

INSTRUCTIONS FOR INSTALLATION AND MAINTENANCE OF "JBR" RECEPTACLE: 30 & 60 AMPERE

"JBR" SERIES:

Receptacle Interlocked with switch for use in hazardous locations.

Compliances:

U.L. Standards 1010, 1682, 1686
CSA Standard C22.2

Electrical Ratings

Maximum voltage: 600 VAC at 50-400 Hz Continuous
current: 30 or 60 amperes

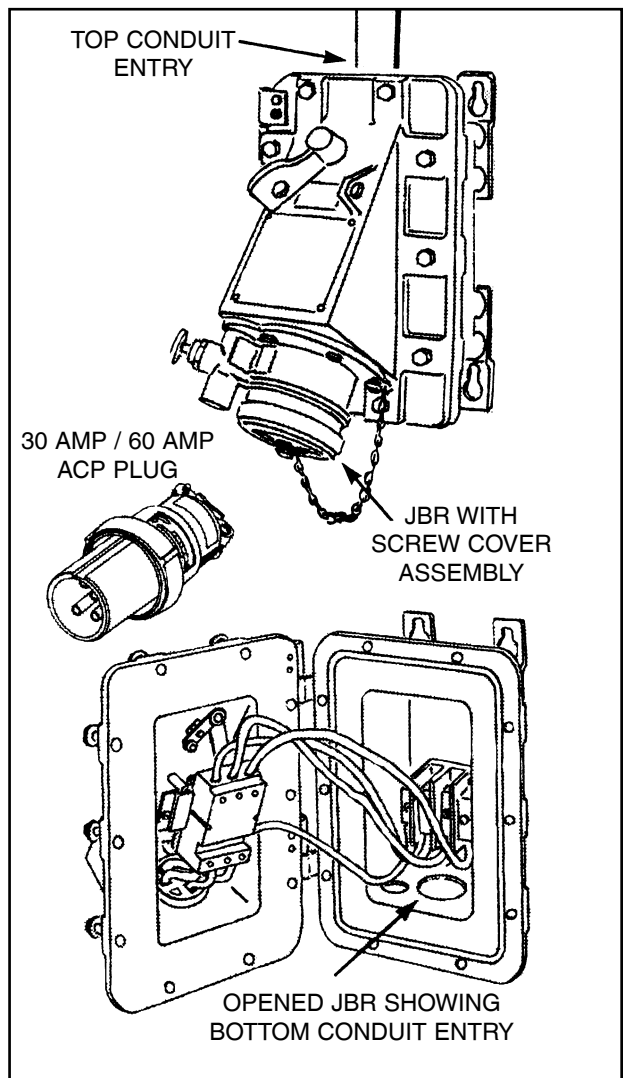
APPLICATION:

- Designed to supply power to portable or fixed electrical equipment such as motor generator units, welders, pumps, compressors and similar apparatus.
- Ideal for use on shipping docks, ports, and other "Ship to Shore" applications.
- Suitable for use in locations where a weatherproof enclosure is required.
- Interlocked receptacle design to provide for use in hazardous locations.
- Rough usage construction.

FEATURES:

- A. Rugged and weatherproof boxes or covers sealed with gasket.
- B. Grounding style. **Style 2** receptacles ground through shell and extra pole.
- C. Insulating blocks. Provide high mechanical and dielectric strength, low "arc tracking".
- D. Arcing confined. Interlocked receptacle design means that all electrical switching is done with internal switch. Plug can not be engaged or disengaged with receptacle when switch is "ON".
- E. Positive contact. Brass contacts have integral springs for positive, maintained electrical contact.
- F. Receptacle face enables the engagement of plugs for a weatherproof union.
- G. Positive ground. Grounding terminal for style 2 receptacle "makes first, breaks last."
- H. Receptacle is designed so that it can only be turned to the "ON" position when the proper mating plug is engaged with it, providing a totally "dead-front" receptacle. See "Table B" for a list of the mating plugs.
- I. Receptacles come with both a flip cover and a screw cover for protection against environmental conditions. See page 9 of this instruction sheet for ratings.
- J. P4 option. Special polarization prevents plug insertion into a receptacle wired for a different voltage.

Read instructions carefully and with full understanding for safe installation and operation



Style 2 Interlocked receptacle is equipped with contacts designed to provide a safety polarization means called "controlled length" contacts. This feature will not allow the plug grounding contact (style 2) to touch an energized receptacle "line" contact in the event the plug becomes damaged and/or loses its primary polarization means and/or is rotated into the incorrect position.

Retain this instruction sheet for future reference.

Except as expressly provided by Appleton Electric, LLC (Appleton), Appleton products are intended for ultimate purchase by industrial users and for operation by persons trained and experienced in the use and maintenance of this equipment and not for consumers or consumer use.
 Appleton warranties DO NOT extend to, and no reseller is authorized to extend Appleton's warranties to, any consumer.

