
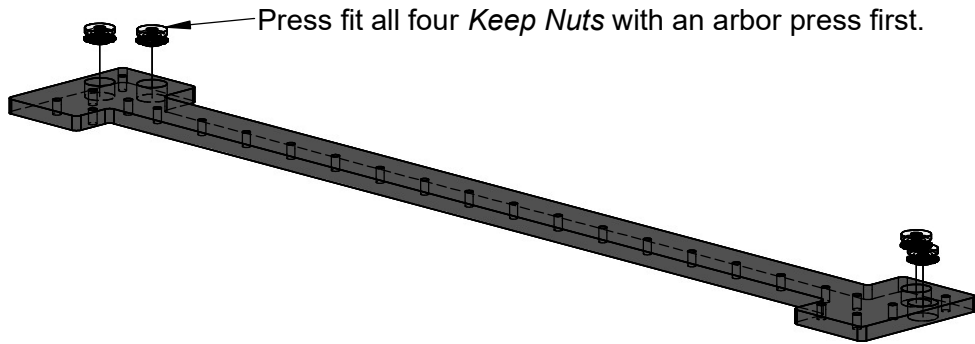


### Crossbar Assembly

	Created by: Joshua Vasquez	last edited: 1/30/2020
	SCALE: 1:2	SHEET 1 OF 5

B

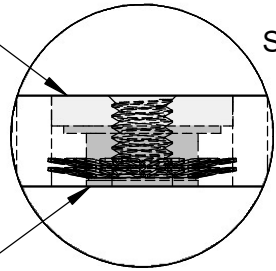
B



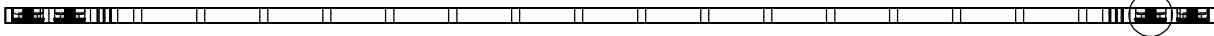
P

This part can stick out a bit.

DETAIL P  
SCALE 2 : 1

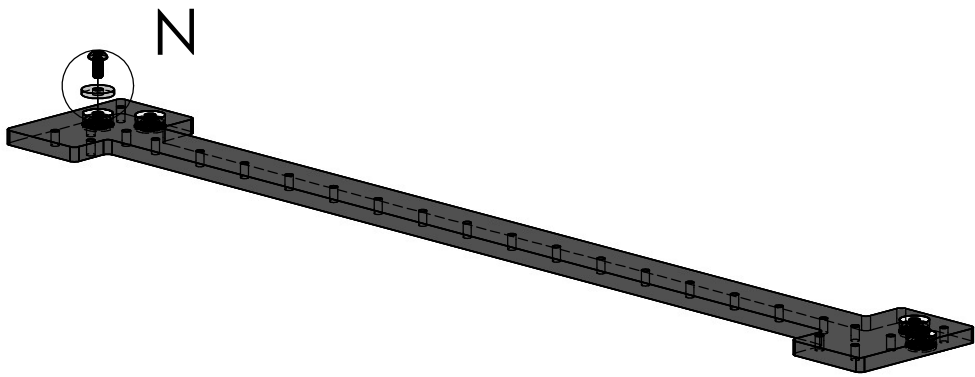


This part must be flush with the bottom of the crossbar.



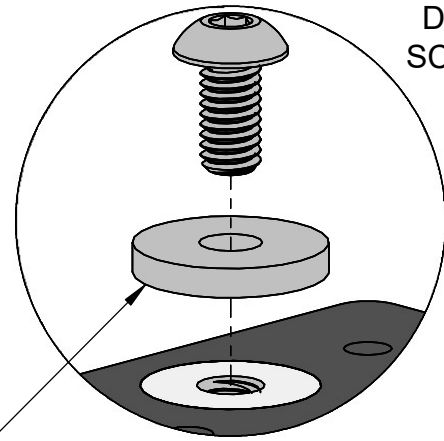
A

A



N

DETAIL N  
SCALE 2 : 1



For each press-fit *Keep Nut* we must pull upwards to get the teeth to flare out and fully engage. To do this, sandwich the single M4 aluminum spacer with a M4 8mm screw and fully tighten it by hand. Then unscrew it and remove both parts. Do this for all four *Keep Nuts*.

