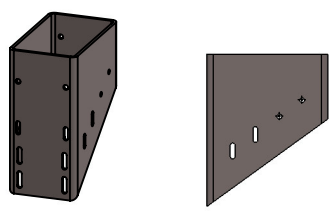


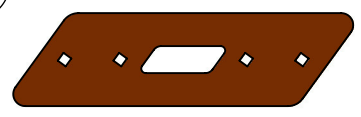
PARTS

1



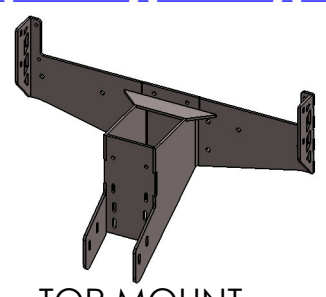
BLOCK

2



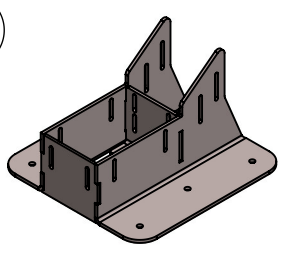
SIDE PLATE

3



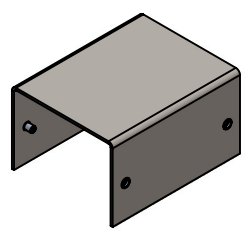
TOP MOUNT

4



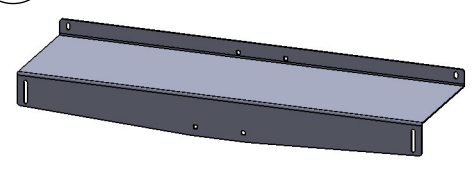
BOTTOM MOUNT

5



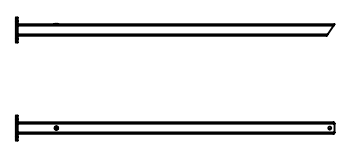
FIRST TREAD SUPPORT

6



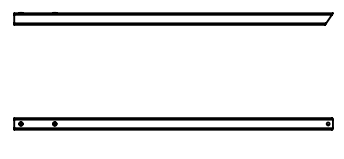
TREAD

7



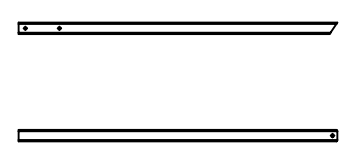
LOWER PANEL BALUSTER

8



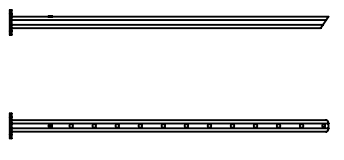
INTERMEDIATE PANEL BALUSTER

9



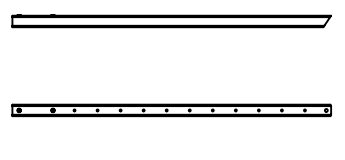
UPPER PANEL BALUSTER

10



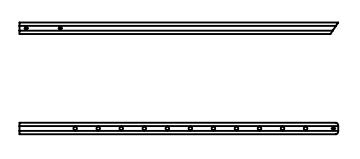
LOWER CABLE BALUSTER

11



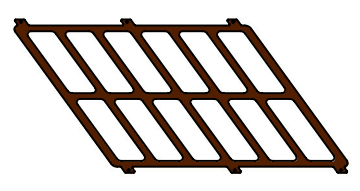
INTERMEDIATE CABLE BALUSTER

12



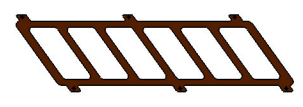
UPPER CABLE BALUSTER

13



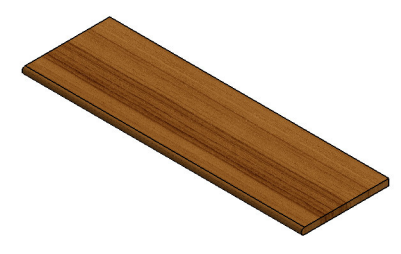
FULL PANEL

14



HALF PANEL

15



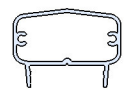
WOOD TREAD COVER

16



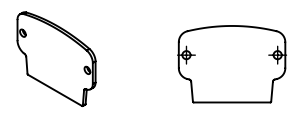
WOOD HANDRAIL

17



ALUMINUM HANDRAIL

18



ALUMINUM HANDRAIL END CAP

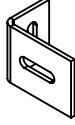
PARTS

19



TREAD TIE BAR

20



GROUND CONNECTOR

HARDWARE

A



3/8" x 2.5" LAG BOLT

B



3/8" WASHER

C



1/4"-10 x 2.5" LAG SCREW

D



3/8"-16 X 1-1/4" STRUCTURAL BOLT

E



3/8"-16 STRUCTURAL NUT

F



3/8" STRUCTURAL WASHER

G



3/8"-16 X 1-1/4" CARRIAGE BOLT

H



3/8"-16 FLANGE NUT

I



5/16"-18 X 1" CAP SCREW

J



5/16"-18 X 1/2" CARRIAGE BOLT

K



RETAINING CLIP

L



5/16"-18 X 1" CARRIAGE BOLT

M



5/16"-18 FLANGED LOCK NUT

N



#14-10 X 2-1/2" WOOD SCREW

O



5/16"-18 X 2-1/4" CAP SCREW

P



5/16"-18 ACORN NUT

Q



#12-11 X 1" PAN HEAD SELF DRILLING SCREW

R



#12-11 X 2" FLAT HEAD WOOD SCREW

S



#12-14 X 1-1/2" FLAT HEAD SELF DRILLING SCREW

T



FINISH WASHER

U



#10-12 X 3/4" WOOD SCREW

V



#7 DRIVE SCREW

W



5/16" FLAT WASHER

X



#12-11 X 1" SELF DRILLING SCREW

Y



#12-11 X 1" WOOD SCREW

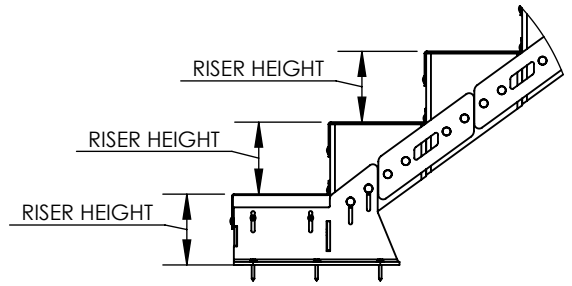
DIMENSIONS

1. RISER HEIGHT THE RISER HEIGHT IS THE VERTICAL DISTANCE FROM ONE TREAD TO THE NEXT. THE RISER HEIGHT CAN BE FOUND IN THE STAIR'S DOCUMENTATION OR CALCULATED IN THE FIELD.

TO CALCULATE THE RISER HEIGHT, FIRST DETERMINE THE NUMBER OF RISES. THIS CAN BE FOUND BY COUNTING THE NUMBER OF TREADS AND ADDING ONE. NEXT, MEASURE THE FINISHED FLOOR TO FLOOR HEIGHT. APPLY THESE VALUES TO THE TWO EQUATIONS BELOW TO FIND RISER HEIGHT.

+ 1 =
(NUMBER OF TREADS) + 1 = (RISES)
=
(FLOOR TO FLOOR HEIGHT) (RISES) = (RISER HEIGHT)

NOTE: RISER HEIGHT MUST BE BETWEEN 6-7/8" AND 7-3/4" FOR RESIDENTIAL BLOCK STAIRS.



2. REFERENCE LINE POSITION THE REFERENCE LINE WILL BE USED IN LATER STEPS TO PROPERLY POSITION THE TOP MOUNT. FIRST, DETERMINE TREAD MATERIAL AND CONFIGURATION, THEN USE THE INFORMATION TO FIND THE APPROPRIATE MODIFIER FROM THE TABLE. IF TREAD MATERIAL IS NOT KNOWN, MEASURE THE THICKNESS OF THE TREAD.

NOTE: THE THICKNESS OF 12 GAUGE MATERIAL IS SLIGHTLY LESS THAN 1/8" (0.1046").

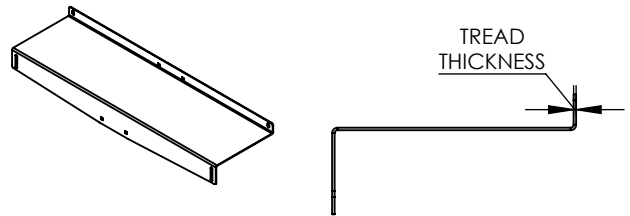
TAKE THE RISER HEIGHT FOUND IN SECTION 1 AND SUBTRACT THE CORRECT MODIFIER.

-	=
(RISER HEIGHT) - (MODIFIER) = (REFERENCE LINE POSITION)	

NOTE: REFERENCE LINE POSITION SHOULD BE BETWEEN 5-7/16" AND 7-1/4" FOR ALL RESEDENTIAL BLOCK STAIRS.

REFERENCE LINE POSITION MODIFIER

12 GAUGE TREAD	(1-7/16")
12 GAUGE TREAD WITH WOOD COVERS	(11/16")
1/4" TREAD	(1-1/4")
1/4" TREAD WITH WOOD COVERS	(1/2")
DIAMOND PLATE TREAD	(1-3/8")



3. FIRST TREAD SUPPORT HEIGHT THE FIRST TREAD SUPPORT HEIGHT WILL BE USED IN LATER STEPS TO POSITION THE FIRST TREAD ON THE BASE OF THE STAIR. FIRST, DETERMINE TREAD MATERIAL AND CONFIGURATION, THEN USE THE INFORMATION TO FIND THE APPROPRIATE MODIFIER FROM THE TABLE. IF TREAD MATERIAL IS NOT KNOWN, MEASURE THE THICKNESS OF THE TREAD.

NOTE: THE THICKNESS OF 12 GAUGE MATERIAL IS SLIGHTLY LESS THAN 1/8" (0.1046").

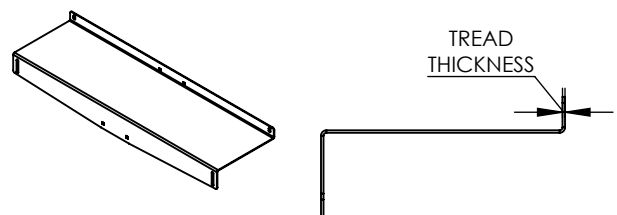
TAKE THE RISER HEIGHT FOUND IN SECTION 1 AND SUBTRACT THE CORRECT MODIFIER.

-	=
(RISER HEIGHT) - (MODIFIER) = (FIRST TREAD SUPPORT HEIGHT)	

NOTE: FIRST TREAD SUPPORT HEIGHT SHOULD BE BETWEEN 5-7/8" AND 7-5/8" FOR ALL RESEDENTIAL BLOCK STAIRS.

FIRST TREAD SUPPORT HEIGHT MODIFIER

12 GAUGE TREAD	(1/8")
12 GAUGE TREAD WITH WOOD COVERS	(7/8")
1/4" TREAD	(1/4")
1/4" TREAD WITH WOOD COVERS	(1")
DIAMOND PLATE TREAD	(1/8")



TOP MOUNT INSTALLATION

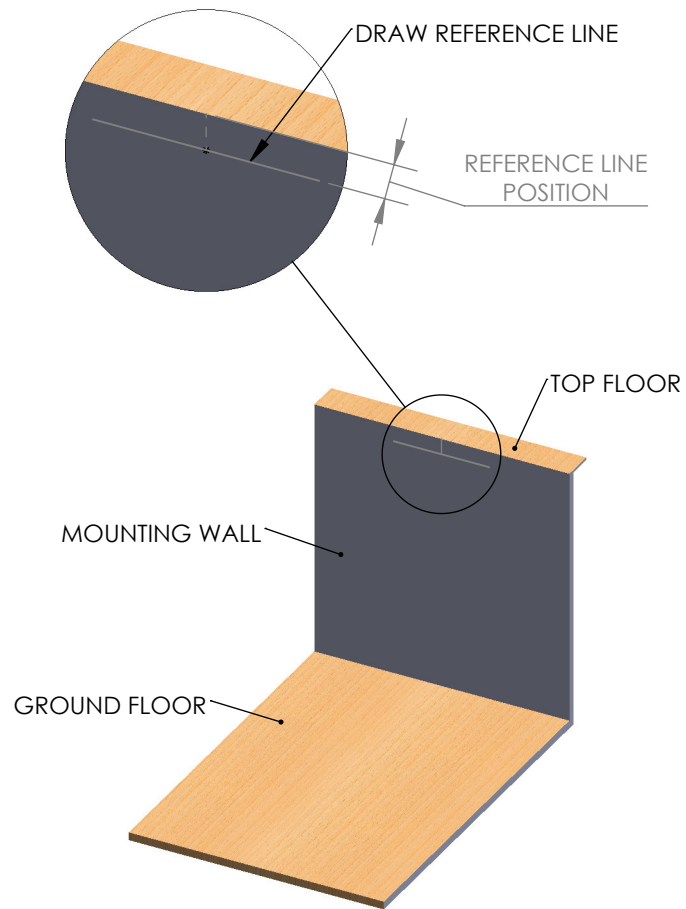
1. FIRST, DETERMINE RISER HEIGHT AND REFERENCE LINE POSITION BY REFERRING TO THE SECTIONS 1 AND 2 OF THE DIMENSION PAGE.

