

# Underground Belt Structure

Flex PAL™ Series (CEMA C & D)



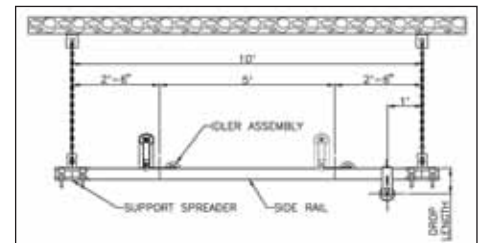


## Interchangeable

The new Cat® Flex PAL™ Series is designed to work seamlessly with existing underground bulk-material conveyor systems. The retrofit design allows for easy integration with major competitive underground structure configurations. With a wide range of product compatibility, the Flex PAL™ series makes upgrading equipment effortless. Triple-tested with a standard three-years-to-life warranty, Flex PAL™ offers quality and performance assurance for your mining operations unsurpassed in the industry.

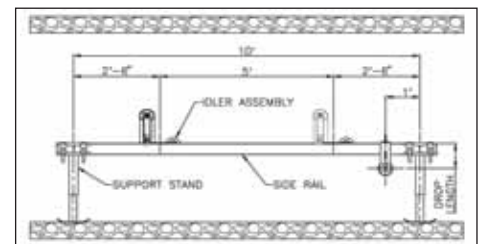
### Roof-Hung Structure

This typical 10-foot section of roof-hung structure features the Cat handle and pin rail connections for quick installation. No special tools are required to set up.



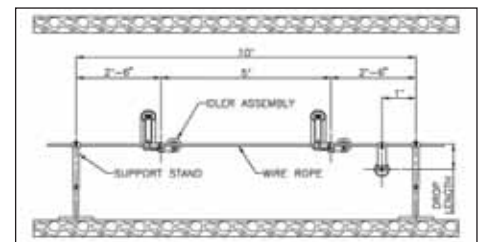
### Floor-Mounted Structure

The example of floor-mounted handle & pin structure shows the return rolls mounted in drop brackets attached to the channel rails. Return rolls can also be mounted in the floor stands.



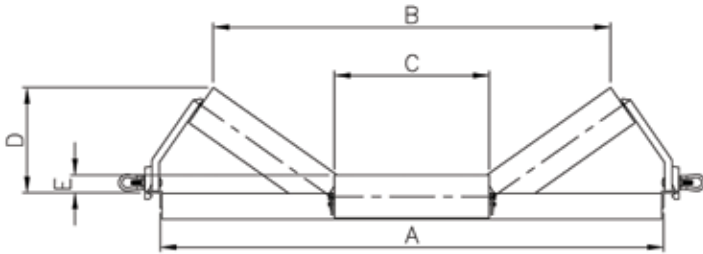
### Wire-Rope Structure

The Cat wire-rope structure features carrying idlers with mounting feet that cradle the wire rope until securely fastened with the supplied hardware. The tie-off stands can be floor-mounted or roof-hung, as shown on page 7 of this brochure.



# Cat® Carrying Assemblies

Cat carrying idlers have a single mechanical tube crossmember, sized to handle full capacity loading through 60 in belt widths. Box frame carrying idlers are also available.



Cat® steel rolls going through an automated five-stage assembly and testing process.

## Carrying Idler Assemblies for Channel Mount

### 4 inø - 35° - 7Ga. - CEMA C or D Carrying Assembly\*

Belt Width	Part No.		A	B	C	D	E
	CEMA C	CEMA D					
30	865813	—	41 ft 1/4 in	31 ft 5/16 in	12 ft 1/4 in	8 ft 3/4 in	1 ft 7/8 in
36	865814	—	47 ft 1/4 in	35 ft 13/16 in	14 ft 1/4 in	10 ft 5/16 in	1 ft 7/8 in
42	865815	—	53 ft 1/4 in	42 ft 11/16 in	16 ft 1/4 in	10 ft 9/16 in	1 ft 7/8 in

