

Thank you for selecting a DuctSox System. This guide will be helpful for the installation of a U-Track System. Sections of fabric will be labeled, assembled, bagged, and boxed for shipping. More complicated systems will include a CAD detail of the system identifying what is in each package.

---

Products may be covered by one or more patents:  
[www.ductsox.com/patents](http://www.ductsox.com/patents)

---

Manufactured by DuctSox Corporation.

## Overview

### Inventory

The first step on any installation project is to read through this guide thoroughly and review the components that need to be installed. The best way to do this is to review the drawings of the project while reading the guide, including the CAD detail if applicable.

### Shipping/Receiving

In some cases the DuctSox support system is delivered to the job site ahead of the DuctSox fabric sections. Depending on the size of a project or order, a DuctSox system will be shipped by common courier in a single brown box or several boxes. Larger orders will be shipped in crates by a common freight courier. Each DuctSox length should be packaged into individual plastic bags and labeled according to size and number of pieces. Other markings or labeling may also be incorporated for larger or more complicated systems. Be sure you have determined all boxes are accounted for.

### Unpacking

Inspect shipment carefully and make sure all pieces are accounted for. Account for everything by emptying the box and examining all contents. Note any missing or damaged pieces listed on the Bill of Lading.

### Labeling

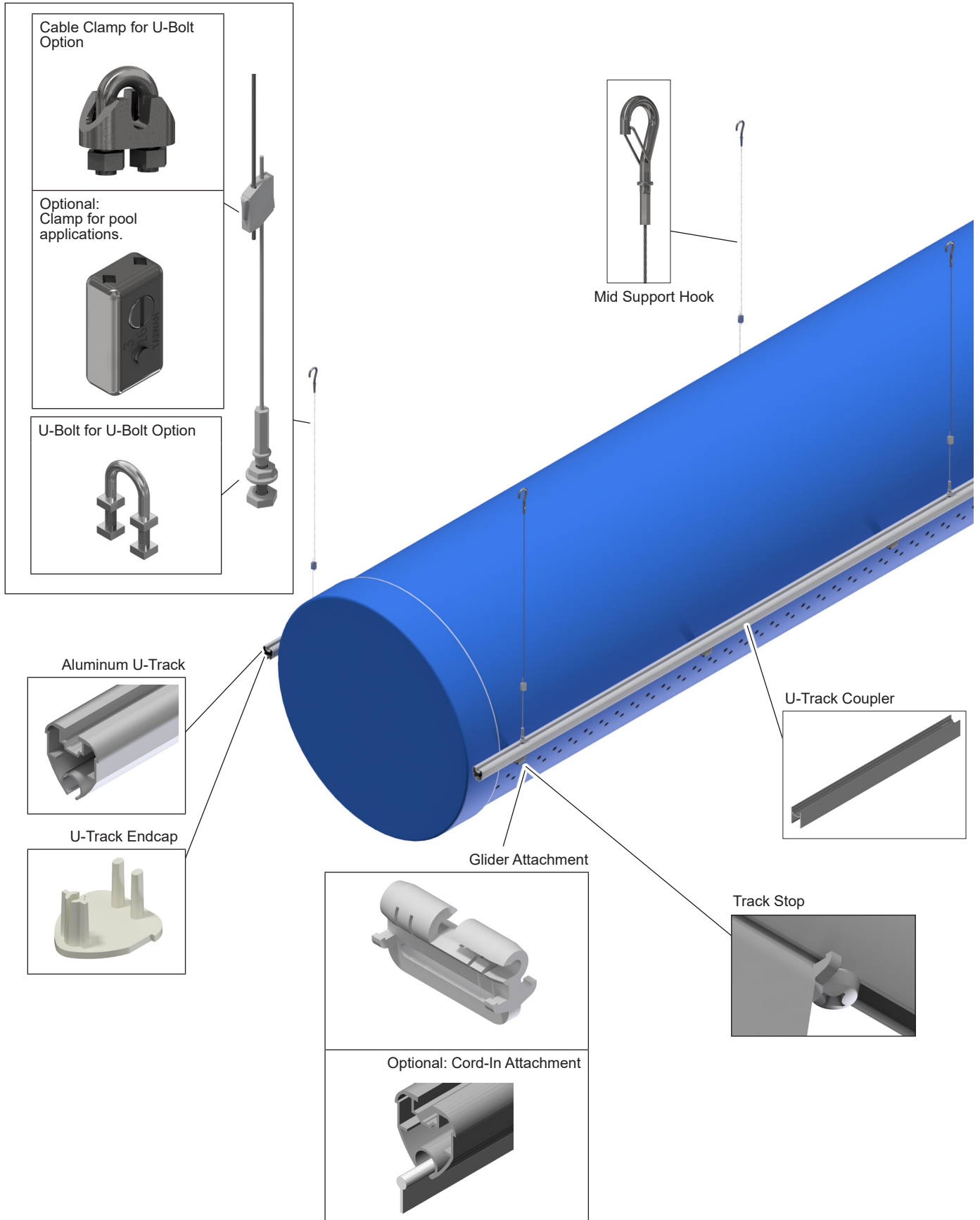
Each DuctSox section will be marked with the size and section number either inside the belt of the inlet or on a tag inside the DuctSox near the zipper. The marking shall be the diameter, section length and total length. If custom labeling has been used, locate an identification sheet that will be included with the delivery.

