

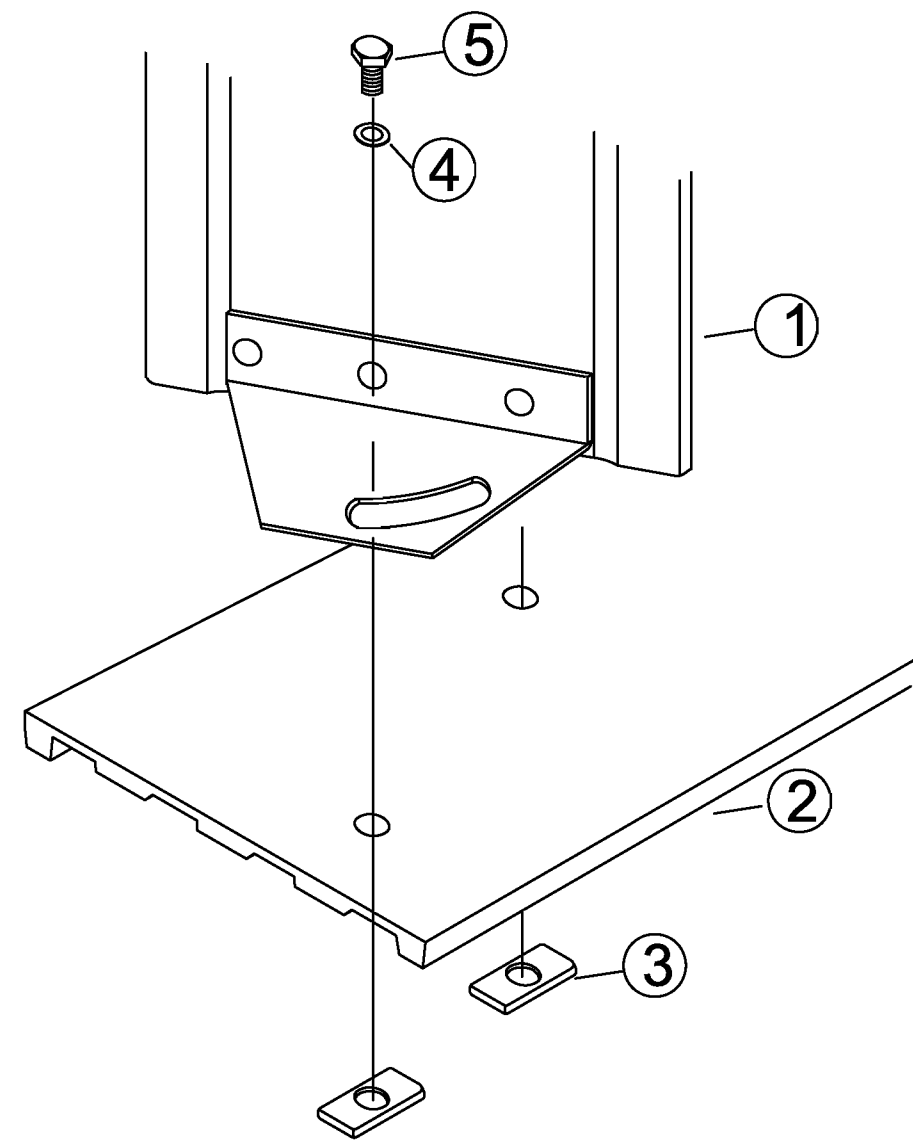
CARSONITE MODULAR GUIDANCE SYSTEM

ASSEMBLY & INSTALLATION INSTRUCTIONS

READ INSTRUCTIONS COMPLETELY BEFORE BEGINNING WORK

CAUTION: ALWAYS WEAR SAFETY GLASSES DURING ASSEMBLE AND INSTALLATION

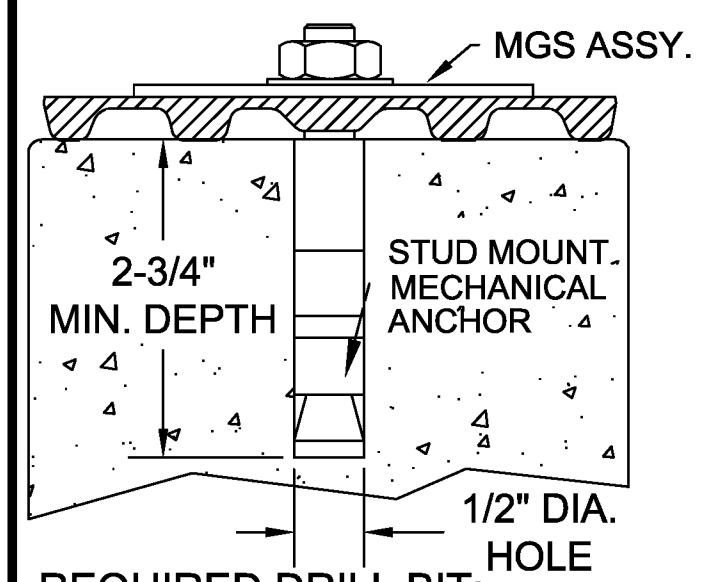
MGS ASSEMBLY



LAY OUT MGS COMPONENTS AND CHECK OFF AGAINST SHIPPING LIST. DETERMINE SPECIFIC DIRECTION FOR GLARE BLADES - REFER TO JOB SPECIFICATIONS. ATTACH BLADE ① TO BASE RAIL ② WITH 3/8" RECTANGULAR NUT ③ USING 3/8" FLAT WASHER ④ AND 3/8" X 1/2" BOLT ⑤ TORQUE TO A MAXIMUM OF 16 ft. • lbs. REPEAT PROCEDURE UNTIL UNIT IS COMPLETE