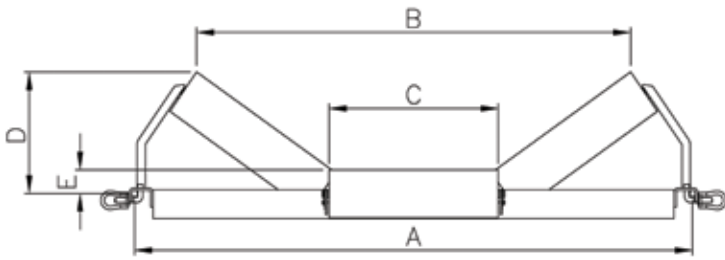
### 5 inø - 35° - 7Ga. - CEMA C or D Carrying Assembly\*

Belt Width	Part No.		A	B	C	D	E
	CEMA C	CEMA D					
36	865816	—	47 ft 1/4 in	35 ft 3/16 in	14 ft 1/4 in	10 ft 3/4 in	2 ft 3/8 in
42	865770	865823	53 ft 1/4 in	42 ft 1/8 in	16 ft 1/4 in	11 ft	2 ft 3/8 in
48	865736	865824	59 ft 1/4 in	46 ft 11/16 in	18 ft 1/4 in	12 ft 1/4 in	2 ft 1/16 in
54	865817	865825	65 ft 1/4 in	51 ft 15/16 in	20 ft 1/4 in	13 ft 3/8 in	2 ft 1/16 in

### 6 inø - 35° - 7Ga. - CEMA C or D Carrying Assembly\*

Belt Width	Part No.		A	B	C	D	E
	CEMA C	CEMA D					
36	865818	—	47 ft 1/4 in	34 ft 9/16 in	14 ft 1/4 in	11 ft 1/8 in	2 ft 7/8 in
42	865819	865826	53 ft 1/4 in	41 ft 5/8 in	16 ft 1/4 in	11 ft 7/16 in	2 ft 7/8 in
48	865820	865827	59 ft 1/4 in	46 ft 1/8 in	18 ft 1/4 in	12 ft 5/8 in	2 ft 9/16 in
54	865821	865828	65 ft 1/4 in	51 ft 3/8 in	20 ft 1/4 in	13 ft 13/16 in	2 ft 9/16 in
60	865822	865829	71 ft 1/4 in	56 ft 5/8 in	20 ft 1/4 in	14 ft 15/16 in	2 ft 9/16 in

\*Available with 1/4 in wall rolls upon request.



Carrying idler for channel structure

## Carrying Idler Assemblies for Wire-Rope Mount

### 4 in $\varnothing$ - 35° - 7Ga. - CEMA C or D Carrying Assembly\*

Belt Width	Part No.		A	B	C	D	E
	CEMA C	CEMA D					
30	865831	—	42 in	31 ft 5/16 in	12 ft 1/4 in	9 ft 1/8 in	2 ft 1/4 in
36	865832	—	48 in	35 ft 13/16 in	14 ft 1/4 in	10 ft 11/16 in	2 ft 1/4 in
42	865833	—	54 in	42 ft 11/16 in	16 ft 1/4 in	10 ft 15/16 in	2 ft 1/4 in

### 5 in $\varnothing$ - 35° - 7Ga. - CEMA C or D Carrying Assembly\*

Belt Width	Part No.		A	B	C	D	E
	CEMA C	CEMA D					
36	865834	—	48 in	35 ft 3/16 in	14 ft 1/4 in	11 ft 1/8 in	2 ft 3/4 in
42	865835	865843	54 in	42 ft 1/8 in	16 ft 1/4 in	11 ft 3/8 in	2 ft 3/4 in
48	865836	865844	60 in	46 ft 11/16 in	18 ft 1/4 in	12 ft 5/8 in	2 ft 7/16 in
54	865837	865845	66 in	51 ft 15/16 in	20 ft 1/4 in	13 ft 3/4 in	2 ft 7/16 in

