# PACLINE

## Component Drawings Are

## For Concept Purposes Only.

## Actual Component Designs

## May Vary.

## For Engineering Inquiries

## Contact PACLINE.

**PACLINE reserves the right to make any changes without notice.**



5735 McAdam Rd. • Mississauga • ON • L4Z 1N9
Tel: 905.858.2330 • Fax: 905.858.2333

Rev 01 July 2021

email: sales@pacline.com

155 Great Arrow Ave. • Buffalo • New York • 14207
Tel: 716.876.9250 • Fax: 716.876.9287

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# PAC-MAX™ CONVEYOR SPECIFICATION

## 1.0 GENERAL CONVEYOR CAPACITIES

| | |
|---|---|
| Maximum Pendant Capacity | 200 lbs. |
| Maximum Drive Pull capacity | up to 2000 lbs.** |

**Drives are configured for chain pulls of 250, 600, 1000, 1400 & 2000 lbs. based on engineering review of customer-specific operating conditions (refer to drawing 310 & 311)

| | |
|---|---|
| Maximum Chain length per Drive Unit | varies (based on loading and layout) |
| Chain Breaking Load – Ultimate Strength | 15,000 lbs. |
| Chain Pitch (multiples that pendants can attach to) | 8” or 6” |
| Maximum Operation Temperature | |
| Open wheeled chain (with appropriate lubricant) | up to 650 F / 343 C |
| Sealed wheel chain (limited by seal & grease spec) | 212 F / 100 C |
| Radius for Horizontal & Vertical Curves | 24, 30, 36, 48 inches |
| Maximum Operating Speed | 45 FPM |

## 2.0 CHAIN

### 2.1 CAPACITIES

The PAC-MAX™ heavy duty enclosed track conveyor is capable of carrying 200 lb. loads from a single hanging point (pendant). Heavier loads of 400 lbs. and 800 lbs. can be supported by two and four trolley pendant & load-bar arrangements respectively.

### 2.2 CONSTRUCTION AND ASSEMBLY

Mild steel with case hardened components. The chain length is comprised of segments consisting of the following parts:

Wheels (either open or sealed)

Sintered Blocks

Side Link Assemblies with pressed pin

Circlips

Side links with hardened steel pins pass through cruciform sintered blocks in both the vertical and horizontal planes. A second side link with pin is used to capture the sintered blocks. Wheels are then placed on the protruding portion of the pin and secured with circlips. All chain segments come with a connecting link set. PAC-MAX™ conveyor chain can be ordered for either 8” or 6” Pitch

SEGMENT LENGTHS WITH CONNECTING LINK:

8” pitch chain – 10’-8”

6” pitch chain – 10’-0”



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Wheels and subassembly of side link with pin have the option to be zinc plated or nickel plated.

Refer to drawing 306 for more details.

### 2.3 CHAIN ROLLER WHEELS

Chain wheels come with case hardened inner and outer raceways complete with full complement of case-hardened carbon steel balls. They have a maximum static load capacity of 325 lbs. The wheels are secured on the pins with circlips

Open style wheels have exposed bearing balls that allow lubrication to be applied with a lubricator unit.

Sealed wheels use rubber gasket to permanently seal lubrication (grease) in the bearing balls.

### 2.4 SINTERED BLOCK

The sintered block is manufactured from powder metallurgy. The cruciform block acts as a universal joint allowing the pins to articulate in both the horizontal and vertical planes. The block also has a small hole that allows lubricant to flow to the pins.

IMPORTANT: During installation or maintenance, ensure that the sintered block lubrication holes are oriented UP regardless which way the track slot is facing.

### 2.5 CHAIN SIDE LINKS

The conveyor side links are punched from 3/16” thick mild steel

PAC-MAX™ chains have the same length of horizontal and vertical side links, which eliminates incorrect assembly.

### 2.6 WHEEL PINS

The pins are machined from mild steel and case-hardened to increase wear resistance. One side of the pin is knurled and once pressed into the side link to prevent rotation.

## 3.0 CHAIN PENDANTS

Pacline offers different bolt-on pendants for the carrying of product at specific intervals. Pendants are not included as part of the chain assembly itself. Mounting holes are provided in the CHAIN SIDE LINK to attach these pendants (or other bolt-in feature) for this purpose. The product carrying intervals can be as close as the chain pitch – either 8” or 6”. Note that due to the alternating side links on the chain, the pendants require two different mounting styles to achieve consistent part spacing. The mounting styles are called INNER & OUTER. The inner style is fastened between the side links whereas the outer style is fastened to the outside of the link.


5735 McAdam Rd. • Mississauga • ON • L4Z 1N9
Tel: 905.858.2330 • Fax: 905.858.2333
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155 Great Arrow Ave. • Buffalo • New York • 14207
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Three styles of pendants are available for mounting of product carrier:

3.1 Single Hole Pendant – General purpose, typically used on conveyors with changes in elevations – and both Slot Down & Slot Up capable. (Single hole mounting hardware allows product carrier to pivot at elevations).

3.2 Double Hole Pendant – General purpose, but used on Mono-plane, (no changes in elevation) style conveyors and both Slot Down or Slot Up capable. (Double hole mounting hardware does not allow product carrier to pivot).

3.3 C-Pendant – Specific purpose, used only on Slot Sideways style conveyors with or without elevations.

Single & double hole pendants are fabricated from 1/4" mild steel. C-Pendants are cut & formed from 5/16" mild steel

All pendants come complete with mounting hardware to affix them to the conveyor chain.

NOTE: Consult Pacline Engineering for custom hanging arrangements or configurations.

Refer to drawing 307, 308 & 309 for more details.

## 4.0 TRACK

4.1 TYPICAL CONSTRUCTION

Manufactured from two (2) accurately formed 10 ft. sections, then placed in a jig with (5) flanges and welded to maintain the exact profile.

The unique cross shape profile of the track allows a system to be oriented in any position required. Standard Slot Down, Slot-Up (inverted), or Slot Sideways

Standard Finish: Powder Coated to RAL 3000 "Poppy Red"

Standard Lengths: 10 feet long

Refer to drawing 301 for more details.

4.2 UPGRADE: HEAVY DUTY TRACK FOR HIGH POINTLOAD APPLICATIONS

HEAVY DUTY TRACK may be considered in high point load applications. Additional track flanges are welded to the track for a total of 9 flanges per 10 ft segment.

NOTE: Heat treating of the track may also be required for 'extra-heavy' applications. Consult Pacline Engineering for application review

### 4.3 UPGRADE: TIGHT TOLERANCE TRACK

When tighter control of chain movement or clearance between the chain bearing and the track profile is required along the straight run, the special 'TITE-TRACK' is available. The internal clearance is reduced by half from the standard 0.13" to 0.06". The 'TITE-TRACK' is available in 5 ft long sections to hold the tighter tolerances which may be required in robot spray applications or similar. 'TITE-TRACK' Transitions are 9" long and must be used upon connecting a 'TITE-TRACK' section to a regular track section, curves, or Take-Up unit. This ensures a smooth and gradual change between the regular and the 'TITE-TRACK' profile.

NOTE: Consult Pacline Engineering for application review.

### 4.4 UPGRADE: STAINLESS STEEL

In Washer applications, tracks potentially exposed to washer fluids may be available in grade 303/304SS. Pacline still recommends providing shrouding or other styles of barriers to prevent fluids or other contaminants from entering the track slot and depositing or corroding the conveyor chain and wheels.

NOTE: Consult Pacline Engineering for application review.

### 4.5 ASSEMBLY

Track flanges are welded at of 30-inch centers to form modular sections for bolted construction and easy installation. Each length of track comes with 3/8" hardware for mounting tracks to adjacent track sections, curves or other components.

### 4.6 SUPPORT SPACING

The spacing of supports (and clamps) is also critical for conveyor function and safety. The following chart gives an approximation of support spacing required along straight track runs:

| Uniform Live Load (lbs./ft) | Concentrated Mid-Span Load (lbs.) | Track Support Interval (ft) |
|---|---|---|
| 75 | 400 | 11.0 |
| 150 | 675 | 10.0 |
| 225 | 900 | 8.0 |
| 300 | 1050 | 7.0 |
| 338 | 1100 | 6.5 |

NOTE: Consult Pacline Engineering for application review.

## 5.0 TRACK CLAMPS

The conveyor and its load need to be properly supported. This can be done by attaching to building columns, other floor supports and/or ceiling joists or trusses. Whatever support method is decided upon, track clamps are needed to properly affix the conveyor components to the supports in all "slot down" applications. A clamp set consists of the top angle bracket that can be bolted to the track flanges, or combined with two clamp halves ("Z-Brackets") that hook over the track profile allowing (2)



5735 McAdam Rd. • Mississauga • ON • L4Z 1N9
Tel: 905.858.2330 • Fax: 905.858.2333
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distinct clamping arrangements. 9” long thread rods are also included in the clamp set to facilitate height adjustment on site.

Standard Finish: Zinc Plated

Refer to drawing 319 for more details.

Use of Track Clamps with various conveyor components:

- Drive Units: “Standard” track clamps are not used to hang the drive unit. Refer to drawings 310 & 311 for typical “slot down” & “slot up (inverted)” hanging points. Consult Pacline Engineering for “slot sideways” application review.
- Track Sections: Refer to table in Sect 4.6.
- Curves: At a minimum, 30, 45 & 90 deg curves should be supported at each end. Depending on the loads being conveyed and the curve radius, additional support points may be required along the curve itself. Consult Pacline Engineering for application review.
- Take-Up Units: Take-Up Runners use a different style of clamp to affix to each end of each runner. Refer to drawing 314 for Runner arrangements.
- Maintenance Units: Due to the construction of Maintenance Units and their ability to remove a “half section” to insert/remove chain, it is good practice to have supports in the vicinity of the ends of the tracks that join into each end of the Maintenance Units to avoid flexing of adjacent tracks when a “half section” (or the entire Maintenance Unit) is removed.
- Expansion Units: Due to the construction of Expansion Units and the way the loads are distributed on them in the potential “fully extended” operational condition, it is good practice to have supports in the vicinity of the ends of the tracks that join into each end of the Expansion Units to avoid unnecessary stress in the Expansion Unit members.

## 6.0 CURVES

Conveyor horizontal and vertical curves are constructed from rolled and nitrided angles to a “File-Hard” surface. The sheet metal coverings make the curves enclosed and consistent with the track. Flanges are welded to curves for stiffening and have slotted holes for easy alignment with other curves and track sections. Standard curve radii are 24, 30, 36, and 48 inches and can be ordered in 15-degree increments. 45 and 90 degrees are the standard and most common.

Heavy duty configuration is possible upon consultation with Pacline Engineering. Extra flanges are welded between standard flange locations.

Standard Finish: Powder Coated to RAL 3000 “Poppy Red”

Refer to drawings 303, 304 & 305 for more details.

## 7.0 DRIVE UNIT

### 7.1 DRIVE BODY

IN-LINE DRIVE UNIT with provision for variable speed up to a maximum of 45 F.P.M. The unit is supplied complete with a motor mounted to a hollow bore reducer with a torque arm overload with compression spring and a limit switch for overload detection. The overall length of the drive unit track

section is 61-3/8 inches. The drive can be configured as standard (slot downwards), inverted (slot upwards), or slot sideways.