MODIFICATION WARNING

DO NOT modify these devices in anyway. Replace any missing or broken parts with proper replacement parts from Appleton Electric, LLC. Modification of these devices or substitution of parts with non-standard parts may result in serious/fatal person injury from electrocution.

DAMAGE WARNING

If any part of the receptacle appear to be missing, broken or shown sign of damage:

DISCONTINUE USE IMMEDIATELY!

This condition could cause serious/fatal personal injury due to electrocution and/or equipment damage. Repair with the proper replacement part(s) before continuing service.

ELECTRICAL WARNING

Electrical power must be turned "OFF" before and during installation and maintenance. Failure to do so may result in serious or fatal injuries due to electrocution.

MODIFICATION WARNING

Use only copper cable or wire per the National Electric Code (NEC) for given amp rating of the receptacle. Tighten terminal block lug screws to the torques given in "Table A" for the listed wire ranges.
 Failure to do so may result in over stressed wire terminations which could cause the conductors to pull out of the terminal block and cause serious/fatal injuries due to electrocution.

WIRING WARNING

A wire scheme must be followed so that the same color wire is always put into the same numbered contact opening in all plugs, connectors and receptacles in the system. This will help to insure the correct polarity for the system and helps to eliminate possibilities for equipment damage and/or personal injuries due to electrocution.

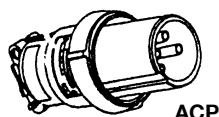
CAUTION

To prevent ignition of hazardous atmospheres do not use in Class I, Group F locations that contain electrically conductive dusts.

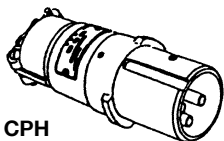
**TABLE A:
Tightening torque terminal block lug screws**

	WIRE RANGE (AWG)	TIGHTENING TORQUE (IN-LBS)
	2/0-6	120
	8	40
	10 - 14	35

TABLE B:



ACP



CPH

ACP & CPH PLUGS FOR JBR RECEPTACLE

CABLE DIAMETER (INCHES)	PLUG CATALOG NUMBER			
	30 AMP		60 AMP	
	2W, 3P	3W, 4P	2W, 3P	3W, 4P
.390 - 1.375	ACP3023BC	ACP3034BC	ACP6023BC	ACP6034BC
.500 - .875	CPH3023B	CPH3034B	----	----
.390 - 1.375	----	----	CPH6023BC	CPH6034BC

SUPPLEMENT 1

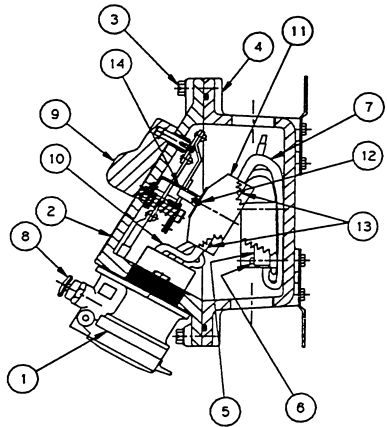
INTERMATEABILITY CHART

APPLETON RECEPTACLE RATING	APPLETON RECEPTACLE CAT. NO.	APPLETON PLUG RATING	APPLETON PLUG CAT. NO.	CROUSE-HINDS PLUG CAT. NO.
600 VAC, 30 A 10 HP	JBR3023-150	600 VAC, 30 A, 10 HP	ACP3023BC	APJ3385
600 VAC, 60 A, 20 HP	JBR6023-150	600 VAC, 60 A 20 HP	ACP6023BC	APJ6385
600 VAC, 30 A, 20 HP	JBR3034-150	600 VAC, 30 A, 20 HP	ACP3034BC	APJ3485
600 VAC, 60 A, 30 HP	JBR6034-150	600 VAC, 60 A, 30 HP	ACP6034BC	APJ6485

Note:

The Appleton "JBR" receptacles and "ACP" plugs are UL listed combinations.
 The Appleton "JBR" receptacle with Crouse-Hinds UL listed "APJ" series plugs are UL Classified combinations.
 "JBR" receptacle and "APJ" plugs are Classified for Class I, Div. 1, Groups B, C and D.
 Receptacles with the P4 option have the interior rotated 22 1/2° for special polarization applications. They are compatible only with Appleton plugs with the P4 option, or Crouse-Hinds plugs with the S4 option.

