ASGCO®
Complete Conveyor Solutions

TRU-TRAINER® TRAINING IDLERS

FLAT RETURN / DUAL RETURN / TROUGH TRAINER / V-RETURN

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

ASGCO® Flat Return
Tru-Trainer® Training Idler

ASGCO® Dual Return
Tru-Trainer® Training Idler

ASGCO® Dual V-Return
Tru-Trainer® Training Idler

ASGCO® Troughing
Tru-Trainer® Training Idler

ASGCO® Tapered
Trough Tru-Trainer®

Check us out at
www.asgco.com

Customer Service
800-344-4000

24 Hour Emergency
Service and Parts
610-821-0210

ASGCO® Mfg., Inc.
301 Gordon Street
Allentown, PA 18102
610-821-0216
FAX 610-778-8991

©8/2015 Copyright ASGCO® Manufacturing, Inc.

Important Safety Notice

Always observe the basic rules of safety when working with any conveyor system. To avoid injury and equipment damage, be sure that all controls to the conveyor are locked out and the power source is disconnected at all times during installation.

Survey of Conveyor

A visual survey of the conveyor system is recommended.
Look for belt contact with return roller hangers, conveyor framing and discharge chute sides.

Check lagging on drive and non-drive pulleys, lagging worn in the center will make the belt unstable and difficult to train.

Check the type of return rollers, if the rubber donut type check to make sure the center rolls are not worn out. If they are worn out the belt will be unstable and difficult to train.

Check for build-up on the return rollers and other pulleys.

Check for spillage that is built-up against the belt in the load zone or around the discharge area.

Look for any obvious structural damage to the conveyor.

Conveyor belt edge damage, may be prevented by ensuring that the conveyor is centralized at the Drive, Tail/Head Pulley and Takeup units.

ASGCO® Tru-Trainers® are best utilized when placed prior to the conveyor system's terminal points and where misalignment problems occur in intermediate sections of the belt. See Fig. 1.

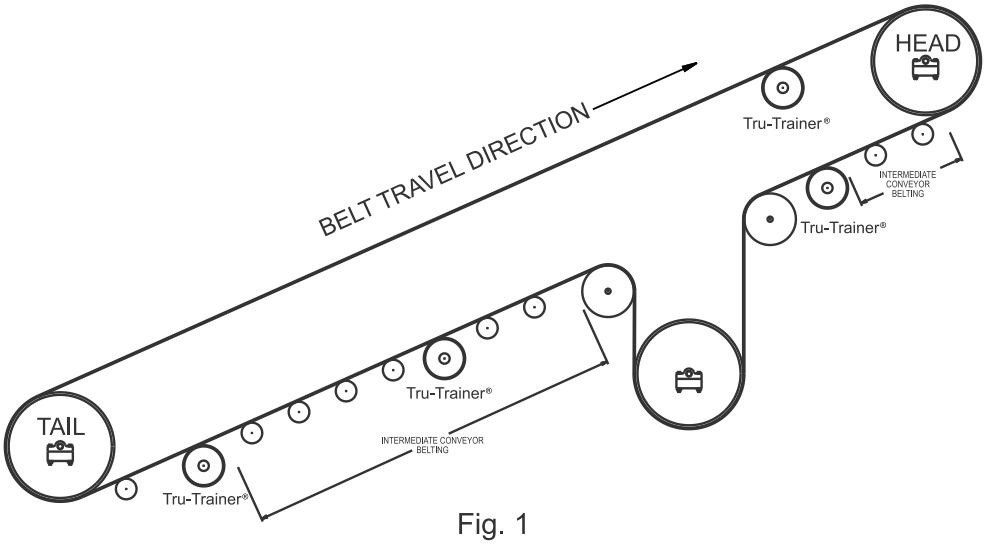


Fig. 1

Intermediate conveyor belting is defined as the belting that runs between the terminal pulleys. Loading chutes can also be considered as terminal points.

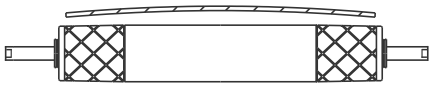
As the angle of wrap is only 1° to 2° on intermediate conveyor return rollers there is a lot of sideways float. Tru-Trainers can handle these situations with ease. Install a Tru-trainer just prior to the problem areas (area where the belt is most misaligned). If the belt is reversing then put the trainer at the center point of the misalignment.

Conveyor belting at the terminal pulleys has less sideways float as the angle of wrap is between 90° and 220°. In order to correct belt misalignment at terminal points, extra tension might be needed.

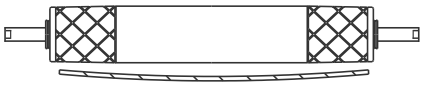
(TTFR) ASGCO® TRU-TRAINER® FLAT RETURN

Check to see if the belt is cupped or if the edges are curled. The edges of a cupped belt will contact the ends of the existing return rollers and is evidenced by shinny ends and dirty or rusty center portion of the existing return rollers. The edges of a curled belt usually do not contact the return rolls and many times is evidenced by the center of the return rolls being shiny and the end of the return rolls being dirty or rusty looking.

it is very important to install the Tru-Trainer® so that the edges of the belt contact the tapered end portions of the Tru-Trainer®roll. The Tru-Trainer® should be on the bottom side of the belt for a cupped belt and on the top side of the belt for a curled belt.

