

ELECTRICAL COLLECTORS

- **Shielded Channel-Bar**
- **Shielded Figure-8 Bar**

DANGER

Persons performing installation, service or maintenance activities on, near, or with electrical conductor systems are exposed to electrical hazards that could result in serious injury or death if proper precautions are not followed. Before performing such work, disconnect the electrical power source for the system at the disconnect device and lock it out, following appropriate Lockout/Tagout (LOTO) procedures, to prevent electric power from being applied while work is being performed.

All persons must use safe work practices appropriate to the electrical system, and follow all workplace procedures and policies. This requires specific knowledge, equipment and training beyond the scope of this document. Workplace supervisors are responsible to assure that all persons under their supervision are properly trained, properly equipped, and are following appropriate safety practices.

Electrical Collectors

TC/American Crane Electrical Collectors transfer electrical power from the conductor bar electrical distribution system to a crane, drive tractor, hoist carrier or other electrically powered equipment. TC/American provides a complete line of electrical collectors for our Shielded Channel-Bar and Shielded Figure-8 Bar conductor bar systems, available in either “side contact” (“web mounted”) or “bottom contact” (“bottom entry”) mounting positions.

The following instructions identify our collectors and show typical installation of them on our trolleys. These collectors, when installed and maintained per the following instructions, will give many years of trouble-free operation. For other applications, please contact the factory.

- **Side Contact:** conductor bars are mounted on brackets that bolt to the web of 200, 325 and 400 Series patented track girder rail (or to the hanger rod of 200 Series 2R3-5T rail). Electrical Collectors are typically mounted on TC/American Crane trolley yokes and the Collector Shoes enter the conductor bar from the open side position.
- **Bottom Contact:** conductor bars are mounted on brackets that may either be clamped to the top flange or bolted to the web of girder rail (or to the hanger rod of 200 Series 2R3-5T rail). Electrical Collectors are typically mounted on a specially designed mounting bracket and the Collector Shoes enter the conductor bar from the open bottom position.

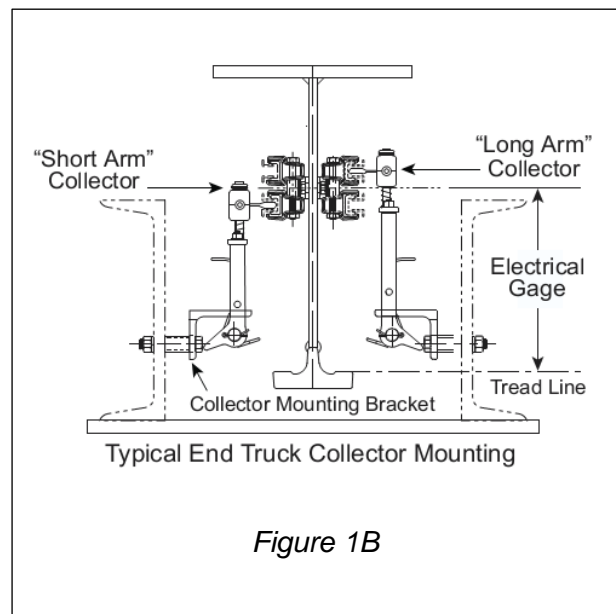
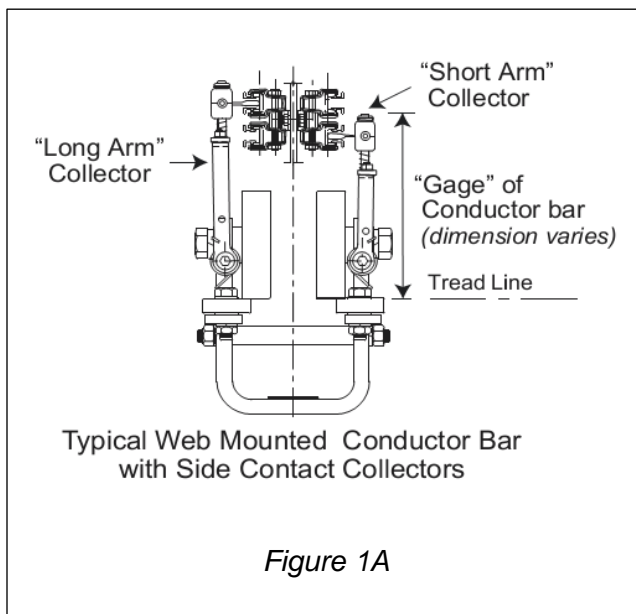
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General Installation Instructions

Before beginning the installation:

- When shipment is received, check all parts for damage. Repair and/or replace as necessary.
- Check packing lists against materials received and identify all parts.
- See Figure 1A for identification of components on a typical trolley with side contact collectors and Figure 1B for typical collectors mounted on an end truck frame.
- See “Chart A” in these instructions for identification TC/A Shielded Channel-Bar and Shielded Figure-8 collectors used on each plain or motorized TC/A trolley.
- See “Chart B” in these instructions for identification TC/A Shielded Channel-Bar and Shielded Figure-8 collectors used on TC/A end trucks.
- See “Chart C” for Shielded Channel-Bar Collector Head parts breakdown.
- See “Chart D” for Shielded Figure-8 Collector Head parts breakdown.



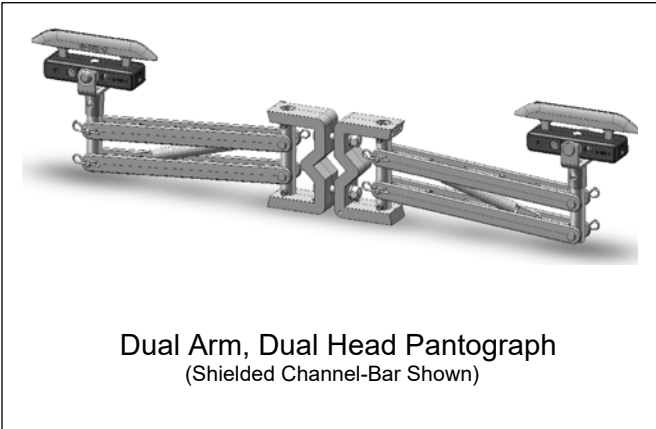
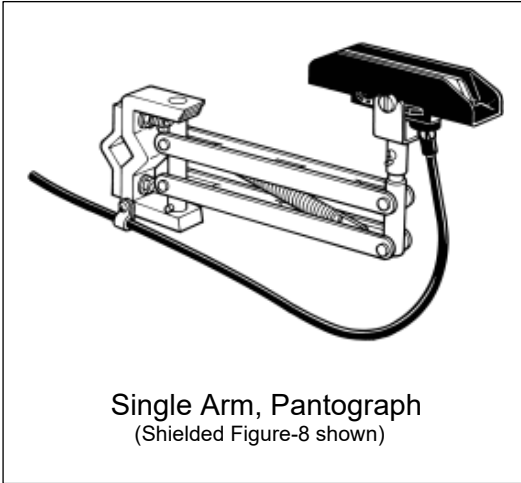
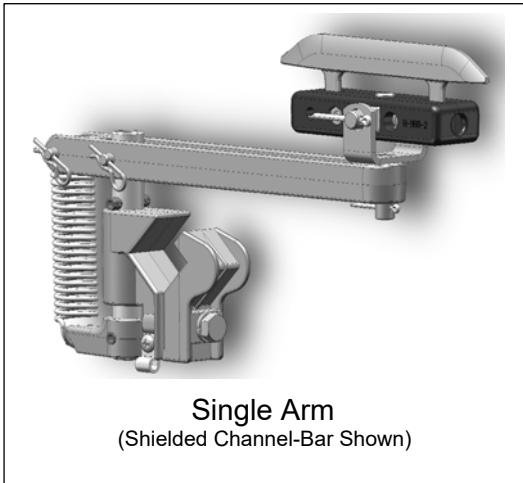
Shielded Channel-Bar and Shielded Figure-8 Collectors

Electrical collectors may be ordered as “mounted” or “shipped loose,” and may or may not be factory wired into the controls or into a tagline or festoon system junction box (depends upon how the equipment was ordered).

If the collectors are to be mounted on a trolley that normally ships “loose” (not mounted on a crane, drivetractor or carrier), the collectors may not be mounted to prevent damage to the collector components during shipping.

A. TC/American Crane “Bottom Contact” Collectors

Bottom Contact collectors are generally mounted to a 1” square bar mounting bracket, via a clamp arrangement as shown in the illustrations below.



Shielded Channel-Bar

Part Number	Description
10-2833-00	Single Arm, 35 Amp, Single Wire
10-2833-01	Single Arm, 35 Amp, Dual Wire
10-3001-00	Dual Arm, Dual Head, Pantograph, 70 Amp

Shielded Figure-8

Part Number	Description
23-1118-00	Single Arm, 40 Amp
23-1119-00	Single Arm, 100 Amp
23-1185-00	Single Arm, Pantograph, 40 Amp
23-1186-00	Single Arm, Pantograph, 100 Amp
23-3190-00	Dual Arm, Dual Head, Pantograph, 80 Amp
23-4147-00	Dual Arm, Dual Head, Pantograph, 100 Amp

Bottom Contact Collector Mounting Bracket

Cranes, drivetractors, hoist carriers or trolleys ordered from TC/American Crane with Bottom Contact collectors and Mounting Brackets will be provided with appropriate brackets for the collectors to match the conductor bar.