### Equipment Required:

- Drill/driver and magnetic #2 Phillips driver bit
- Level
- #2 Phillips screwdriver
- Tape measure
- Marker or pencil
- Wrenches for cable-to-track connection (7/16" and 7/32" or pliers)
- Flat (standard) screwdriver
- Cable cutter

# Components

## Gripple and Stud Cable End



# Installation Steps

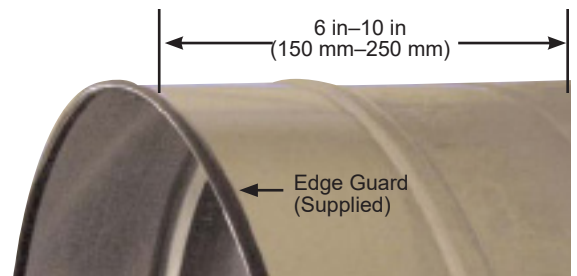
1. Review materials in box, including the CAD drawing and installed location of the DuctSox.
2. Prepare metal inlet collar for fabric connection.
3. Mark placement of track (2 row style and 3 row style).  
Install track (with couplers and track supports OR surface mount clips)
4. Install and assemble DuctSox components.
5. Start up AHU.
6. Balance airflow.

## Step 1

**Review materials in box, including the CAD drawing and installed location of the DuctSox.**  
**READ INSTRUCTIONS THOROUGHLY BEFORE BEGINNING.**

## Step 2

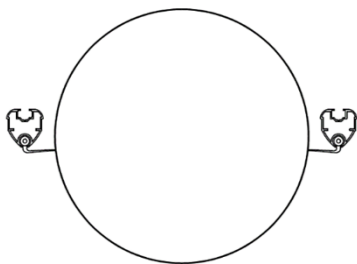
1. Prepare metal inlet collar for fabric connection:
  - Confirm inlet air supply size and location.
  - **NOTE:** DuctSox inlets are manufactured 1/2 in (12 mm) larger than specified to fit over metal inlet collar.
  - Metal collar length should be 6 in - 10 in (150 mm - 250 mm) for secure fabric attachment.
2. Install edge guard (supplied) on the edge of the metal collar to reduce fabric wear from the metal edge.



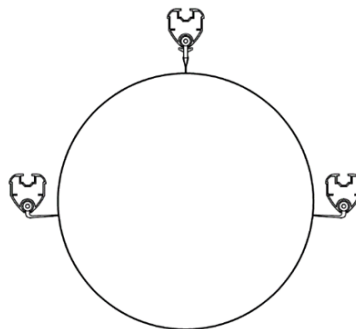
## Step 3

**Mark Placement of Track.** Step 3 is broken into 2 types of suspension points (2 row and 3 row). One job may use multiple styles.

Step 3 – 2 Row Style  
9 and 3 O'clock



Step 3 – 3 Row Style  
9, 12, and 3 O'clock

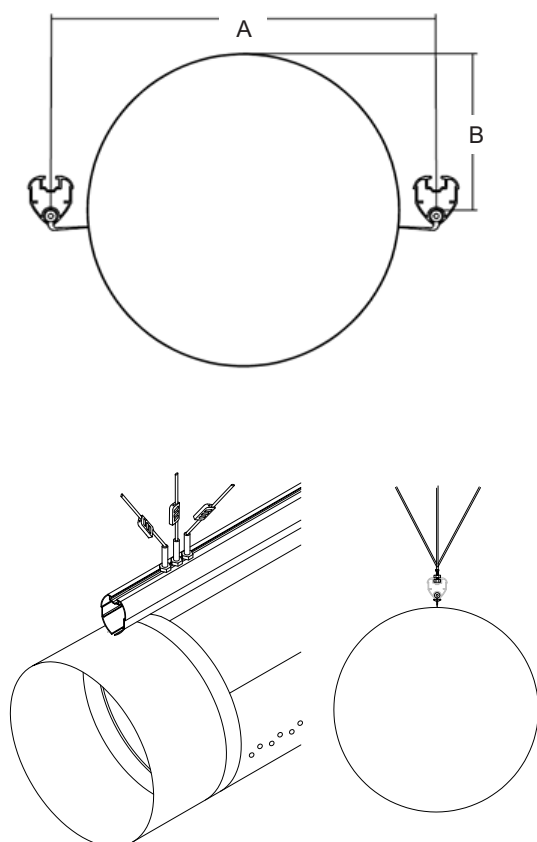


### Step 3 – 2 Row Style

Determine placement of track (both track path and elevation). The bottom of the U-Track must be mounted “A” inches apart and “B” inches below the 12:00 location of the DuctSox (match this up to the chart and the drawing.) Track supports are spaced between 5 to 8 ft (1524 to 2440mm) apart with a maximum of 8 ft (2440mm). Additional Track Supports must also be mounted at both ends of continuous track runs for stabilization (or as an alternative, the track can be secured by mounting the ends with threaded rod). The track support cable will need to be mounted at angles away from the sides of the track along with angled cables in-line with the track. See image below.