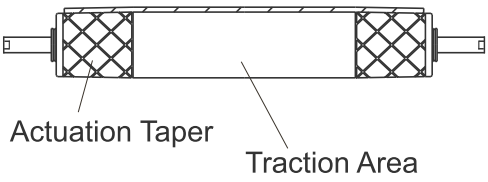


Cupped Belt



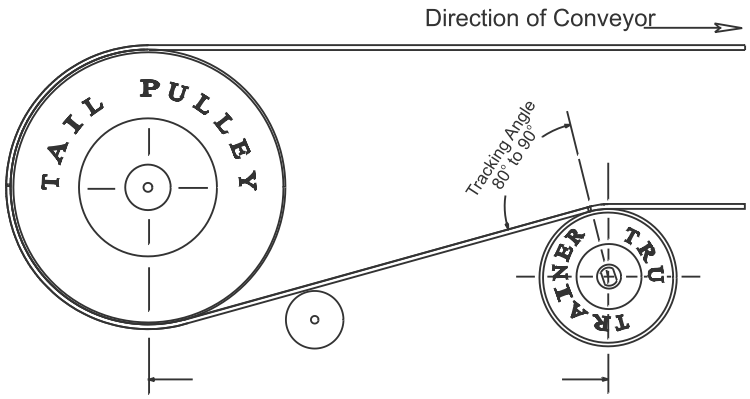
Cupped Belt Edge

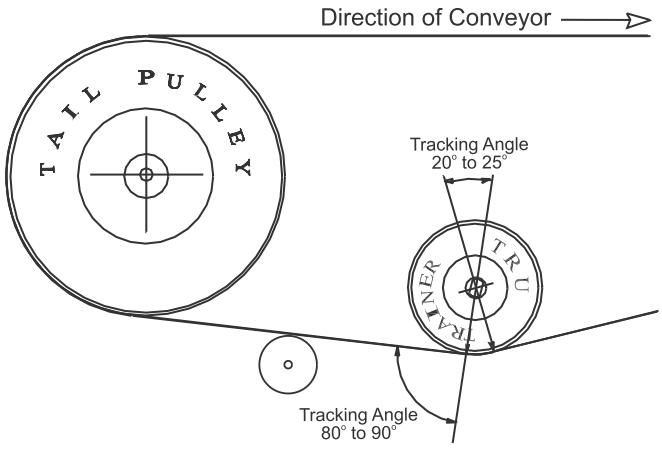
Generally if the trainer is installed so that the edges contact the belt as shown, then the tension on the trainer can be adjusted to get good contact on the trainer in both the actuation area and the traction area as shown below

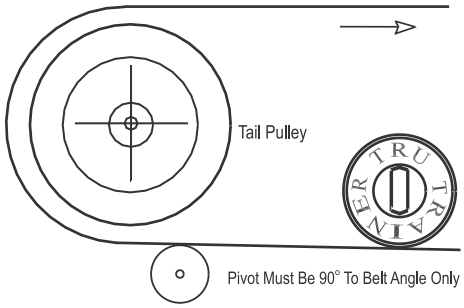


Tru-Trainer Flat Return
Recommended Distance from Terminal Point

Belt Width	Distance from Terminal Point
Inches: 18” - 54”	20 Feet
Metric: 450mm - 1200mm	6 Meters







Internal tracking of conveyor belts with the Tru-Trainer®, occurs when difficulty is experienced, generally as detailed below.

Limitations as to space available for the normal Tru-Trainer® installation.

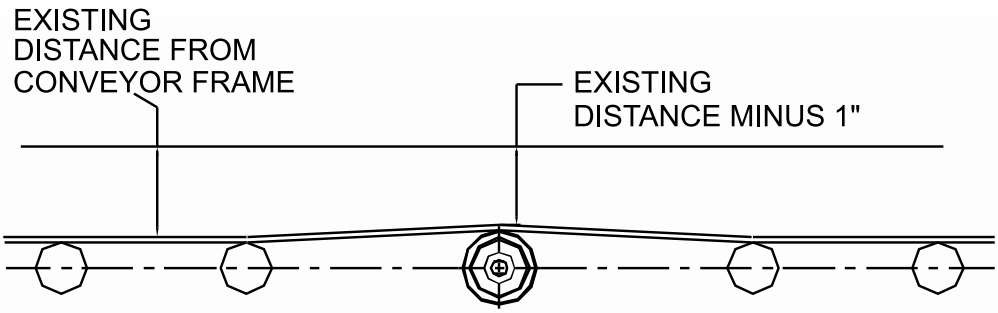
The return side of the conveyor is extremely dirty and difficult to clean.

Where the tail or head is found to be very small in diameter. For example, food and package handling applications have typically 2 1/2" to 6" diameter tail and head pulleys.

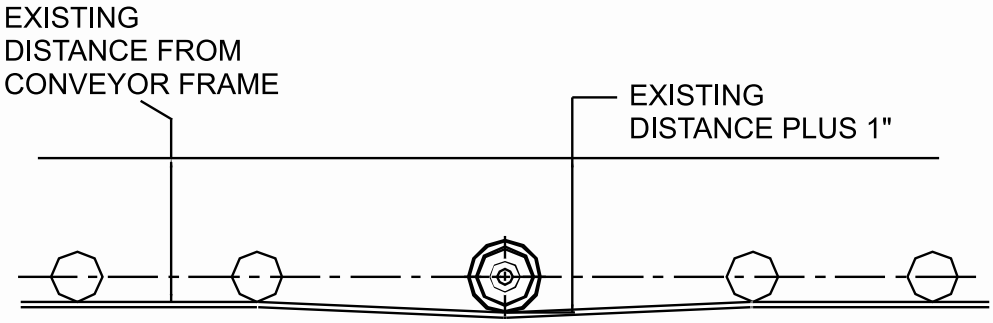
Where buckets, cleats, or sidewalls have been attached to the carrying side of the belt.

It is essential, for correct operation, that sufficient conveyor belt tension is evenly distributed across the trainers entire working surface.

The vertical pivot axle, within the Tru-Trainer®,must be positioned 80° to 90° leaning in the direction of belt travel. The vertical axle is in the same plane as the shaft end flats. When installing on a reversing belt the vertical pivot must be 90° to the belt at the mid point of contact.



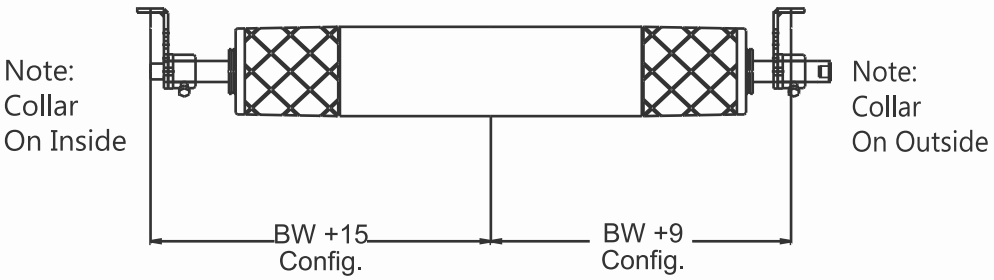
PUSH UP METHOD



PUSH DOWN METHOD

Standard rollers are generally 5” and 6” diameter. Tru-Trainers® are manufactured to 6 11/16” diameter, this assists in increasing the belt tension and roller traction.

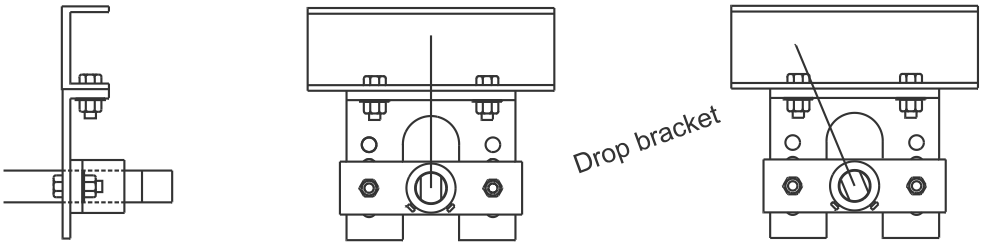
The Flat Return Tru-Trainer® will fit both Belt Width +9 and Belt Width +15 systems when configured as shown below.



