



L Frame - Assembly Guidelines

Product User Assembly Instructions Manual



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Introduction

L Frame Assembly Revision Table

SL. NUMBER	REVISION NUMBER	CHANGE DETAILS	DATE
01	01	New Release	16/09/2016

Disclaimer

“GE reserves the right to make technical changes or modify the content of this document without any prior notice. Moreover any dimensional or assembly details provided in this document are for guideline only and strictly related to the supplied items sub-assemblies. Any modification done in the supplied components shall be the responsibility of the System Integrator.

For the final product to be supplied to the customer OEM must ensure compliance with the customer requirement and national as well international standards.

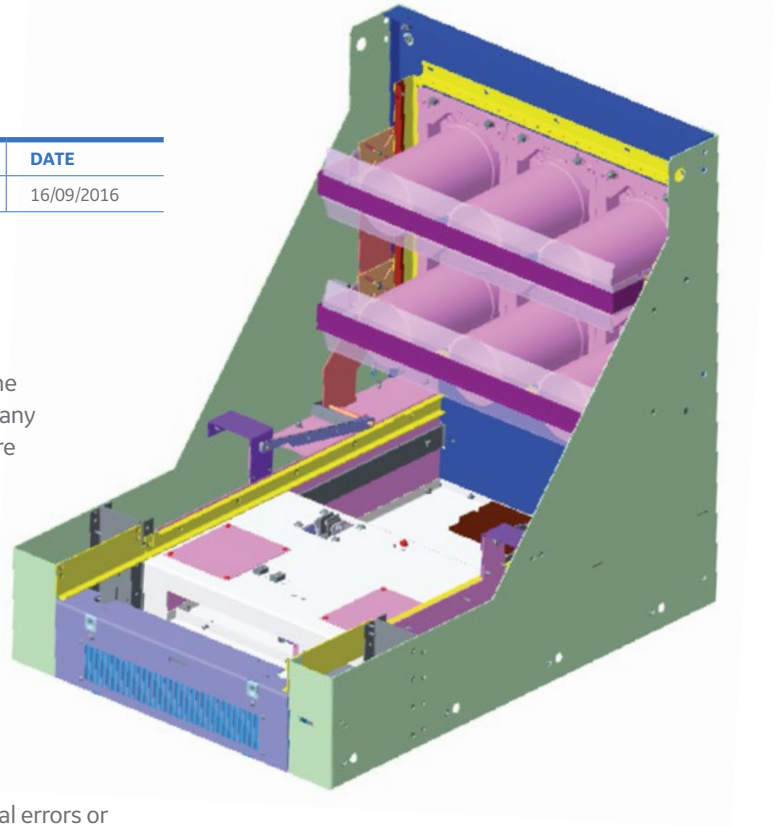
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Objective and Scope

Objective of this document is to describe offerings of the GE supplied L frame features assembly.

Scope of this document is limited to the defined L frame features only.

- Drawings, BOMs, and information provided in this document are limited to the parts and assemblies supplied against the kit numbers.
- Quality inspection and testing recommendations are limited to the parts and assemblies supplied against the kit numbers.
- Packaging and handling information provided is limited to the parts and assemblies supplied against the kit numbers.
- IEEE certification of the complete panel is not the responsibility of GE. The kits are suitable for IEEE certified product, but final qualification will be based on system Integrator’s complete design. IEEE testing to be certified by the system Integrator before supplying final product to the ultimate end user. The commercial team will be responsible to ensure that testing is followed. Once tests are conducted, test reports are to be submitted to Technology/ other authorized person for approval.



Index

Assembly Instructions for SecoBloc Integrator Kits:

1. L Frame Outline & interface dimensions
2. Secondary disconnect Assembly
3. Automatic spring discharge Assembly (ASD)
4. Mechanism operating contact (MOC)
5. Truck operating contact (TOC)

The following procedures are general instructions for the SecoBloc system Integrator kit. The basic compartment kit may be supplemented with additional parts for orders with special requirements. Before any installation work is done, review all the necessary instructions provided by GE.

1. L Frame Outline & Interface Dimensions

L frame assembled inside the panel.

In given picture details from item 6 to 9 provided as separate kit, assembly of this features are explained in detailed.

- A. Side sheets of L Frame
- B. Position indicator window
- C. Shutter assembly
- D. Grounding Shoe
- E. Rejection feature
- F. ASD (Provided as separate KIT)
- G. TOC (Provided as separate KIT)
- H. Secondary plug interlock and Socket (Provided as separate KIT)
- I. MOC (Provided as separate KIT)
- J. Support plate (Reference only)

