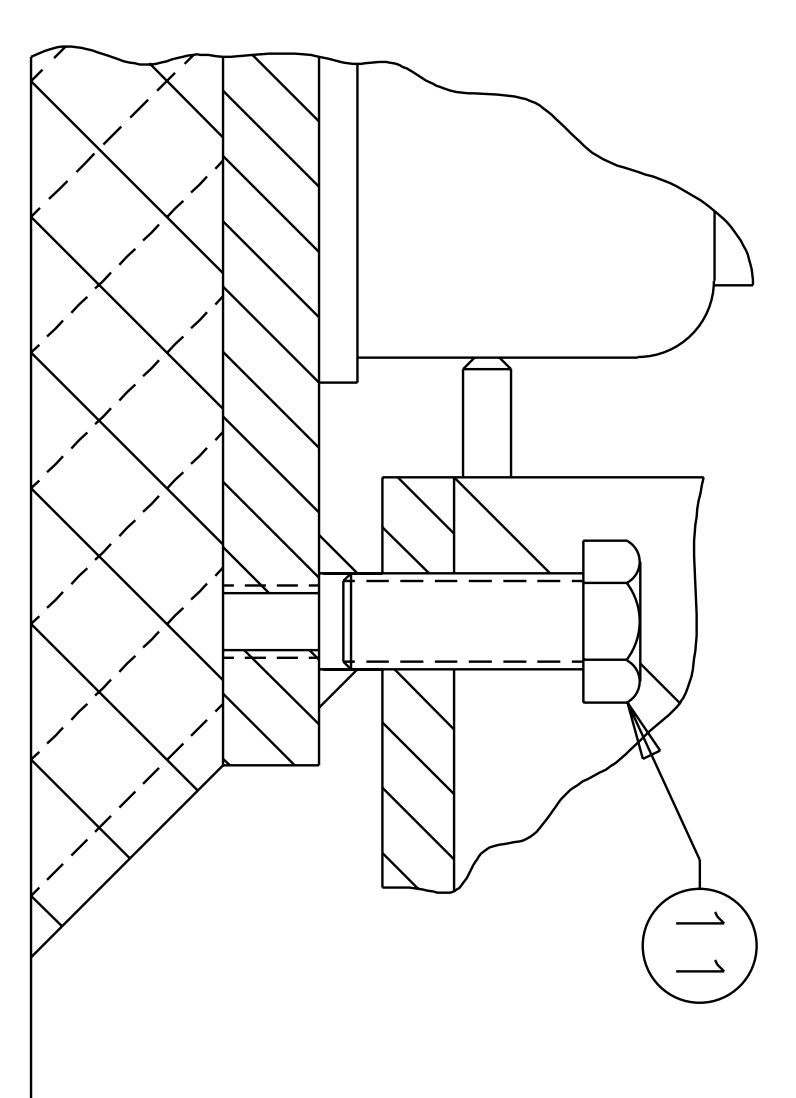