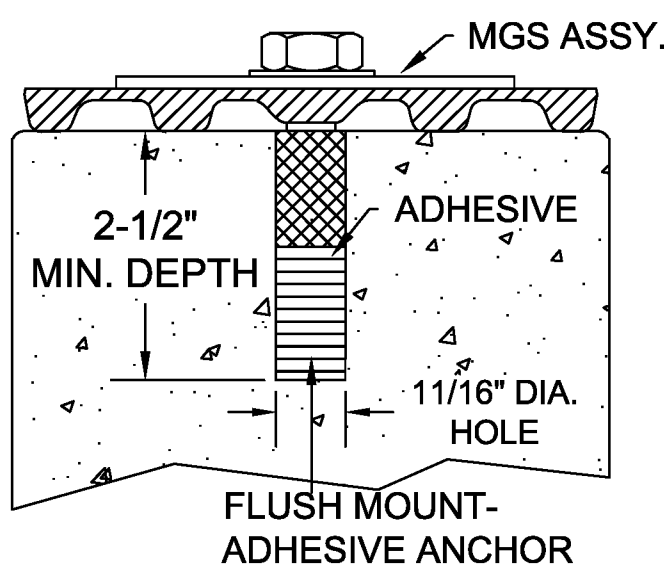
MGS ANCHORING METHODS

STUD MOUNT- MECHANICAL



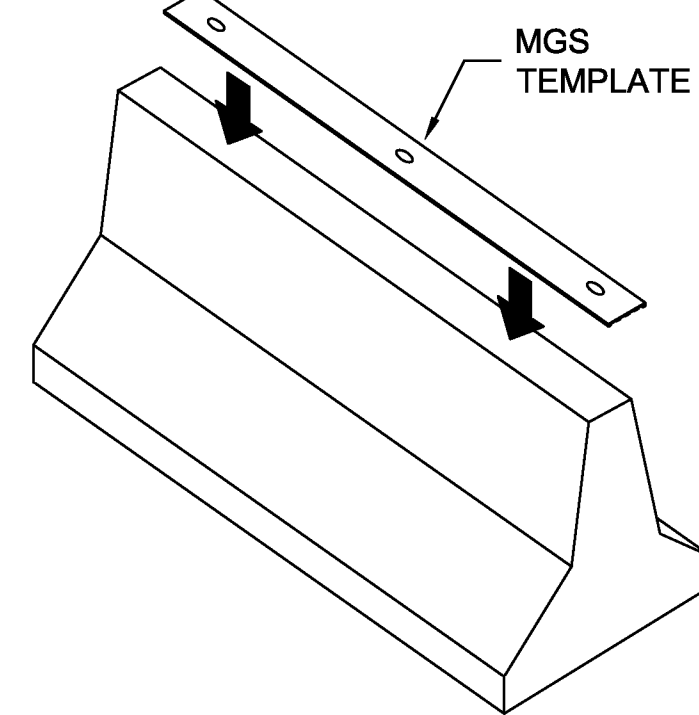
REQUIRED DRILL BIT: 1/2" CARBIDE, TIP-MASONRY
REQUIRED DRILL DEPTH: 2-3/4"

FLUSH MOUNT- ADHESIVE



REQUIRED DRILL BIT: 1 1/16" CARBIDE, TIP-MASONRY
REQUIRED DRILL DEPTH: 2-1/2"

A BARRIER WALL PREPARATION

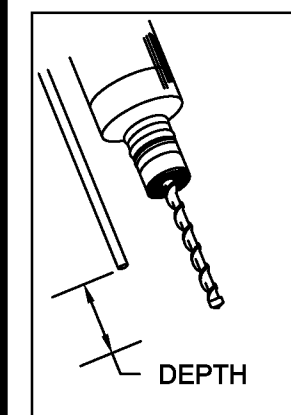


LOCATE ANCHOR HOLES BY CENTERING YELLOW MGS BASE RAIL TEMPLATE ON BARRIER WALL. MARK ANCHOR LOCATIONS THROUGH TEMPLATE HOLES WITH SPRAY PAINT OR PERMANENT INK MARKER. REPEAT PROCEDURE FOR EACH BARRIER WALL.