ITEM NO.	DESCRIPTION	QTY.
1	M4 Spacer, 2mm tall, 13mm diameter	1
2	M4 Buttonhead Screw, 8mm long	1
3	M4 "Keep Nut" insert for composites, 6mm tall	4
4	crossbar plate	1

### Crossbar Insert Installation

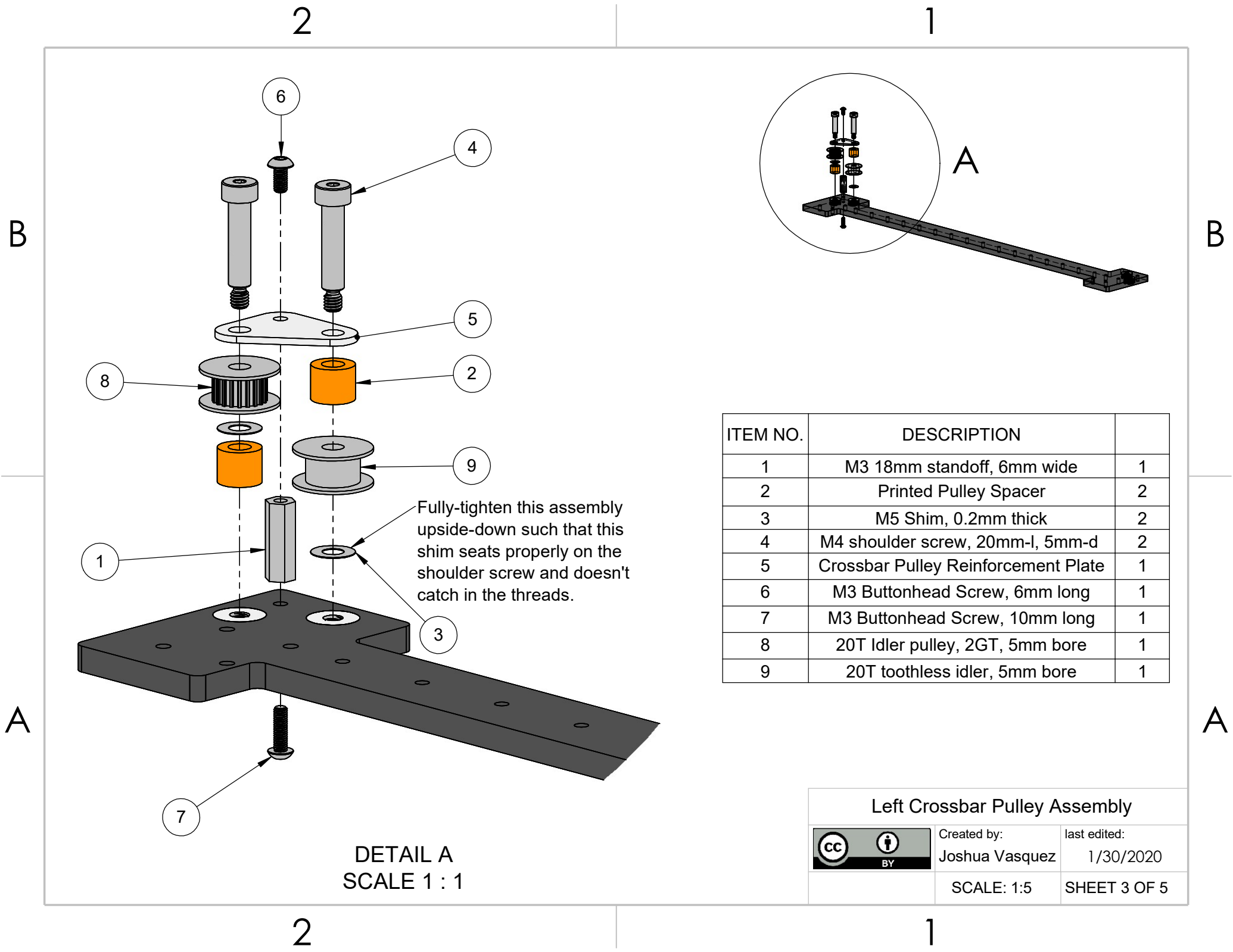


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SCALE: 1:3

SHEET 2 OF 5



DETAIL A  
SCALE 1 : 1

ITEM NO.	DESCRIPTION	
1	M3 18mm standoff, 6mm wide	1
2	Printed Pulley Spacer	2
3	M5 Shim, 0.2mm thick	2
4	M4 shoulder screw, 20mm-l, 5mm-d	2
5	Crossbar Pulley Reinforcement Plate	1
6	M3 Buttonhead Screw, 6mm long	1
7	M3 Buttonhead Screw, 10mm long	1
8	20T Idler pulley, 2GT, 5mm bore	1
9	20T toothless idler, 5mm bore	1