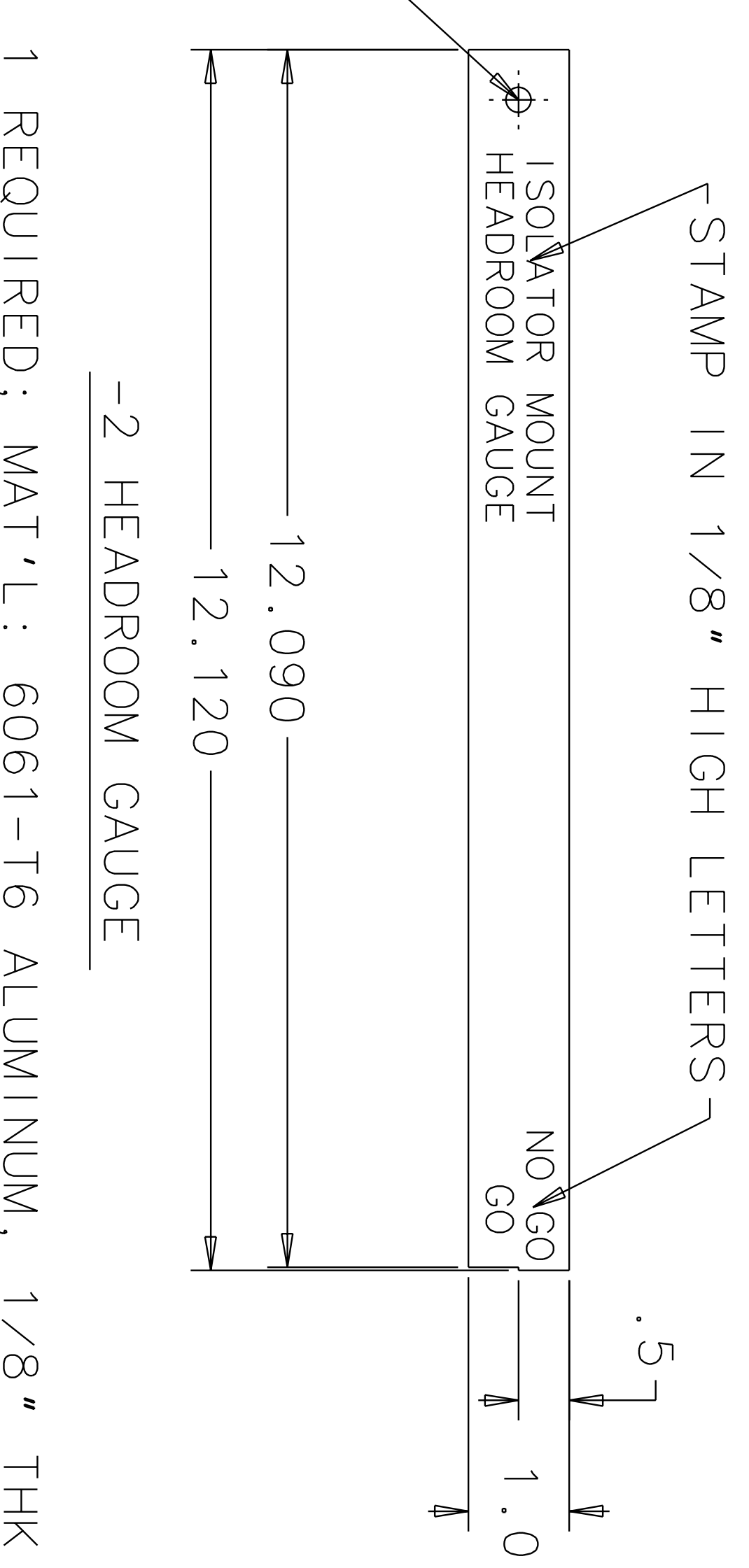