Diameter (inches)	A	B
8	11.5	4.25
10	13.5	5.25
12	15.5	6.25
14	17.5	7.25
16	19.5	8.25
18	21.5	9.25
20	23.5	10.25
22	25.5	11.25
24	27.5	12.25
26	29.5	13.25
28	31.5	14.25
30	33.5	15.25
32	35.5	16.25
34	37.5	17.25
36	39.5	18.25
38	41.5	19.25
40	43.5	20.25
42	45.5	21.25
44	47.5	22.25
46	49.5	23.25
48	51.5	24.25
50	53.5	25.25
52	55.5	26.25
54	57.5	27.25
56	59.5	28.25
58	61.5	29.25
60	63.5	30.25

Diameter (mm)	A	B
203	292	108
254	343	133
305	394	159
356	445	184
406	495	210
457	546	235
508	597	260
559	648	286
610	699	311
660	749	337
711	800	362
762	851	387
813	902	413
864	953	438
914	1003	464
965	1054	489
1016	1105	514
1067	1156	540
1118	1207	565
1168	1257	591
1219	1308	616
1270	1359	641
1321	1410	667
1372	1461	692
1422	1511	718
1473	1562	743
1524	1613	768

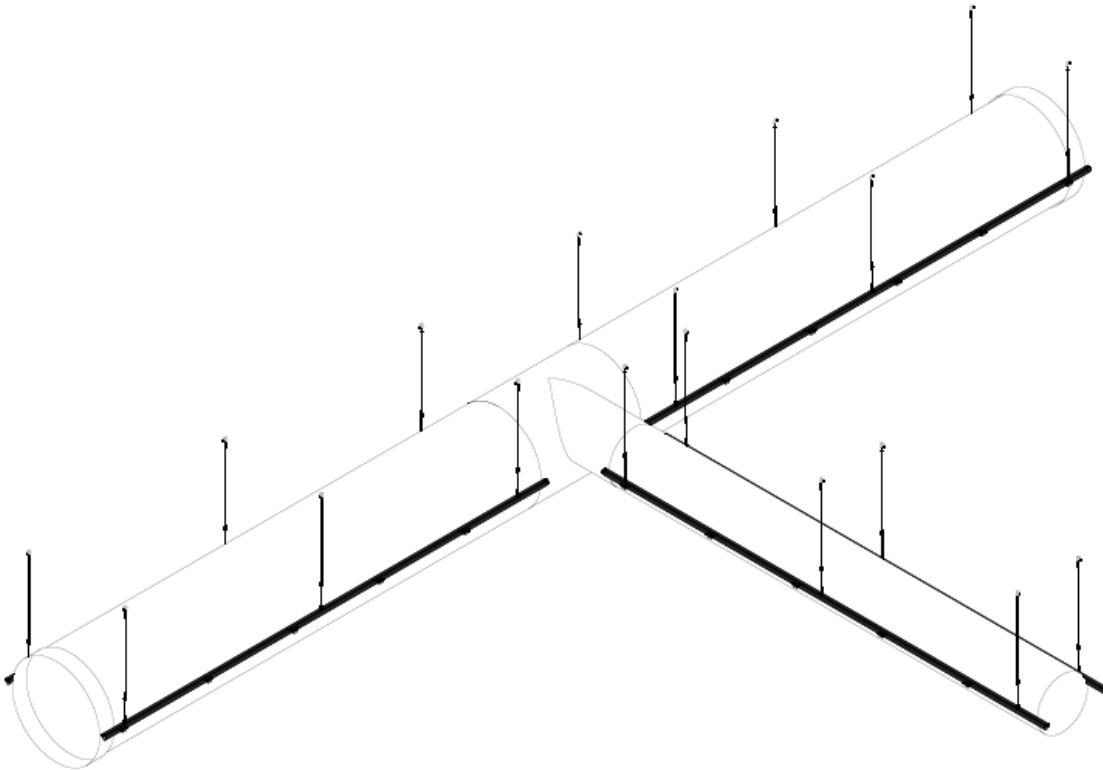
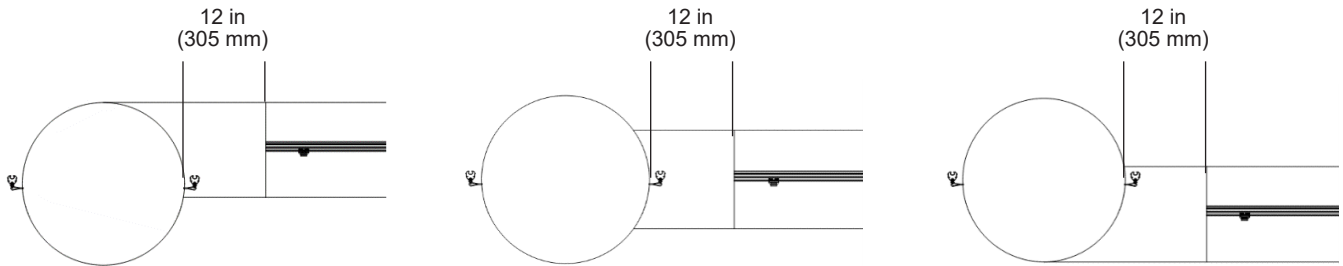


**T's**

There should be roughly 12" (305mm) from sidewall of DuctSox to start of the branch track. Track too close to the main run may cause premature failure due to abrasion from the track.

