

INSTALLATION GENERAL GUIDELINES

Figure 1. illustrates a typical installation of a TIGR system on a transformer. Depending on the size, shape, and configuration of the transformer, the actual number of each component required will vary. For instance, a small transformer may use just corner post anchors, not requiring any center post anchors. Or, there may be obstructions along the edge(s) preventing continuous guardrails. In this case, additional center post anchors, posts, and guardrails would be installed on each side of the obstruction.

TOOLS REQUIRED

- Torque wrench, 100 ft-lb
- $\frac{3}{4}$ " Sockets/wrenches for $\frac{1}{2}$ " and $\frac{3}{4}$ " hex head fasteners

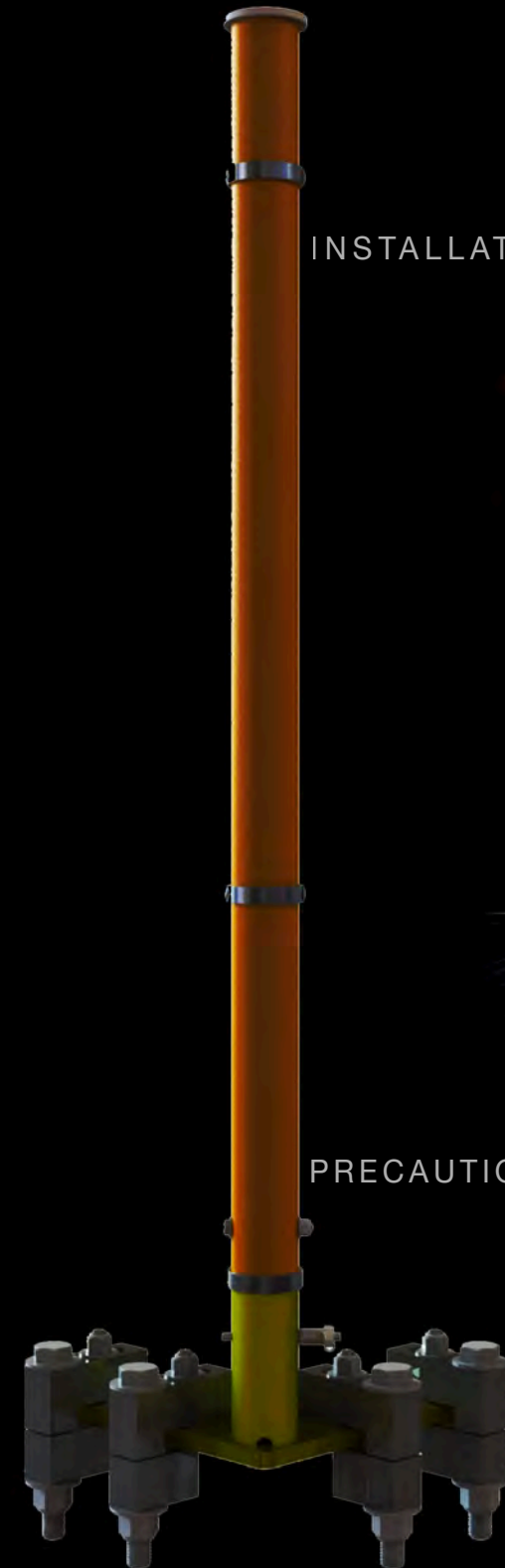
ASSEMBLY TO TRANSFORMER

The following steps describe the installation of the TIGR system for the first time or when post anchors are not already installed on a transformer. If post anchors are already installed, proceed to step 3.

1. Install corner post anchors at each corner of the transformer.

(NOTE: Apply anti seize compound to bolts prior to install)

 - a. Position anchor over top plate corner with edges flush.
 - b. Slide upper & lower clamps toward transformer as far as they will travel.
 - c. Torque $\frac{1}{2}$ " fasteners on upper clamps to 43 ft-lb
 - d. Align lower clamps to upper and torque $\frac{3}{4}$ " fasteners to 50 ft-lb.
2. Install center post anchors along edges of top plate between corner anchors.
 - a. Arrange anchors approximately between 52 to 80 inches apart as required.
 - b. Position anchor over top plate corner with edges flush.
 - c. Slide upper & lower clamps toward transformer as far as they will travel.
 - d. Torque $\frac{1}{2}$ " fasteners on upper clamps to 43 ft-lb
 - e. Align lower clamps to upper and torque $\frac{3}{4}$ " fasteners to 50 ft-lb.
 - f. Adjust horizontal support pad tight against side wall of transformer & secure using lock nut.
3. Install vertical posts.
 - a. Remove quick-release pin and insert post into anchor assembly.
 - b. Install quick-release pin to lock post in place.
4. Install telescoping guardrails around perimeter of transformer.
 - a) Loosen friction lock collar allowing adjustment of guardrail length.
 - b) Install first guardrail at mid height between adjacent posts.
 - c) Hand tighten friction lock collar
 - d) Install second guardrail at top of posts following same procedure as above
 - e) Continue guardrail installation following steps (a.) through (d.) Guardrails
5. Install Mid rail clamp assembly
 - a) Locate clamp assembly approximately mid-way on guardrail span as shown
 - b) Clamp assembly must be installed on non-telescoping end
 - c) Align clam-shell brackets and hand tighten using toggle clamps



PRECAUTIONS AND SAFETY RULES

1. Never use a Transformer Integrated Guard Rail (TIGR) system that has damaged or missing components or is improperly erected.
2. Don't force parts together that do not fit freely.
3. Inspect all anchor points to ensure they are firmly attached to transformer.
4. ALWAYS install guardrails with the hooks (locking latches) facing outward away from the transformer.
5. ALWAYS install both top and mid guardrails.
6. Make sure all guardrail locking hooks are firmly in position and engaged with the posts and that the spring-loaded latches have functioned properly, locking the guardrail in place.
7. Do not climb or stand on guardrails.
8. All anchor lower clamps must have at least 3/4" off engagement/grip with the lip of the transformer.

