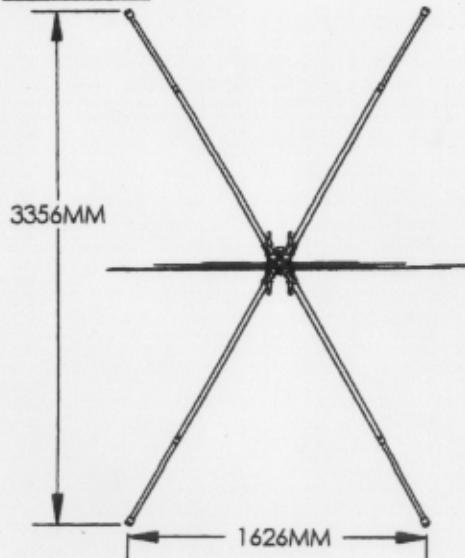
DWG. NO. K1089M

# SS560UCA

## BACK VIEW



## TOP VIEW



FLAGS REFER TO DWG. K9239A (OPTIONAL)

FLAG HOLDERS

ROLL UP SIGN REFER TO DWG. K869X

VELCRO

1524MM (60")

OPTIONAL SUPPLEMENTARY PANEL (1220MM X 610MM SHOWN)

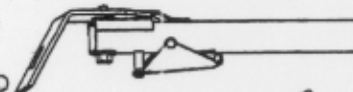
SEE LATCH DETAIL

## LEG LATCH DETAIL

TOP VIEW LOCKED

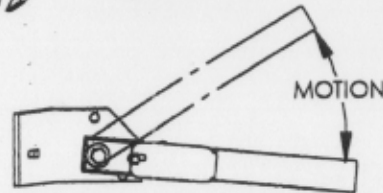


TOP VIEW UN-LOCKED

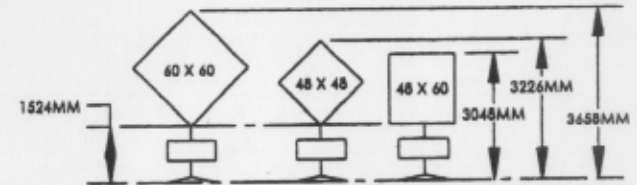


KICK RELEASE LEVER

SIDE VIEW



ANTI-SKID RUBBER TIP



### BASE:

31.75MM BY 2.1 MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MTG. FLANGES

### LEGS:

TELES COPIC 31.75MM AND 25.42MM SQUARE ALUM. TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS, RESPECTIVELY

FINISH - ZINC/ALUMINIUM

UPRIGHT - TELES COPING 25.42MM X 2.56MM WALL THICK. SQ. ALUM. TUBING WITH SCREW TYPE CLAMP TO ATTACH VERT. RIB OF SIGN TO STAND

SPRINGS - EXTENSION TYPE



**Korman Signs**  
INC.

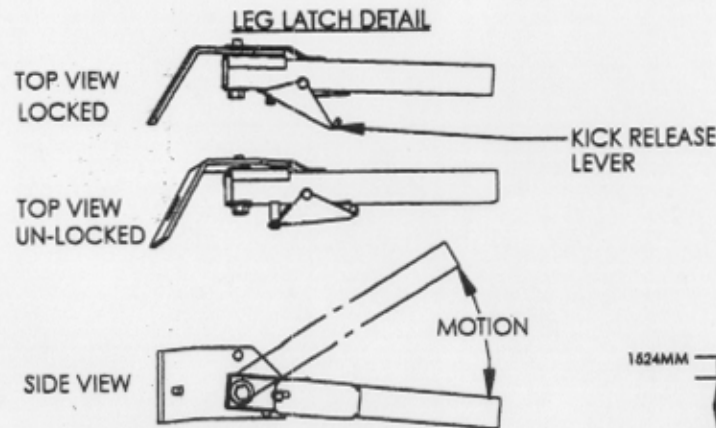
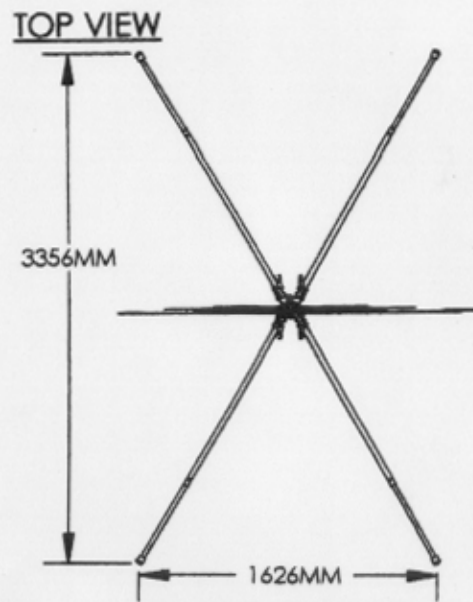
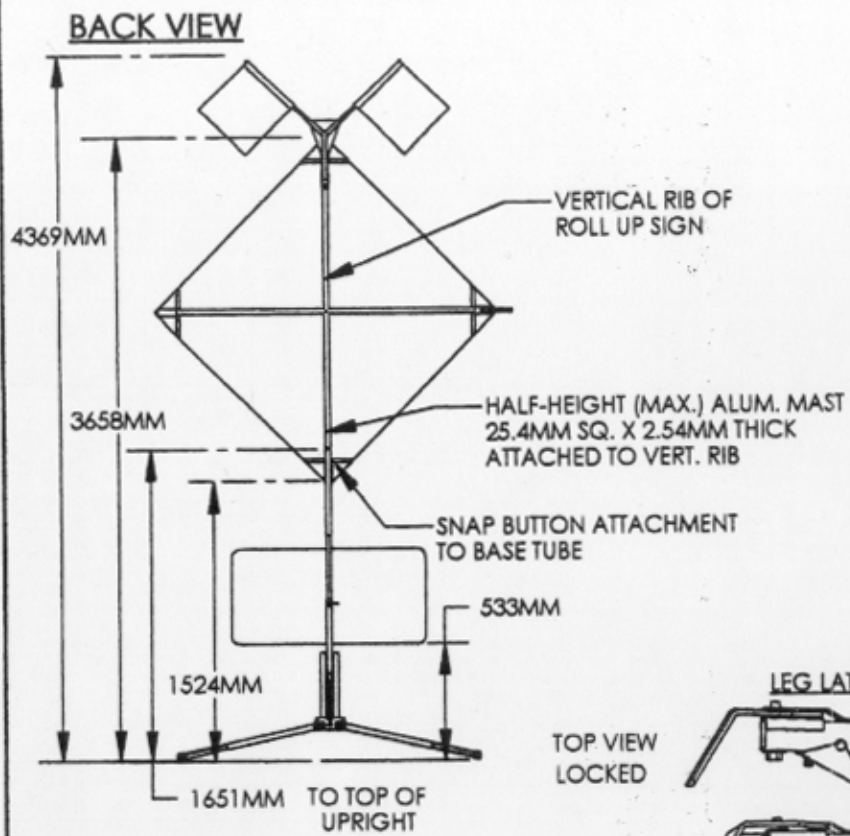
SCHEMATIC DRAWING FOR MODEL SS560UCA  
FLEXIBLE SIGN STAND WITH A 60X60 DFUCX ROLL UP SIGN

SCALE: NOT TO SCALE

DATE: 6/11/02 DRAWN BY: DCC

DWG. NO. C61102R

# SS560UCAX



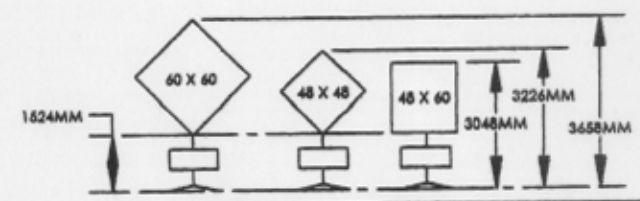
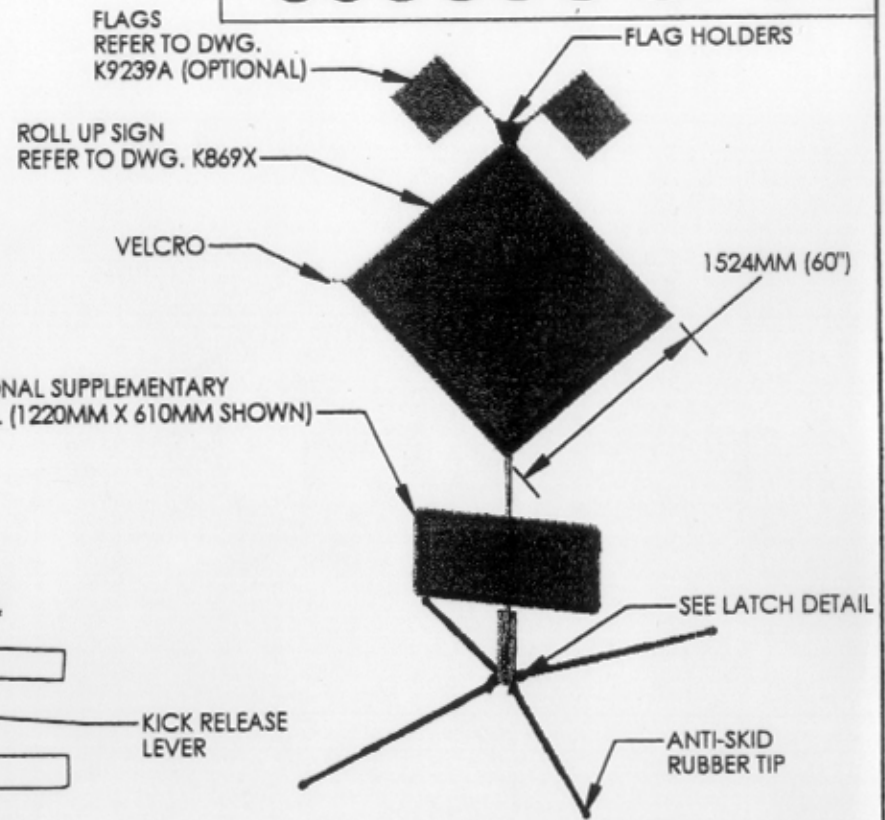
**BASE:**  
31.75MM BY 2.1MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MFG. FLANGES

**LEGS:**  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM. TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS, RESPECTIVELY

**FINISH** - ZINC/ALUMINUM

**CLAMPING** - SEE DETAIL NO. 1 DRAWING K8609Z

**SPRINGS** - EXTENSION TYPE



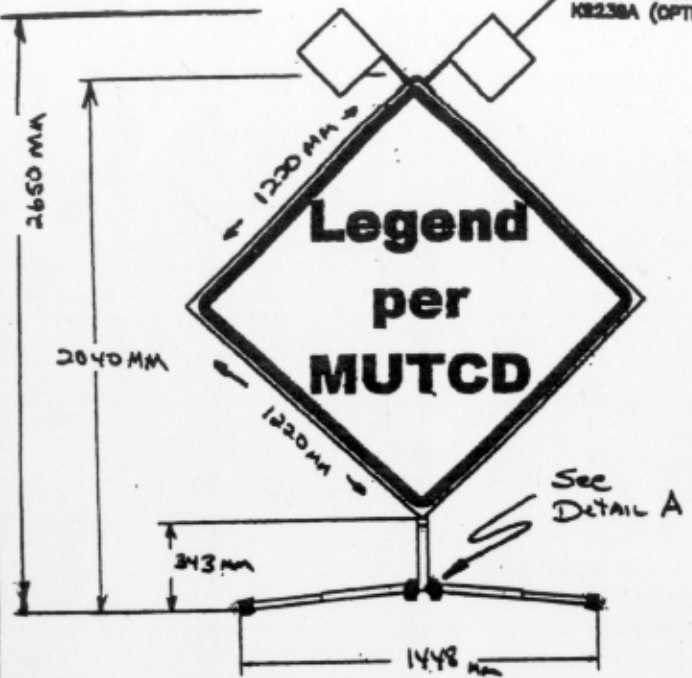
**Korman Signs**  
INC.

SCHEMATIC DRAWING FOR MODEL SS560UCAX  
FLEXIBLE SIGN STAND WITH A 60X60 DFUCX ROLL UP SIGN

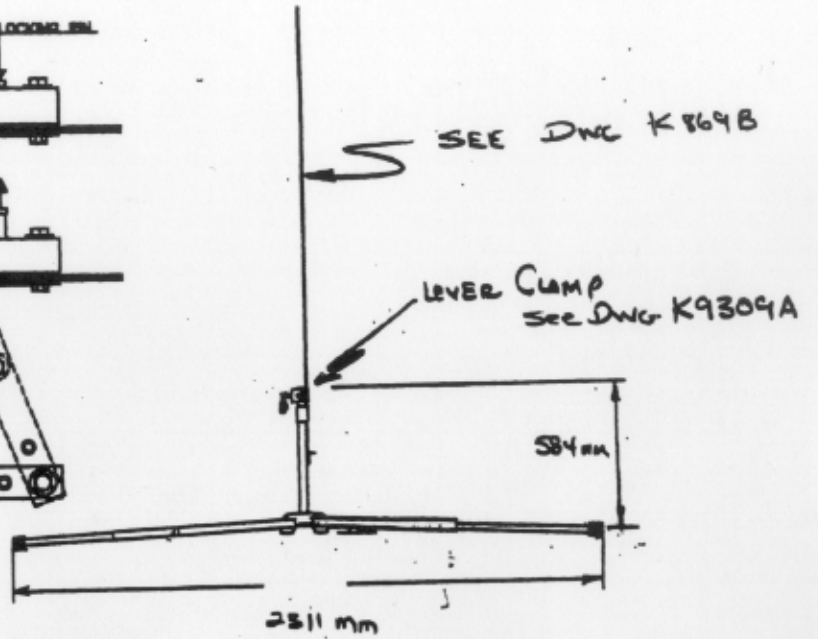
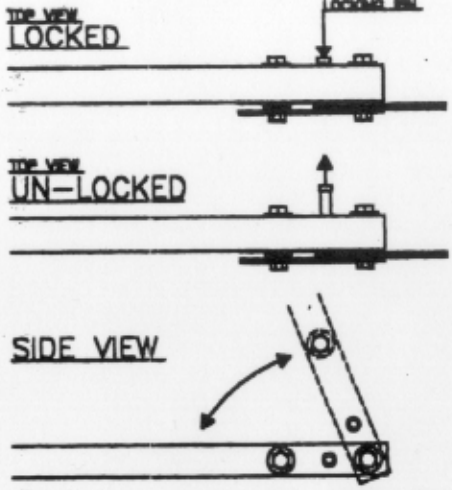
SCALE: NOT TO SCALE