Support around fabric fittings may require additional track supports.

NOTE: Offset distance of branch U-Track from main trunk is approximately half of the main trunk diameter plus 12" (305mm).



## Elbows

Radius tracks are manufactured to match the radius of the DuctSox. This is typically 1.5 times the diameter of the DuctSox. For example, the inside radius track of a 24" diameter DuctSox would have a radius of 22.5".

$$(1.5 \times 24") - (24"/2) - 1.5 = 22.5"$$

And the outside radius track of a 24" diameter DuctSox would have a radius of 49.5".

$$(1.5 \times 24") + (24"/2) + 1.5 = 49.5"$$

Install at least one support per radius section, in the center if possible.

Coupler will not go into radius track the full 6" (and it shouldn't). Coupler must only be inserted into radius track 1.5" (this connection will only use one screw in the radius track portion. There will be 3" radius couplers when splicing radius-to-radius connections.)

Radius track will only work with DuctSox that are installed in a true horizontal plane (Figure A).

Vertical elbows are supported by D-ring straps rather than radius track (Figure B).

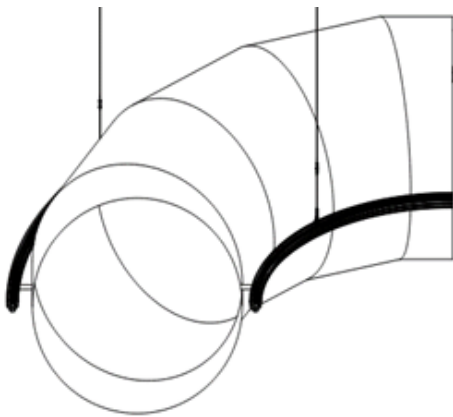


Figure A

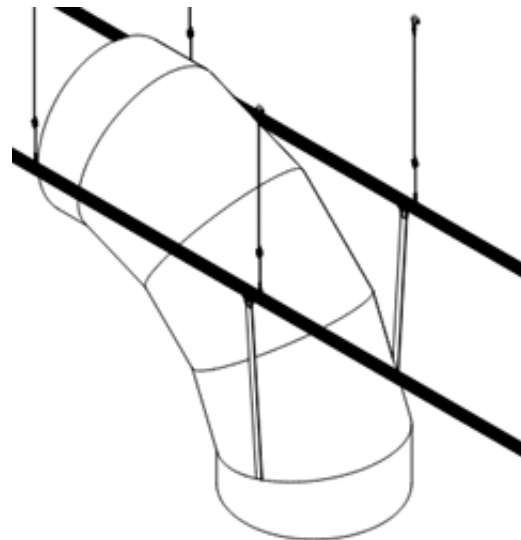


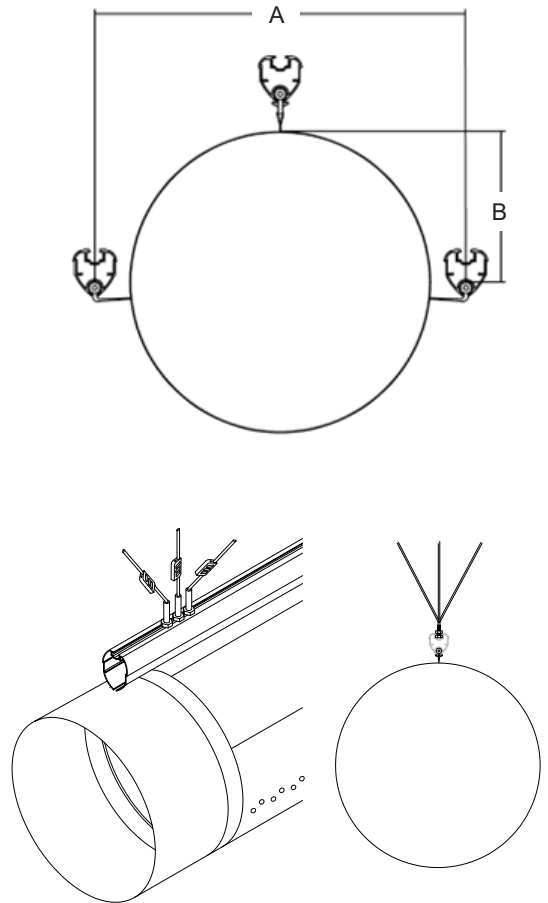
Figure B

### Step 3 – 3 Row Style (9, 3, and 12)

Determine placement of track (both track path and elevation). The bottom of the U-Track must be mounted “A” inches apart and either “B” inches or 1.5” (38mm) below the 12:00 location of the DuctSox. Track supports are spaced between 5 to 8 ft (1524 to 2440mm) apart with a maximum of 8 ft (2440mm). Additional Track Supports must also be mounted at both ends of continuous track runs for stabilization (or as an alternative, the track can be secured by mounting the ends with threaded rod). The track support cable will need to be mounted at angles away from the sides of the track along with angled cables in-line with the track. See image below.

