

Section 3: Installation/Assembly Ceiling Mount Pre-Installation Guidelines

SPECIAL NOTE: Installation and repair of this equipment should be performed by qualified persons only. Paragon Medical, does not warranty any damage occurring as a result of improper installation.

It is recommended that this installation manual be completely reviewed prior to installation.

Before installation, check to insure the following minimum conditions are provided:

- The structural ceiling mount should be designed to support a vertical load of at least 100 lbs. and an off center moment of 300 ft-lbs. The structural mount should meet all local building codes.



A structural mount that does not meet these minimum conditions can cause serious injury and/or property damage.

- It is recommended that the equipment be mounted directly over a 4-0 junction box. If this is not possible the input power supply lines should be wired in accordance with all applicable building codes.
- The supply circuit line must be as follows:
120 VAC lights: 110 -120 VAC 60 Hz, single phase, three wire, capable of supplying 700 Watts @ 7 Amperes.
220 VAC lights: 230 -240 VAC, 50/60 Hz, single phase, three wire, capable of supplying 700 Watts @ 3.5 Amperes.
- The power supply circuit line must be routed and wired to the light head in compliance with all applicable building codes.



Failure to provide a circuit meeting these minimum standards or complying with local building codes can cause a shock hazard.

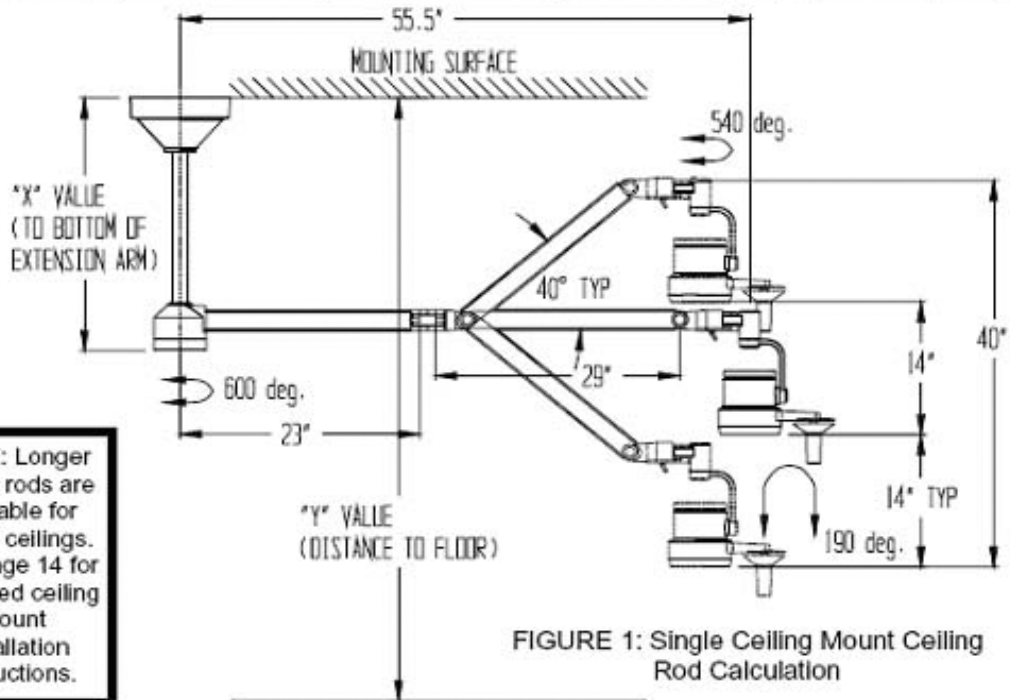
- Check the length of the ceiling rod supplied to make sure that it is the proper length to install and operate the light without interference or over reach (See ceiling Rod Calculation pages 11-12).

Ceiling Rod Calculation Single Ceiling Mount

 Use the following table to select the correct length ceiling rod for your application.

Ceiling Rod Calculation, Single Ceiling Mount

Ceiling Mounting Height	Ceiling Rod Length	"X" Value	"Y" Value	Head room to bottom of extension arm (y value-x value)
7'6" - 8'6" (2.29- 2.59 m)	16"(406,4 mm)	22"(558,8 mm)	90-102" (2.29-2.59 m)	68-80" (1.72-2.02 m)
8'7" - 9'6" (2.62 -2.89 m)	25"(635,0 mm)	31"(787,4 mm)	103-114" (2.62-2.89 m)	72-84" (1.82-2.13 m)
9'7" - 10'6" (2.92- 3.20 m)	35"(889,0 mm)	41"(1041,4 mm)	115-126" (2.92-3.20 m)	74-86" (1.87-2.18 m)



Note: The Centry Diagnostic / Specialty Light is shown for reference. The dimensions indicated also apply to the Centurion Diagnostic, Centurion Excel minor surgery light and the Centura Spotlight.