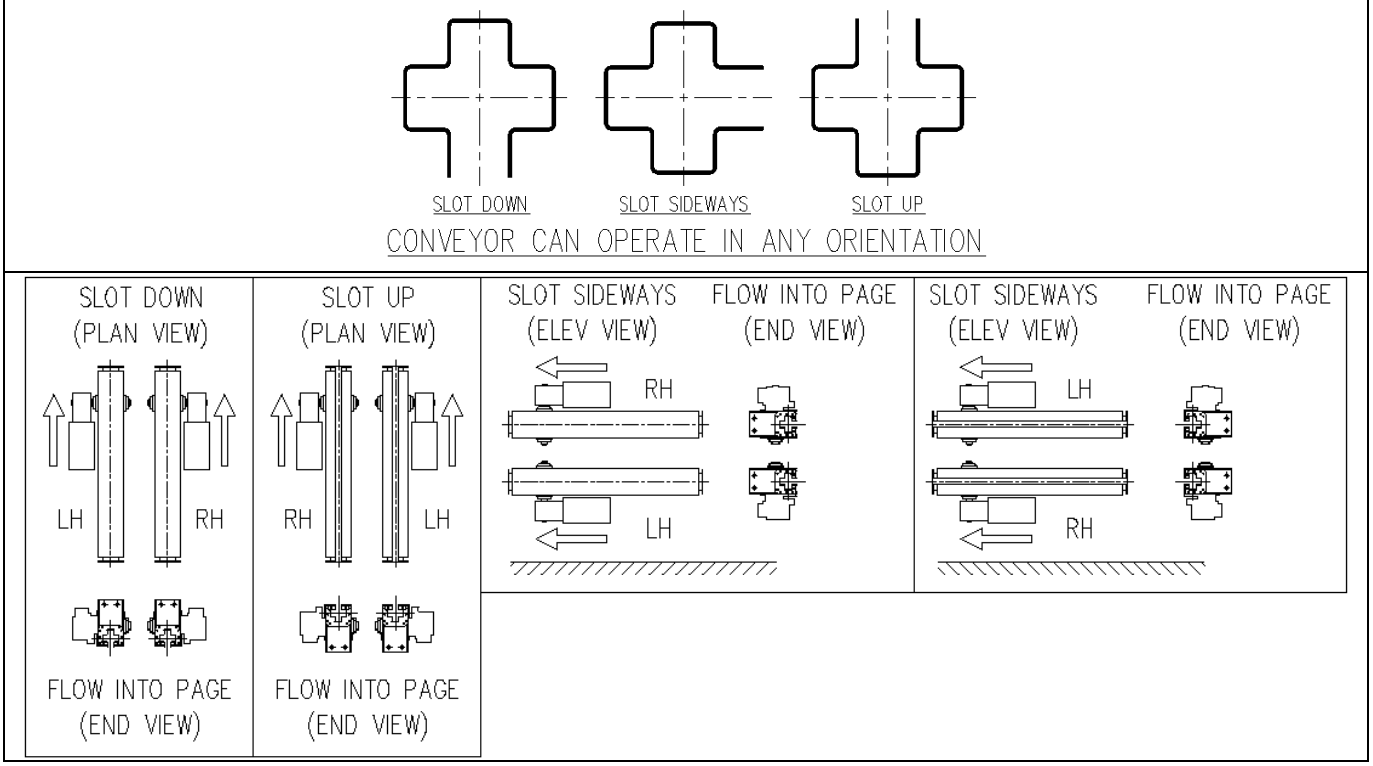
Due to the use of flange bearings on the head shaft and bushings on the idler shaft, the drive units are only meant to be run in the FORWARD direction. Exceptions may be made should the system need to be "bumped" 6-12 inches in reverse due to an issue or jam. ***NOTE: The torque arm overload limit switch does NOT provide any overload protection when the drive unit is run in the reverse direction.*** In some cases, Pacline may supply a "reversing" drive unit on systems with lighter loads upon request should the customer have the need to run a system in reverse occasionally as part of their regular conveyor use. Such "reversing" drive units contain a second limit switch and compression spring to detect an overload in both the forward and reverse direction.

## 7.2 DRIVE HANDING

The handing of the drive unit is consistent with the direction of conveyor chain travel.

IMPORTANT: The *Drive Handing* is defined by the position of the motor-reducer assembly when viewed from the idler shaft (chain entrance) towards the drive shaft (chain exit) with the slot facing downwards. A left hand (LH) drive is therefore defined as having the motor and reducer on the left side of the drive unit when viewed from the idler shaft towards the drive shaft with the slot facing down.

Figure showing different slot orientation and handing definition



- "Slot Down" (standard): The most common configuration used for hanging vertical loads with applications varying from industrial propane tanks to investment casting, agricultural, and even creative displays
- "Slot Up": In the "slot up" (inverted) position, the PAC-MAX™ may replace a typical spindle conveyor, where the load is carried above the conveyor track. The system maintains the capability to incline and decline and protect the conveyor chain from shop debris and contaminants with the enclosed track.
- "Slot Sideways": In the "slot sideways" position, the PAC-MAX™ can still offer great stability while protecting the chain from shop debris. In paint line applications, this arrangement can also protect the chain from paint over-spray (the slot faces away from the spray source), while still preventing debris from dropping vertically downwards into the conveyor chain. The conveyor is typically low (less than 36" elevation) to the floor, and employs a C-pendant to carry a part above the track. In this configuration, the drive employs a different upper cat chain guide along with additional plates, thrust bearings and retaining hardware to ensure smooth operation.

Regardless of slot orientation, Pacline still recommends providing shrouding or other styles of barriers to prevent fluids or other contaminants from entering the track slot and depositing or corroding the conveyor chain and wheels.

Refer to drawing 310 for more details.

## 7.3 MOTOR/REDUCER, CAT CHAIN, CAM YOKES

PAC-MAX™ gear-motors are ordered specific to the chain pull, conveyor speed and electrical requirements for each job. Safety factor is considered and added in our engineering calculations.

| Typical Nord Reducer Models | Chain Pull |
|---|---|
| SK9012, 9013 | < 600 lbs. |
| SK9016, 9017 | 600 ~ 1000 lbs. |
| SK9022, 9023 | 1000 ~ 1400 lbs. |
| SK9032, 9033 | 1400 ~ 2000 lbs. |

In an 8" pitch conveyor chain system, the drive cat chain is assembled with (24) cam yokes and (24) UHMW Guide Pegs. The cam yokes are placed at 12" & 4" apart on 16" centers.

In a 6" pitch conveyor chain system, the drive cat chain is assembled with (32) cam yokes and (32) UHMW Guide Pegs. The cam yokes are placed at 10" & 2" apart on 12" centers.

These arrangements ensure that the cam yokes are placed in between the chain wheels at the horizontal link and will not interfere with the attachment of chain pendants.

Refer to drawings 312 & 313 for more details.

## 7.4 OVERLOAD PROTECTION & LIMIT SWITCH WIRING/SETUP

All PAC-MAX™ drives are protected with a "mechanical torque with compression spring and limit switch" assembly to prevent overloading and sudden shocks or jolts from the system. The assembly

consists of a limit switch mounted on the side of the drive unit and is activated by the torque arm of the reducer. The bracketry, clevis arm and spring color (size) are assembled on the drive unit based on its pull capacity.

***The setup of the limit switch is CRITICAL and must be wired correctly, prior to running the drive unit for the first time:***

- When the drive is assembled at Pacline, the limit switch roller arm is pre-loaded against the gearbox torque arm.
- When installing the drive unit on site, wire the limit switch NORMALLY OPEN. Re-check that the roller arm is still pre-loaded against the gearbox torque arm (as some electricians remove the pre-mounted limit switch to install cables, etc. and then may re-mount it incorrectly).
- Like an E-stop, the conveyor should operate when the limit switch circuit is CLOSED. When the drive jams and over-torques, the gearbox & torque arm pivot resulting in the limit switch arm moving to the OPEN position and should stop the conveyor via the VFD or other controls. This also ensures that if the limit switch cord is ever damaged/broken, that the conveyor is unable to run the motor.

***Circuit CLOSED = motor can run***
***Circuit OPEN = motor NOT permitted to run***

***NOTE: Drive units with a single torque arm overload limit switch do NOT provide any overload protection when the drive unit is run in the "reverse" direction.*** See Section 7.1

Please refer to the engineering drawing for installation and maintenance.

### 7.5 HEAVY DUTY / EXTRA HEAVY-DUTY RATING

Drives with up to 1400 lbs. pull capacity are considered "heavy duty", while the 2000 lbs. pull capacity are considered "extra heavy-duty".

Refer to drawings 311 & 312 for more details.

## 8.0 TAKE UP UNITS

### 8.1 TAKE-UP ASSEMBLY

As conveyor chain is pulled through the system and into the drive unit, the Take-Up unit provides tensioning of the chain as it exits the drive unit. The Take-Up unit can also accommodate changes in chain length due to expansion from heat sources (i.e. ovens, washers) as well as gradual "wear-in" and stretch over time. The Take-Up assembly attaches the expansion units to the curves and is fastened to two cross members. Rectangular profiled runners with trolleys support the floating frame of the curve, expansion sections and cross members. Standard width or "spread" are 48, 60, 72, and 96 inches.

Take-Up units are typically spring tensioned but can also be ordered as a manual screw type or an upgraded pneumatic air type adjustment. The springs are fully compressed during assembly and for shipping purposes. The unit should only be loosened and expanded after the conveyor chain has been installed and connected.

Take-Up spread may be increased by adding a straight track section between the curves. Additional runners may be required to support the load. Pacline Engineering reviews take-up spreads versus conveyor loading to determine the quantity of runners and supports.

As an upgrade, Take-Up units can also be fitted with a limit switch to provide a signal when it has reached its useable spring compression (or in the case of a pneumatic Take-Up, its maximum expansion). At such point, maintenance is required to retention the springs and/or take out the slack conveyor chain.

Refer to drawing 314 for more details.

### 8.2 EXPANSION UNIT

Expansion units are always included as part of the Take-Up unit assembly. The expansion unit can extend up to 8-1/2" total. When used with a spring style Take-Up unit, the expansion sections are fabricated without the threaded rods to allow the 'floating frame' to travel.

On occasion, typically oven applications, the expansion unit is used separately to allow for thermal expansion of the track. In these applications, the expansion units are strategically positioned to allow the straight track sections to expand & contract as the oven warms and cools. Again, the expansion sections are assembled without threaded rods to allow travel.

Refer to drawings 315 for more details.

### 8.3 TENSION UNIT

Tension units are commonly used in systems where a full Take-Up unit is not required or not practical. These include an 'Over-Under' system, or in a 'Tow-Line' application. Because the tension unit is not allowed to "float", threaded rods are fitted on the unit for adjustment.

Refer to drawings 315 for more details.

## 9.0 INSPECTION / MAINTENANCE SECTIONS

The inspection or maintenance section is used to allow installation, inspection and/or maintenance of the conveyor chain in the conveyor track. A safety cover guards the inspection section and can be easily removed by loosening the wing nuts. The cover has a zinc plating finish for easy identification. The inspection section is fabricated with the same profile as the track and is split into two halves. When mounted between two track sections, either inspection halves can be removed to facilitate visual inspection of chain for wear, damage or lubrication. If maintenance or chain replacement is required, ensure that the Take-Up unit is adjusted prior to starting work.

## 10.0 LUBRICATOR UNITS

### 10.1 PUMP STYLE

The pump style lubricators are designed to be a dependable method of applying a consistent amount of lubricant at regular intervals to the conveyor chain. It can work in all three slot positions: down, up

and sideways. Its operation is clean, low maintenance and dependable. The motorized pump can be powered by 24VDC, 120VAC or 240 VAC.

The pump style lubricator comes complete with two flat brushes and three round brushes. The flat brushes apply lubrication to the conveyor chain pins and sintered blocks, while the round brushes apply lubrication to the chain wheels. Due to the brush material, the chain should not reach a temperature of >338F (170C) otherwise the brush bristles may become soft and melt, in which case a shot type lubricator would be the preferred option.

A compact 2 litre (1/2 gallon) reservoir is fastened to the lubricator track section and is electrically operated. The stroke output is externally adjustable. A translucent reservoir allows a visual check of the oil supply at all times. It is used with metered valves to deliver lubricant to the wheels and sintered blocks.

Refer to drawings 317 for more details.

### 10.2 GRAVITY (DRIP) STYLE – 5 Brush

The 5-Brush - Drip Style Lubricator offers an economical yet effective method for applying oil to the conveyor chain. In this system, a solenoid valve is actuated to allow lubricant to flow by gravity to the two flat brushes and three round brushes. The flat brushes apply lubrication to the conveyor chain pins and sintered blocks, while the round brushes apply lubrication to the chain wheels. A transparent reservoir allows a visual check of the oil supply at all times. The solenoid valve can be powered by 24VDC, 120VAC or 240 VAC. Two thumb screw needle valve & sight glass assemblies allow for adjustment of the lubricant flow. There is no timer, so a suitable method for on/off operation must be established by the end user. Due to the brush material, the chain should not reach a temperature of >338F (170C) otherwise the brush bristles may become soft and melt, in which case a shot type lubricator would be the preferred option.

