



Parts Manual

Mfg. No: 071057-02
200 Amp Automatic Transfer Switch w/
ACCM NEMA 3R

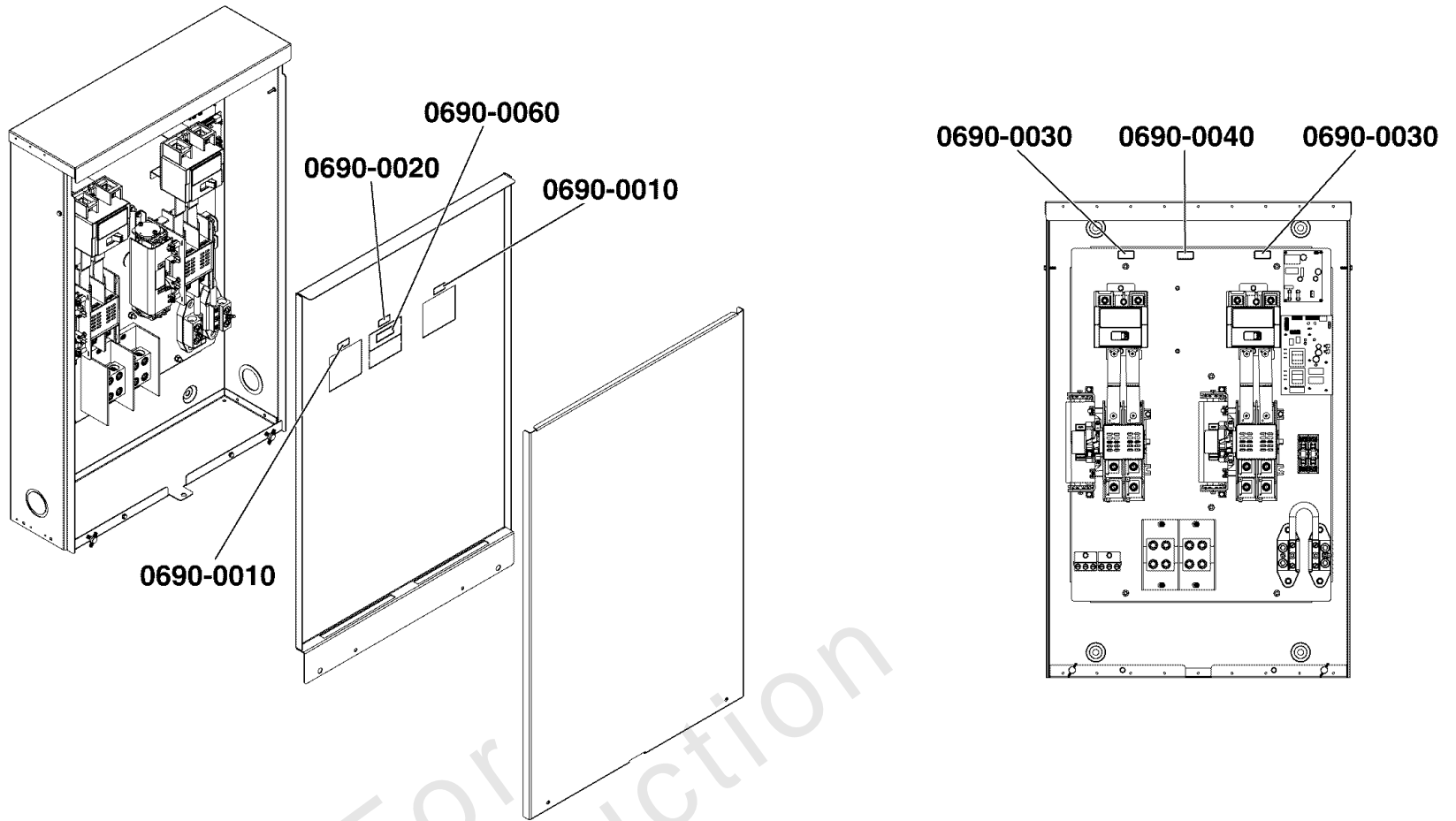
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Decals Group - ATS Connections (Used After Serial No. 1022480499 and Before Serial