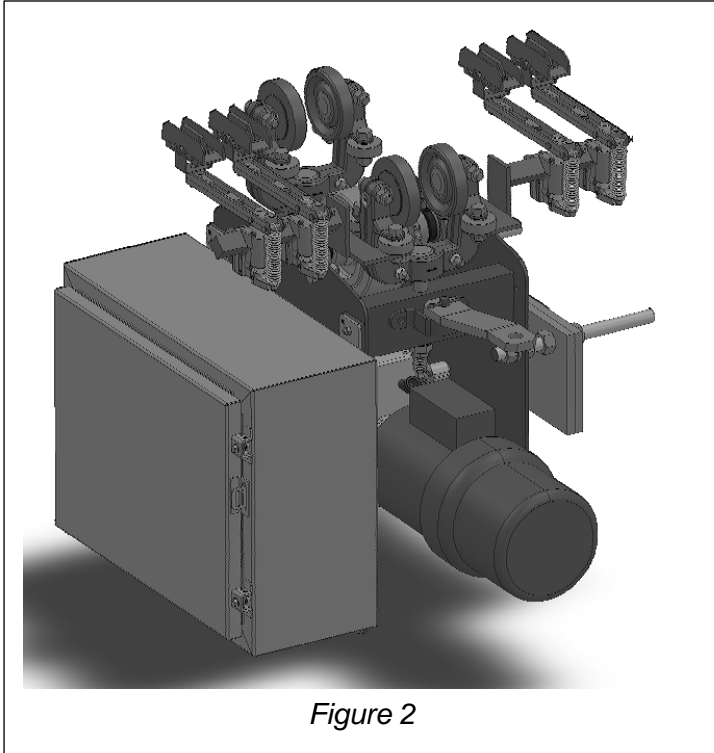


Figure 2

See Figure 2 for typical installation of Bottom Contact Collectors and Mounting Brackets on a D4000 Drivetractor.

Note: electrical leads from collector heads into control enclosure not shown.

Note: arm on Collector Mounting Bracket is a 1" square bar.

See Figure 3 for Bottom Contact collectors mounted on a 450 Series trolley, for operation through a switch and curve.

See Figure 4 for a typical Bottom Contact mounting bracket on a crane (note: bracket is easily height adjustable).

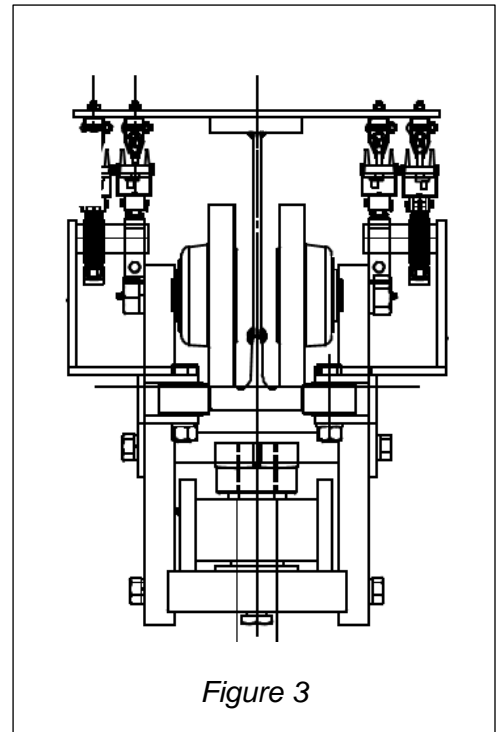


Figure 3

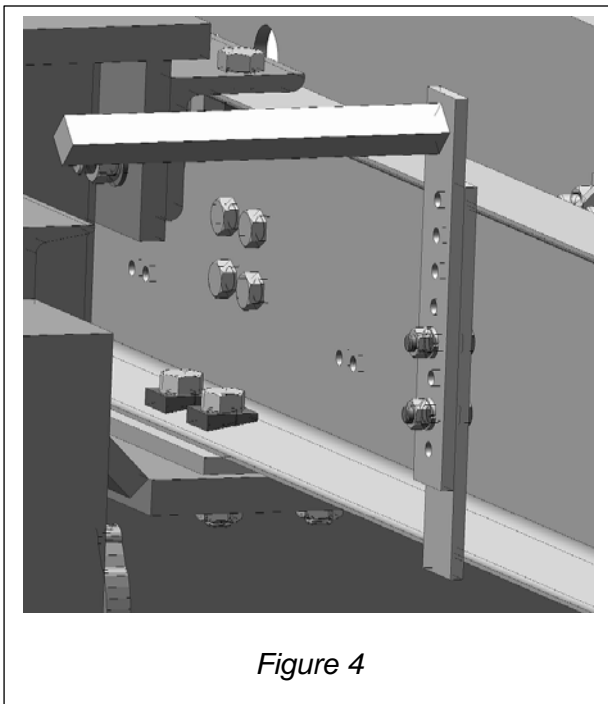


Figure 4

NOTES, Bottom Contact Collectors:

- 1) **Bottom Contact Collector Spacing – Shielded Channel-Bar:**
 - a) When collectors are assembled “side-by-side,” conductor bar and collectors must be spaced 3” apart, center-to-center.
 - b) Conductor bar and collectors spaced less than 3” apart must be “staggered” (orient adjacent collectors so one is facing “forward” and another is facing “backward”).
 - c) Minimum spacing is 1½”.
 - d) Curves, minimum radius 4’-0”, minimum bar and collector spacing is 3”. Note: on a four-bar system, use 2 bars on each side of rail web; or all four bars could be on one side if all are on the outside of curve (use caution, check that collectors maintain full contact in conductor bar if trolley or tractor tips or rocks on the rail).

- 2) **Bottom Contact Collector Spacing – Shielded Figure-8:**
 - a) When collectors are assembled “side-by-side,” conductor bar and collectors must be spaced 2” apart, center-to-center.
 - b) Conductor bar and collectors spaced less than 2” apart must be “staggered” (orient adjacent collectors so one is facing “forward” and another is facing “backward”).
 - c) Minimum spacing is 1½”.
 - d) Curves, minimum radius 3’-0” (3’-0” if standard Figure-8 bar, 4’-0” if Hi-Temp Figure-8 bar), minimum bar and collector spacing is 3”. Note: on a four-bar system, use 2 bars on each side of rail web; or all four bars could be on one side if all are on the outside of curve (use caution, check that collectors maintain full contact in conductor bar if trolley or tractor tips or rocks on the rail).

- 3) **Single or Dual Head Collectors:** For conductor bar systems with interlocks or other devices with a gap in the conductor bar, TC/American Crane recommends the use of “dual head” collectors or “tandem single head” collectors. (Note: this is applicable for “bottom” and “side contact” collectors.)

- 4) **Collector Wiring:** Collectors ordered from TC/American Crane as “mounted” will have electrical leads provided, connected to the collector head and routed into the controls. Collectors ordered “loose” must have the electrical lead wire provided and mounted locally. Use #10 RHH RHW Stranded Copper Wire. Route wire to avoid any binding and clear of any possibility of snagging. Secure wire as required using plastic ties or grips.