Diameter (inches)	A	B
8	11.5	4.25
10	13.5	5.25
12	15.5	6.25
14	17.5	7.25
16	19.5	8.25
18	21.5	9.25
20	23.5	10.25
22	25.5	11.25
24	27.5	12.25
26	29.5	13.25
28	31.5	14.25
30	33.5	15.25
32	35.5	16.25
34	37.5	17.25
36	39.5	18.25
38	41.5	19.25
40	43.5	20.25
42	45.5	21.25
44	47.5	22.25
46	49.5	23.25
48	51.5	24.25
50	53.5	25.25
52	55.5	26.25
54	57.5	27.25
56	59.5	28.25
58	61.5	29.25
60	63.5	30.25

Diameter (mm)	A	B
203	292	108
254	343	133
305	394	159
356	445	184
406	495	210
457	546	235
508	597	260
559	648	286
610	699	311
660	749	337
711	800	362
762	851	387
813	902	413
864	953	438
914	1003	464
965	1054	489
1016	1105	514
1067	1156	540
1118	1207	565
1168	1257	591
1219	1308	616
1270	1359	641
1321	1410	667
1372	1461	692
1422	1511	718
1473	1562	743
1524	1613	768

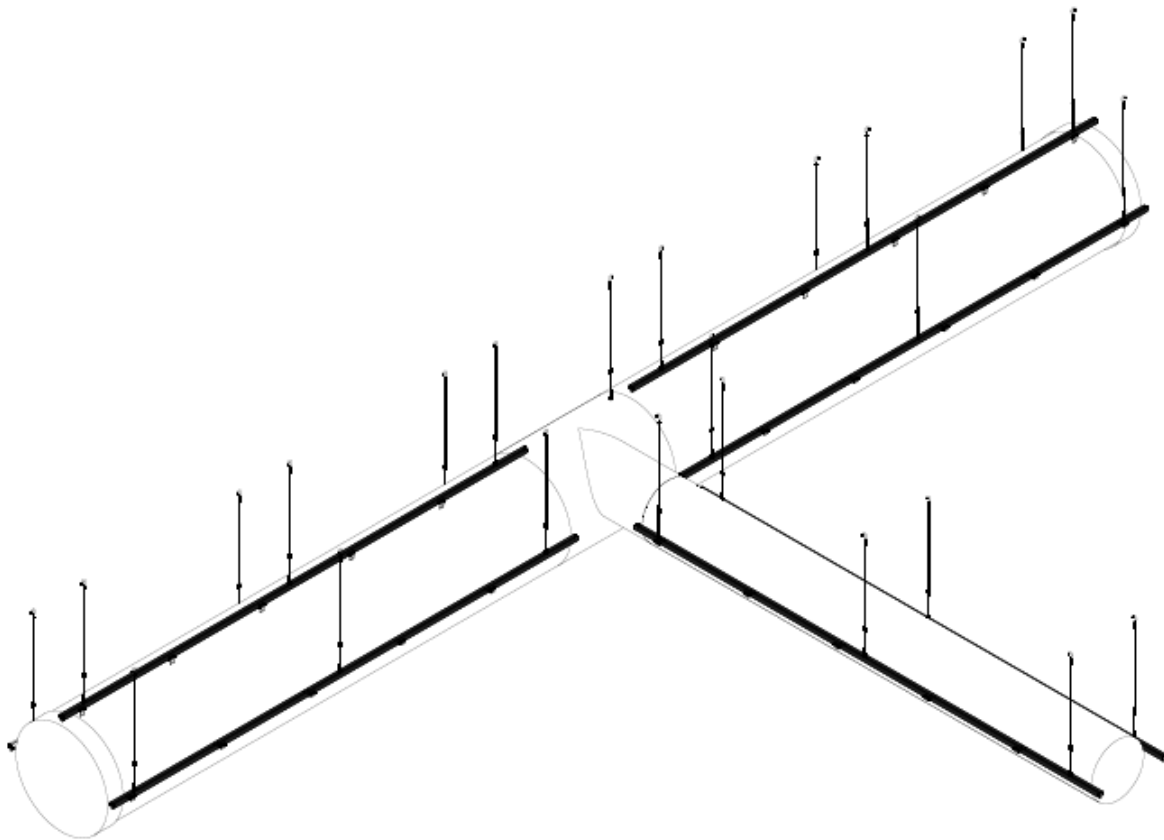
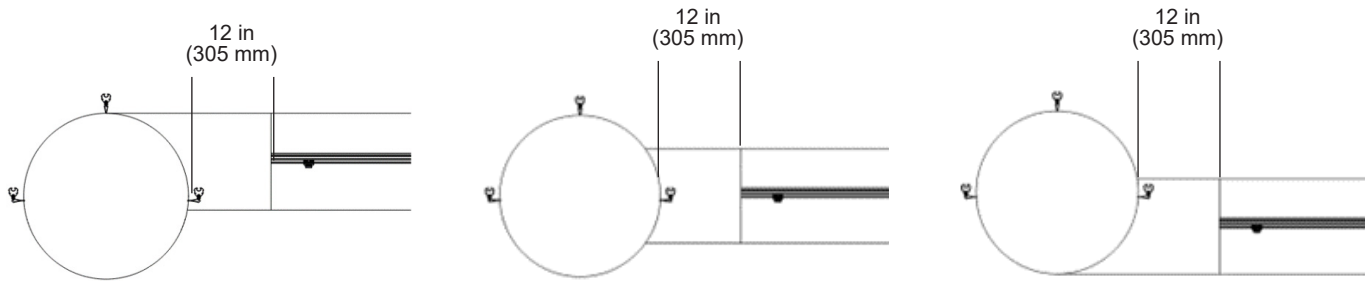