Refer to drawings 318 for more details.

### 10.3 GRAVITY (DRIP) STYLE – 2 Brush

The 2-Brush - Drip Style Lubricator is an economical method for applying lubricant to systems with Sealed Wheel Chain. In this system, the lubricant is fed by gravity to the desired bearings points. A transparent reservoir allows a visual check of the oil supply at all times. Lubrication is applied to the chain pins and sintered blocks only. The solenoid valve can be powered by 24VDC, 120VAC or 240 VAC. Due to the brush material, the chain should not reach a temperature of >338F (170C) otherwise the brush bristles may become soft and melt, in which case a shot type lubricator would be the preferred option.

Refer to drawings 318 for more details.

### 10.4 SHOT TYPE

The shot type lubricator is an electro-pneumatic type unit where the chain temperature may exceed >338F (170C) and/or precise lubrication volume and location are desired and programmable at premium cost. It is operated by an air cylinder where the piston rod of which forms the ram of a displacement-type oil pump mounted on a 50-inch track section.

When the onward movement of the conveyor allows the actuating valve to close, the piston rod retracts and draws in a fresh charge of oil while the air exhausting from the cylinder passes back through the valve and ejects the stored oil charge onto the conveyor chain.

## 11.0 MANUAL SYSTEMS

Hand pushed systems are used when moving a product from one location to another. The system must be monoplane (without “up” or “down” elevation changes), and the product must be easily hooked or chained to the trolley. The conveyor path is typically simple, either a straight line or an ‘L’ shape, but can become complex if manual switches are used. Hand pushed systems consist of the following Pacmax components: STRAIGHT TRACK, CURVES, TRACK SWITCHES, TROLLEYS and LOAD BAR ARRANGEMENTS.

***WARNING: Operators must take care to avoid pinch points and crush hazards between parts and/or adjacent equipment as items of various sizes and weights can be manually pushed/pulled around the system at any speed. It is also critical that operators take care to spread out parts as to not exceed the Uniform Live Loading and or Concentrated Midpoint Loading within any area the system as damage or failure of the component(s) and/or structure may occur.***

Please consult Pacline Engineering for design details.

### 11.1 HAND PUSHED TROLLEYS

The 8-wheel trolley capacity is 200 lbs. and trolley to trolley distance can vary depending on product sizes and weight. The product can be attached with a ‘J’ Hook or chain. The provided 2-hole pendant can be removed and a custom attaching device can be added.

Refer to drawing 320 for more details.

### 11.2 LOAD BAR ARRANGEMENT

Load Bars are used to distribute the product load over 2 trolleys, providing a total load capacity of 400 lbs. to be hung from the load bar. In addition, the load bar can be configured so as to maintain a fixed distance between products to avoid collisions.

Refer to drawing 321 for more details.

### 11.3 TRACK SWITCH

Track switches are used strictly for non-powered manually operated (hand pushed) systems. They are manufactured from STRAIGHT TRACK and CURVED TRACK segments. Track switches are configured to give diverge or merge conditions from either the left or righthand side. They are pneumatically controlled by a hand valve connected to an air cylinder.

Refer to drawing 322 for more details.


5735 McAdam Rd. • Mississauga • ON • L4Z 1N9
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## 12.0 UNDER GUARDING

Conveyor under guarding is recommended where loaded conveyor paths are over work areas, aisles, and machinery, to prevent injury or damage from falling parts or hooks. This is typically an OHSA requirement and/or federal, state or local safety codes. Style and size of under guarding varies depending on the size and weight of loads that are hung on the conveyor. Typically, steel frames are used to support steel mesh guarding panels, designed to catch any falling parts.

***IMPORTANT: As requirements vary by location and facility, customers are responsible to review all local requirements to ensure they meet the safety requirements for the geographic region and specific facility that conveyor is being installed at.***

Please consult Pacline Engineering for possible options.

## 13.0 SUPPORT STEEL

Typically, support steel is custom designed to suit the loading and required conveyor support spacing for the specific conveyor application. With heavily loaded conveyor, custom designed floor supports may be used to achieve the required conveyor support spacing, based on the loading of the specific conveyor application. In general, more heavily loaded conveyors require stronger support steel and more support locations. On occasion support steel may be attached to the building roof joists, mezzanine underside, booth structure, etc. if there is sufficient capacity to support the additional loads from the conveyor.

Please consult Pacline Engineering for possible options.


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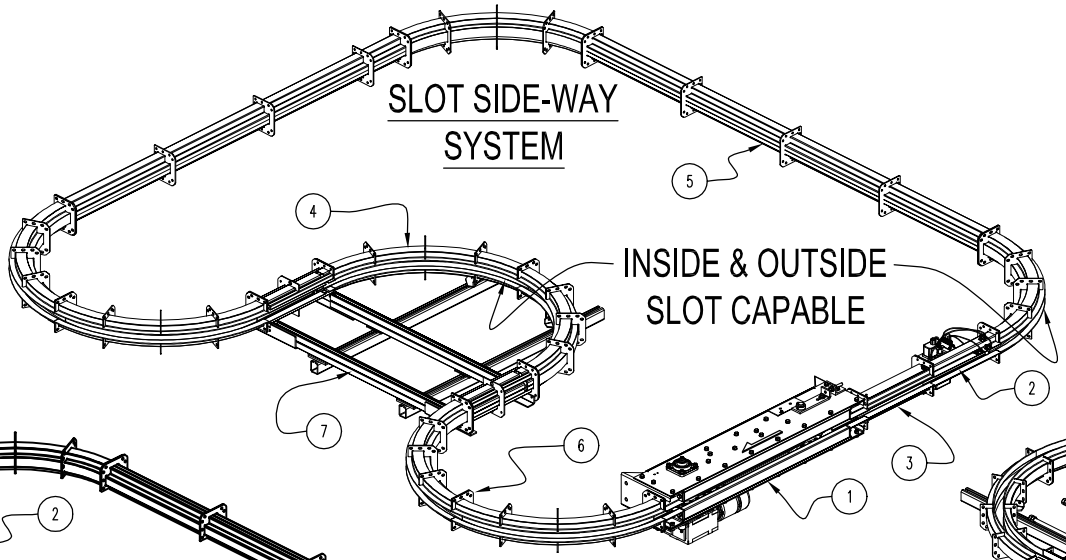
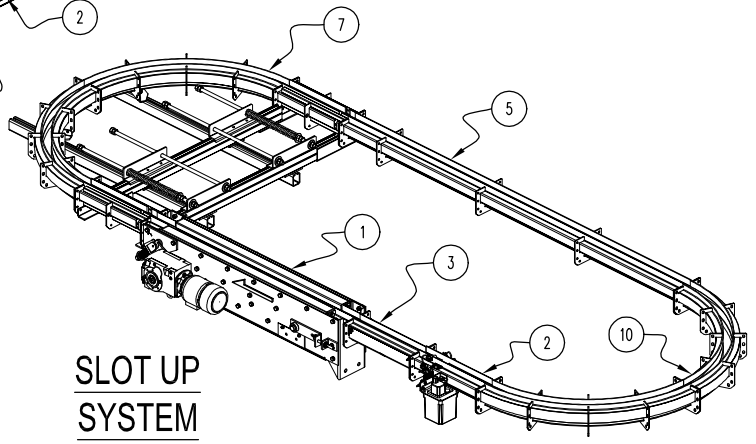
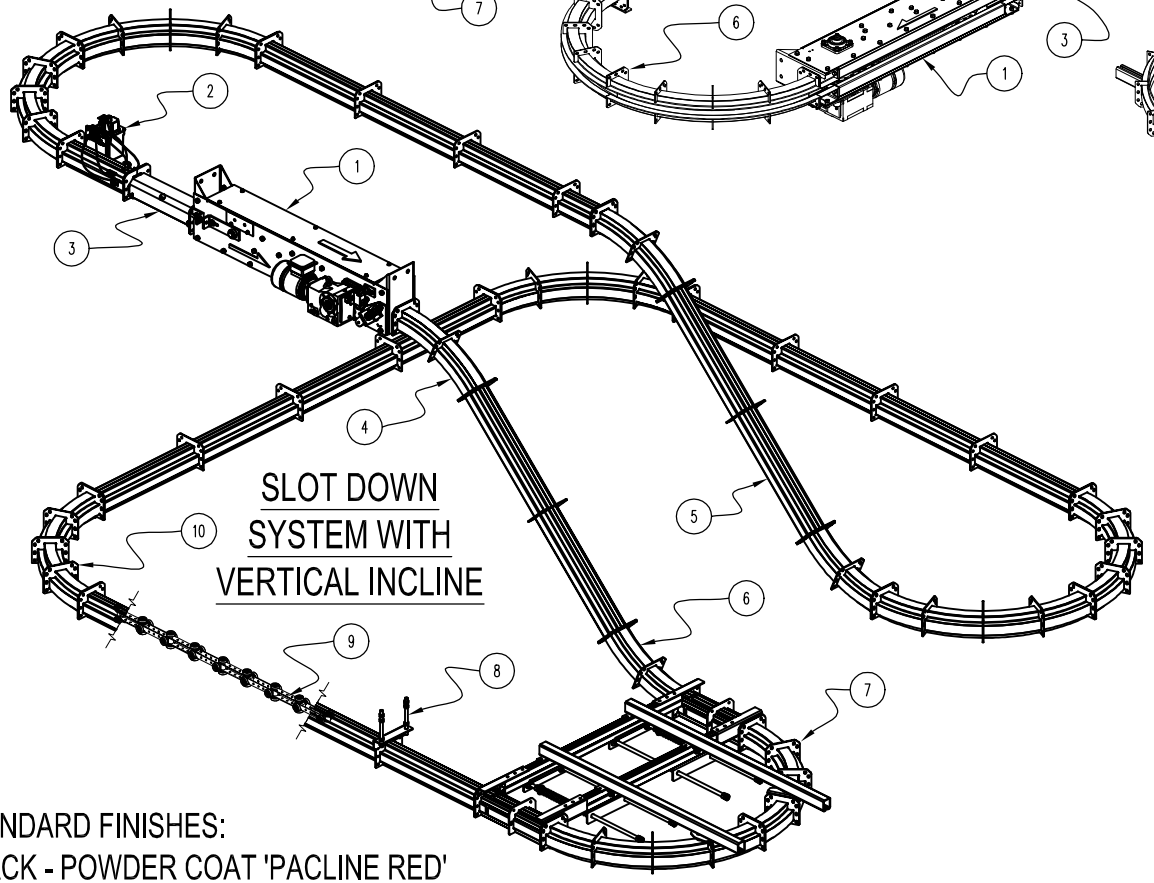
# 14.0 DRAWINGS

# PACMAX ENCLOSED CONVEYOR
## COMPONENT IDENTIFICATION AND DRAWING REFERENCE (SEE BILL OF MATERIAL BELOW)

HAND PUSHED (NON-POWERED) SYSTEMS ALSO AVAILABLE




| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| 10 | HB60 | HORIZONTAL CURVE | 303 |
| 9 | CH60 | CONVEYOR CHAIN | 306 |
| 8 | TC60 | TRACK CLAMP | 319 |
| 7 | TU60 | TAKE-UP ASSEMBLY | 314 |
| 6 | VB60 (outer) | OUTER VERTICAL CURVE (aka VERTICAL UP or SLOT OUTSIDE) | 305 |
| 5 | TK60 | STRAIGHT TRACK | 301 |
| 4 | VB60 (inner) | INNER VERTICAL CURVE (aka VERTICAL DOWN or SLOT INSIDE) | 304 |
| 3 | MU60 | MAINTENANCE UNIT – FOR INSPECTION & INSTALLATION OF CHAIN | 316 |
| 2 | LB60 | LUBRICATOR – PUMP STYLE & DRIP STYLE | 317, 318 |
| 1 | DU60 | DRIVE UNIT – HEAVY DUTY & EXTRA HEAVY DUTY | 310, 311 |