2. MEASURE DOWN FROM THE FINISHED TOP FLOOR SURFACE.

3. USING A TAPE MEASURE, A LEVEL, AND A PENCIL, DRAW A LEVEL LINE AT THE REFERENCE LINE POSITION BELOW THE TOP FLOOR SURFACE.

WARNING: TOP MOUNT MUST BE MOUNTED DIRECTLY TO A STRUCTURAL MEMBER NO SMALLER THAN 2"x10"

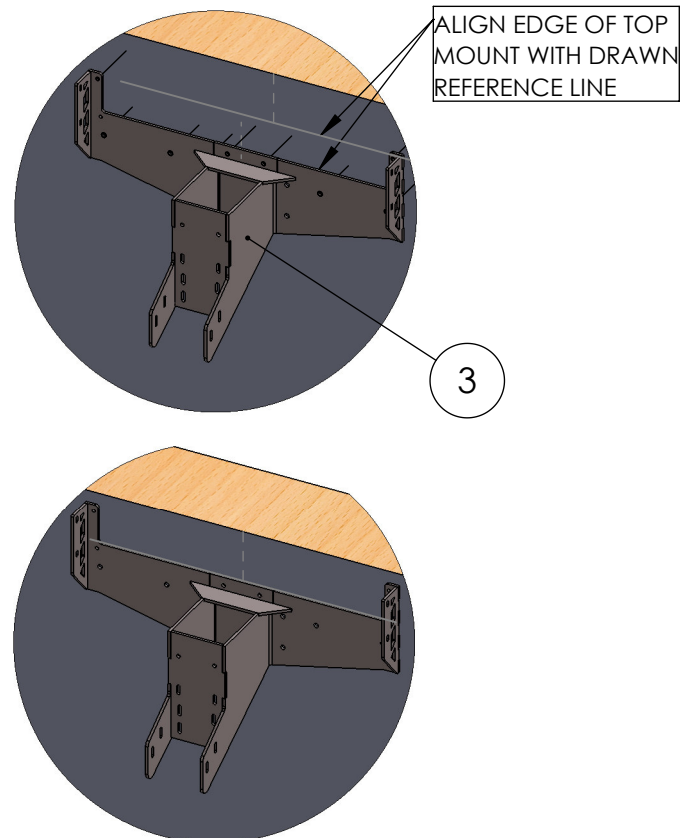
SPACERS (SOLD SEPARATELY) MUST BE USED IF DRYWALL, PLASTER, OR A SIMILAR MATERIAL IS TO BE LEFT BETWEEN THE STRUCTURAL MEMBER AND THE TOP MOUNT.



4. POSITION THE TOP MOUNT (3) WITH THE INDICATED EDGE ALIGNED WITH THE REFERENCE LINE DRAWN ON THE MOUNTING WALL. HAVE A HELPER HOLD THE TOP MOUNT IN PLACE.

PARTS ADDED

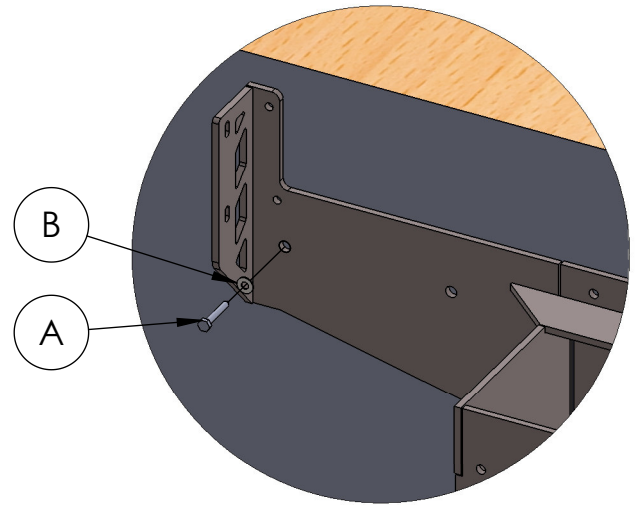
3



TOP MOUNT INSTALLATION

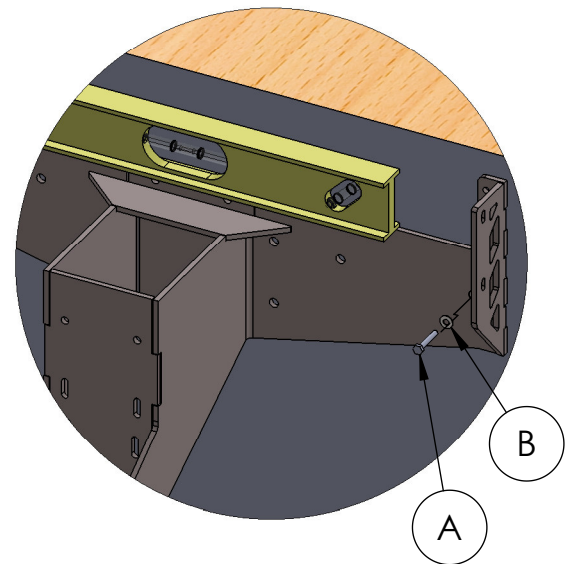
5. SECURE ONE CORNER OF THE TOP MOUNT WITH A 3/8" X 2-1/2" LAG (A) AND 3/8" WASHER (B).

HARDWARE

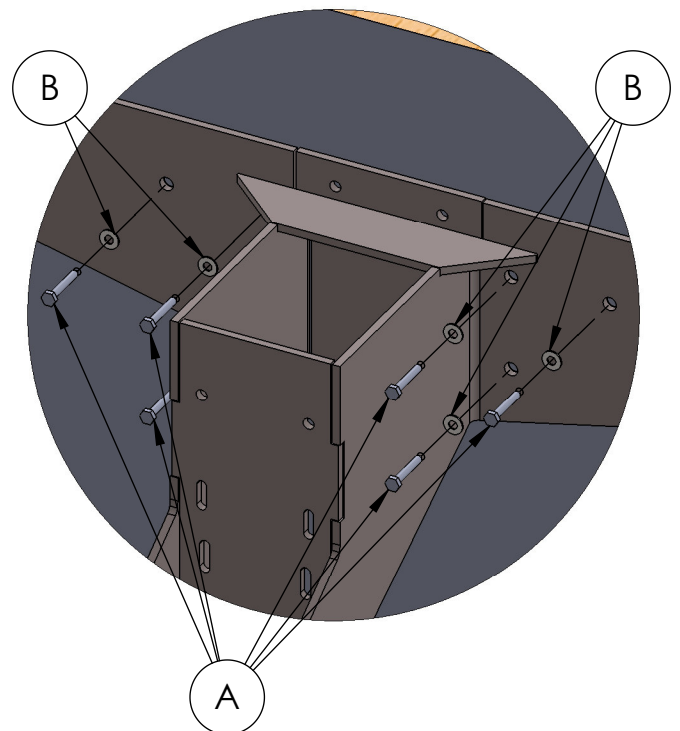


6. PLACE A LEVEL ACROSS THE TOP EDGE OF THE MOUNT AND MAKE ANY NECESSARY ADJUSTMENTS.

7. SECURE THE OPPOSITE CORNER OF THE TOP MOUNT WITH A 3/8" X 2-1/2" LAG (A) AND 3/8" WASHER (B).



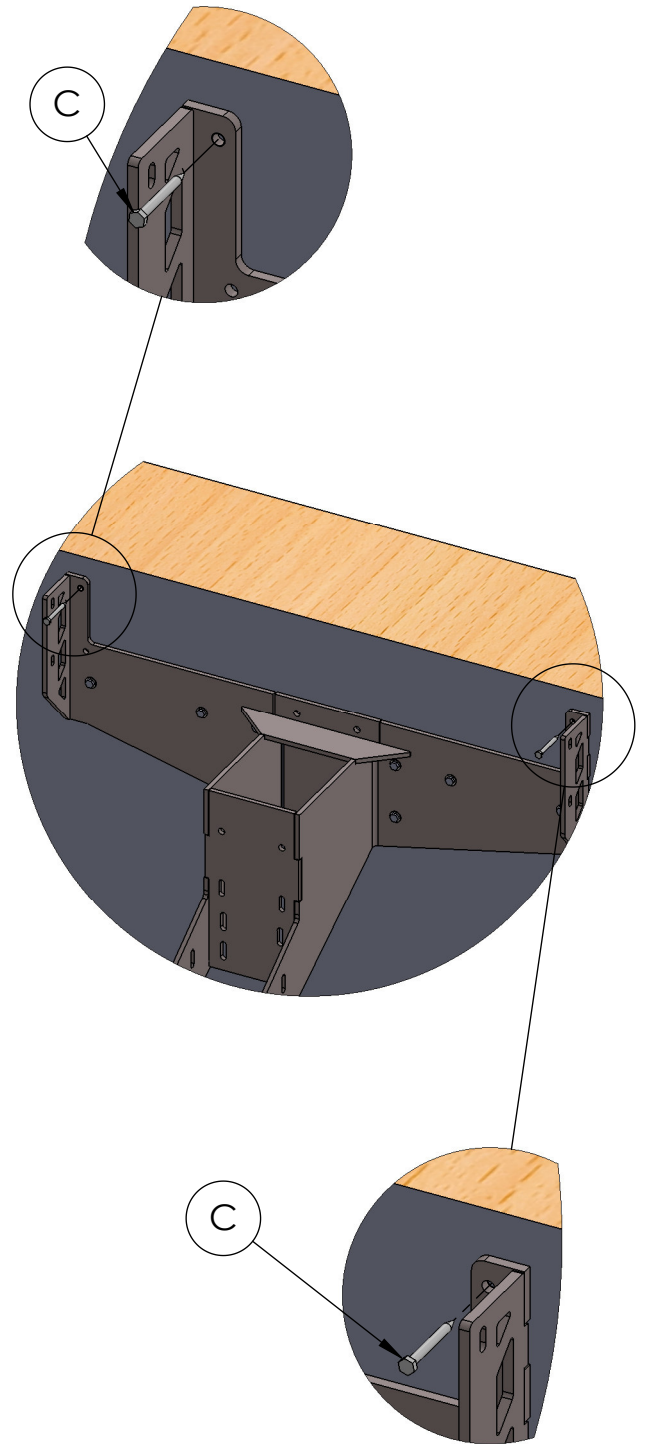
8. INSTALL THE 6 REMAINING 3/8" X 2-1/2" LAG BOLTS AND 3/8" WASHERS INTO THE TOP MOUNT HOLES INDICATED.



TOP MOUNT INSTALLATION

9. SECURE THE FLANGES ON THE TOP MOUNT WITH TWO #14-10x2.5" LAG SCREWS (C).

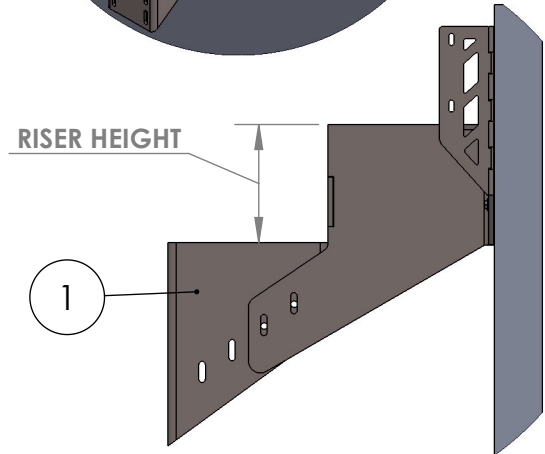
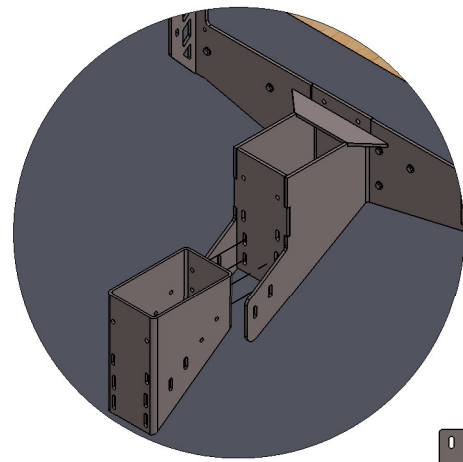
HARDWARE



**FIRST BLOCK:
POSITIONING AND INSTALLING**

1. SLIDE A BLOCK (1) INTO POSITION BETWEEN THE TWO FLANGES IN THE TOP MOUNT.
2. RAISE OR LOWER THE BLOCK UNTIL IT MEASURES ONE RISER HEIGHT BELOW THE TOP MOUNT. REFER TO SECTION 1 OF THE DIMENSIONS PAGE TO FIND OR CALCULATE RISER HEIGHT.