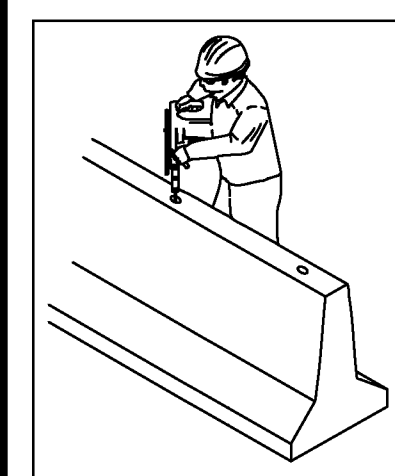
NOTE: FOLLOWING ARE HOLE REQUIREMENTS FOR SPECIFIC BARRIER WALL LENGTHS:

10 FOOT BARRIER REQUIRES 3 ANCHOR HOLES
12 FOOT BARRIER REQUIRES 3 ANCHOR HOLES
15 FOOT BARRIER REQUIRES 4 ANCHOR HOLES

BE SURE TO DRILL ALL REQUIRED HOLES.

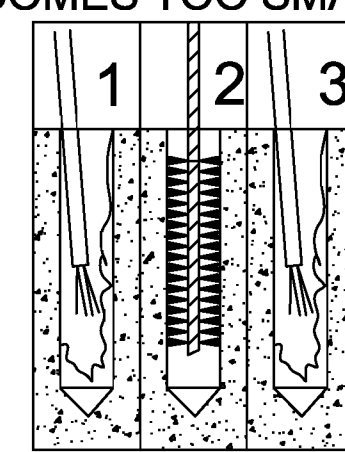


PLACE CARBIDE TIPPED MASONRY BIT IN DRILL. SET DRILL DEPTH GAUGE FOR PROPER HOLE DEPTH. REFER TO SPECIFIC ANCHOR METHOD (SECTION B) FOR DRILL SIZE AND DEPTH SPECIFICATIONS.

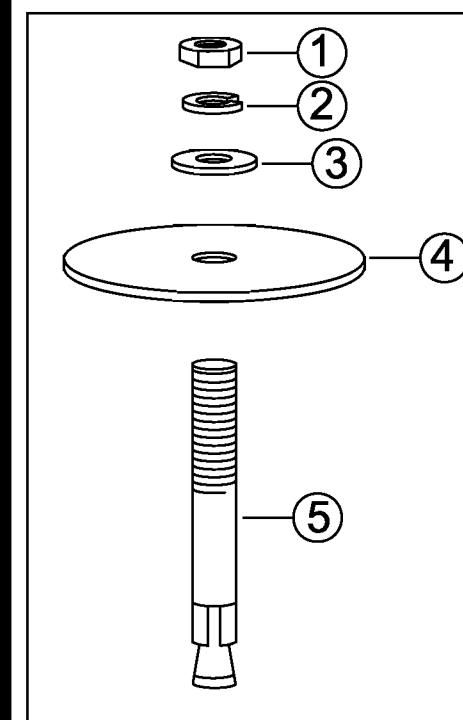


DRILL ANCHOR HOLES WITH ELECTRIC ROTARY HAMMER DRILL. DO NOT USE AIR DRILL. TAKE CARE NOT TO OVERSIZE ANCHOR HOLES. FREQUENTLY CHECK DRILL BIT FOR WEAR WITH HOLE GAUGE. CHANGE IF BIT BECOMES TOO SMALL.

CLEAN ANCHOR HOLES BY BLOWING COMPRESSED AIR INTO HOLE ①. BRUSH LOOSE PARTICLES FREE WITH NYLON BRUSH ②. REPEAT AIR BLOWING PROCEDURE ③.

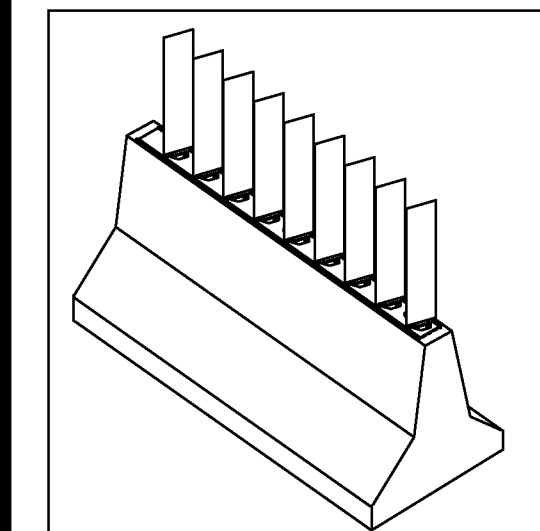
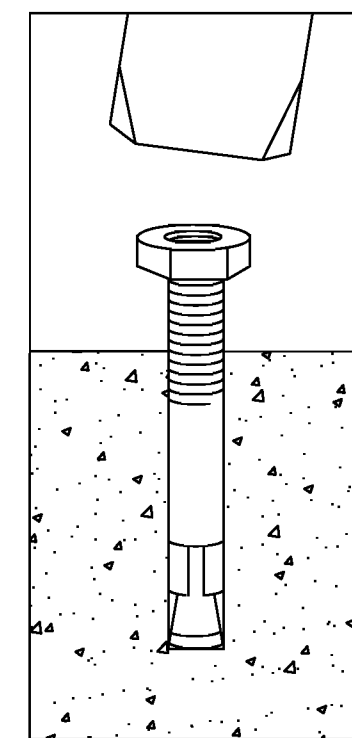