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 071057-02

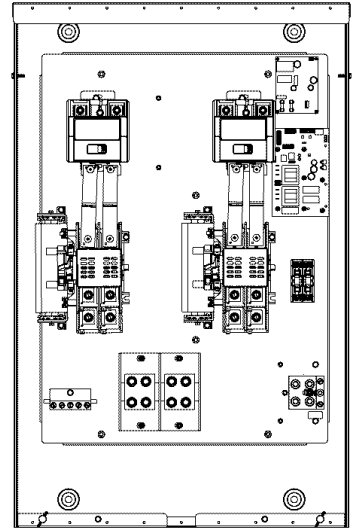
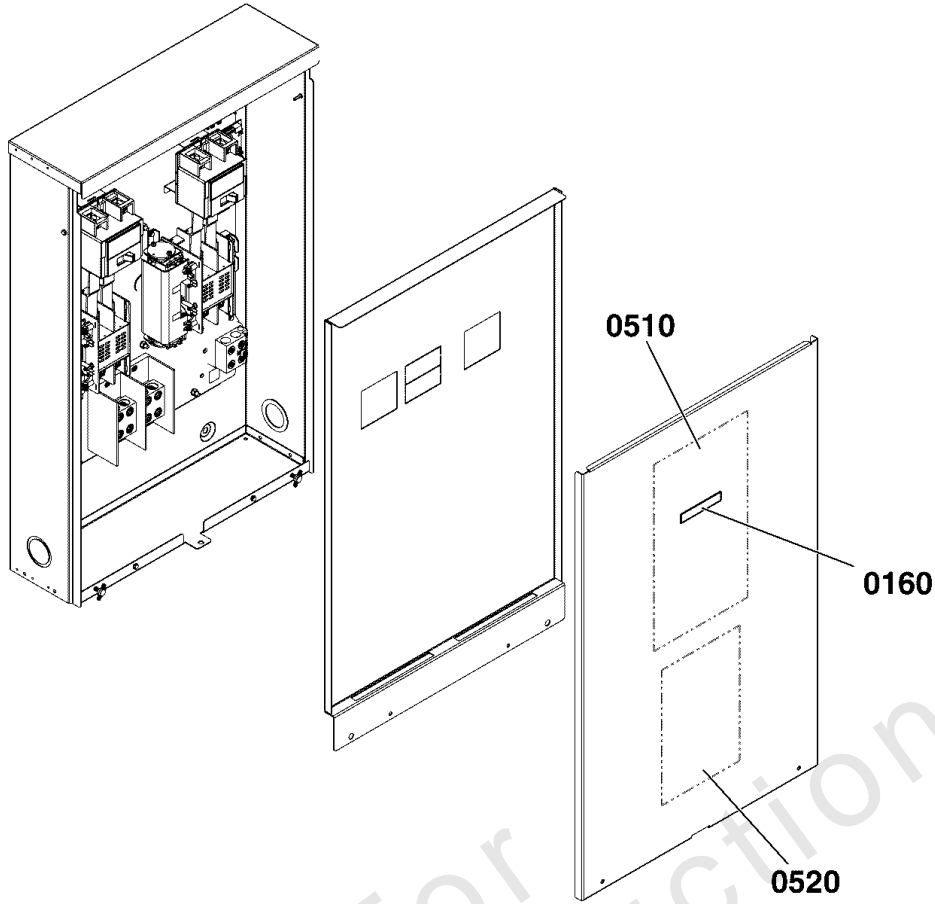


0690		
UTILITY DISCONNECT <small>80005691</small>	UTILITY CONNECTION <small>80005693</small>	SERVICE DISCONNECT <small>80005695</small>
0690-0010	0690-0030	0690-0050
GENERATOR SERVICE DISCONNECT <small>80011874</small>	GENERATOR CONNECTION <small>80005694</small>	LOCATED AT GENERATOR <small>80011074</small>
0690-0020	0690-0040	0690-0060

Decals Group - ATS Connections (Used After Serial No. 1022480499 and Before Serial

REF NO	PART NO	QTY	DESCRIPTION
0690	705423	1	DECAL SHEET - CONNECTIONS -(Includes items 0690-0010 thru 0690-0060)
0690-0010	-----	2	DECAL, Utility Disconnect
0690-0020	-----	1	DECAL, Generator Service Disconnect
0690-0030	-----	2	DECAL, Connection, Utility
0690-0040	-----	1	DECAL, Connection, Generator
0690-0050	-----	2	DECAL, Service Disconnect
0690-0060	-----	1	DECAL, Located At Generator

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0160

Briggs & Stratton Power Products Group, LLC
SERVICES DISCONNECT SWITCH AND AUTOMATIC TRANSFER SWITCH
SUGGESTED PART NUMBER 0510

FEATURES:
• 1500 AMP, 208 VAC, 3-POLE, 4-WIRE
• 1500 AMP, 480 VAC, 3-POLE, 4-WIRE
• 1500 AMP, 600 VAC, 3-POLE, 4-WIRE
• 1500 AMP, 600 VAC, 3-POLE, 3-WIRE

FUNCTIONS:
• 1500 AMP, 208 VAC, 3-POLE, 4-WIRE
• 1500 AMP, 480 VAC, 3-POLE, 4-WIRE
• 1500 AMP, 600 VAC, 3-POLE, 4-WIRE
• 1500 AMP, 600 VAC, 3-POLE, 3-WIRE

INSTALLATION:
• See manual for installation instructions.
• See manual for wiring instructions.

OPERATION:
• See manual for operation instructions.

TESTING:
• See manual for testing instructions.

REPAIRS:
• See manual for repair instructions.

REPLACEMENT:
• See manual for replacement instructions.

SAFETY:
• See manual for safety instructions.

WARRANTY:
• See manual for warranty information.

Submittal for use as service equipment. NORMAL source only. An additional document must be readily available for the alternate source, unless the alternate source is an automatic generator and can be readily installed.

FROM: UTILITIES
TO: GENERATOR
TO: MAIN BREAKER PANEL
SYSTEM GROUND
NEUTRAL TO GROUNDING ROD
MAIN GROUND PANEL - 2' MIN

Check/Track Breaker
In position - status
Off - OK
Tripped - Trip open
Fault - Trip open

0510

SYMPHONY II POWER MANAGEMENT SYSTEM

SYMPHONY II SYSTEM PRIORITIES

NOTE: LOWER NUMBER INDICATES HIGHER PRIORITY

PRIORITY	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

CONNECTION DIAGRAMS:
• See manual for connection diagrams.
• See manual for wiring diagrams.