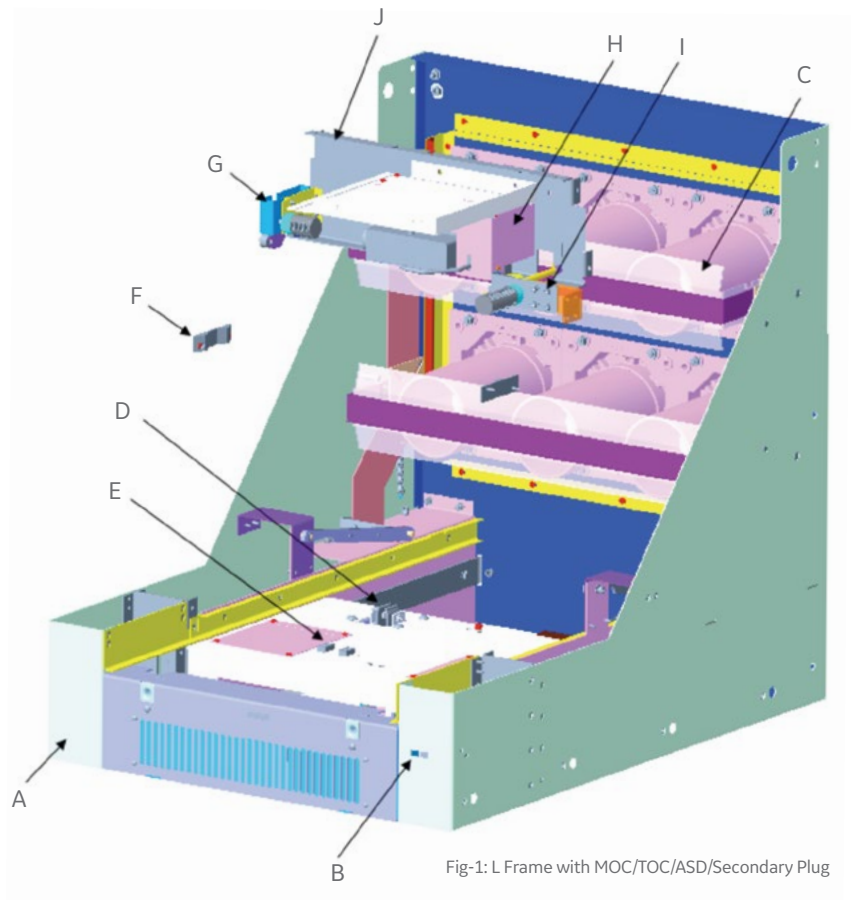


Fig-1: L Frame with MOC/TOC/ASD/Secondary Plug

1. L Frame Outline & Interface Dimensions (Cont.)

Interface dimensions with the panel are given in the above table for the assembly.

OUTLINE DRAWING

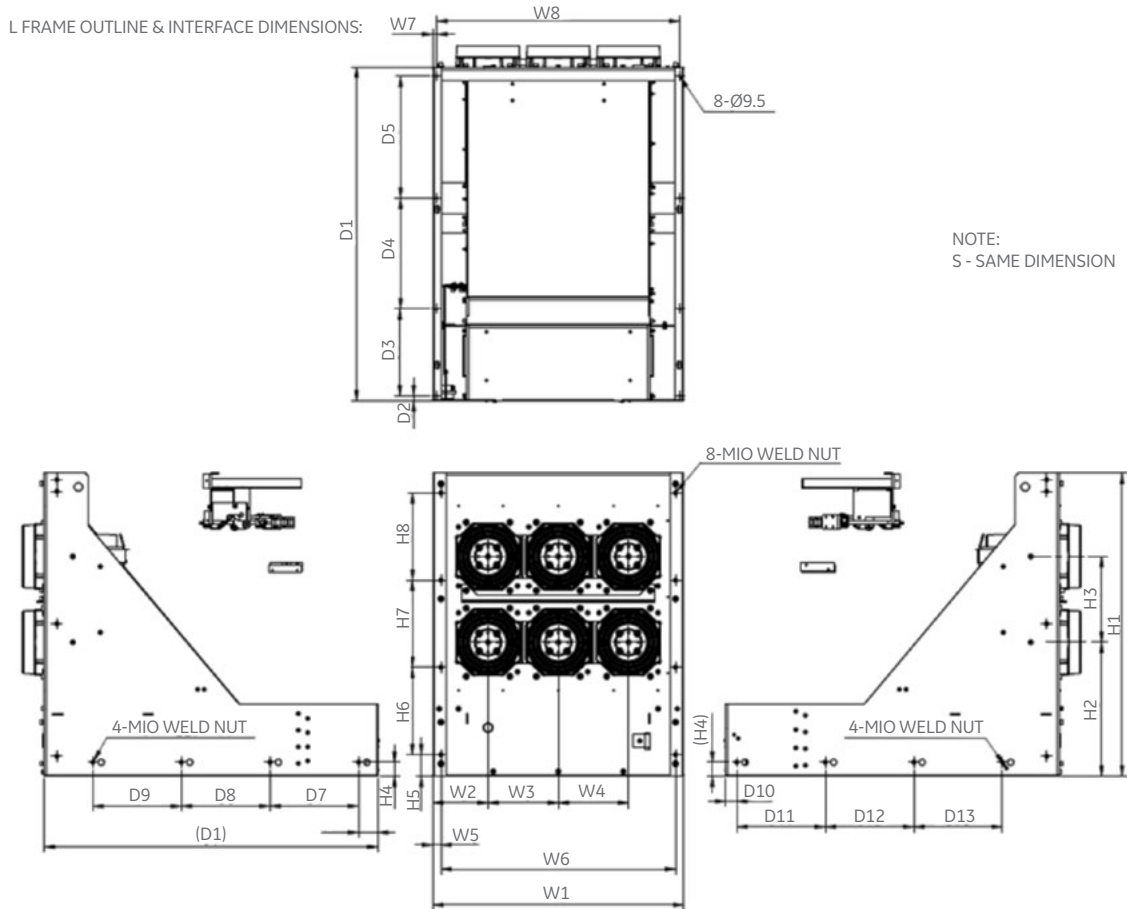


Fig-2: L frame outline dimensions are shown in table with respect to each rating

S.NO	RATING		
out-line	1200A 31.5K	1200A/ 2000A	3000A 40KA

OUTLINE DIMENSIONS

W1	35.75" (908)	S	S
D1	47.44" (1205)	S	S
H1	43.07" (1094)	S	S
W2	7.9" (200)	S	7.05" (179)
W3	10" (254)	S	10.8" (275)
W4	10" (254)	S	10.8" (275)
H2	18.4" (468)	19" (483)	19" (483)
H3	10.8" (275)	12.2" (310)	12.2" (310)

INTERFACE DIMENSIONS

W5	1.18" (30)	S	S
W6	33.4" (848)	S	S
W7	0.59" (15)	S	0.53" (13.5)
W8	34.6" (878)	S	34.7" (881)
H4	1.97" (50)	S	S
H5	3.05" (77.5)	S	S
H6	12.4" (315)	S	S
H7	12.4" (315)	S	S
H8	12.4" (315)	S	S
D2	.07" (18)	S	S
D3	12.3" (313.5)	S	S
D4	15.75" (400)	S	S
D5	17.3" (440)	S	S

INTERFACE DIMENSIONS

D6	2.76" (70)	S	S
D7	12.6" (320)	S	S
D8	12.6" (320)	S	S
D9	12.6" (320)	S	S
D10	1.57" (40)	S	S
D11	12.6" (320)	S	S
D12	12.6" (320)	S	S
D13	12.6" (320)	S	S

Note: S means same dimension as previous column

2. Secondary Disconnects Assembly

The secondary disconnect assembly is shown below in figure 3, and is assembled at the top of the breaker compartment. The Secondary plug interlock and Socket assembly details are provided.