DATE: 6/11/02 DRAWN BY: DCC DWG. NO. K1089X

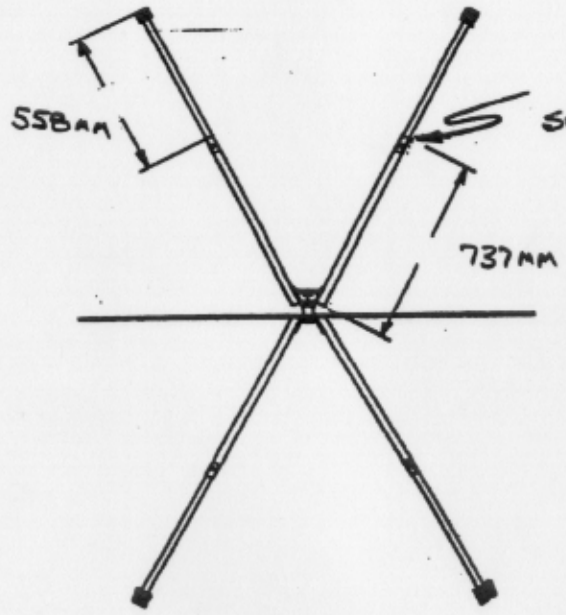
FLAGS  
REFER TO DRAWING  
K8238A (OPTIONAL)



DETAIL -A-



NOTE: S5560UCR IDENTICAL EXCEPT LEGS ARE 24" (610MM) LONGER



See DWG K8490

Model S5548UCR  
Ultra Compact Sign Stand

Model 4848DFUC  
Roll Up Sign

Fabric  
1220mm x 1220mm Reflective Roll up Sign Sheeting

Crossbraces  
Vertical 9.53mm thick, 31.75 mm wide, 1645 mm long  
Horizontal 4.66 mm thick, 31.75 mm wide, 1645 mm long pultruded fiberglass

BASE  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91MM STEEL LEG MTG. FLANGES

LEGS  
TELESCOPIC 31.75MM AND 25.42MM SQUARE STEEL  
TUBING WITH 2MM AND 1.6MM WALL THICKNESS,  
RESPECTIVELY

FINISH - ZINC

**Korman Signs**

Schematic Drawing for Model S5548UCR  
Ultra Compact Sign Stand w/ 48x48 Roll up Sign

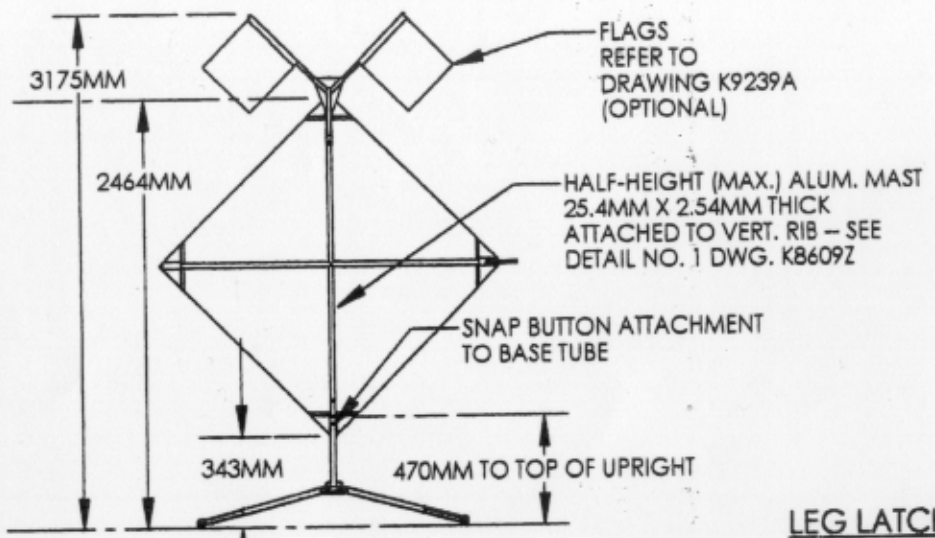
DATE SCALE

5/1/99

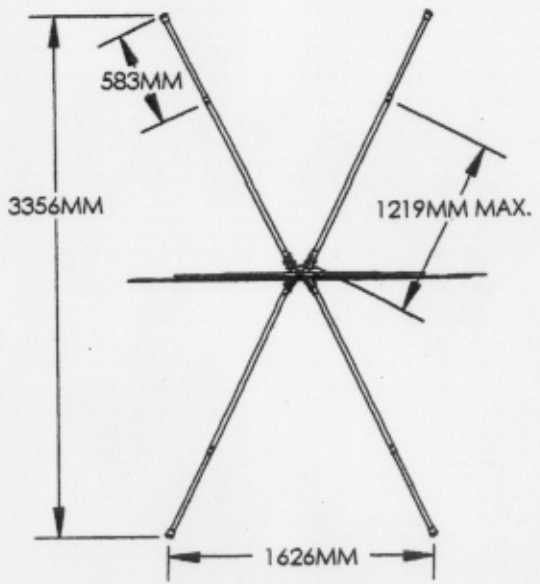
DWG. NO. K849K

# SS560URCX

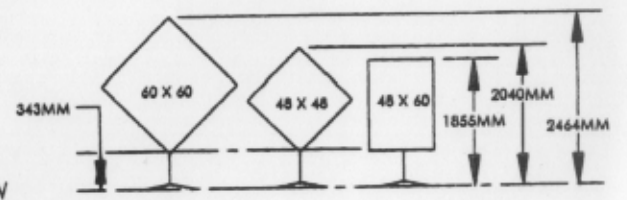
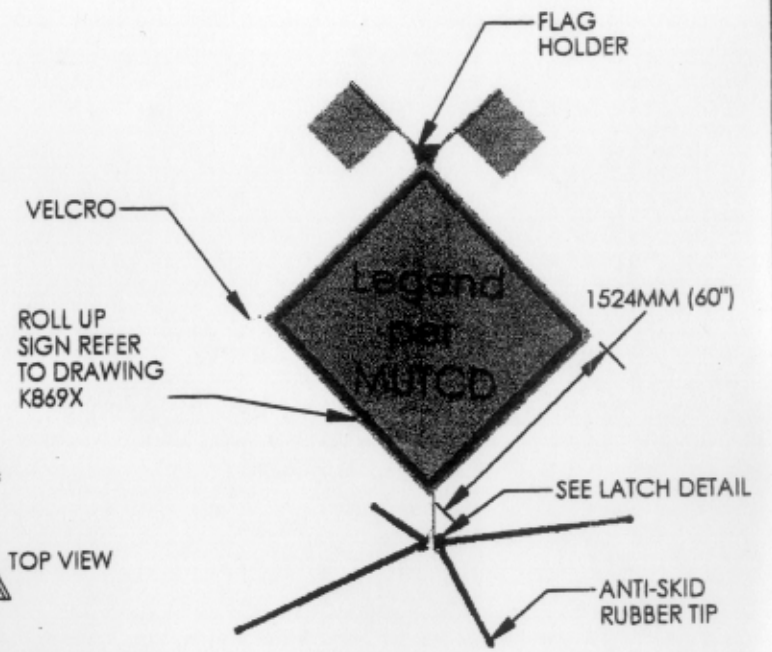
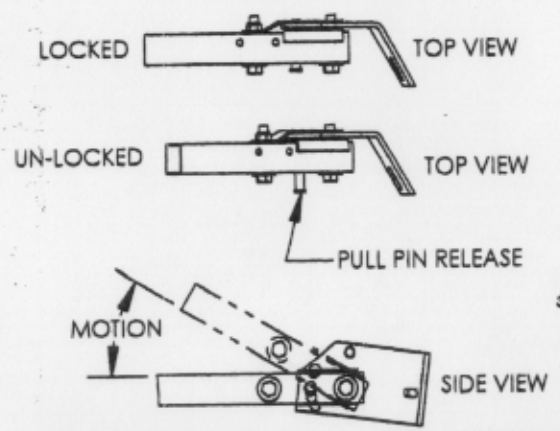
## BACK VIEW



## TOP VIEW



## LEG LATCH DETAIL



BASE:  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELESCOPING 31.75MM AND 25.42MM SQUARE STEEL TUBING WITH 2MM AND 1.6MM THICKNESS, RESPECTIVELY

FINISH - ZINC



**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS560UCRX  
FLEXIBLE SIGN STAND WITH A 6060DFUCX ROLL UP SIGN

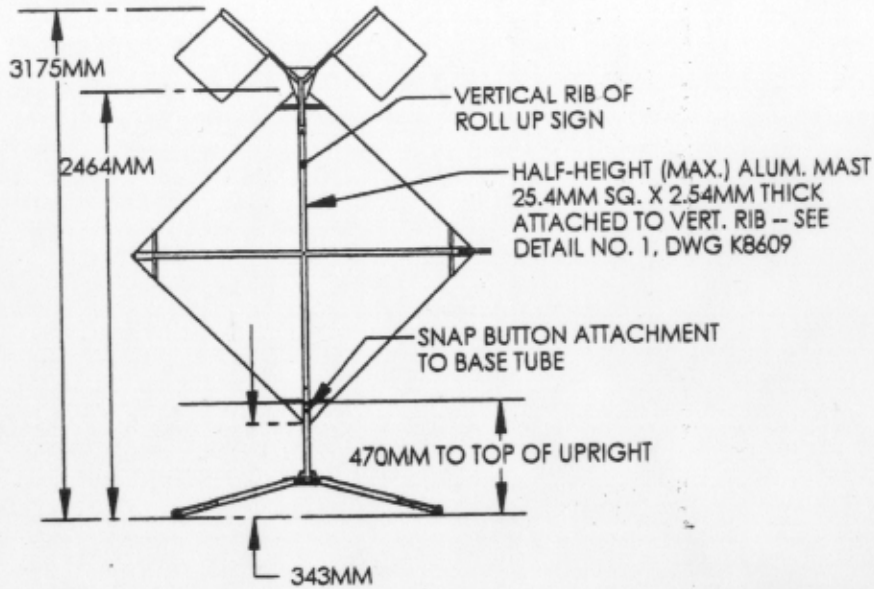
SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

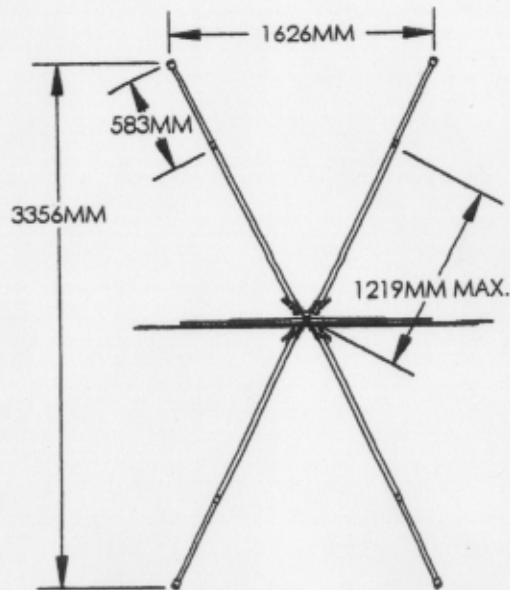
DWG. NO. K849S

# SS560UCRAX

## BACK VIEW



## TOP VIEW



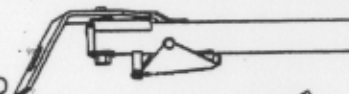
## LEG LATCH DETAIL

TOP VIEW LOCKED

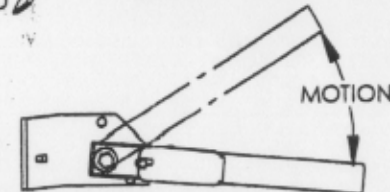


KICK RELEASE LEVER

TOP VIEW UN-LOCKED

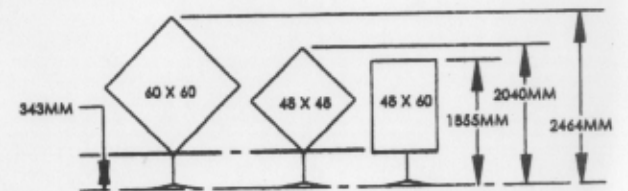
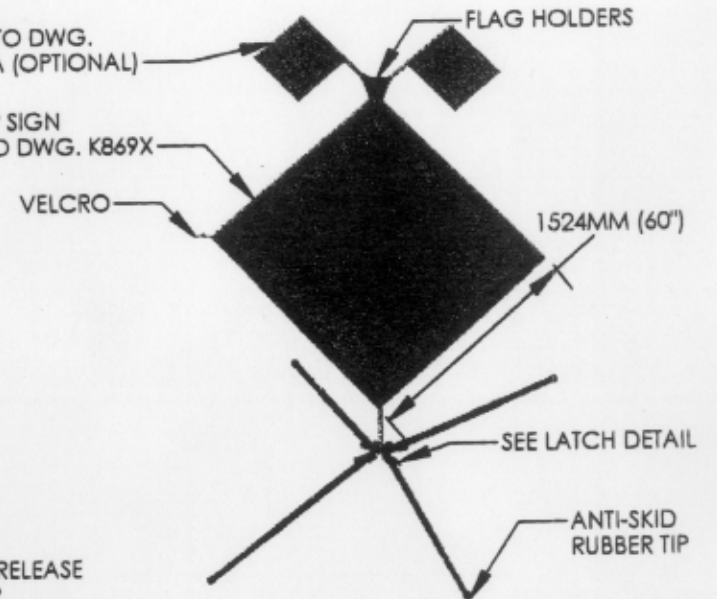


SIDE VIEW



FLAGS REFER TO DWG. K9239A (OPTIONAL)

ROLL UP SIGN REFER TO DWG. K869X



BASE:  
38.3MM AND 32.07MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM. TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS, RESPECTIVELY

FINISH - ZINC/ALUMINUM

CLAMPING - SEE DETAIL NO. 1 DRAWING K8609Z



**Korman Signs**  
INC.

SCHEMATIC DRAWING FOR MODEL SS560UCRAX  
FLEXIBLE SIGN STAND WITH A 6060DFUCX ROLL UP SIGN

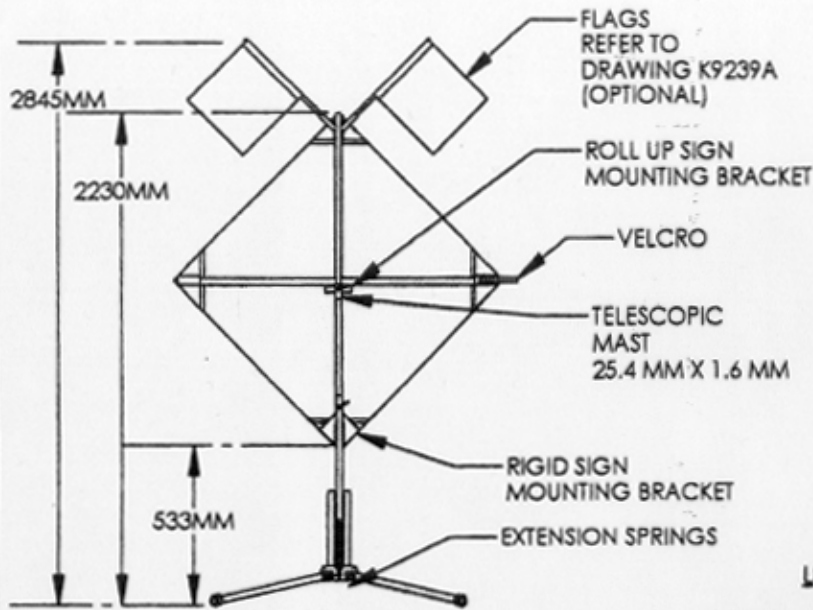
SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