STANDARD FINISHES:
TRACK - POWDER COAT 'PACLINE RED'
CONVEYOR CHAIN - BARE
TRACK CLAMPS - ZINC PLATED
SUPPORTS - PAINTED 'PACLINE BLUE'

| REV | DATE | DESCRIPTION | REV'D BY |
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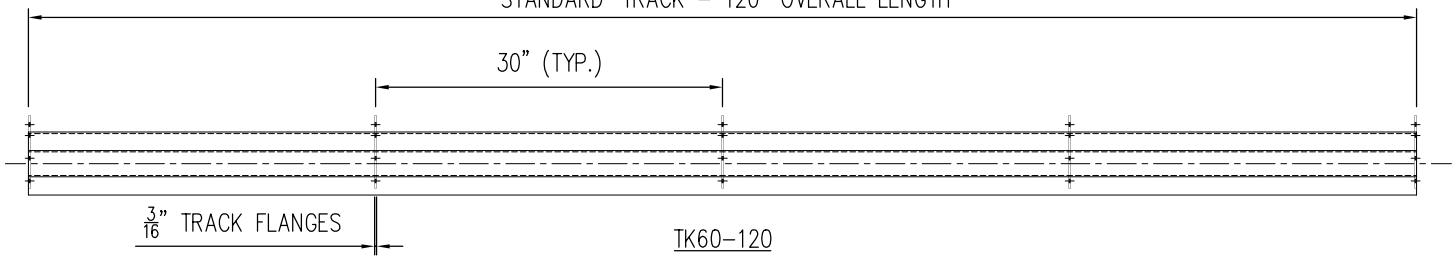
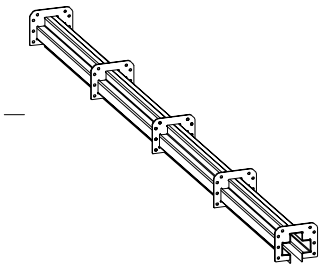
PACMAX ENCLOSED TRACK – ENGINEERING MANUAL – GEN II

| | | | | |
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | GENERAL ARRANGEMENT | |
| DATE | AUG–2020 | | | |
| APPR'D BY | | PART NUMBER: | PACMAX | DRAWING NUMBER: 300 REV A |
| SCALE | NTS | | | |

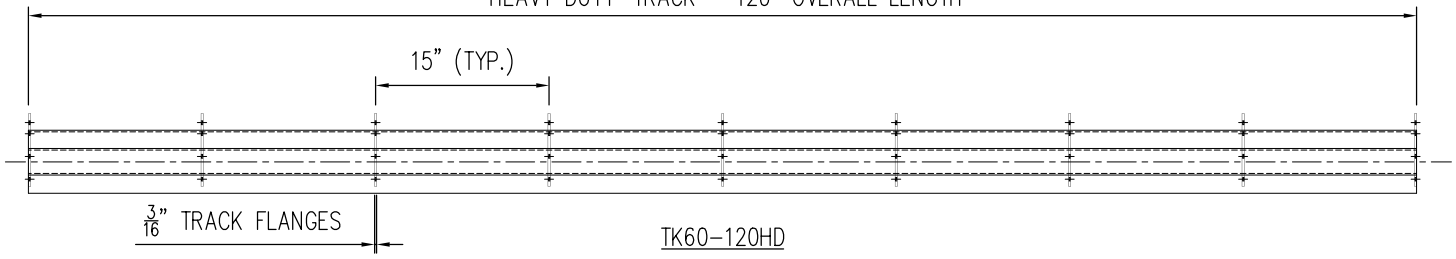
'STANDARD' TRACK – 120" OVERALL LENGTH



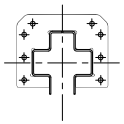

TK60–120



'HEAVY DUTY' TRACK – 120" OVERALL LENGTH

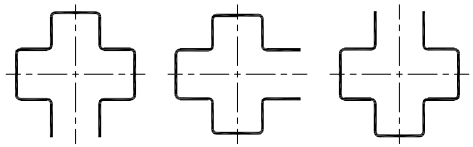



TK60–120HD

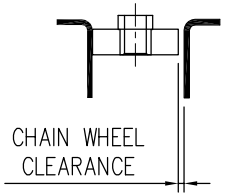


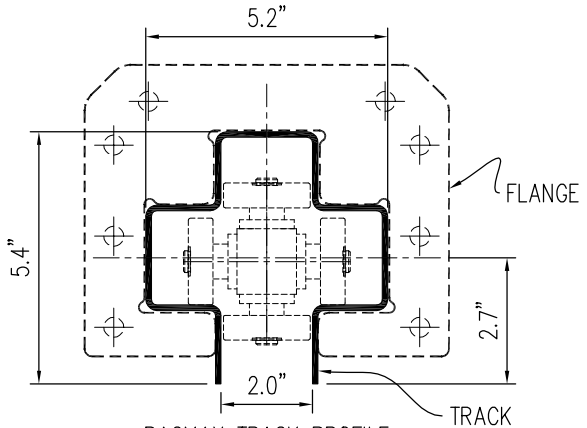
| ITEM | PART No | DESCRIPTION | LENGTH | # OF FLANGES | CHAIN WHEEL CLEARANCE |
|---|---|---|---|---|---|
| 1 | TK60–120 | STANDARD TRACK | 120" | 5 | 0.13" |
| 2 | TK60–60 | STANDARD TRACK | 60" | 3 | 0.13" |
| 3 | TK60–120HD | HEAVY DUTY TRACK | 120" | 9 | 0.13" |
| 4 | TK60–60HD | HEAVY DUTY TRACK | 60" | 5 | 0.13" |
| 5 | TK60–120SS | STAINLESS STEEL TRACK (304 MILL FINISH) | 120" | 5 | 0.13" |
| 6 | TK60–60SS | STAINLESS STEEL TRACK (304 MILL FINISH) | 60" | 3 | 0.13" |
| 7 | TK60–60T | 'TITE TRACK' | 60" | 3 | 0.06" |
| 8 | TK60–60TSS | 'TITE TRACK' STAINLESS STEEL (304 MILL FINISH) | 60" | 3 | 0.06" |

'TITE TRACK' SOLD IN 5' LENGTHS ONLY




CONVEYOR CAN OPERATE IN ANY ORIENTATION




PACMAX TRACK PROFILE

EACH LENGTH OF TRACK COMES WITH (6) SETS OF HARDWARE FOR THE MOUNTING TO OTHER COMPONENTS

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | FLAT WASHER – 3/8" | |
| | | LOCK WASHER – 3/8" | |
| | | NUT – 3/8–16NC | |
| | | BOLT – HHCS 3/8–16NC x 1–1/4" LG | |

**STANDARD FINISH:**
**POWDER COATED - 'PACLINE RED'**

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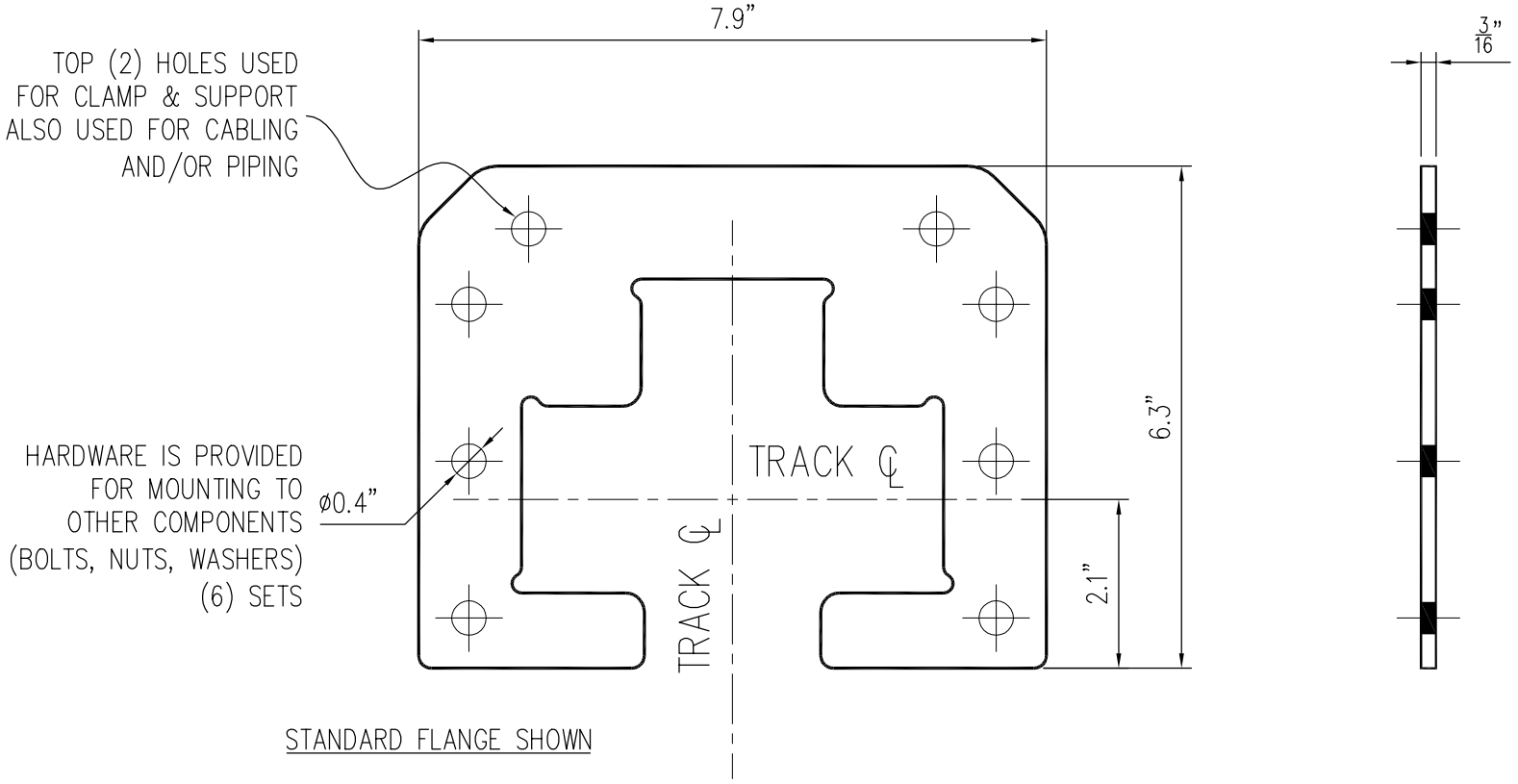
|---|---|
| DRAWN BY | |
| DATE | AUG–2020 |
| APPR'D BY | |
| SCALE | NTS |

DRAWING NAME: STRAIGHT TRACK SECTIONS
PART NUMBER: TK60–CHART
DRAWING NUMBER: 301
REV: A




STANDARD FLANGE SHOWN

| ITEM | PART No | DESCRIPTION | MATERIAL | FINISH |
|---|---|---|---|---|
| 1 | TF60–100 | TRACK FLANGE, STANDARD | HRPO | BARE |
| 2 | TF60–100SS | TRACK FLANGE, STAINLESS STEEL | 304 | MILL FINISH |
| 3 | TF60–100T | TRACK FLANGE, 'TITE' TRACK | HRPO | BARE |

LOOSE FLANGES ARE REQUIRED WHEN SYSTEM LAYOUTS NEED CUSTOM LENGTHS OF TRACK (REF DRAWING 301 FOR STANDARD LENGTHS) SEE INSTALLATION MANUAL FOR WELDING PROCEDURE

EACH FLANGE COMES WITH (6) SETS OF HARDWARE FOR THE MOUNTING TO OTHER COMPONENTS

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | FLAT WASHER – 3/8" | |
| | | LOCK WASHER – 3/8" | |
| | | NUT – 3/8–16NC | |
| | | BOLT – HHCS 3/8–16NC x 1-1/4" LG | |