### 6 in $\varnothing$ - 35° - 7Ga. - CEMA C or D Carrying Assembly\*

Belt Width	Part No.		A	B	C	D	E
	CEMA C	CEMA D					
36	865838	—	48 in	34 ft 9/16 in	14 ft 1/4 in	11 ft 1/2 in	3 ft 1/4 in
42	865839	865846	54 in	41 ft 5/8 in	16 ft 1/4 in	11 ft 13/16 in	3 ft 1/4 in
48	865840	865847	60 in	46 ft 1/8 in	18 ft 1/4 in	13 ft	2 ft 15/16 in
54	865841	865848	66 in	51 ft 3/8 in	20 ft 1/4 in	14 ft 3/16 in	2 ft 15/16 in
60	865842	865849	72 in	56 ft 5/8 in	22 ft 1/4 in	15 ft 5/16 in	2 ft 15/16 in

\*Available with 1/4 in wall rolls upon request.

# Cat EXALON™ Rolls

## Another perfect choice for underground mining operations

In addition to our world-class steel rolls, Caterpillar offers a highly successful range of CEMA C-, D- and E-class rolls made of a proprietary high molecular weight polyethylene (HMWPE) called EXALON™.

While steel rolls are effective in most bulk-material handling applications, some applications benefit from the use of the EXALON™ roll product. Applications with environments that are highly corrosive, abrasive, wet or have a tendency for material buildup on the roller are ideal for the EXALON™ roll and its additional features and benefits.

### Flex PAL™ Center EXALON™ Design Features:

- Center roll subject to most frequent replacement – most wear of the three rolls
- Helps reduce the frequency of replacing the center idler roll with EXALON™
- The EXALON™ roll's shell life can be two to three times longer than a steel roll's

### Smooth operators

Tube-based with higher concentricity further enhanced by final machining (poly-body) for reduced belt wear, the EXALON™ roll offers balanced, vibration-free running. These fully conductive rolls are MSHA-certified as safe for underground use. They have two certifications: IC-56/1 – flame-resistant and IC-56/2 – flame-resistant and static-dissipating.

### Versatile, low-maintenance

EXALON™ rolls can be retrofitted to any frame – even those of competitors. Custom sizes can be ordered for special applications. EXALON™ heads are installed using a unique “spin-welding” method, creating a single-piece roll construction. Cat Idler PAL™ (Positive Automatic Lubrication) ensures life-long grease management, making them virtually maintenance-free.

### Tested for quality

All Cat rolls – EXALON™ and steel – are processed through an automated assembly system that tests and records rotational torque, total indicator run-out and axial end play. Upon acceptance, each idler roll is permanently marked with a serial number and date of manufacture.



## EXALON™ Benefits at a Glance

### MSHA certified

Certified for underground use: IC-56/1 – flame resistant and IC-56/2 – flame resistant and static dissipating.

### Longer shell life

EXALON™ rolls last two to three times longer than steel rolls in highly corrosive and/or highly abrasive environments.

### Low maintenance

Cat Idler PAL™ ensures life-long grease management.

### Reduced belt damage

The smooth PE surface minimizes belt friction and wear and acts as a slider bar in the event of a bearing seizure. The all-PE body means there are no sharp ‘pizza cutter’ edges.

### Lighter weight

EXALON™ rolls are 20-30% lighter than equivalent steel rolls.

### Corrosion-proof

Being made of HMWPE, the EXALON™ roll is not subject to corrosion.

### Sound dampening

Reduce noise by up to 20%, particularly in underground applications.

### Resistance to material buildup

The smooth, non-adhesive HMWPE surface resists material buildup.

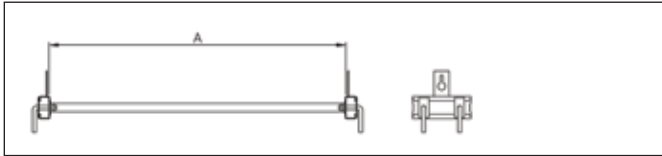
### Cost-efficient

EXALON™ offers cost savings through extended life, reduced downtime, longer replacement intervals and reduced belt damage.

### Versatile

The entire EXALON™ product line can be produced to fit any existing manufacturer's top-side and return frame assemblies.