There should be enough tension on the Tru-Trainer® so that it is difficult to pivot the trainer about its axis by hand before start-up of the conveyor.

There are several means of increasing tension on the trainer:

1. Raise the roller in the drop bracket.



Normal Installation

Moving mounting plate up or down to change tension of tracker on belt

To change tracking angle rotate pivot axle as shown above

2. Remove one or more return rollers either before and/or after the Tru-Trainer® to increase the belt weight on the trainer.

3. Add a pressure roller before the Tru-Trainer® to increase tension and wrap angle on the trainer. Adjusting the inwrap angle may require adjustment of the tracking angle, the vertical axle within the Tru-Trainer®.

Insure that the rollers prior to the Tru-Trainer® are aligned and running true.

Remove any other tracking devices or inverters, which are in front of or behind the Tru-Trainer® for a distance of at least 100’.

In general, A Tru-Trainer® is effective for 150' to 200' on intermediate belting.

Never install a Tru-Trainer® Flat Return trainer on a system, if the belt is wider than the trainer design width. 1” to 2” of trainer must protrude on either end of the trainer to ensure proper operation.

In general increased angles of wrap will improve traction, resulting in improved performance. Increased traction is only needed if the Tru-Trainer® is not working correctly.

TESTING A TRU-TRAINER® ROLLER INSTALLATION

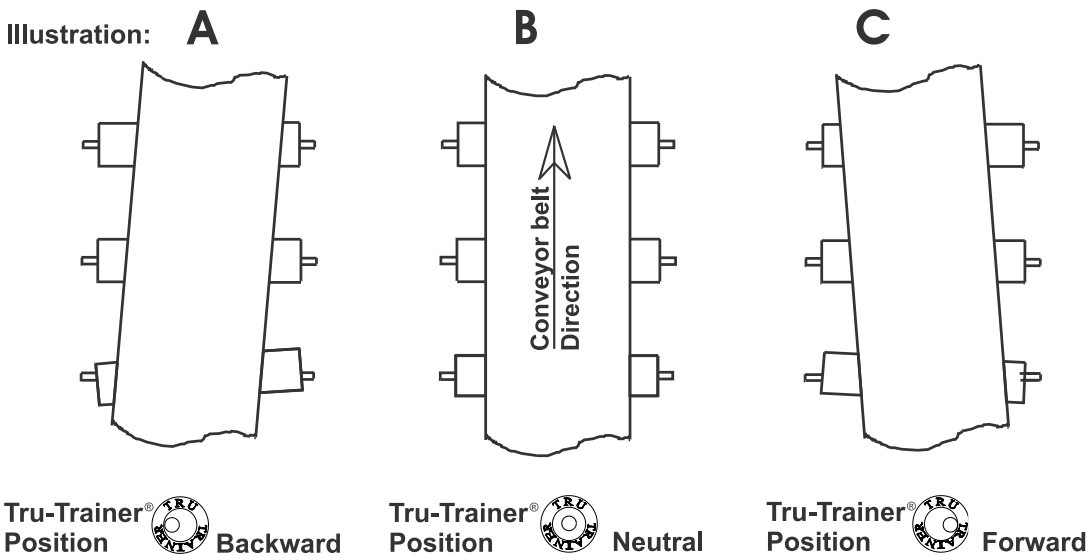
Manually force, by the insertion of a steel tool into the Tru-Trainer® shaft/inner tube clearance at one end of the Tru-Trainer®, to steer the conveyor belt off track. See Illustrations below.

After removing the tool, the Tru-Trainer® should automatically centralize the belt, and the trainer should return to the neutral central position.

The Tru-Trainer® must be activated in both directions, using the tool, thus ensuring centralization of the belt from either side of the installation.

If the Tru-Trainer® remains in either of the positions shown (A or C), then the conveyor belt tension on the Tru-Trainer® is probably not sufficient to create satisfactory traction. See Pages 5 and 6.

1.



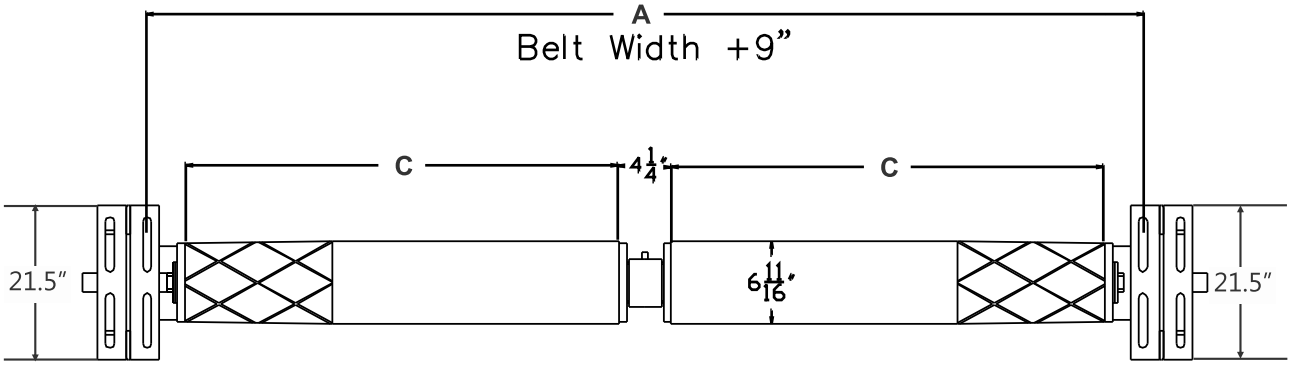
TROUBLE SHOOTING SECTION

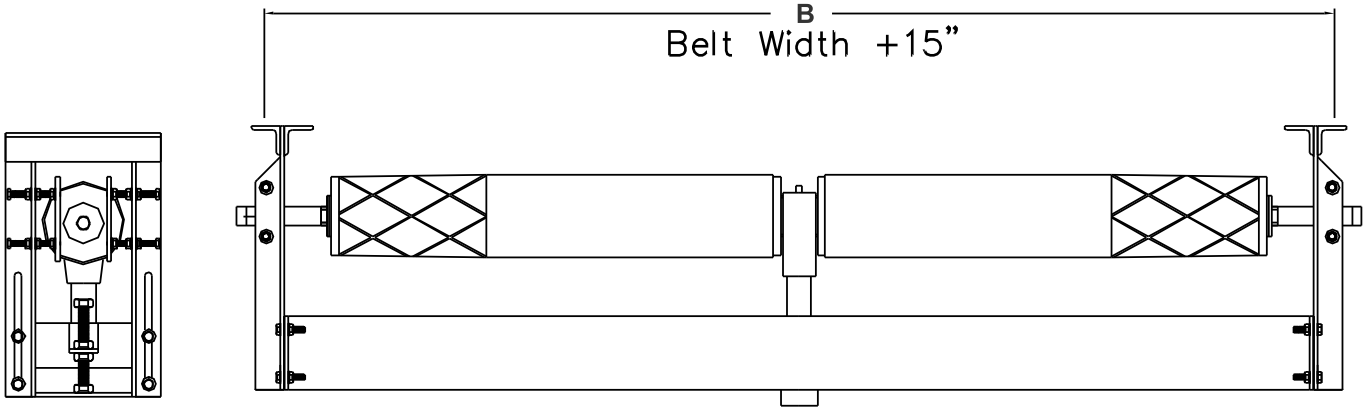
1. If the Tapered Trough Tru-Trainer® is not activating and tracking the belt, this can be caused by too much little or too much tension on the center rolls. To solve this problem, increase or lower the height of the Taper Trough frame by at least one hole upwards or downwards.

