

DAKTRONICS AR-2404 PRODUCT SPECIFICATIONS



This horizontal outdoor LED auto racing display shows running time or current lap. Indicators show LAP/TIME selection and flag status (red, caution, green). The AR-2404 is often placed atop vertical pylon displays. Display shown with red PanaView® digits.

DIMENSIONS	UNCRATED WEIGHT	POWER (120 VAC)*	
3'-6" H x 9'-0" W x 8" D (1.07 m, 2.74 m, 203 mm)	140 lb (64 kg)	Red/Amber Digits	105 Watts, 0.9 Amp
		White Digits	205 Watts, 1.7 Amps

**Display requires a dedicated circuit. Models with 240 VAC power at half the indicated amperage are also offered (International Use Only).*

DIGITS & INDICATORS

- All digits are 24" (610 mm) high. All indicators are 4" (102 mm) in diameter. Colons are 2" (51 mm) in diameter.
- Select red, amber, or white LED digits and indicators (race status indicators are always red, yellow, and green).
- Display features robust weather-sealed digits (see [DD2495646](#)).
- Digits may be dimmed for night viewing.

CAPTIONS

- LAP and TIME captions are 6" (152 mm) high.
- Standard captions are vinyl, applied directly to the display face.

DISPLAY COLOR

Choose from 150+ colors (from Martin Senour® paint book) at no additional cost.

CONSTRUCTION

Alcoa aluminum alloy 5052 for excellent corrosion resistance

PRODUCT SAFETY APPROVAL

ETL-listed to UL 48, tested to CSA standards, and CE-labeled

OPERATING TEMPERATURES

- Display: -22° to 122° Fahrenheit (-30° to 50° Celsius)
- Console: 32° to 130° Fahrenheit (0° to 54° Celsius)

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CONTROL CONSOLE	CONTROL OPTIONS
All Sport® 5100	Wired (standard): One-pair shielded cable of 22 AWG minimum is required. A cover plate with mounted connector and standard 2" x 4" x 2" (51 mm x 102 mm x 51 mm) outlet box is provided. Connector mates with signal cable from control console.
	Wireless (optional): 2.4 GHz spread spectrum radio features 64 non-interfering channels and 8 broadcast groups (see SL-04370).

MOUNTING

Hardware to mount display on two beams is included; hardware for more beams is at additional cost. Standard mounting uses I-beam clamps. Optional mounting method using angle brackets is also offered; maximum beam width is 12" (305 mm) and maximum beam depth is 22" (559 mm). Refer to attached drawings for more information on mounting methods.

SERVICE ACCESS

Digit panels and electronics are serviced from the front of the display.

GENERAL INFORMATION

100% solid state electronics are housed in an all aluminum cabinet. Display is shipped in one section. Display power is to be provided on a dedicated circuit to prevent loss of race information due to failure of another component on the circuit. Specifications and pricing are subject to change without notice.

OPTIONS & ACCESSORIES

- Multiple caption colors (see [DD2101644](#))
- Optional angle bracket mounting method
- Advertising/identification panels
- Decorative accents
- Electronic message centers and video displays in multiple sizes

ADVERTISING/IDENTIFICATION PANELS

Backlit & Non-Backlit:

- 1'-6" H x 9'-0" W (457 mm, 2.74 m)
- 2'-0" H x 9'-0" W (610 mm, 2.74 m)
- 2'-6" H x 9'-0" W (762 mm, 2.74 m)

For additional non-backlit panel sizes, see [SL-03761](#).