C MGS INSTALLATION PROCEDURE USING STUD MOUNT- MECHANICAL ANCHOR

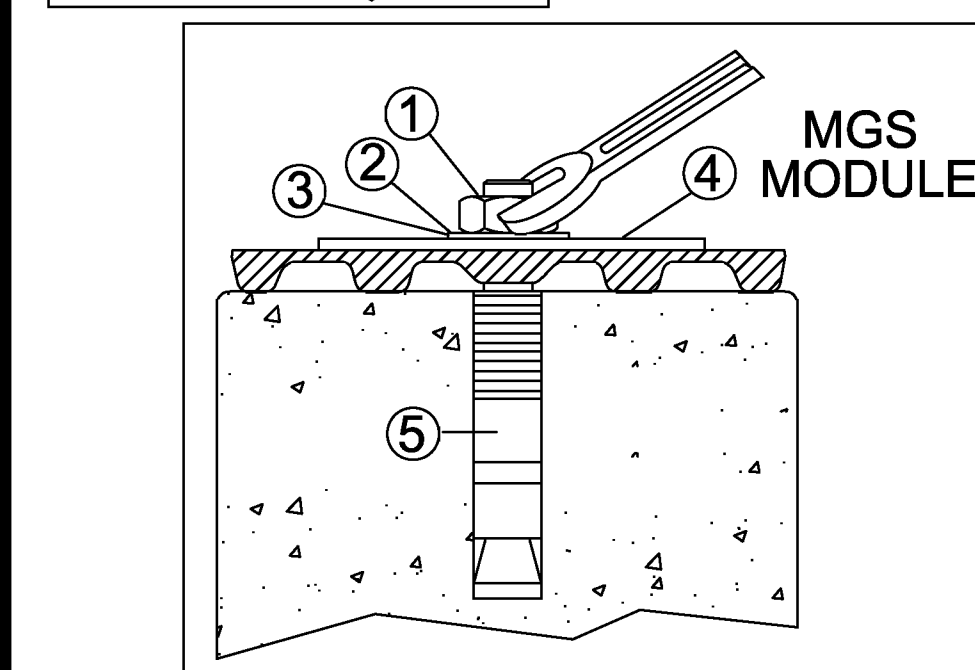


- ① 1/2" NUT
- ② 1/2" LOCKWASHER
- ③ 1/2" FLATWASHER
- ④ 3" FLATWASHER
- ⑤ 1/2" X 3-3/4" STUD ANCHOR

PLACE 1/2" NUT ② ON STUD ANCHOR ⑤ UNTIL FLUSH WITH ANCHOR END. PLACE IN HOLE AND TAP WITH Mallet OR HAMMER UNTIL SEATED. TAKE CARE NOT TO DAMAGE EXPOSED THREADS. REPEAT PROCEDURE FOR EACH HOLE IN BARRIER.



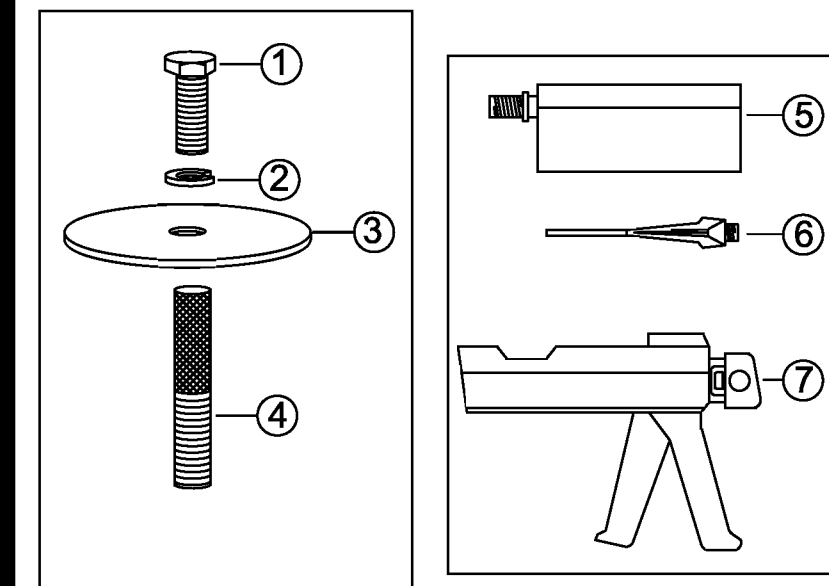
REMOVE NUT. ALIGN MGS MODULE SO THAT APPROXIMATELY 4" EXISTS BETWEEN THE END OF THE MGS MODULE AND THE BARRIER WALL EDGE ON BOTH ENDS.