## Handle & Pin Roof-Hung Spreader Assemblies



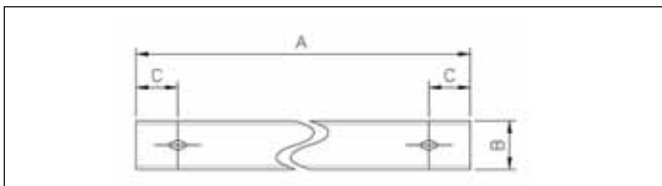
### 3 in Channel Spreader

Belt Width	Part No.	A
30	603895	41 ft 1/4 in
36	603896	47 ft 1/4 in
42	603897	53 ft 1/4 in

### 4 in Channel Spreader

Belt Width	Part No.	A
42	603898	53 ft 1/4 in
48	603899	59 ft 1/4 in
54	865739	65 ft 1/4 in
60	865740	71 ft 1/4 in

## Handle & Pin Side Rails



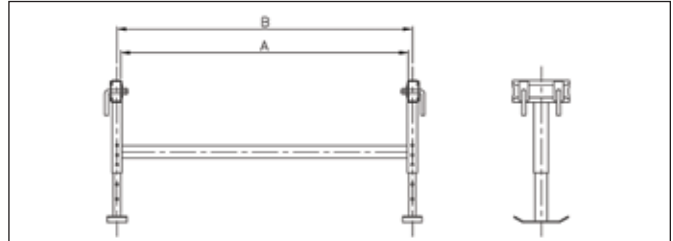
### 3 in Channel Rail

Part No.	A	B	C
865851	7 ft-11 ft 3/4 in	3 in	3 ft 7/16 in
603890	9 ft-11 ft 3/4 in	3 in	3 ft 7/16 in
865852	11 ft-11 ft 3/4 in	3 in	3 ft 7/16 in

### 4 in Channel Rail

Part No.	A	B	C
865853	7 ft-11 ft 3/4 in	4 in	3 ft 7/16 in
603677	9 ft-11 ft 3/4 in	4 in	3 ft 7/16 in
865854	11 ft-11 ft 3/4 in	4 in	3 ft 7/16 in

## Handle & Pin Adjustable Floor Stand Assemblies



### 3 in Channel Floor Stand

Belt Width	Part No.	A	B
30	865914	41 ft 1/4 in	42 ft 5/8 in
36	865915	47 ft 1/4 in	48 ft 5/8 in
42	865916	53 ft 1/4 in	54 ft 5/8 in

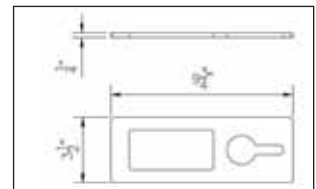
### 4 in Channel Floor Stand

Belt Width	Part No.	A	B
42	865917	53 ft 1/4 in	54 ft 5/8 in
48	865918	59 ft 1/4 in	60 ft 5/8 in
54	865919	65 ft 1/4 in	66 ft 5/8 in
60	865920	71 ft 1/4 in	72 ft 5/8 in

## Channel Slider/Hanger Brackets

### Slider/Hanger Brackets

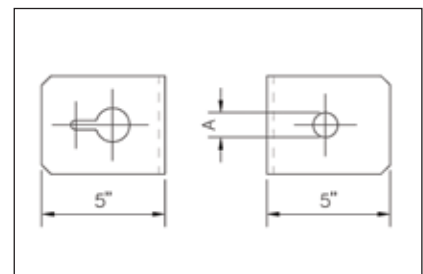
Part No.	Channel Size
603556	3 in CHANNEL
603557	4 in CHANNEL



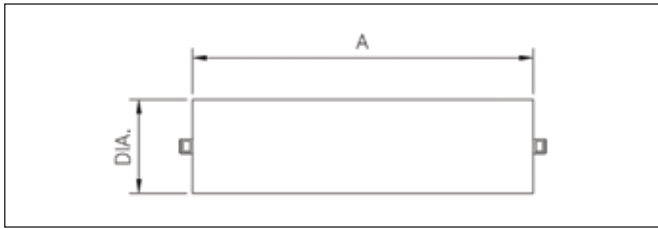
## Roof Mounting Plates for Chain Hung Structure