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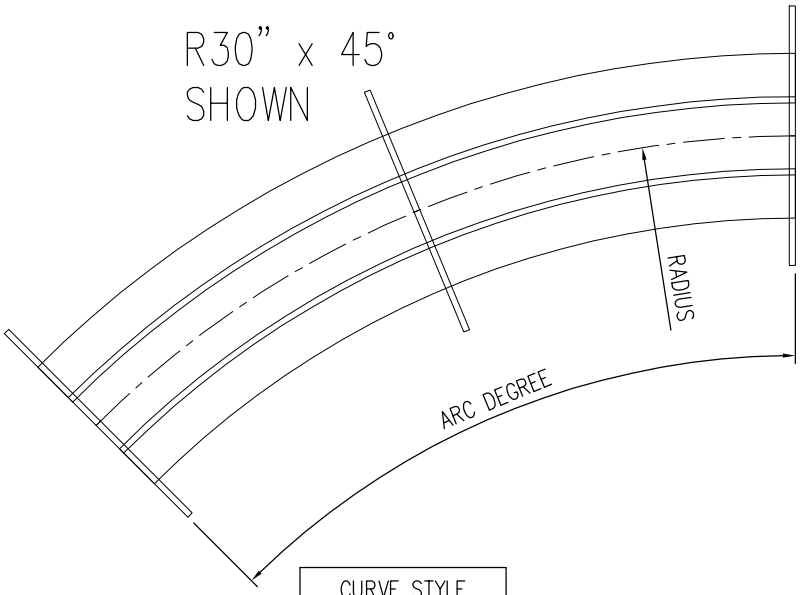
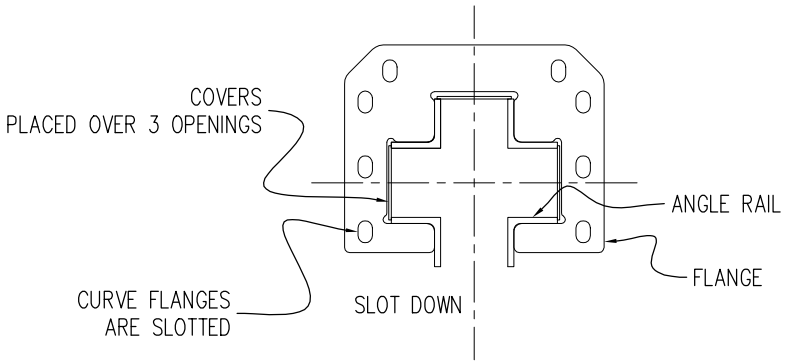
| | | | | |
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX TRACK FLANGE | |
| DATE | AUG–2020 | | | |
| APPR'D BY | | PART NUMBER: | TF60–CHART | DRAWING NUMBER: 302 REV A |
| SCALE | NTS | | | |



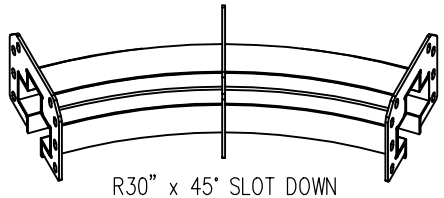




CURVE RAILS ARE MADE FROM ANGLES NITRIDED TO 'FILE-HARD' SURFACE
COVERS ARE ADDED TO BOTH SIDES & TOP OPENINGS TO MAINTAIN 'ENCLOSED' DESIGNATION
FLANGES HAVE SLOTTED MOUNTING HOLES FOR EASIER ALIGNMENT WITH OTHER TRACK COMPONENTS
FOR HEAVY DUTY CONFIGURATION – EXTRA FLANGES ARE ADDED BETWEEN STANDARD FLANGE LOCATIONS
CURVES ARE POWDER COAT PAINTED 'PACLINE RED'

| | | CURVE STYLE | | | |
|---|---|---|---|---|---|
| ITEM | PART No | DESC. | RADIUS | DEGREE OF ARC | # OF FLANGES |
| 1 | HC60-2415 | HORIZONTAL CURVE | 24" | 15° | 2 |
| 2 | HC60-2430 | | | 30° | 2 |
| 3 | HC60-2445 | | | 45° | 3 |
| 4 | HC60-2460 | | | 60° | 3 |
| 5 | HC60-2490 | | | 90° | 4 |
| 6 | HC60-3015 | | 30" | 15° | 2 |
| 7 | HC60-3030 | | | 30° | 3 |
| 8 | HC60-3045 | | | 45° | 3 |
| 9 | HC60-3060 | | | 60° | 5 |
| 10 | HC60-3090 | | | 90° | 5 |

| | | CURVE STYLE | | | |
|---|---|---|---|---|---|
| ITEM | PART No | DESC. | RADIUS | DEGREE OF ARC | # OF FLANGES |
| 11 | HC60-3615 | HORIZONTAL CURVE | 36" | 15° | 2 |
| 12 | HC60-3630 | | | 30° | 3 |
| 13 | HC60-3645 | | | 45° | 3 |
| 14 | HC60-3660 | | | 60° | 5 |
| 15 | HC60-3690 | | | 90° | 5 |
| 16 | HC60-4815 | | 48" | 15° | 2 |
| 17 | HC60-4830 | | | 30° | 3 |
| 18 | HC60-4845 | | | 45° | 4 |

HORIZONTAL CURVES CAN BE USED FOR BOTH SLOT UP OR SLOT DOWN POSITIONS AS WELL AS ACT AS VERTICAL CURVES IN THE SLOT SIDEWAYS POSITION



R30" x 45° SLOT DOWN

EACH CURVE COMES WITH (6) SETS OF HARDWARE FOR THE MOUNTING TO OTHER COMPONENTS

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | FLAT WASHER - 3/8" | |
| | | LOCK WASHER - 3/8" | |
| | | NUT - 3/8-16NC | |
| | | BOLT - HHCS 3/8-16NC x 1-1/4" LG | |

| REV | DATE | DESCRIPTION | REV'D BY |
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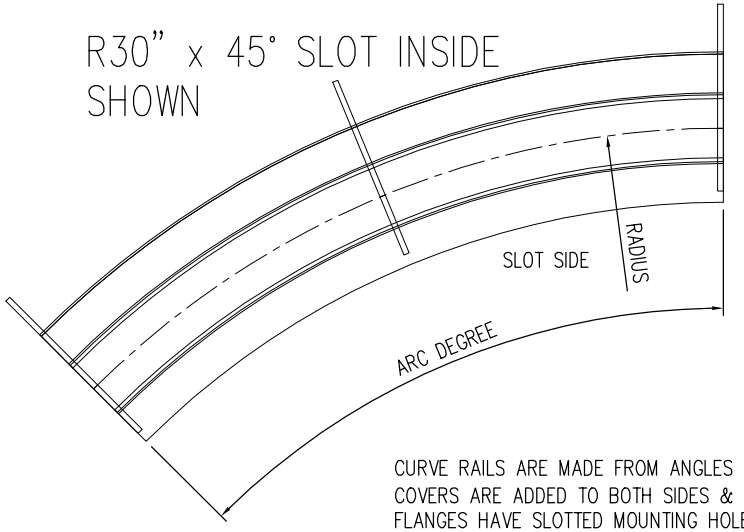
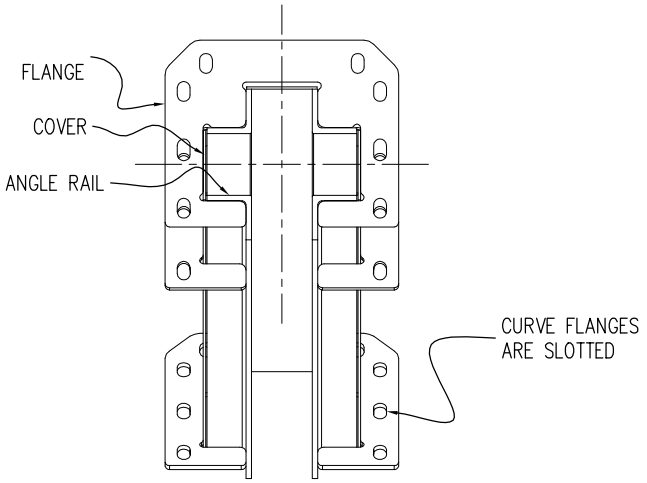
|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX HORIZONTAL CURVE |
| DATE | AUG-2020 | | |
| APPR'D BY | | PART NUMBER: | HC60-CHART |
| SCALE | NTS | DRAWING NUMBER: | 303 |
| | | REV | A |



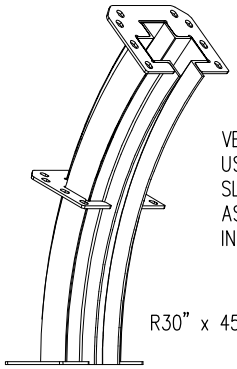




CURVE RAILS ARE MADE FROM ANGLES NITRIDED TO 'FILE-HARD' SURFACE
COVERS ARE ADDED TO BOTH SIDES & TOP OPENINGS TO MAINTAIN 'ENCLOSED' DESIGNATION
FLANGES HAVE SLOTTED MOUNTING HOLES FOR EASIER ALIGNMENT WITH OTHER TRACK COMPONENTS
FOR HEAVY DUTY CONFIGURATION – EXTRA FLANGES ARE ADDED BETWEEN STANDARD FLANGE LOCATIONS
CURVES ARE POWDER COAT PAINTED 'PACLINE RED'

| | | CURVE STYLE | | | |
|---|---|---|---|---|---|
| ITEM | PART No | DESC. | RADIUS | DEGREE OF ARC | # OF FLANGES |
| 1 | VC60-2415i | INNER VERTICAL CURVE | 24" | 15° | 2 |
| 2 | VC60-2430i | | | 30° | 2 |
| 3 | VC60-2445i | | | 45° | 3 |
| 4 | VC60-2460i | | | 60° | 3 |
| 5 | VC60-2490i | | | 90° | 4 |
| 6 | VC60-3015i | | 30" | 15° | 2 |
| 7 | VC60-3030i | | | 30° | 3 |
| 8 | VC60-3045i | | | 45° | 3 |
| 9 | VC60-3060i | | | 60° | 5 |
| 10 | VC60-3090i | | | 90° | 5 |

| | | CURVE STYLE | | | |
|---|---|---|---|---|---|
| ITEM | PART No | DESC. | RADIUS | DEGREE OF ARC | # OF FLANGES |
| 11 | VC60-3615i | INNER VERTICAL CURVE | 36" | 15° | 2 |
| 12 | VC60-3630i | | | 30° | 3 |
| 13 | VC60-3645i | | | 45° | 3 |
| 14 | VC60-3660i | | | 60° | 5 |
| 15 | VC60-3690i | | | 90° | 5 |
| 16 | VC60-4815i | | 48" | 15° | 2 |
| 17 | VC60-4830i | | | 30° | 3 |
| 18 | VC60-4845i | | | 45° | 4 |

INNER VERTICAL CURVE
ALSO KNOWN AS:
'VERTICAL DOWN'
OR
'SLOT INSIDE'
(REFERENCING SLOT POSITION TO RADIUS)



VERTICAL CURVES CAN BE USED FOR BOTH SLOT UP OR SLOT DOWN POSITIONS AS WELL AS ACT AS HORIZONTAL CURVES IN THE SLOT SIDEWAYS POSITION

R30" x 45° INNER SHOWN

EACH CURVE COMES WITH (6) SETS OF HARDWARE FOR THE MOUNTING TO OTHER COMPONENTS

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | FLAT WASHER – 3/8" | |
| | | LOCK WASHER – 3/8" | |
| | | NUT – 3/8-16NC | |
| | | BOLT – HHCS 3/8-16NC x 1-1/4" LG | |