FOR ADDITIONAL INFORMATION

- Installation Specifications: DWG-1157186 (attached)
- Standard I-beam Mounting: DWG-1052565 (attached)
- Optional Pole Mounting: DWG-1048184 (attached)
- Component Locations: DWG-1080869 (attached)

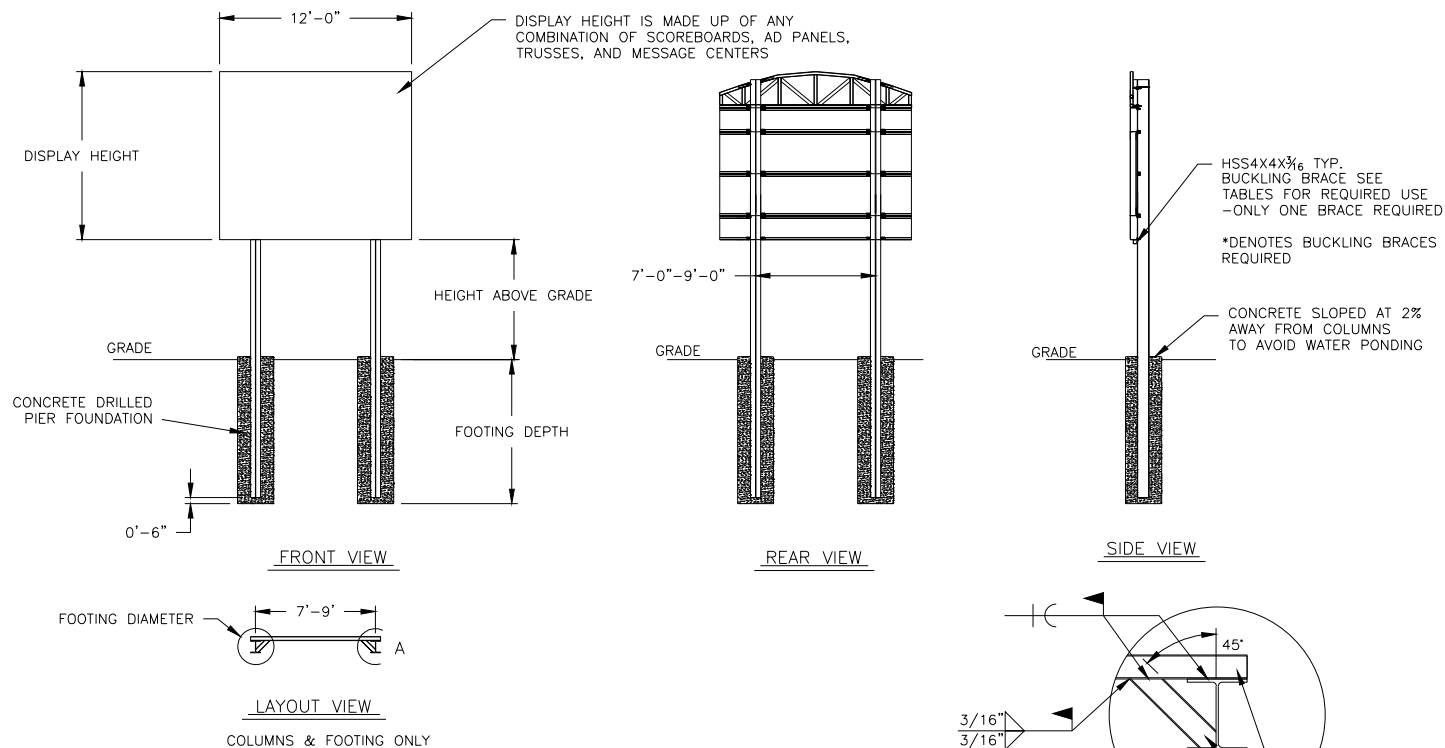


TABLE A - MOUNTING

EXPOSURE B

HEIGHT ABOVE GRADE = 10'						HEIGHT ABOVE GRADE = 15'					
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY				DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY			
		115 MPH	130 MPH	150 MPH	170 MPH			115 MPH	130 MPH	150 MPH	170 MPH
4	COLUMN FOOTING	W6X15 2.0'X5.5'	W6X15 2.0'X6.0'	W6X15 2.0'X6.5'	W6X20 2.0'X7.0'	4	COLUMN FOOTING	W8X18 3.0'X5.0'	W8X18 3.0'X5.5'	W8X21 3.0'X6.5'	W8X24 3.0'X7.0'
6	COLUMN FOOTING	W6X15 2.0'X6.5'	W8X18 2.0'X7.0'	W8X18 2.0'X7.5'	W8X21 2.0'X8.5'	6	COLUMN FOOTING	W8X18* 3.0'X6.0'	W12X21* 3.0'X6.5'	W10X22* 3.0'X7.5'	W10X26* 3.0'X8.0'
8	COLUMN FOOTING	W8X21 2.0'X7.0'	W8X21 2.0'X8.0'	W8X24 2.0'X8.5'	W12X26 3.0'X8.0'	8	COLUMN FOOTING	W8X21* 3.0'X7.0'	W8X24* 3.0'X7.5'	W12X26* 3.0'X8.0'	W12X30* 3.0'X9.0'
10	COLUMN FOOTING	W8X24 2.0'X8.0'	W8X28 2.0'X8.5'	W10X22* 2.0'X9.5'	W10X26* 2.0'X10.5'	10	COLUMN FOOTING	W8X24* 3.0'X7.5'	W12X26* 3.0'X8.5'	W12X30* 3.0'X9.0'	W14X34* 3.0'X10.0'