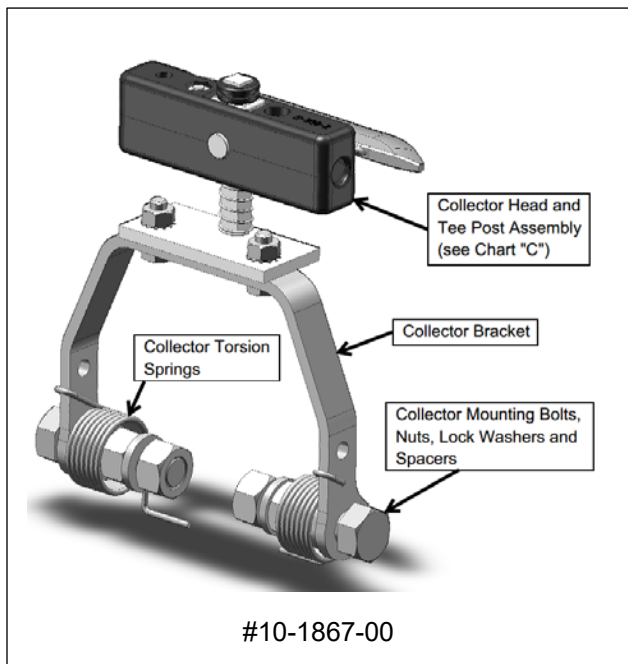
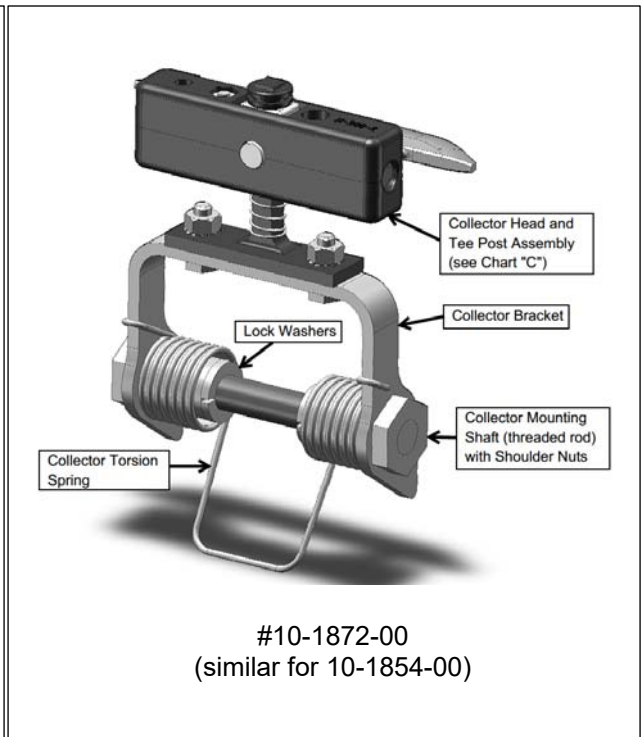
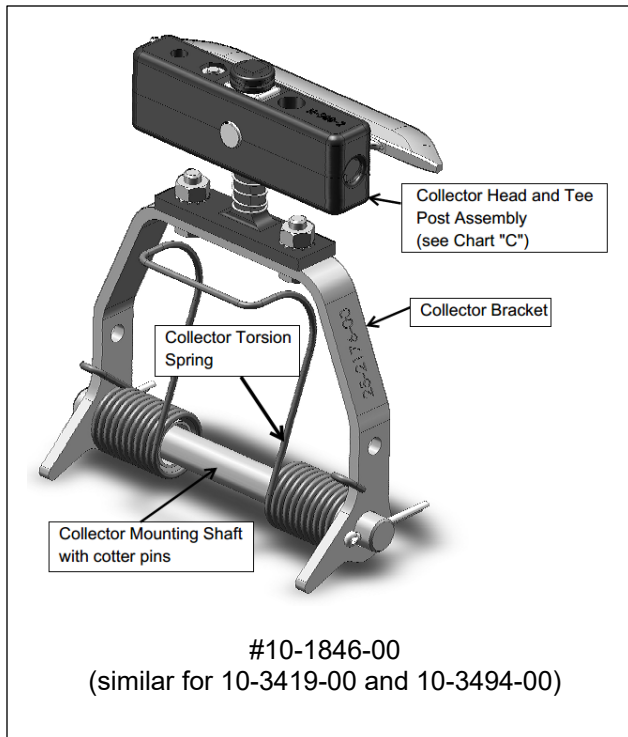
B. TC/American Crane “Side Contact” Collectors

Side Contact collectors are generally mounted onto the yoke of a TC/American Crane trolley but may also be mounted to the inside face of a crane end truck frame by using a special mounting bracket. TC/A side contact trolleys are not designed to be mounted on hoist manufacturer’s trolleys.

See Chart “A” for a list of all current TC/A trolleys and the collectors designed to be mounted on them.

Typical Assembly of Side Contact Collector Assemblies

NOTE: typical Single Head Channel-Bar collectors shown. Similar assembly for Dual Head and Figure-8 collectors.



Each TC/A trolley has a specific side contact collector designed to be mounted on it. Collectors differ in the size and shape of the collector bracket, and method of attaching to the yoke.

Typical collector assemblies are shown here:

10-1846-00 / 10-3419-00 / 10-3494-00: These types of collectors have a mounting shaft inserted into a mounting hole in the trolley yoke. See Figure 5 for example of a Dual Head collector mounted on a 3T-6200-2SR. Note the position of the Torsion Spring.

10-1872-00 / 10-1854-00: This type of collector has a threaded rod Mounting Shaft with Shoulder Bolts that replaces the standard Axle Clamp Bolt (see Fig. 6).

See Figure 6. Typical for 2T-2000, 2T-2800, 3T-2000 and 3T-2800 trolleys. Also used on 2T-750-2, 3T-1150-4, 3T-750-2 and 3T-1150-4 trolleys with a 10-2125-00 Mounting Bracket (see Figure 7).

10-1867-00: This collector is used on 3T-2700 and 3T-5400 trolleys. See Figure 8.

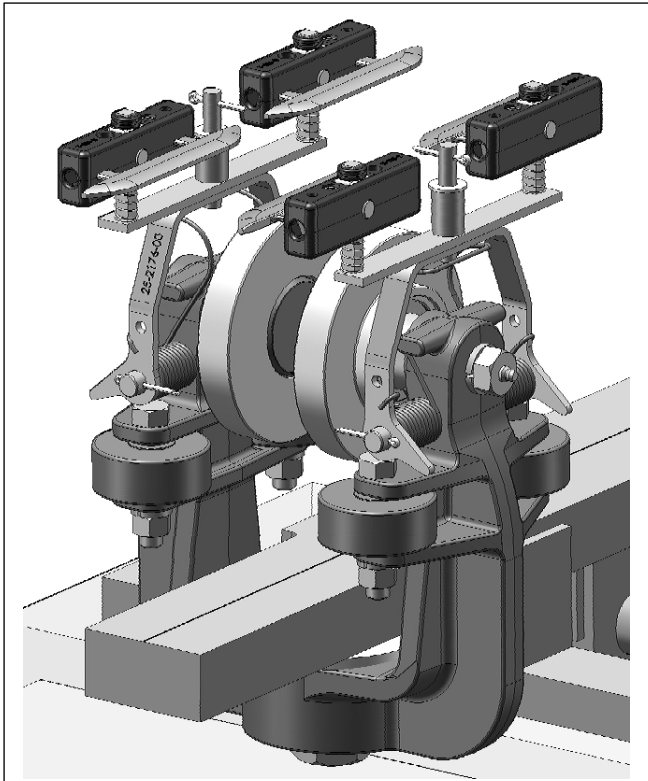
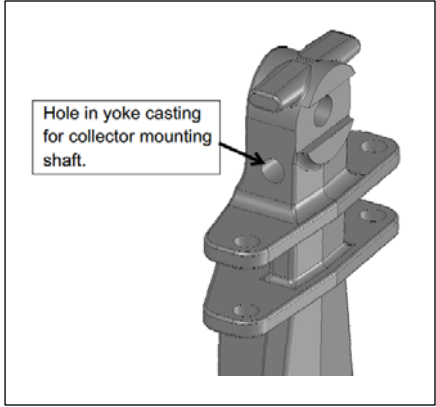


Figure 5
3T-6200-2SR Trolley
with Dual Head Collectors



Above: see detail of a typical cast trolley yoke with hole for collector mounting shaft.

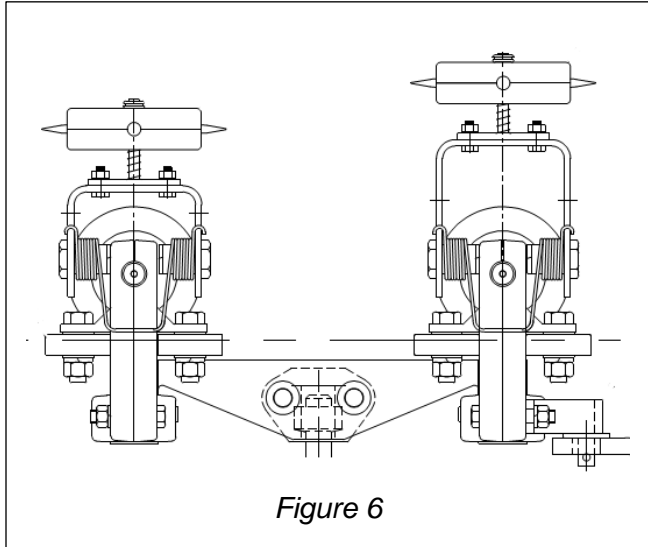


Figure 6

Figure 6 shows a 2T-2800-4SR Trolley with 10-1872-00 and 10-1873-00 collectors. The standard trolley axle clamp bolt is removed and replaced with the threaded Collector Mounting Shaft and Nuts. Assure that shaft assembly is tight, yet that the collector bracket is free to pivot.

Note position of Tension Spring.



Figure 7

Figure 7 shows Collector Mounting Brackets, #10-2125-00 (bracket is attached under the wheel axle bolt), typical for 2T-750-2, 3T-1150-4, 3T-750-2 and 3T-1150-4 that use this stamped steel yoke.

Figure 8 shows a 3T-5400-4SR trolley with #10-1867-00 and #10-1866-00 collectors.