PARTS ADDED



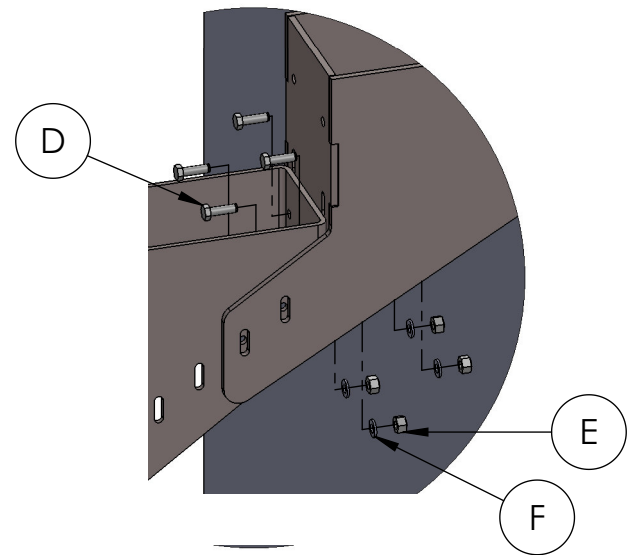
3. FASTEN THE BLOCK TO THE TOP MOUNT WITH 3/8"-16 X 1-1/4" STRUCTURAL BOLTS (D), 3/8"-16 STRUCTURAL HEX NUTS (E), AND 3/8" STRUCTURAL WASHERS (F). TIGHTEN EACH HEX NUT TO BETWEEN 50 AND 60 FT-LB TORQUE.

NOTE: THE 3/8" STRUCTURAL WASHERS HAVE A SMALLER OUTER DIAMETER AND ARE THICKER THAN THE 3/8" WASHERS.

THE BOLTS MUST BE INSERTED THROUGH THE ROUND HOLES IN THE BLOCK BEING INSTALLED. THIS WILL ENSURE THAT THE NUT AND WASHER ARE ON THE SLOTTED SIDE OF THE CONNECTION.

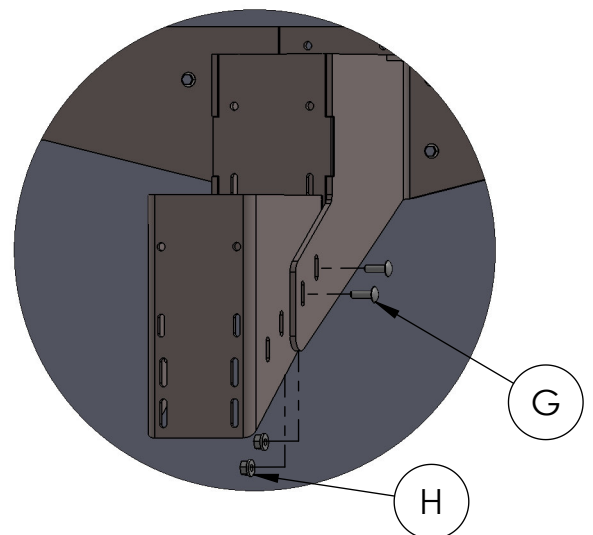
WARNING: THE STRUCTURAL GRADE NUTS, BOLTS AND WASHERS ARE NOT INTERCHANGEABLE OR REPLACEABLE WITH HARDWARE OF A DIFFERENT GRADE.

HARDWARE



4. FASTEN THE TOP MOUNT FLANGES TO THE SIDES OF THE BLOCK WITH 3/8"-16 X 1-1/4" CARRIAGE BOLTS AND 3/8"-16 FLANGE NUTS. TIGHTEN FLANGE NUTS TO 25 FT-LB TORQUE.

HARDWARE



BLOCK INSTALLATION

1. SECURE THE LOOSE BLOCK (1) TO THE BLOCK ABOVE WITH 3/8"-16 X 1-1/4" STRUCTURAL BOLTS (D), 3/8"-16 STRUCTURAL HEX NUTS (E), AND 3/8" STRUCTURAL WASHERS (F). LEAVE THE NUTS AND BOLTS FINGER TIGHT TO ALLOW THE BLOCK TO BE POSITIONED AND LEVELED IN THE NEXT STEP.

WARNING: THE STRUCTURAL GRADE NUTS, BOLTS AND WASHERS ARE NOT INTERCHANGEABLE OR REPLACEABLE WITH HARDWARE OF A DIFFERENT GRADE.

2. SLIDE THE LOOSE BLOCK UP OR DOWN UNTIL IT IS ONE RISER HEIGHT BELOW THE BLOCK BEING MOUNTED TO. REFER TO SECTION 1 OF THE DIMENSIONS PAGE TO FIND OR CALCULATE RISER HEIGHT.

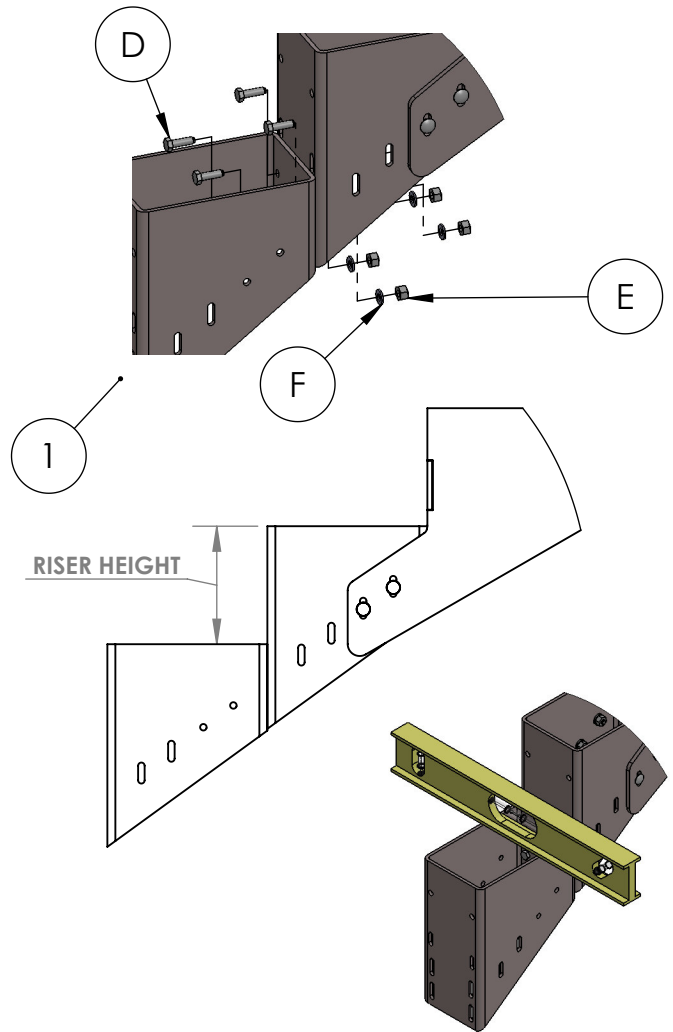
3. ENSURE THAT THE TOP OF THE LOOSE BLOCK IS LEVEL. MAKE MINOR ADJUSTMENTS AS NEEDED WHILE BEING SURE TO MAINTAIN THE HEIGHT SET IN STEP 2.

4. AFTER THE BLOCK HAS BEEN POSITIONED PROPERLY AND LEVELED, TIGHTEN THE FOUR LOOSE STRUCTURAL NUTS TO BETWEEN 50 AND 60 FT-LB TORQUE.

HARDWARE



PARTS ADDED



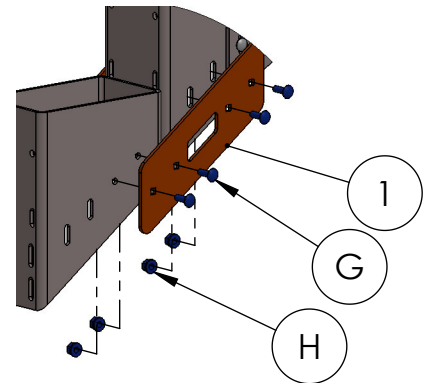
5. FASTEN A SIDE PLATE (2) TO THE BLOCKS USING 3/8"-16 X 1-1/4" CARRIAGE BOLTS (G) AND 3/8"-16 FLANGE NUTS (H). TIGHTEN THE FLANGE NUTS TO 25 FT-LB TORQUE. REPEAT THIS STEP TO INSTALL A SIDE PLATE ON THE OPPOSITE SIDE OF THE STAIR.

6. REPEAT STEPS 1-5 TO INSTALL A THIRD BLOCK.

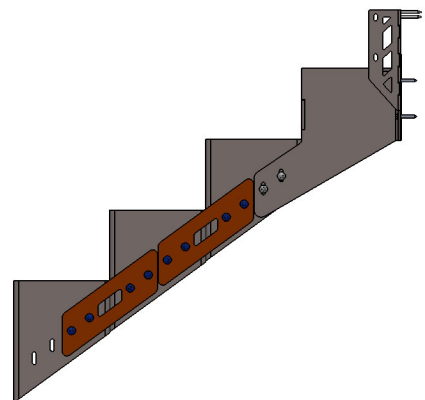
HARDWARE



PARTS ADDED



DO NOT INSTALL MORE THAN THREE BLOCKS WITHOUT BRACING THE STAIR. FAILURE TO BRACE THE STAIR DURING INSTALLATION COULD RESULT IN DAMAGE TO THE MOUNTING SURFACE OR COLLAPSE OF THE STRUCTURE.



BRACING THE STAIR DURING BLOCK INSTALLATION

1. PLACE A 2X4 UPRIGHT IN THE LOWEST BLOCK ON THE STAIR. THIS 2X4 WILL ACT AS A BRACE TO SUPPORT THE LOAD OF THE ADDITIONAL BLOCKS THAT MAY BE NEEDED DURING INSTALLATION.

2. LOOSELY FASTEN THE UPRIGHT 2X4 TO THE BLOCK USING A 3/8" X 2" LAG (A) AND 3/8" WASHER (B). DO NOT FULLY TIGHTEN THE LAG.

THE PROCESS OF ADDING BRACES TO THE STAIR CAN ALSO BE USED TO MAKE SMALL CORRECTIONS TO ADJUST FOR SAGGING.

3. PLACE A LEVEL ALONG THE TOP OF THE LOWEST BLOCK ON THE STAIR AS SHOWN.

4. PUSH UP OR PULL DOWN ON THE LOWEST BLOCK UNTIL THE LEVEL INDICATES THE BLOCK IS LEVEL.

5. WHILE THE BLOCK IS BEING HELD AT A LEVEL POSITION, FULLY TIGHTEN THE LAG SCREW FASTENING THE 2X4 TO THE LOWEST BLOCK.

NOTE: THE LAG BOLT FASTENING THE BRACE WILL OBSTRUCT THE SIDE PLATE. LEAVE THE SIDE PLATE OFF AT LOCATIONS WITH A BRACE.

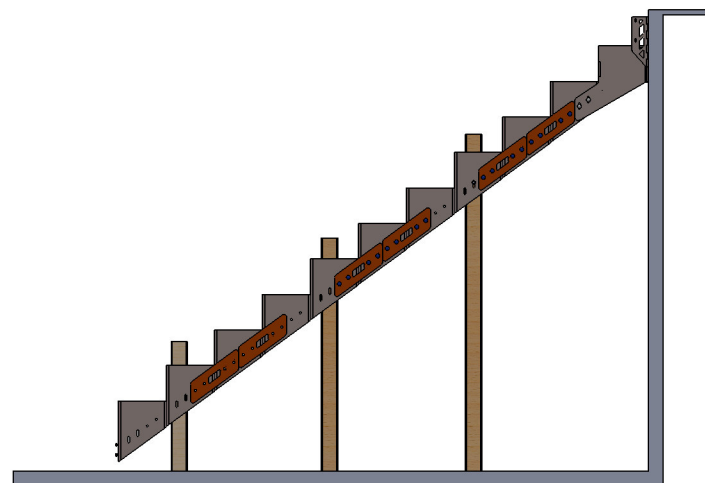
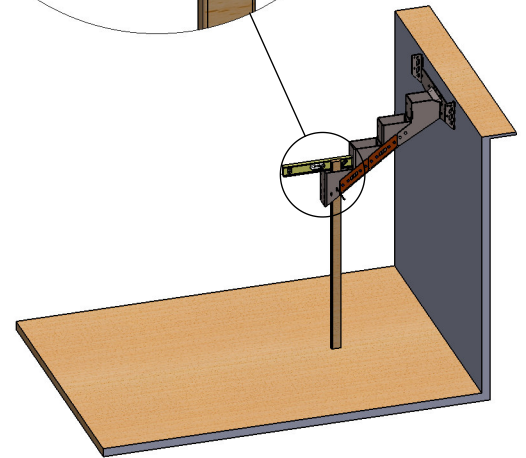
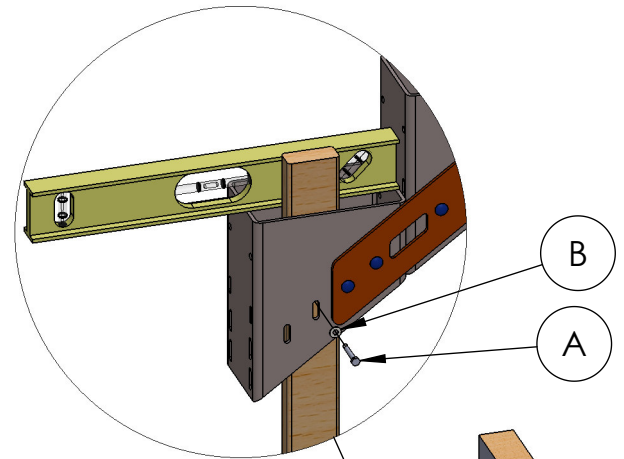
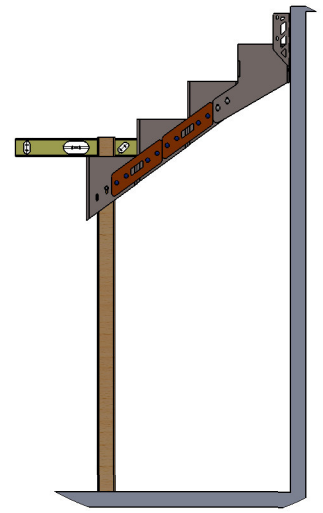
6. CONTINUE INSTALLING BLOCKS AND SIDE PLATES WITH BRACES IN EVERY THIRD BLOCK.