LOAD	AMPERAGE	VOLTS	PHASES
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

USE COPPER CONDUCTORS ONLY

0520

Decals Group - ATS Informational

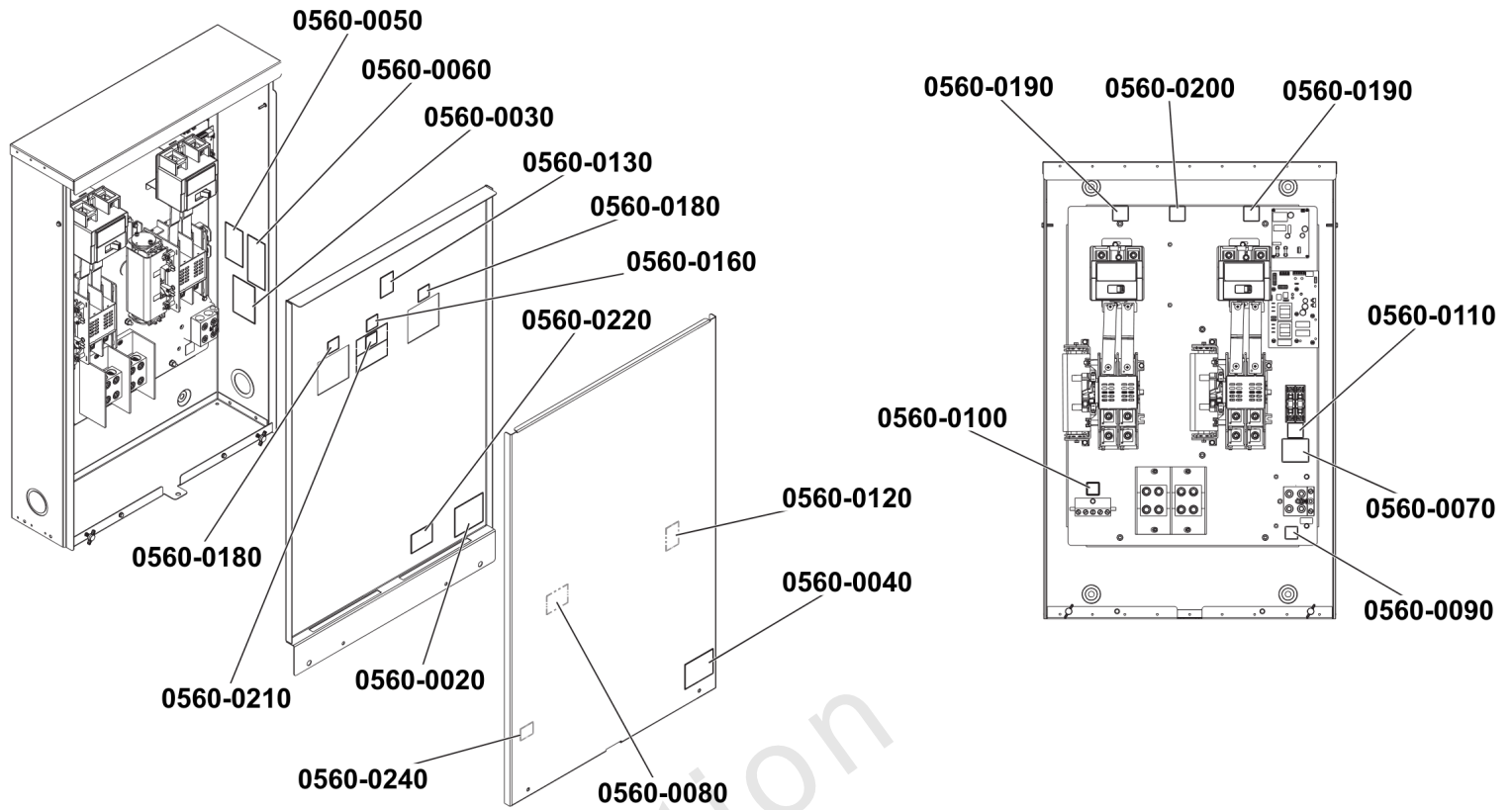
REF NO	PART NO	QTY	DESCRIPTION
0160	770606	1	DECAL, Symphony II
0510	709513	1	DECAL
0520	314329GS	1	DECAL

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Decals Group - ATS Warning (Used After Serial No. 1023493067)