2. If the problem still persists, adjust the existing standard trough idler frames perpendicular to the structure before and after the Tapered Trough Tru-Trainer®.

3. Remove any other tracking devices in front of or behind the Tapered Trough Tru-Trainer®, as they will reduce or interfere with the performance of the Tru-Trainer® .

(TTDR) ASGCO® TRU-TRAINER® DUAL RETURN





Belt Width	Part Number	A	B	C
48	ASG-TTDR-120	57	63	24.80
54	ASG-TTDR-135	63	69	27.76
60	ASG-TTDR-150	69	75	30.71
66	ASG-TTDR-165	75	81	33.66
72	ASG-TTDR-180	81	87	36.61
84	ASG-TTDR-210	93	99	42.91
96	ASG-TTDR-240	105	111	48.82

After identifying the problem area, prepare to install TTDR at three times the width of the belt before the problem area.

WARNING: Do not invert the Tru-Trainer® V-Return. The T-piece is not secured to the Base and will drop out of the base if inverted.

To install the Tru-Trainer® V-Return in an inverted position, for safety precautions a hole dia 14, must be drilled in the centre of bush in the base, an M12 Bolt to be screwed into the T-Piece with loctite added, ensuring that it is not tightened to the degree that it would restrict movement of the center pivot.

Remove the existing idler & brackets or V-Return frame.

To ensure ease of access to the tracking adjustment pin (TAP) from the catwalk once installed, ensure that the TTDR is positioned with the TAP facing the catwalk before proceeding.

Set the distance between the inside of the plates to the recommended distance "C" as per the table below. Increase the distance if you need more tracking. Because the Dual Return bi-directional, it doesn't matter which way it is installed.

There needs to be 1” of belt deflection for proper contact of trainer to either the clean side of the return area or carryback side of the return area.

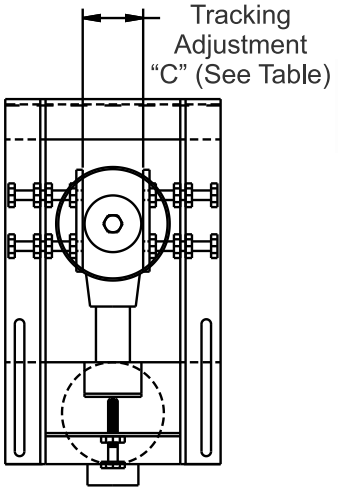
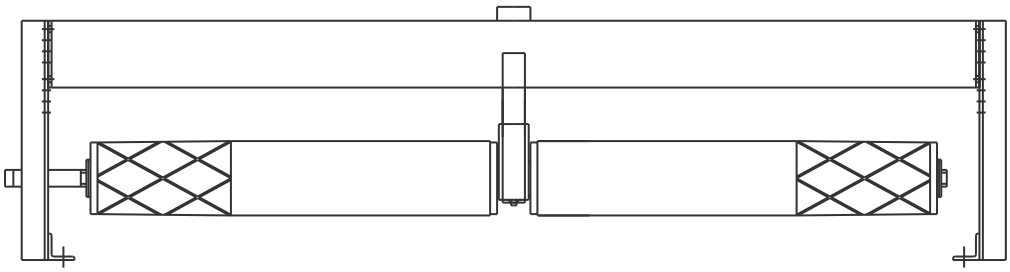


Fig. 7

	BELT WIDTH	C (For ideal included angle = 4,5°
TTDR 135	54″	3 ½″
TTDR 150	60″	3 ¾″
TTDR 165	66″	4″
TTDR 180	72″	4 ½″
TTDR 200	78″	4 ¾″
TTDR 210	84″	5″
TTDR 230	90″	5 ¼″
TTDR 240	96″	5 ¾″



Use sling and chain hoists to lift the TTDR into position under the conveyor belt.

Bolt TTDR Bracket onto structure. Before tightening ensure both brackets are knocked fully forwards or backwards to ensure the TTDR brackets are perpendicular to the structure and lined up exactly opposite each other. Once completed tighten all bolts.

Ensure that sufficient conveyor belt tension is evenly distributed across the tracker's entire working surface.

Move the Dual Return with the tracking adjustment pin to check the tension. If tension is correct, it should be difficult to move the pin backwards or forwards.

To create more tension, move up using pusher bolt each of the brackets to create sufficient tension.

Start the conveyor belt to test the Dual Return.

Check that the Dual Return tracks the belt from both directions.

Manually de-track the belt by moving the tracking adjustment pin in one direction. When you release the pin, The Dual Return should automatically center the belt. Repeat this test by moving the tracking adjustment pin the opposite direction.

If the Dual Return doesn't center the belt, or responds too slowly, increase the tension.

1. When the rubber on the individual rolls wear outs. Remove the individual rolls from the TTDR T-Piece and replace with a new set.

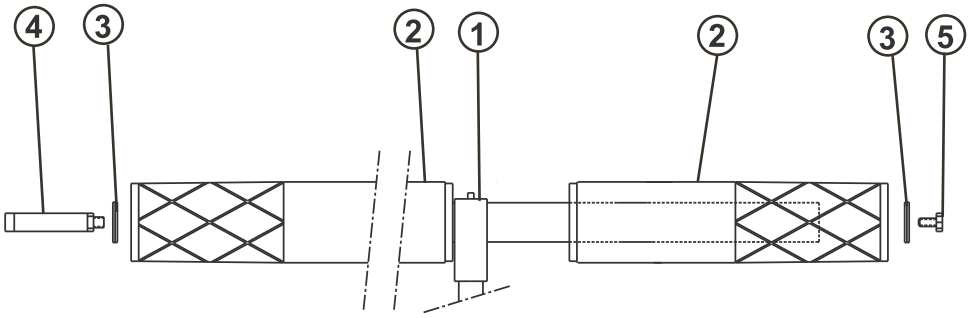


Fig. 8

LIST OF COMPONENTS:

1. Center pivot
2. Roller
3. End cap
4. M20 bolt
5. Tracking Adjustment

2. Loosen M20 bolt [4] and End cap [3] then slide the roll [2] off the center pivot shaft [1].

3. Loosen TAP [5] and End cap [3] then slide the roll off center pivot shaft [1].

4. Apply a thin layer of grease to the shaft before proceeding with next step. Recommended grease: SHELL ALVANIA EP(LF)

5. Slide new roller onto center pivot shaft.

6. When pressing the end caps back onto the shaft, align the hole in the end cap with the spring pin protruding from the shaft.