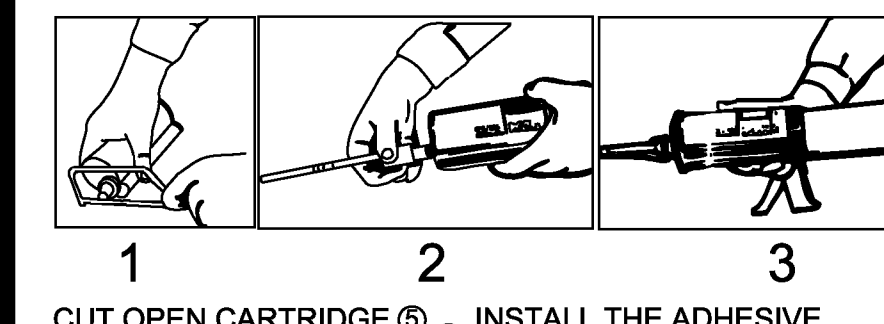
PLACE 3" WASHER ④ OVER ANCHOR STUD ⑤ FOLLOWED BY 1/2" FLAT WASHER ③, 1/2" LOCKWASHER ②, AND 1/2" NUT ①. TIGHTEN NUT TO 40-50 FT. • LBS. WITH TORQUE WRENCH.

NOTE: HIGHER TORQUE VALUES ARE REQUIRED WITH MECHANICAL ANCHORS DUE TO RELAXATION OF THE CONCRETE.

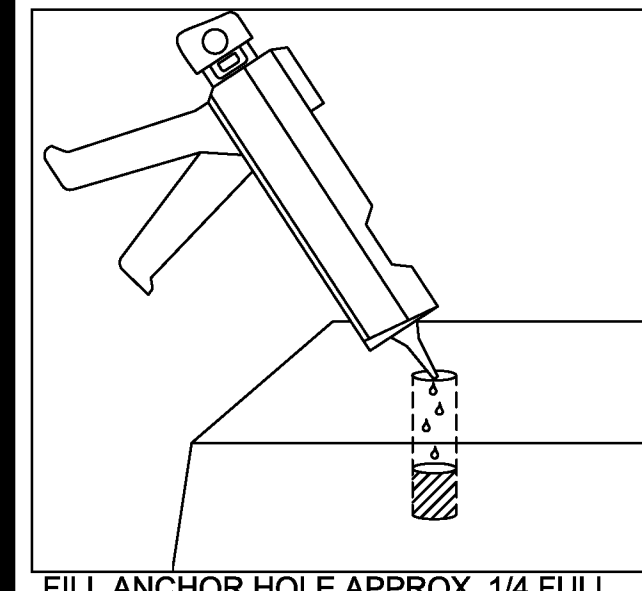
D MGS INSTALLATION PROCEDURE USING FLUSH MOUNT ADHESIVE ANCHOR



- ① 1/2" X 1-1/4" BOLT
- ② 1/2" LOCKWASHER
- ③ 3" FLATWASHER
- ④ 1/2" HCFA, 5/8" X 2-1/2"
- ⑤ ADHESIVE CARTRIDGE
- ⑥ MIXER-2 PER CARTRIDGE
- ⑦ MANUAL DISPENSER



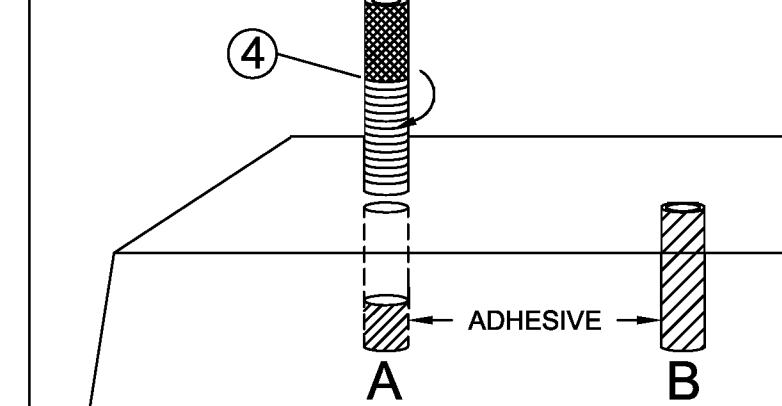
CUT OPEN CARTRIDGE ① WITH A SMALL SAW OR UTILITY KNIFE. SCREW ON MIXER ②. INSTALL THE ADHESIVE CARTRIDGE IN THE DISPENSER ③. SQUEEZE OUT A 2" LENGTH OF ADHESIVE TO START PROPER MIXING IN TUBE. BEGIN INSTALLATION IMMEDIATELY. IF ADHESIVE IS ALLOWED TO SET IN CARTRIDGE MIXING TUBE IT WILL HARDEN. TO CONTINUE DISPENSING UNSCREW TIP AND REPLACE. TWO TIPS ARE PROVIDED WITH EACH CARTRIDGE.



FILL ANCHOR HOLE APPROX. 1/4 FULL OF ADHESIVE.