Note the collector mounting bracket which must be added to the trolley yoke (bolted in place under the axle nut). Assure that Collector Mounting Bolts are tight, yet that the collector bracket is free to pivot.

Note position of Tension Springs (see detail below).

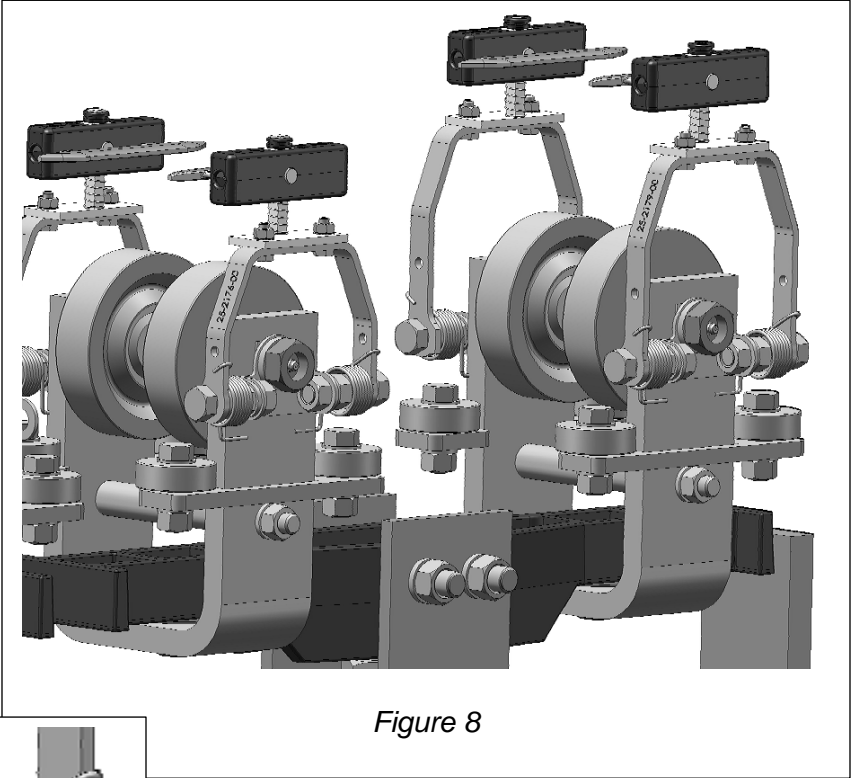
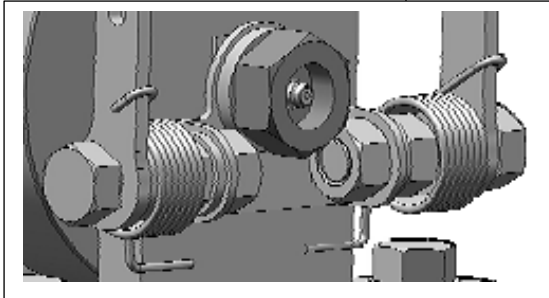
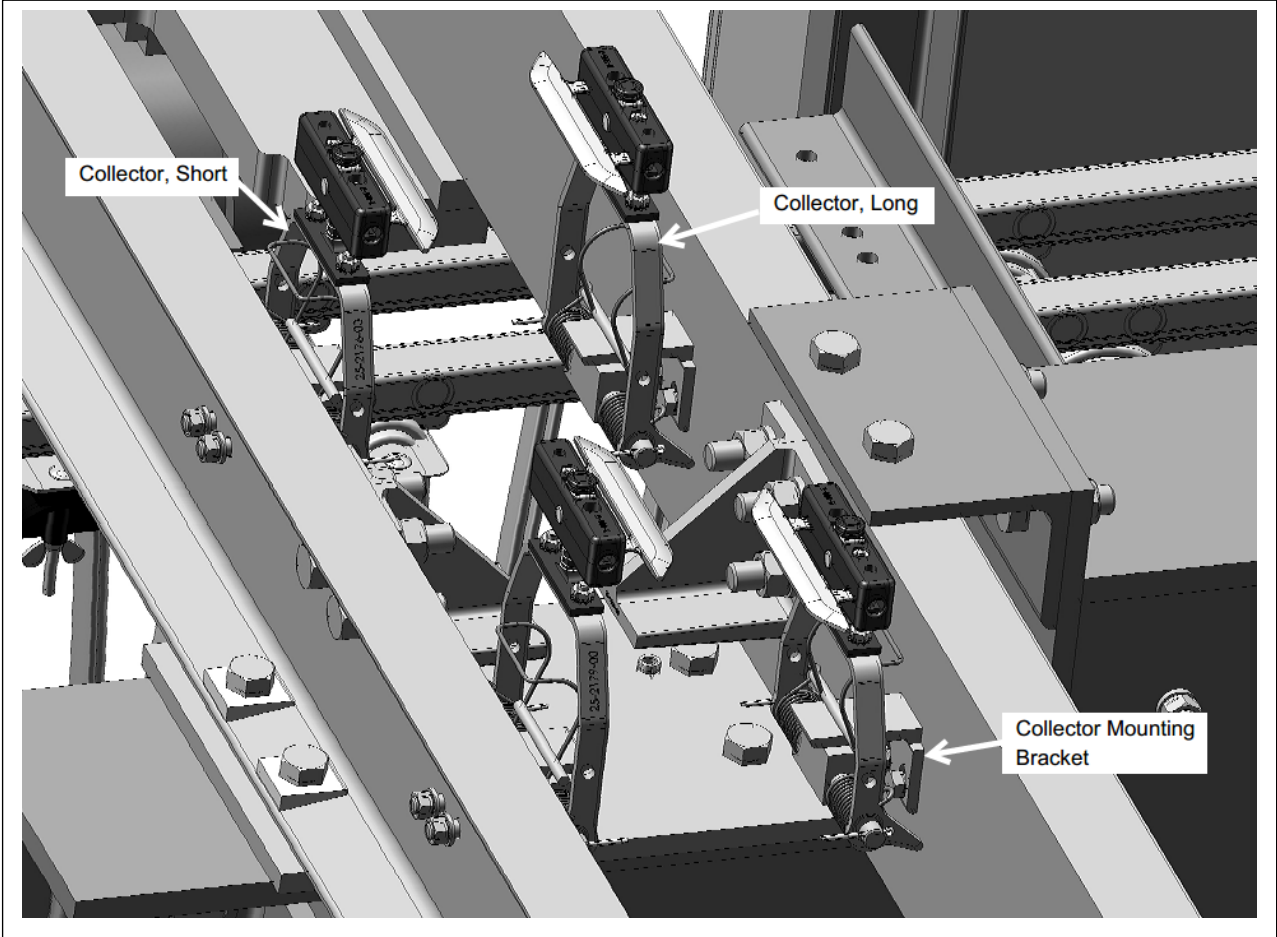


Figure 8

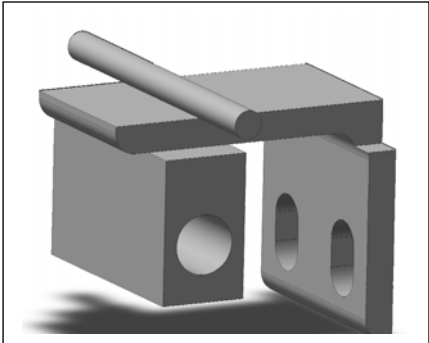


Side Contact Collectors Mounted on End Truck Frame

Collectors may be mounted on crane trolleys or on the end truck frame. Shown below is a typical example of collectors mounted to the inside face of end truck channels. Actual installations of other collectors on other end trucks may vary slightly.



Shown above is a 3ET-9000-4SRA End Truck with Collectors #10-1846-00, Short Arm, and #10-1847-00, Long Arm, mounted using #278E2456F1 Collector Mounting Brackets (bracket shown to right). Note orientation and installation of collector spring.