12	COLUMN FOOTING	W8X21* 2.0'X8.5'	W10X22* 2.0'X9.5'	W10X26* 3.0'X9.0'	W12X26* 3.0'X10.0'	12	COLUMN FOOTING	W12X26* 3.0'X8.5'	W10X39* 3.0'X9.0'	W14X34* 3.0'X10.0'	W12X40* 3.0'X11.0'

FOOTING DIMENSIONS = DIAMETER X DEPTH

* DENOTES BUCKLING BRACE REQUIRED

EXPOSURE C

HEIGHT ABOVE GRADE = 10'					HEIGHT ABOVE GRADE = 15'				
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY			DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY		
		115 MPH	140 MPH				115 MPH	140 MPH	
4	COLUMN FOOTING	W8X15 2.0'X6.0'	W8X18 2.0'X7.0'		4	COLUMN FOOTING	W8X21 2.0'X7.0'	W8X24 2.0'X8.0'	
6	COLUMN FOOTING	W8X18 2.0'X7.0'	W10X22 2.0'X8.5'		6	COLUMN FOOTING	W8X21* 2.0'X8.0'	W8X24* 2.0'X9.0'	
8	COLUMN FOOTING	W8X24 2.0'X8.0'	W12X26 3.0'X8.0'		8	COLUMN FOOTING	W8X24* 3.0'X9.0'	W12X30* 3.0'X9.0'	
10	COLUMN FOOTING	W8X21* 2.0'X9.0'	W12X26* 3.0'X9.0'		10	COLUMN FOOTING	W12X26* 3.0'X8.5'	W14X34* 3.0'X10.0'	
12	COLUMN FOOTING	W10X22* 3.0'X8.5'	W12X26* 3.0'X10.0'		12	COLUMN FOOTING	W12X30* 3.0'X9.5'	W12X40* 3.0'X11.0'	

FOOTING DIMENSIONS = DIAMETER X DEPTH

* DENOTES BUCKLING BRACE REQUIRED

NOTE:

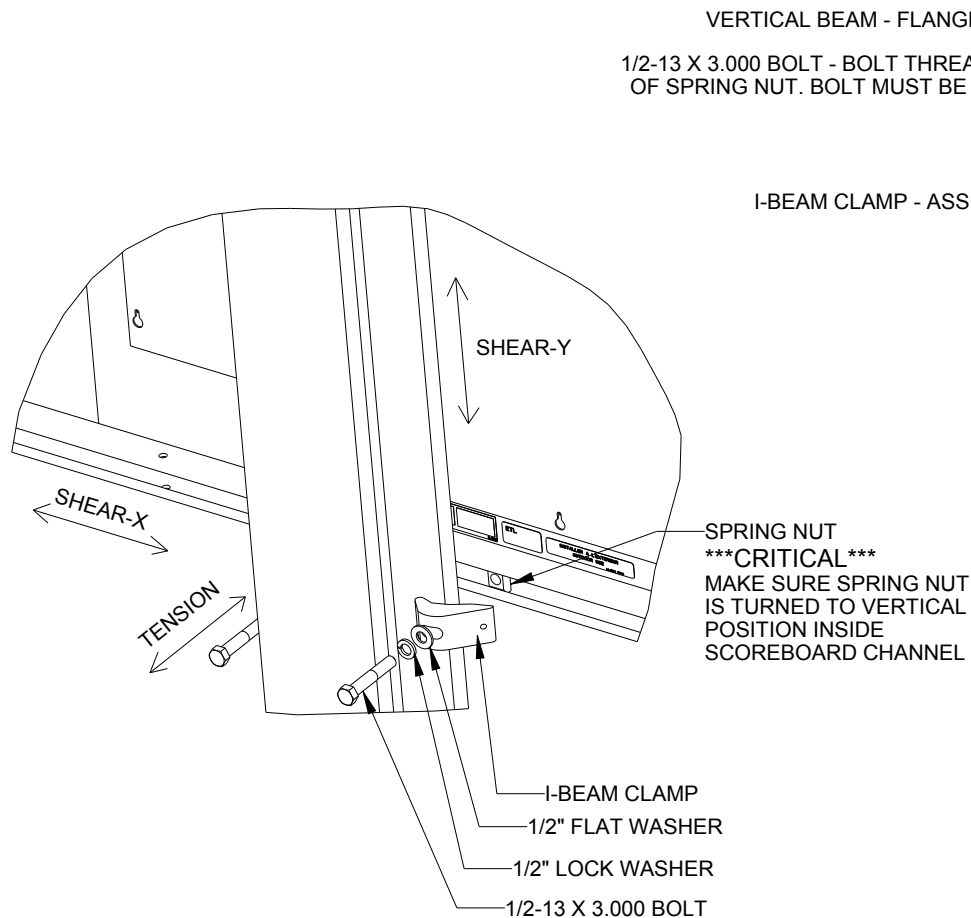
-REFER TO NOTE 7 FOR EXPOSURE CATEGORY DEFINITIONS.

NOTES:

1. FOOTING AND COLUMN SIZES ARE SUGGESTIONS ONLY, PROVIDED TO ASSIST WITH ESTIMATING INSTALLATION COSTS AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. THE DESIGN MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE INSTALLATION BEFORE THEY CAN BE USED FOR FABRICATION OR ERECTION.
2. INTERNATIONAL BUILDING CODE 2012 USED IN DESIGN OF COLUMNS AND FOOTINGS WITH IMPORTANCE FACTOR=1, $K_z=1.0$, $K_d=0.85$, $G=0.85$. SEISMIC DESIGN WAS NOT CONSIDERED.
3. FOOTING DIMENSIONS ARE BASED ON ASSUMED SOIL CLASS 4 (ALLOWABLE LATERAL BEARING PRESSURE OF 150 psf).
4. STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 psi.
5. THE AVERAGE DISPLAY WEIGHT FOR A LAYOUT CAN NOT EXCEED 8 PSF.
6. DAKTRONICS INC. IS NOT RESPONSIBLE FOR STRUCTURES DESIGNED AND INSTALLED BY OTHERS.
7. LOCAL BUILDING OFFICIALS SHOULD BE CONTACTED TO DETERMINE THE WIND SPEED AND EXPOSURE CATEGORY FOR THE PROPOSED SIGN LOCATION. THE EXPOSURE CATEGORY C IS DEFINED AS:
EXPOSURE B - URBAN AND SUBURBAN AREAS, OR OTHER TERRAIN WITH NUMEROUS SPACED OBSTRUCTIONS HAVING THE SIZE OF SINGLE-FAMILY DWELLINGS OR LARGER. THESE CONDITIONS MUST PREVAIL FOR A DISTANCE FROM THE SIGN OF AT LEAST 2,600 FT OR 20 TIMES THE SIGN HEIGHT, WHICHEVER IS GREATER
EXPOSURE C - OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS, AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
8. FOR SPECIFIC PRODUCT DETAILS ON WEIGHT, MOUNTING, ETC. REFER TO THE INDIVIDUAL PRODUCT SPECIFICATION SHEETS.