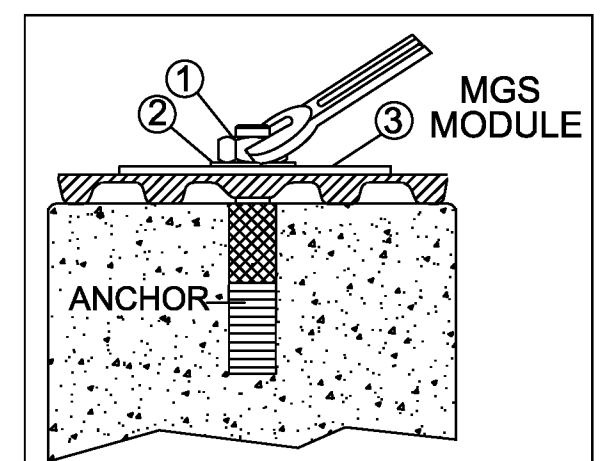
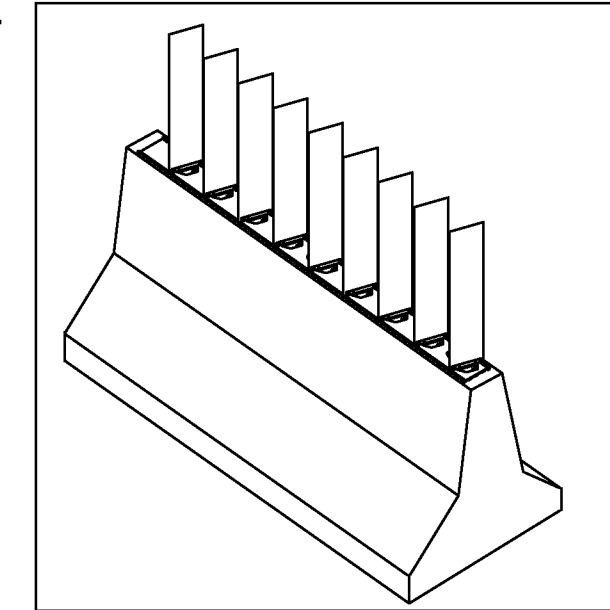
CHART E (ADHESIVE CURE DATA)

TEMPERATURE	ADHESIVE WORKING TIME	CURE TIME/MGS INSTALL TIME
23°F	45 MIN.	6 HR.
32°F	25 MIN.	3 HR.
41°F	12 MIN.	1.5 HR.
68°F	4 MIN.	45 MIN.
86°F	3 MIN.	25 MIN.
104°F	2 MIN.	15 MIN.

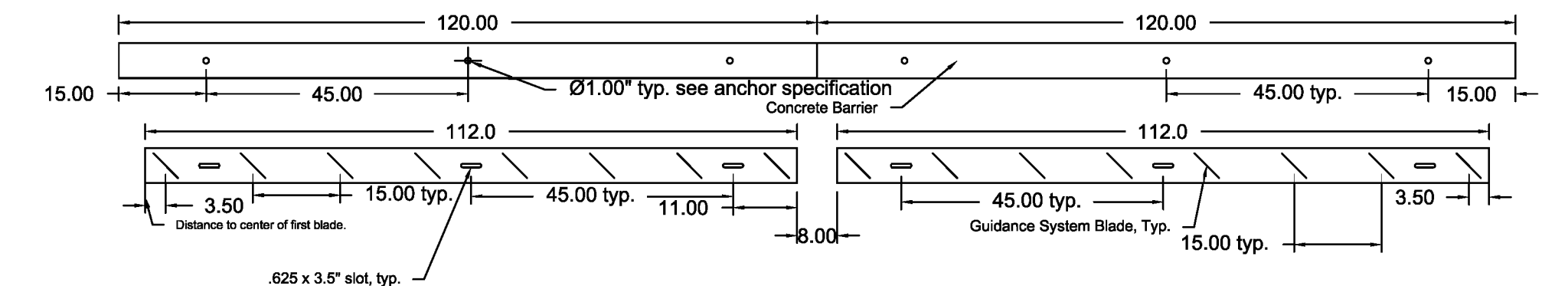


INSERT ANCHOR INTO HOLE WITH TWISTING MOTION TO ACHIEVE A UNIFORM ADHESIVE LAYER AROUND ANCHOR. EMBEDMENT OF ANCHOR SHOULD BE FLUSH WITH BARRIER TOP (SEE B). WITH PROPER INSTALLATION, ADHESIVE SHOULD FORM A BEAD AROUND ANCHOR AT SURFACE. REDUCE AMOUNT OF ADHESIVE IF EXCESS OVERFLOW OCCURS. NOTE: ADHESIVE CARTRIDGE SHOULD INSTALL APPROX. 50 ANCHORS. DO NOT DISTURB ANCHOR UNTIL ADHESIVE HAS ACHIEVED CURE STRENGTH. CONSULT DATA ON CARTRIDGE OR CHART E TO DETERMINE PROPER SETTING TIME FOR BARRIER TEMPERATURE.