DO NOT UNINSTALL THE BRACES UNTIL AFTER THE BOTTOM MOUNT IS FULLY INSTALLED IN LATER STEPS.

HARDWARE



PARTS ADDED

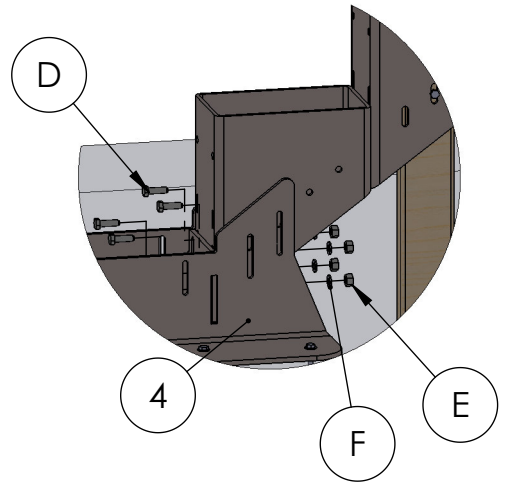


BOTTOM MOUNT: INSTALLATION

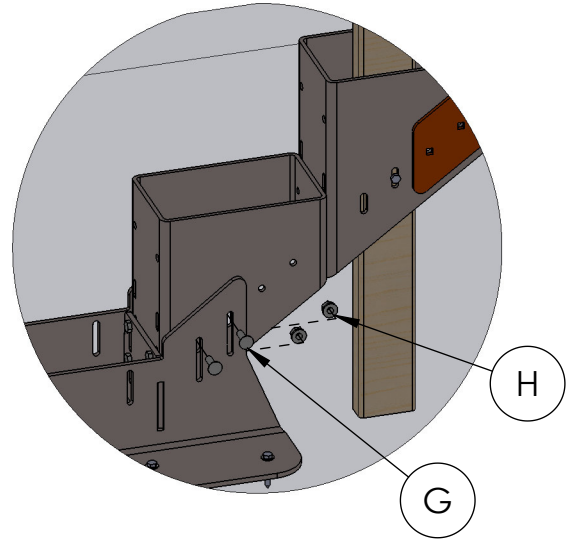
1. FASTEN THE BOTTOM MOUNT (4) TO THE BLOCK WITH 3/8"-16 X 1-1/4" STRUCTURAL BOLTS (D), 3/8"-16 STRUCTURAL HEX NUTS (E), AND 3/8" STRUCTURAL WASHERS (F). TORQUE THE STRUCTURAL NUTS TO BETWEEN 50 AND 60 FT-LB.

2. FASTEN THE FLANGES ON THE BOTTOM MOUNT TO THE SIDES OF THE BLOCK USING 3/8"-16 X 1-1/4" CARRIAGE BOLTS (G) AND 3/8-16 FLANGE NUTS (H). TIGHTEN THE FLANGE NUTS TO 25 FT-LB OF TORQUE.

HARDWARE



PARTS ADDED

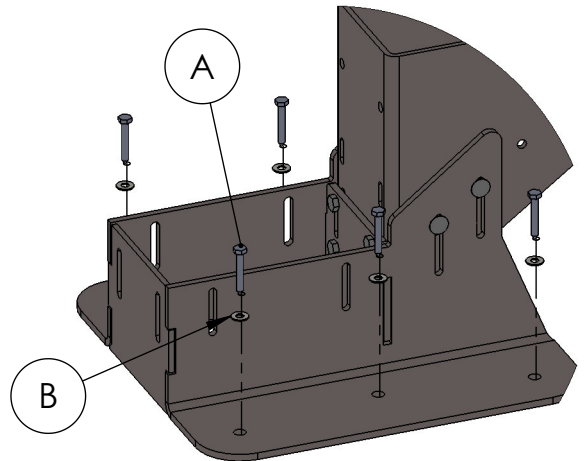


3. FASTEN THE BOTTOM MOUNT TO THE FLOOR WITH 3/8 X 2-1/2" LAG BOLTS (A) AND 3/8" WASHERS (B).

WITH THE BOTTOM MOUNT FULLY INSTALLED AND SECURED TO THE FLOOR, IT IS NOW SAFE TO REMOVE ANY BRACE(S) FROM THE STAIR.

4. IF THE STAIR IS MISSING ANY SIDE PLATES AT BRACED LOCATIONS, INSTALL THEM NOW. USE 3/8"-16 X 1-1/4" CARRIAGE BOLTS (G) AND 3/8-16 FLANGE NUTS (H). TIGHTEN THE FLANGE NUTS TO 25 FT-LB TORQUE.

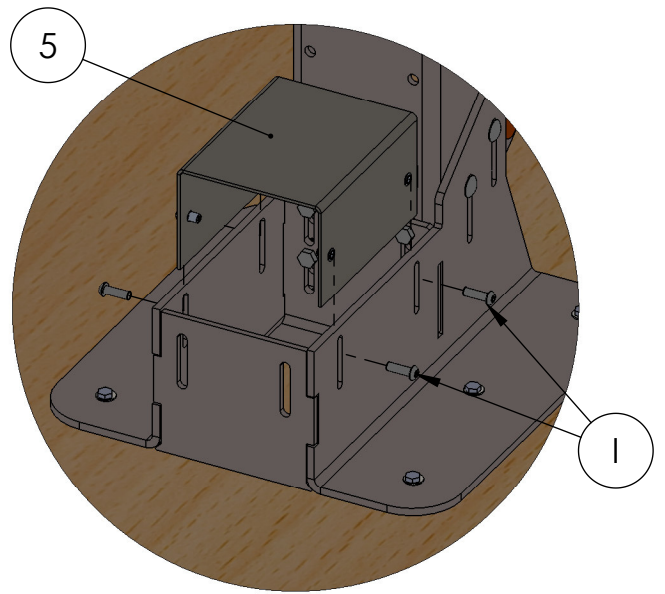
HARDWARE



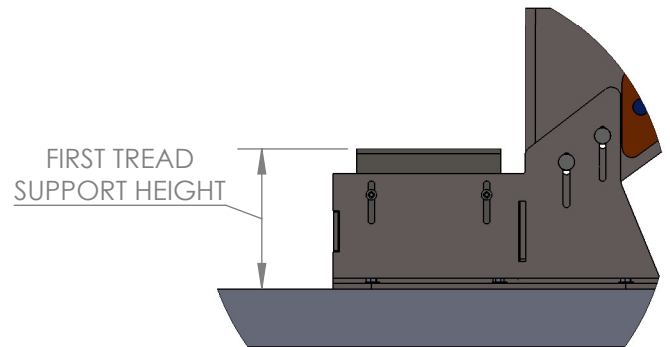
FIRST TREAD SUPPORT: POSITIONING AND INSTALLATION

1. FIRST, DETERMINE THE THE HEIGHT THAT THE TOP OF THE FIRST TREAD SUPPORT (5) MUST BE OFF THE FLOOR. THIS VALUE CAN BE FOUND BE REFERRING TO SECTION 3 OF THE DIMENSIONS PAGE.
2. SLIDE THE FIRST TREAD SUPPORT (5) INTO THE BOTTOM MOUNT AND POSITION AT FIRST TREAD SUPPORT HEIGHT.
3. ENSURE THAT THE FIRST TREAD SUPPORT IS LEVEL, THEN FASTEN WITH 5/16"-18 X 1" CAP SCREWS (1).

HARDWARE



PARTS ADDED



TREAD INSTALLATION

PRIOR TO INSTALLING THE FIRST TREAD ONTO THE STAIR, IT MUST HAVE CARRIAGE BOLTS FIXED INTO TWO OF THE FOUR MOUNTING HOLES.

IF THE STAIR HAS WOOD TREAD COVERS, IT CAN HELP TO DRILL THE METAL TREADS AND ATTACH THE WOOD COVERS PRIOR TO INSTALLING THE TREADS ONTO THE STAIR. REFER TO THE WOOD TREAD COVER INSTALLATION PAGE FOR MORE DETAILS.

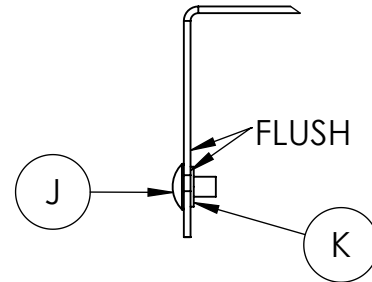
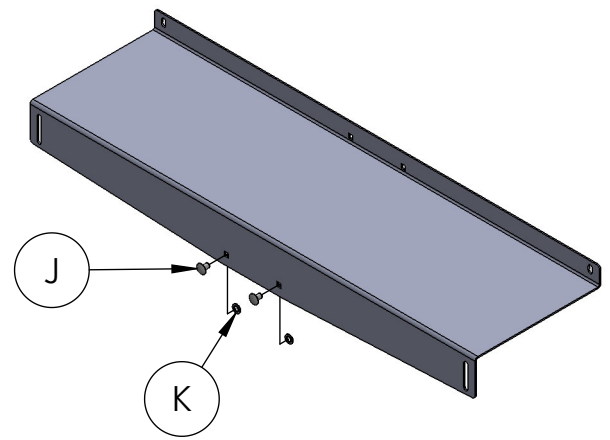
1. INSERT 5/16"-18 X 1/2" CARRIAGE BOLTS (J) INTO THE SQUARE HOLES IN THE LOWER FLANGE OF THE TREAD.

2. SECURE THE TWO CARRIAGE BOLTS BY PUSHING RETAINING CLIPS (K) ONTO THE THREADS OF THE BOLT. ENSURE THAT THE RETAINING CLIP IS PUSHED ALL THE WAY DOWN THE LENGTH OF THE CARRIAGE BOLT AND FLUSH WITH THE BACK OF THE TREAD.

HARDWARE



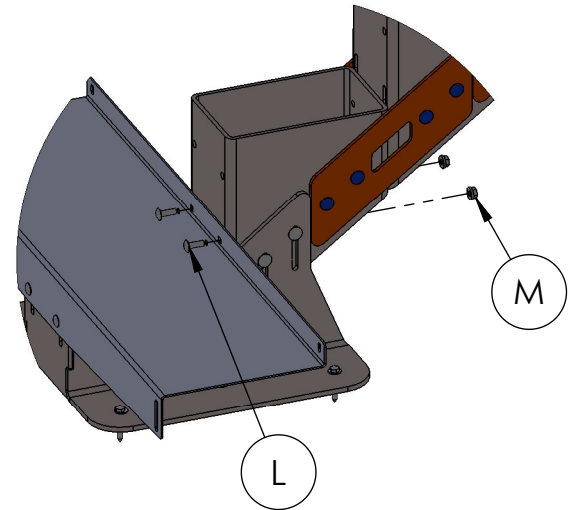
PARTS ADDED



3. SLIDE THE FIRST TREAD ONTO THE BOTTOM MOUNT. GUIDE THE CARRIAGE BOLTS INSTALLED IN STEPS 1 AND 2 INTO THE SLOTS IN THE BOTTOM MOUNT.

4. LEVEL THE TREAD AND SECURE IT WITH TWO 5/16"-18 X 1" CARRIAGE BOLTS (L) AND 5/16"-18 FLANGED LOCK NUTS (M).

HARDWARE



WARNING: DO NOT STAND ON THE TREADS. THEY ARE NOT YET FULLY FASTENED.

