

Wrench Hole in Specified Position

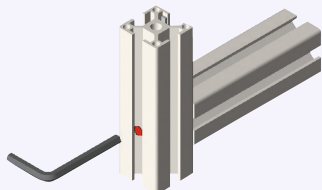
Blind Joints which require this alteration

Screw Joints
P.552, etc.

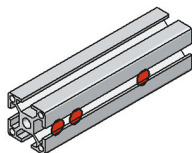
Single Joints
P.609, etc.

Tapping Joints
P.552, etc.

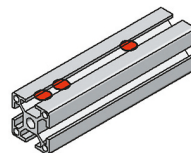
Adds drilled holes for Blind Joint (mainly for beams) connections at specified locations.



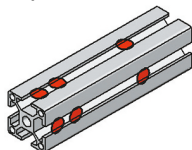
Horizontal **AH, BH, CH, DH, EH**



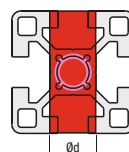
Vertical **AV, BV, CV, DV, EV**



Crisscross (Horizontal + Vertical) **AP, BP, CP, DP, EP**



Cross Section View



Alteration Code Specification Method

Alteration Code specified in 0.5mm increments (from Left End)	Extrusion Series	Ød
AH, BH, CH, DH, EH (Horizontal)	5 Series	7.35
AV, BV, CV, DV, EV (Vertical)	6 Series	5,8
AP, BP, CP, DP, EP (Crisscross)	8 Series	8
	8-45 Series	

* Wrench Hole d dim. can be selected for Extrusion Series 6. Specify with X5 or X8.

For additional descriptions on various options, see Alteration Overview (P.755).

Up to 5 locations in Vertical, Horizontal, and Crisscross directions can be specified.

Alteration Code Example

Horizontal			Vertical			Crisscross		
AH (1 Location Horizontal)	AH BH (2 Locations Horizontal)	AH BH CH (3 Locations Horizontal)	AV (1 Location Vertical)	AV BV (2 Locations Vertical)	AV BV CV (3 Locations Vertical)	AP (1 Location Crisscross)	AV BV (2 Locations Crisscross)	AP BP CP (3 Locations Crisscross)



Ordering Example

Part Number

HFS6-3030-300-X8-AH30-BH280

HFS8-4040-300-AH30-BH280-AV100-BV280

See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

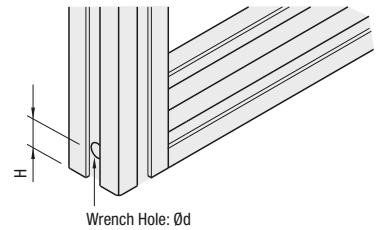
Alterations				Wrench Hole in Specified Position			
Features	Code	No.	Page	Wrench Access Hole Dia.	Horizontally		
					AH-EH	AV-EV	AP-EP
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529	Ø7.35			
		2040	P530				
		2060					
		2080	P531				
		2525					
		2550					
		4040	P530				
		4060	P531				
		4080					
		404020	P532				
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529				
		2040	P530				
		4040	P530				
Two-Side Slots Two Flats	HFSY5 NFSY5	2020	P529				
		4040	P530				
Two Slots on Opposite Sides	HFSH5 NFSH5	2020	P529				
		2020	P529				
One-Side Slot Three Flats	HFSH5 NFSH5	2020	P529				
		2020	P529				
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532		-	-	-
		20	P532		-	-	-
Black Anodize	HFSB5 NFSB5	2020	P529				
		2040	P530				
		2525	P531				
		2550					
		4040	P530				
		2020	P529				
Curved	HFSR5	2020	P529				
		404020	P532				

⊗ See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations				Wrench Hole in Specified Position												
Code		Page		Wrench Access Hole Dia.	Horizontally			Vertically		Crisscross						
Features	Type	No.	Page		AH-EH	AV-EV	AP-EP									
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	05 08												
		3060	P573													
		3090	P576													
		30120														
		5050														
		50100	P579													
		100100														
		6060	P575													
		6090	P577													
		60120	P578													
606030	P576															
30300	P572															
3030	P574															
5050	P579															
6060	P575															
3030	P572															
3060	P574															
Two Slots on Opposite Sides	HFSH6 EFSH6	3060	P574													
One-Side Slot Three Flats	HFSC6 EFS66	3030	P572													
Light Type	NFSL6 HFSL6		P571													
		3060	P573													
Heavy Type	HFSG6	5050	P579													
		6060	P575													
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578													
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571													
		3060	P573													
		3090	P576													
		30120														
		5050														
		50100	P579													
		100100														
		6060	P575													
		Curved	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P572											
				3060	P573											
3090	P574															
Angled	HFSR6	3030	P578													
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	606030	P631													
		4040	P633													
		4060	P636													
		40120	P636													
		40160	P635													
		5060	P636													
		80160	P637													
		808040	P635													
		8080	P632													
		4080	P634													
3-Side Slot 1 Side Flat	HFSF8 EFSF8 NFSF8	4040	P635													
		4080	P632													
		4080	P634													
Two-Side Slots Two Flats	HFSF8 EFSF8	8080	P635													
		4040	P632													
Two Slots on Opposite Sides	HFSF8 EFSF8	4080	P634													
		8080	P635													
One-Side Slot Three Flats	HFSF8 EFSF8	4040	P632													
		4080	P634													
Light Type	HFSL8 EFSL8	4040	P631													
		4080	P633													
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4040	P631													
		4060	P633													
		40120	P636													
		40160	P636													
		5060	P635													
		80160	P636													
Curved	HFSR8	4040	P632													
		4060	P633													
		4040	P633													
		808040	P637													
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100	P689													
		5060	P686													
		8090	P685													
		50180	P685													
		909045	P686													
		100100	P688													
3-Side Slot 1 Side Flat	HFSF8 EFSF8 NFSF8	4545	P682													
		4590	P684													
		5050	P687													
Two-Side Slots Two Flats	HFSF8 EFSF8	6060	P689													
		4545	P683													
Two Slots on Opposite Sides	HFSF8 EFSF8	5050	P687													
		6060	P689													
One-Side Slot Three Flats	HFSF8 EFSF8	4545	P683													
		4590	P684													
Light Type	HFSL8 EFSL8	4545	P681													
		4590	P684													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													
Black Anodize	HFSB8 EFSB8 NFSB8 NEFSB8 GFSB8 CAF8	4545	P681													
		4590	P684													
		45180	P685													
		5050	P687													
		50100														
		9090	P685													
Curved	HFSR8	4545	P682													
		4545	P683													
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686													

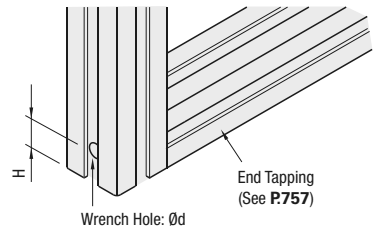
Alterations Needed for Various Joints

Tapping Joint Drilling



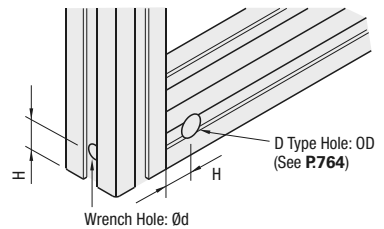
A wrench access hole is needed for a Tapping Joint.

Screw Joint Drilling



For a Screw Joint, a wrench access hole on one extrusion, and a hole tapping (P.757) on the other extrusion are needed.

Single Joint Drilling

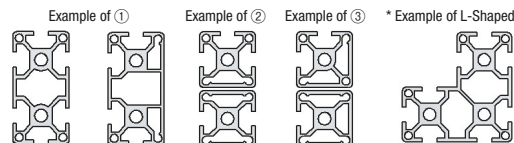


For a Single Joint, a wrench access hole on one extrusion, and a D Hole (P.764) on the other extrusion are needed.

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

- ① On the vertical length
- ② Flat side down
- ③ One flat side down and another flat side right



⊗ When the extrusion is on the vertical length and also has a flat side, ① has the priority.

Hole(s) on smooth surfaces.

Specifying Wrench Access Hole in the flat surface direction provides holes on the flat surface also. To maintain the smoothness of the flat surface without wrench access holes, use of Simple Joint Kits (P.604) is recommended.

* Wrench access hole can be drilled using a jig on P.846.