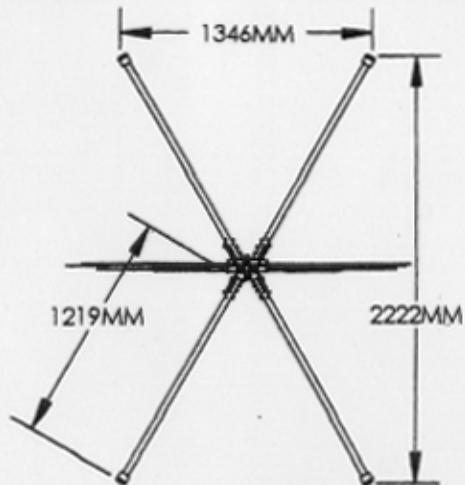
DWG. NO. K849T



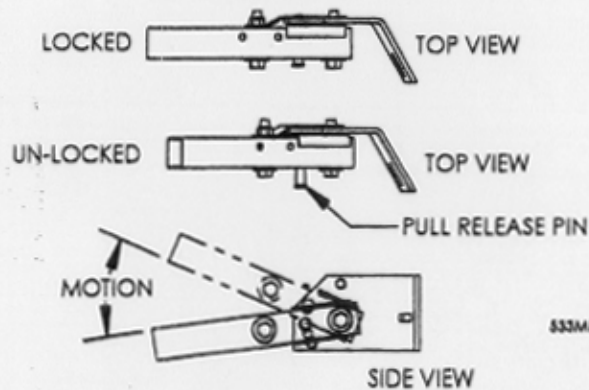
# BACK VIEW



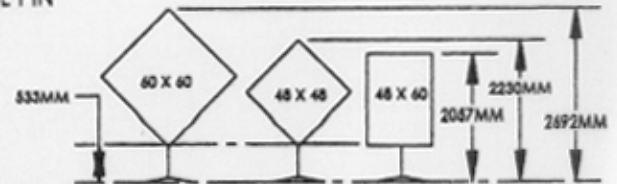
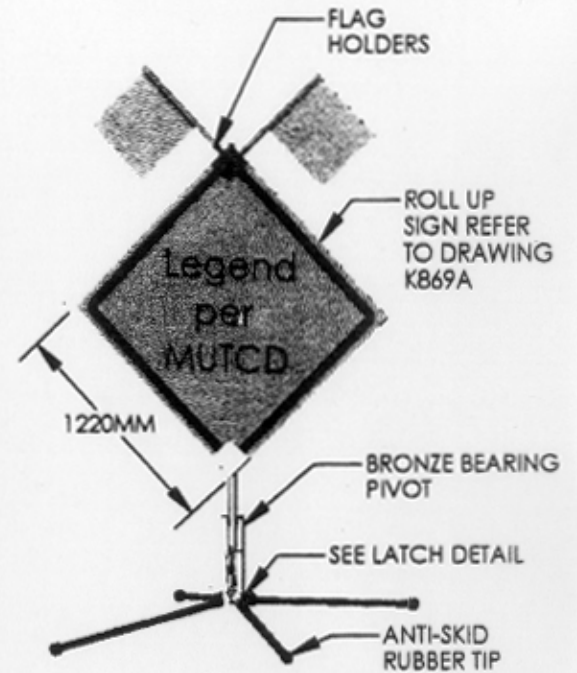
# TOP VIEW



# LEG LATCH DETAIL



# SS548



BASE:  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
31.75MM X 2.1MM SQUARE STEEL TUBING

TELESCOPIC MAST - 25.4MM X 1.6MM SQUARE  
STEEL TBG.

SPRINGS - EXTENSION TYPE

FINISH - ZINC



**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS548  
FLEXIBLE SIGN STAND WITH A 4848DF ROLL UP SIGN

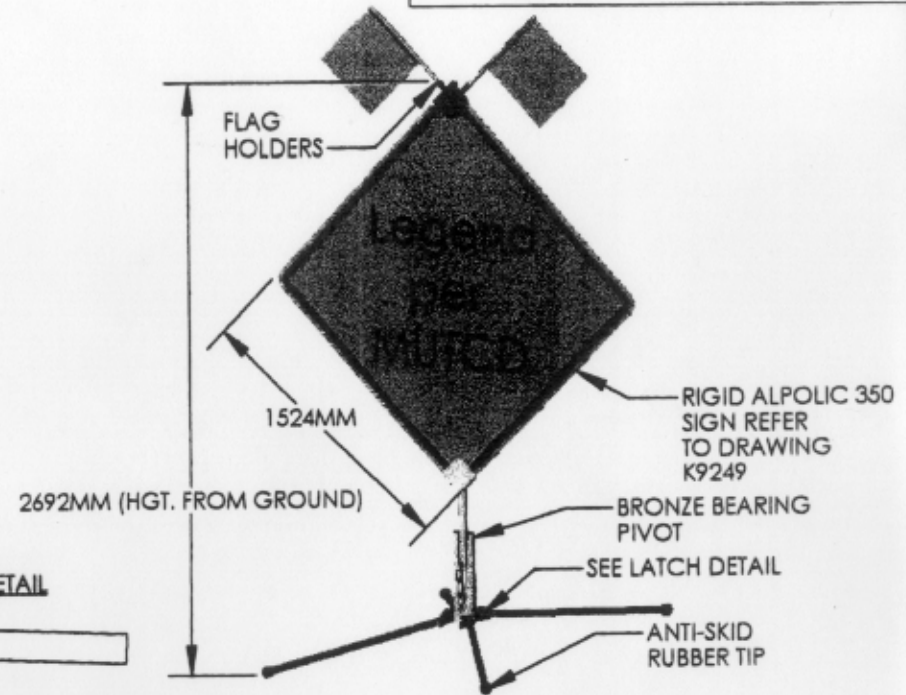
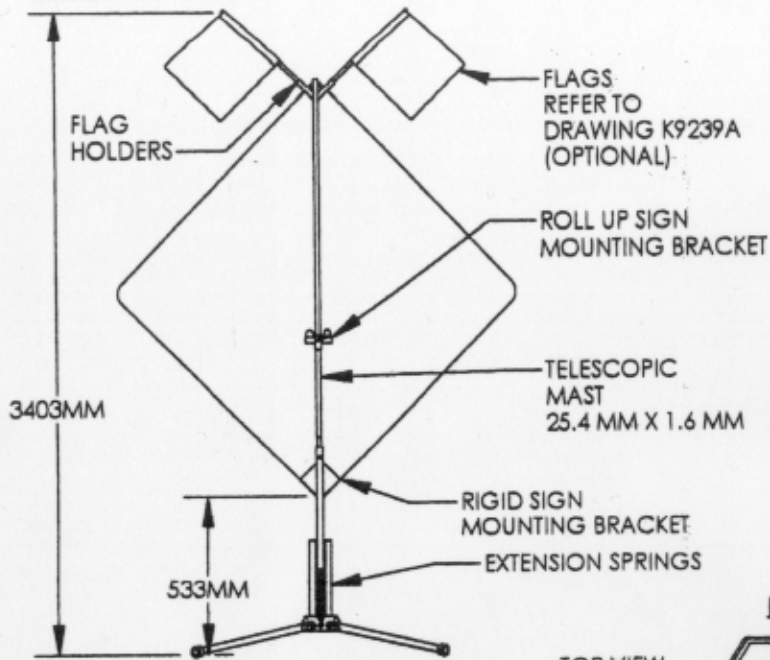
SCALE: NOT TO SCALE

DATE: 6/11/02 DRAWN BY: DCC

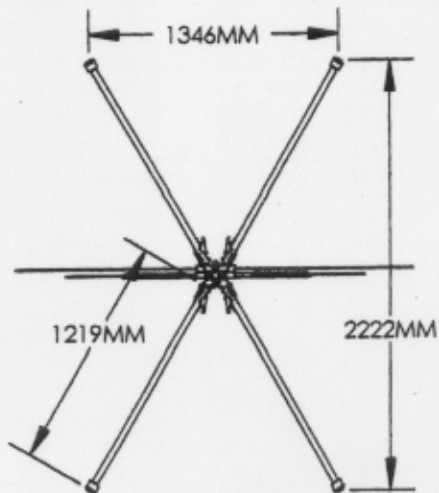
DWG. NO. C92198B

# SS548A

## BACK VIEW



## TOP VIEW

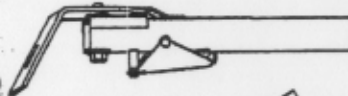


### LEG LATCH DETAIL

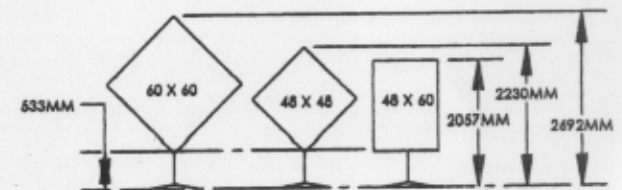
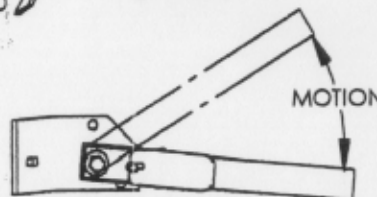
TOP VIEW LOCKED



TOP VIEW UN-LOCKED



SIDE VIEW



**BASE:**  
 31.75MM X 2.1 MM THICK SQUARE STEEL TUBING  
 WITH 4.91 MM STEEL LEG MTG. FLANGES

**LEGS:**  
 31.75MM X 2.56MM THICK SQUARE ALUMINUM  
 TUBING

**TELESCOPIC MAST** -- 25.4MM X 1.6MM THICK  
 SQUARE STEEL TBG.

**SPRINGS** -- EXTENSION TYPE

**FINISH** -- ZINC/ALUMINUM



**Korman Signs**  
INC.

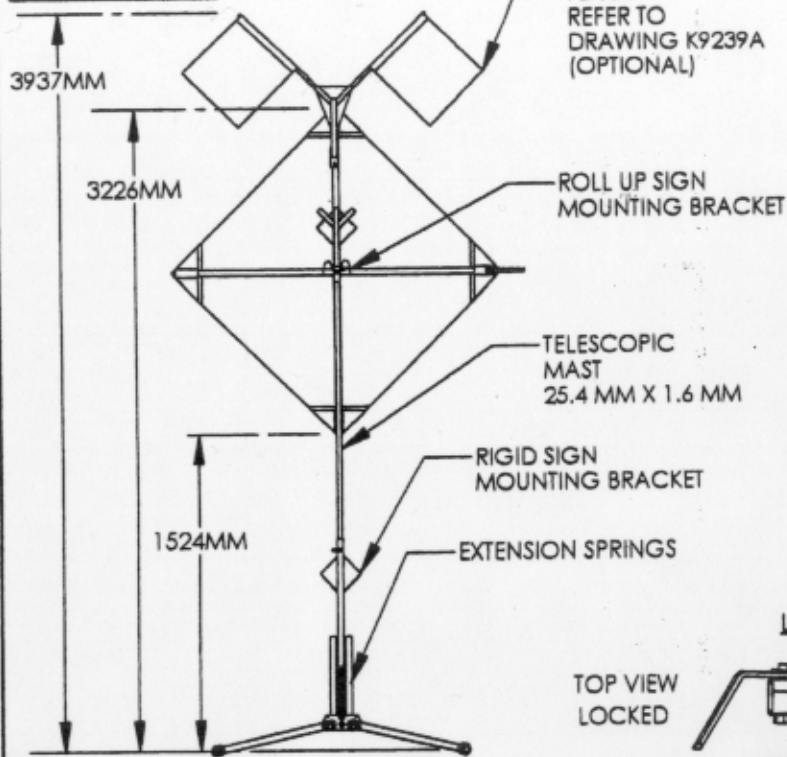
SCHEMATIC DRAWING FOR MODEL SS548A  
 FLEXIBLE SIGN STAND WITH A 2MM ALPOLIC SIGN

SCALE: NOT TO SCALE

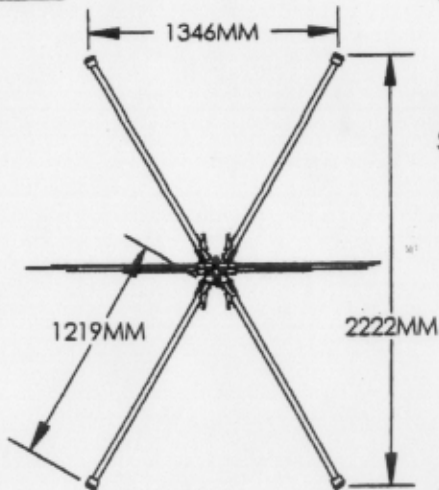
DATE: 6/11/02 DRAWN BY: DCC

DWG. NO. C9219A

**BACK VIEW**



**TOP VIEW**



**LEG LATCH DETAIL**

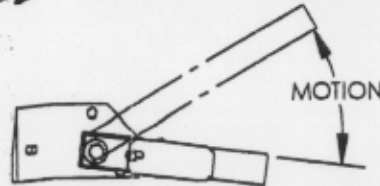
TOP VIEW  
LOCKED



TOP VIEW  
UN-LOCKED



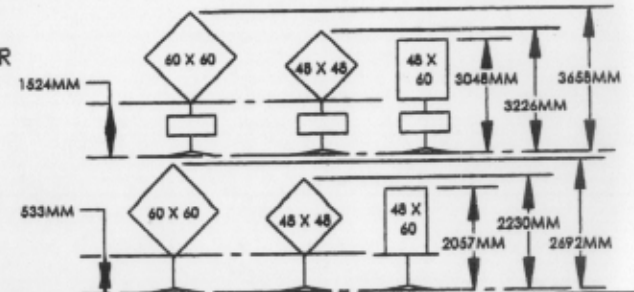
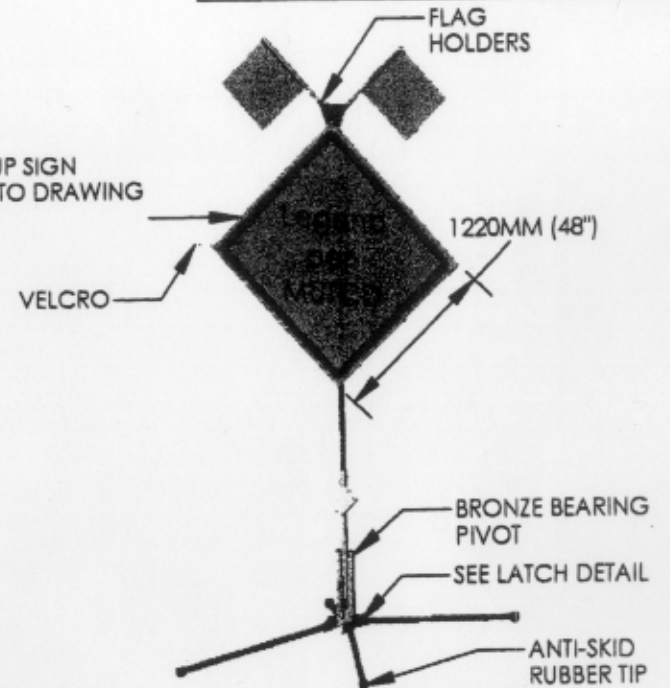
SIDE VIEW



KICK RELEASE LEVER

**SS548AE**

ROLL UP SIGN  
REFER TO DRAWING  
KB69A



BASE:  
31.75MM X 2.1 MM THICK SQUARE STEEL TUBING  
WITH 4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
31.75MM X 2.56MM THICK SQUARE ALUMINUM  
TUBING

TELESCOPIC MAST - 25.4MM X 1.6MM THICK  
SQUARE STEEL TBG.