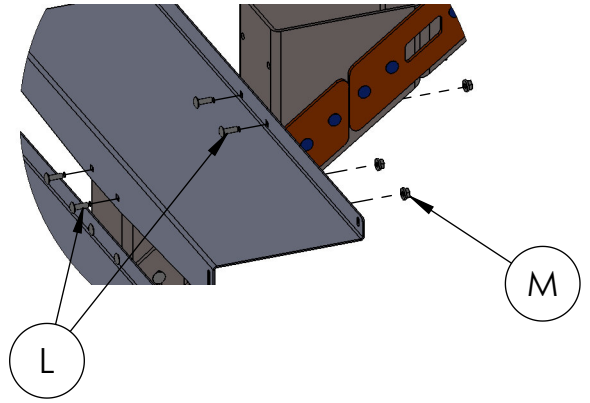
TREAD INSTALLATION

5. SLIDE ANOTHER TREAD ONTO THE BLOCK ABOVE.

6. LEVEL THE TREAD AND SECURE IT WITH FOUR 5/16"-18 X 1" CARRIAGE BOLTS (L) AND 5/16"-18 FLANGED LOCK NUTS (M).

REPEAT STEPS 5 AND 6 FOR ALL REMAINING TREADS EXCEPT FOR THE TOP TREAD. LEAVE THE LAST TREAD OFF, IT WILL BE INSTALLED IN THE NEXT STEPS.

HARDWARE



7. INSERT 5/16"-18 X 1/2" (J) CARRIAGE BOLTS INTO THE SQUARE HOLES IN THE UPPER FLANGE OF THE TREAD.

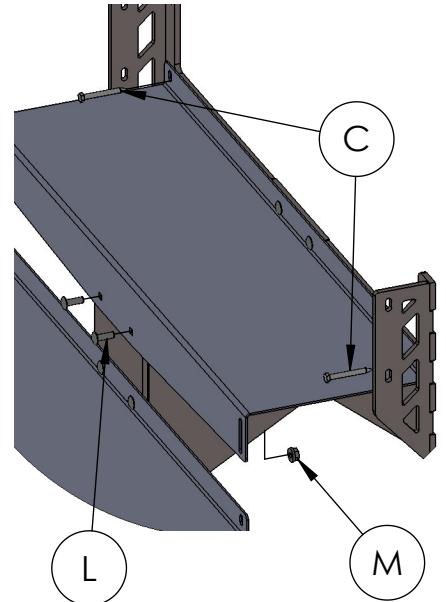
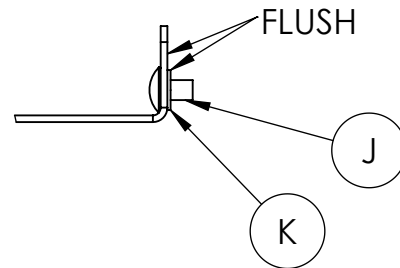
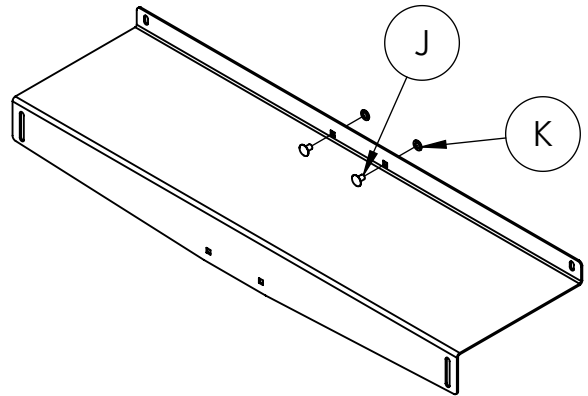
8. SECURE THE TWO CARRIAGE BOLTS BY PUSHING RETAINING CLIPS (K) ONTO THE THREADS. ENSURE THAT THE RETAINING CLIP IS PUSHED ALL THE WAY DOWN THE LENGTH OF THE CARRIAGE BOLT AND FLUSH WITH THE BACK OF THE TREAD.

9. SLIDE THE TREAD ONTO THE TOP MOUNT. GUIDE THE CARRIAGE BOLTS INSTALLED IN STEPS 7 AND 8 INTO THE HOLES IN THE TOP MOUNT.

10. LEVEL THE TREAD AND SECURE IT WITH TWO 5/16"-18 X 1" CARRIAGE BOLTS (L) AND 5/16"-18 FLANGED LOCK NUTS (M).

11. SECURE THE TREAD TO THE TOP MOUNT WITH #14-10 X 2-1/2" LAG SCREWS (C).

HARDWARE



WARNING: DO NOT STAND ON THE TREADS. THEY ARE NOT YET FULLY FASTENED.

PANEL HANDRAIL INSTALLATION

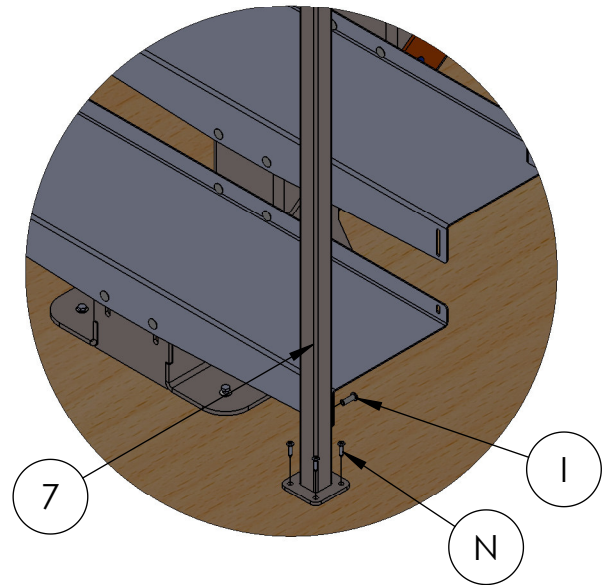
1. PLACE A LOWER PANEL BALUSTER (7) IN POSITION RESTING ON THE MOUNTING FLOOR AND AGAINST THE FIRST TREAD.
2. FASTEN THE BALUSTER TO THE TREAD USING A 5/16"-18 X 1" CAP SCREW (I).
3. USE A LEVEL TO PLUM THE BALUSTER. FASTEN THE BALUSTER TO THE FLOOR USING #14-10 X 2-1/2" WOOD SCREWS (N).

NOTE: MASONRY FASTENERS (NOT INCLUDED) WILL BE NEEDED IN PLACE OF THE WOOD SCREWS IF FASTENING THE BALUSTER TO CONCRETE.

HARDWARE



PARTS ADDED



FULL SIZE PANELS ARE DESIGNED TO COVER TWO STEPS. TO MOUNT THE PANELS, THE PANEL BALUSTERS MUST BE PLACED ON EVERY SECOND TREAD STARTING FROM THE BOTTOM. IF THIS SPACING PATTERN DOES NOT WORK, ONE HALF SIZE PANEL HAS BEEN INCLUDED THAT ONLY COVERS ONE TREAD.

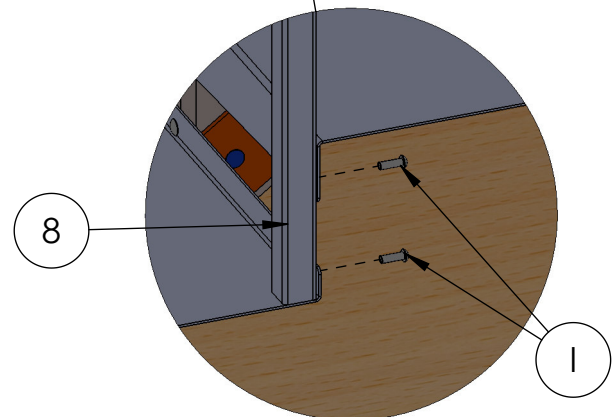
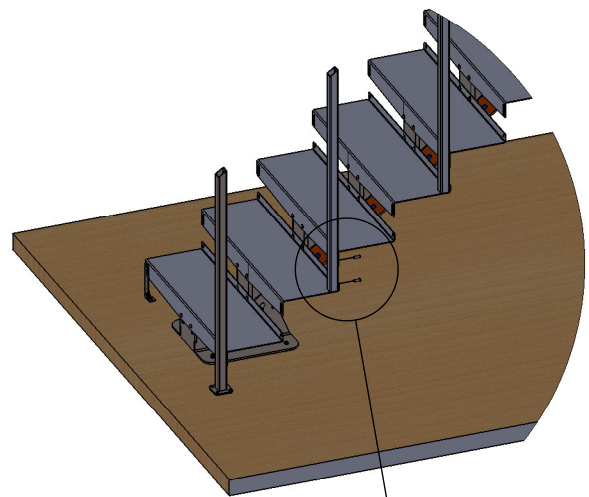
4. PLACE AN INTERMEDIATE PANEL BALUSTER (8) IN POSITION MAKING SURE TO FOLLOW THE PROPER SPACING PATTERN.
5. USE A LEVEL TO PLUM THE BALUSTER. FASTEN THE BALUSTER TO THE TREADS USING 5/16"-18 X 1" CAP SCREWS (I).

REPEAT STEPS 4 AND 5 FOR THE ENTIRE LENGTH OF THE STAIR PLACING BALUSTERS ON EVERY OTHER TREAD.

HARDWARE



PARTS ADDED



PANEL HANDRAIL INSTALLATION

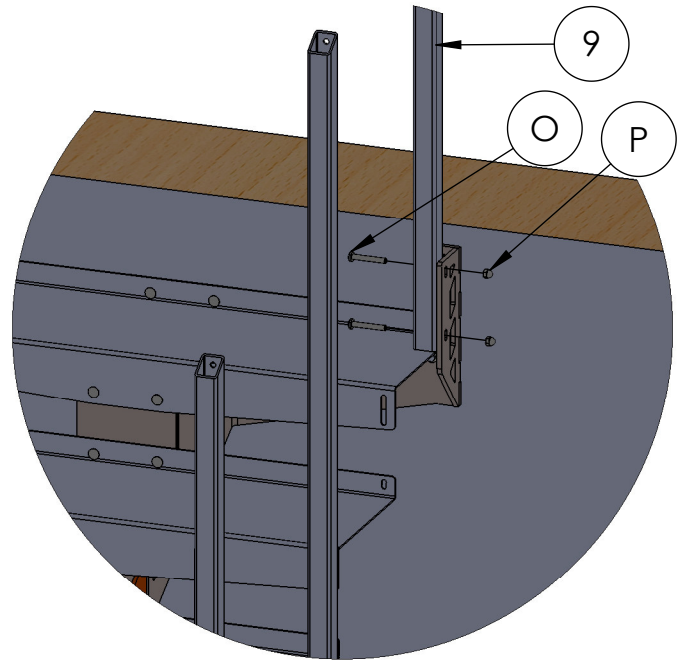
6. PLACE AN UPPER PANEL BALUSTER (9) IN POSITION ON THE TOP TREAD.

7. PLUM THE BALUSTER WITH A LEVEL, THEN SECURE IT TO THE TOP MOUNT USING 5/16"-18 X 2-1/4" CAP SCREWS (O) AND 5/16"-18 ACORN NUTS (P).

HARDWARE



PARTS ADDED



8. POSITION A PANEL (13) BETWEEN BALUSTERS. WITH A HELPER OR WITH CLAMPS, HOLD THE PANEL IN PLACE TO FASTEN.

FOR STAIRS WITHOUT WOOD TREAD COVERS, THE LOWER CORNER OF THE PANEL SHOULD BE 1-1/4" ABOVE THE TREAD BELOW IT. FOR STAIRS THAT WILL HAVE WOOD TREAD COVERS INSTALLED IN LATER STEPS, THE LOWER CORNER OF THE PANEL SHOULD BE 2" ABOVE THE TREAD BELOW IT.

9. SECURE THE PANEL TO THE BALUSTERS WITH SIX #12-11 X 1" PAN HEAD SELF DRILLING SCREWS (Q).

NOTE: THERE SHOULD BE A SLIGHT GAP OF APPROXIMATELY 1/16" TO 3/32" BETWEEN THE TABS ON THE PANELS. DEPENDING ON THE RISER HEIGHT OF THE STAIR, THE TABS ON ONE PANEL MAY NOT BE ALIGNED WITH THE TABS ON ADJACENT PANELS.