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 071057-02



<p>0560</p> <p>Suitable for use as service equipment in Canada Peut être utilisé comme équipement de réparation au Canada 80016092</p>	<p>NOTICE AVIS AVISO</p> <p>A-A Terminals rated 1 AMP, 24 Volt AC B-B Terminals rated 1 AMP, 120 Volt AC Pilot duty. Bornes A-A pour une tension nominale de 1 A, 24 V c.a. Bornes B-B pour une tension de 1 A, 120 V c.a. Service du pilote. Terminales calibrados A-A 1 Amperio, 24 Voltios CA Terminales calibrados B-B 80016094</p>	<p>Continuous load current not to exceed 80% of circuit breaker rating Le courant de charge en continu ne dépasse pas 80% du courant nominal du disjoncteur La carga de corriente permanente no debe exceder 80016097</p>	<p>When protected by one of the type circuit breakers described below, rated not more than 125 amperes, this transfer switch is rated for use on a circuit capable of delivering not more than 22,000 rms symmetrical, 240 volts max. Lorsqu'il est protégé par l'un des types de disjoncteurs de circuit décrits ci-dessous, avec une valeur nominale ne dépassant pas 125 A, cet interrupteur de transfert est coté pour une utilisation sur un circuit capable de fournir au maximum un courant de 22 000 RMS symétrique, avec un voltage de 240 V maximum. Cuando se protege con uno de los tipos de interruptores que se describen a continuación, con un calibre no mayor a 125 amperios, este interruptor de transferencia está calibrado para ser usado en un circuito capaz de suministrar no más de 22,000 rms simétricos, máximo 240 voltios. Cutler-Hammer Type QCHW Cutler-Hammer Type GB, GHB, GC, GHC Cutler-Hammer Type FD, GD, HFD Square D Type QDM1, QDM2, QDM1-VH, QDM2-VH Square D Type Q2-H, Q2H, QDL GE Type THHQ, THQC, THQL, THQD, TQDL, THQDL Siemens Type HED4 80016109</p>	<p>Utility Disconnect Fonctionnalité Débrancher Utilidad Desconectar 80016103</p>
<p>0560-0010</p> <p>WARNING AVERTISSEMENT ADVERTENCIA</p> <p>Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel. Risque de décharge électrique. Ne pas retirer le couvercle. Aucune pièce à entretenir par l'utilisateur à l'intérieur. Confier l'entretien à du personnel de service qualifié. Riesgo de descarga eléctrica, no quite la cubierta. No hay partes que puedan ser reparadas por el usuario en el interior. Haga que personal calificado realice el servicio. 80016101</p>	<p>NOTICE AVIS AVISO</p> <p>Wire all Class 2 circuits using types CL3, CL3P, CL3R or equivalent conductors. OR Wire all circuits as Class 1 or Electric Light and Power circuits. Lier tous les circuits électrique de Classe 2 en utilisant des conducteurs CL3, CL3P, CL3R ou équivalent. OU Lier tous les circuits électriques en tant que Classe 1 ou comme lumière électrique ou circuits d'alimentation. Conecte todos los circuitos de clase 2 al usar conductores de tipo CL3, CL3P, CL3R o equivalentes. 80016095</p>	<p>0560-0080</p> <p>N 80016104</p>	<p>0560-0140</p> <p>When protected by one of the type circuit breakers described below, rated not more than 250 amperes, this transfer switch is rated for use on a circuit capable of delivering not more than 25,000 rms symmetrical, 240 volts max. Lorsqu'il est protégé par l'un des types de disjoncteurs de circuit décrits ci-dessous, avec une valeur nominale ne dépassant pas 250 A, cet interrupteur de transfert est coté pour une utilisation sur un circuit capable de fournir au maximum un courant de 25 000 RMS symétrique, avec un voltage de 240 V maximum. Cuando se protege con uno de los tipos de interruptores que se describen a continuación, con un calibre no mayor a 250 amperios, este interruptor de transferencia está calibrado para ser usado en un circuito capaz de suministrar no más de 25,000 rms simétricos, máximo 240 voltios. Cutler-Hammer Type BWH, CSR, Cutler-Hammer Type FD, HFD Cutler-Hammer Type JDB, JD, HJD Square D Type QDM2, QDM2-VH Square D Type QDM2, QDM2-VH, Square D Type Q2-H, Q2H, QDL GE Type THQD, THQDL GE Type SF, TFK, TFK 80016234</p>	<p>0560-0180</p>
<p>0560-0020</p> <p>WARNING AVERTISSEMENT ADVERTENCIA</p> <p>Electric shock hazard could result in death or serious injury. Do not install or remove current transformer when generator is operating. Place generator in off position and remove controller fuse before servicing. Risque de choc électrique pouvant provoquer des blessures graves, voire la mort. Ne pas installer ou retirer le transformateur de courant lorsque la génératrice est en fonction. Placez la génératrice à la position d'arrêt et retirez le fusible de contrôle avant tout entretien. Riesgo de descarga eléctrica que puede resultar en muerte o lesión seria. No instale ni retire el transformador cuando el generador está en funcionamiento. Apague el generador y retire el fusible del controlador antes de reparar. 80015809</p>	<p>0560-0060</p> <p>Replace with UL listed fuse of same type and rating 600 volt, 10 amp Remplacez avec un fusible homologue UL de même type et classification de 600 volts, 10 amp. Reemplace con un fusible certificado por UL del mismo tipo y clasificación: 600 voltios, 10 amperios 80015819</p>	<p>0560-0090</p> <p>Utility 240 V AC Fonctionnalité 240 V CA Utilidad 240 V AC 80016098</p>	<p>0560-0150</p> <p>Generator Service Disconnect Générateur Réparation Débrancher Generator Servicio Desconectar 80016100</p>	<p>0560-0190</p>
<p>0560-0030</p> <p>WARNING AVERTISSEMENT ADVERTENCIA</p> <p>Electric shock hazard could result in death or serious injury. More than one live circuit - disconnect all sources of supply before servicing. Risque de choc électrique pouvant provoquer des blessures graves, voire la mort. Plus d'un circuit sous tension - débrancher toutes les sources d'alimentation avant d'entreprendre le dépannage. Riesgo de descarga eléctrica que puede resultar en muerte o lesión seria. Más de un circuito vivo - desconecte todas las fuentes de suministro antes de servicio. 80089650</p>	<p>0560-0070</p>	<p>0560-0100</p> <p>Utility 240 V AC Fonctionnalité 240 V CA Utilidad 240 V AC 80016108</p>	<p>0560-0160</p> <p>Service Disconnect Réparation Débrancher Servicio Desconectar 80016102</p>	<p>0560-0200</p>
<p>0560-0040</p>	<p>0560-0080</p>	<p>0560-0110</p> <p>Suitable for use as service equipment except in Canada Peut être utilisé comme équipement de réparation à l'exception du Canada Adecuado para uso como equipo 80016106</p>	<p>0560-0170</p>	<p>0560-0210</p> <p>WARNING AVERTISSEMENT ADVERTENCIA</p> <p>Cancer and Reproductive Harm www.P65Warnings.ca.gov Cancer et Troubles de l'Appareil Reproducteur www.P65Warnings.ca.gov Cáncer y Problemas Reproductivos www.P65Warnings.ca.gov 800320073</p>
	<p>0560-0080</p>	<p>0560-0120</p> <p>Reinstall Barrier After Service or Maintenance Réinstaller la barrière Après la réparation ou L'entretien Reinstalar barreras Después del servicio o 80016101</p>	<p>0560-0180</p>	<p>0560-0220</p> <p>Generator Disconnect Located at Generator Disjoncteur d'interruption de la génératrice situé sur la génératrice Generator desconectar localizado en generador 80016104</p>
	<p>0560-0080</p>	<p>0560-0130</p>	<p>0560-0190</p>	<p>0560-0230</p> <p>MFG. ID: AUB 80016100</p>
	<p>0560-0080</p>	<p>0560-0130</p>	<p>0560-0240</p>	<p>0560-0240</p>