Dimensions are approximate.

*Ceiling Rod Table applies to single and dual ceiling mounts.

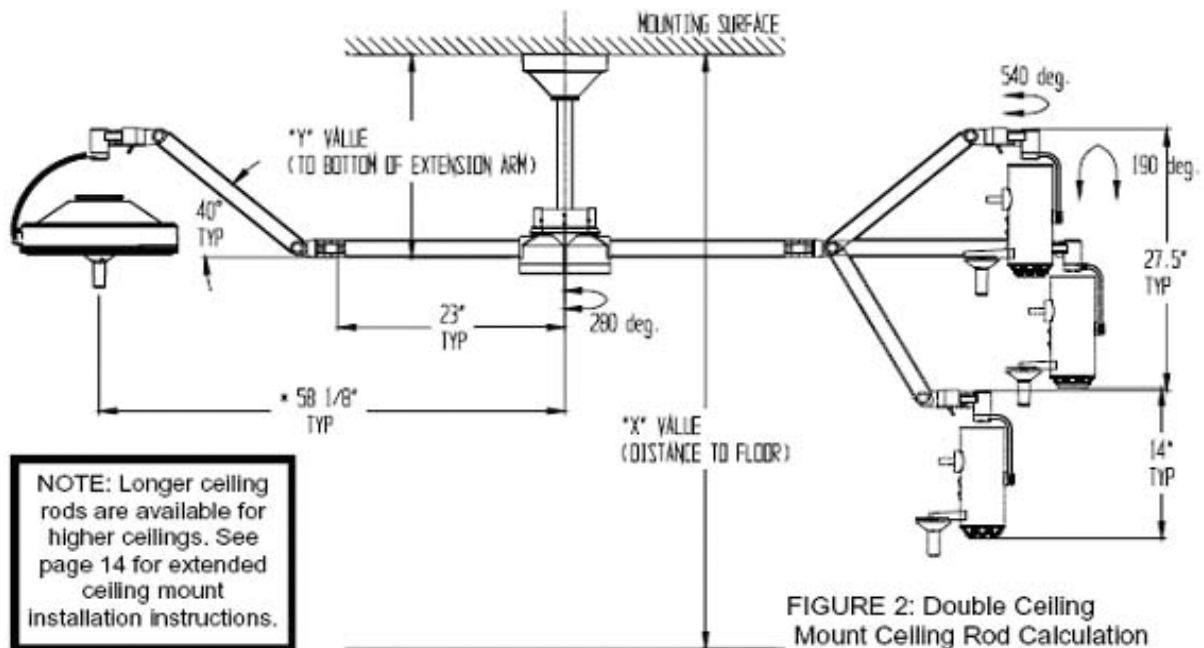
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Ceiling Rod Calculation Double Ceiling Mount

▲ Use the following table to select the correct length ceiling rod for your application.

Ceiling Rod Calculation, Double Ceiling Mount

Ceiling Mounting Height	Ceiling Rod Length	"X" Value	"Y" Value	Head room to bottom of extension arm (y value-x value)
7'6" - 8'6" (2,29 - 2,59 m)	16"(406,4 mm)	22.5"(571,5 mm)	89.5-102.5" (2,27-2,57 m)	67.5-79.5" (1,70-2,00 m)
8'7" - 9'6" (2,62 - 2,89 m)	25"(635,0 mm)	31.5"(800,1 mm)	102.5-114.5" (2,60-2,87 m)	71.5-83.5" (1,80-2,11 m)
9'7" - 10'6" (2,92 - 3,20 m)	35"(889,0 mm)	41.5"(1054,1 mm)	114.5-126.5" (2,90-3,18 m)	73.5-85.5" (1,85-2,16 m)



Note: The Centurion / Centura Combination Light is shown for reference. The dimensions indicated also apply to all other combination of fixtures and dual mounting of the same light. Dimensions are approximate

*Length measured when Arm is in horizontal position.

Extended Ceiling Mount

 Use the following table to select the correct length ceiling rod for your application.