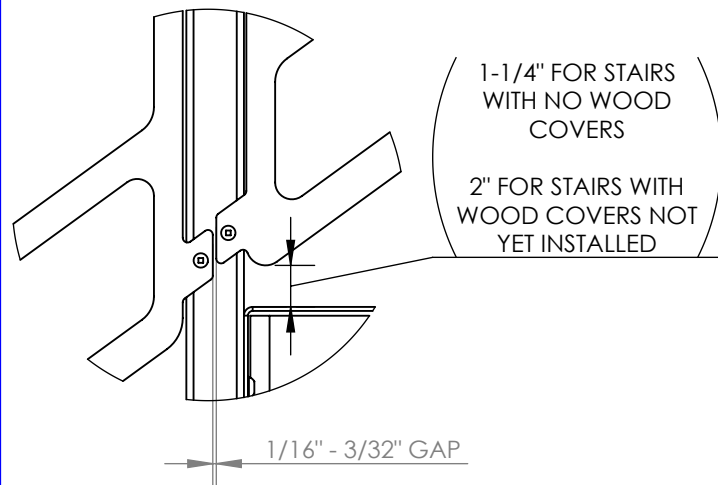
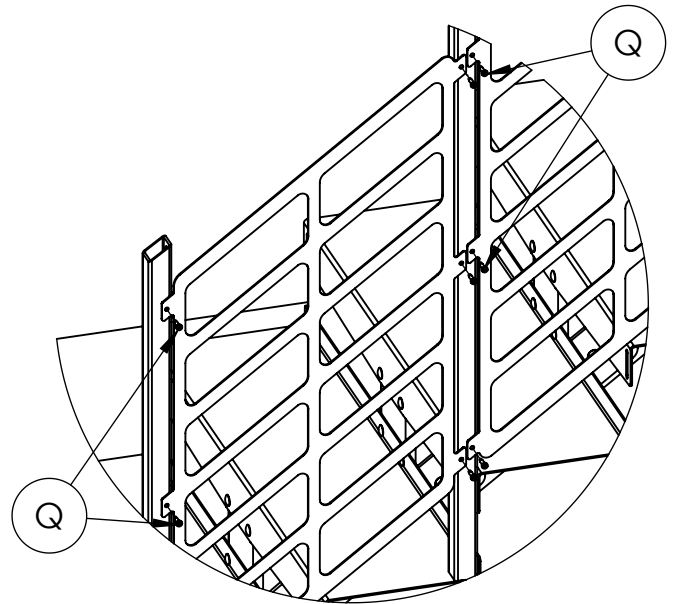
10. THE TOP PANEL WILL BE UNIQUE AND DEPEND ON THE NUMBER OF TREADS ON THE STAIR. THIS UNIQUE TOP PANEL WILL ONLY FIT IN THE TOP BALUSTER LOCATION. TO INSTALL THE TOP PANEL, REPEAT STEPS 8 AND 9.

TIP: SLIGHTLY LOOSENING THE CAP SCREWS HOLDING THE BALUSTERS TO THE TREADS CAN MAKE IT EASIER TO POSITION THE PANELS CORRECTLY. RETIGHTEN THE CAP SCREWS AFTER THE PANEL INSTALLATION.

HARDWARE



PARTS ADDED



TREAD TIE BAR INSTALLATION

NOTE: STAIRS WITH 1/4" THICK TREADS DO NOT REQUIRE TREAD TIE BARS. SKIP THE NEXT TWO STEPS IF TIE BARS ARE NOT REQUIRED.

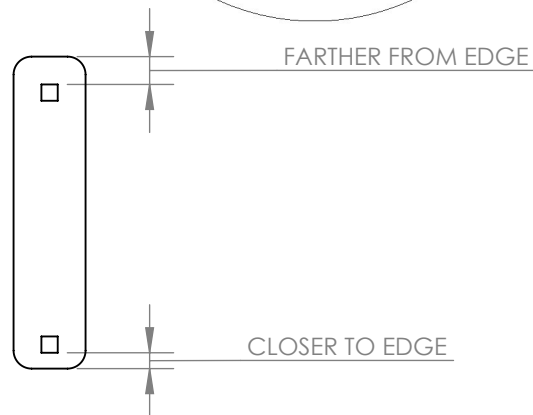
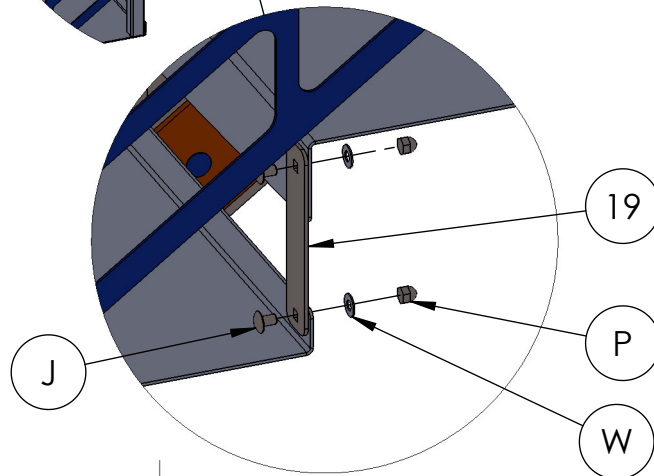
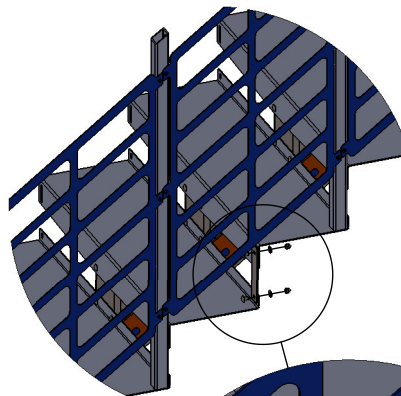
1. LOCATE ALL TREAD LOCATIONS THAT AREN'T ALREADY CONNECTED BY BALUSTERS.
2. INSTALL TREAD TIE BARS (19) AT THESE LOCATIONS WITH 5/16"-18 X 1/2" CARRIAGE BOLTS (J), 5/16"-18 ACORN NUTS (P), AND 5/16" FLAT WASHERS (W).

NOTE: THE SQUARE HOLES IN THE TREAD TIE BAR ARE CUT DIFFERENTLY; ONE HOLE IS CLOSER TO THE EDGE THAN THE OTHER. ENSURE THAT THE TIE BAR IS INSTALLED WITH THE HOLE CLOSER TO THE EDGE LOCATED AT THE BOTTOM.

HARDWARE

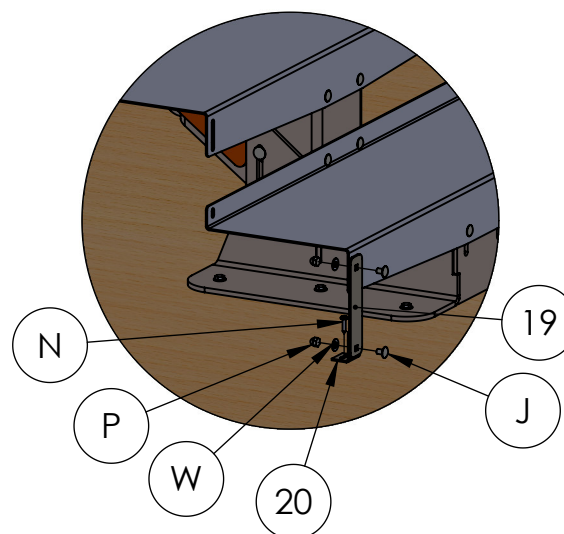


PARTS ADDED



NOTE: STEPS 3 AND 4 ONLY APPLY TO STAIRS WITH 12 GAUGE TREADS AND STAIRS WITH DIAMOND PLATE TREADS.

3. ON SIDES OF THE STAIR WITHOUT A HANDRAIL INSTALLED, TREAD TIES (19) AND A GROUND CONNECTOR (20) ARE NEEDED.
4. INSTALL TREAD TIE BAR (19) TO THE FIRST TREAD USING A 5/16"-18 X 1/2" CARRIAGE BOLT (J), 5/16"-18 ACORN NUT (P), AND 5/16" FLAT WASHER (W).
5. FASTEN THE GROUND CONNECTOR TO THE TREAD TIE BAR WITH A 5/16"-18 X 1/2" CARRIAGE BOLT (J), 5/16"-18 ACORN NUT (P), AND 5/16" FLAT WASHER (W).
6. SECURE THE GROUND CONNECTOR TO THE GROUND USING A #14-10 X 2-1/2" WOOD SCREW (N).
7. INSTALL TREAD TIE BARS BETWEEN EVERY TREAD ALONG THE SIDE(S) THAT DON'T HAVE HANDRAIL..



CABLE RAIL INSTALLATION

1. PLACE A LOWER CABLE BALUSTER (10) IN POSITION RESTING ON THE MOUNTING FLOOR AND AGAINST THE FIRST TREAD.

2. FASTEN THE BALUSTER TO THE TREAD USING A 5/16"-18 X 1" CAP SCREW (I).

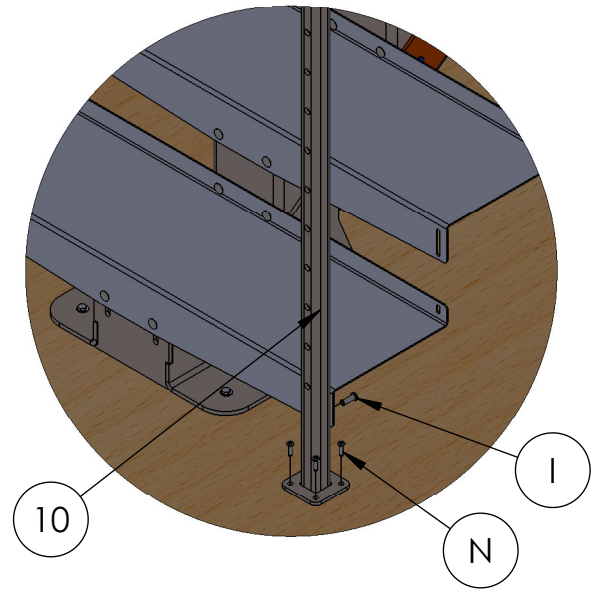
3. USE A LEVEL TO PLUM THE BALUSTER. FASTEN THE BALUSTER TO THE FLOOR USING #14-10 X 2-1/2" WOOD SCREWS (N).

NOTE: MASONRY FASTENERS (NOT INCLUDED) WILL BE NEEDED IN PLACE OF THE WOOD SCREWS IF FASTENING THE BALUSTER TO CONCRETE.

HARDWARE



PARTS ADDED



THE CABLE RAIL SYSTEM IS DESIGNED TO HAVE BALUSTERS SPACED A MAXIMUM OF EVERY THIRD TREAD AS SHOWN TO THE RIGHT. DEPENDING ON HOW MANY TREADS IN THE STAIR, IT MAY NOT ALWAYS BE POSSIBLE TO PLACE A BALUSTER ON EVERY THIRD TREAD OF THE STAIR. IN THAT CASE, SPLITTING THE DIFFERENCE IN THE PATTERN WITH THE TOP BALUSTER(S) TENDS TO RESULT IN THE BEST APPEARANCE.

4. PLACE AN INTERMEDIATE CABLE BALUSTER (11) IN POSITION MAKING SURE TO FOLLOW THE PROPER SPACING PATTERN.

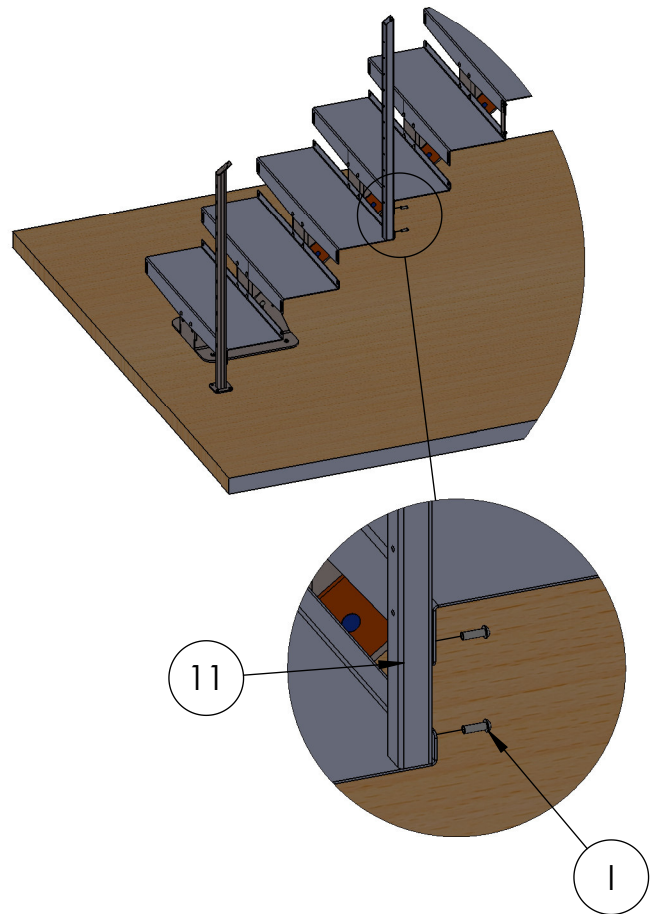
5. USE A LEVEL TO PLUM THE BALUSTER. FASTEN THE BALUSTER TO THE TREADS USING 5/16"-18 X 1" CAP SCREWS (I).

REPEAT STEPS 4 AND 5 FOR THE ENTIRE LENGTH OF THE STAIR PLACING BALUSTERS ON EVERY OTHER TREAD.