7. Then screw the M20 Bolt and Tracking Adjustment Pin (TAP) into the shaft and tighten. It is essential that the Tru-Trainer® Trough tracker system be installed with the **conveyor belt traveling in the correct direction.** The wing rollers must touch the oncoming conveyor belt first.

(TTVR) ASGCO® TRU-TRAINER® DUAL V-RETURN

1. After identifying the problem area, prepare to install Tru-Trainer® V-Return at approximately three times the width of the belt before the problem area.

2. Before removing the existing idler and brackets or V-Return frame, ensure that the Tru-Trainer® V-Return will be slightly higher that the existing idlers.

3. Ensure the tracking adjustment pin is facing the catwalk to ensure ease of access once installed.

4. Set the distance between the inside of the plates to the recommended distance "C" as per the table, to obtain the correct tracking angle. Increase the distance “C” if more tracking adjustment is needed. Because the V-Return is multi-directional, it doesn't matter which way it is installed.

5. Use slings and chain blocks to lift the Tru-Trainer® V-Return into position under the conveyor belt.

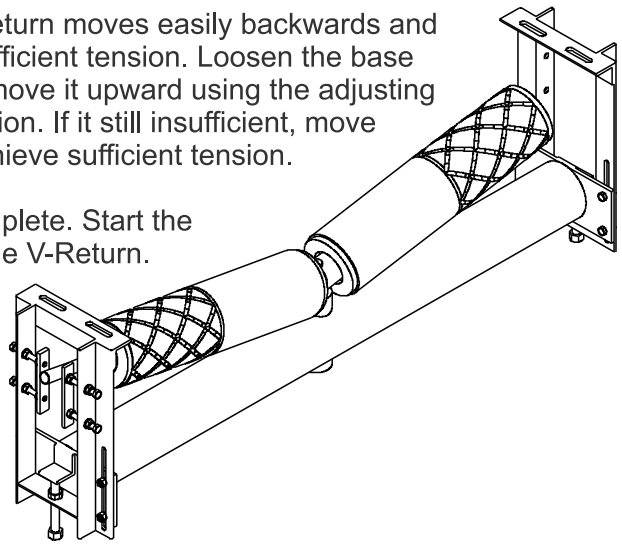
6. Bolt the brackets onto the structure. Before tightening, ensure both brackets are knocked fully forwards or backward to ensure the brackets are perpendicular to the structure and lined up exactly opposite each other. Once completed tighten all bolts.

7. With the slings or chain blocks, lower the belt on to the Tru-Trainer® V-Return.

8. Move the Tru-Trainer® V-Return backwards and forwards with the tracking adjustment pin to check the tension. If the tension is correct, it should be difficult to move the pin backwards or forwards, this will ensure that sufficient conveyor belt tension is evenly distributed across the tracker's entire working surface.

9. If the Tru-Trainer® V-Return moves easily backwards and forwards, there is insufficient tension. Loosen the base from the bracket and move it upward using the adjusting bolt. Recheck the tension. If it still insufficient, move up further until you achieve sufficient tension.

10. Installation is now complete. Start the conveyor belt to test the V-Return.



Caution – Danger! Take Care

11. Test that the Tru-Trainer® V-Return tracks the belt from both sides.

12. Manually de-track the belt by moving the tracking adjustment pin in one direction. When you release the pin.

13. The Tru-Trainer® V-Return should automatically centre the belt. Repeat this test by moving the tracking adjustment pin in the opposite direction. If installed correctly it should centralise the belt from both sides.

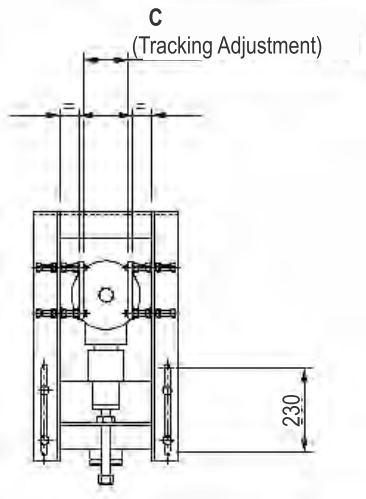
14. If the Tru-Trainer® V-Return remains kicked in on any one side or responds too slowly, increase the amount of tension. If the problem persists, knock existing idler brackets or frames before and after the Tru-Trainer® V-Return, perpendicular and horizontally aligned to the conveyor structure.

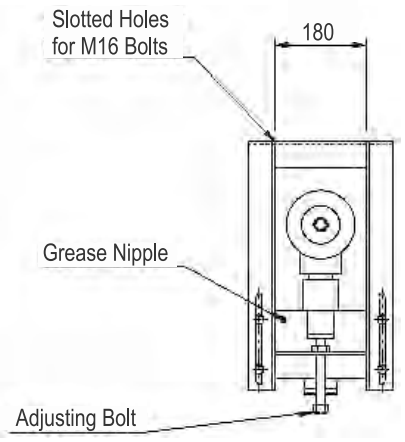
15. Remove any other tracking devices or inverters in front of or behind the Tru-Trainer® V-Return before testing the conveyor system, as they will reduce or interfere with the performance of the Tru-Trainer® V-Return.

16. **WARNING:** Do not invert the Tru-Trainer® V-Return. The T-piece is not secured to the Base and will drop out of the base if inverted.

17. To install the Tru-Trainer® V-Return in an inverted position, for safety precautions a hole dia 14, must be drilled in the centre of bush in the base, an M12 Bolt to be screwed into the T-Piece with loctite added, ensuring that it is not tightened to the degree that it would restrict movement of the center pivot.

Belt width	C (For ideal included angle = 4,5°)
1200	90
1350	92
1400	94
1500	98
1600	102
1650	104
1800	110
2000	118
2100	122
2200	126
2300	130
2400	134
2500	138





(TTTT) ASGCO® TRU-TRAINER® TROUGH TRAINER

EDGE CONTACT DESIGN

The Tru-Trainer® Trough tracker is installed prior to where problems occur on the load carrying side of the belt.

The Tru-Trainer® Wing Rollers are fixed at 70°. They intercept the belt drift and activate the steering mechanism, in order that the Tru-Trainer® will correct and centralize the belt path.

Next, slide the wing rollers into the brackets ensuring that the shaft is flush with the bottom of the bracket tube and tighten the locking bolts.

The Tru-Trainer®Trough tracker system is compatible with all 15° to 45° troughed rollers.