SPRINGS - EXTENSION TYPE

FINISH - ZINC/ALUMINUM



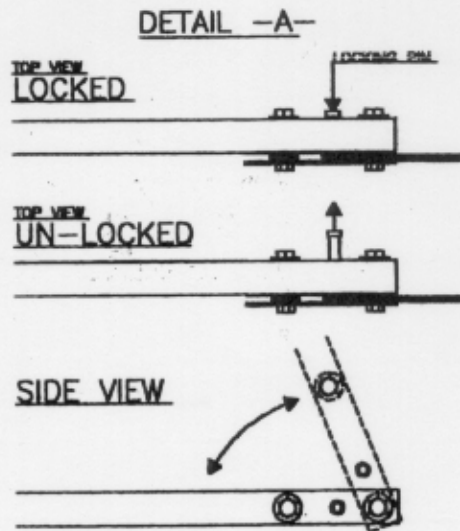
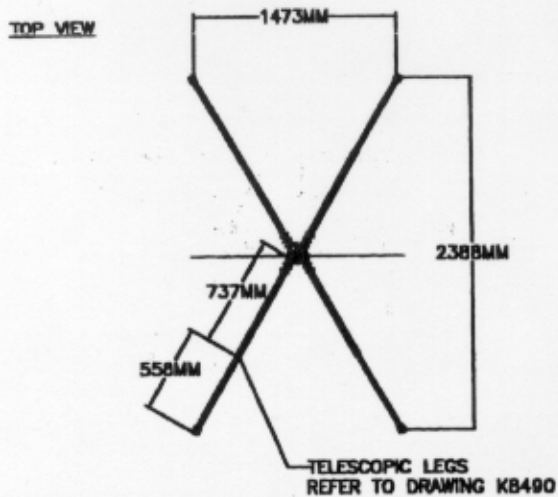
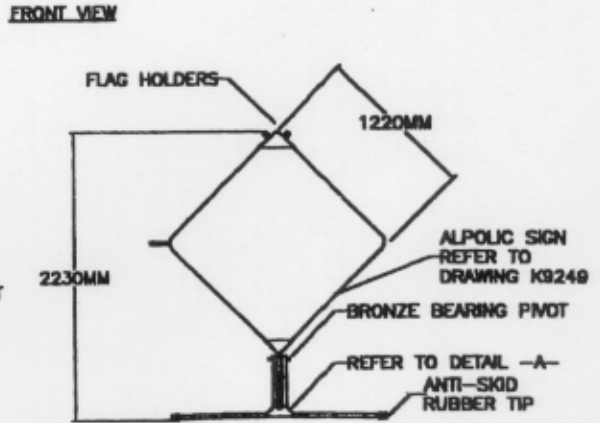
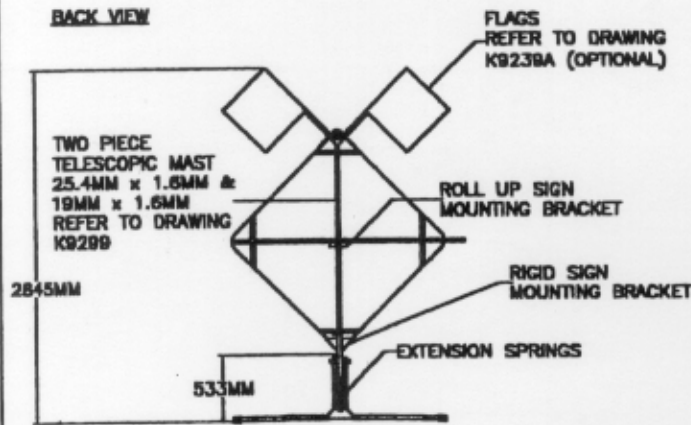
SCHEMATIC DRAWING FOR MODEL SS548AE  
FLEXIBLE SIGN STAND WITH A 4848DF ROLL UP SIGN

SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

DWG. NO. C61202A

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
<h1>SS548C</h1>				



**BASE**  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH 4.91MM STEEL LEG MTG.FLANGES

**LEGS**  
TELESCOPIC 31.75MM AND 25.42MM SQUARE STEEL TUBING WITH 2MM AND 1.6MM WALL THICKNESS, RESPECTIVELY

TELESCOPIC MAST WITH 25.4MM AND 19MM SQUARE STEEL TUBING WITH 1.6MM AND 1.6MM WALL THICKNESS, RESPECTIVELY

SPRINGS - EXTENSION TYPE

FINISH - ZINC



**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS548C  
FLEXIBLE SIGN STAND WITH A 4848DF ROLL UP SIGN

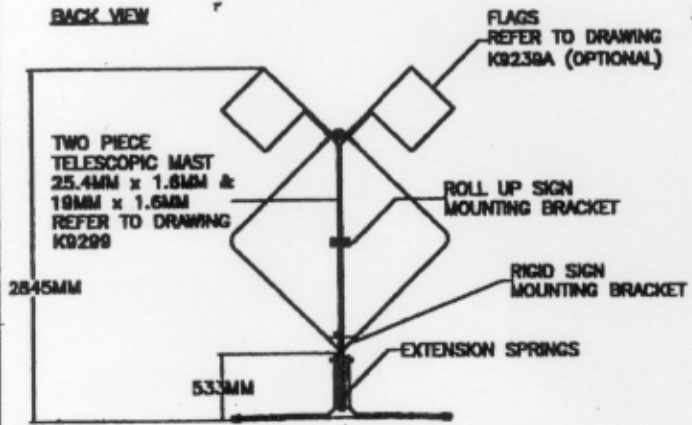
SIZE	FSCM NO.	DWG NO.	REV	
		C9229D		
SCALE - NOT TO SCALE		10/28/99	SHEET	DSC

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

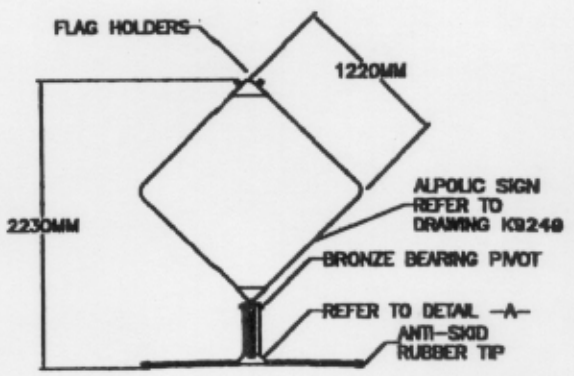
# SS548C

NOTE: MODEL SSS48CE IS IDENTICAL EXCEPT MAST IS LONGER TO ALLOW MOUNTING ROLL UP SIGNS UP TO A MOUNTING Ht. OF 60" (1524MM)

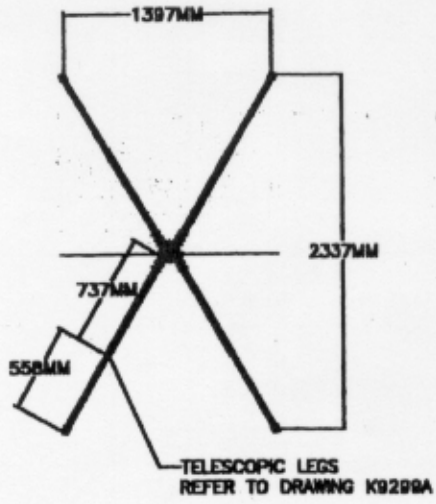
BACK VIEW



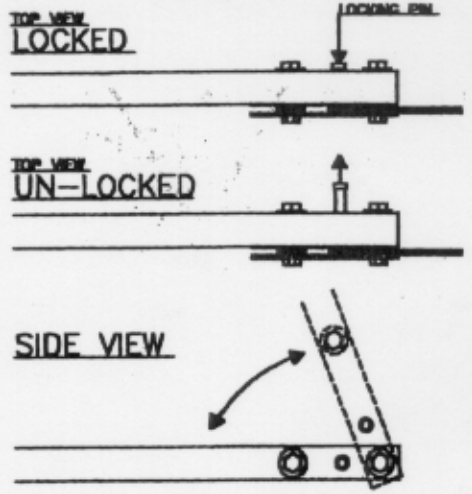
FRONT VIEW



TOP VIEW



DETAIL -A-



**BASE**  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH 4.81MM STEEL LEG MTG. FLANGES

**LEGS**  
TELESCOPIC 31.75MM AND 25.42MM SQUARE STEEL TUBING WITH 2MM AND 1.6MM WALL THICKNESS, RESPECTIVELY

TELESCOPIC MAST WITH 25.4MM AND 19MM SQUARE STEEL TUBING WITH 1.6MM AND 1.6MM WALL THICKNESS, RESPECTIVELY

SPRINGS - EXTENSION TYPE

FINISH - ZINC



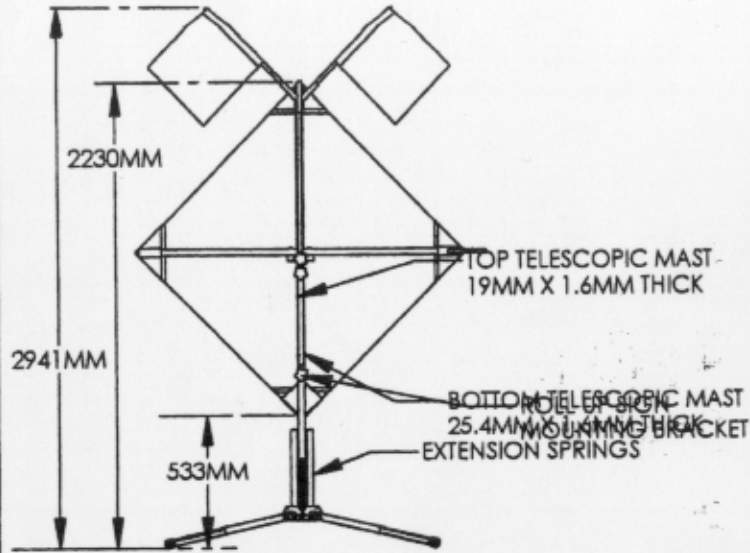
**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS548C  
FLEXIBLE SIGN STAND WITH A 2MM ALPOLIC SIGN

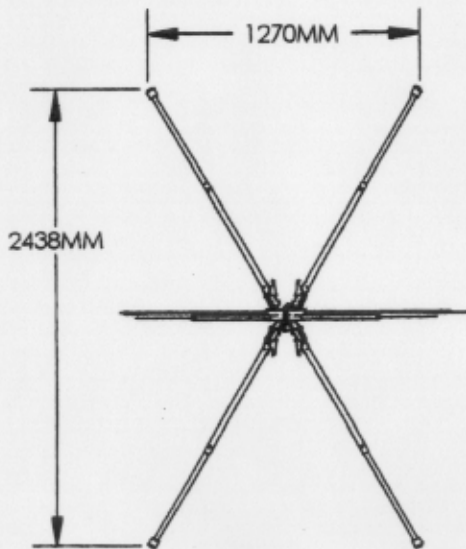
SIZE	FSCM NO.	DWG NO.	REV
		C9229C	
SCALE - NOT TO SCALE	10/8/99	SHEET	DSC

# SS548CA

## BACK VIEW



## TOP VIEW

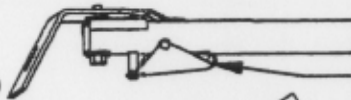


## LEG LATCH DETAIL

TOP VIEW  
LOCKED

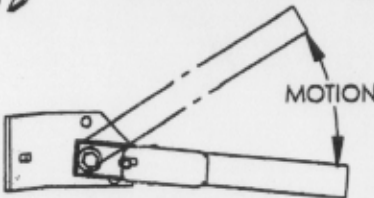


TOP VIEW  
UN-LOCKED



KICK RELEASE LEVER

SIDE VIEW



FLAGS  
REFER TO DWG.  
K9239A (OPTIONAL)

ROLL UP SIGN - REFER TO  
DRAWING K869A

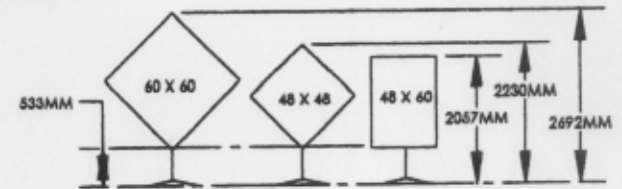
RIGID SIGN  
MOUNTING BRACKET

FLAG HOLDERS

BRONZE BEARING  
PIVOT

SEE LATCH DETAIL

ANTI-SKID  
RUBBER TIP



BASE:  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM.  
TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS,  
RESPECTIVELY