FIGURE A – JBR RECEPTACLE



CATALOG NUMBER	"A" CONDUIT ENTRY SIZE
JBR3023-150	1-1/2 — 11-1/2 NPT OR
JBR3034-150	
JBR6023-150	1-1/4 — 11-1/2 NPT (WITH PROVIDED REDUCER)
JBR6034-150	

NOTE:
JBR RECEPTACLE WITH
SCREW COVER NOT SHOWN

DIMENSIONS: JBR RECEPTACLE WITH COVER OPEN FIGURE B

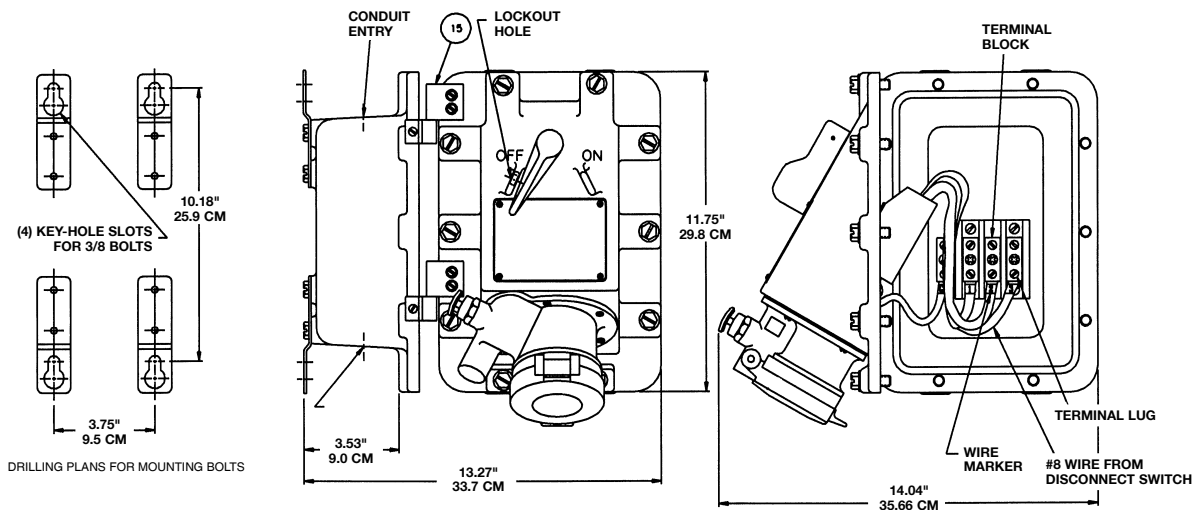
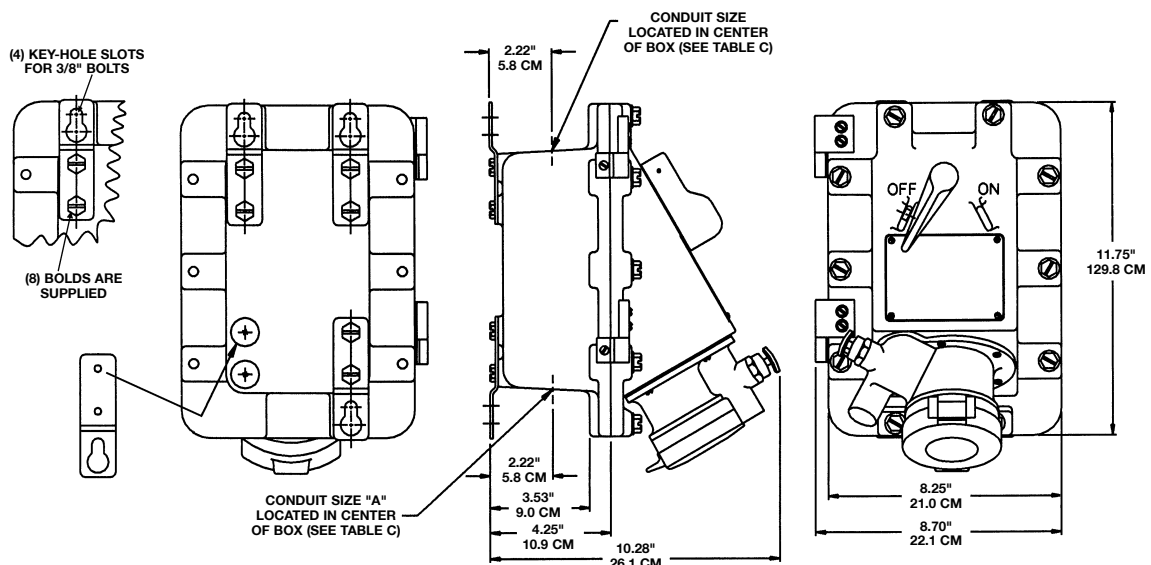


FIGURE C – JBR INTERLOCKED RECEPTACLE



INSTALLATION INSTRUCTIONS FOR: "JBR" RECEPTACLE: 30AMP & 60AMP

The "JBR" receptacles is designed to accept the clamping rings of "ACP" plugs. Clamping rings fit onto the receptacles to form a weather-proof assembly with plug in use and also helps to prevent plug fall out when receptacle is in "OFF" position. When the plug is withdrawn from the receptacles that have the flip cover option installed, the gasketed cover automatically closes tightly against receptacle opening providing weather-proof protection.