Left Crossbar Pulley Assembly



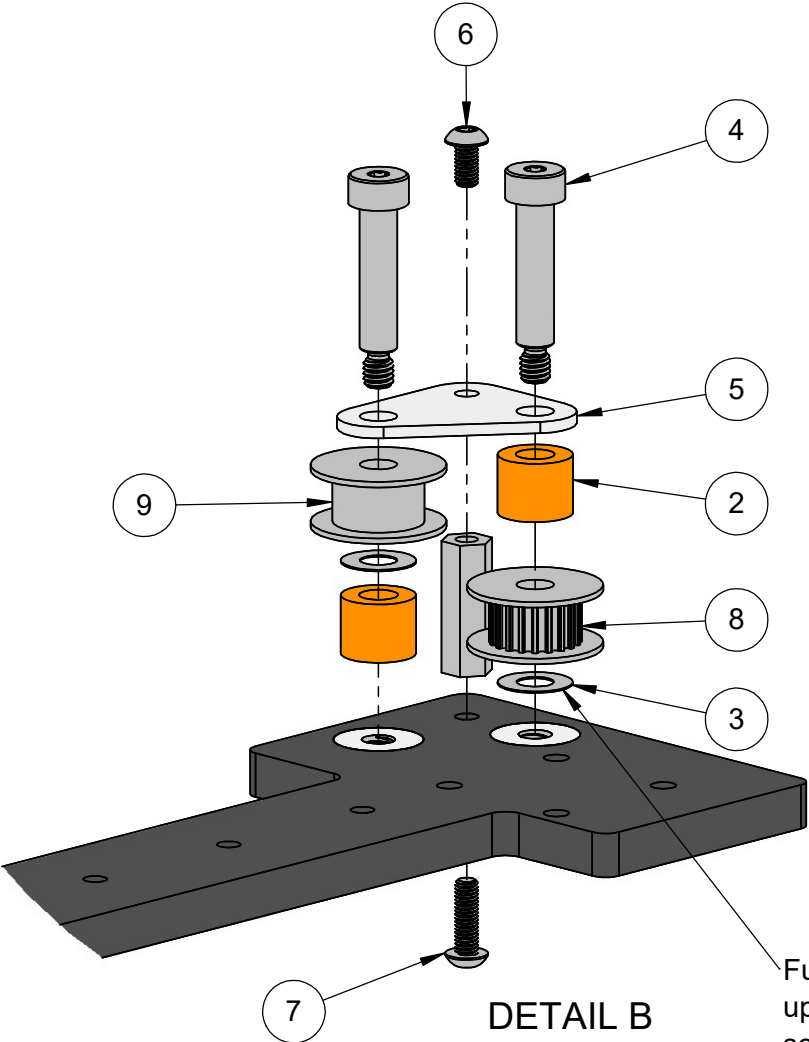
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SCALE: 1:5

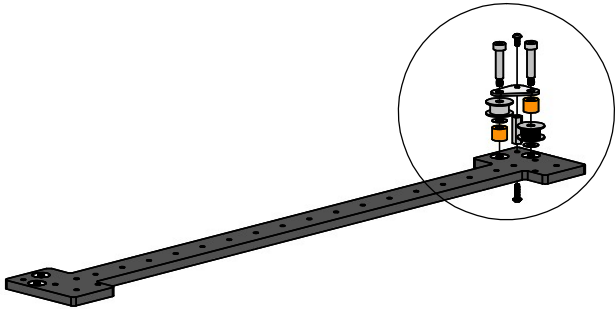
SHEET 3 OF 5

Note that this assembly is NOT merely a mirrored version of the previous one.  
Ensure that the pulleys are installed in the order shown.



DETAIL B  
SCALE 1 : 1

Fully-tighten this assembly  
upside-down such that this shim  
seats properly on the shoulder  
screw and doesn't catch in the  
threads.