<p>DAKTRONICS, INC. BROOKINGS, SD 57006</p>		<p>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2013 DAKTRONICS, INC.</p>	
		DO NOT SCALE DRAWING	
<p>PROJ: OUTDOOR SCOREBOARD INSTALLATION</p>			
<p>TITLE: 12' WIDTH SCOREBOARD INSTALLATION SPECS</p>			
<p>DESIGN: RSCHWAR</p>		<p>DRAWN: RSCHWAR</p>	
<p>SCALE: 1/16"=1'</p>		<p>DATE: 27 NOV 13</p>	
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE
	02	P1647	E - 10 - A
			1157186

REV 02	DATE: 27 OCT 15	UPDATED WIDE FLANGE AND FOUNDATION VALUES	BY: AMP
REV 01	DATE: 23 JUL 14	UPDATED CLAMPS IN REAR AND SIDE VIEW AND ADDED 170 WIND SPEC COLUMN	BY: TJT



EXPLODED REAR ISOMETRIC VIEW

STANDARD MOUNTING METHOD

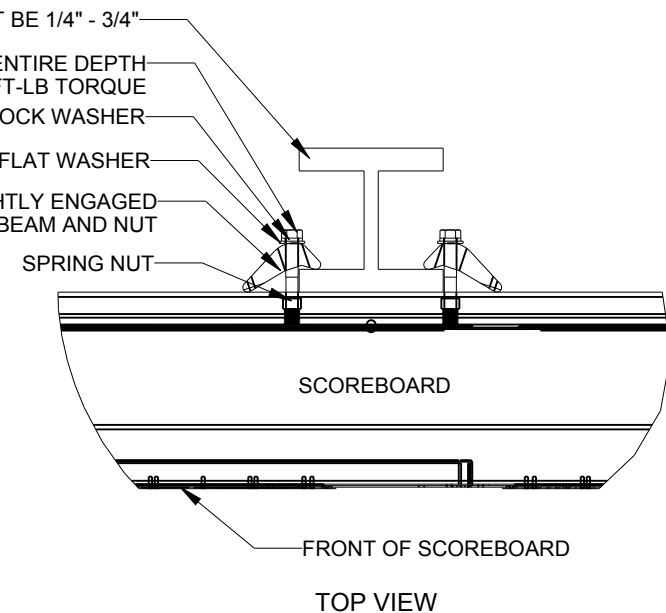
MOUNTING INSTRUCTIONS:

1. PLACE SPRING NUTS INTO SCOREBOARD CHANNEL IN APPROXIMATE LOCATION OF VERTICAL BEAMS
2. LIFT SCOREBOARD INTO POSITION
3. MAKE SURE THE 1/2-13 BOLTS ARE AS CLOSE TO THE I-BEAM FLANGES AS POSSIBLE
4. WHEN SCOREBOARD IS ADJUSTED TO FINAL DESIRED POSITION, TIGHTEN BOLTS FIRMLY
5. IF FLANGE THICKNESS IS MORE THAN 3/4" THICK LONGER BOLTS WILL BE REQUIRED AT THE CUSTOMER'S EXPENSE.