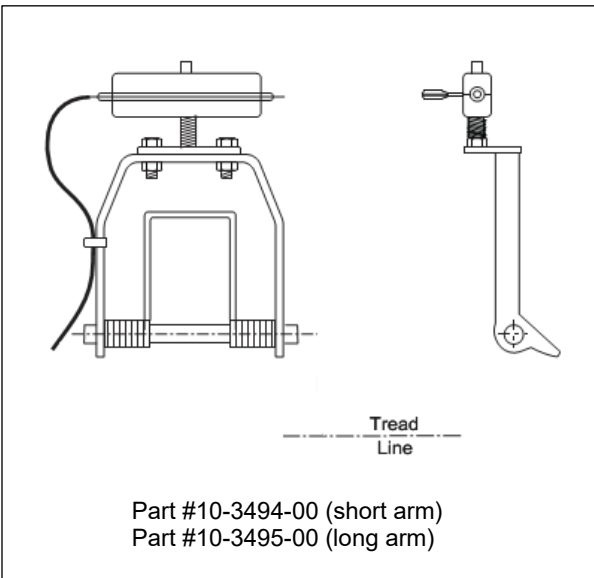
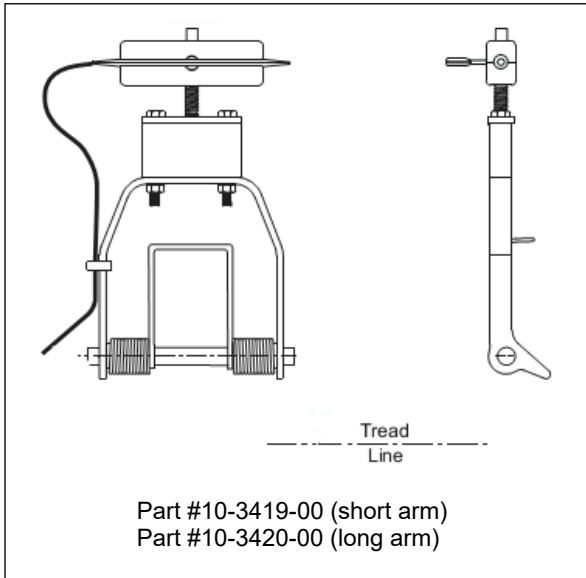
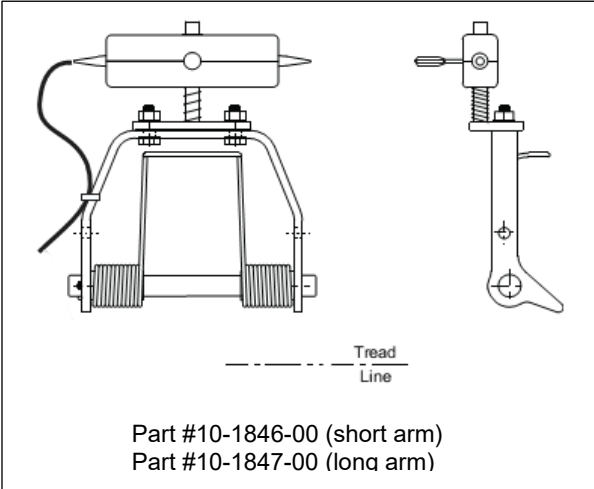
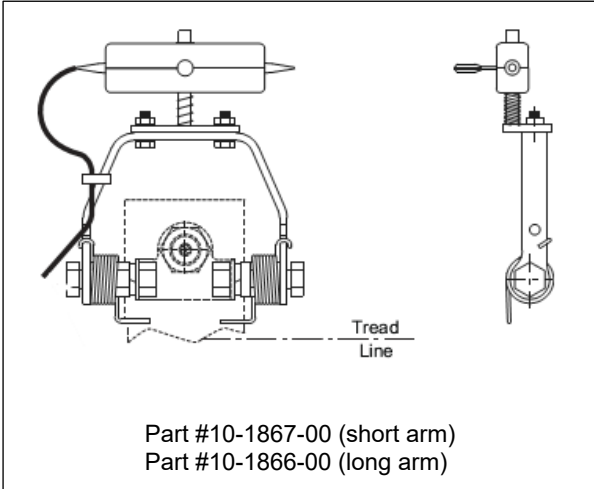
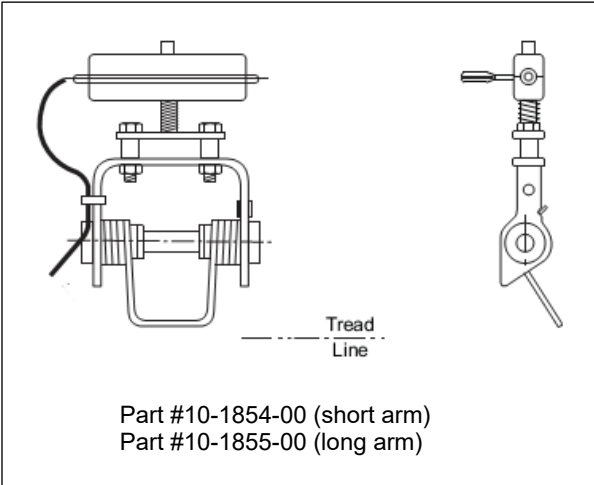
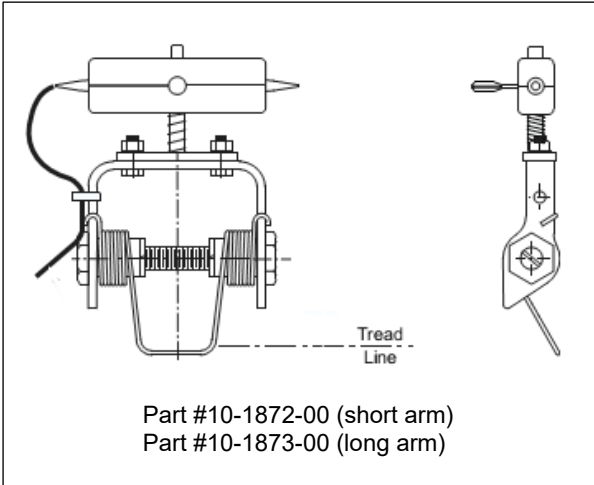


NOTES, Side Contact Collectors:

- 1) **Side Contact Collector Gaging – Shielded Channel-Bar:**
 - a) Note that side contact collectors are identified with “long” or “short” arms (to match the vertical stacking of the conductor bars as they are mounted on the web of the rail). Thus, each side of the rail will have at least one “long” and one “short” collector assembly.
 - b) Conductor bars are “gaged” or spaced a certain distance from the treadline of the rail to the center of the conductor bar group. See Chart “A” for an illustration and identification of the gage of the conductor bar for each trolley and wheel diameter. Each set of collectors is manufactured to match the conductor bar gage appropriate for its trolley. Always install the proper collector for the trolley. Do not attempt to modify a collector to fit another trolley.
- 2) **Rubber Grommet on Collector Stem:** Side Contact Collector Head Assemblies are shipped with a rubber grommet slipped onto the end of the collector stem. Its only purpose is to hold the head onto the stem during shipping. See Chart “C”. Remove and discard grommet after installation. Failure to remove the rubber grommet will result in the head and shoe not being able to properly engage the conductor bar and “float” to follow the bar.
- 3) **Single or Dual Head Collectors:** For conductor bar systems with interlocks or other devices with a gap in the conductor bar, TC/American Crane recommends the use of “dual head” collectors or “tandem single head” collectors. (Note: this is applicable for “bottom” and “side contact” collectors.)
- 4) **Collector Wiring:** Collectors ordered from TC/American Crane as “mounted” will have electrical leads provided, connected to the collector head and routed into the controls. Collectors ordered “loose” must have the electrical lead wire provided and mounted locally. Use #10 RHH RHW Stranded Copper Wire. Route wire to avoid any binding and clear of any possibility of snagging. Secure wire as required using plastic ties or grips.

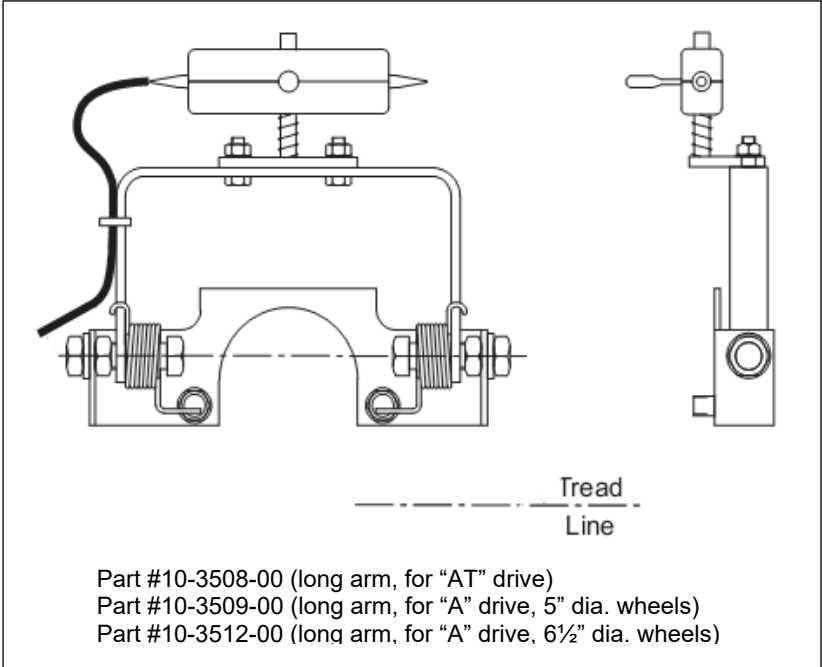
Side Contact Collector Assemblies – Plain Trolleys

Shown here are the standard Shielded Channel-Bar Side Contact Collector Assemblies for plain trolleys. See Chart “A” for application by trolley model number. Corresponding Shielded Figure-8 and Dual Head collectors use the same trolley mounting brackets, but have a different head assembly.