TMC STACIS 2000 ACTIVE ISOLATOR, WITH LEVELLING JACK AT TOP

CLEARANCE REQUIRED FOR REMOVAL OF COMPENSATOR BOARD AND HVA

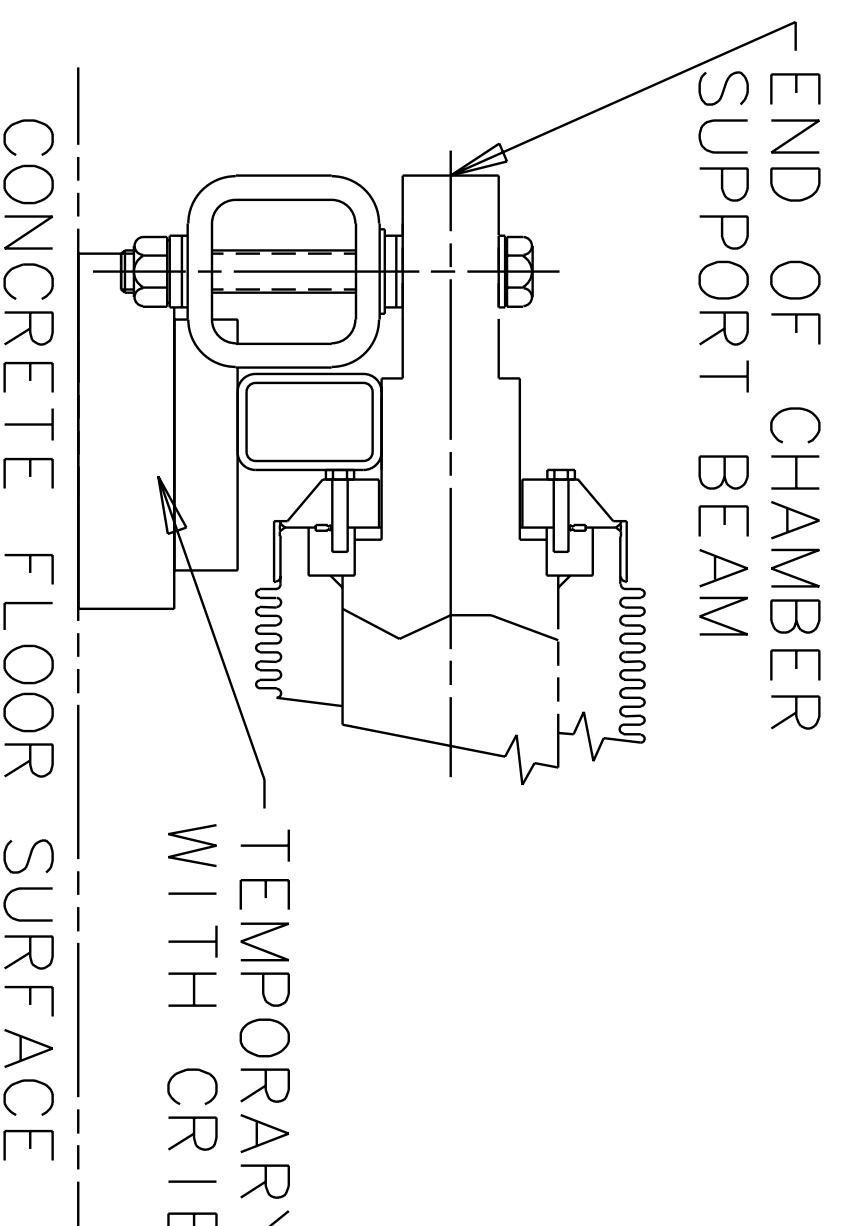
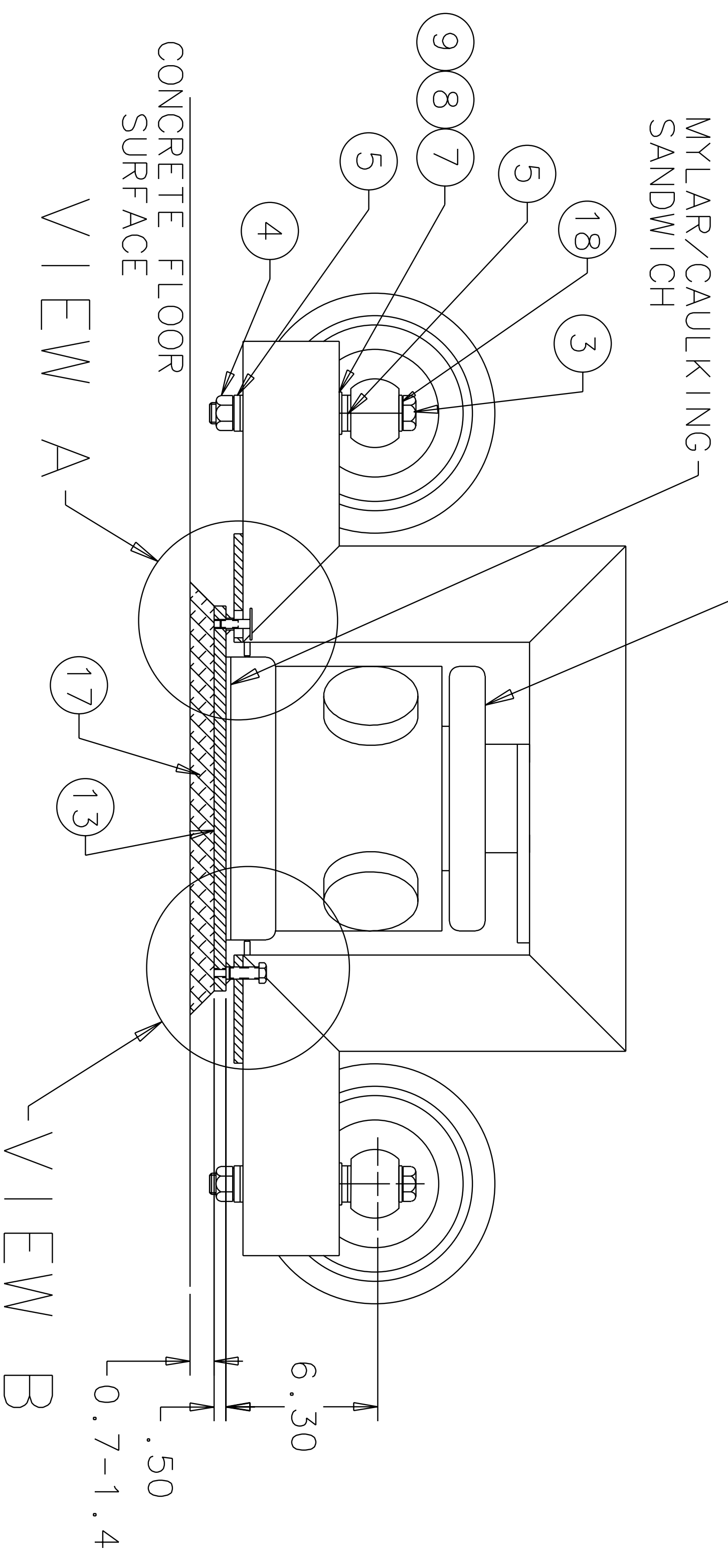