MAST - 2 PIECE WITH 25.4MM AND 19MM THICK  
SQUARE STEEL TBG. BOTH WITH 1.6MM WALL THICKNESS

SPRINGS - EXTENSION TYPE

FINISH - ZINC/ALUMINUM



**Korman Signs**  
INC.

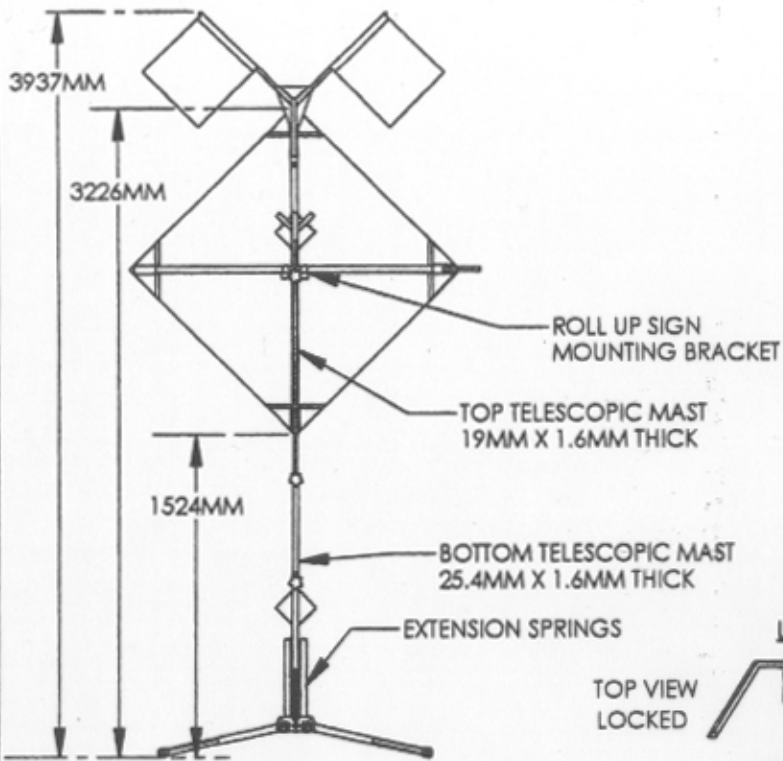
SCHEMATIC DRAWING FOR MODEL SS548CA  
FLEXIBLE SIGN STAND WITH A 4848DF ROLL UP SIGN

SCALE: NOT TO SCALE

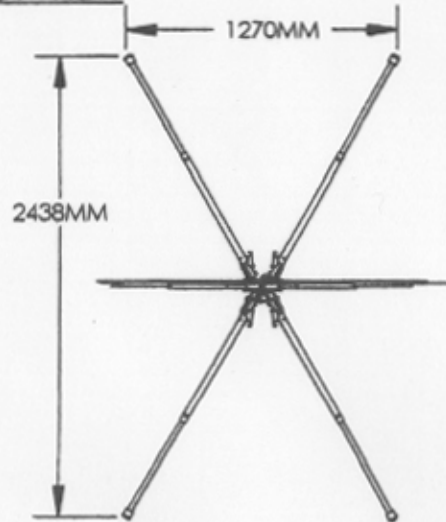
DATE: 6/12/02 DRAWN BY: DCC

DWG. NO. C9229A

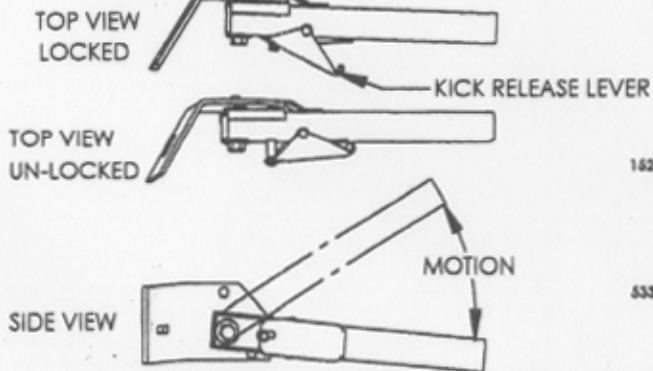
**BACK VIEW**



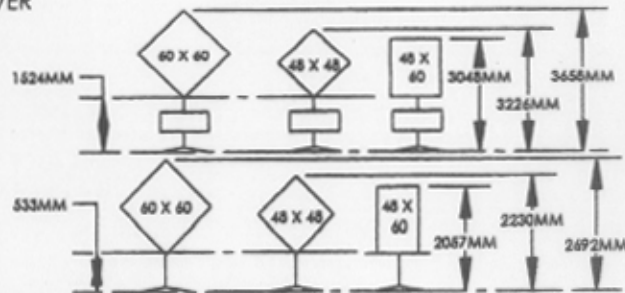
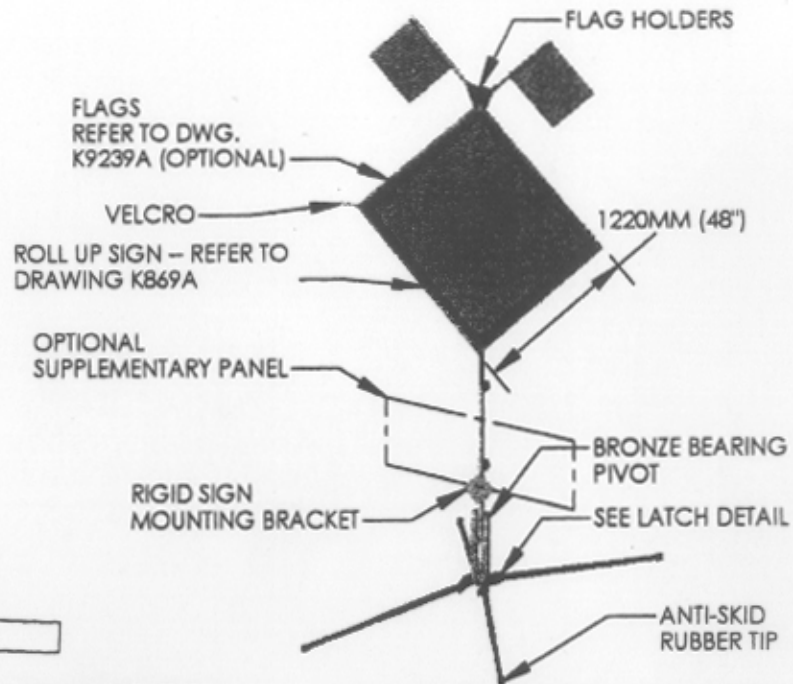
**TOP VIEW**



**LEG LATCH DETAIL**



# SS548CAE



**BASE:**  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MFG. FLANGES

**LEGS:**  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM. TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS, RESPECTIVELY

**MAST - 2 PIECE WITH 25.4MM AND 19MM THICK SQUARE STEEL TBG. BOTH WITH 1.6MM WALL THICKNESS**

**SPRINGS - EXTENSION TYPE**

**FINISH - ZINC/ALUMINUM**



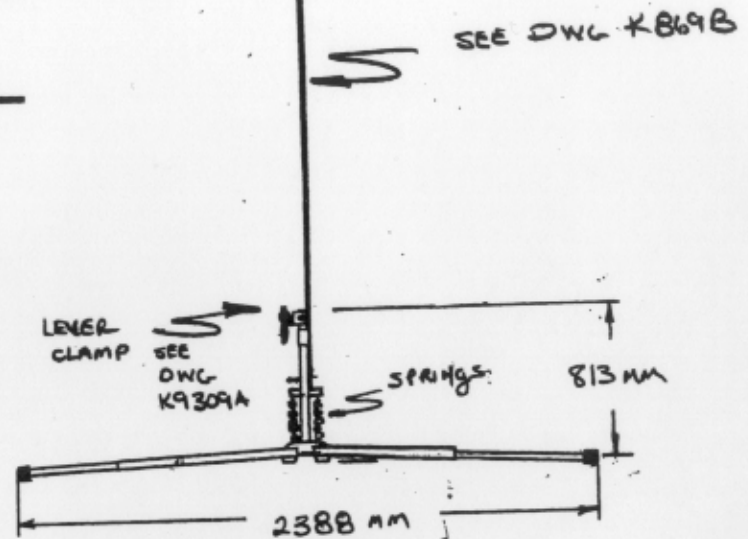
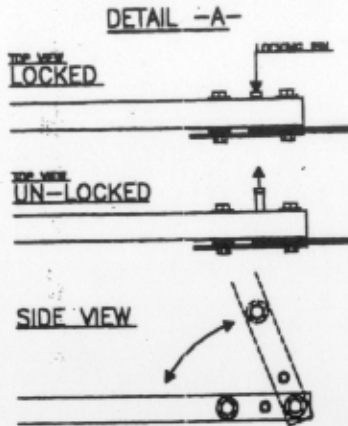
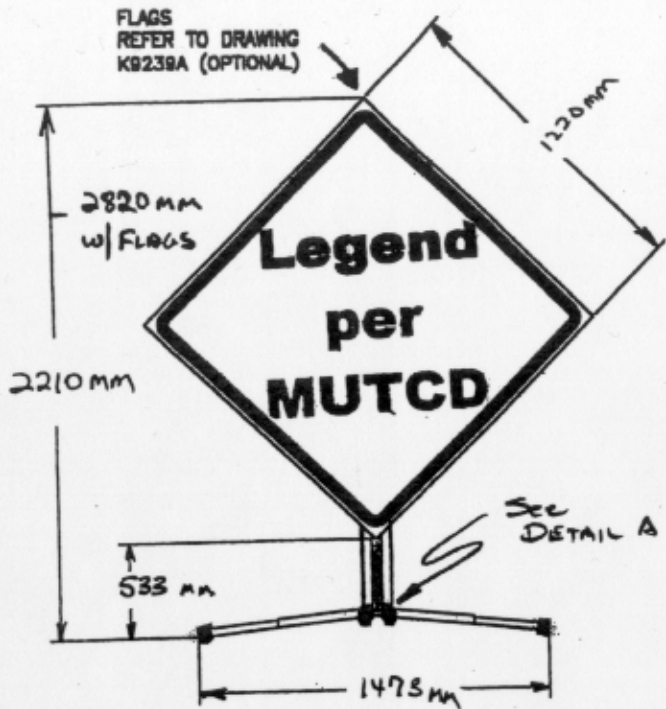
**Korman Signs**  
INC.

**SCHEMATIC DRAWING FOR MODEL SS548CAE FLEXIBLE SIGN STAND WITH A 4848DF ROLL UP SIGN**

SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

DWG. NO. C61202D

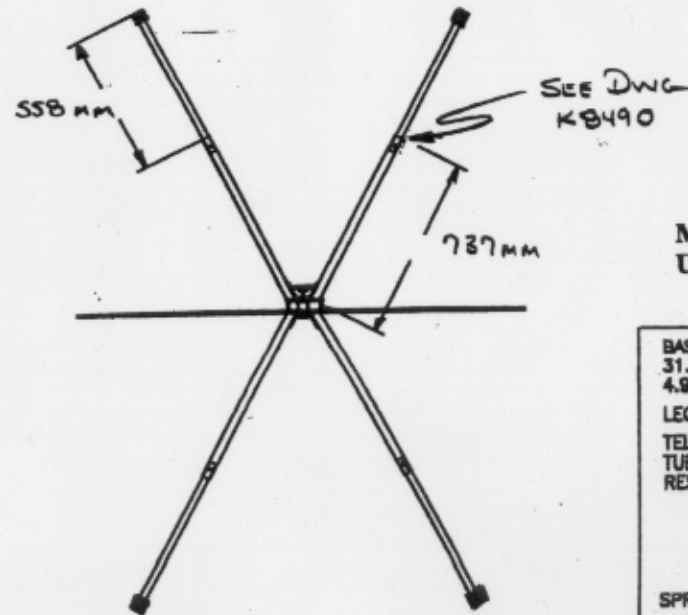


**Model 4848DFUC**  
**Roll Up Sign**

Fabric  
3M Diamond Grade Reflective Roll up Sign Sheeting  
#RS-24

Crossbraces (Ribs)  
Vertical 9.53mm thick, 31.75mm wide, 1645mm long  
Horizontal 4.66mm thick, 31.75mm wide, 1645mm long, pultruded fiberglass

Pockets  
Lexan or Heavy Duty Triangular Fabric



**Model SS548UC**  
**Ultra Compact Sign Stand**

BASE  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91MM STEEL LEG MTG. FLANGES

LEGS  
TELESCOPIC 31.75MM AND 25.42MM SQUARE STEEL  
TUBING WITH 2MM AND 1.6MM WALL THICKNESS,  
RESPECTIVELY

SPRINGS - EXTENSION TYPE  
FINISH - ZINC



**Korman Signs**  
INC.

Schematic Drawing for Model SS548UC  
Ultra Compact Sign Stand w/ 48x48 Roll Up Sign

No True Scale

5/4/99

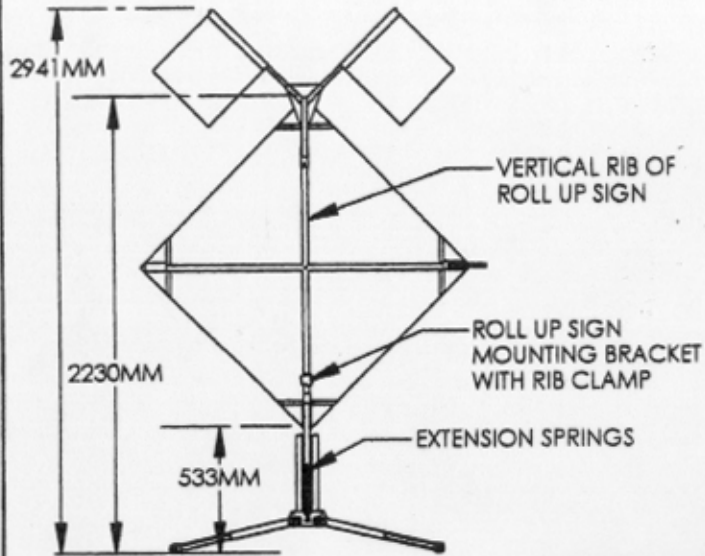


DWG. NO. K8129X

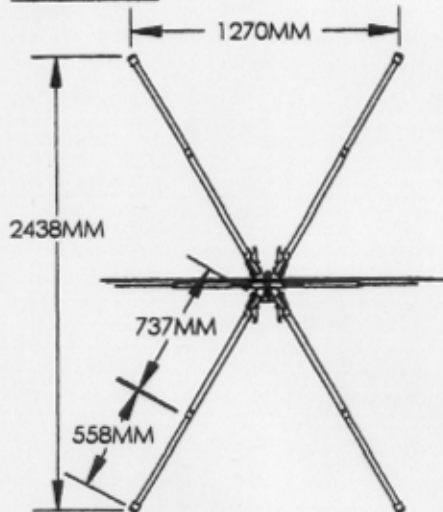


# SS548UCA

## BACK VIEW



## TOP VIEW



FLAGS REFER TO DWG. K9239A (OPTIONAL)

ROLL UP SIGN REFER TO DWG. K869A

VELCRO

1220MM (48")

FLAG HOLDERS

BRONZE BEARING PIVOT

SEE LATCH DETAIL

ANTI-SKID RUBBER TIP

## LEG LATCH DETAIL

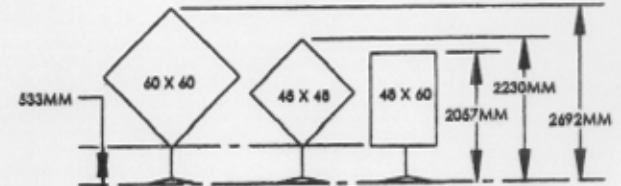
TOP VIEW LOCKED

TOP VIEW UN-LOCKED

KICK RELEASE LEVER

MOTION

SIDE VIEW



BASE:  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91MM STEEL LEG MFG. FLANGES

LEGS:  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM.  
TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS,  
RESPECTIVELY