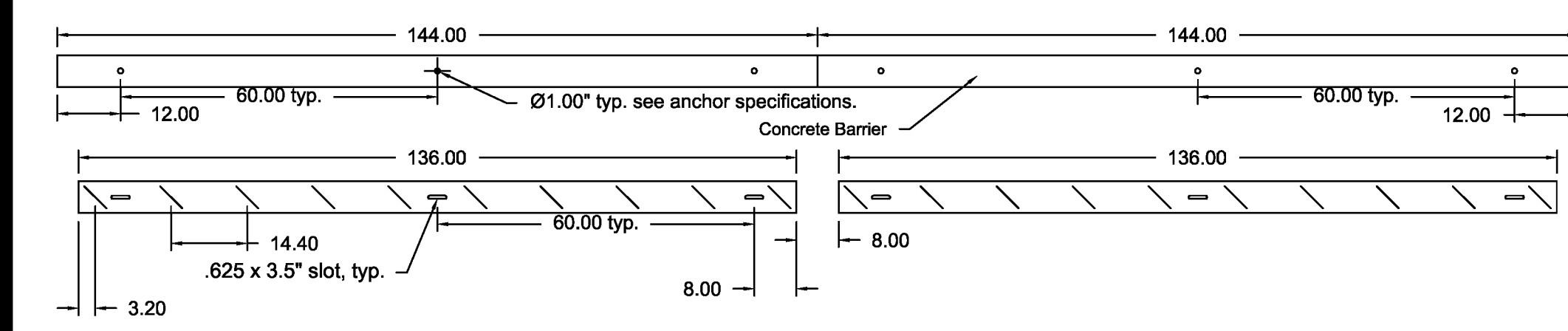
AFTER ADHESIVE HAS REACHED CURE TIME (SEE CHART E): ALIGN MGS MODULE OVER FLUSH MOUNT ANCHORS ④ SO THAT APPROXIMATELY 4" EXISTS BETWEEN THE END OF THE MODULE AND BARRIER WALL EDGE ON BOTH ENDS.



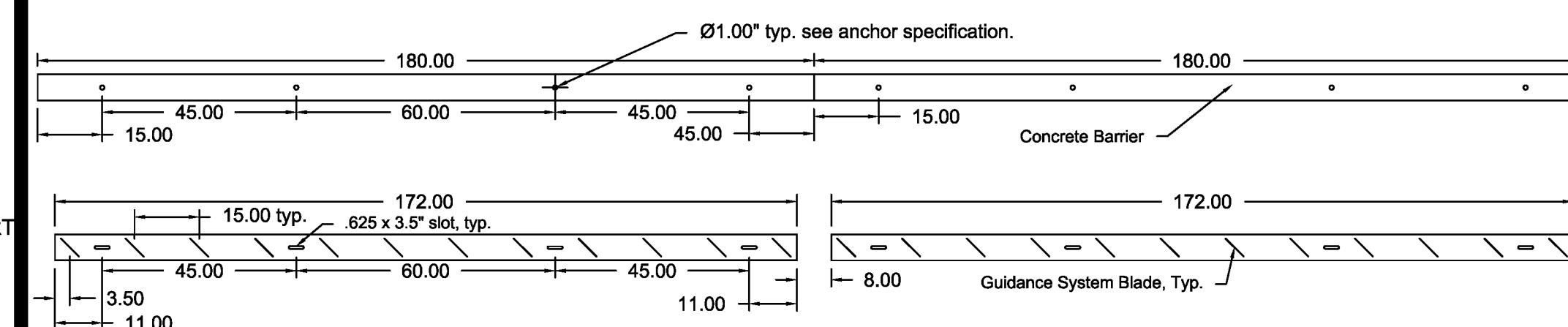
PLACE 3" WASHERS ③ OVER MOUNTING HOLES. INSERT 1/2" X 1-1/4" BOLT ① WITH 1/2" LOCK WASHER ② TIGHTEN DOWN-TORQUE TO 20-25 FT. • LBS. NOTE: DO NOT OVER TORQUE.