HARDWARE



PARTS ADDED



CABLE RAIL INSTALLATION

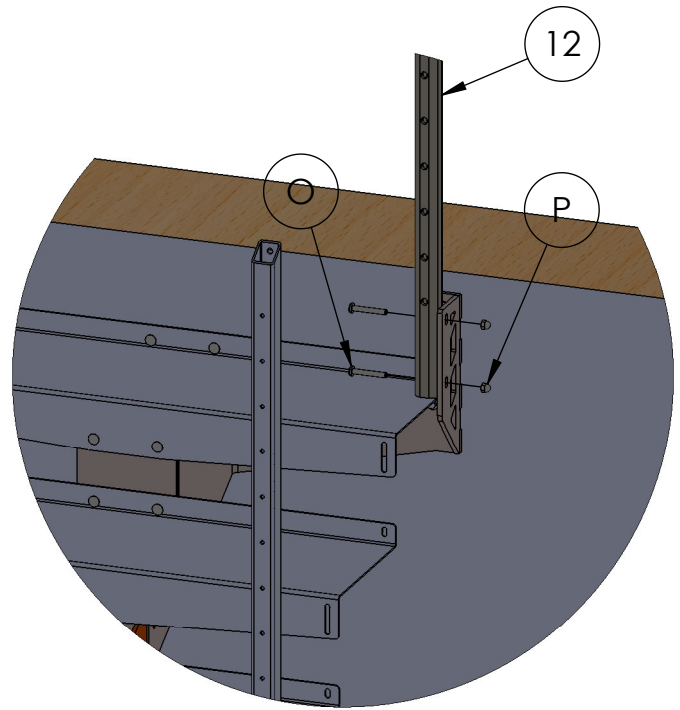
6. PLACE AN UPPER CABLE BALUSTER (12) IN POSITION ON THE TOP TREAD.

7. PLUM THE BALUSTER WITH A LEVEL, THEN SECURE IT TO THE TOP MOUNT USING 5/16"-18 X 2-1/4" CAP SCREWS (O) AND 5/16"-18 ACORN NUTS (P).

HARDWARE



PARTS ADDED



NOTE: STAIRS WITH 1/4" THICK TREADS DO NOT REQUIRE TREAD TIE BARS. SKIP THE NEXT TWO STEPS IF TIE BARS ARE NOT REQUIRED.

8. LOCATE ALL TREAD LOCATIONS THAT AREN'T ALREADY CONNECTED BY BALUSTERS.

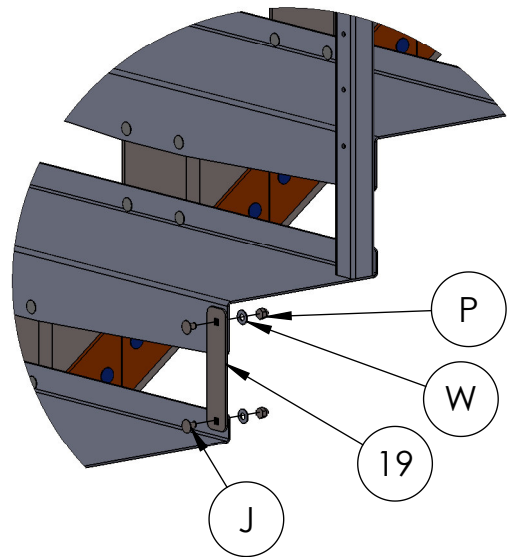
9. INSTALL TREAD TIE BARS (19) AT THESE LOCATIONS WITH 5/16"-18 X 1/2" CARRIAGE BOLTS (J), 5/16"-18 ACORN NUTS (P) AND 5/16" WASHERS (W).

NOTE: THE SQUARE HOLES IN THE TREAD TIE BAR ARE CUT DIFFERENTLY; ONE HOLE IS CLOSER TO THE EDGE THAN THE OTHER. ENSURE THAT THE TIE BAR IS INSTALLED WITH THE HOLE CLOSER TO THE EDGE LOCATED AT THE BOTTOM.

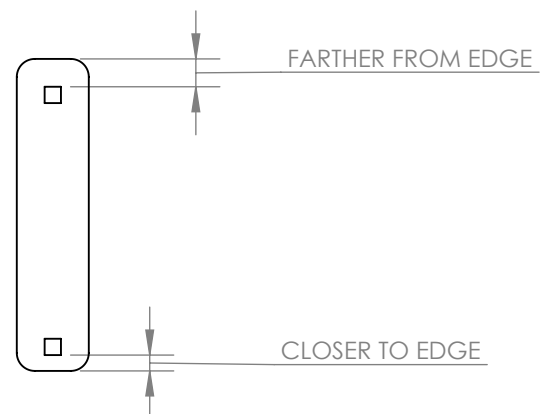
HARDWARE



PARTS ADDED



WARNING: DO NOT INSTALL CABLE RAIL UNTIL THE HANDRAIL HAS BEEN INSTALLED.



TREAD TIE INSTALLATION

NOTE: STAIRS WITH 1/4" THICK TREADS DO NOT REQUIRE TREAD TIE BARS. SKIP THIS SECTION IF TIE BARS ARE NOT REQUIRED.

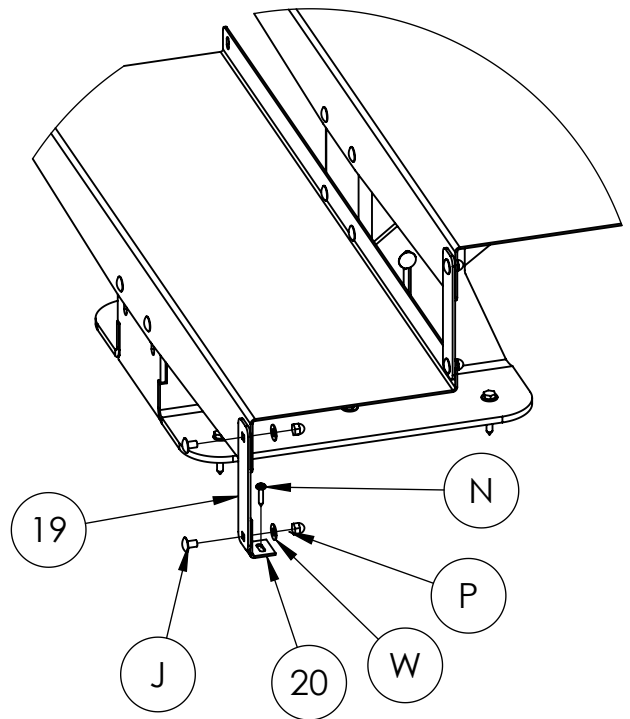
1. POSITION THE GROUND CONNECTOR (20) BELOW THE FIRST TREAD.
2. FASTEN THE TREAD TIE BAR (19) TO BOTH THE TREAD AND THE GROUND CONNECTOR WITH 5/16"-18 X 1/2" CARRIAGE BOLTS (J), 5/16"-18 ACORN NUTS (P) AND 5/16" WASHERS (W).
3. MAKE MINOR ADJUSTMENTS TO THE GROUND CONNECTOR IF NEEDED. THE TREAD TIE BAR SHOULD BE AS CLOSE TO PLUMB AS POSSIBLE. SECURE THE GROUND CONNECTOR WITH A #14-10 X 2-1/2" WOOD SCREW (N).

NOTE: THE SQUARE HOLES IN THE TREAD TIE BAR ARE CUT DIFFERENTLY; ONE HOLE IS CLOSER TO THE EDGE THAN THE OTHER. ENSURE THAT THE TIE BAR IS INSTALLED WITH THE HOLE CLOSER TO THE EDGE LOCATED AT THE BOTTOM.

HARDWARE



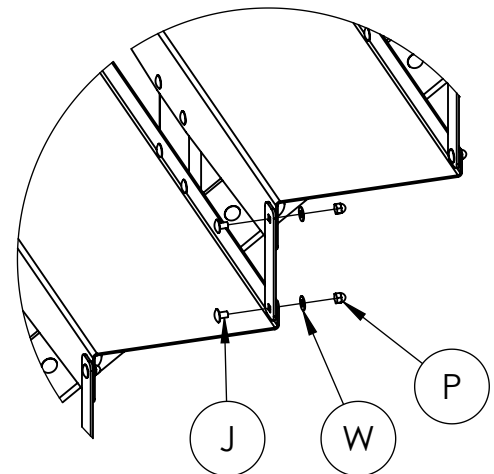
PARTS ADDED



HARDWARE



4. INSTALL TREAD TIE BARS BETWEEN EVERY TREAD ALONG THE SIDE THAT WON'T HAVE A HANDRAIL INSTALLED. THIS IS DONE USING 5/16"-18 X 1/2" CARRIAGE BOLTS (J), 5/16"-18 ACORN NUTS (P) AND 5/16" WASHERS (W).



WOOD HANDRAIL INSTALLATION

1. PLACE THE WOOD HANDRAIL (16) ONTO THE BALUSTERS. THE HANDRAIL SHOULD BE CENTERED ON THE STAIR WITH THE SAME LENGTH OF RAIL OVERHANGING THE TOP AND BOTTOM BALUSTER. IF NECESSARY, REMOVE THE HANDRAIL TO CUT IT TO DESIRED LENGTH.

IF STAIR IS CONFIGURED WITH PANEL RAIL, SKIP STEPS 2 AND 3. STEPS 2 AND 3 ARE ONLY APPLICABLE TO STAIRS WITH CABLE RAIL DUE TO THE UNIQUE TOP AND BOTTOM BALUSTERS. FOR STAIRS WITH PANEL RAIL, APPLY STEPS 4 AND 5 TO EVERY BALUSTER.

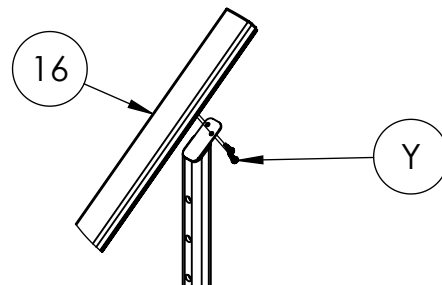
2. DRILL 3/16" PILOT HOLES IN THE WOOD HANDRAIL BY USING THE PREDRILLED HOLES IN BOTH THE TOP AND BOTTOM BALUSTER AS GUIDES.

3. FASTEN THE HANDRAIL TO THE TOP AND BOTTOM BALUSTERS USING #12-11 X 1" WOOD SCREWS (Y).

PARTS ADDED



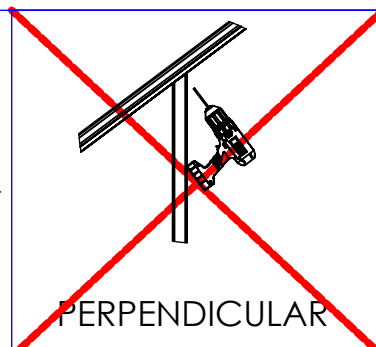
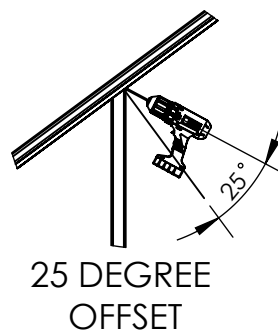
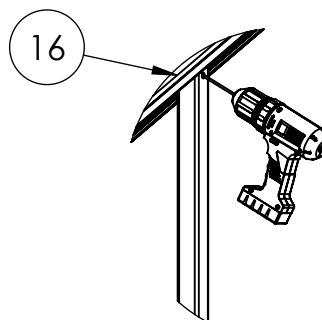
HARDWARE



(TOP BALUSTER SHOWN FOR REFERENCE)

4. DRILL 3/16" PILOT HOLES THROUGH THE PREDRILLED HOLE IN THE BALUSTER AND INTO THE WOOD HANDRAIL. THE PILOT HOLE SHOULD BE APPROXIMATELY 25 DEGREES OFF PERPENDICULAR TO THE HANDRAIL. DO NOT DRILL THE PILOT HOLE PERPENDICULAR TO THE HANDRAIL.

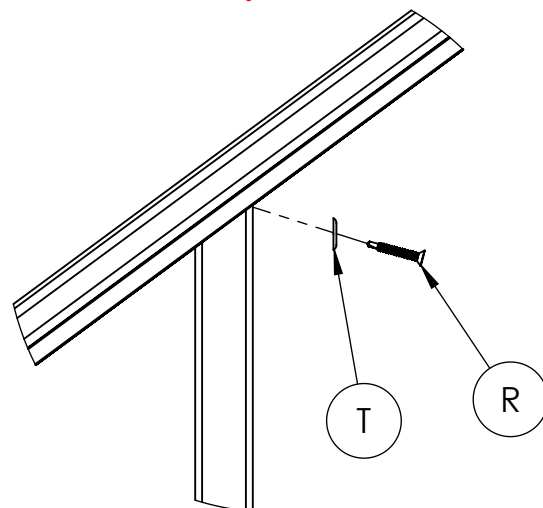
NOTE: THIS MUST BE DONE SLOWLY TO AVOID SNAPPING THE DRILL BIT.



5. FASTEN THE HANDRAIL TO THE BALUSTER WITH A FINISH WASHER (T) AND #12 X 2" FLAT HEAD WOOD SCREW (R). DO NOT OVERTIGHTEN.