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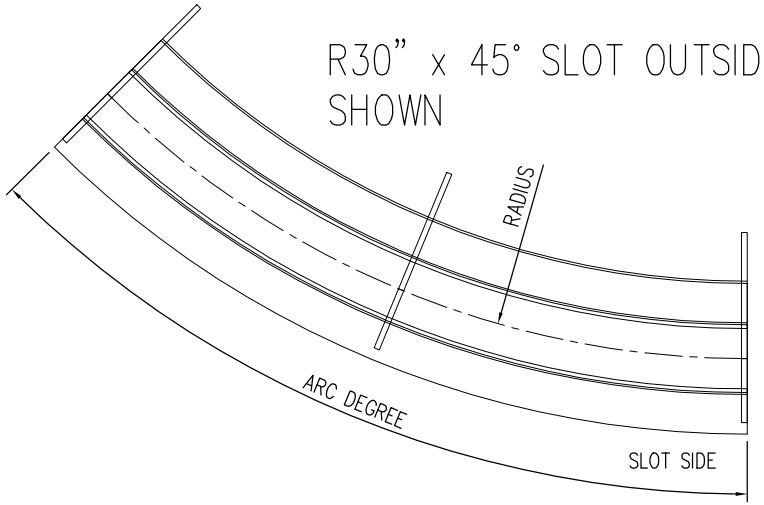
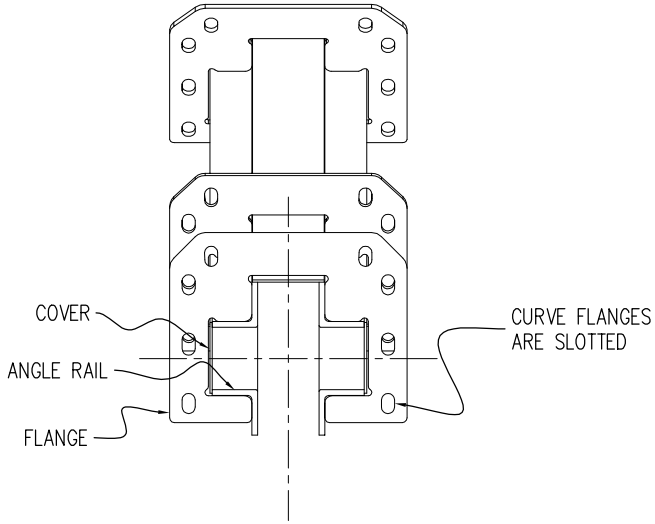
| DRAWN BY | | DRAWING NAME: | PACMAX VERTICAL DOWN CURVES |
| DATE | AUG-2020 | | |
| APPR'D BY | | PART NUMBER: | VC60-CHART |
| SCALE | NTS | DRAWING NUMBER: | 304 |
| | | REV | A |



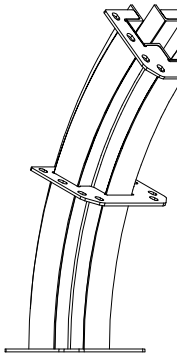




CURVE RAILS ARE MADE FROM ANGLES NITRIDED TO 'FILE-HARD' SURFACE
COVERS ARE ADDED TO BOTH SIDES & TOP OPENINGS TO MAINTAIN 'ENCLOSED' DESIGNATION
FLANGES HAVE SLOTTED MOUNTING HOLES FOR EASIER ALIGNMENT WITH OTHER TRACK COMPONENTS
FOR HEAVY DUTY CONFIGURATION – EXTRA FLANGES ARE ADDED BETWEEN STANDARD FLANGE LOCATIONS
CURVES ARE POWDER COAT PAINTED 'PACLINE RED'

| | | CURVE STYLE | | | |
|---|---|---|---|---|---|
| ITEM | PART No | DESC. | RADIUS | DEGREE OF ARC | # OF FLANGES |
| 1 | VC60-2415o | OUTER VERTICAL CURVE | 24" | 15° | 2 |
| 2 | VC60-2430o | | | 30° | 2 |
| 3 | VC60-2445o | | | 45° | 3 |
| 4 | VC60-2460o | | | 60° | 3 |
| 5 | VC60-2490o | | | 90° | 4 |
| 6 | VC60-3015o | | 30" | 15° | 2 |
| 7 | VC60-3030o | | | 30° | 3 |
| 8 | VC60-3045o | | | 45° | 3 |
| 9 | VC60-3060o | | | 60° | 5 |
| 10 | VC60-3090o | | | 90° | 5 |

| | | CURVE STYLE | | | |
|---|---|---|---|---|---|
| ITEM | PART No | DESC. | RADIUS | DEGREE OF ARC | # OF FLANGES |
| 11 | VC60-3615o | OUTER VERTICAL CURVE | 36" | 15° | 2 |
| 12 | VC60-3630o | | | 30° | 3 |
| 13 | VC60-3645o | | | 45° | 3 |
| 14 | VC60-3660o | | | 60° | 5 |
| 15 | VC60-3690o | | | 90° | 5 |
| 16 | VC60-4815o | | 48" | 15° | 2 |
| 17 | VC60-4830o | | | 30° | 3 |
| 18 | VC60-4845o | | | 45° | 4 |

**OUTER VERTICAL CURVE**
ALSO KNOWN AS:
'VERTICAL UP'
OR
'SLOT OUTSIDE'
(REFERENCING SLOT POSITION TO RADIUS)



R30" x 45° OUTER

VERTICAL CURVES CAN BE USED FOR BOTH SLOT UP OR SLOT DOWN POSITIONS AS WELL AS ACT AS HORIZONTAL CURVES IN THE SLOT SIDEWAYS POSITION

EACH CURVE COMES WITH (6) SETS OF HARDWARE FOR THE MOUNTING TO OTHER COMPONENTS

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | FLAT WASHER – 3/8" | |
| | | LOCK WASHER – 3/8" | |
| | | NUT – 3/8-16NC | |
| | | BOLT – HHCS 3/8-16NC x 1-1/4" LG | |

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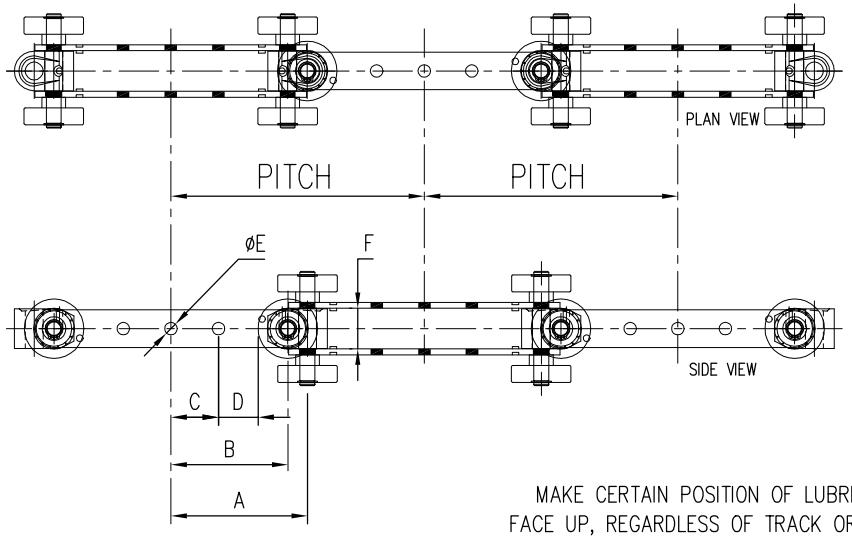
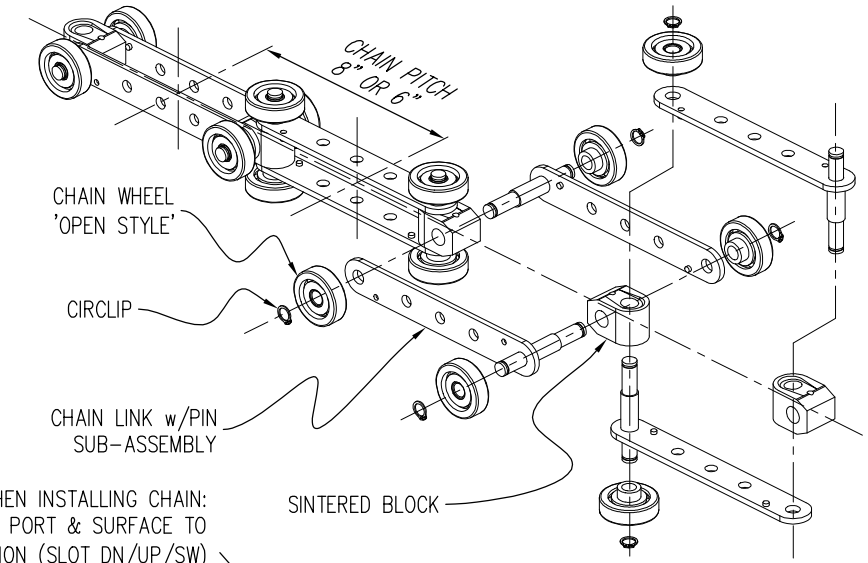
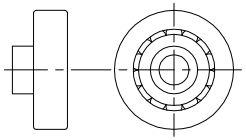
| DRAWN BY | | DRAWING NAME: | PACMAX VERTICAL UP CURVE |
| DATE | AUG-2020 | | |
| APPR'D BY | | PART NUMBER: | VC60-CHART |
| SCALE | NTS | DRAWING NUMBER: | 305 |
| | | REV | A |

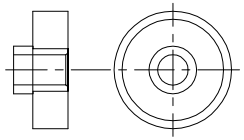


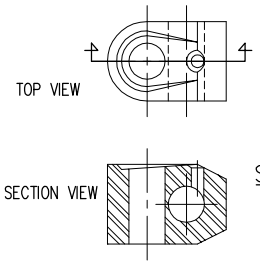

WHEN INSTALLING CHAIN:
MAKE CERTAIN POSITION OF LUBRICATION PORT & SURFACE TO FACE UP, REGARDLESS OF TRACK ORIENTATION (SLOT DN/UP/SW)

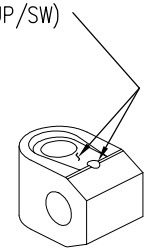


OPEN WHEEL
REQUIRES SCHEDULED LUBRICATION INTERVALS



SEALED WHEEL
PRE-LUBED & SEALED
NO LUBRICATION REQUIRED
(NOT TO BE USED IN SYSTEMS WITH HI-TEMP OVENS)



SINTERED BLOCK

**PLEASE NOTE:**
**CHAIN HAS AN ORIENTATION**
(SEE INSTALLATION NOTE)

| ITEM | PART No | DESCRIPTION | PITCH | WHEEL | CHAIN LINK FINISH | WHEELS PER FT | SEGMENT LENGTH | LENGTH W/CONN LINK | CONN LINK PART No | DIM A | DIM B | DIM C | DIM D | DIA E | DIM F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CH60-80 | CONVEYOR CHAIN | 8" | OPEN | BARE | 6 | 120" | 128" | CH60-80-CL | 4.3" | 3.7" | 1.5" | 1.2" | 0.4" | 1.3" |
| 2 | CH60-8S | | | SEALED | | | | | CH60-8S-CL | | | | | | |
| 3 | CH60-60 | | 6" | OPEN | BARE | 8 | 114" | 120" | CH60-60-CL | 3.3" | 2.7" | 1.2" | 0.6" | | |
| 4 | CH60-6S | | | SEALED | | | | | CH60-6S-CL | | | | | | |
| 5 | CH60-XX-ZP | CHAIN LINK w/PIN SUB-ASSEMBLY AVAILABLE FOR PLATING | | | ZINC PLATED | | | | | | | | | | |
| 6 | CH60-XX-NP | | | | NICKEL PLATED | | | | | | | | | | |
| NOTE: OPEN WHEELS CAN ALSO BE PLATED | | | | | | | | | | | | | | | |

ALL CHAIN SEGMENTS COME WITH A CONNECTING LINK

| | SEE CHART | CONNECTING LINK | |
|---|---|---|---|
| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |

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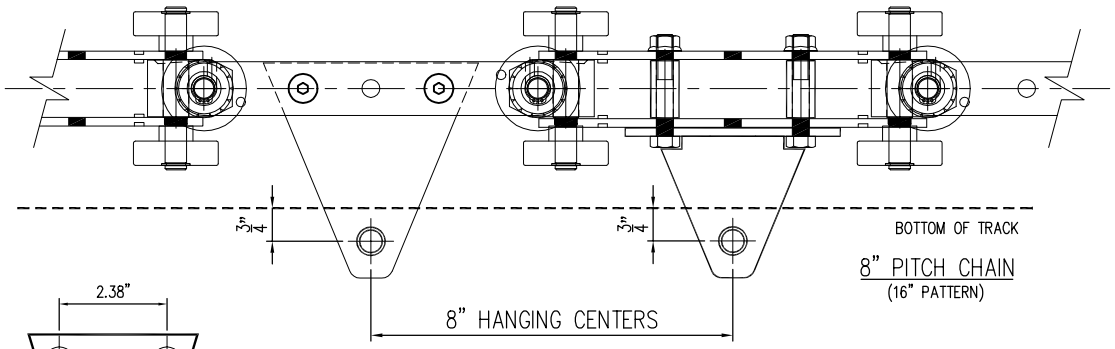
PACMAX ENCLOSED TRACK - ENGINEERING MANUAL - GEN II