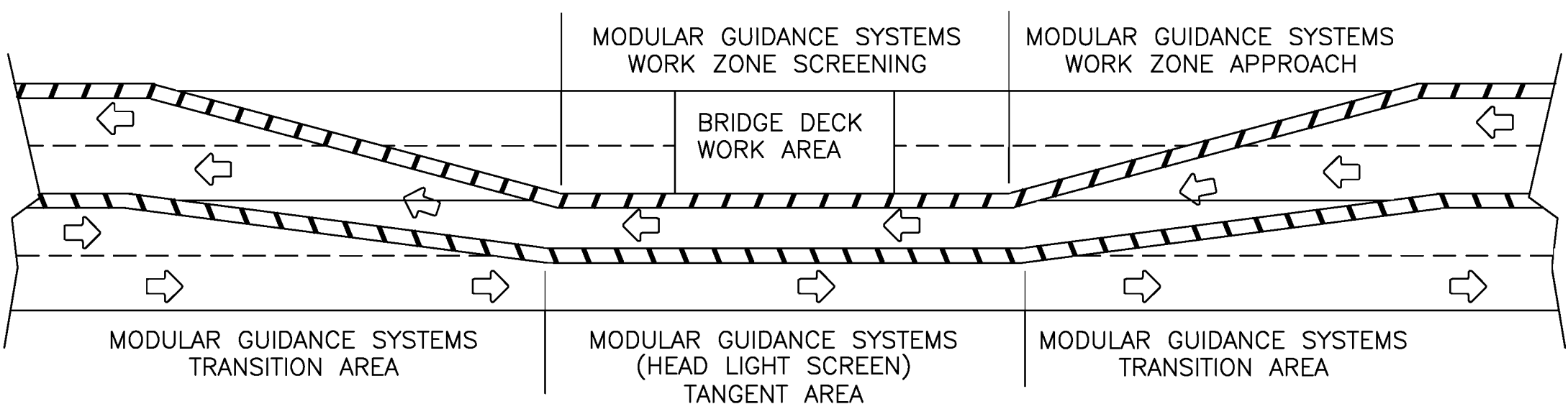
HOLE AND BLADE LAYOUT FOR 20' BARRIER SECTION



HOLE AND BLADE LAYOUT FOR 24' BARRIER SECTION

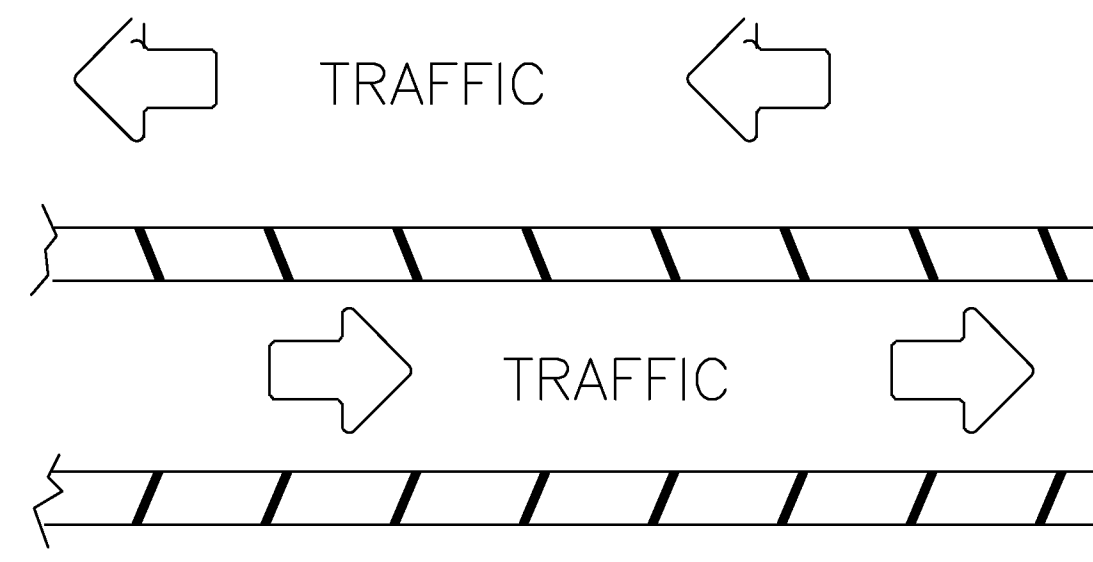


HOLE AND BLADE LAYOUT FOR 30' BARRIER SECTION



TYPICAL CROSSOVER DETAIL

⇨ -TRAFFIC ⇨ -MGS



WORK AREA SCREENED (OPTIONAL)
TYPICAL BLADE DIRECTION DETAIL

CARSONITE INTERNATIONAL MGS ASSEMBLY AND INSTALLATION

IMPORTANT NOTICE: MODIFYING AND COMPONENT OR DESIGN OF THIS SYSTEM, SUCH AS SUBSTITUTION OF THE FLEXIBLE BASE RAIL WITH STEEL, INSTALLATION OF SYSTEM WITH UNSPECIFIED ANCHORING SYSTEMS, AND/OR MODIFYING THE BLADE ANGLE WILL REDUCE PRODUCT PERFORMANCE AND MAY CREATE LIABILITY EXPOSURE. IT SHALL BE THE OWNER'S RESPONSIBILITY TO INSURE THAT THE CONCRETE UPON WHICH THE GLARE BLADES ARE TO BE MOUNTED PROVIDES A MINIMUM OF 3,000 P.S.I. COMPRESSIVE STRENGTH AND THAT LARGE HARD AGGREGATE IS NOT PRESENT IN SUCH QUANTITIES AS TO MAKE IT DIFFICULT OR IMPOSSIBLE TO DRILL SATISFACTORY HOLES FOR THE SETTING OF THE MECHANICAL ANCHOR STUDS AND/OR ADHESIVE ANCHORS.

DATE	DRAWN BY	ECN NUMBER	REV	DESCRIPTION	DRAWING NUMBER
3/27/01	ERNEST JOYNER	032701	A	RELEASE	NGSI001100-A