SYSTEM DESCRIPTION

The Transformer Integrated Guard Rail (TIGR) is a guard rail fall prevention system providing an OSHA compliant guard rail around the top perimeter of industrial electrical transformers. It is intended to eliminate the need for maintenance personnel to tether off using a personal fall arrest harness.

Specific features include:

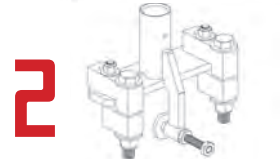
- Can be retrofitted to existing transformers
- Adjustable braces accommodate many types, sizes and configurations of transformers
- All components can be collapsed and conveniently stored in a bag for transport
- Post anchor assemblies are designed to be able to be semi-permanently installed on a transformer for quick and easy installation of posts and guardrails for future maintenance activities.

COMPONENT LIST/IDENTIFICATION



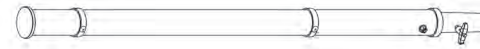
1 CORNER POST ANCHOR IP/N: 526013

Attached to the top edge of the transformer at the corners to provide a secure attachment point for the Vertical Posts. One Anchor is required per Post.



2 CENTER POST ANCHOR IP/N: 526018

Attached along the top edges of the transformer between Corner Post Anchors providing intermediate attachment points for Vertical Posts. One Anchor is required for each intermediate Post.



3 VERTICAL POST IP/N: 526025

Attached to and supported by a Post Anchor. A tethered quick-release pin secures the Post to the Anchor. Telescoping Guardrails connect to the Posts in a "stacked" (one above the other) arrangement resting on integral support rings. Posts are constructed from non-conducting material.



4 TELESCOPING GUARDRAIL IP/N: 526035

Each Telescoping Guardrail has a hook with a retaining latch at each end and can be continuously adjusted between 52 and 72 inches in length. A twist-to-lock friction collar locks the length. To be OSHA compliant, two Guardrails are connected between each set of adjacent Posts (at the top and at the middle) providing fall prevention to the maintainer. Guardrails are constructed from non-conducting material. As described above, the guardrails are connected to the Posts in a stacked (above and below) configuration.



5 MID-RAIL CLAMP ASSY IP/N: 526051

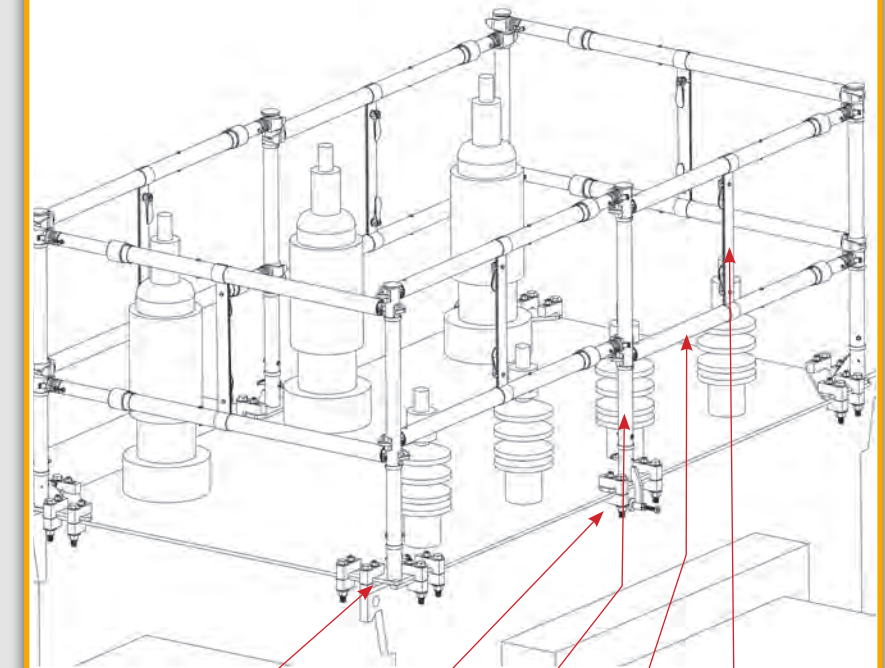
Attached along the top edges of the transformer between Corner Post Anchors providing intermediate attachment points for Vertical Posts. One Anchor is required for each intermediate Post.

6 TRANSPORT BAG IP/N: 526060

Provides convenient storage of components for transport.



FIGURE 1.
TYPICAL TIGR INSTALLATION



1. CORNER POST ANCHOR

2. CENTER POST ANCHOR

3. VERTICAL POST

4. TELESCOPING GUARDRAIL

5. MID-RAIL CLAMP ASSY