For the "JBR" receptacle that has the screw cover option installed, the gasketed cover closes tightly against receptacle opening providing weather-tight protection.

WARNING

- Before starting with the installation, make sure the receptacle assembly is suitable for the intended location according to the National Electrical Code or Canadian Electrical Code.
- If the receptacle assembly is not suitable, serious damage and injuries may result.

INSTALLATION:

Owners are responsible for damages or injuries if these rules are not followed.

1. PREPARE MOUNTING POSITION:

- A. The receptacle assembly must be mounted on (4) 3/8" steel, hex-head bolts per ANSI B18.2.1-1981, securely fastened to wall, column, strut or other vertical structure, in one plane, capable of supporting the receptacle, its associated conduit and wiring. Note that these bolts are not provided with the receptacle assembly.
- B. Referring to "Figure C" for dimensions of receptacle, prepare the structure for the mounting bolts by drilling, tapping, securing nuts or another method of providing threaded anchors for the bolts.
- C. Install the bolts leaving 3/8" to 1/2" under the heads.
 - The bolts must be engaged at least five (5) full threads.

2. MOUNTING THE RECEPTACLE:

- A. Place the receptacle assembly on the previously prepared mounting bolts, with the receptacle face (1) at the lower-most position (see "Figure A"). Make sure that the shank of each of the bolts is in the small part of the key-hole slots. Tighten the bolts to 18 to 20 lbs-ft torque.

3. OPENING RECEPTACLE COVER:

- A. Referring to "Figure A", loosen receptacle cover bolts (3), but do not attempt to remove them completely from the cover (2) because they are designed to be captive.
- B. The cover (2) is now free to swing on its factory installed hinges.
- C. Although it is not necessary, the cover (2) can be removed from the housing (4) by loosening the terminal block lug set screws (6) and removing wires (7) from terminal block lugs (5) and then carefully lifting the cover enough to clear the hinge pins; approximately .90 inches.
- D. It is recommended that if removed, the cover be placed outer surface down on a clean surface. Protect the receptacle cover with a tarp or other covering to ensure that it remains clean and functional.

4. CONDUIT INSTALLATION:

- A. Conduit entries (see "Figure C") of 1-1/2" size NPT are provided on both the top and bottom of the housing (4). Note that two 1-1/2" to 1-1/4" reducer bushings are also provided which can be used to reduce the conduit entry size down to 1-1/4", if desired.
 - All conduit entries must have seals within 18 inches of the housing per National Electrical Code requirements.
- B. Make sure all conduit entries are clean and free of debris before installing conduit and close-up plugs.

INSTALLATION INSTRUCTIONS FOR: "JBR" RECEPTACLE: 30AMP & 60AMP

- C. On all conduits, reducer bushings and close-up plugs, grease must be used to completely seal out water.
 - Appleton Electric, LLC thread lubricant, part number TLC-3 is recommended to be applied on threads in --three generous lines running parallel to the thread axis and spaced equidistant around the thread.
- D. Conduits and close-up plugs must be turned in until snug and then 1/2 turn further with a wrench.
 - Do not over-tighten as damage to the housing threads or reducer bushings may occur.
 - Make sure any installed breathers and drains are tightened in the same manner.
- E. At this point ensure that all threaded holes in the housing are closed to prevent entry of rain, splashed water, and hose directed water, and also to comply with Class I and Class II hazardous location requirements.
 - This includes openings for breathers and drain.

5. WIRING:

WARNING

- "JBR" Receptacle is designed and tested for use with copper conductors only.
- **DO NOT USE ALUMINUM WIRING** as dangerous over-heating and fire may result.

WARNING

Electrical power must be turned "OFF" before and during installation and maintenance.
FAILURE TO DO SO MAY RESULT IN SERIOUS OR FATAL INJURIES DUE TO ELECTROCUTION.

TABLE E

DIMENSIONS IN INCHES TERMINAL WIRE RANGE AND STRIPPING GUIDE

Marathon Terminal Block

Ampere Rating	Strip Length (Inch)	Terminal Wire Range (AWG)	Torque Value
30	1/2	#10 - #6	35-45
60	5/8	#6 - #2	45-50

Eagle Terminal Block

Ampere Rating	Strip Length (Inch)	Terminal Wire Range (AWG)	Torque Value
30	3/8	#10 - #6	20-35
60	3/8	#6 - #4	20-35

- A. Referring to "Figure B", feed power supply wiring into housing (4) through conduit entries.
- B. Strip the individual conductors per "Table E".
- C. Connect wires to the proper terminal block lug (5) location by loosening (but not removing) terminal block set screw (6). Insert conductors including all strands into lugs according to your established wiring scheme. Tighten set screws (6) to the appropriate value shown in "Table A". Please note the wire markers on the wires (7) connected between the disconnect switch and terminal block lugs (5). These wire markers correspond to the contact identification markings found on the back of the receptacle contact block.