### Roof Plates

Part No.	A
223140	3/4 in
246787	1 in
213551	1 ft 1/4 in
242648	1 ft 1/2 in



## Return Roll Assemblies



### 4 inø - 7Ga. Return Roll\*

Belt Width	Part No.		A
	CEMA C	CEMA D	
30	326506	—	39 in
36	326507	—	45 in
42	326508	—	51 in

### 5 inø - 7Ga. Return Roll\*

Belt Width	Part No.		A
	CEMA C	CEMA D	
36	326563	326665	45 in
42	326564	326666	51 in
48	326565	326668	57 in
54	326566	326669	63 in

### 6 inø - 7Ga. Return Roll\*

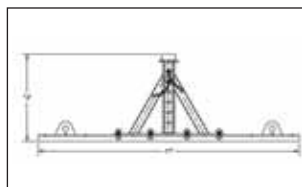
Belt Width	Part No.		A
	CEMA C	CEMA D	
36	326609	326780	45 in
42	326611	326781	51 in
48	326612	326782	57 in
54	326613	326783	63 in
60	326614	326784	69 in

\*Available with 1/4 in wall rolls upon request.

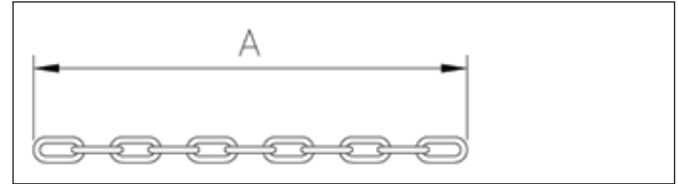
## Wire-Rope Adjustable Tie-Off Assemblies

### Tie-Off Stands

Part No.	A Min.	A Max.
276956	24 in	36 in
271136	32 in	48 in



## Cat Standard Chain



### 1/4 Proof Coil Chain with Hook

Part No.	A
208650	4 ft
244458	5 ft
231598	6 ft

### 5/16 Proof Coil Chain without Hook

Part No.	A
222516	5 ft
216997	6 ft

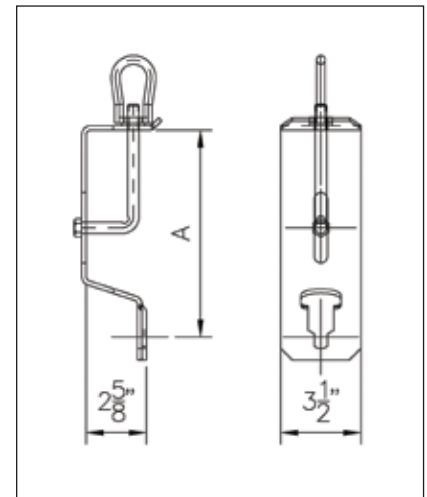
## Channel Mounted Drop Brackets

### 3 in Brackets

Part No.	A
865670	9 in
865855	12 in
865856	16 in

### 4 in Brackets

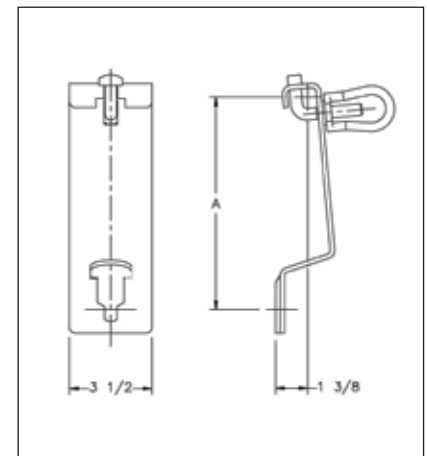
Part No.	A
865671	9 in
865857	12 in
865858	16 in



## Wire Rope Drop Brackets

### 3 in Brackets

Part No.	A
884029	9 in
865911	12.75 in
865912	16.5 in



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For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [mining.cat.com](http://mining.cat.com) and [www.cat.com](http://www.cat.com)

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