SPRINGS - EXTENSION TYPE

FINISH - ZINC/ALUMINUM



**Korman Signs**  
INC.

SCHEMATIC DRAWING FOR MODEL SS548UCA  
FLEXIBLE SIGN STAND WITH A 4848DFUC ROLL UP SIGN

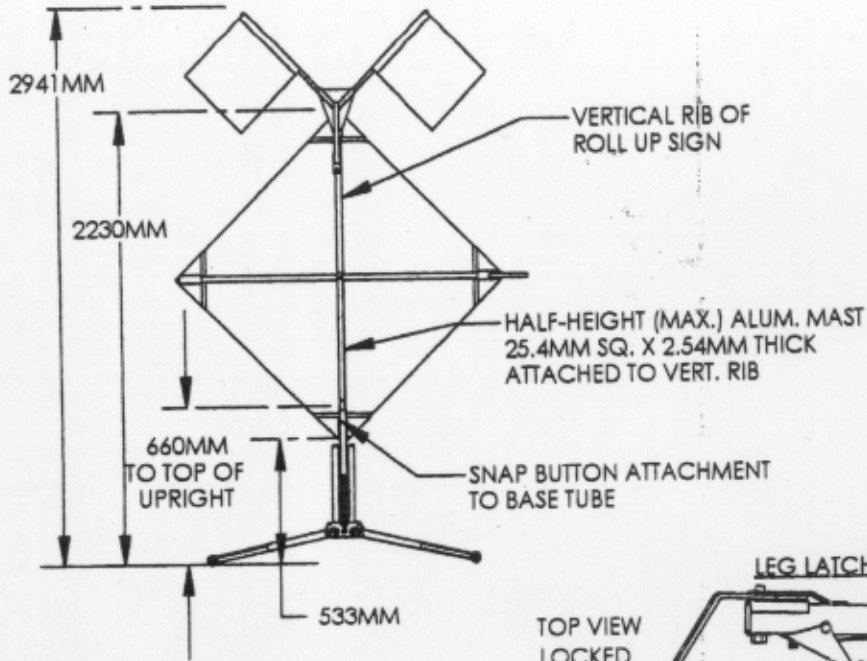
SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

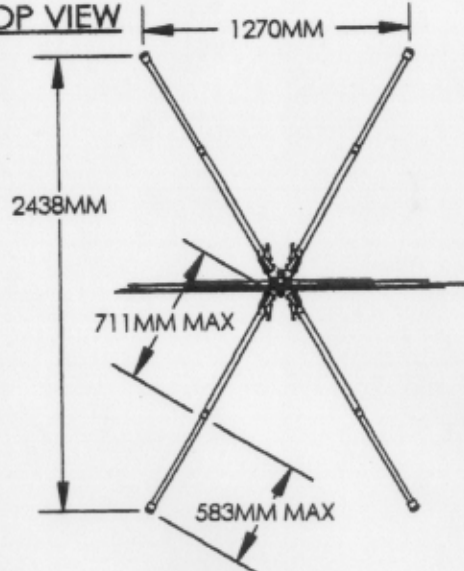
DWG. NO. K8129

# SS548UCAX

## BACK VIEW



## TOP VIEW



FLAGS REFER TO DWG. K9239A (OPTIONAL)

FLAG HOLDERS

ROLL UP SIGN REFER TO DWG. K869X

VELCRO

1220MM (48")

SEE LATCH DETAIL

ANTI-SKID RUBBER TIP

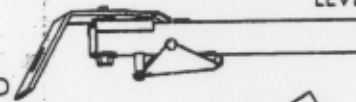
## LEG LATCH DETAIL

TOP VIEW LOCKED

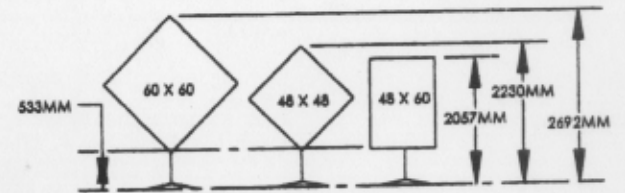
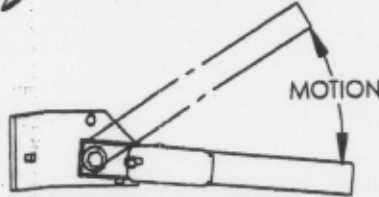


KICK RELEASE LEVER

TOP VIEW UN-LOCKED



SIDE VIEW



BASE:  
31.75MM BY 2.1MM SQUARE STEEL TUBING WITH  
4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELES COPIC 31.75MM AND 25.42MM SQUARE ALUM.  
TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS,  
RESPECTIVELY

FINISH - ZINC/ALUMINUM

CLAMPING - SEE DETAIL NO. 1 DRAWING K8609Z

SPRINGS - EXTENSION TYPE



**Korman Signs**  
INC.

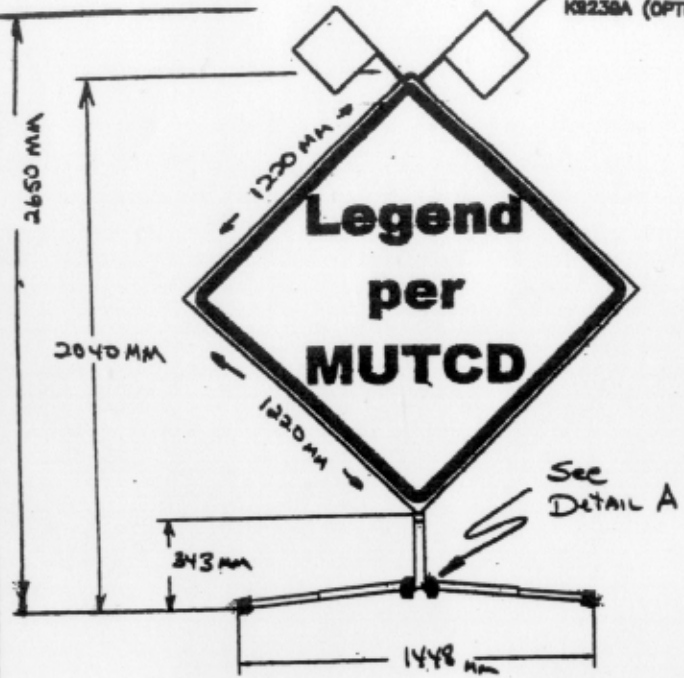
SCHEMATIC DRAWING FOR MODEL SS548UCAX  
FLEXIBLE SIGN STAND WITH A 4848DFUCX ROLL UP SIGN

SCALE: NOT TO SCALE

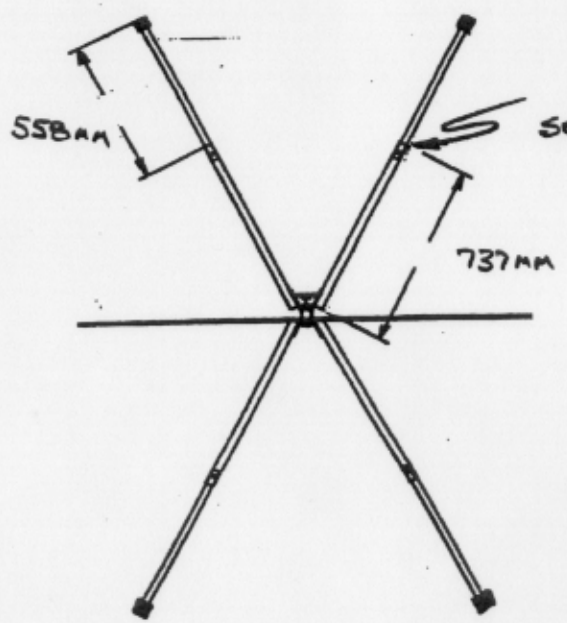
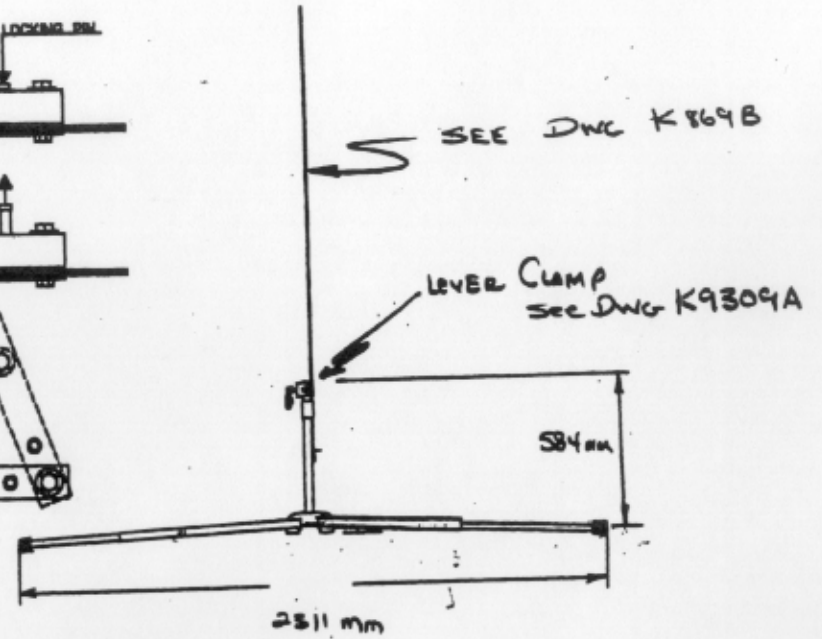
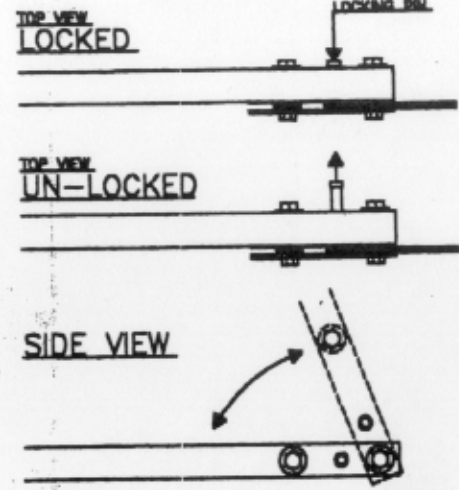
DATE: 6/12/02 DRAWN BY: DCC

DWG. NO. K8129G

FLAGS  
REFER TO DRAWING  
K8238A (OPTIONAL)



**DETAIL -A-**



See DWG K8490

**Model SS548UCR**  
Ultra Compact Sign Stand

**BASE**  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
4.91MM STEEL LEG MTG.FLANGES

**LEGS**  
TELESCOPIC 31.75MM AND 25.42MM SQUARE STEEL  
TUBING WITH 2MM AND 1.8MM WALL THICKNESS,  
RESPECTIVELY

**FINISH - ZINC**

**Model 4848DFUC**  
Roll Up Sign

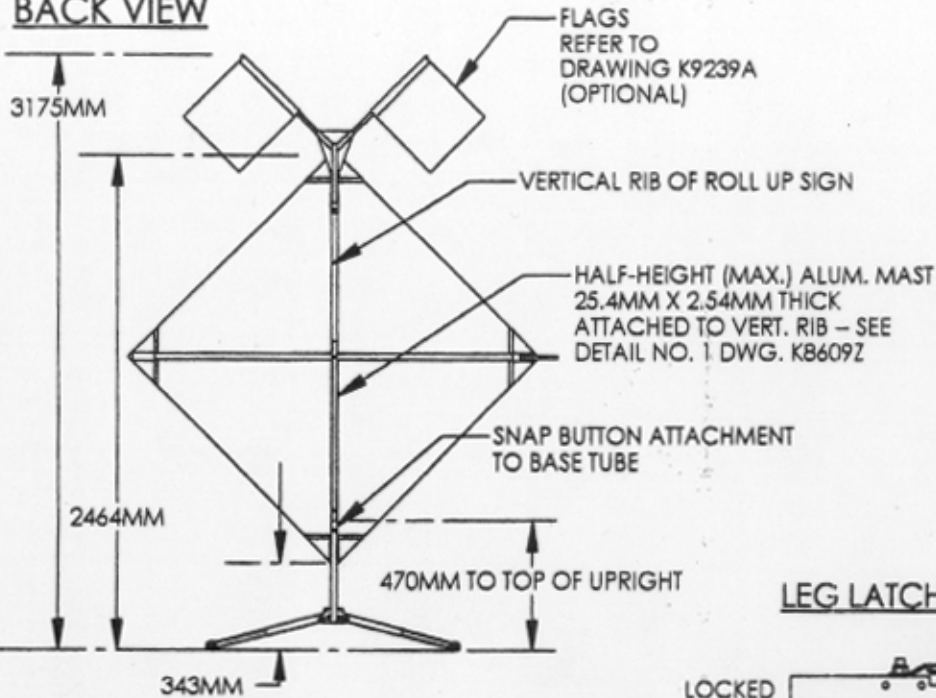
**Fabric**  
1220mm x1220mm Reflective Roll up Sign Sheeting

**Crossbraces**  
Vertical 9.53mm thick, 31.75 mm wide, 1645  
mm long Horizontal 4.66 mm thick, 31.75 mm  
wide, 1645 mm long pultruded fiberglass

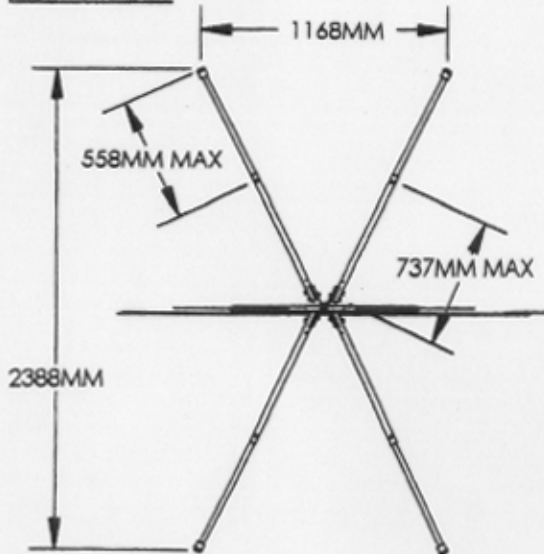
Schematic Drawing for Model SS548UCR Ultra Compact Sign Stand w/ 48x48 Roll up Sign	
NOT TO SCALE	
814199	DWG. NO. K849K