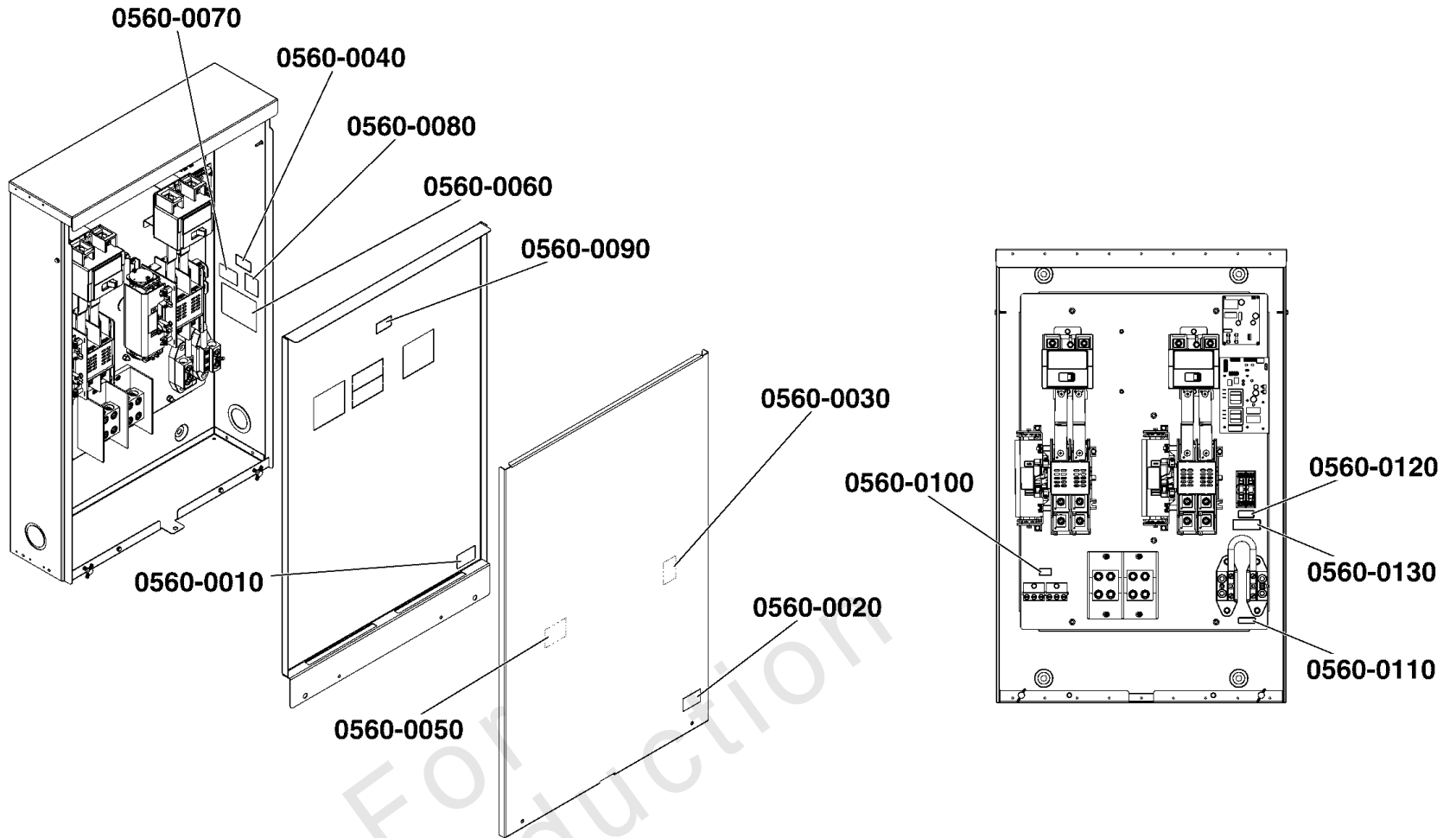
Decals Group - ATS Warning (Used After Serial No. 1023493067)