ITEM NO.	DESCRIPTION	
1	M3 18mm standoff, 6mm wide	1
2	Printed Pulley Spacer	2
3	M5 Shim, 0.2mm thick	2
4	M4 shoulder screw, 20mm-l, 5mm-d	2
5	Crossbar Pulley Reinforcement Plate	1
6	M3 Buttonhead Screw, 6mm long	1
7	M3 Buttonhead Screw, 10mm long	1
8	20T Idler pulley, 2GT, 5mm bore	1
9	20T toothless idler, 5mm bore	1

Right Crossbar Pulley Assembly



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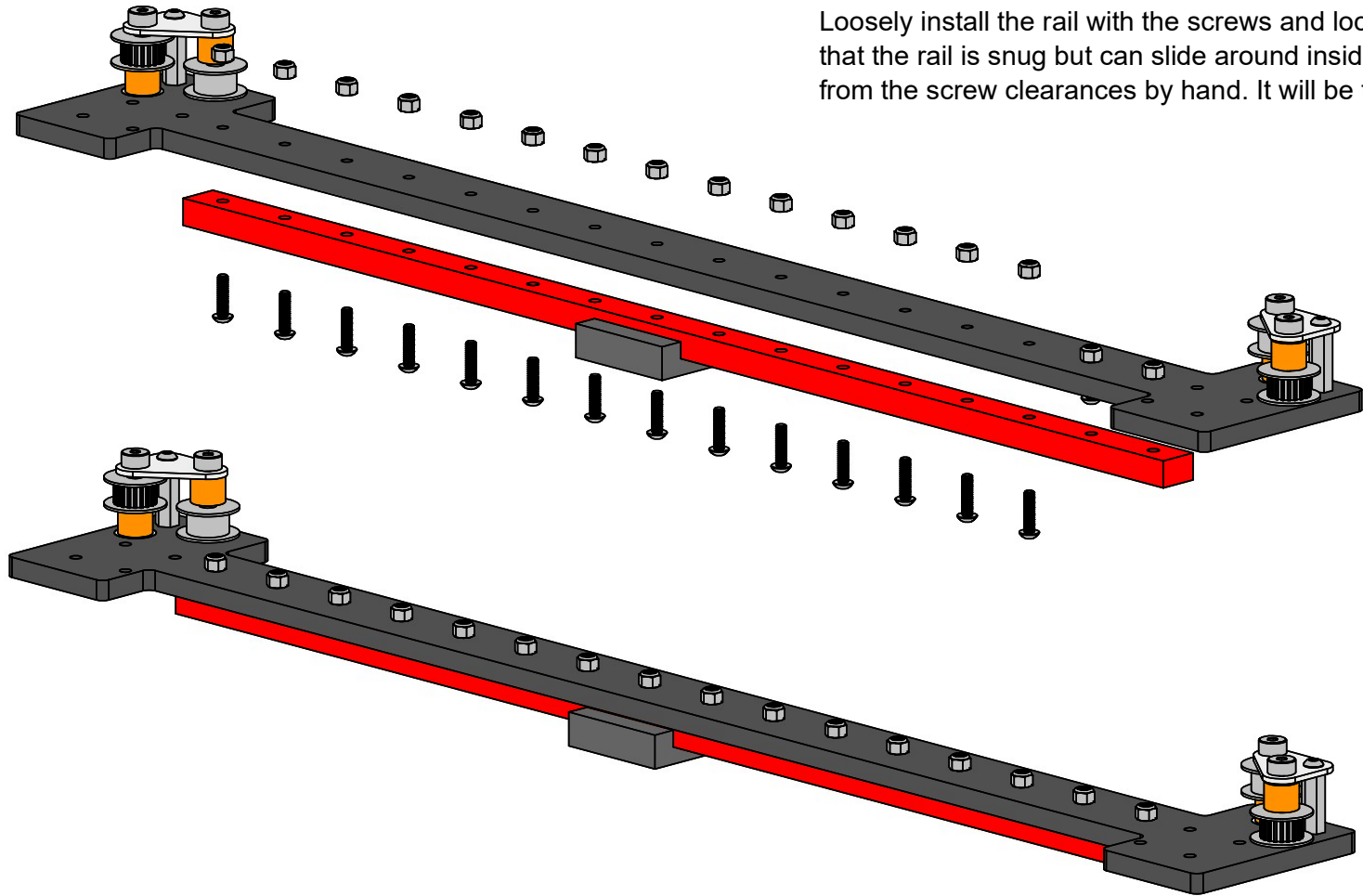
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1/30/2020

SCALE: 1:5


SHEET 4 OF 5

B

A



ITEM NO.	DESCRIPTION	QTY.
8	M3 Buttonhead Screw, 12mm long	16
9	M3 Locknut	16
10	395mm or 400mm long MGN12 rail	1
11	MGN12C Carriage Block	1

Crossbar Rail Installation		
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	SCALE: 1:2	SHEET 5 OF 5

B

A