# SS548URCX

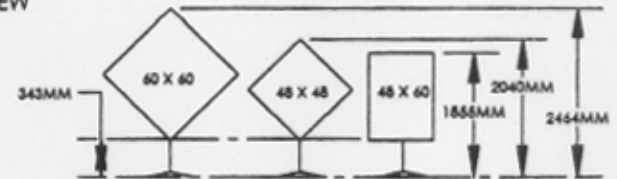
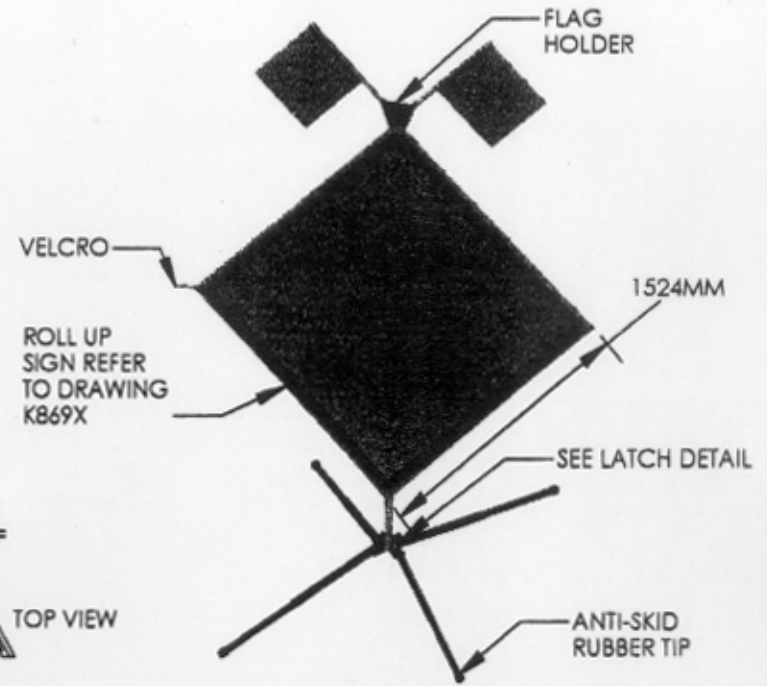
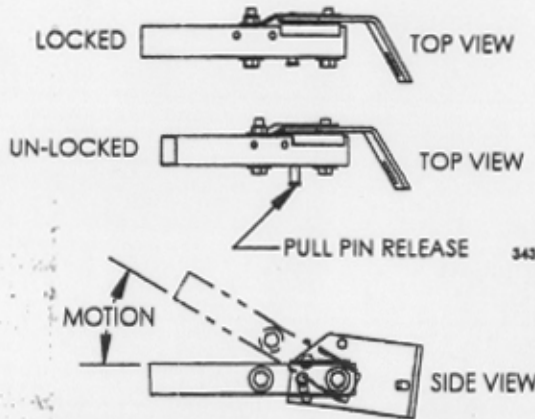
## BACK VIEW



## TOP VIEW



## LEG LATCH DETAIL



**BASE:**  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MTG. FLANGES

**LEGS:**  
TELESCOPING 31.75MM AND 25.42MM SQUARE STEEL TUBING WITH 2MM AND 1.6MM THICKNESS, RESPECTIVELY

FINISH - ZINC

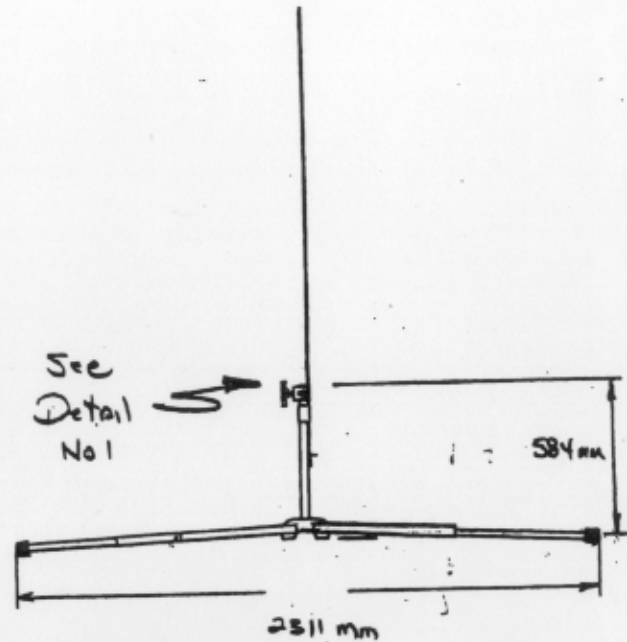
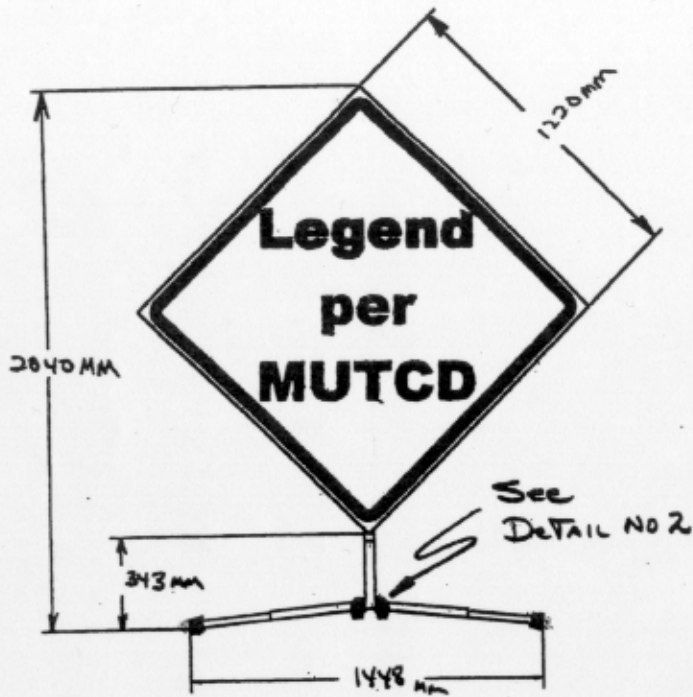
**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS548UCRX  
FLEXIBLE SIGN STAND WITH A 6060DFUCX ROLL UP SIGN

SCALE: NOT TO SCALE

DATE: 6/12/02 DRAWN BY: DCC

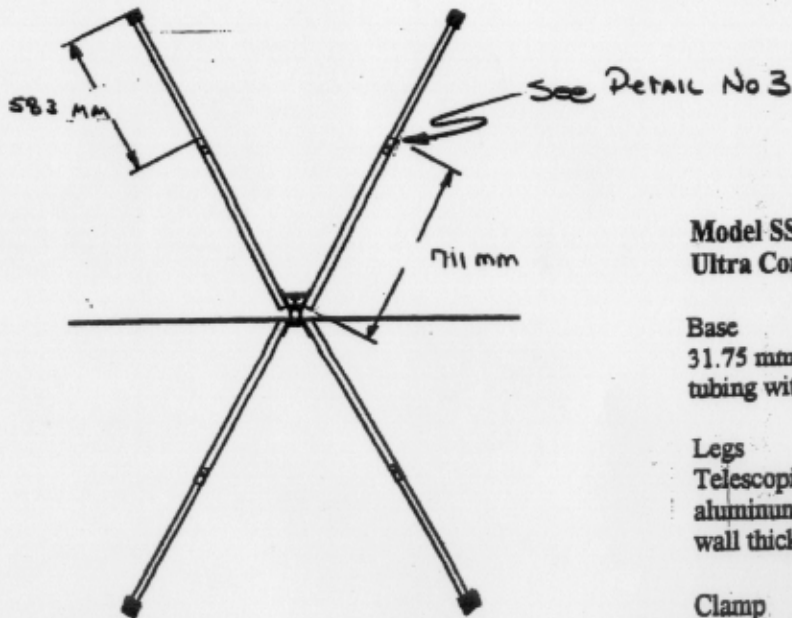
DWG. NO. K849R



**Model 4848DFUC  
Roll Up Sign**

Fabric  
1220mm x 1220mm Reflective Roll up Sign Sheeting

Crossbraces  
Vertical 9.53mm thick, 31.75 mm wide, 1645 mm long  
Horizontal 4.66 mm thick, 31.75 mm wide, 1645 mm long pultruded fiberglass




**Model SS548UCRA  
Ultra Compact Sign Stand**

Base  
31.75 mm x 2.1mm square steel tubing with 4.91 mm steel leg mtg flanges

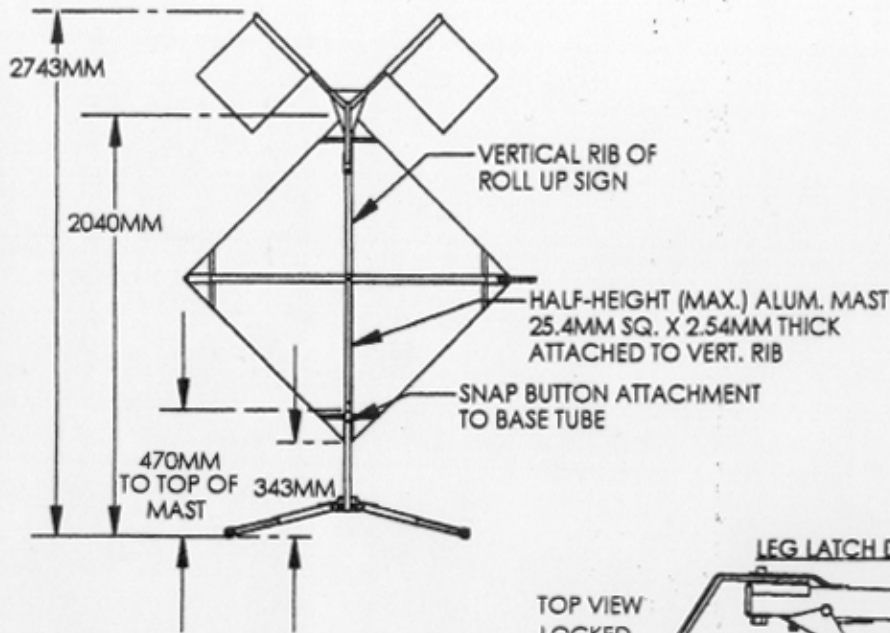
Legs  
Telescopic 31.70 and 25.42 mm square aluminum tubing with 2.56 mm and 2.46 mm wall thickness, respectively

Clamp  
See Detail No 1

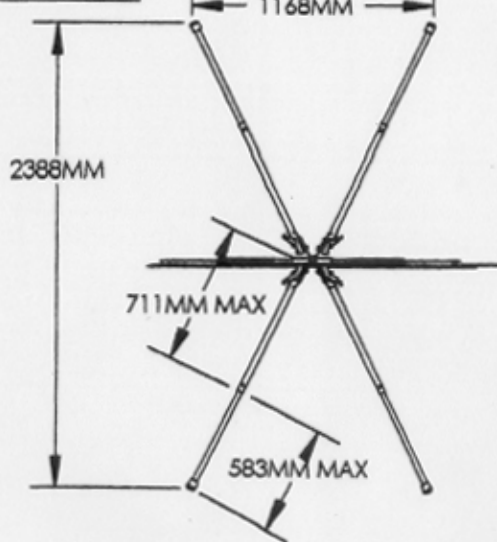
 <b>Korman Signs</b> INC.	
Schematic Drawing for Model SS548UCRA Ultra Compact Sign Stand w/ 48x48 Roll up Sign	
<i>No True Scale</i>	
514199	DWG. NO. K 849

# SS548UCRAX

## BACK VIEW



## TOP VIEW

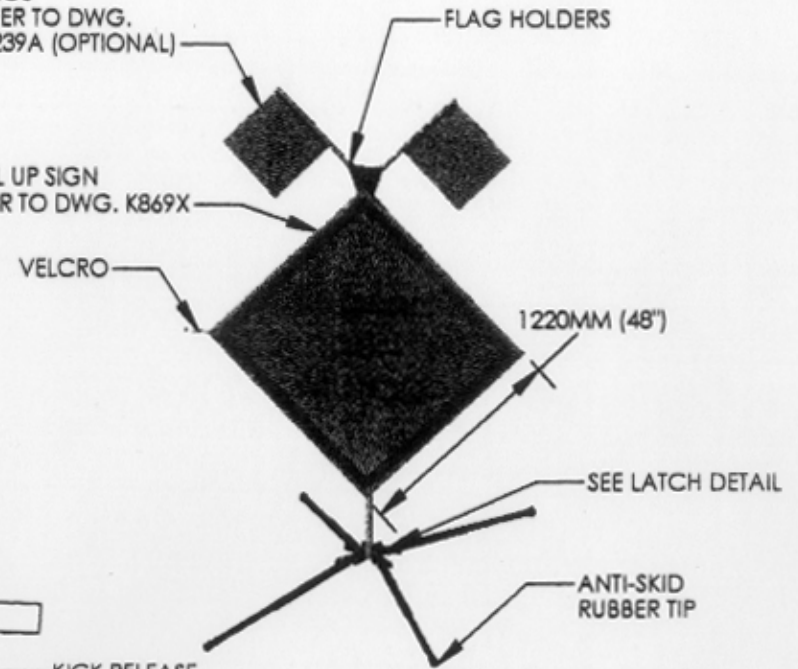


FLAGS REFER TO DWG. K9239A (OPTIONAL)

ROLL UP SIGN REFER TO DWG. K869X

VELCRO

FLAG HOLDERS

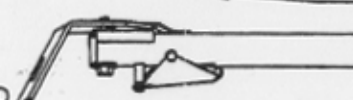


## LEG LATCH DETAIL

TOP VIEW LOCKED

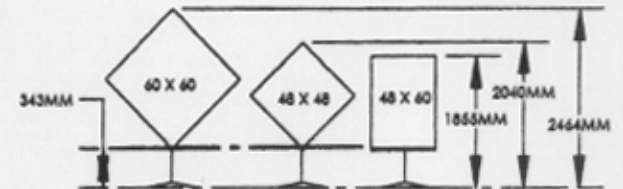
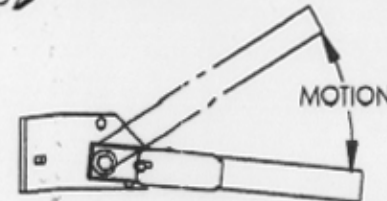