Extended Ceiling Mount Kit P/N	Ceiling Rod Extension Length	Mounting Height	Extension P/N
1000976-49	20.0" (508,0 mm)	10' 6"-11' 8" (3,20-3,56 m)	1001263
1000976-63	34.0" (863,6 mm)	11' 9"-12' 10" (3,58-3,91 m)	1001264
1000976-77	48.0" (1219,2 mm)	12' 11"-14' (3,94-4,27 m)	1001265

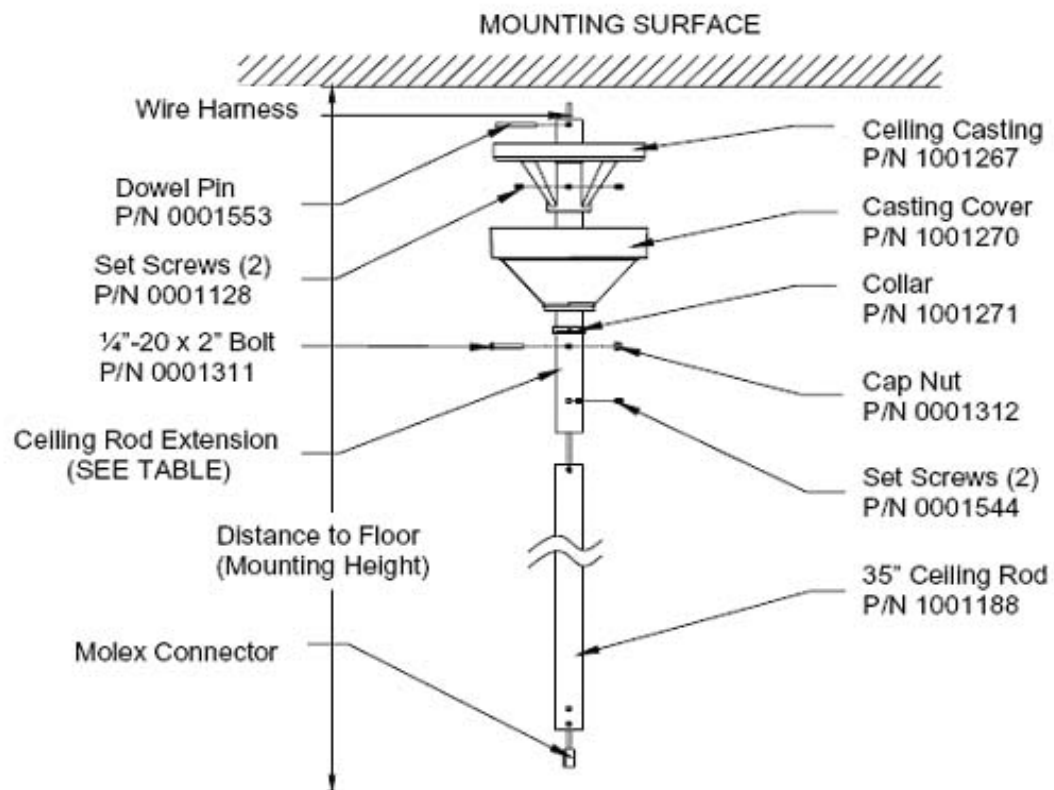


FIGURE 3: Extended Ceiling Mount Installation

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Extended Ceiling Mount Installation For 10'6"–14' (3.2m–4.27m) Ceilings

- Insert the ceiling rod up through the ceiling casting until the hole in the ceiling rod becomes visible. Insert the dowel pin into the hole in the ceiling rod and lower the rod in the ceiling casting, making sure the pin is seated securely in the indentation on the ceiling casting. Securely tighten the two set-screws located in the casting.



Failure to install the dowel pin can cause the arm/head assembly to fall from the ceiling causing serious injury and/or property damage.



Improper fastening of the ceiling casting can cause serious injury and/or property damage. Make certain the installation is capable of supporting a load of at least 100 pounds and an off center moment of 300 ft-lbs.

- Fasten the ceiling casting to the desired location using four $\frac{5}{16}$ "-18 x 3" long (minimum length) hex bolts or lag screws with washers (hardware not provided). This can be done by mounting the casting to a suitable material that will function as a ground conductor, or a wire lead that must be attached to the ground screw on the casting then routed to proper ground.
Note: The ceiling rod must be plumb. Shim the casting if necessary.
Note: The ceiling casting itself must be electrically grounded to maintain proper grounding reliability.



If ceiling rod is not plumb, unwanted arm drifting may occur.

- Feed the wire harness through the ceiling rod extension and route to a junction box. Leave sufficient wire to extend slightly beyond the bottom of the ceiling rod. **Important: To achieve proper grounding reliability, the green ground wire from the wire harness *MUST* be properly fastened to the grounding screw located on the ceiling casting. Make all electrical connections in compliance with all applicable electrical codes.**



Failure to comply with local electrical codes can cause a shock hazard.

- Slide the casting cover up the rod extension and over the casting. Similarly, slide the collar to the casting cover, then tighten the set screw to hold the cover in place. Feed the wire harness through the 35" ceiling rod with the rod in the direction shown.
- Slide ceiling rod up through ceiling rod extension until the holes in the ceiling rod align with the upper holes in the ceiling rod extension. Insert a $\frac{1}{4}$ "-20 x 2" bolt carefully, making certain not to damage the wire harness, and then fasten the cap nut. Secure rods in place with the two set screws provided.
- See Single or Dual Ceiling Mount Instructions to complete installation.

Single Ceiling Mount Installation

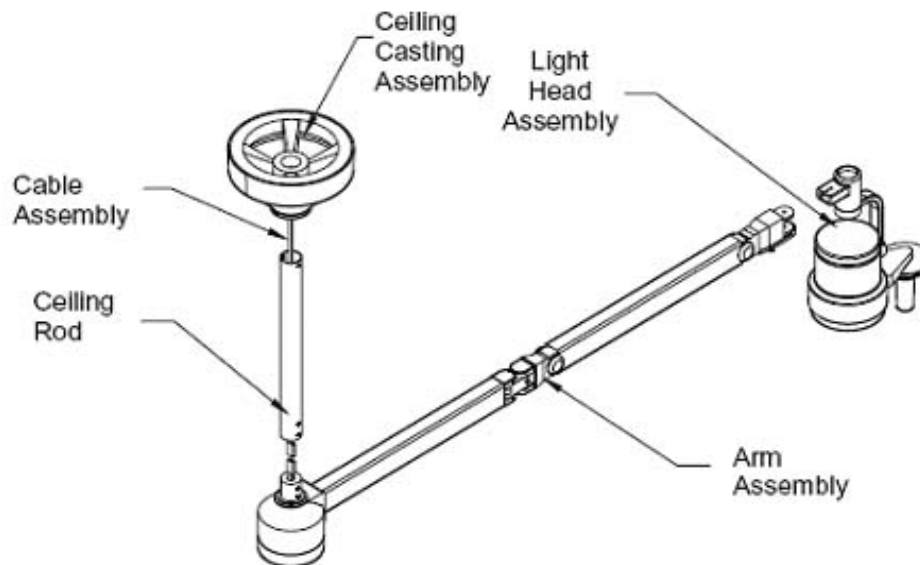


FIGURE 4: Sub-Assemblies for Single Ceiling Mount

GENERAL INFORMATION

- ⚠** Installation and repair of this equipment should be performed by qualified persons only. Paragon Medical does not warranty any damage occurring as a result of improper installation.

The shipping cartons contain a light head assembly, an arm assembly, a ceiling casting, casting cover, collar, bolt cover, ceiling rod, hardware kit, wire harness, and an Installation and Service Manual.

Notes: There are 3 standard length rods for different ceiling heights. Extended ceiling rod kits are available for ceilings over 10' 6". Verify that your ceiling rod length is correct for your ceiling height (see page 12). If not correct please contact customer service.

Prior to installation insure that all components shown in figure 4 are present.

- ⚠** When removing parts from the shipping carton, be careful not to damage the components or break any glassware. Important: thoroughly check each box for parts that may be located in areas that can be overlooked.

Note: The Centry Light is shown for reference.

Single Ceiling Mount Installation

- Insert the ceiling rod up through the ceiling casting until the hole in the ceiling rod becomes visible (see figure 5). Insert the dowel pin into the hole in the ceiling rod and lower the rod in the ceiling casting, making sure the pin is seated securely in the indentation on the ceiling casting. Securely tighten the two set-screws located in the casting.



Failure to install the dowel pin can cause the arm/head assembly to fall from the ceiling causing serious injury and/or property damage.



Improper fastening of the ceiling casting can cause serious injury and/or property damage. Make certain the installation is capable of supporting a load of at least 100 pounds and an off center moment of 300 ft-lbs.

- Fasten the ceiling casting to the desired location using four $\frac{5}{16}$ "-18 x 3" long (minimum length) hex bolts or lag screws with washers (hardware not provided). This can be done by mounting the casting to a suitable material that will function as a ground conductor, or a wire lead that must be attached to the ground screw on the casting then routed to proper ground.
Note: The ceiling rod must be plumb. Shim the casting if necessary.
Note: The ceiling casting itself must be electrically grounded to maintain proper grounding reliability.



If ceiling rod is not plumb, unwanted arm drifting may occur.

- Feed the wire harness through the ceiling rod extension and route to a junction box. Leave sufficient wire to extend slightly beyond the bottom of the ceiling rod. **Important:** To achieve proper grounding reliability, the green ground wire from the wire harness **MUST** be properly fastened to the grounding screw located on the ceiling casting. Make all electrical connections in compliance with all applicable electrical codes.



Failure to comply with local electrical codes can cause a shock hazard.

- Slide the casting cover up the rod over the casting. Similarly, slide the collar to the casting cover, then tighten the set screw to hold the cover in place. Feed the wire harness through the ceiling rod with the rod in the direction shown.



Do not install the extension arm with the light head attached. Installation with the light head attached can cause damage to the light. Refer to the procedure for installing the head to the arm after the bracket and arm are installed.

- Raise the extension arm to the ceiling rod and plug the Molex connectors together. Push the wire into the ceiling rod while inserting the transformer housing into the rod. Secure the housing to the ceiling rod using the four supplied bolts as shown. Two $\frac{1}{4}$ "-20 x $\frac{1}{4}$ " screws must be installed on one side of the ceiling rod. Two $\frac{1}{4}$ "-20 x $\frac{3}{8}$ " screws and lock washers must be used to mount the stop bracket on the other side of the rod. Be sure the bend on the stop faces down, towards the arm.



Failure to install the stop clip subassembly can cause damage to the light fixture.

Single Ceiling Mount Installation

- ⚠** Failure to install or tighten the 1/4"-20 socket head cap screw can cause the arm/head assembly to fall causing serious injury and/or property damage.
- Complete the installation by lowering the bolt cover onto the transformer housing.
 - See the Instructions for "Installation of Light Head to Arm" on page 29 to complete the assembly.

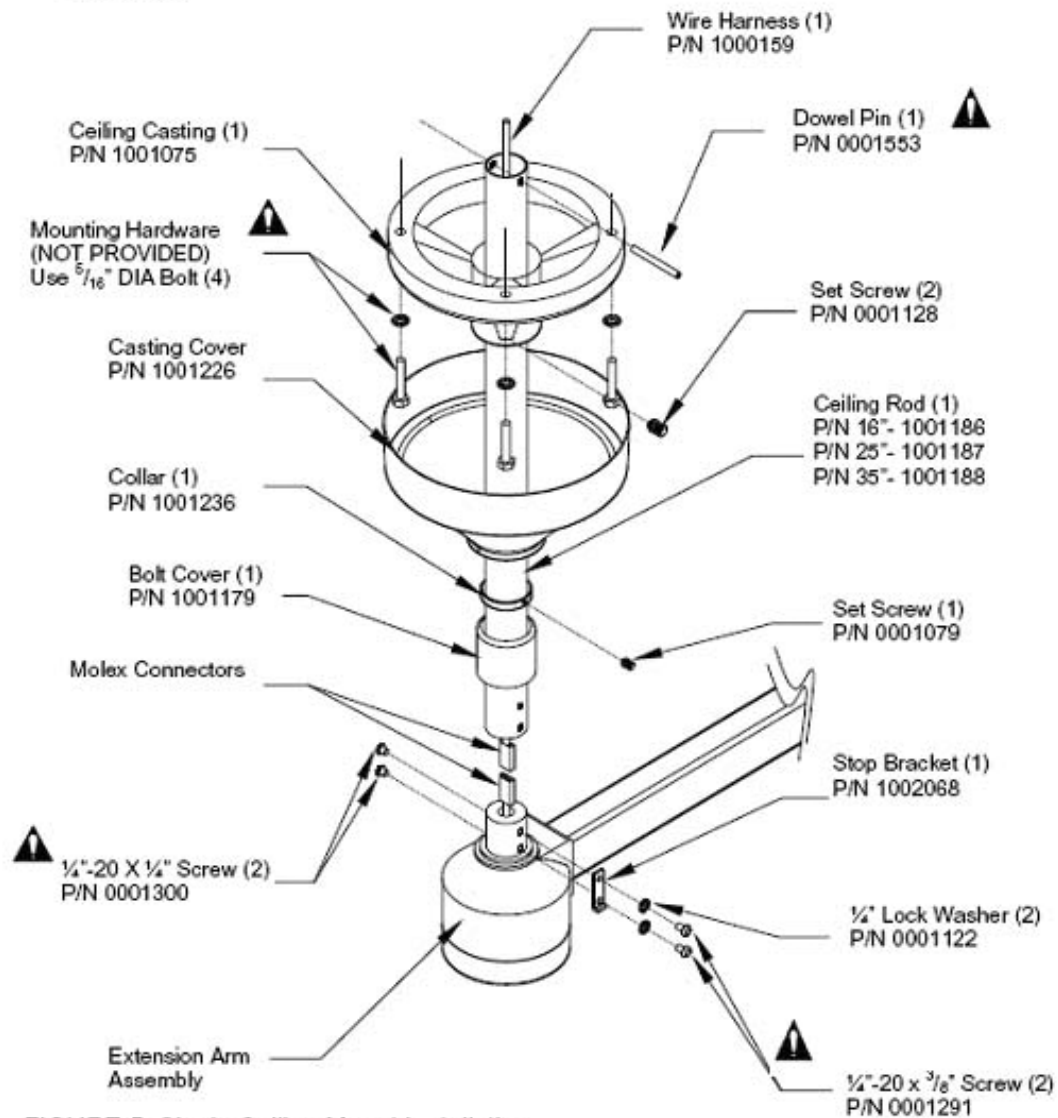


FIGURE 5: Single Ceiling Mount Installation

Double Ceiling Mount Installation

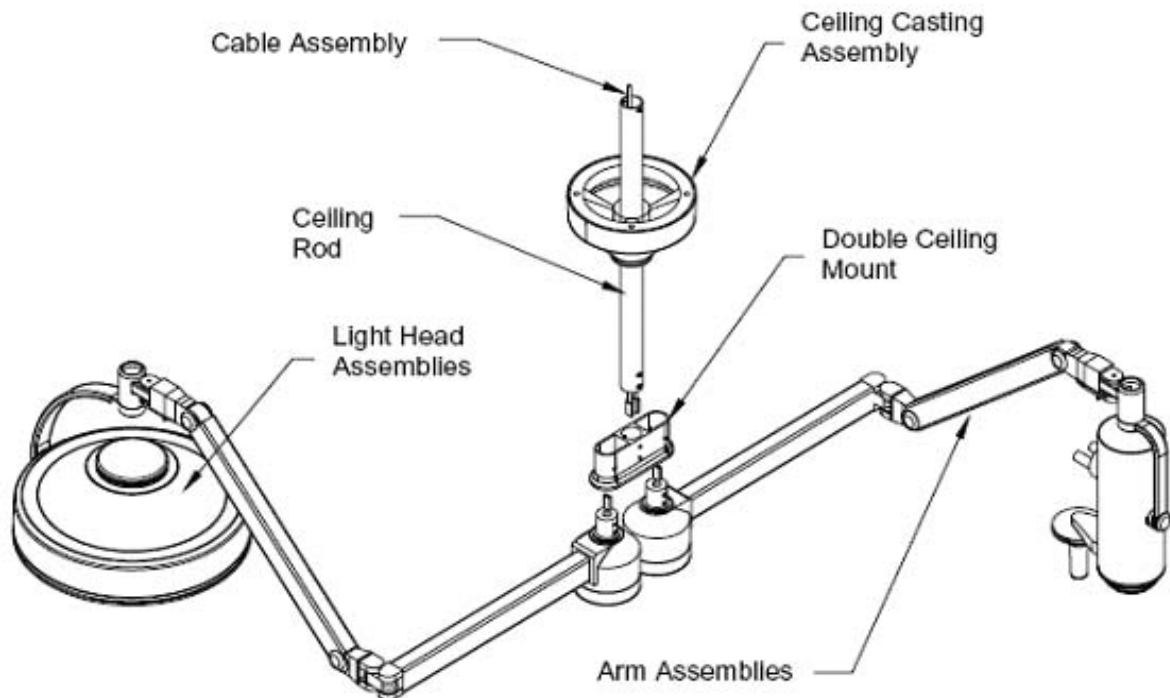


FIGURE 6: Double Ceiling Mount Components

GENERAL INFORMATION

The shipping cartons each contain a head assembly and arm assembly. One of the cartons also contains a ceiling casting, casting cover, collar, ceiling rod, double mount assembly, hardware kit, wire harness, and an Installation and Service Manual.

Prior to installation insure that all components in figure 6 are present.

⚠ When removing parts from the shipping carton, be careful not to damage the components or break any glassware. Important: thoroughly check each box for parts that may be located in areas that can be overlooked.

Note: The Centurion / Centura Combination Light is shown for reference.

Double Ceiling Mount Installation

- Insert the ceiling rod up through the ceiling casting until the hole in the ceiling rod becomes visible (see figure 9). Insert the dowel pin into the hole in the ceiling rod and lower the rod in the ceiling casting, making sure the pin is seated securely in the indentation on the ceiling casting. Securely tighten the two set-screws located in the casting.



Failure to install the dowel pin can cause the arm/head assembly to fall from the ceiling causing serious injury and/or property damage.



Improper fastening of the ceiling casting can cause serious injury and/or property damage. Make certain the installation is capable of supporting a load of at least 100 pounds and an off center moment of 300 ft-lbs.

- Fasten the ceiling casting to the desired location using four $\frac{5}{16}$ "-18 x 3" long (minimum length) hex bolts or lag screws with washers (hardware not provided). This can be done by mounting the casting to a suitable material that will function as a ground conductor, or a wire lead that must be attached to the ground screw on the casting then routed to proper ground.
Note: The ceiling rod must be plumb. Shim the casting if necessary.
Note: The ceiling casting itself must be electrically grounded to maintain proper grounding reliability.



If ceiling rod is not plumb, unwanted arm drifting may occur.

- Feed the wire harness through the ceiling rod extension and route to a junction box. Leave sufficient wire to extend slightly beyond the bottom of the ceiling rod. **Important: To achieve proper grounding reliability, the green ground wire from the wire harness MUST be properly fastened to the grounding screw located on the ceiling casting. Make all electrical connections in compliance with all applicable electrical codes.**



Failure to comply with local electrical codes can cause a shock hazard.

- Slide the casting cover up the rod and over the casting. Similarly, slide the collar to the casting cover, then tighten the set screw to hold the cover in place. Feed the wire harness through the ceiling rod with the rod in the direction shown.



Do not install the extension arm with the light head attached. Installation with the light head attached can cause damage to the light. Refer to the procedure for installing the head to the arm after the bracket and arm are installed.

Double Ceiling Mount Installation

- Bring one section of the double ceiling mount casting to the ceiling rod and fasten it to the rod with the 2" long bolts (P/N 0001311) and cap nuts (P/N 0001312). Tighten the cap nuts just enough to hold the section in place; they do not need to be fully tightened at this time. Bring an arm assembly to the double mount section and fasten the transformer housing into the extension arm mounting cavity with two $\frac{3}{8}$ " long mounting screws (P/N 0001291). Install the other arm assembly to the section with two more $\frac{3}{8}$ " long screws. Route the wire and Molex connector from the ceiling rod into the wire channel as shown in figure 8. Plug the connector at the end of each transformer housing to the mating Molex connector from the wire harness. Place each set of wires within the channel area.

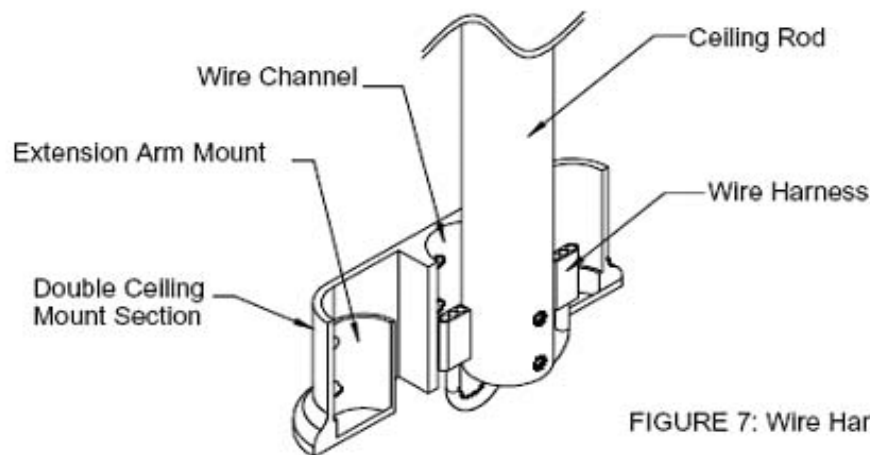


FIGURE 7: Wire Harness Positioning

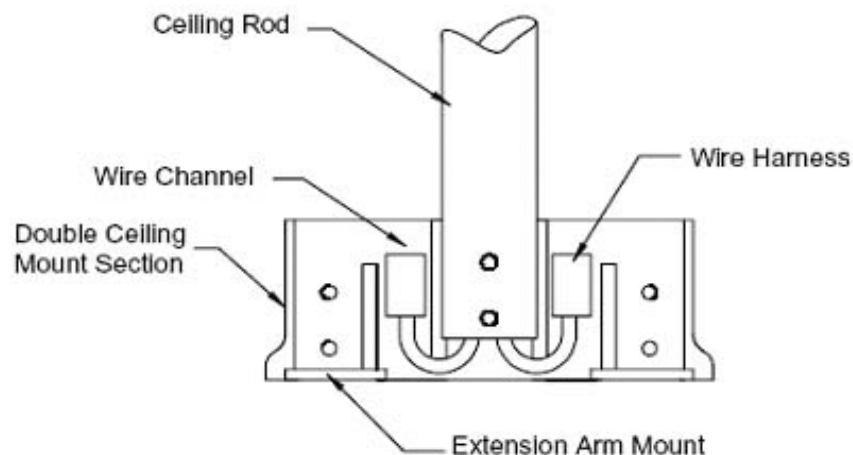


FIGURE 8: Wire Channel

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Double Ceiling Mount Installation

