

INSTALLATION INSTRUCTIONS

ReliaGear™ busway Bolt-on tap





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Warranty and general information

Hazard classifications

The following important highlighted information appears throughout this document to warn of potential hazards or to call attention to information that clarifies a procedure.

Carefully read all instructions and become familiar with the devices before trying to install, operate, service or maintain this equipment.

- **Danger:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **Warning:** Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
- **Caution:** Indicates that if the hazard is not avoided could result in minor or moderate injury.
 - **Notice:** Is used to notify of practices not related to personal injury.

Trademarks

NOTICE

ReliaGear™

All third-party trademarks are the property of their respective owners.

Warranty

This document is based on information available at the time of publication. While efforts have been made to ensure accuracy, the information contained herein does not cover all details or variations in hardware and software, nor does it provide for every possible contingency in connection with installation, operation, and maintenance. Features may be described herein that are not present in all hardware and software systems.

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No warranties of merchantability or fitness for purpose shall apply. Contact your local sales office if further information is required concerning any aspect of ReliaGear busway operation or maintenance.

Indoor busway

This section describes the installation of a bolt-on tap onto ReliaGear™ busway.



WARNING: De-energize the busway before inserting or removing plugs. Make sure the plug switching device is open. Failure to do so may result in serious injury or death.

01 Removing the shipping screws from the joint

--02 Existing joint in the busway **CAUTION:** The size and weight of the bolt-on plug/ cable tap box requires auxiliary and independent support from either the top or bottom during and after installation. The busway and the mounting saddle must not be used as the sole support for the plug, except for vertical mounting. Mounting holes for drop rods are provided. Make certain that the bus plug is level in all orientations with the busway after all connections are completed. Failure to level the plug could result in overheating of the plug connection.

Step 1 - Plug support

• Remove the joint caps and bolts from the section on which the Flex-A-Tap joint is to be installed. Save the caps and bolts for later reuse.

NOTICE

NOTICE: If the joint is to be installed on existing busway, reuse the existing $3/8-16 \times 5/8$ " bolts. If the installation is onto new busway, use the $3/8-16 \times 5/8$ bolts provided.

 Remove the #12 x 3/8" joint shipping screws, as shown in Figure 1, and save them for later reuse.
 Loosen the joint bolts and remove the existing joint assembly, shown in Figure 2.

Step 2 - Plug mounting saddle

Mount the plug mounting saddle to the busway on the left side of the joint as follows:

- Loosen the hanger bolts.
- Mount the saddle assembly on the busway to the left of the joint to be tapped, as shown in Figure 3 and Figure 4. The mounting distance from the end of the bar is given in Table 1.
- Tighten the hanger bolts securely.
- If there is no housing spacer at Ref. A in Figure 3, attach a housing spacer at Ref. B, as shown in Figure 5 and Figure 6. Secure with the 3/8-16 x 5/8 bolts provided, tightened to 25 ft-lb (34 N-m), as shown in Figure 7.







03 Mounting the saddle assembly on the busway, side view

04 Mounting the saddle assembly on the busway, end view

05 Placing a spacer

on the housing

06

Tapping the housing spacer into place

07 Securing the spacer to the housing





Table 1: Mounting distance for saddle assembly from end of busway

Plug type	Distance from end (A), in.
1600 A power break	50.0625
Cable tap box	37.9062



05 Housing spacer

06



07

Step 3 - Flex-A-Tap™ installation

- Install the joint cap, maintaining the nominal position, as shown in Figure 8. Secure the joint cap with either the retained $3/8 - 16 \times 5/8$ " or the 5/16 x 2" bolts, as required.
- Insert the longer Flex-A-Tap joint into the joint area, as shown in Figure 9.
- Secure the new Flex-A-Tap[™] joint in place with the #12 x 3/8 " joint shipping screws removed in Step 2 on page 1.

08 Joint cap nominal position

— 09 Flex-A-Tap™ joint inserted into the busway joint area

11 Make sure that the plug is always supported

08

12 Reattach the nuts to the hinge bolts





11

Plug support



Step 4 - Plug mounting

- Remove the nuts from the bottom plug-hinge bolt.
- Position the plug and guide the hinge bolts into the holes of the saddle hinge, as shown in Figure 10. Be sure that the plug is always supported, as shown in Figure 11.
- Reattach the nuts to the hinge bolts so that they are finger tight, as shown in Figure 12. If desired, flexible load connections can be made at this point.





Step 5 - Plug connection

- Open the plug joint access door, swing the plug toward the busway, and watch for proper engagement of the plug stabs with the Flex-A-Tap[™] joint plates, as shown in Figure 13.
- Insert the busway housing spacer between the plug body and the busway, as shown in Figure 14, if required.
- Attach the plug body to the busway with the two retained joint cap bolts (3/8 -16 x 5/8" or 5/16 x 2"), as shown in Figure 15. When using the 5/16 x 2" bolts, add the 5/16" washer provided, as shown in Figure 13. Tighten the 3/8 -16 bolts to 25 ft-lb (34 N-m) or the 5/16" bolts to 10 ft-lb (14 N-m).

NOTICE

NOTICE: Make sure that the plug body touches the housing spacer.

• Tighten the I /2" joint bolts to 50 ft-lb (68 N-m).

Figure 16 and Figure 17 illustrate the proper mounting of the plug in both horizontal and vertical mounting.

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Hinge bolt Saddle hole

CAUTION: Adjust the drop rods (one or two each at the line and load ends) to support the full weight of the plug, which must not sag when other temporary supports are removed.