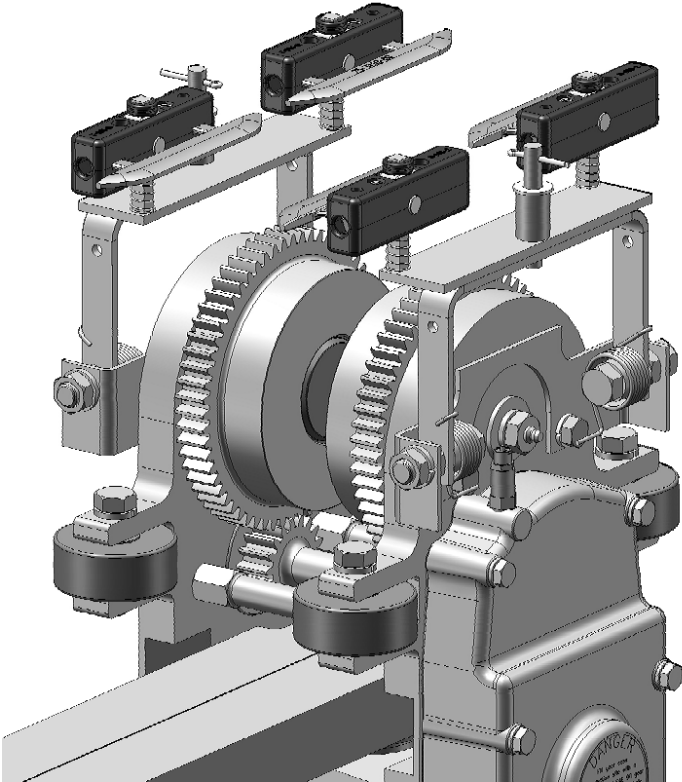


Side Contact Collector Assemblies – Motorized Trolleys

Shown below are standard Shielded Channel-Bar Side Contact Collector Assemblies for motorized trolleys. See Chart “A” for application by trolley model number. The corresponding Shielded Figure-8 and Dual Head collectors use the same trolley mounting brackets, but have a different head assembly.



Note: Collectors for motorized trolleys include mounting bracket as shown (bolts to drive frame). See illustration to left and below.



Collector Maintenance and Lubrication

Maintenance:

- a) Electrical Leads
 - i. Verify leads are securely connected into the lug in the collector head. Tighten if necessary.
 - ii. Assure lengths are not excessive and they are routed so they will not catch or snag on building or equipment components, nor too short so as to prevent freedom of collector movement. Adjust length and routing if required.
 - iii. Assure leads are securely fastened to collector brackets and trolley or carrier components, using plastic electrical ties or grips. Replace broken ties or grips, or add where needed.
- b) Collector Heads
 - i. Side Contact: assure that head assembly floats freely on the vertical collector stem so it will track smoothly in the conductor bar and cover. Clean as required. Verify that rubber grommet on tee post has been removed and discarded. Verify that insulator hardware is secure and tight.
 - ii. Bottom Contact: assure that head assembly is free and loose in the clevis so it will track smoothly in the conductor bar and cover. Verify that clevis is free and loose in the arm. Verify that cotter pin is secure and not binding against the arm. Clean and adjust as required. Verify that insulator hardware is secure and tight.
- c) Collector Shoes
 - i. Examine shoes and replace when worn. Shoes should be replaced when approximately one half of the depth of the shoe is worn away. Replacement can also be judged by inspecting for clearance between the collector insulator and the conductor cover...replace when there is a possibility the insulator could contact the cover.
 - ii. Examine shoes for corrosion or dirt from environment on contact surface of shoes. Clean as required. Examine conductor bars for similar buildup.
- d) Mounting Brackets, Arms and Components
 - i. Assure all collector bracket and arm components are securely mounted to the trolley yoke or mounting bracket. Tighten if necessary. After tightening, be sure that side contact collectors are free to pivot. Be sure that bottom contact collectors are in line with conductor bars. Adjust if needed.
 - ii. Assure that cotter pins, spring pins, roll pins and other hardware are in good condition and properly installed. Replace or adjust if needed.
 - iii. Inspect for cleanliness and corrosion. Clean as required.
 - iv. Verify that tension springs (collector springs) are in good condition and apply tension to hold the collector shoe firmly against the conductor bar. There is no specified appropriate spring force...verify that shoe does not disengage the bar at any point on the system. Replace springs if needed.
 - v. Verify proper alignment of the collector to the conductor bar. Shoes must enter the center of conductor bar cover. The arm of a bottom contact collector should be approximately horizontal. Adjust the mounting bracket height if needed. Side contact collectors should be at the correct position when mounted on the proper trolley and the conductor bars are installed at the correct gage, and should enter the conductor bar at approximately a right angle to the rail. Verify trolley and collector used. Verify gaging by checking at several points along the system.

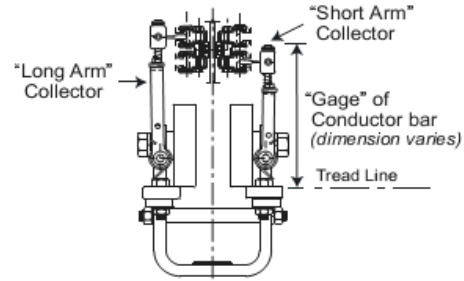
Lubrication: If needed, electrical collectors may have a few drops of light machine oil applied at pivot points of collector arms and brackets. Do not over oil. Depending upon the environment, oil may attract dirt, dust or other particles.

CHART "A"

Trolley Side Contact Electrification Chart

Applications shown for current TC/American trolleys only.
(For old or obsolete trolleys, contact the factory.)

Note: Order collectors by part number only.



Typical Web Mounted Conductor Bar with Side Contact Collectors

Trolleys	Channel-Bar				Figure-8				Elec Gage	Trolley Wheel Dia.
	Single Head 35 amp		Dual Head 70 amp		Single Head 100 Amp		Dual Head 200 amp			
	short arm	long arm	short arm	long arm	short arm	long arm	short arm	long arm		
200 Series										
2T-750-2 2T-1150-4 These require one #10-2125-00 collector mounting bracket per collector.	10-1872-00 E-988-SA (fig. 1)	10-1873-00 E-989-LA	10-3500-00 E-988-SAD (fig. 8)	10-3501-00 E-989-LAD	10-1880-00 8E-988-SA	10-1879-00 8E-989-LA	10-3534-00 8E-988-SAD	10-3535-00 8E-989-LAD	7"	3"
2T-850-2 2T-1200-4	none	none	none	none	none	none	none	none	-	3"
2T-2000-2/2SR 2T-2800-4/4SR 2T-3100-4/SR -4CC 2T-5600-8/8SR -8CC	10-1872-00 E-988-SA (fig. 1)	10-1873-00 E-989-LA	10-3500-00 E-988-SAD (fig. 8)	10-3501-00 E-989-LAD	10-1880-00 8E-988-SA	10-1879-00 8E-989-LA	10-3534-00 8E-988-SAD	10-3535-00 8E-989-LAD	7"	4"
2T-3000-2 2T-4000-4	none	none	none	none	none	none	none	none	-	5½"
325 Series										
3T-750-2 3T-1150-4 These require one #10-2125-00 collector mounting bracket per collector.	10-1854-00 E-6988-SA (fig. 2)	10-1855-00 E-6989-LA	10-3502-01 E-6988-SAD (fig. 9)	10-3503-01 E-6989-LAD	10-1883-00 8E-6988-SA	10-1885-00 8E-6989-LA	10-3536-01 8E-6988-SAD	10-3537-01 8E-6989-LAD	7½"	3"
3T-850-2 3T-1200-4	none	none	none	none	none	none	none	none	-	3"
3T-2000-2/2SR 3T-2800-4/4SR 3T-3100-4/SR -4CC	10-1854-00 E-6988-SA (fig. 2)	10-1855-00 E-6989-LA	10-3502-01 E-6988-SAD (fig. 9)	10-3503-01 E-6989-LAD	10-1883-00 8E-6988-SA	10-1885-00 8E-6989-LA	10-3536-01 8E-6988-SAD	10-3537-01 8E-6989-LAD	7½"	4"
3T-2700-2/2SR 3T-5400-4/4SR	10-1867-00 E-7988-SA (fig. 3)	10-1866-00 E-7989-LA	10-3504-00 E-7988-SAD (fig. 10)	10-3505-00 E-7989-LAD	10-1882-00 8E-7988-SA	10-1881-00 8E-7989-LA	10-3538-00 8E-7988-SAD	10-3539-00 8E-7989-LAD	7½"	4½"

CHART "A" (cont.)