**T's**

There should be roughly 12" (305mm) from sidewall of DuctSox to start of the branch track. Track too close to the main run may cause premature failure due to abrasion from the track.

Support around fabric fittings may require additional track supports.

NOTE: Offset distance of branch U-Track from main truck is approximately half of the main trunk diameter plus 12" (305mm).





## Elbows

Radius tracks are manufactured to match the radius of the DuctSox. This is typically 1.5 times the diameter of the DuctSox.

For example, the inside radius track of a 74" diameter DuctSox would have a radius of 72.5".

$$(1.5 \times 74") - (74"/2) - 1.5 = 72.5"$$

The center 12:00 radius track would have a radius of 111".

$$(74" \times 1.5 = 111")$$

And the outside radius track of a 74" diameter DuctSox would have a radius of 149.5".

$$(1.5 \times 74") + (74"/2) + 1.5 = 149.5"$$

Install at least one support per radius section, in the center if possible.

Coupler will not go into radius track the full 6" (150mm) and it shouldn't. Coupler must only be inserted into radius track 1.5" (38mm). This connection will only use one screw in the radius track portion. There will be 3" (51mm) radius couplers when splicing radius-to-radius connections.

Radius track will only work with DuctSox that are installed in a true horizontal plane (Figure A).

Vertical elbows are supported by D-ring straps rather than radius track (Figure B).