VIEW B



1 REQUIRED; MAT'L: 6061-T6 ALUMINUM, 1/8" THK

-2 HEADROOM GAUGE



VIEW B

TEMPORARY CRIBBING, WITH CRIBBING BAR

INSTALLATION PROCEDURE:

1. FIRST CHAMBER: SETUP LEVEL & MEASURE RELATIVE ELEVATIONS OF SUPPORT BEAM CENTERLINES. IF SUPPORT BEAM CENTERLINES ARE NOT WITHIN +/- .015" OF EACH OTHER, CONFIRM THAT ADJUSTMENTS WILL NOT DAMAGE BELLOWS, THEN ADJUST TO SUIT (NOTE: THIS ADJUSTMENT SHOULD BE MADE SUCH AS TO MINIMIZE BELLOWS OFFSETS: MINIMIZATION MEASUREMENTS MAY REQUIRE ENTERING CHAMBER, OR SPECIAL FIXTURING).
2. INSTALL CRIBBING UNDER SUPPORT BEAM ENDS ON SIDE WHERE DUAL ISOLATOR BRACKET WILL BE INSTALLED; REMOVE OBSOLETE SUPPORTS. CAUTION! DON'T DROP BEAMS, OR MOVE THEM MORE THAN 0.060"; THAT COULD DESTROY BELLOWS. RETURN BEAM ELEVATIONS TO THOSE AT THE END OF STEP 1.
3. MARK OFF AREAS TO BE GROUTED & REMOVE TILE & MASTIC; THIS APPLIES TO BOTH SIDES OF CHAMBER.
4. LAYOUT GROUT PLATE ANCHOR BOLTS; DRILL & INSTALL 1/2" ANCHORS (ITEM 14), WITH AN IMBEDMENT OF 2 1/4". NOTE THAT THE EAST INPUT CHAMBER REQUIRES THE RIGHT CLIP PLATE AT THE SW CORNER, AND THE SOUTH INPUT CHAMBER REQUIRES THE LEFT CLIP PLATE AT THE NE CORNER; THESE SPECIAL GROUT PLATES HAVE A UNIQUE BOLT PATTERN (SEE D000208).
5. INSTALL GROUT PLATES WITH TAPE SEALING TAPPED HOLES, USING WASHERS AND NUTS ABOVE AND BELOW PLATES. ADJUST ANCHOR NUTS TO LEVEL EACH ONE INDIVIDUALLY TO +/- 0.010"/FT.
6. MEASURE RELATIVE ELEVATION OF EACH GROUT PLATE & SET AT 6.30" BELOW THE AVERAGE BEAM CENTERLINE ELEVATION FOR THAT CHAMBER.
7. REPEAT LEVELLING & ADJUSTMENT OF ELEVATION PER STEPS 4 & 5 ABOVE TO ACHIEVE PLATES LEVEL AND ELEVATIONS WITHIN +/- 0.03" OF TARGET VALUE SIMULTANEOUSLY. GAP FOR GROUT IS EXPECTED TO BE BETWEEN 0.7" AND 1.4".
8. BUILD DAMS & POUR GROUT; ALLOW TO CURE, FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
9. BOLT DUAL ISOLATOR BRACKET TO ENDS OF SUPPORT BEAMS, IN VERTICAL PLANE (SEE SKETCH ABOVE FOR COMPONENTS AND SEQUENCE). CHECK HEADROOM WITH GAUGE FOR PROPER FIT ("GO" FITS, "NO GO" DOESN'T FIT) AND ADJUST FIT WITH BOLT SHIMS AS REQUIRED.
10. INSTALL 2 JACK SCREWS (ITEM 11) IN BRACKET LOWER PADS & TURN TO RAISE THE BEAMS A MINIMUM AMOUNT FOR CRIBBING REMOVAL. REMOVE CRIBBING, THEN LOWER BRACKET WITH JACK SCREWS FOR PROPER FIT WITH HEADROOM GAUGE.
11. LOWER LEVELLING JACKS AT STACIS 2000 TOPS TO -0.20" (LOWEST POSITION, WITH TOTAL JACK HEIGHT OF 1.41") ON THE ISOLATOR MOUNTS.
12. SLIDE ISOLATOR MOUNTS & MYLAR SANDWICH BASES INTO POSITION (0.10" VERTICAL CLEARANCE IS EXPECTED), ALIGNED WITH UPPER PAD.
13. RAISE LEVELLING JACKS TO CONTACT THE BOTTOMS OF THE BRACKET UPPER PADS, WITHOUT LIFTING BRACKET.
14. GRADUALLY AND SEQUENTIALLY RAISE JACK SCREWS AND RAISE LEVELLING JACKS WHILE CHECKING WITH HEADROOM GAUGE TO TRANSFER THE LOAD FROM THE JACK SCREWS TO THE ISOLATION MOUNTS, WHILE MINIMIZING THE LIFTING/LOWERING OF THE BRACKET. THE MYLAR SANDWICH AND THE ISOLATOR ARE EXPECTED TO COMPRESS 0.20"-0.25". BACK OFF THE JACK SCREWS UNTIL THEY CLEAR THE GROUT PLATE BY 0.12".
15. SETUP CRIBBING TO SUPPORT TWO SUPPORT BEAMS ON SINGLE MOUNT SIDE OF CHAMBER; REMOVE OBSOLETE SUPPORTS.
16. REPEAT STEPS 9-15 FOR THE SINGLE ISOLATOR BRACKET.
17. RE-CHECK ELEVATIONS OF SUPPORT BEAMS-THESE SHOULD BE WITHIN +/- 0.015" OF EACH OTHER. IF NOT, ADJUST AS NECESSARY.
18. INSTALL EARTHQUAKE SAFETY SCREWS (ITEM 10) WITH A VERTICAL GAP OF 1/8".
19. REPEAT ITEMS 1-18 FOR THE REMAINDER OF THE CHAMBERS PLANNED.
20. FOR OPERATION, INSTALL THE PUSH SCREWS (ITEM 12) AND CONFIRM THAT THEY CLEAR THE ISOLATORS BY 0.1" OR MORE.