The Tru-Trainer®Trough tracker, in line with Tru-Tracker principles, is installed slightly higher than normal existing rollers (1/2" to 3/4") to insure good traction for the tracking of the conveyor belt.

It is recommended that the Tru-Trainer® Wing Rollers be set to miss the edge of the existing troughed conveyor belt edge by between 3/16” minimum and 3/8” maximum on either side.

Fig. 9

The Tru-Trainer® Trough tracker, normally, replaces an existing standard trough roller set.

Where existing conveyor belts are very flexible, the Tru-Trainer® Trough tracker should be installed between existing trough rollers.

The Tru-Trainer® Trough tracker, in line with Tru-Trainer® principles, is installed slightly higher than normal existing rollers (1") to insure good traction for the tracking of the conveyor belt.

It is recommended that the Tru-Trainer Wing Rollers be set to miss the edge

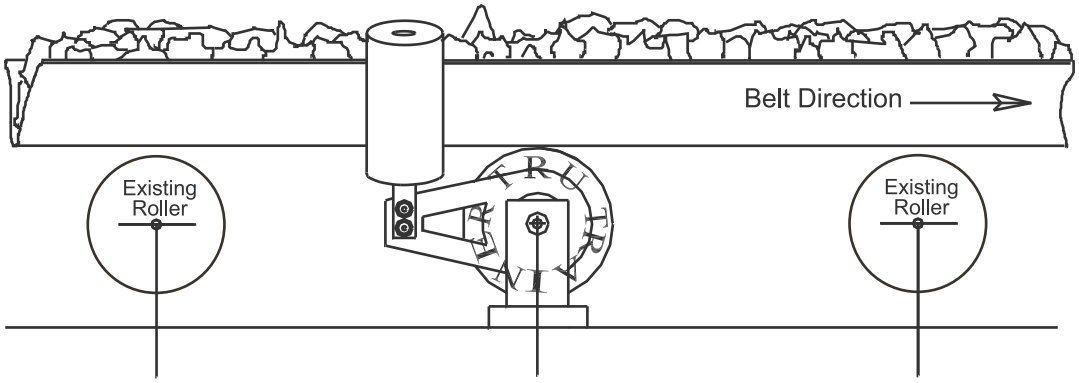


Fig. 10

(TTTT) ASGCO® TRU-TRAINER® TROUGH TRAINER

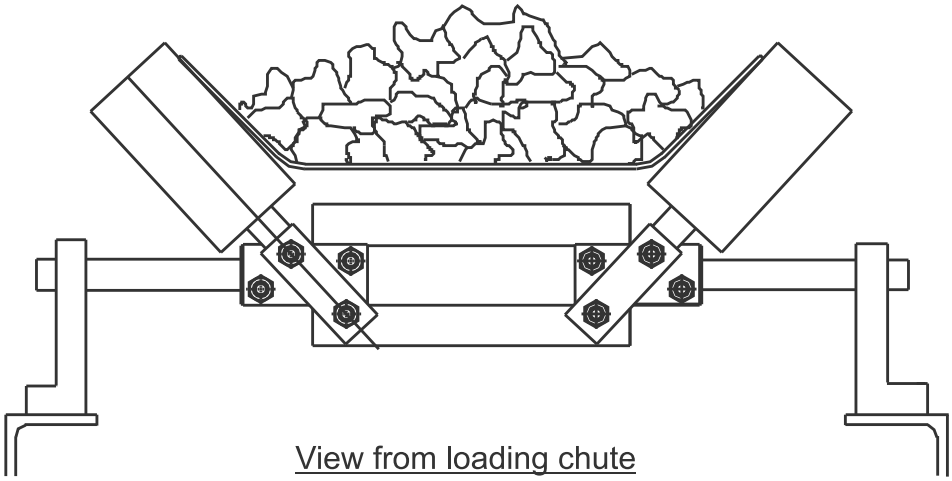
EDGE CONTACT DESIGN

View from loading chute

54” - 96” Belt Width

(See Page 13)

LOAD CARRYING DESIGN



View from loading chute

18” - 48” Belt Width

(See Page 15)

(TTTT) ASGCO® TRU-TRAINER® TROUGH TRAINER

LOAD CARRYING DESIGN

1. Once the problem area of the load carrying side of the belt is identified, locate the Trainer per recommendations below:
   - Belt widths (18”-48”) distance should be approximately 16 feet prior to problem location.
   - Belt widths (54”-72”) distance should be approximately 24 feet prior to problem location.
   - Belt widths (84”-96”) distance should be approximately 32 feet prior to problem location.

2. Remove a standard troughing frame at the problem area. Remove the steel roll from the Trough Tracker.

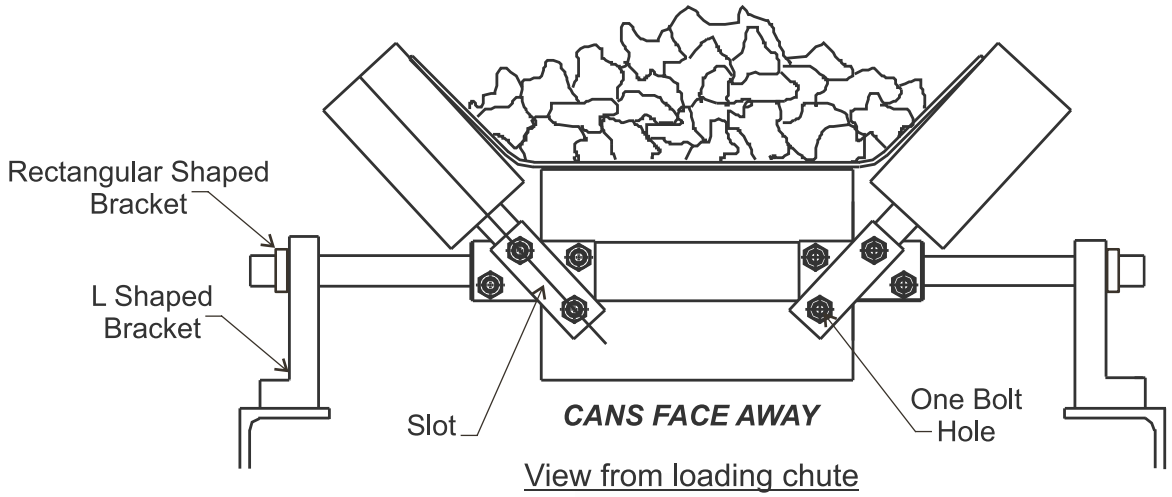
3. Bolt L-shaped bracket on to structure. Before tightening, ensure both brackets are knocked fully forwards or backward to ensure the L-shaped brackets are perpendicular to the structure and lined up exactly opposite each other. Once completed, tighten all bolts.

4. Slide the Rectangular-shaped bracket on to either end of the shaft, with fixing bolts facing upwards.

5. Lift up Tru-Trainer® Trough and bolt the Rectangular-shaped bracket on to the L-shaped bracket, ensuring that the corresponding set of holes are used.