6. ELECTRICAL TESTING:

All wiring must be checked and tested to ensure that all circuits are according to plan and that there are no unwanted opens, shorts or grounds. Do not apply power until the following steps are completed:

- A. Test to verify correct phasing and ground connections.
- B. Test insulation resistance by meggering, high voltage or hi-pot test, to be sure the system does not have any short circuits or unwanted grounds.

7. CLEAN RECEPTACLE COVER AND HOUSING:

Before replacing or closing the receptacle cover, it is strongly recommended that all dirt, debris and other foreign materials be removed from the housing interior.

- This action should be taken to help keep the breathers and drains from being plugged by these materials.
- Make sure the housing flange surface is clean. Wipe it with a clean, dry cloth to remove any foreign materials.
- Clean the mating surface of the receptacle cover in the same manner while being careful not to damage the gasket.

8. REPLACE RECEPTACLE COVER:

- A. If the receptacle cover was removed, carefully rehang the cover on the hinges while the cover is positioned approximately 90 degrees from the housing.
- B. Referring to "Figure A", connect the wires (7) that are leading out of the disconnect switch to the terminal block lugs (5) in ascending order from left to right. Note the wire markers that are on these wires. Each of these is numbered to correspond to the phase identification numbers. Torque each terminal block lug screw (6) to the value shown in "Table A", depending on wire size used.

INSTALLATION INSTRUCTIONS FOR: "JBR" RECEPTACLE: 30AMP & 60AMP

- C. Apply a thin film of conductive grease on the milled flange surfaces of the housing. Appleton Electric, LLC part number TLC-3 is recommended.
- The purpose of this grease is to further ensure against water migration through the receptacle cover and housing joint.
 - Grease should be reapplied each time the receptacle cover is opened.
- D. Close the receptacle cover, start the bolts by hand to help prevent cross-threading.
- The bolts are a self-tapping type so this step must be done carefully.
 - Tighten the bolts in a crossing pattern to a final value of 25-30 lbs - ft torque.
 - Do not over tighten since there is a possibility of stripping threads in the housing.

9. POWER:

With all electrical tests made, the cover bolts tightened and the switch in the "OFF" position, branch circuit power may be applied to the receptacle.

10. OPERATION:

- A. Referring to "Figure A", note that the initial position of the interlock rod assembly (8) is in the upper-most position away from the receptacle face (1).
- B. The receptacle can be activated by engaging the appropriate mating plug with the receptacle. The interlock rod assembly (8) should "jump" to the lowest position so that the end of the rod engages with the hole in the plug.
- C. The receptacle can now be turned to the "ON" position. The plug is then mechanically locked in the receptacle.
- D. A hole is provided in the receptacle cover for the use of padlocks (see "Figure B") to "lockout" unauthorized movement of the handle (9) from the "OFF" position.

11. MAINTENANCE:

- A. Receptacle must be inspected regularly. Schedule of inspections is determined by frequency of use and environmental conditions.
- It is recommended that inspections be carried out at least once a year.

WARNING

If any parts of the receptacle appear to be missing, broken or show signs of damage:

DISCONTINUE USE IMMEDIATELY!

This condition could cause serious/fatal personal injury due to electrocution and/or equipment damage. Repair with the proper replacement part(s) before continuing service.

DURING THE INSPECTIONS, PERFORM AT LEAST THE FOLLOWING:

1. Inspect all conductor terminations for secureness.
 - Retorque to values given previously in these instructions.
 - Discoloration due to excessive heat is an indicator of possible problems and should be thoroughly investigated and repaired as necessary.
2. Check grounding and bonding effectiveness/continuity.
 - Retorque connections to original values.
3. Check gaskets for damage and replace as necessary.
4. Inspect breathers and drains for proper function.
 - Clean or replace as necessary.
5. Check all conduits and close-up plugs for tightness and retorque as necessary.
6. Clean interior of all foreign materials.
7. Make sure all openings are closed.
8. Cover bolts must be tightened to 25-30 lbs-ft torque,
9. Make sure the receptacle assembly nameplate located on the outside of the receptacle cover remains clean and legible.
 - **DO NOT PAINT NAMEPLATE**
10. Receptacle insulator and contacts are not serviceable. Consult with factory.

It is recommended that an electrical preventive maintenance program such as found in the National Fire Protection Bulletin NFPA No. 70B, be followed in addition to the above.

B. DISCONNECT SWITCH:

Disconnect switches occasionally fail and need to be replaced. The disconnect switch utilized in this receptacle can be replaced with the same type and brand as factory installed. Doing so will not affect the U.L. Listing.

TO REPLACE DISCONNECT SWITCH:

- Referring to "Figure A", loosen the line and load sides of disconnect switch pressure screws (13) and remove line side wires (10) and load side wires (7) from switch (11).
- Remove disconnect switch by removing disconnect switch mounting screws (12). Remember the orientation of the handle (9) with respect to the switch position. The handle must indicate that the receptacle is "OFF" when the disconnect switch is in the "OFF" position.
- Replace the disconnect switch with the same type as shown in "Table F", reversing the steps taken to remove it. Make sure to reconnect the wires to the same locations as before disassembly.

TABLE F: DISCONNECT SWITCHES

Disconnect Switch Part Number			AMP Ratings (AMPS)	Number of Poles
Appleton	Bryant	Hubbell		
501734	30002	7832	30	2
501735	30003	7810UD	30	3
301607	60002	7862	60	2
301608	60003	7863	60	3

- Torque the disconnect switch mounting screws (12) to 10-14 in-lbs to fasten switch to mounting brackets (14).
- Torque the disconnect switch pressure screws (13) to 12-15 in-lbs to hold wires in place.
- Conduct tests as detailed in section 6, page 6 of these instructions.

C. MOUNTING FEET (WITH ASSEMBLY NOT MOUNTED):

- Referring to "Figure G", remove mounting feet screws from the back of the mounting feet assemblies (1).
- Replace mounting feet with new ones as shown in "Table G".
- Tighten mounting feet screws to 25-30 in-lbs torque.

D. COVER AND HOUSING HINGES (WITH RECEPTACLE COVER CLOSED):

- Referring to "Figure G", loosen and remove housing hinge bolts. Replace old hinge assemblies with the new assemblies (2) as shown in "Table G". Make sure to properly align new hinge. Tighten all hinge screws to 25-32 in-lbs torque.

E. TERMINAL BLOCK:

- Referring to "Figure G", loosen terminal block lug screws and remove wires (7) from lugs.
- Remove terminal block mounting screws and remove terminal block from housing.
- Replace the terminal block assembly (5) with a new one as specified in "Table G" by reversing the steps taken to remove it.
- Torque terminal block mounting screws to 8-12 in-lbs to fasten to housing.
- Replace wires (7) into the same lug locations as removed from the old terminal block. Torque terminal block lug screws to the value shown in "Table A", depending on wire size. Make sure wires are securely fastened.

F. GROUND LUG:

- Referring to "Figure G", loosen ground lug screw and remove ground wire from lug.
- Remove ground lug mounting screw from housing.
- Replace ground lug and mounting screw assembly (7) with the appropriate one shown in "Table G".
- Torque ground lug mounting screw to 16-20 in-lbs to fasten to housing.
- Reconnect ground wire to lug and tighten ground lug screw to 30-40 in-lbs torque.

G. LOAD SIDE WIRES:

- Referring to "Figure A", loosen the load side of the disconnect switch pressure screws (13) and remove wires (7) from the disconnect switch (11).
- Loosen the terminal block lug screws (6) and remove wires (7) from the lugs.
- Replace the wire with the same type as shown in "Table G", reversing the steps taken to remove it.
- Torque the disconnect switch pressure screws (13) to 12-15 in-lbs to hold the wire in place.
- Torque the terminal block lug screws to the appropriate value shown in "Table A".
Note that the tightening torque required is dependent on the wire size.
- Conduct tests as detailed in Section 6, page 6 of these instructions.

H. SCREW COVER ASSEMBLY:

- Referring to "Figure G" (page 11), remove the receptacle housing screw that fastens the end of the chain to the receptacle housing.
- Unscrew the screw cover assembly (3) from the receptacle housing.
- Replace the screw cover assembly with the appropriate one shown in "Table G" by reversing the steps taken to remove it.
- Torque the receptacle housing screw to 15-20 in-lbs.

I. DRAIN AND BREATHER INSTALLATION:

- Referring to "Figure G" (page 11), remove the two close up plugs, one on the top and one on the bottom of the housing and replace them with the drain and breather shown in "Table G" if desired. Apply grease to threads of drain and breather as previously stated in this instruction sheet. Install the drain and breather and turn in until snug and then 1/2 turn further with a wrench. Do not over tighten as damage to the housing threads may occur.

STANDARD FEATURES:

- Epoxy coated finish both inside and outside of receptacle cover and housing.
- Hinges allow receptacle cover to be removed for easy maintenance.
- Terminal block provided for easy wiring.
- Numbered terminal block position to correspond to receptacle phase designation.
See "Figure F" for receptacle phase designations for both a 3 pole & 4 pole unit.
- Spring-loaded receptacle flip cover to attain NEMA type ratings that include 3 & 3R.
- Screw cover also provided. Unit can be used in areas where NEMA type 4 and 4X ratings are required.

OPTIONS:

- The receptacle housing has been designed with provisions for a drain and breather.

RATINGS:

"JBR" IS U.L. LISTED FOR (STANDARD FLIP COVER):

- Class I, Div. 1 and 2, Groups B, C, D
- Class II, Div. 1 and 2, Groups F, G

NEMA TYPE DESIGNATION:

NEMA 3R: Raintight
NEMA 5: Dust-Tight
NEMA 7BCD, 9FG: Class I and Class II,
Hazardous Area
NEMA 12: Drip, Dust, Rust Resistant

"JBR" IS U.L. LISTED FOR (WITH OPTIONAL SCREW COVER INSTALLED):

- Class I, Div. 1 and 2, Groups C, D
- Class II, Div. 1 and 2, Groups F, G

NEMA TYPE DESIGNATION:

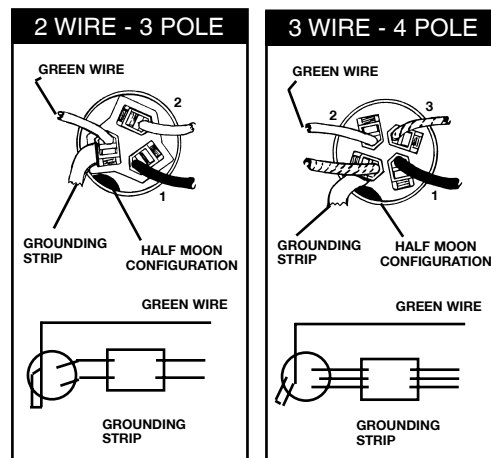
NEMA 3, 3R: Outdoor, Raintight
NEMA 4, 4X: Watertight, Corrosion Resistant
NEMA 5: Dust-Tight
NEMA 7BCD, 9FG: Class I and Class II,
Hazardous Area
NEMA 12: Drip, Dust, Rust Resistant

TABLE G:**JBR RECEPTACLE REPLACEMENT PARTS**

REFERENCE NUMBER	AMPACITY	DESCRIPTION	PART NUMBER	QUANTITY PER ASSY
1	30 & 60	Mounting Feet (4) & Bolts (8) Kit	350992	1
2	30 & 60	Hinge (2) & Bolts (6) Kit	350993	1
3	30	2W-3P Screw Cover Assembly	350251-3	1
	30	3W - 4P Screw Cover Assembly	350251-3	1
	60	2W - 3P Screw Cover Assembly	350417-G	1
	60	3W - 4P Screw Cover Assembly	350420-G	1
4	30	2 Pole Disconnect Switch	501734	1
	30	3 Pole Disconnect Switch	501735	1
	60	2 Pole Disconnect Switch	301607	1
	60	3 Pole Disconnect Switch	301608	1
5	30 & 60	Terminal Block & MTG Screw Assembly -	350995	1
6	30 & 60	Ground Lug & MTG Screw Assembly -	350996	1
7	30	No. 8 AWG Wire - 2W-3P	99035-9	2
	30	No. 8 AWG Wire - 2W-3P	99035-9	3
	60	No. 6 AWG Wire - 2W-3P	99035-7	2
	60	No. 6 AWG Wire - 2W-3P	99035-7	3
8	---	Drain & Breather - Class I, Group B, C, D, Div. 1 & 2	ECDB50-B	2
9	60	Flip Cover Assembly - 60 AMP 2W-3P	350424-1	1
	60	Flip Cover Assembly - 60 AMP 3W-4P	350425-1	1
10	30 & 60	Interlock Knob	301322	1
---	---	Lubricant	TLC-3	---
N/A	30 & 60	Instruction Sheet For Installation Operation & Maintenance of Receptacle	330112	---

See "Figure G" and "Figure H" for replacement part drawing detail information.