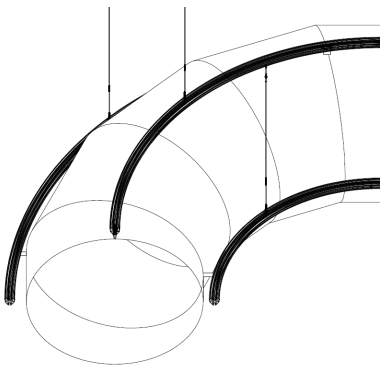


Figure A

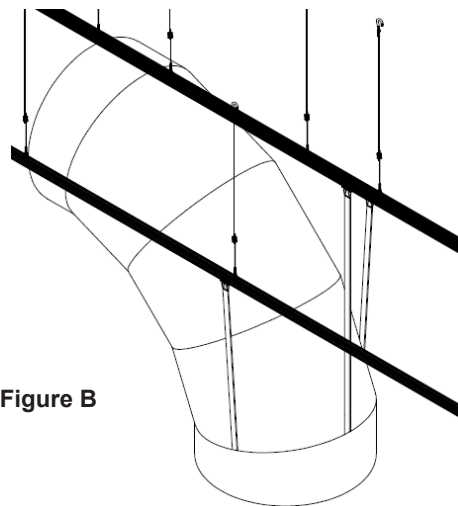


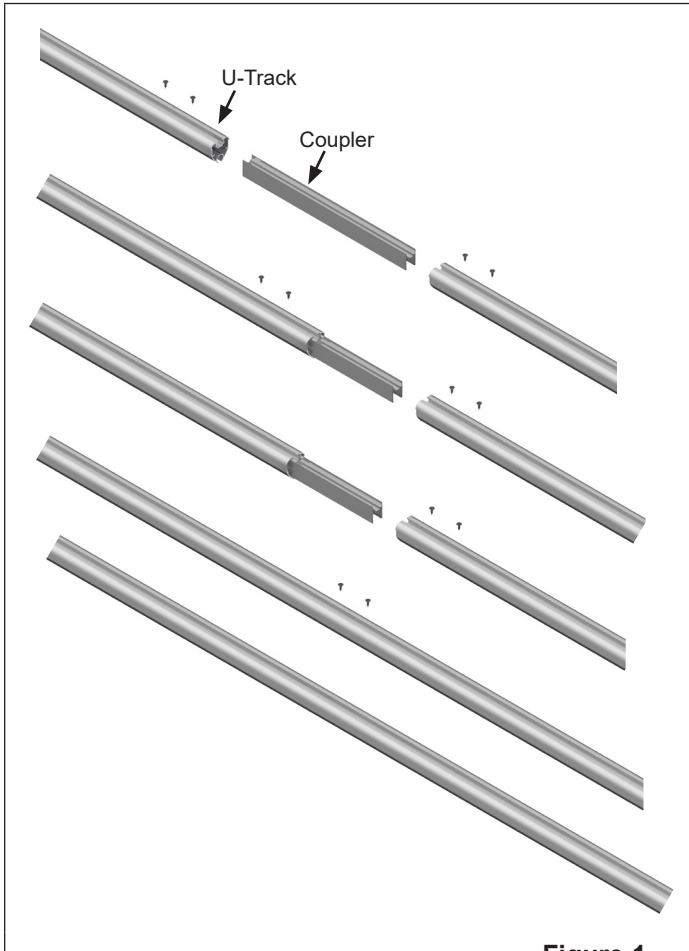
Figure B

## Step 4 – Track Suspension

The U-Track system includes anodized aluminum track (8 ft [2440 mm] sections with radius sections available), couplers, cable drops with quick connect track supports.

**NOTE:** If fittings are used, see CAD drawing supplied.

### U-Track, Couplers



**Figure 1**

Use couplers to attach multiple pieces of U-Track together.

Align the coupler with the opening in the U-Track. Slide it half way in and screw it in place using the screws (supplied). Slide the next piece of track over the coupler and screw it in place. Repeat as required.

## Step 5 – Reducers

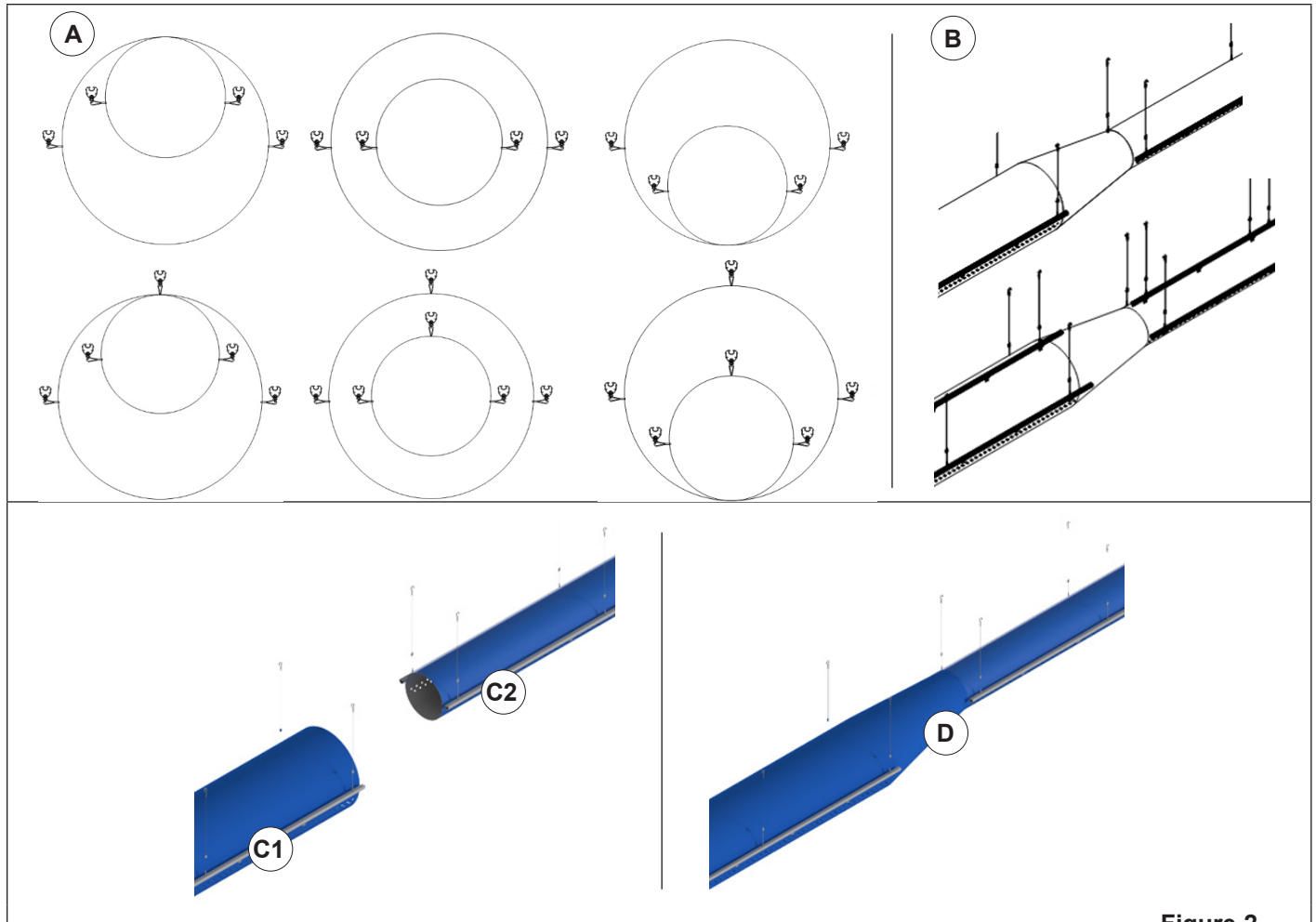


Figure 2

Reducers are used to transition between DuctSox with different diameters (A).