TIP: TIGHTENING THE SCREW TENDS TO CAUSE THE FINISH WASHER TO RIDE UP ALONG THE BALUSTER. THIS CAN SCUFF THE BALUSTER. TO AVOID SCUFFING THE BALUSTER, PUSH THE FINISH WASHER UP AS FAR AS POSSIBLE AND HOLD IT IN POSITION WHILE TIGHTENING THE SCREW.

HARDWARE



ALUMINUM HANDRAIL INSTALLATION

1. PLACE THE ALUMINUM HANDRAIL (17) ONTO THE BALUSTERS. THE HANDRAIL SHOULD BE CENTERED ON THE STAIR WITH THE SAME LENGTH OF RAIL OVERHANGING THE TOP AND BOTTOM BALUSTER. IF NECESSARY, REMOVE THE HANDRAIL TO CUT IT TO DESIRED LENGTH.

IF STAIR IS CONFIGURED WITH PANEL RAIL, SKIP STEPS 2 AND 3. STEPS 2 AND 3 ARE ONLY APPLICABLE TO STAIRS WITH CABLE RAIL DUE TO THE UNIQUE TOP AND BOTTOM BALUSTERS. FOR STAIRS WITH PANEL RAIL, APPLY STEPS 4 AND 5 TO EVERY BALUSTER.

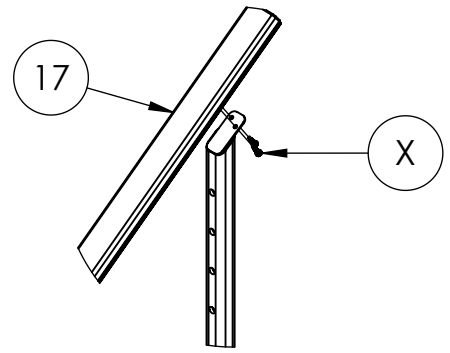
2. DRILL 3/16" PILOT HOLES IN THE ALUMINUM HANDRAIL BY USING THE PREDRILLED HOLES IN BOTH THE TOP AND BOTTOM BALUSTER AS GUIDES.

3. FASTEN THE HANDRAIL TO THE TOP AND BOTTOM BALUSTERS USING #12-11 X 1" SELF DRILLING SCREWS (X).

PARTS ADDED



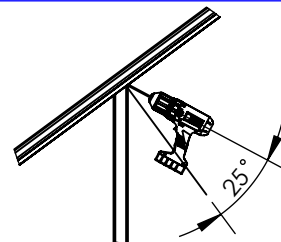
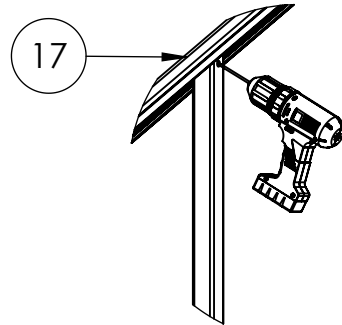
HARDWARE



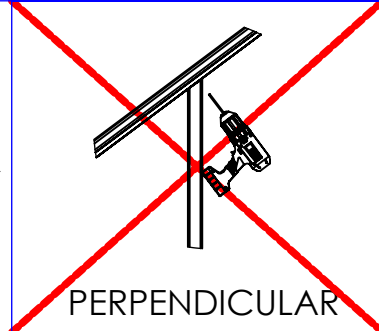
(TOP BALUSTER SHOWN FOR REFERENCE)

4. DRILL 3/16" PILOT HOLES THROUGH THE PREDRILLED HOLE IN THE BALUSTER AND INTO THE WOOD HANDRAIL. THE PILOT HOLE SHOULD BE APPROXIMATELY 25 DEGREES OFF PERPENDICULAR TO THE HANDRAIL. DO NOT DRILL THE PILOT HOLE PERPENDICULAR TO THE HANDRAIL.

NOTE: THIS MUST BE DONE SLOWLY TO AVOID SNAPPING THE DRILL BIT.



25 DEGREE OFFSET

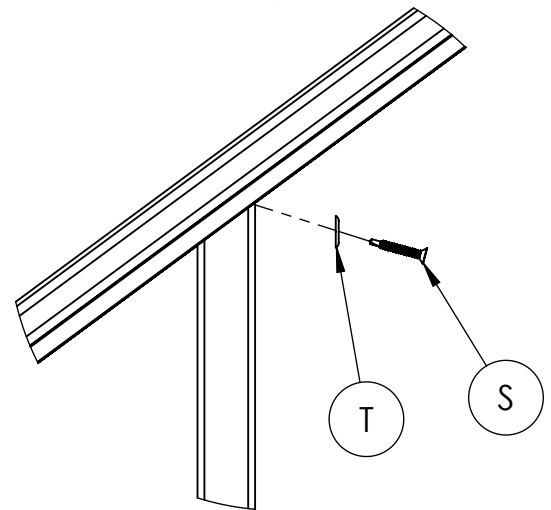


PERPENDICULAR

5. FASTEN THE HANDRAIL TO THE BALUSTER WITH A FINISH WASHER (T) AND #12-14 X 1-1/2" FLAT HEAD SELF DRILLING SCREW (S). DO NOT OVERTIGHTEN.

TIP: TIGHTENING THE SCREW TENDS TO CAUSE THE FINISH WASHER TO RIDE UP ALONG THE BALUSTER. THIS CAN SCUFF THE BALUSTER. TO AVOID SCUFFING THE BALUSTER, PUSH THE FINISH WASHER UP AS FAR AS POSSIBLE AND HOLD IT IN POSITION WHILE TIGHTENING THE SCREW.

HARDWARE

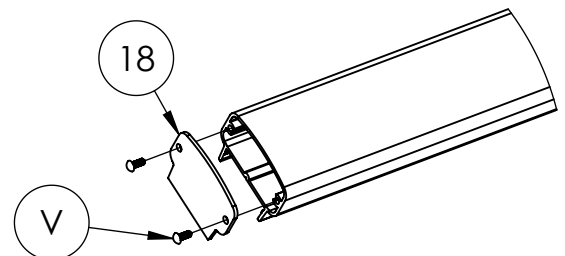


6. PLACE THE HANDRAIL END CAPS (18) OVER THE EXPOSED ENDS OF THE ALUMINUM HANDRAIL AND FASTEN BY TAPPING THE #7 DRIVE SCREWS (V) INTO PLACE.

PARTS ADDED



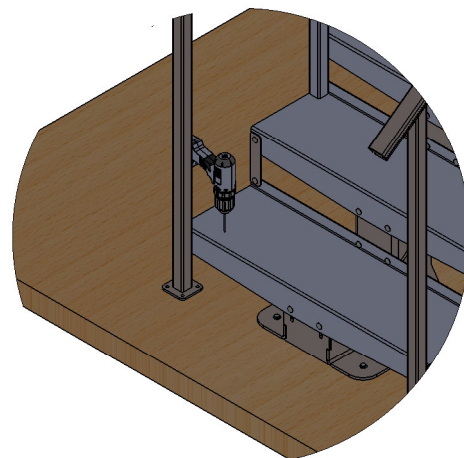
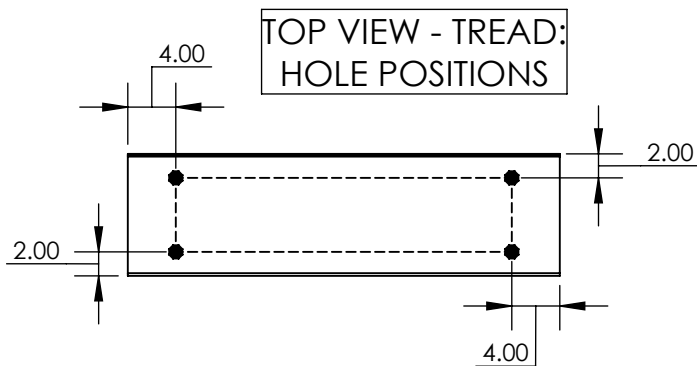
HARDWARE



WOOD TREAD COVER INSTALLATION

1. TO INSTALL WOOD TREAD COVERS, EACH METAL TREAD MAY NEED FOUR 1/4" DIAMETER HOLES DRILLED THROUGH. THESE HOLES WILL ALLOW WOOD SCREWS TO PASS THROUGH THE TREAD AND INTO THE BOTTOM OF THE WOOD TREAD COVER.

NOTE: THESE HOLES CAN BE DRILLED PRIOR TO INSTALLING THE TREADS ONTO THE STAIR. IF THE TREAD COVERS ARE BEING ATTACHED TO THE TREADS PRIOR TO INSTALLING THE TREADS TO THE STAIR, MAKE SURE TO PLACE CARRIAGE BOLTS IN THE SQUARE HOLES OF THE TREAD BEFORE FASTENING THE TREAD COVER. THE CARRIAGE BOLT HOLES ARE NOT ACCESSIBLE WHEN A TREAD COVER IS INSTALLED.



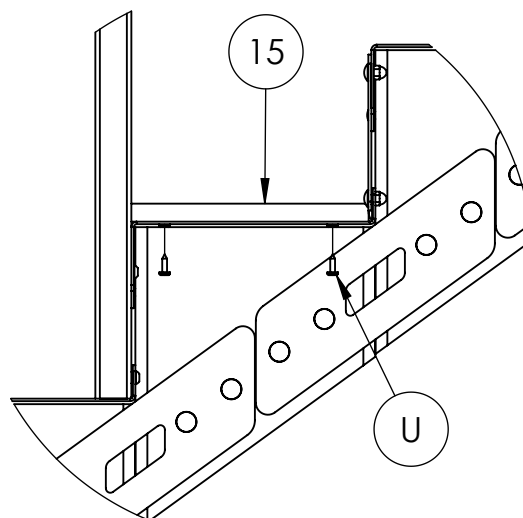
2. PLACE A WOOD TREAD COVER (15) ONTO A TREAD. PUSH IT ALL THE WAY TO THE BACK OF THE TREAD UNTIL IT IS CONTACTING THE TWO CARRIAGE BOLT HEADS HOLDING THE TREAD TO THE STAIR.

3. CENTER THE TREAD COVER, THEN FASTEN IT FROM THE BOTTOM WITH FOUR #10-12 X 3/4" WOOD SCREWS (U).

HARDWARE



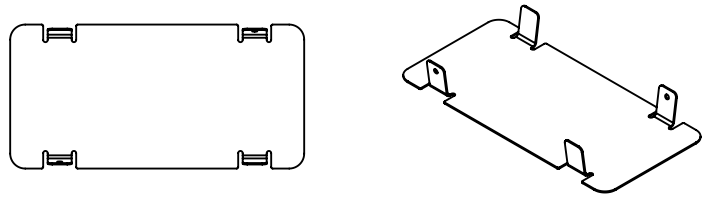
PARTS ADDED



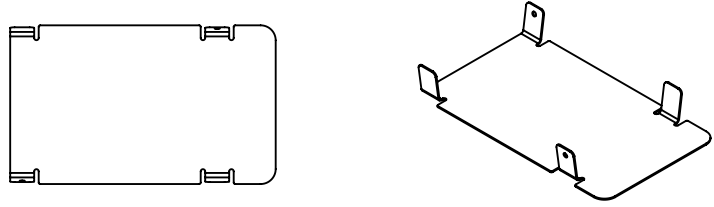
BLOCK CAP INSTALLATION

THERE ARE TWO VERSIONS OF THE BLOCK CAP. ONE TYPE IS USED TO COVER THE EXPOSED AREA BELOW THE TOP MOUNT, AND THE OTHER IS USED TO COVER THE EXPOSED AREA BENEATH THE BLOCK(S). THE CAP MEANT FOR THE TOP MOUNT IS WIDER AND SHORTER THAN THE CAPS MEANT TO COVER THE BLOCKS. THE INSTALLATION PROCESS IS SIMILAR FOR BOTH.

BLOCK CAP



TOP MOUNT CAP



1. PLACE A BLOCK CAP BENEATH A BLOCK. THE BENT TABS ON EACH CAP ARE DESIGNED TO HOLD THE CAP IN PLACE.

2. SQUEEZE THE LOWER TWO TABS TOGETHER TO ALLOW THEM TO SLIDE PAST THE EDGE OF THE BLOCK. PUSH UP ON THE CAP TO SEAT THE LOWER TABS.

3. REPEAT STEP 2 FOR THE UPPER TABS.

4. PUSH THE CAP INTO PLACE TO FULLY SEAT THE TABS. IT SHOULD BE SNUG AND CENTERED BELOW THE BLOCK.

IF THE CAP IS TOO LOOSE, THE TABS CAN ALL BE BENT EQUALLY OUTWARD TO APPLY MORE HOLDING PRESSURE TO KEEP THE CAP IN PLACE.

IF THE CAP IS OFF CENTER, THE TABS ON ONLY ONE SIDE MAY NEED TO BE BENT OUTWARD TO PUSH THE CAP CLOSER TO CENTER.