MAINTENANCE:

1. ONE MONTH AFTER INSTALLATION, AND EVERY SIX MONTHS THEREAFTER, CHECK FOR PROPER HEADROOM GAUGE FIT; IF NEEDED, ADJUST THE LEVELLING JACKS TO ACHIEVE PROPER FIT.

MASTER-CARR CATALOGUE NUMBERS ARE SHOWN AS *XXXXXXXXX QUANTITIES SHOWN ARE FOR 4 CHAMBERS, WITH 3 STACIS UNITS EACH

ITEM NO.	DESCRIPTION	QTY	UNIT	QTY	UNIT
1	D000211-2 HEADROOM GAUGE	6061 AL	22		
1	D000211-1 CRIBBING BAR	HR STEEL	21		
1	D000208-3 GROUT PLATE, LEFT CLIP	304 SS	20		
1	D000208-2 GROUT PLATE, RIGHT CLIP	304 SS	19		
16	*90126A037 7/8" FLAT WASHER, SAE STD.	ZN/STEEL	18		
8	*7569194 50# PALL. STD. ANCHORING CEMENT	--	17		
96	*90473A223 1/2"-13 HEX NUT, GR 2	ZN/STEEL	16		
96	*90108A033 1/2" FLAT WASHER, USS STANDARD	ZN/STEEL	15		
48	*92960A150 1/2"-13 X 4.75" CONCRETE ANCHOR	ZN/STEEL	14		
10	D000208-1 GROUT PLATE, SYMMETRICAL	304 SS	13		
60	*92620A550 1/4"-28 X 2" HEX HD CAP SCREW	ZN/STEEL	12		
16	*92620A714 1/2"-13 X 1.25" HEX HD CAP SCREW	ZN/STEEL	11		
16	*92670A826 5/8"-16 X 1.25" #1 NORMAY BOLT	ZN/STEEL	10		
16	*3088A366 1" ID X .015" STEEL SHIM WSHR	AISI 1010	9		
16	*3088A436 1" ID X .031" STEEL SHIM WSHR	AISI 1010	8		
16	*3088A472 1" ID X .062" STEEL SHIM WSHR	AISI 1010	7		
32	*91131A100 7/8" SPHERICAL WASHER SET	CS HD STEEL	5		
16	*90473A242 7/8"-9 HEX NUT, GR 2	ZN/STEEL	4		
16	*91235A899 7/8"-9 X 8" HEX BOLT, GR 2	ZN/STEEL	3		
4	D000187-2 DUAL ISOLATOR BRACKET	A500 GR B	2		
4	D000187-1 SINGLE ISOLATOR BRACKET	A500 GR B	1		

UNLESS OTHERWISE SPECIFIED:

DIMENSION UNITS ARE INCHES (mm)

TOLERANCES: X.XX ± 0.03

X.X ± 0.1

DO NOT SCALE DRAWING

SCALE: NTS

DATE: 7/6/00

DESIGNED BY: L. JONES

CHECKED BY: LIGO PROJECT

PROJECT: LIGO PROJECT

INSTALLATION FIXTURES & PROCEDURE 40M ACTIVE ISOLATORS

SHEET 1 OF 1