REF NO	PART NO	QTY	DESCRIPTION
0560	84007663	1	DECAL SHEET - WARNINGS -(Includes items 0560-0010 thru 0560-0240)
0560-0010	-----	1	DECAL, Suitable as SRV Equipment, Canada
0560-0020	-----	1	DECAL-WARNING, SHOCK
0560-0030	-----	1	DECAL-WARNING, ELECTRIC SHOCK
0560-0040	-----	1	DECAL-WARNING, ELECTRIC SHOCK
0560-0050	-----	1	DECAL, Notice, Contacts Rated
0560-0060	-----	1	DECAL, Notice, Wire Circuits
0560-0070	-----	1	DECAL-FUSE REPLACEMENT
0560-0080	-----	1	DECAL, Breaker, Circuit
0560-0090	-----	1	DECAL-NEUTRAL
0560-0100	-----	2	DECAL-GROUND
0560-0110	-----	1	DECAL, Utility 240VAC
0560-0120	-----	1	DECAL, Suitable as Service Equipment
0560-0130	-----	1	DECAL, Reinstall Barrier
0560-0140	-----	1	DECAL, Approved Circuit Breakers, 100A
0560-0150	-----	1	DECAL, Approved Circuit Breakers, 200A
0560-0160	-----	1	DECAL, Generator Service Disconnect
0560-0170	-----	2	DECAL, Service Disconnect
0560-0180	-----	2	DECAL, Disconnect, Utility
0560-0190	-----	2	DECAL, Connection, Utility
0560-0200	-----	1	DECAL, Connection, Generator
0560-0210	-----	1	DECAL, Location
0560-0220	-----	1	DECAL, Warning -(The installation of this decal is required for units manufactured after 08/30/2018 and sold in the state of California.)
0560-0230	-----	1	DECAL, Generator Disconnect Located at Generator
0560-0240	-----	1	DECAL, MOR, AUBURN

Decals Group - ATS Warning (Used Before Serial No. 1023387309)

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 071057-02



0560	SUITABLE FOR USE AS SERVICE EQUIPMENT <small>80005672</small>	 <p>WARNING Hazardous Voltage</p> <p>Installing or removing current transformer when generator is operating will produce high voltage that can cause personal injury or death.</p> <p>DO NOT install, remove or open current transformer circuit without removing 15 amp fuse in generator and placing generator switch in the OFF position. <small>80005682</small></p>	<p>NOTICE A-A Terminals rated 1 AMP, 24 Volt AC B-B Terminals rated 1 AMP, 120 Volt AC Pilot duty. <small>80005683</small></p>	Reinstall Barrier after Service or Maintenance <small>80005685</small>	UTILITY 240 VAC <small>80005687</small>
 <p>WARNING Electric Shock Hazard could result in death or serious injury. Do not remove panel/barrier. No serviceable parts inside. Refer servicing to qualified personnel only. Disconnect all sources of supply voltage before servicing. <small>80005688</small></p>	0560-0030	0560-0060	0560-0070	0560-0090	Replace with UL listed fuse of same type and rating 600 volt, 10 amp <small>80005689</small>
0560-0010	SUITABLE FOR USE AS SERVICE EQUIPMENT EXCEPT IN CANADA <small>80005690</small>	Continuous load current not to exceed 80% of circuit breaker rating <small>80005691</small>	<p>NOTICE Wire all Class 2 circuits using types CL2, CL3P, CL3R or equivalent conductors. OR Wire all circuits as Class 1 or Electric Light and Power circuits. <small>80005692</small></p>		0560-0130
 <p>WARNING Electric shock hazard could result in death or serious injury. Disconnect all sources of supply voltage before servicing. <small>80005693</small></p>	0560-0040	0560-0050	0560-0080		0560-0110

Decals Group - ATS Warning (Used Before Serial No. 1023387309)