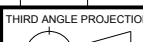
STRUCTURAL NOTES

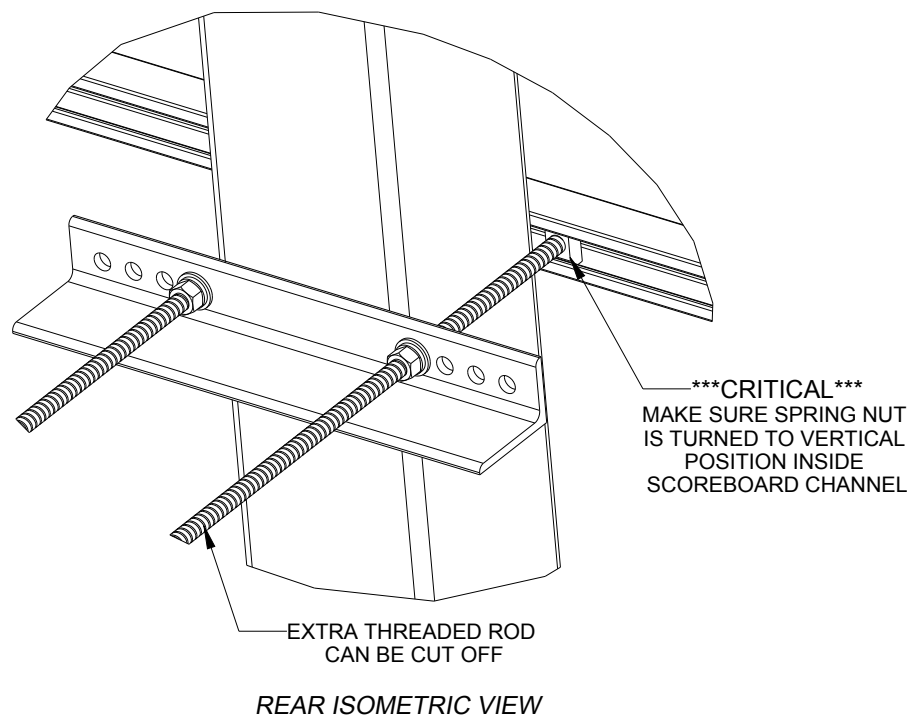
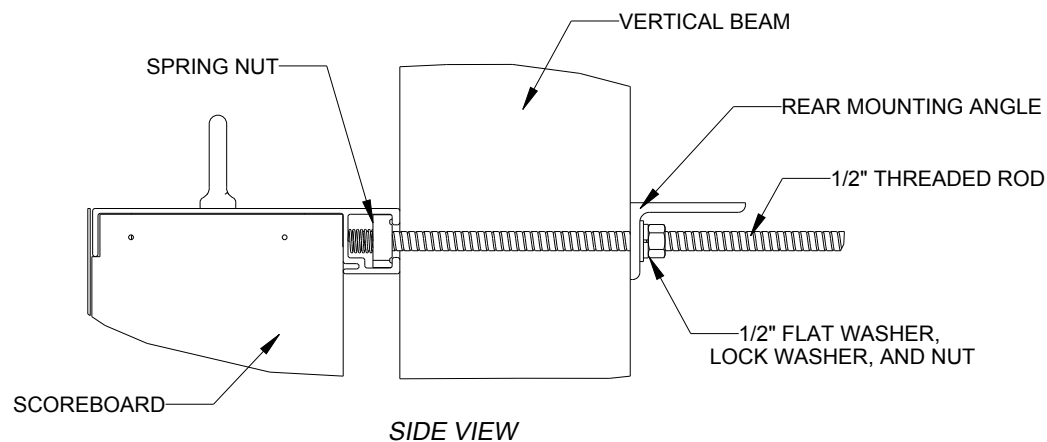
ALLOWABLE CAPACITY PER EACH CLAMP:
SHEAR = 160 LBS
TENSION = 2300 LBS

SHEAR AND TENSION LOAD
DIRECTION ARE AS INDICATED ON
REAR ISOMETRIC VIEW



05	22 DEC 15	PER EC-22871; ADDED LUBRICANT NOTE	PJS 18704
04	06 JAN 14	ADDED ALLOWABLE TENSION AND SHEAR CAPACITY DETAILS	JAVA
03	23 OCT 13	PER EC-12382; CHANGED BOLT TORQUE FROM 30 FT-LB TO 40 FT-LB	NJM
02	07 MAR 12	ADDED STANDARD MOUNTING METHODS NOTES	KDD
01	21 FEB 12	CHANGED ROCKER TO I-BEAM	KDD
REV	DATE:		BY:

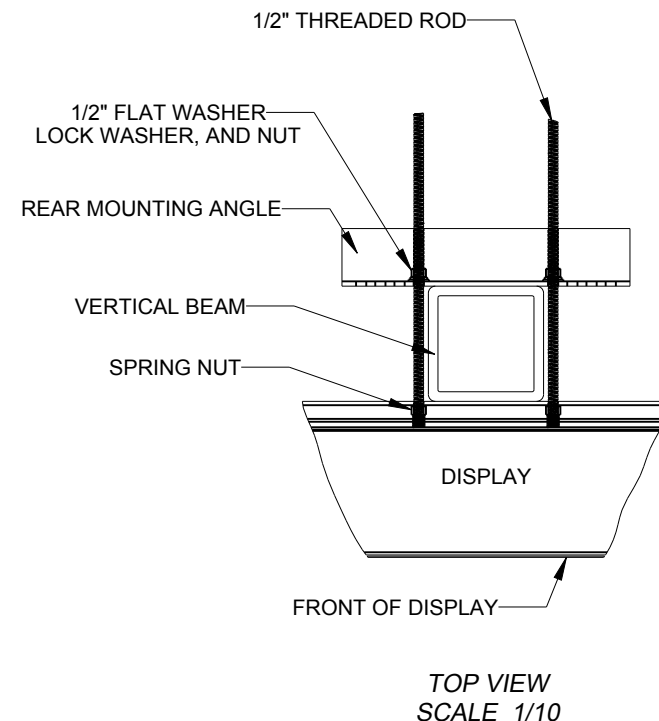
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PROJECT: OUTDOOR SCOREBOARD					
TITLE: P1647; I-BEAM CLAMP MOUNTING					
DATE: 22-DEC-15		DIM UNITS: INCHES [MILLIMETERS]		SHEET	
SCALE: 1/8		DO NOT SCALE DRAWING		REV	
DESIGN: MCARSRU		JOB NO.		FUNC - TYPE - SIZE	
DRAWN: MCARSRU		P1647		E - 07 - A	
1052565					



STRUCTURAL NOTES:
- BOLT TORQUE: 30 FT-LB

NOTES:

- THREADED RODS RUN ALONG BOTH SIDES OF BEAM
- RODS DO NOT PASS THROUGH THE FLANGES OF THE BEAM
- NO DRILLING NECESSARY
- MAKE SURE SPRING NUT IS PERPENDICULAR TO CHANNEL OPENING ON SCOREBOARD

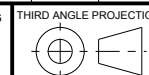


*****CRITICAL*****
DO NOT USE ANY LUBRICANT
ON ANY MOUNTING HARDWARE
OR WARRANTY WILL BE VOIDED

04	22 DEC 15	PER EC-22871; ADDED LUBRICANT WARNING	PJS 18704	
03	03 JULY 13	ADDED STRUCTURAL NOTE	TTF	
02	20 SEP 12	PER EC-7114; REMOVED CHAMFER FROM 0M-133259	LMG	
01	06 OCT 11	REPLACED VERTICAL I-BEAM WITH 6" X 6" SQUARE TUBE	JAVA	
REV	DATE:		BY:	