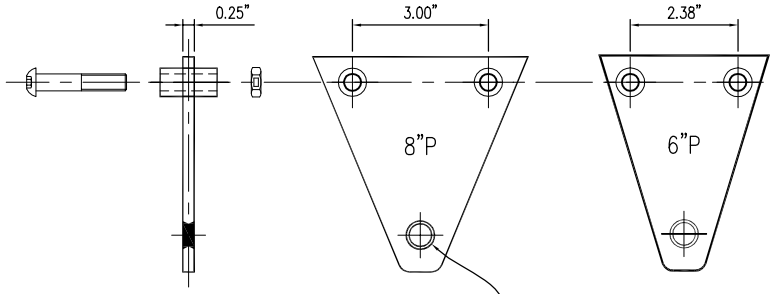
| | |
|---|---|
| DRAWN BY | |
| DATE | AUG-2020 |
| APPR'D BY | |
| SCALE | NTS |

DRAWING NAME: 'OPEN WHEEL' CONVEYOR CHAIN
PART NUMBER: CH60-CHART
DRAWING NUMBER: 306
REV: A

ALL PENDANTS ARE ZINC PLATED

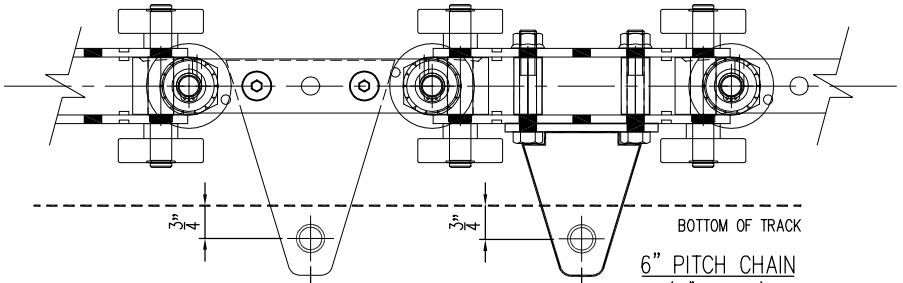



8" PITCH CHAIN
(16" PATTERN)

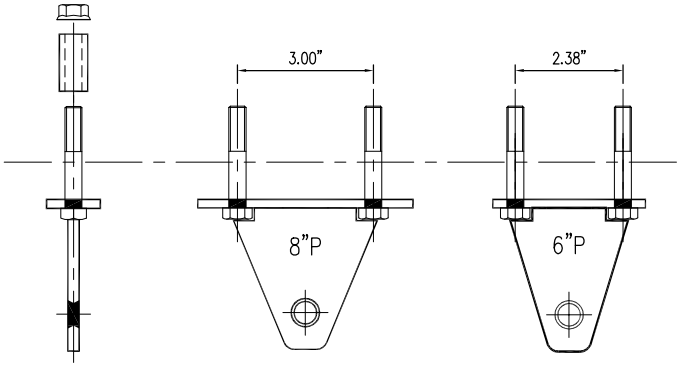



INNER PENDANTS
(STANDARD OFFERING)

LOAD POINT HOLES ARE
ø½" AND CHAMFERED




6" PITCH CHAIN
(12" PATTERN)




OUTER PENDANTS
(IF REQUIRED TO
ACHIEVE PART SPACING)

| ITEM | PART No | DESCRIPTION | CHAIN PITCH | STYLE |
|---|---|---|---|---|
| 1 | PT60-601 | SINGLE HOLE PENDANT | 6" | OUTER |
| 2 | PT60-611 | SINGLE HOLE PENDANT | 6" | INNER |
| 3 | PT60-801 | SINGLE HOLE PENDANT | 8" | OUTER |
| 4 | PT60-811 | SINGLE HOLE PENDANT | 8" | INNER |

PENDANTS COME COMPLETE WITH MOUNTING HARDWARE SHOWN

| | | | |
|---|---|---|---|
| OUTER | | NUT - 3/8-16NC SERRATED FLANGE | |
| OUTER | | SPACER TUBE | |
| INNER | | NUT - 3/8-16NC LOCKING JAM NUT | |
| INNER | | BOLT - 3/8-16NC BHCS x 2" LG | |
| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |

| REV | DATE | DESCRIPTION | REV'D BY |
|---|---|---|---|
| B | SEP-2022 | CORRECTED MOUNTING HW FOR VERT LINK ASSEMBLY | |
| A | AUG-2020 | GEN II RELEASE | |



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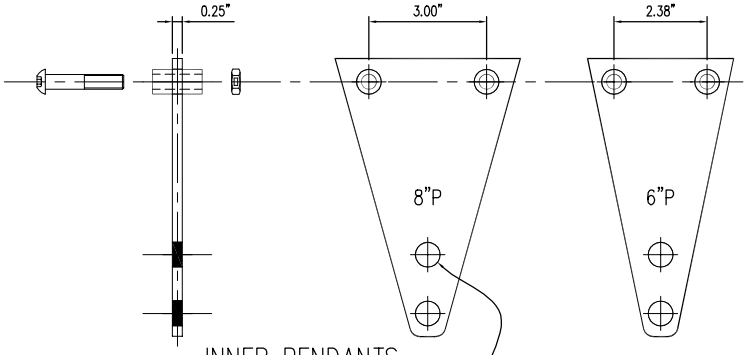
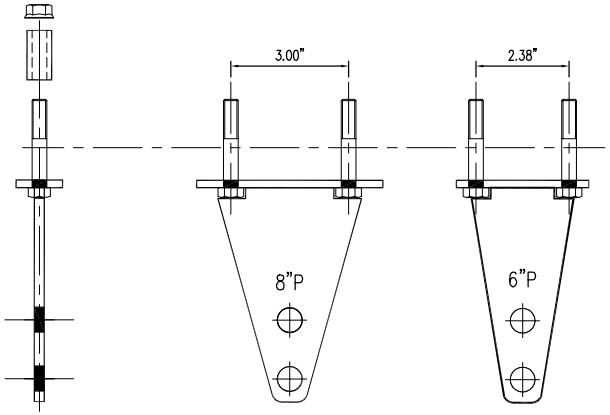
| | | | | |
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX SINGLE HOLE PENDANT | |
| DATE | AUG-2020 | | | |
| APPR'D BY | | PART NUMBER: | PT60-CHART | DRAWING NUMBER: 307 |
| SCALE | NTS | | | REV B |

ALL PENDANTS ARE ZINC PLATED

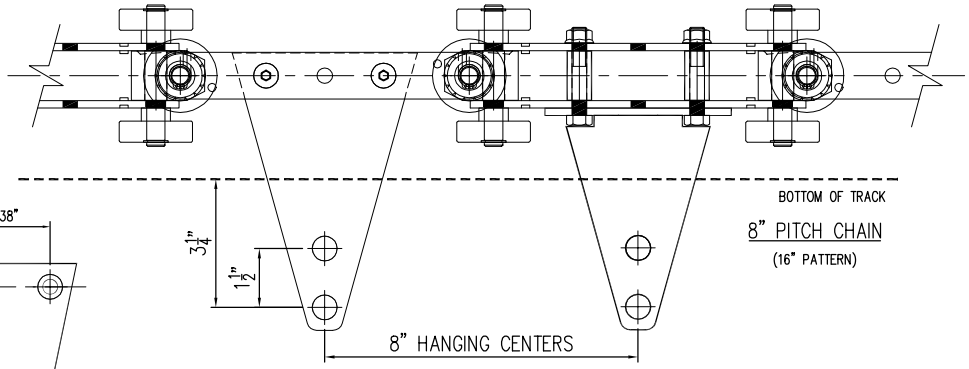



INNER PENDANTS
(STANDARD OFFERING)

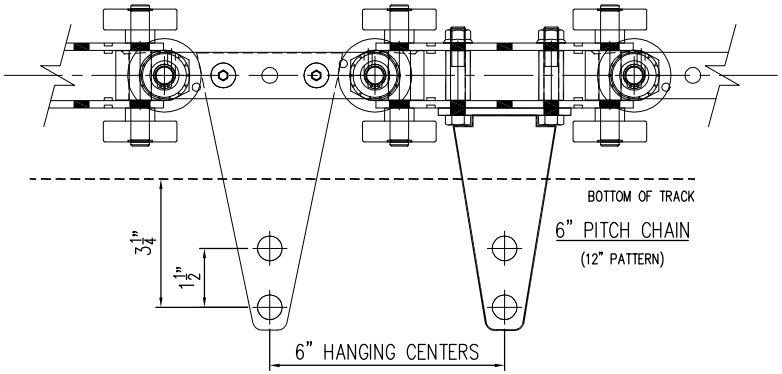
LOAD POINT HOLES
ARE ø5⁄8"




OUTER PENDANTS
(IF REQUIRED TO
ACHIEVE PART SPACING)




8" PITCH CHAIN
(16" PATTERN)




6" PITCH CHAIN
(12" PATTERN)

| ITEM | PART No | DESCRIPTION | CHAIN PITCH | STYLE |
|---|---|---|---|---|
| 1 | PT60–602 | DOUBLE HOLE PENDANT | 6" | OUTER |
| 2 | PT60–612 | DOUBLE HOLE PENDANT | 6" | INNER |
| 3 | PT60–802 | DOUBLE HOLE PENDANT | 8" | OUTER |
| 4 | PT60–812 | DOUBLE HOLE PENDANT | 8" | INNER |

TYPICALLY USED ON
SYSTEMS THAT REQUIRE
NON-PIVOTING CARRIERS

PENDANTS COME COMPLETE WITH MOUNTING HARDWARE SHOWN

| | | | |
|---|---|---|---|
| OUTER | | NUT – 3/8–16NC SERRATED FLANGE | |
| OUTER | | SPACER TUBE | |
| INNER | | NUT – 3/8–16NC LOCKING JAM NUT | |
| INNER | | BOLT – 3/8–16NC BHCS x 2" LG | |
| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |

| REV | DATE | DESCRIPTION | REV'D BY |
|---|---|---|---|
| B | SEP–2022 | CORRECTED MOUNTING HW FOR VERT LINK ASSEMBLY | |
| A | AUG–2020 | GEN II RELEASE | |



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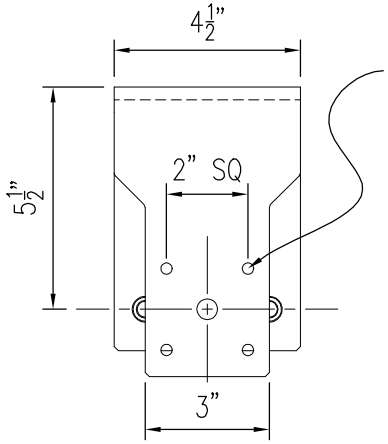
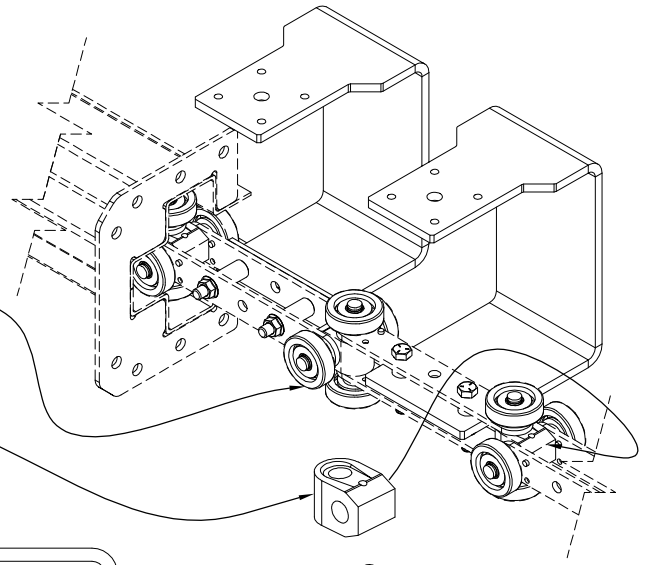
| | | | | |
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX DOUBLE HOLE PENDANT | |
| DATE | AUG–2020 | | | |
| APPR'D BY | | PART NUMBER: | PT60–CHART | DRAWING NUMBER: 308 |
| SCALE | NTS | | | REV B |