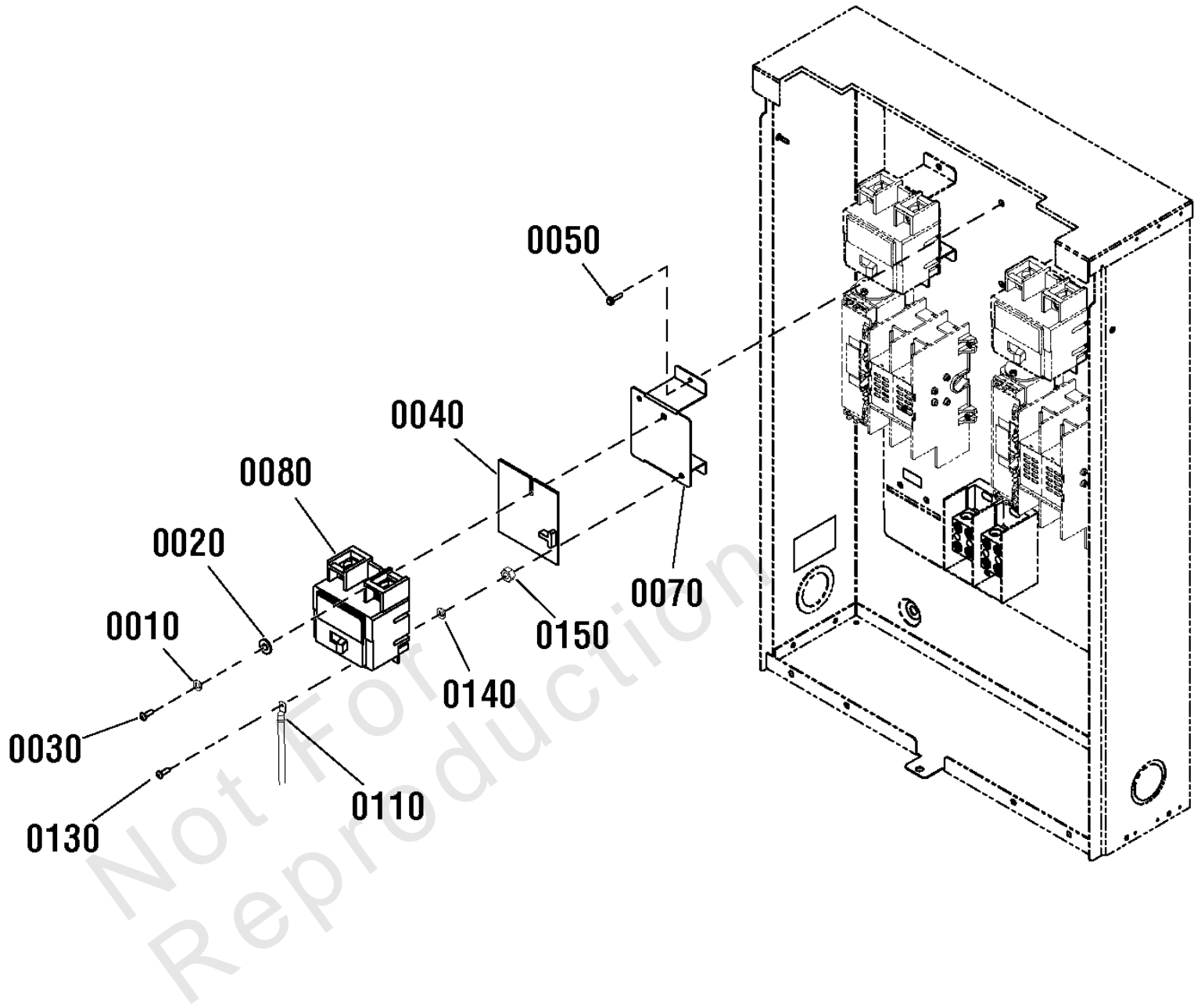
REF NO	PART NO	QTY	DESCRIPTION
0560	704420	1	DECAL SHEET - WARNINGS -(Includes items 0350-0010 thru 0350-0130)
0560-0010	-----	1	DECAL, Warning, Electric Shock
0560-0020	-----	1	DECAL, Warning, Electric Shock
0560-0030	-----	1	DECAL, Suitable as SRV Equipment
0560-0040	-----	1	DECAL, Suitable as SRV Equipment Except Canada
0560-0050	-----	1	DECAL, Breaker, Circuit, 80%
0560-0060	-----	1	DECAL, Warning, CT Notice
0560-0070	-----	1	DECAL, Notice Contacts Rated
0560-0080	-----	1	DECAL, Notice, Wire Circuits
0560-0090	-----	1	DECAL, Reinstall Barrier After
0560-0100	-----	2	DECAL, Ground
0560-0110	-----	1	DECAL, Neutral
0560-0120	-----	1	DECAL, Utility, 240 VAC
0560-0130	-----	1	DECAL, Fuse

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Optional Accessory - Circuit Breaker Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 071057-02



Optional Accessory - Circuit Breaker Group

REF NO	PART NO	QTY	DESCRIPTION
0010	-----		* WASHER, Lock, #10
0020	-----		* WASHER, Flat, #10
0030	-----		* SCREW, TRILOBULAR, #10-32 x 3/4
0040	192879GS		INSULATION
0050	-----		* SCREW, TRILOBULAR, #10-32 x 1/2
0070	314880GS		BRACKET
0080	318878GS		BREAKER, Circuit, 200A -(Connect to Generator Power)
0110	314323GS		WIRE
0130	-----		* SCREW, Phillips Head, 1/4-20 x 3/4
0140	-----		* LOCKWASHER, 1/4
0150	-----		* NUT, 1/4-20

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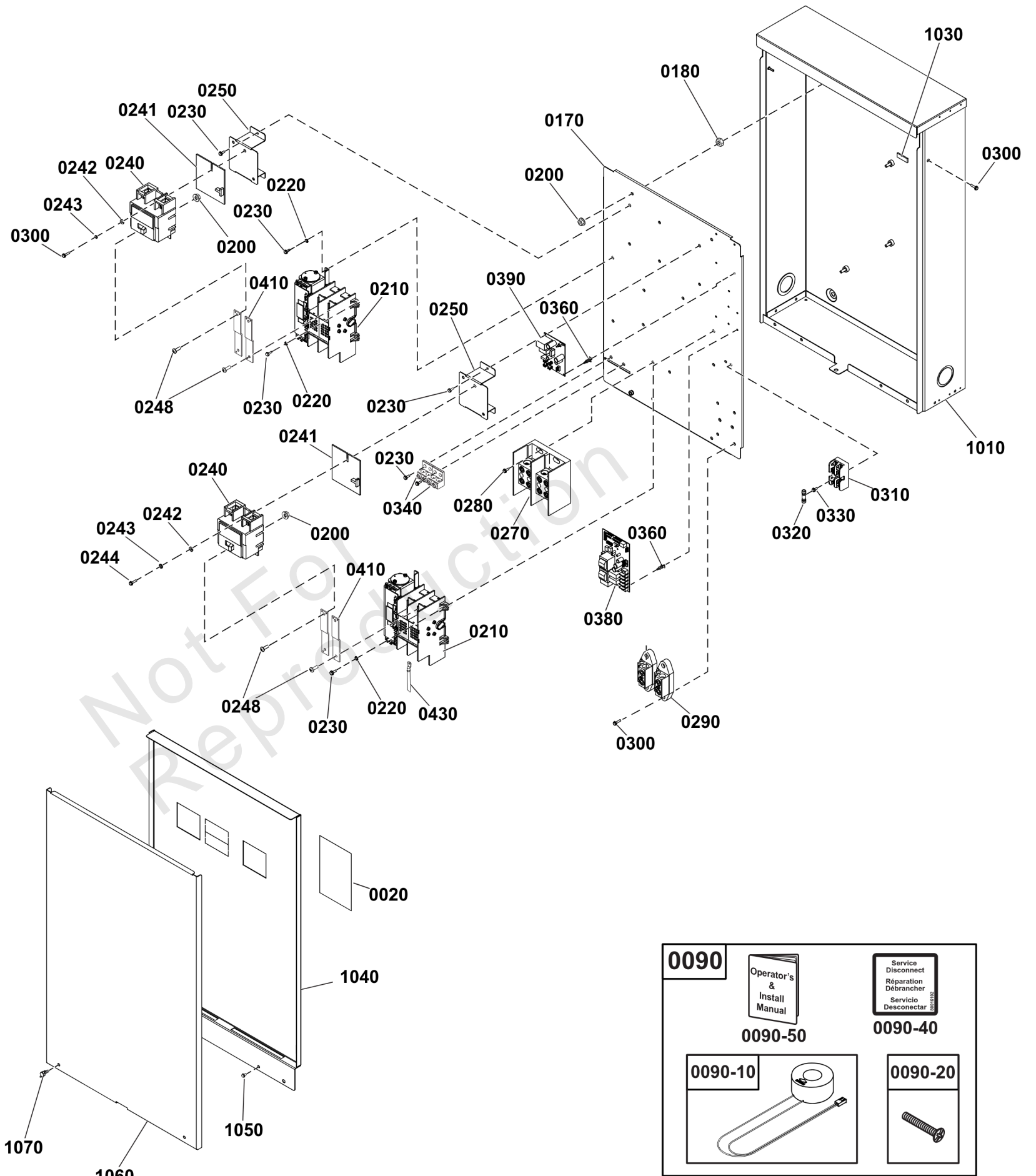
Footnotes:

* Items without part numbers are common fasteners. Purchase locally.

Transfer Switch - Hingeless Enclosure

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 071057-02



Transfer Switch - Hingeless Enclosure

REF NO	PART NO	QTY	DESCRIPTION
0020	193664GS	1	INSULATION
0090	709506	1	KIT, Manual ACC -(Includes items 0090-0010, 0090-20, 0090-40, 0090-50)
0090-10	208106GS	2	TRANSFORMER
0090-20	84007446	1	SCREW, Bonding, 1/4-20 X 2"
0090-40	-----	2	DECAL, Service Disconnect
0090-50	-----	1	MANUAL, Installation and Operator
0170	313885GS	1	BACK PANEL
0180	22241GS	6	NUT, 3/8-16
0200	703061	14	NUT, HEX KEPS, 1/4-20
0210	315050GS	2	CONTACTOR, 200A
0220	23762GS	6	WASHER
0230	200020GS	13	SCREW, Trilobular, #10-32 x 1/2
0240	192065GS	2	BREAKER, Circuit, 200A
0241	192879GS	2	INSULATOR
0242	23897GS	2	WASHER, Flat, #10 - M5
0243	22152GS	2	WASHER, Lock, #10
0244	24679GS	2	TRILOBULAR, #10-32 x 3/4
0248	-----	8	SCREW, Phillips Head, 1/4-20 x 3/4
0250	314880GS	2	BRACKET
0270	706845	1	TERMINAL
0280	-----	4	SCREW, #10-32 X 1/2
0290	84006993	1	TERMINAL, Neutral 6 Position
0300	24679GS	8	TRILOBULAR, #10-32 x 3/4
0300	-----	2	SCREW, Hex Head, Trilobular, #10-32 x 7/8
0310	192151GS	1	HOLDER, Fuse
0320	205110GS	2	FUSE
0330	192730GS	2	SCREW, Hex Head, Trilobular, #6-32 x 3/8
0340	84004498	2	LUG
0360	197979GS	10	SPACER
0380	771701	1	BOARD-CIRCUIT
0390	310443GS	1	BOARD, Circuit
0410	709512	4	BAR, Buss
0430	314324GS	4	WIRE -(Not Illustrated)
1010	313251GS	1	ENCLOSURE
1030	-----	2	SEAL, Foam
1040	-----	1	PANEL, Deadfront
1050	B5763GS	2	SCREW
1060	313347GS	1	DOOR
1070	315108GS	2	SCREW
--	317609GS		DECAL, Power Delay Notice -(Optional Accessory) (Not Illustrated)
--	6310		KIT, Circuit Breaker -(Optional Accessory) (Not Illustrated)

Footnotes:

* Items without part numbers are common fasteners. Purchase locally.

Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%)								
Property Class	5.6		8.8		10.9		12.9	
	Class 5.6		Class 8.8		Class 10.9		Class 12.9	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs		ft/lbs	
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	No Marks		SAE Grade 5		SAE Grade 8	
	SAE Grade 2		SAE Grade 5		SAE Grade 8	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs	
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	29	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

The guides and ruler furnished below are designed to help you select the appropriate hardware.



Nut, M8

Thread Diameter (mm)

Inside Diameter (in) Threads per inch

Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread Diameter (mm) Distance between threads (mm) Body Length (mm)

Body Diameter Threads per inch Body Length (in)

Screw, 1/2- 16 x 2



Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - for prevailing torque locknuts - use 65% of grade 5 torques.
 - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

Common Hardware Types

Hex Head Capscrew



Washer



Carriage Bolt



Hex Nut

Wrench & Fastener Size Guide

1/4" Bolt or Nut Wrench—7/16"	5/16" Bolt or Nut Wrench—1/2"	3/8" Bolt or Nut Wrench—9/16"	7/16" Bolt or Nut Wrench (Bolt)—5/8" Wrench (Nut)—11/16"	1/2" Bolt or Nut Wrench—3/4"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm