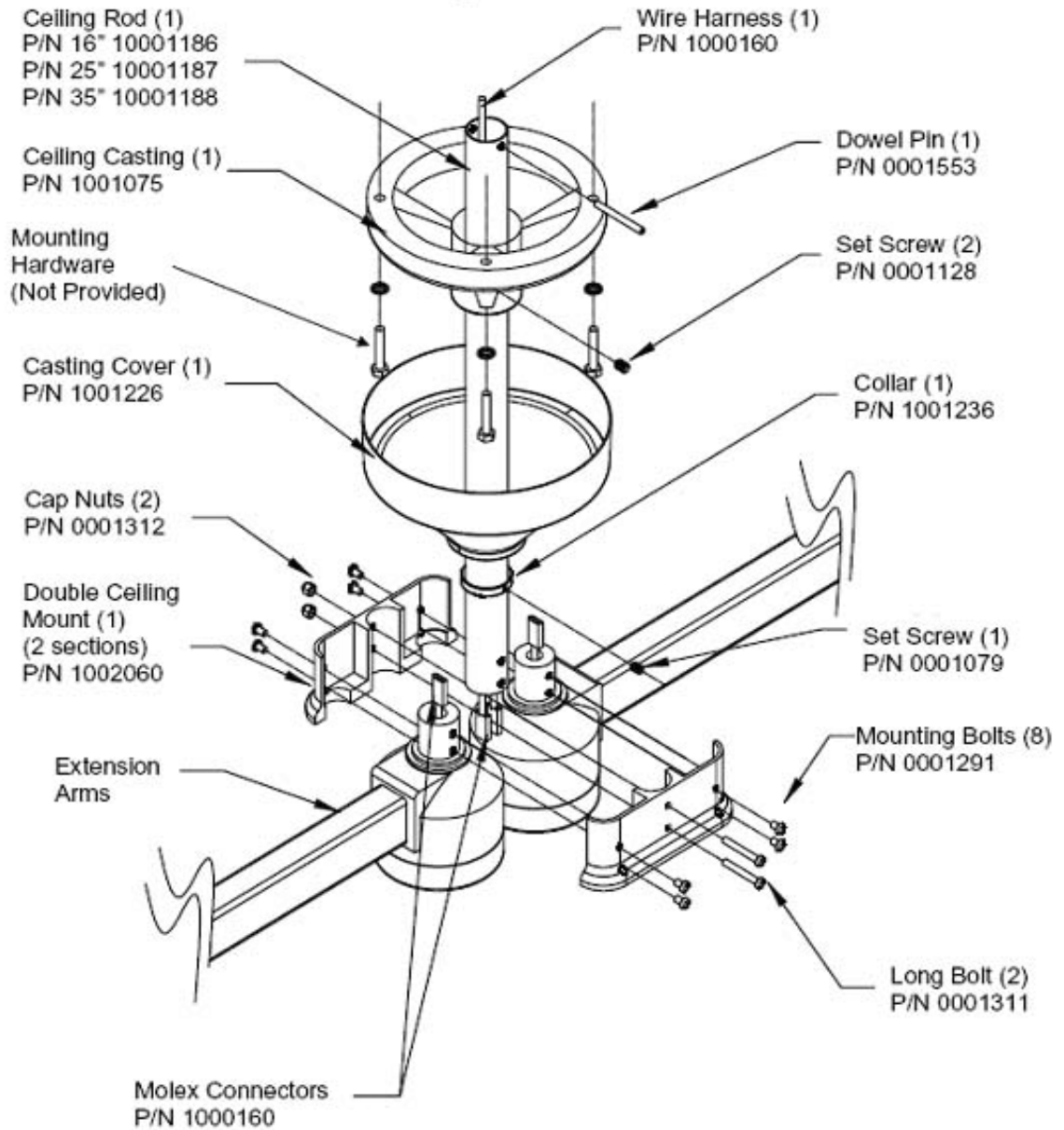


FIGURE 9: Double Ceiling Mount Installation

Double Ceiling Mount Installation

- Position the two extension arms as shown in figure 9 to allow for easier mounting of the remaining double mount section. Firmly press the fastened double ceiling mount section against the ceiling rod. While firmly holding the double ceiling mount section in place, remove only the cap nuts from the 2" long bolts. It is strongly recommended that a second person hold the arms in place while the nuts are removed. Place the remaining double ceiling mount section onto the bolts. Be sure the wires are enclosed within the wire channel to avoid pinching them. Replace the cap nuts and fully tighten. Install the remaining four $\frac{3}{8}$ " long mounting screws and then fully tighten all eight screws.



Failure to tighten the cap nuts for the 2" long bolts can cause the arm/head assembly to fall causing serious injury and/or property damage.



Failure to install or tighten all eight of the $\frac{3}{8}$ " mounting screws can cause the arm/head assembly to fall causing serious injury and/or property damage.

- Check to make sure that the wire connections are seated far enough into the double casting enclosure. Fasten the cover plates to the casting enclosure using the four $\frac{3}{8}$ " long pan-head screws (P/N 0001319) and plastic grommets (P/N 0001306) supplied in the hardware kit.
- See the instructions for "Installation of Light Head to Arm" on page 29 to complete the assembly.