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Housing spacer inserted between the plug body and the busway

— 15 Plug body attached to the busway with the joint cap bolts

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Proper mounting of the plug to the busway in horizontal orientation

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17 Proper mounting of the plug to the busway in vertical orientation



Plug support

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17





Auxiliary support by others

Auxiliary support by others





Dripproof-2 and splashproof busway

This section describes the installation of a bolt-on tap onto ReliaGear Dripproof-2 and Splashproof busway.

WARNING: De-energize the busway before inserting or removing plugs. Make sure the plug switching device is open. Failure to do so may result in serious injury or death.

18 Removing the shipping screws from the joint

— 19 Existing joint in the busway (indoor shown) **CAUTION:** The size and weight of the bolt-on plug/ cable tap box requires auxiliary and independent support from either the top or bottom during and after installation. The busway and the mounting saddle must not be used as the sole support for the plug, except for vertical mounting. Mounting holes for drop rods are provided. Make certain that the bus plug is level in all orientations with the busway after all connections are completed. Failure to level the plug could result in overheating of the plug connection.



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Step 1 - Plug support

- If the busway is already assembled, remove both joint caps and shields from the section in which the Flex-A-Tap joint is to be installed. Save the 3/8 -16 bolts for later reuse. Also save the joint caps and shields for later reuse, if required.
- Remove the #12 x 3/8 " joint shipping screws, as shown in Figure 18, and save them for later reuse.
- Loosen the joint bolts and remove the existing joint assembly, as shown in Figure 19.

Step 2 - Plug mounting saddle

Mount the plug mounting saddle to the busway on the left side of the joint as follows:

- · Loosen the hanger bolts.
- Mount the saddle assembly on the busway to the left of the joint to be tapped, as shown in Figure 20 and Figure 21. The mounting distance from the end of the bar is given in Table 2.
- Tighten the hanger bolts securely.



Joint

19

20 Mounting the saddle assembly on the busway, side view

_____ 21 Mounting the saddle assembly on the busway, end view

— 22 Outdoor joint cap in

its nominal position

— 23 Flex-A-Tap™ joint in position in the joint area



Table 2: Mounting distance for saddle assembly from end of busway

Plug type	Distance from end (A), in.
1600 A power break	50.0625
Cable tap box	37.9062

hinge. Always support the plug, as shown in Figure 25.

- Reattach the nuts onto the hinge bolts so that they are finger tight, as shown in Figure 26. If desired, flexible load connections can be made at this time.
- Slide the gasket plate onto the Flex-A-Tap joint up to the ground plates, as shown in Figure 27 and Figure 28
- Be sure that the 2-inch-wide gasket surface is facing out to meet the box face.





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21 L Step 3 - Flex-A-Tap™ installation

Saddle assembly

Hanger bolt

- Install the joint cap, maintaining the nominal position, as shown in Figure 22. Secure the joint cap with either the retained 3/8 -I 6 x 5/8 " bolts, as required, removed in Step 1 on page 5.
- Insert the longer Flex-A-Tap joint into the joint area, as shown in Figure 23.
- Secure the new Flex-A-Tap[™] joint in place with the #12 x 3/8 " joint shipping screws removed in Step 2 on page 5.

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Step 4 - Plug mounting

- Remove the nuts from the bottom plug-hinge bolt.
- Position the plug and guide the bottom hinge bolt into the hole in the saddle hinge, as shown in Figure 24
 Engage the top hinge bolt with the top saddle

24 Position the hinge bolts in the holes in the saddle

25 Support the plug during installation

26

Reattach the nuts to the hinge bolts

27

Install the gasket plate onto the joint with the gasket surface facing the box

28

Gasket plate mounted on the Flex-A-Tap™ joint



Hinge bolt Saddle hole



25

26



Nuts

Plug support



Gasket plate



Step 5 - Plug connection

- Open the plug joint access door and swing the plug toward the busway, as shown in Figure 29, while watching for proper engagement of the plug stabs with the Flex-A-Tap TM joint plates.
- Attach the plug body to the busway, as shown in Figure 30, with the two retained bolts (3/8 - 16 x 5/8 " or 5/16 x 2") removed in Step I on page 5. When using the 5/16 x 2" bolts add the 5/16 " washers provided, as shown in Figure 13 on page 4. Tighten the 3/8 -16 bolts to 25 ft-lb (34 N-m) or the 5/16 x 2" bolts to 10 ft-lb (14 N-m).
- Tighten the 1/2" joint bolts to 50 ft-lb (68 N-m). Close the access door.
- Insert the six 1/4 -20 sealed washer bolts provided through the gasket plate into the plug housing. Use a pointed shaft to poke holes through the gasket before inserting the screws, as shown in Figure 31. Tighten the six screws to 40 in-lb (4.5 N-m).
- Attach the two new special shields to the joint with the hood ends facing the gasket plate. Secure the shield springs to the hooks on the housing ground plate.
- Attach the new joint cap on the opposite side of the joint with the bolts removed in Step 1 on page 5, as shown in Figure 32. Tighten the 3/8 -16 bolts to 25 ftlb (34 N-m) or the 5/16 x 2" bolts to 10 ft-lb (14 N-m).

_ 29 Open the access door and swing the plug toward the busway

____ 30 Fastening the plug body to the busway

<u>__</u> 31 Poking bolt holes in the gasket

____ 32 Assembled Flex-A-Tap™ joint with shields and joint cap in place







30



Joint cap bolts

Shield Joint cap



RELIAGEAR™ BUSWAY

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