cont'd Trolley/Side Contact Collector Application Chart

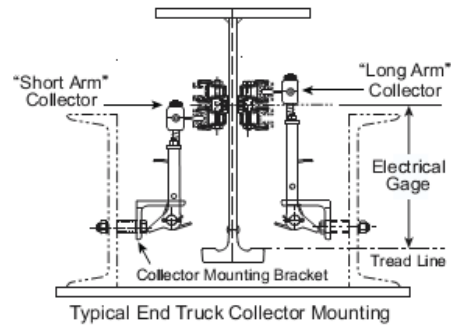
Trolleys	Channel-Bar				Figure-8				Elec Gage	Trolley Wheel Dia.
	Single Head 35 amp		Dual Head 70 amp		Single Head 100 amp		Dual Head 200 amp			
	short arm	long arm	short arm	long arm	short arm	long arm	short arm	long arm		
325 Series										
*3T-6200-2/2SR	10-1846-00 E-83-SA (fig. 4)	10-1847-00 E-84-LA	10-3506-00 E-83-SAD (fig. 11)	10-3507-00 E-84-LAD	10-1884-00 8E-83-SA	10-1886-00 8E-84-LA	10-3540-00 8E-83-SAD	10-3541-00 8E-84-LAD	7½"	5"
*3T-12400-4/4SR	10-3494-00 E-783-SA (fig. 6)	10-3495-00 E-784-LA	10-3544-00 E-783-SAD (fig. 13)	10-3545-00 E-784-LAD	10-3498-00 8E-783-SA	10-3499-00 8E-784-LA	10-3548-00 8E-783-SAD	10-3549-00 8E-784-LAD	7½"	5"
<p>* Note: For 3T-6200-2/-2SR and 3T-12400-4/-4SR Trolleys used with 325H or 400 Series Rail (including Switches with 325H or 400 Series Rail), use E-83SA/E-84LA or 8E-83SA/8E-84LA collectors.</p> <p>For 3T-6200-2/-2SR and 3T-12400-4/-4SR Trolleys used with 325L Series Rail (including Switches with 325L Series Rail), use E-783SA/E-784LA or 8E-783SA/8E-784LA collectors.</p>										
3T-24800-8/8SR	10-1846-00 E-83-SA (fig. 4)	10-1847-00 E-84-LA	10-3506-00 E-83-SAD (fig. 11)	10-3507-00 E-84-LAD	10-1884-00 8E-83-SA	10-1886-00 8E-84-LA	10-3540-00 8E-83-SAD	10-3541-00 8E-84-LAD	7½"	5"
3T-8000-2/2SR 3T-16000-4/4SR	10-3419-00 E-85-SA (fig. 5)	10-3420-00 E-86-LA	10-3510-00 E-85-SAD (fig. 12)	10-3511-00 E-86-LAD	10-3532-00 8E-85-SA	10-3533-00 8E-86-LA	10-3542-00 8E-85-SAD	10-3543-00 8E-86-LAD	9"	6½"
3T-10000-2SR 3T-20000-4SR	none		none		none		none		-	9"
400 Series										
4T-4100-2SR (drivetractors)	10-1846-00 E-83-SA (fig. 4)	10-1847-00 E-84-LA	10-3506-00 E-83-SAD (fig. 11)	10-3507-00 E-84-LAD	10-1884-00 8E-83-SA	10-1886-00 8E-84-LA	10-3540-00 8E-83-SAD	10-3541-00 8E-84-LAD	7½"	5"
4T-4200-2SR (bolted yoke)	none		none		none		none		-	5"
4T-6600-2SR (bolted yoke)	none		none		none		none		-	6½"
450 Series										
45T-15000-2SR 45T-30000-4SR	none		none		none		none		-	9" 9"
Motorized Trolleys										
3MT5-6200-A1		10-3508-00 E-84-LAT (fig. 7)		10-3553-00 E-84-LATD (fig. 14)		10-3550-00 8E-84-LAT		10-3555-00 8E-84-LATD	7½"	5"
3MT5-6200-A2		10-3509-00 E-84-LAMT (fig. 7)		10-3556-00 E-84-LAMTD (fig. 14)		10-3551-00 8E-84-LAMT		10-3558-00 8E-84-LAMTD	7½"	5"
3MT6-8000-A2		10-3512-00 E-86-LAMT (fig. 7)		10-3559-00 E-86-LAMTD (fig. 14)		10-3552-00 8E-86-LAMT		10-3561-00 8E-86-LAMTD	9"	6½"
3MT9-10000-B	none		none		none		none		-	9"
45MT-15000-C	none		none		none		none		-	9"

Chart “B”

End Truck Side Contact Collector Application Chart

Side Contact Collectors may also be used on TC/American Monorail End Trucks. Collectors are mounted on the inside of the End Truck Frame members or sometimes on the End Truck Trolleys. Collectors mounted on the frame require a mounting bracket (and sometimes spacers) which is included at no charge when collectors are ordered with the crane or end trucks.

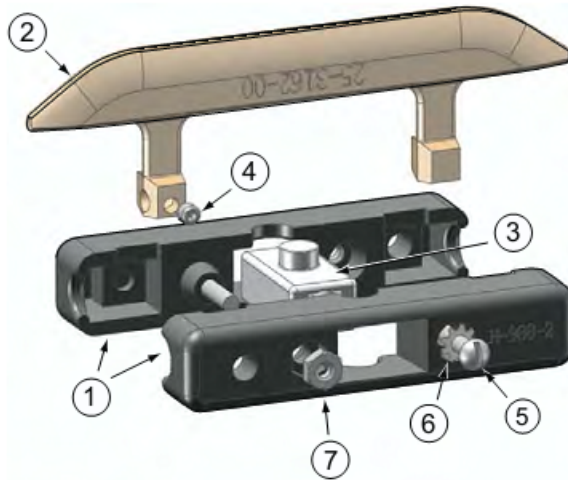
Note: Order collectors by part number only.



End Truck #	End Truck Part #	Channel-Bar		Figure-8		Gage/Mounting Location	Mounting Bracket	Spacer
		Single Head 35 amp		Single Head 100 amp				
		short arm	long arm	short arm	long arm			
200 Series								
2ET-1300-4	10-1993-00	10-1872-00 E-988-SA	10-1873-00 E-989-LA	10-1880-00 8E-988-SA	10-1879-00 8E-989-LA	8" Gage/Frame	10-2112-00	25-3269-00
2ET-2600-4/-4SR	10-1525-00 10-3380-01					7" Gage/Trolley	—	—
2ET-3700-4	10-1521-00					8" Gage/Frame	10-2112-00	25-2413-00
2ET-3800-4	10-1518-00					8" Gage/Frame	10-1999-00	25-2413-00
2ET-7700-8	10-1544-00					8" Gage/Frame	10-1999-00	25-2413-00
2ET-7800-8	10-1529-00					8" Gage/Frame	10-1999-00	25-2413-00
325 Series								
3ET-1300-4	10-1715-00	10-1854-00 E-6988-SA	10-1855-00 E-6989-LA	10-1883-00 8E-6988-SA	10-1885-00 8E-6989-SA	7½" Gage/ Frame	10-2112-00	25-3269-00
3ET-2600-4/-4SR	10-1497-00 10-3380-00					7½" Gage/Trolley	—	—
3ET-5400-4/-4SR	10-1714-00 10-3390-00 (3'-3" wheelbase)					7½" Gage/Frame	10-2866-00	25-2413-00
3ET-5400-4SR	10-1713-00 (6' wheelbase)						10-1999-00	25-2413-00
3ET-9000-4X/4XSR	10-3326-01 10-3326-02	10-1846-00 E-83-SA	10-1847-00 E-84-LA	10-1884-00 8E-83-SA	10-1886-00 8E-84-LA	7½" Gage/Frame	278E2456F1	—
3ET-9000-4/-4SR	10-3193-0000 10-3193-1000					7½" Gage/Frame	278E2456F1	—
3ET-12400-4/-4SR	10-3183-0000 10-3183-1000					7½" Gage/Frame	278E2456F1	—
3ET-16000-4/-4SR	10-3184-0000 10-3184-1000	10-3419-00 E-85-SA	10-3420-00 E-86-LA	10-3532-00 8E-85-SA	10-3533-00 8E-86-LA	9" Gage/Frame	278E2456F1	—
3ET-24800-8/-8SR	10-3185-0000 10-3185-1000	10-1846-00 E-83-SA	10-1847-00 E-84-LA	10-1884-00 8E-83-SA	10-1886-00 8E-84-LA	7½" Gage/Frame	278E2456F2	—
3ET-28000-8/-8SR	10-3186-0000 10-3186-1000	10-3419-00 E-85-SA	10-3420-00 E-86-LA	10-3532-00 8E-85-SA	10-3533-00 8E-86-LA	9" Gage/Frame	278E2456F2	—

Chart "C"

Shielded Channel-Bar Electrification
Collector Head Components



Collector Shoe Assembly
10-2756-01

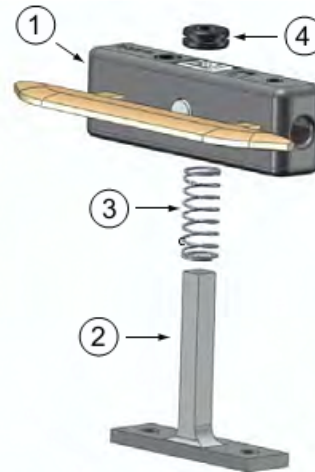
Item #	Description	Qty. Req'd	Part Number
1	Collector Head	2	25-3163-00
2	Collector Shoe	1	25-3162-01
3	Collector Trunnion	1	23-2850-00
4	Set Screw Soc. Hd. 10-24 x 3/16"	1	21-1927-00
5	Machine Screw, Zinc Plated Round Head, Slotted, 8-32 x 1	2	21-1888-00
6	Lock Washer Ext. Tooth, #8	2	21-1547-00
7	Nut, Hex 8-32, Zinc Plated	2	21-1878-00

Note: Collector Shoe #25-3162-01 has one post drilled for one collector wire. For Collector Shoe with both posts drilled for wire, order #25-3162-02.