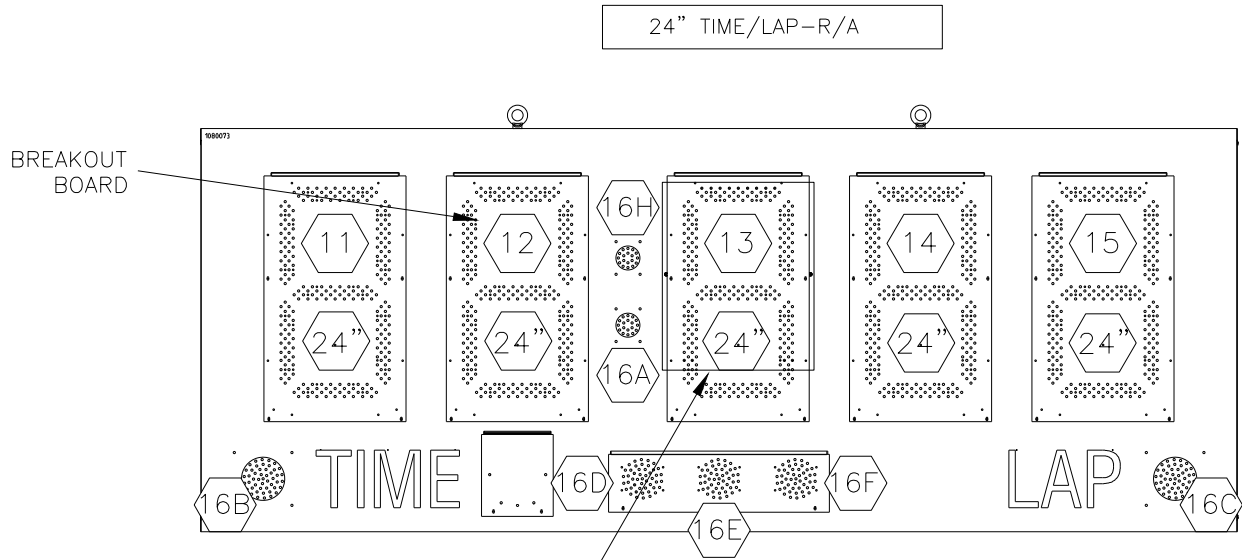
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PROJECT: OUTDOOR SCOREBOARDS				
TITLE: P1647; POLE MOUNTING OPTIONS				
DATE: 22-DEC-15	DIM UNITS: INCHES [MILLIMETERS]		SHEET	REV
SCALE: 1/5	DO NOT SCALE DRAWING		1 OF 1	04
DESIGN: DOPPELT	JOB NO.	FUNC - TYPE - SIZE	1048184	
DRAWN: DOPPELT	P1647	E - 10 - A		

REV 02	DATE: 11 AUG 20	PER CN-107905 REMOVED LABELS TO MOVE TO NEW STANDARD	BY: TAJ
REV 01	DATE: 02 MAR 15	PER EC-17118, REMOVED DETAILS AND ADDED SIGNAL OPTION NOTE CHANGED MASTER TO PRIMARY	BY: KOB

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PROJECT: OUTDOOR RACING DISPLAYS							
TITLE: COMPONENT LOCATION: 24" TIME/LAP, 201X-R/A							
DESIGN: KDRAGT DRAWN: JPALMER							
SCALE: 1" = 20'				DATE: 12 JAN 12			
SHEET 1 OF 1	REV 02	JOB NO. P1198	FUNC. TYPE-SIZE R-08-A	1080869			



PRIMARY DRIVER (A1)
 KNOCKOUTS FOR 1/2" CONDUIT
 SIGNAL OPTION ON THIS DRIVER
 (WIRE, FIBER, OR RADIO)

FRONT VIEW

NOTES:

- ② = LED DRIVER CONNECTOR WIRED TO THAT DIGIT
- ①6B = LED DRIVER CONNECTOR NO. AND SEGMENT DESIGNATION
- ②4" = DIGIT SIZE