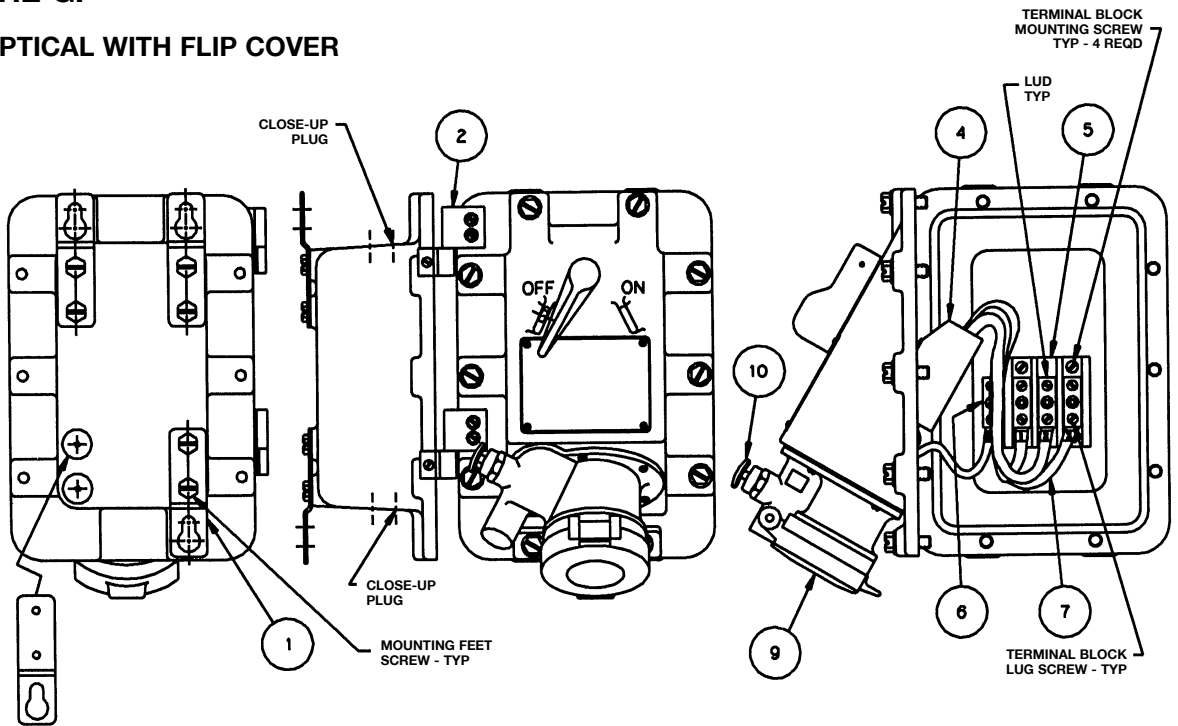
**FIGURE F
RECEPTACLE PHASE DESIGNATIONS**



JBR RECEPTACLE REPLACEMENT PARTS

FIGURE G:

RECEPTICAL WITH FLIP COVER



RECEPTICAL WITH SCREW COVER

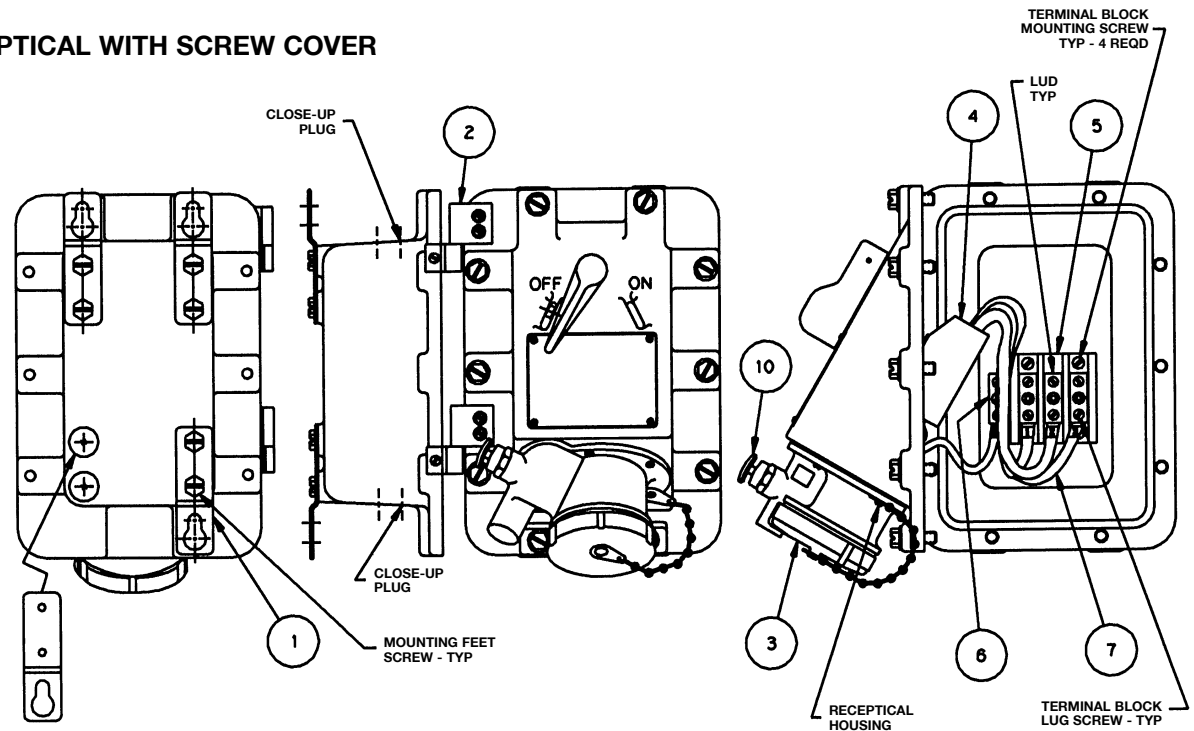


TABLE H

Catalog Number	Type of Receptacle
JBR3023-150	FLIP COVER OR SCREW COVER
JBR3034-150	
JBR6023-150	
JBR6034-150	