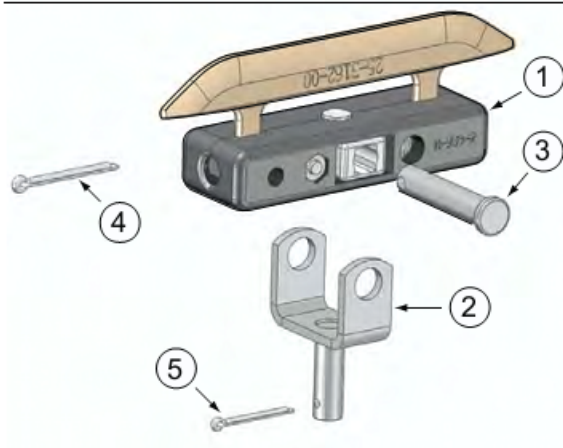
For Collector Shoe Assembly with both posts drilled, order #10-2756-02

Side Contact Collector Head Assembly
10-2756-00

Item #	Description	Qty. Req'd	Part Number
1	Collector Shoe Assembly	1	10-2756-01
2	Collector Stem	1	25-2183-00
3	Compression Spring	1	25-2186-00
4	Rubber Grommet (see note)	1	—



Note:
Grommet used
for shipping only.
Discard after
installation.



Bottom Contact Collector Head Assembly
10-2796-00

Item #	Description	Qty. Req'd	Part Number
1	Collector Shoe Assembly	1	10-2756-01
2	Mounting Fork	1	10-2797-00
3	Pin, Machine 3/8" x 1 1/4"	1	21-1972-00
4	Cotter Pin 3/8" x 1 1/4" Plated	1	21-1146-00
5	Cotter Pin 3/32" x 1" Plated	1	21-1602-00

Chart "D"

Shielded Figure-8 Electrification
Collector Head Components

Bottom Contact

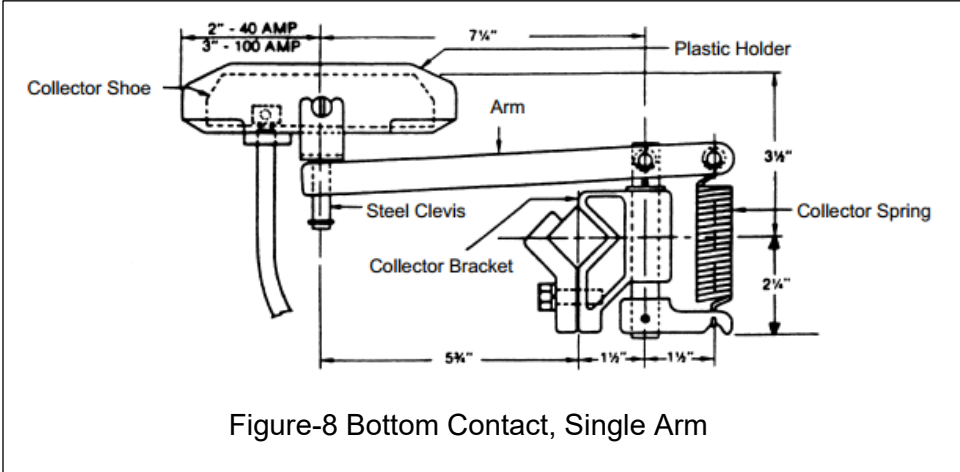


Figure-8 Bottom Contact, Single Arm

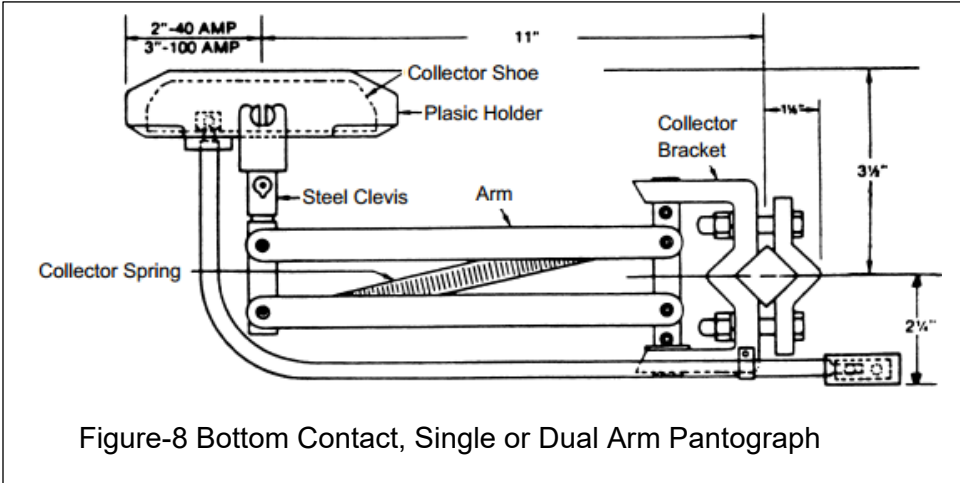


Figure-8 Bottom Contact, Single or Dual Arm Pantograph

Part Number	Description
Single Arm Collector and Single Arm or Dual Arm, Pantograph	
23-1120-00	40 Amp Head Assembly
23-1124-00	Plastic Holder
23-1122-00	Collector Shoe
23-1121-00	100 Amp Head Assembly
23-1125-00	Plastic Holder
23-1123-00	Collector Shoe
Single Arm Collector	
23-1129-00	Collector Spring
Single Arm Pantograph Collector	
23- -00	Collector Spring

Chart "D" (cont.)

Side Contact

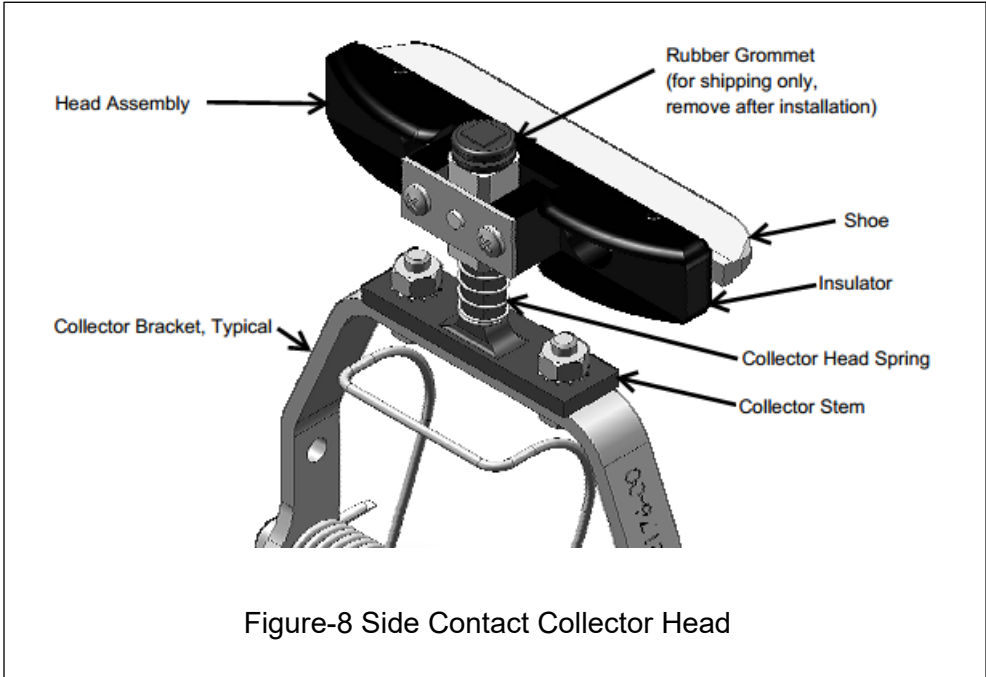


Figure-8 Side Contact Collector Head

Part Number	Description
Figure-8 Side Contact Collector Head Assembly	
23-1134-00	100 Amp Head Assembly
23-1135-00	Insulator
23-1136-00	Collector Shoe
25-2183-00	Collector Stem
25-2186-00	Collector Spring