Bill of Materials

ITEM NUMBER	PART NUMBER	PART NAME	QUANTITY	PACKAGING BOX NUMBER
1	5PVB070053 (3000A,40KA) 5PVB070158(1200A,31.5KA, 1200A/2000A,40KA)	Secondary interlock Asm	01	GQ-GE-SBCK-4
2	5PVB070054	Secondary socket kit	01	GQ-GE-SBCK-4

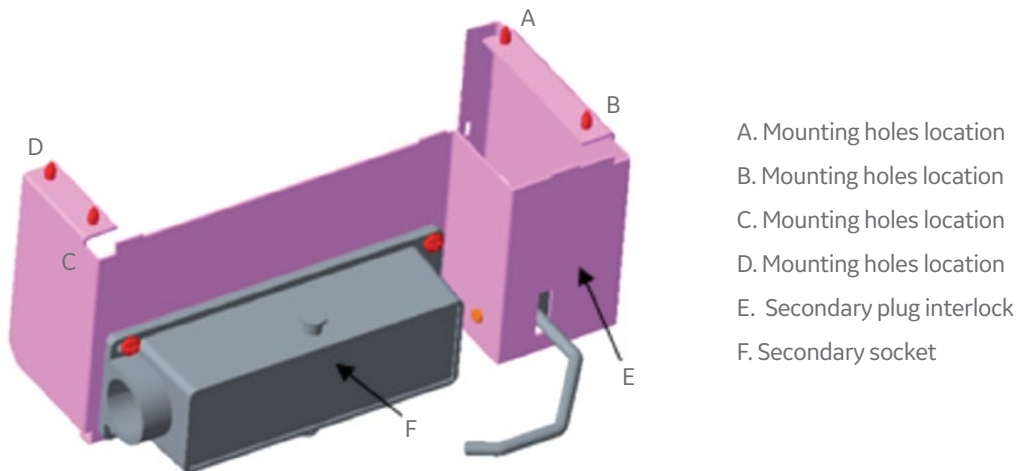


Fig-3: Secondary Plug Asm mounting holes

2. Secondary Disconnects Assembly (Cont.)

Hole Dimensions for Mounting on Top Roof Plate

The entire secondary disconnect assembly shown in figure 3 is mounted onto Plate B as shown in Fig. 4. Plate B is then mounted to Plate A as shown. The Plate A and Plate B are given for reference only.

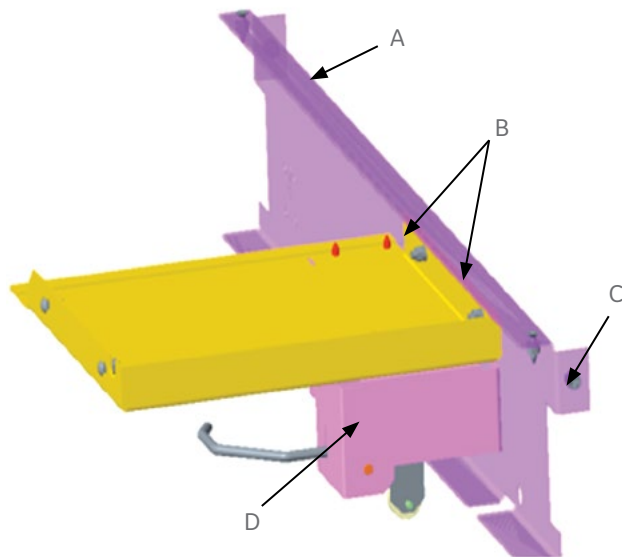


Fig-4: Secondary Plug Asm

- A. Plate A
- B. Plate B mounting locations
- C. Screw mounting locations at side sheet
- D. Secondary disconnect plug assembly

Below are the reference dimensions to be measured and checked for mounting the secondary disconnect assembly. P1 hole point would be the primary fixing location of the secondary disconnect., P1 dimensions are measured as considering the right breaker rail as reference from the bottom of the rail to the top plate at a vertical dimension Y2, width dimension X2 from the outer surface of the left rail to the hole and at a depth dimension Z2 from the outer surface of the slot in guide rail to Hole. Refer to the picture for detailed views.

2. Secondary Disconnects Assembly (Cont.)

OUTLINE DRAWING

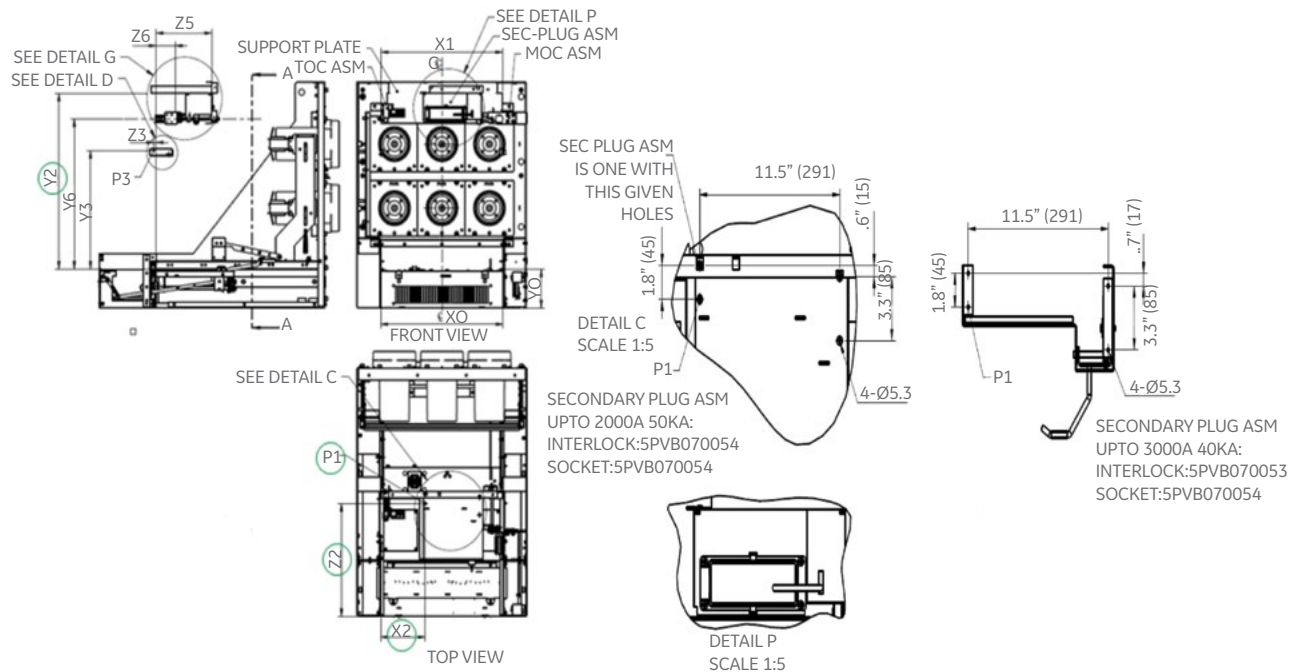
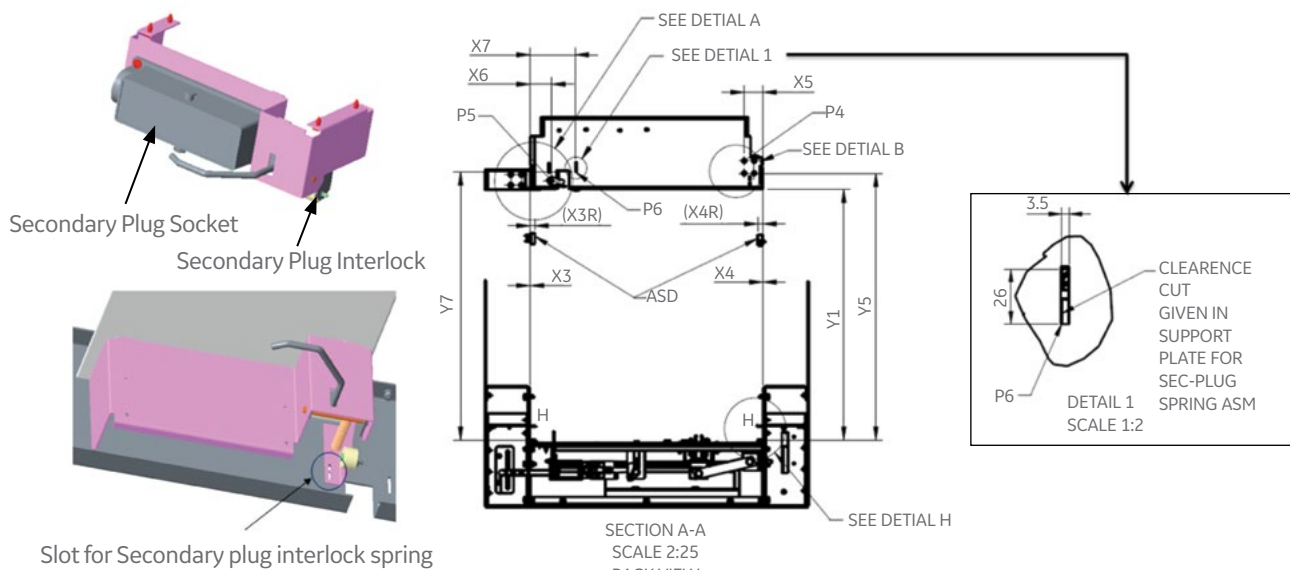


Fig-5: Fig Secondary plug position details
Note: Dimensions referred to in section 5

OUTLINE DRAWING



Use the qty 4 - M6X14 self-threaded screws provided with the kit to mount the secondary disconnect bracket.
Use the qty 4 - M6X14 self-threaded screws to mount the secondary disconnect assembly. Tightly fasten as shown in below Fig 29.
Follow and recheck the below reference dimensions for different ratings from the table-1

Fig-6: Fig Secondary plug position details for spring mounting
Note: Dimensions referred to in section 5

3. Automatic Spring Discharge Assembly (ASD)

Bill of Materials

ITEM NUMBER	PART NUMBER	PART NAME	QUANTITY	PACKAGING BOX NUMBER
01	8PVB070660 (1200A 2000A)	Close profile Plate	01	GQ-GE-SBCK-6
02	8PVB070771 (1200A 2000A)	Trip Plate	01	GQ-GE-SBCK-6
03	M5X16	Pan Head thread forming screw	02	GQ-GE-SBCK-7
04	M5 X16	Counter screw	02	GQ-GE-SBCK-7

Automatic Spring Discharge Assembly

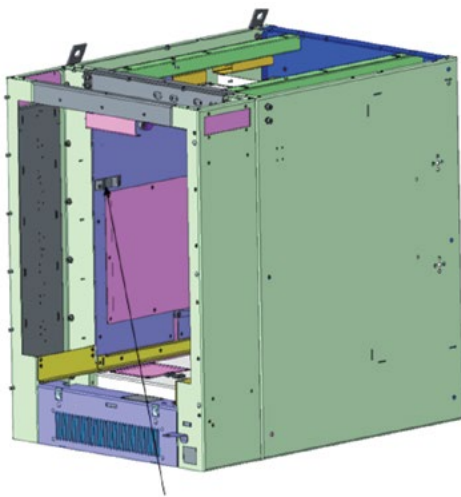
ASD bracket is mounted on both side sheets of the breaker compartment, one on Left side and one on right side & this assembly is linked with breaker during rack-in and rack-out movement. Ensure and check the below assembly dimensions accurately for installation:

Right side ASD profile plate assembly: this is done with the reference point P3, its dimensions are:

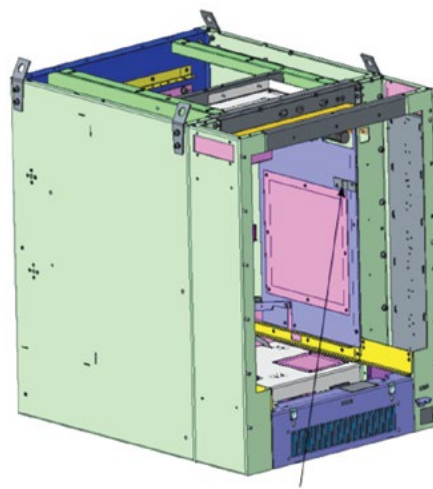
- X3 from guide rail side surface to the profile plate joining surface,
- Y3 bottom of the guide rail surface to the center of the hole in profile plate
- Z3 Outer surface of the slot in the guide rail to the center of the hole in profile plate
- To assemble the right side profile plate use M5X16 (2 quantity) Pan Head thread forming screws

Left side ASD profile plate assembly: this is done with the reference point P4, its dimensions are:

- X3 from guide rail side surface to the profile plate joining surface
- Y3 bottom of the guide rail surface to the center of the hole in profile plate
- Z3 Outer surface of the slot in the guide rail to the center of the hole in profile plate



Left Side ASD Profile Plate

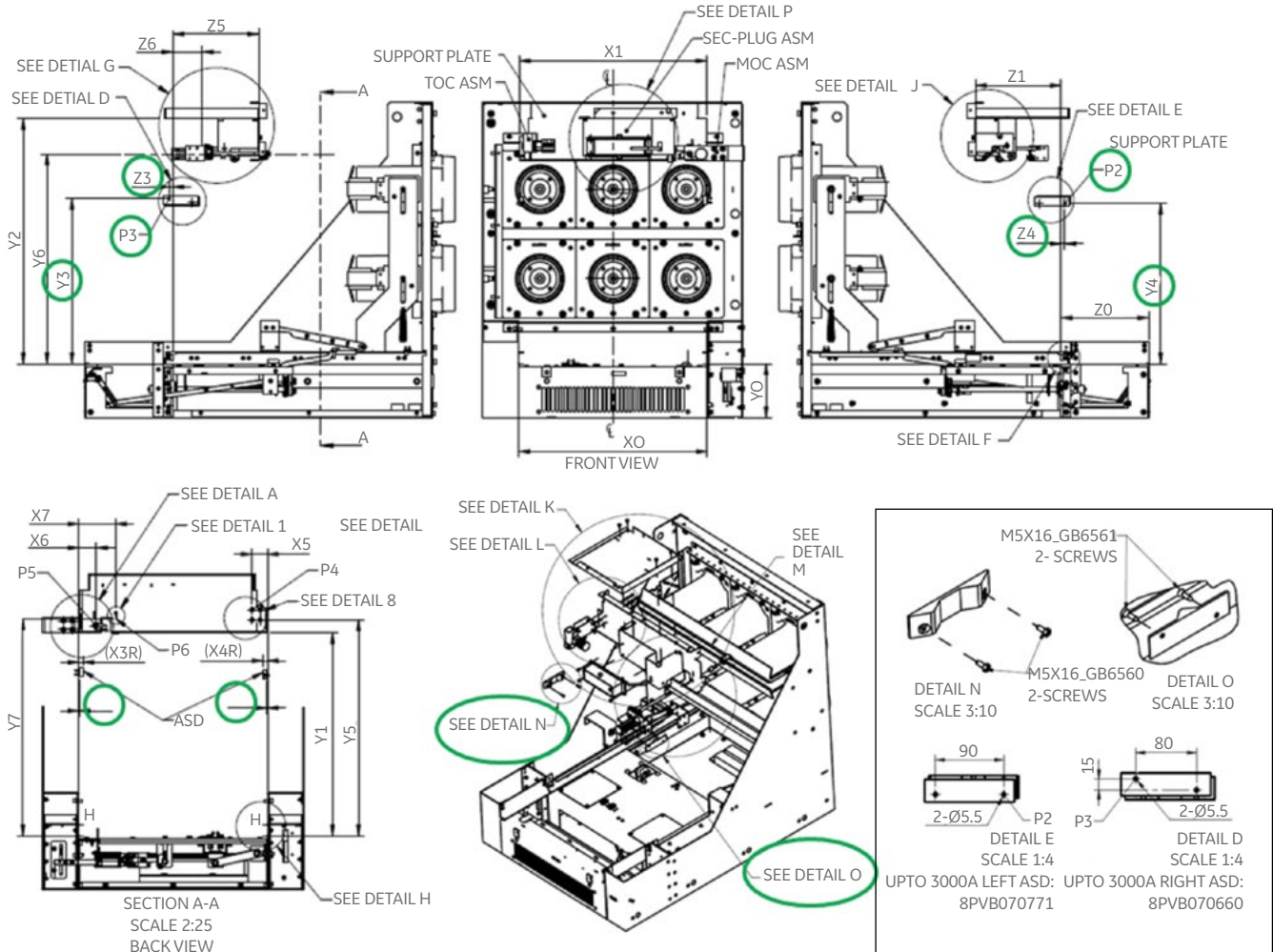


Right Side ASD Profile Plate

Fig-7: ASD Position in the Bloc (illustration for customer reference only)

3. Automatic Spring Discharge Assembly (ASD) (Cont.)

OUTLINE DRAWING



Follow and recheck the below reference dimensions for different ratings from the table-1

Fig-8: ASD Position Details
 Note: Dimensions referred to in section 5

4. Mechanism Operated Contact (MOC)

Bill of Materials

ITEM NUMBER	PART NUMBER	PART NAME	QUANTITY	PACKAGING BOX NUMBER
01	5PVB070030001 upto 2000A 5PVB070030002 for 3000A	MOC assembly	01	GQ-GE-SBCK-8
02	M8X20	bolt	04	GQ-GE-SBCK-7
03	M8	Nut	04	GQ-GE-SBCK-7
04	D8	Spacer	04	GQ-GE-SBCK-7
05	D8	Spring washer	04	GQ-GE-SBCK-7

MOC Installation

The MOC assembly option is located as shown in figure 9, and is mounted on four holes on the side plate of the SecoBloc L-frame assembly. The assembly has parts which interact whenever the breaker is operated ON or OFF and actuates the auxiliary switch. The mounting locations of the MOC assembly are mentioned below.

- A. Support bracket
- B. Joining holes/Hardwares of MOC Asm
- C. Main shaft
- D. Guide bushing for main shaft
- E. Breaker interacting part at test position
- F. Breaker interacting part at service position
- G. Support plate (reference only)
- H. Support plate of MOC (reference only)
- I. Side sheet of the panel (reference only)

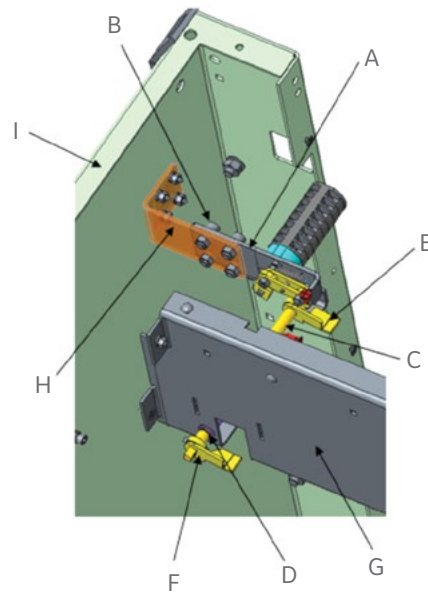
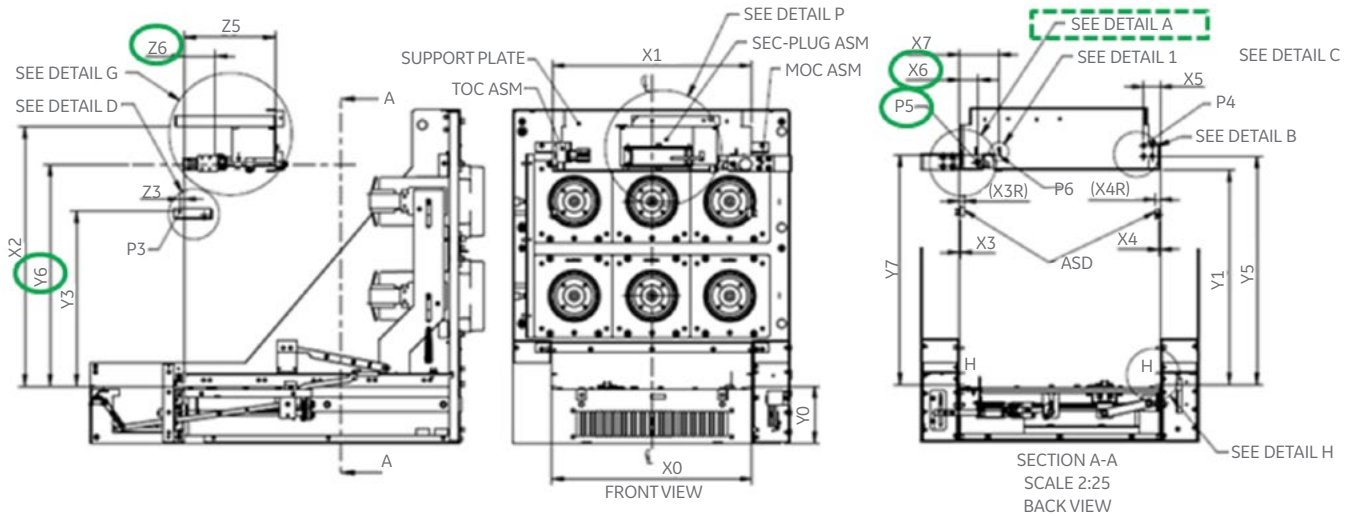


Fig-9: MOC Position in the Bloc

4. Mechanism Operated Contact (MOC) (Cont.)

OUTLINE DRAWING

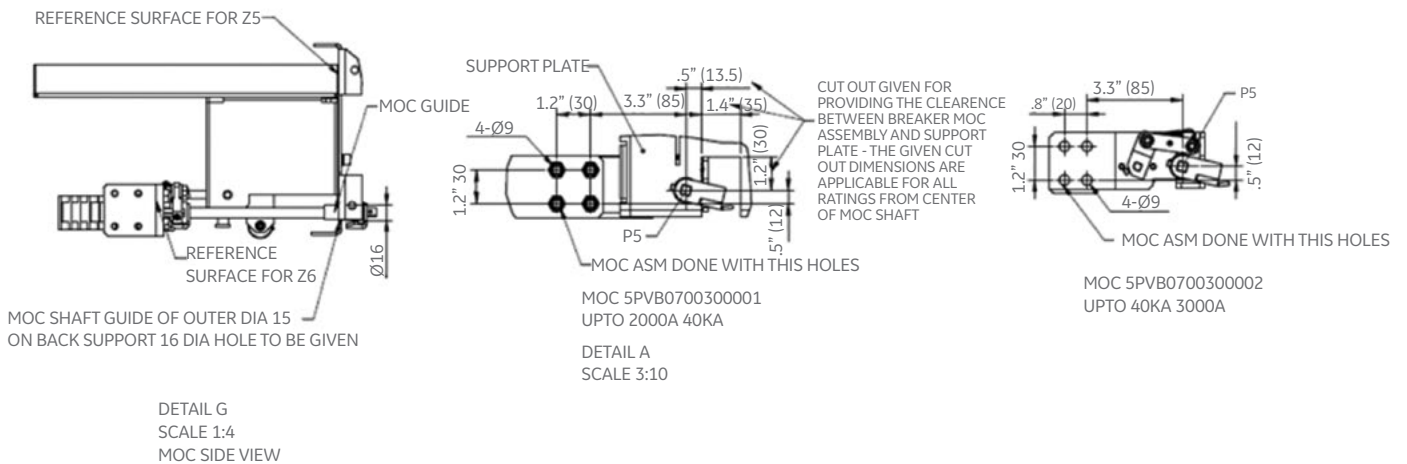


MOC assembly: this is done with the reference point P5, its dimensions are:

- X6 from guide rail side surface to center of the MOC main shaft
- Y6 bottom of the guide rail surface to the center of the MOC main shaft
- Z6 Outer surface of the slot in the guide rail to the outer surface of the MOC support bracket

Fig-10: MOC Position Details
Note: Dimensions referred to in section 5

OUTLINE DRAWING



MOC main shaft back side supported with guide bushing on Support plate and on front side assembled the support bracket using M8X20 hardware. There are two types of MOC, one is upto 2000A assembly number is 5PVB0700300001 & another for 3000A the assembly number: 5PVB0700300002

Follow and recheck the below reference dimensions for different ratings from the table-1

Fig-11: MOC Position in ratings
Note: Dimensions referred to in section 5

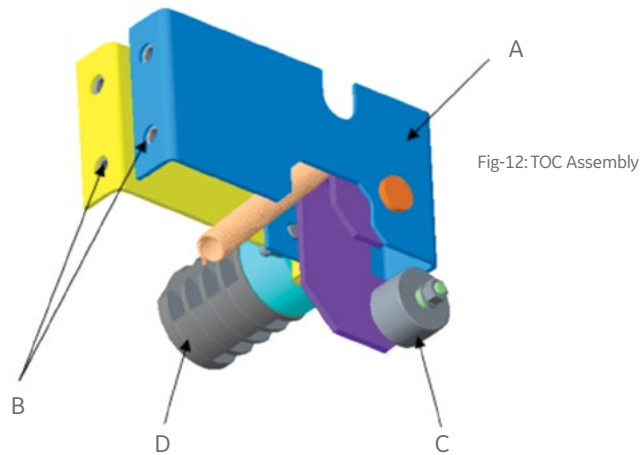
5. Truck Operated Contact (TOC)

Bill of Materials

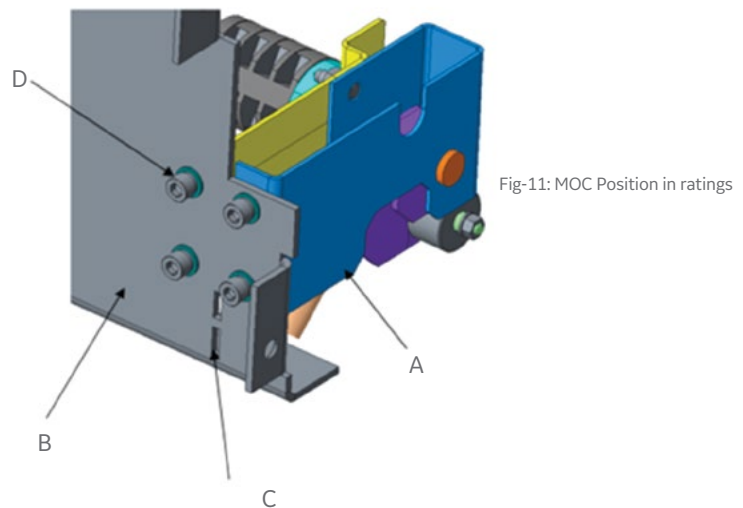
ITEM NUMBER	PART NUMBER	PART NAME	QUANTITY	PACKAGING BOX NUMBER
01	5PVB069995	TOC assembly	01	GQ-GE-SBCK-8
02	M6 X 16	Bolt	04	GQ-GE-SBCK-7
03	M6	Nut	04	GQ-GE-SBCK-7

The TOC assembly is assembled at the top of the breaker compartment at a distance offset from left side sheet on the plate A(Refer Plate A in secondary disconnect assembly). The installation of the TOC assembly is explained below.

- A. TOC support brackets
- B. Joining holes of TOC Assembly
- C. Roller for TOC switch activation
- D. Switch

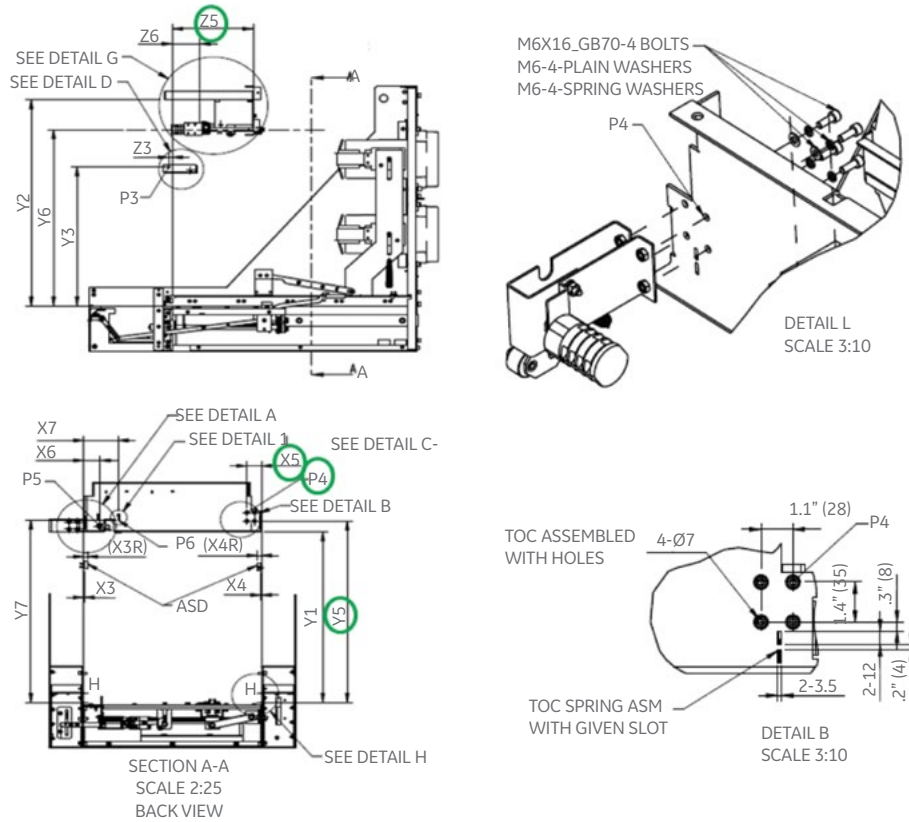


- A. TOC Assembly
- B. Support plate (Reference only)
- C. Slots to be provided on Support plate for TOC spring holding (Reference only)
- D. TOC Assembly joining hardware's (Reference only)



5. Truck Operated Contact (TOC) (Cont.)

OUTLINE DRAWING



Follow and recheck the below reference dimensions for different ratings from the table-1

Fig-11: MOC Position in ratings

5. Truck Operated Contact (TOC) (Cont.)

MOC TOC ASD SEC-Plug Dimensions are Shown in the Tables for all Ratings

	REF. POINT	X	Y	Z	
1200A 31.5KA	Guide Rail	X0=25.7" (654)	Y0=7.4" (188)	Z0=11.5" (291)	
	Support Plate	X1=25.6" (650)	Y1=25.4" (645.5)	Z1=11.8" (299)	
	Sec-Plug	X2=9.4" (237.5)	Y2=31" (787)	Z2=9.6" (244)	
	Sec-Plug Spring Cut Out	X7=5" (127)	Y7=27" (687)	-	
	ASD-Right	P2	X3=0.04" (1)	Y3=22.6" (573.5)	Z3=0.04" (1)
			X3R=0.55" (14)		
	ASD-Left	P3	X4=0.04" (1)	Y4=21.6" (556.1)	Z4=0.24" (6)
			X4R=0.59" (15)		
	TOC	P4	X5=1.77" (45)	Y5=28.4" (721.5)	Z5=11.8" (299)
MOC	P5	X6=2.4" (61)	Y6=28.6" (727)	Z6=4.1" (103.5)	

	REF. POINT	X	Y	Z	
300A 40KA	Guide Rail	X0=33.6" (854)	Y0=7.4" (188)	Z0=12" (304)	
	Support Plate	X1=35.2" (894)	Y1=29.1" (739)	Z1=8.2" (208)	
	Sec-Plug	X2=15.9" (403)	Y2=33.4" (848)	Z2=9.5" (242)	
	Sec-Plug Spring Cut Out	X7=6.35" (161.3)	Y7=30.9" (785)	-	
	ASD-Right	P2	X3=1.1" (27.5)	Y3=22.6" (574.5)	Z3=0.49" (12.5)
			X3R=1.6" (40.5)		
	ASD-Left	P3	X4=1.1" (27.5)	Y4=21.85" (555)	Z4=0.55" (14)
			X4R=1.63" (41.5)		
	TOC	P4	X5=3.5" (88.5)	Y5=32.2" (819)	Z5=11.7" (298)
MOC	P5	X6=3.8" (95.5)	Y6=30" (762.5)	Z6=4" (102.6)	

	REF. POINT	X	Y	Z	
1200A 40K & 2000A 40KA	Guide Rail	X0=25.7" (654)	Y0=7.4" (188)	Z0=12" (304)	
	Support Plate	X1=25.6" (650)	Y1=27.7" (703.5)	Z1=11.7" (298)	
	Sec-Plug	X2=9.4" (237.5)	Y2=33.5" (850)	Z2=9.5" (242)	
	Sec-Plug Spring Cut Out	X7=5" (127)	Y7=29.6" (752)	-	
	ASD-Right	P2	X3=0.04" (1)	Y3=22.6" (573.5)	Z3=0.5" (13)
			X3R=0.55" (14)		
	ASD-Left	P3	X4=0.04" (1)	Y4=21.6" (556.1)	Z4=0.5" (13)
			X4R=0.59" (15)		
	TOC	P4	X5=2.1" (53)	Y5=30.8" (783.5)	Z5=11.7" (298)
MOC	P5	X6=2.4" (61)	Y6=28.6" (727)	Z6=102.6" (102.6)	

Table-I: Reference dimensions are given