6. Very important: Ensure the Tru-Trainer® Trough is installed in the correct direction. The wing rolls must touch the oncoming conveyor belt first. (See Fig. 10)

7. Set the space between the mounting bracket and Tru-Trainer® evenly, to ensure the Tru-Trainer® will be center on the structure.



View from loading chute

Fig. 11

8. Before you tighten the Tru-Trainer® Trough height adjustment bolts to the L-shaped brackets, ensure that it has got sufficient tension by pushing it backwards and forwards. It should be quite stiff and tight. If it moves easily backwards and forwards, there is not enough tension, usually 1/4-3/4” higher than rolls on each side

9. Loosen the height adjustment bolts and move it upward one hole on the L-shaped bracket. Recheck tension, if tension is insufficient move up another hole until sufficient tension is achieved. Once you're satisfied with amount of tension, tighten Tru-Trainer® Trough height adjustment bolts.

10. Install the Tru-Trainer® Trough slightly higher than the normal existing idlers to ensure good traction.

11. Loosen the all the bolts on the sliding bracket on the Tru-Trainer® Trough and then insert the steel rolls into the sliding bracket ensuring the end of the shaft is flush with the bottom of the bush. Allowing the rolls to hang freely.

12. Push the sliding bracket inwards until the steel rolls begins to touch the underneath side section of the belt, then lift the steel rolls upwards & inwards so that the only the top ¼ section of the steel roll is touching the belt. (Ensuring that the bottom section of the belt remains in contact with the rubberized drum)

13. Check that the angle of the steel rolls are similar and that sliding brackets is equidistant about the center point of the flat bar.

14. Finally, tighten the bolts

15. Manual test before start up. ***Belt NOT running:***
    - *Move the steel rolls backwards and forwards to ensure that the Top ¼ section of the steel rolls remain in contact with the belt throughout the motion. If not, adjust the sliding bracket accordingly until the correct contact is achieved.*

16. Installation is now complete, start the conveyor belt to test the Tru-Trainer® Trough Tracker.

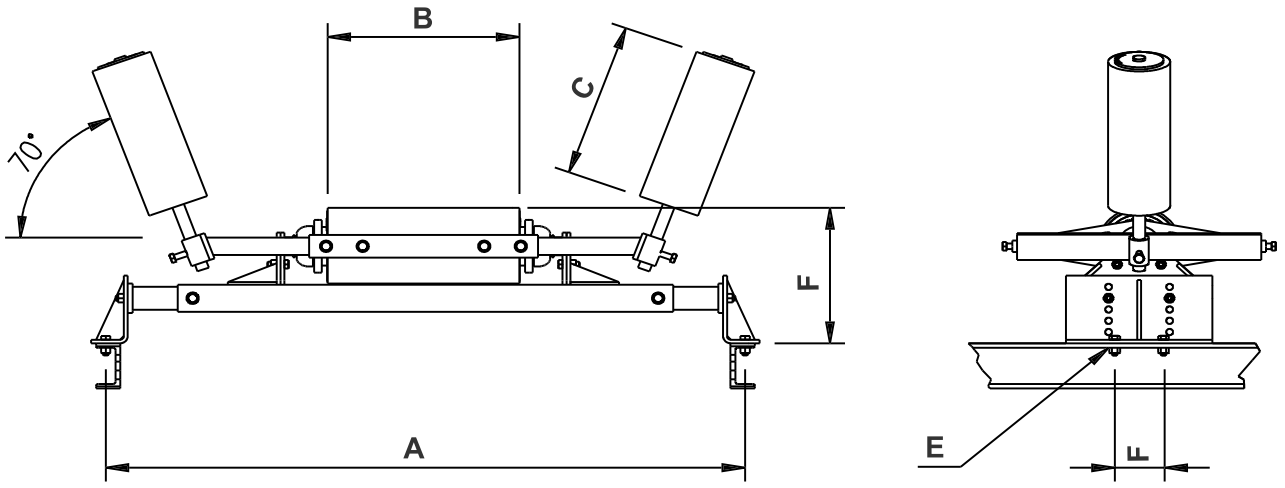
CAUTION DANGER! TAKE CARE.

17. Test that the Tru-Trainer®Trough tracks the belt from both sides. Using a blunt object, manually de-track the belt by pushing the outside of the Tru-Trainer®Trough fully in one direction. When you release it, the Tru-Trainer®Trough should automatically center the belt. Repeat this test by pushing the outside of the Tru-Trainer® Trough fully in the opposite direction. If installed correctly, it should centralize the belt from both sides.

18. If sufficient belt alignment is not achieved, increase the Tension or adjust the sliding bracket & angle of the steel rolls.

19. If the problem still persists, knock the existing standard trough frames perpendicular to the structure before and after the Tru-Trainer Trough.

20. Remove any other tracking devices in front of or behind the Tru-Trainer Trough, as they will reduce or interfere with the performance of the Tru-Trainer.



Code	Belt width	A (Adjustable) +/- 50	B	C	D Min - Max	E (Slot)	F Min - Max
ASG-TTTREVHD-135	1350	1600	670	450	195 – 275	22 x 60	210 – 330
ASG-TTTREVHD-140	1400	1700	670	450	195 – 275	22 x 60	210 – 330
ASG-TTTREVHD-150	1500	1752	670	450	195 – 275	22 x 60	210 – 330
ASG-TTTREVHD-160	1600	1900	670	450	195 – 275	22 x 60	210 – 330
ASG-TTTREVHD-165	1650	1904	670	450	195 – 275	22 x 60	210 – 330
ASG-TTTREVHD-180	1800	2058	820	450	195 – 275	22 x 60	210 – 330
ASG-TTTREVHD-210	2100	2362	930	450	195 – 275	22 x 60	210 – 330

Code	Belt width	A (Adjustable) +/- 2	B	C	D Min - Max	E (Slot)	F Min - Max
ASG-TTTREVHD-135	54	62.99	26.38	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99
ASG-TTTREVHD-140	56	66.93	26.38	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99
ASG-TTTREVHD-150	60	68.98	26.38	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99
ASG-TTTREVHD-160	64	74.80	26.38	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99
ASG-TTTREVHD-165	66	74.96	26.38	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99
ASG-TTTREVHD-180	72	81.02	32.28	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99
ASG-TTTREVHD-210	84	92.99	36.61	17.717	7.68 - 10.83	.87 x 2.36	8.27 - 12.99

(TTTT) ASGCO® TAPERED TROUGH TRU-TRAINER®

LOAD CARRYING DESIGN

1. After identifying the problem area on the load-carrying side of the belt, prepare to install the Tapered Trough Tru-Trainer® at or just before the problem area, ensuring that it is installed before transitional idlers and after loading chutes.