TOP VIEW UN-LOCKED



KICK RELEASE LEVER

SIDE VIEW



BASE:  
38.3MM AND 32.07MM SQUARE STEEL TUBING WITH 4.91 MM STEEL LEG MTG. FLANGES

LEGS:  
TELESCOPIC 31.75MM AND 25.42MM SQUARE ALUM. TUBING WITH 2.56MM AND 2.46MM WALL THICKNESS, RESPECTIVELY

FINISH - ZINC/ALUMINUM

CLAMPING - SEE DETAIL NO. 1 DRAWING K8609Z



**Korman Signs**  
INC.

SCHMATIC DRAWING FOR MODEL SS548UCRAX  
FLEXIBLE SIGN STAND WITH A 4848DFUCX ROLL UP SIGN

SCALE: NOT TO SCALE

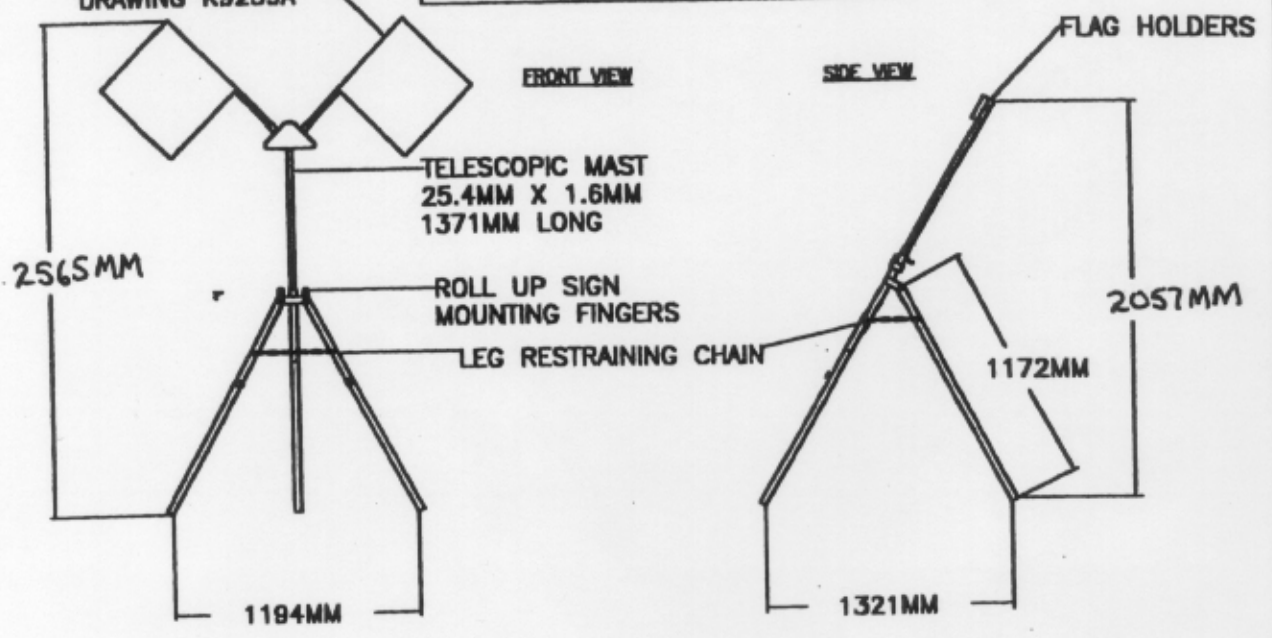
DATE: 6/12/02 | DRAWN BY: DCC

DWG. NO. K849Y

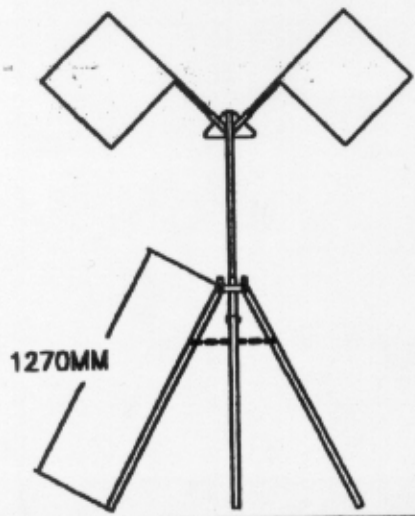
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

# SS1

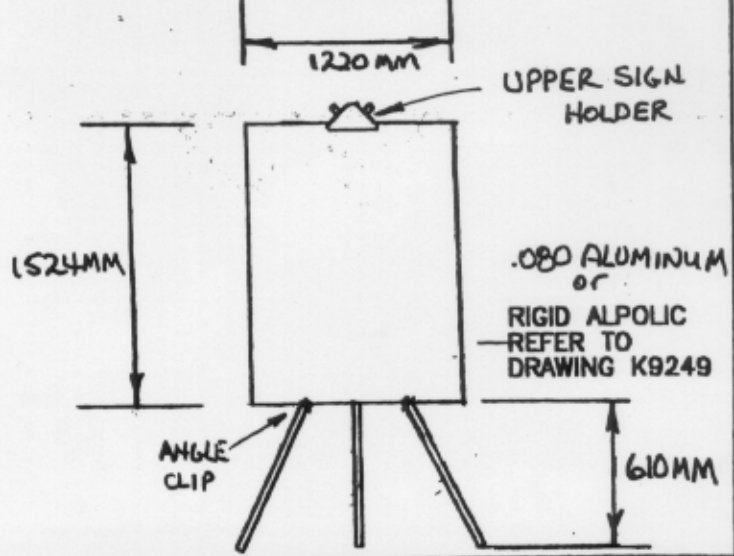
FLAGS(OPTIONAL)  
REFER TO  
DRAWING K9239A



BACK VIEW



FRONT VIEW



MASTER BRACKET  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
31.75MM X 6.35MM STEEL LEG MTC.FLANGES  
LEGS  
31.75MM X 1.6MM SQUARE STEEL TUBING  
TELESCOPIC MAST  
25.4MM X 1.6MM SQUARE STEEL TUBING  
FINISH - ZINC



**Korman Signs**  
INC.

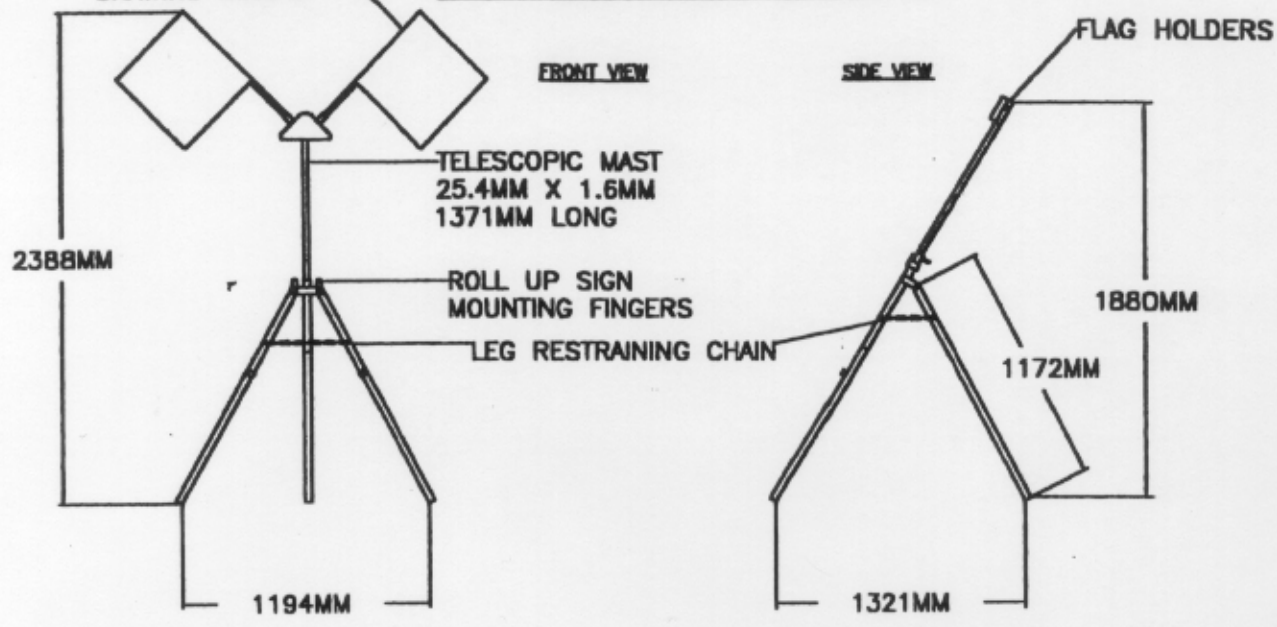
SCHMATIC DRAWING FOR MODEL SS-1  
WITH A 2MM ALPOLIC SIGN OR .080 GAUGE ALUMINUM  
SIZE 48x60

SIZE	FSCM NO.	DWG NO.	REV
		C92898BB	
SCALE-NOT TO SCALE		9/29/99	SHEET
			DSC

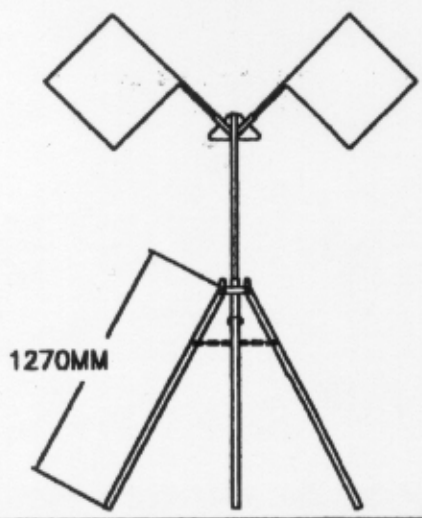
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

# SS1

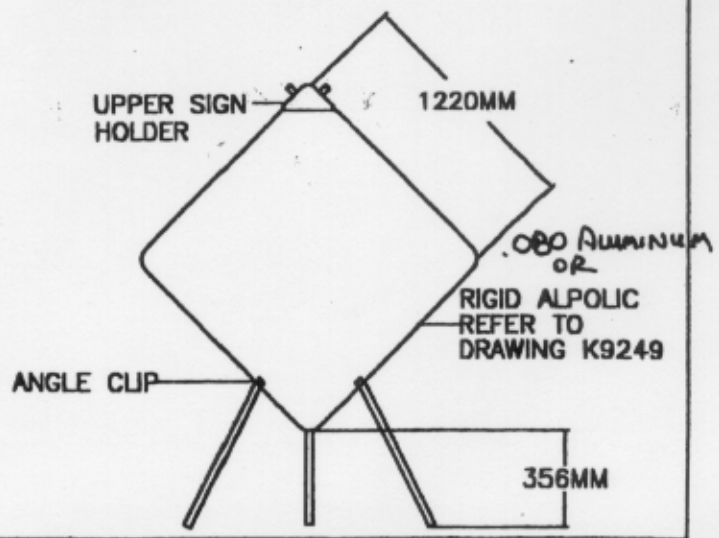
FLAGS (OPTIONAL)  
REFER TO  
DRAWING K9239A



BACK VIEW



FRONT VIEW



MASTER BRACKET  
31.75MM X 2.1MM SQUARE STEEL TUBING WITH  
31.75MM X 6.35MM STEEL LEG MTG. FLANGES  
LEGS  
31.75MM X 1.8MM SQUARE STEEL TUBING  
TELESCOPIC MAST  
25.4MM X 1.6MM SQUARE STEEL TUBING  
FINISH - ZINC



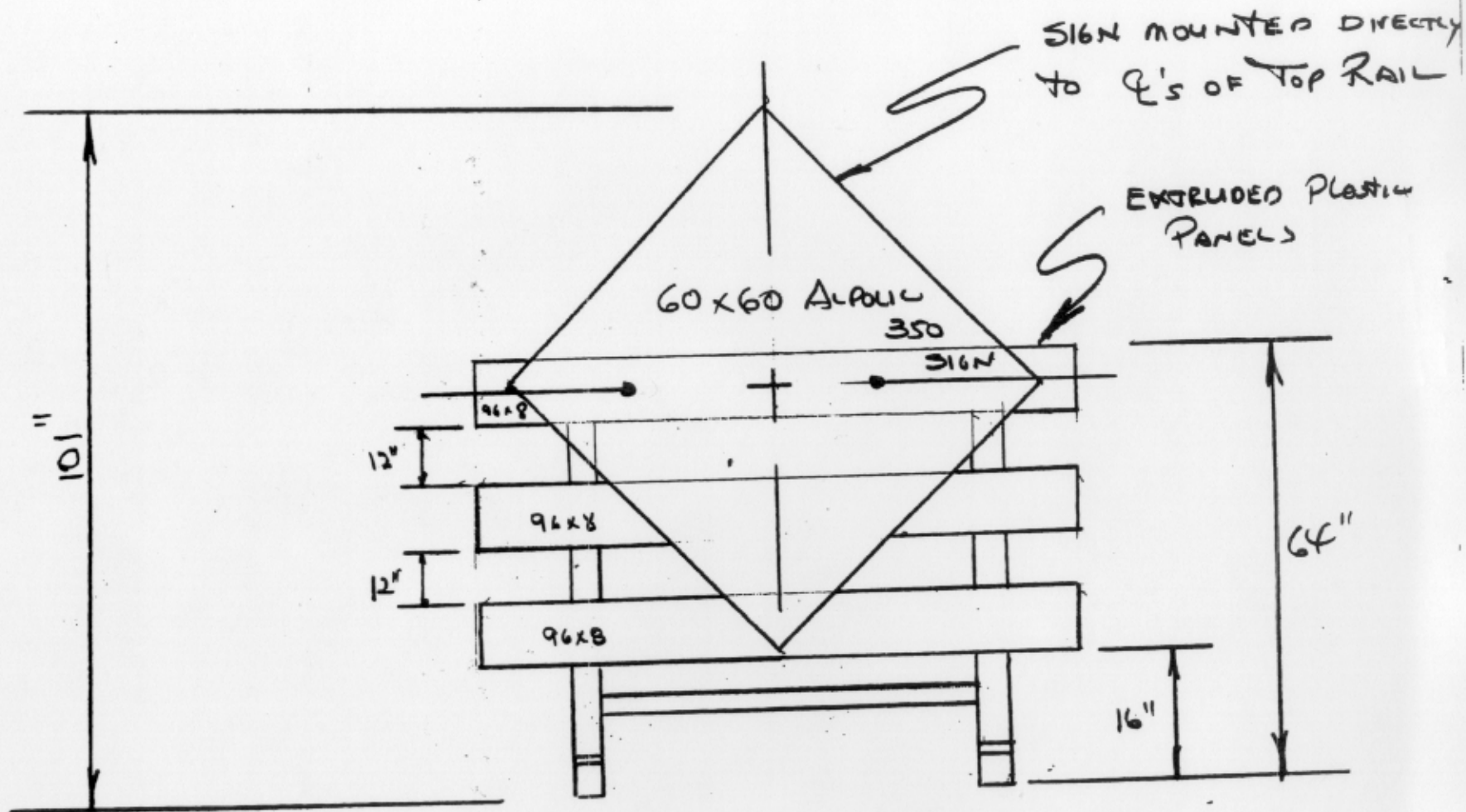
**Korman Signs**

SCHEMATIC DRAWING FOR MODEL SS-1  
WITH A 2MM ALPOLIC SIGN OR .080 Gauge ALUMINUM

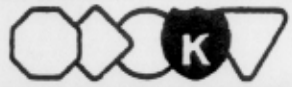
SIZE	FSCM NO.	DWG NO.	REV
		C9289B	
SCALE - NOT TO SCALE	9/29/99	SHEET	DSC



# LAYOUT FOR IMPACTS 2A AND 3B



TYPE III BARRICADE MFG'd  
 BY ACCESSORIES SQUARED  
 TYPE TL133-2 : SHEAR PIN  
 BARRICADE ASSY FROM WITH 1 3/4" OR 2" TELESPOR

 <b>Korman Signs</b>	
TEST ARTICLE DIMENSIONS TYPE III BARRICADE WITH 60x60 ALPOLIC SIGN	
NO TRUE SCALE	
all in	INCHES NO K&S