The reducer does not have any suspension (B).

Before installing a reducer, install the straight sections on each side of the reducer (C1) (C2). Reference the layout drawing (supplied) to determine the distance between the two straight sections.

After the straight sections are installed, install the reducer section by zipping into place (D).

## Step 6

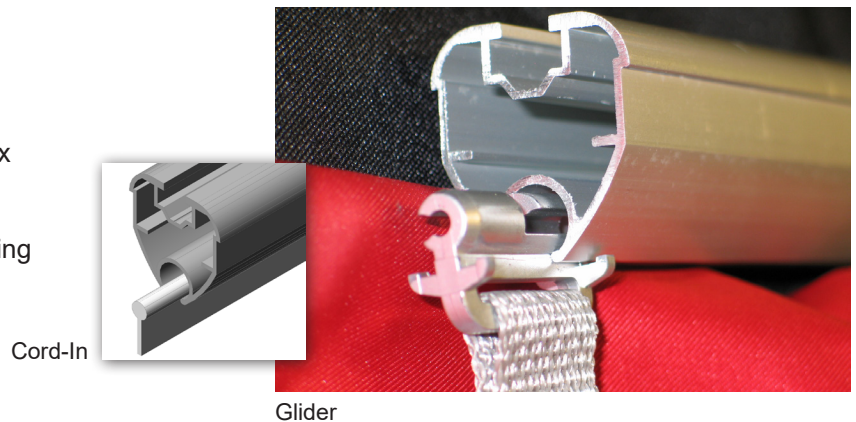
**Install DuctSox inlet.** DuctSox Inlet must be attached to the metal collar using screws (not included) through plastic patches on the Inlet Belt. Be sure to locate the zipper start and seam at the 12:00 orientation for proper alignment.



## Step 7

**Install and assemble DuctSox components.**

Slide Glider or Cord-In attachments of the DuctSox into the U-track bottom channel. Unzip fittings and slide them in place independently of the straight sections. Close all zipper connections before moving to Step 7.



Cord-In

Glider

## Step 8

**Start Up AHU.** Turn on the AHU and inflate the DuctSox System. Check all Gliders and sections to ensure system is inflating properly. If required, move Gliders to eliminate puckering at binding locations. If lengths do not fit properly, double check all field measurements and compare to drawings. If all measurements are correct, contact your DuctSox factory rep to discuss options.

Once system is properly adjusted, inflate the system, pull the last Glider in each straight section (including straight sections between fittings), and secure tension using Track Stop Screws. Also, be sure to install a Track Stop Screw into the U-Track at the Endcap Glider, at the Inlet Glider, and at each Glider immediately adjacent to all fittings.

The Track Stop Screw is used to keep sections of DuctSox from moving lengthwise in the U-track. They also are used to put a slight tension on straight sections of DuctSox (straight sections may consist of more than one zippered section of DuctSox). The screw is tightened into the bottom channel to lock the stop at locations where Gliders are to be locked in place. The Track Stop Screw is not used with a Cord-In DuctSox system.

If the system includes elbows or T's, secure Gliders before and after these fittings. Failure to install DuctSox Systems correctly may void warranty.



Track Stop Screw

## Step 9

**Air Balancing.** System must be balanced to design CFM and static pressure immediately after installation. Most DuctSox Systems include a zipper at the inlet location for easy access to monitor flow.

If the fabric is fluttering after balancing, please contact your factory rep immediately. Solutions to the fluttering include adjusting the Adjustable Flow Device (AFD), adding AFDs, or other solutions that would result in a less turbulent airflow.







## MAINTENANCE


Launder fabric:

1. Record where each section that will be laundered is installed.
2. Unzip all sections and remove the DuctSox fabric from your system.
3. Follow the wash instructions located on the internal system tags for the DuctSox fabric or follow the remaining steps (that are safe for all DuctSox fabrics).
4. Launder with the most soiled side facing out.
5. Soak in cold water for 30 minutes.
6. Wash cold, gentle cycle.
7. Rinse thoroughly. Repeat laundering steps if water/DuctSox is still soiled.
8. Drip dry or no-heat tumble dry.

### CUSTOMER SERVICE

#### DUCTSOX WORLD HEADQUARTERS

4343 Chavenelle Road  
Dubuque, Iowa 52002

 563-588-5300 or 866-382-8769