2. **WARNING:** Before proceeding with the installation, ensure the conveyor power is switched off and locked-out to avoid accidental start-up during the installation. ***DO NOT remove shipping straps from the Trainer until you reach step #15.***

3. The Tapered Trough Tru-Trainer® can only be installed were there are no decking plates. If the tracker needs to be installed were there are decking plates, organise with customer to have the decking plate cut or removed.

4. Remove a standard troughing idler frame where the Tru-Trainer® Taper Trough Tracker is to be installed.

5. Remove the taper wing rollers from the Tapered Trough Tru-Trainer® before installing the tracker frame to the structure.

6. Lift belt.

7. Bolt the L-shaped brackets on to the structure, facing up or down depending on belt height. Partially tighten the mounting bolts for the L-shaped brackets. Knock both brackets fully backwards towards the tail pulley to ensure the L-shaped brackets are perpendicular to the structure. Once completed, tighten all bolts.

8. Slide tracker under belt.

   It is vitally important that the center rollers have minimal tension with the loaded conveyor, too much tension will impede the performance of the tracker. The tracking is done by the taper wing rolls. Adjust the height of the Tapered Trougher frame in such a way that center idlers are approximately 10mm (3/8”)below the normal troughing idlers.

9. Bolt the tracker frame onto the L-shaped brackets and tighten bolts.

10. Ensure the Taper Trough Tru-Trainer® is centered on the structure, by adjusting it until the distance between the sliding tubes and mounting brackets are equal on both sides, then tighten the retaining bolts.

11. Reinstall taper wing rollers onto the cradle.

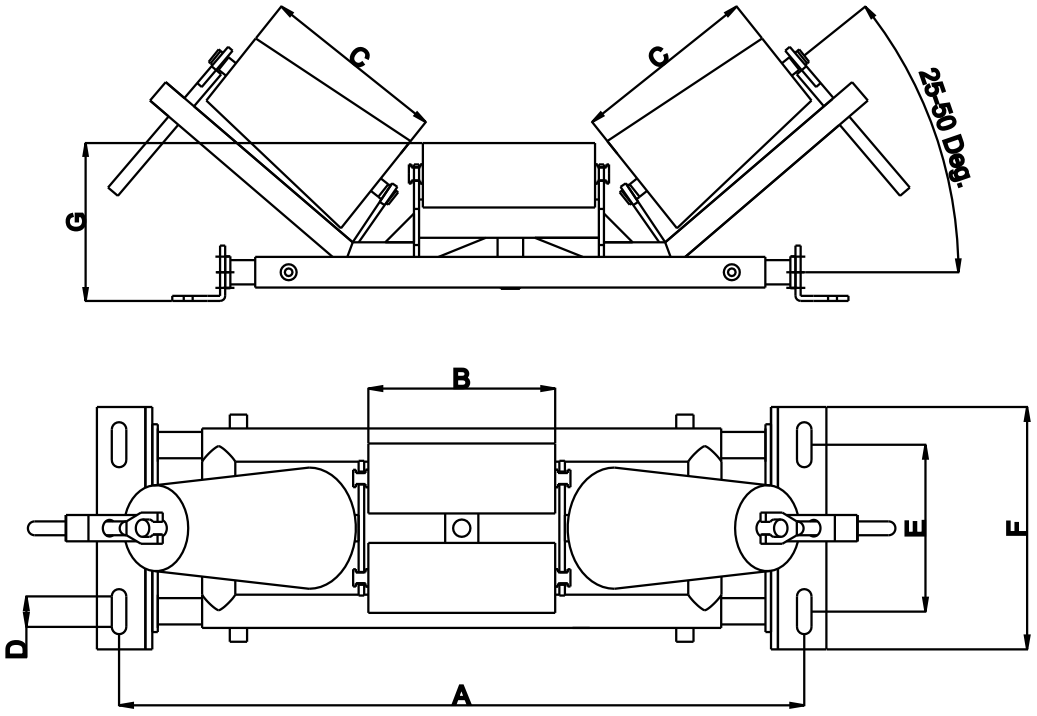
12. Lower belt onto the Tapered Trough Tru-Trainer®

13. Start by adjusting One of the Taper Wing Rollers upwards until you achieve maximum belt contact on the taper wing roller, with minimal tension, this is normally 5 degrees more than the existing trough angle. If you over tension the taper wing roller this will cause excessive wear on the rubber lagging.

14. Measure the height of the previously adjusted taper wing roller and adjust other Taper wing roller to be exactly the same height.

15. Lock all bolts and cut the strap.

16. Installation is now complete. Remove all tools from the work area and start the conveyor. The Tapered Trough Tru-Trainer® should immediately activate and center the belt.



IMPERIAL CHART (INCHES)								
	96"	105.03	29.52X60	29.52	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	84"	92.99	29.52X60	29.52	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	78"	88.97	25.19X60	25.19	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	72"	81.02	25.19X60	25.19	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	66"	74.80	21.25X60	25.19	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	60"	68.97	21.25X60	25.19	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	54"	62.99	18.89X60	19.29	.86ø x 1.73	8.66-11.02	13.78	10.03-13.97
	48"	57.00	16.92X60	19.29	.86ø x 1.73	8.66-11.02	13.78	8.85-10.63
	42"	51.02	14.56X50	14.96	.86ø x 1.73	8.66-11.02	13.78	8.85-10.63
	36"	45.03	12.59X50	14.96	.86ø x 1.73	8.66-11.02	13.78	8.85-10.63
	30"	38.97	10.62X50	11.41	.86ø x 1.73	8.66-11.02	13.78	8.85-10.63
	24"	32.99	8.66X50	11.41	.86ø x 1.73	8.66-11.02	13.78	8.85-10.63
	18"	27.00	6.69X50	7.87	.86ø x 1.73	8.66-11.02	13.78	8.85-10.63
	BW	DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	DIM G

METRIC CHART(mm)								
	2400	2668	750X0152	750	22ø X 44	220-280	350	255-355
	2100	2362	750X0152	750	22ø X 44	220-280	350	255-355
	2000	2260	640X0152	640	22ø X 44	220-280	350	255-355
	1800	2058	640X0152	640	22ø X 44	220-280	350	255-355
	1600	1900	540X0152	640	22ø X 44	220-280	350	255-355
	1500	1752	540X0152	640	22ø X 44	220-280	350	255-355
	1400	1600	480X0152	490	22ø X 44	220-280	350	255-355
	1200	1448	430X0152	490	22ø X 44	220-280	350	225-270
	1100	1296	370X0127	380	22ø X 44	220-280	350	225-270
	900	1144	320X0127	380	22ø X 44	220-280	350	225-270
	800	990	270X0127	290	22ø X 44	220-280	350	225-270
	600	838	220X0127	290	22ø X 44	220-280	350	225-270
	500	686	170X0127	200	22ø X 44	220-280	350	225-270
	MODEL	DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	DIM G