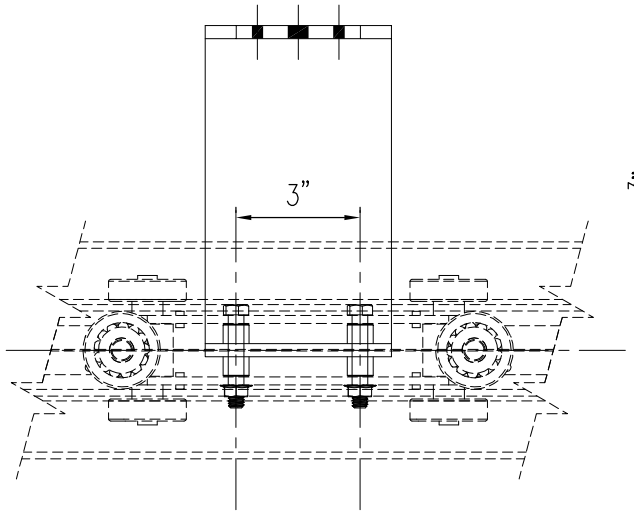


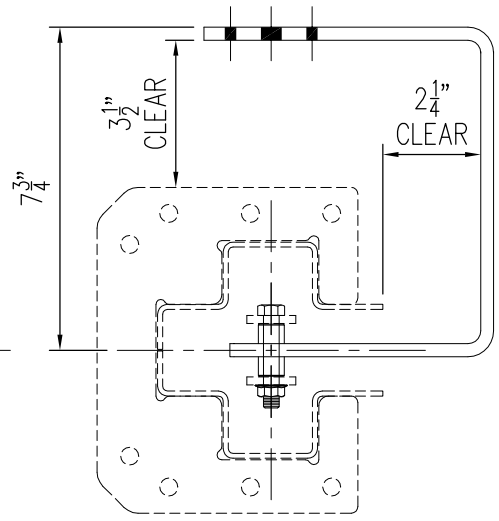

C–PENDANT HAS MOUNTING HOLES PROVIDED FOR PRODUCT CARRIER/TRAY

8" PITCH CHAIN WITH PENDANTS SHOWN 8" APART

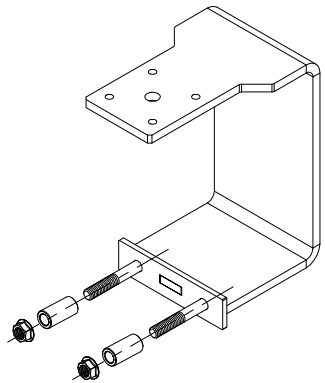
NOTE: ALL CHAIN BLOCK LUBRICATION HOLES TO BE FACE UP





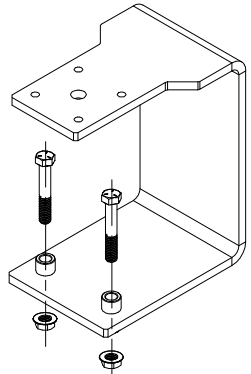




USED FOR SLOT SIDEWAY APPLICATIONS



OUTER PENDANT

(MOUNTED TO THE 'OUTSIDE' OF THE CHAIN LINK)



INNER PENDANT

(MOUNTED TO THE 'INSIDE' OF THE CHAIN LINK)

| ITEM | PART No | DESCRIPTION | CHAIN PITCH | STYLE |
|---|---|---|---|---|
| 1 | PT60–603 | 'C' PENDANT | 6" | OUTER |
| 2 | PT60–613 | 'C' PENDANT | 6" | INNER |
| 3 | PT60–803 | 'C' PENDANT | 8" | OUTER |
| 4 | PT60–813 | 'C' PENDANT | 8" | INNER |

PENDANTS COME COMPLETE WITH MOUNTING HARDWARE SHOWN

| | | | |
|---|---|---|---|
| | | NUT – 3/8–16NC SERRATED FLANGE | |
| | | BOLT – 3/8–16NC HHCS x 2–1/4" LG | |
| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |

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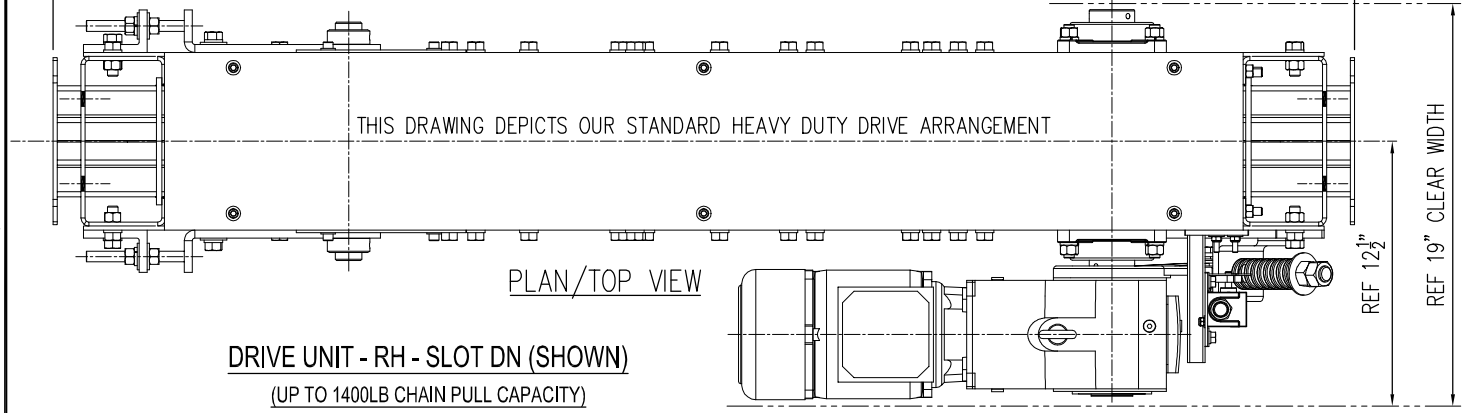
| | | | | |
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | 'C' TYPE PENDANT | |
| DATE | AUG–2020 | | | |
| APPR'D BY | | PART NUMBER: | PT60–CHART | DRAWING NUMBER: 309 |
| SCALE | NTS | | | REV A |

61 3/8" OVERALL LENGTH

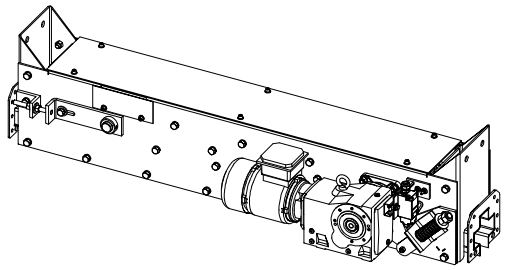



PLAN/TOP VIEW

**DRIVE UNIT - RH - SLOT DN (SHOWN)**

(UP TO 1400LB CHAIN PULL CAPACITY)

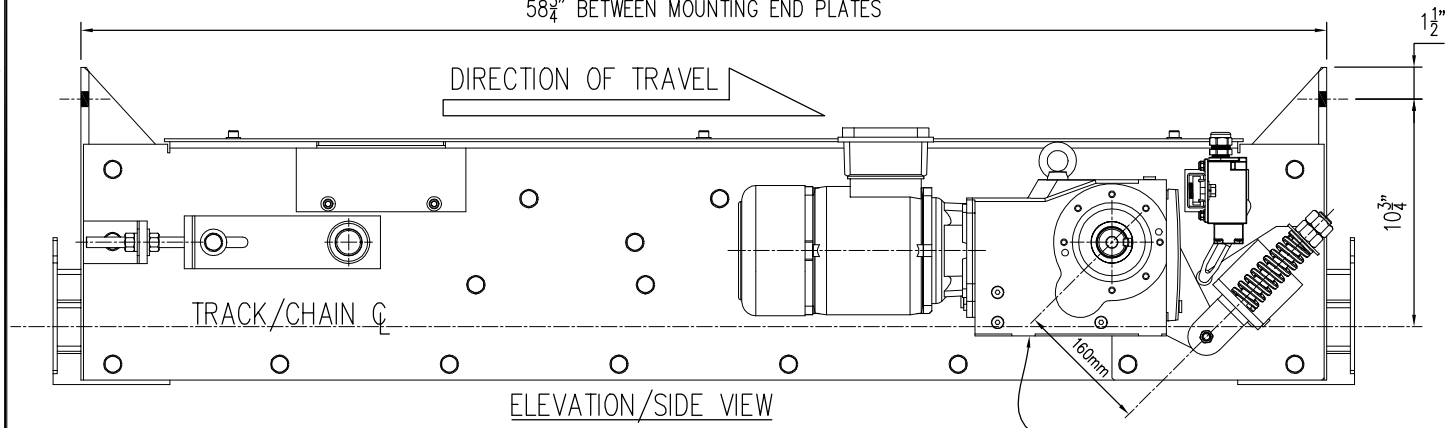
(with NORD GEAR-MOTOR)



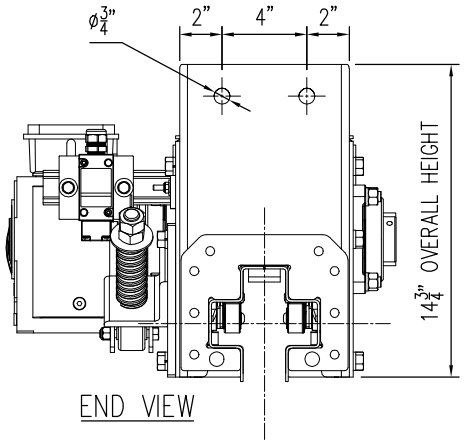
**FOR SLOT SIDEWAYS:**

1) AN ADDITIONAL CAT CHAIN GUIDE, THRUST BEARINGS AND RETAINING BOLTS ARE INCLUDED IN THE ASSEMBLY
2) PLEASE INDICATE GEARMOTOR POSITION EITHER UNDERSLUNG OR OVERSLUNG

58 3/4" BETWEEN MOUNTING END PLATES




ELEVATION/SIDE VIEW




END VIEW

| | | DRIVE STYLE | | OPTIONS | | |
|---|---|---|---|---|---|---|
| ITEM | PART No | CHAIN PULL CAPACITY (LBS) | CHAIN PITCH | HANDING | SLOT POSITION | REVERSIBLE |
| 1 | DU60-0256 | 250 | 6 | BOTH LEFT HAND OR RIGHT HAND CAPABLE | CAPABLE OF ALL POSITIONS (DN/UP/SW) (SLOT DOWN) (SLOT UP) (SLOT SIDEWAYS) | (CONSULT PACLINE) |
| 2 | DU60-0258 | 250 | 8 | | | |
| 3 | DU60-0606 | 600 | 6 | | | |
| 4 | DU60-0608 | 600 | 8 | | | |
| 5 | DU60-1006 | 1000 | 6 | | | |
| 6 | DU60-1008 | 1000 | 8 | | | |
| 7 | DU60-1406 | 1400 | 6 | | | |
| 8 | DU60-1408 | 1400 | 8 | | | |

HD HOLLOW BORE REDUCER AND TORQUE ARM W/LIMIT SWITCH STYLE TORQUE OVERLOAD ARRANGEMENT ALLOWS UP TO 1400 LBS OF CHAIN PULL CAPACITY

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

| REV | DATE | DESCRIPTION | REV'D BY |
|---|---|---|---|
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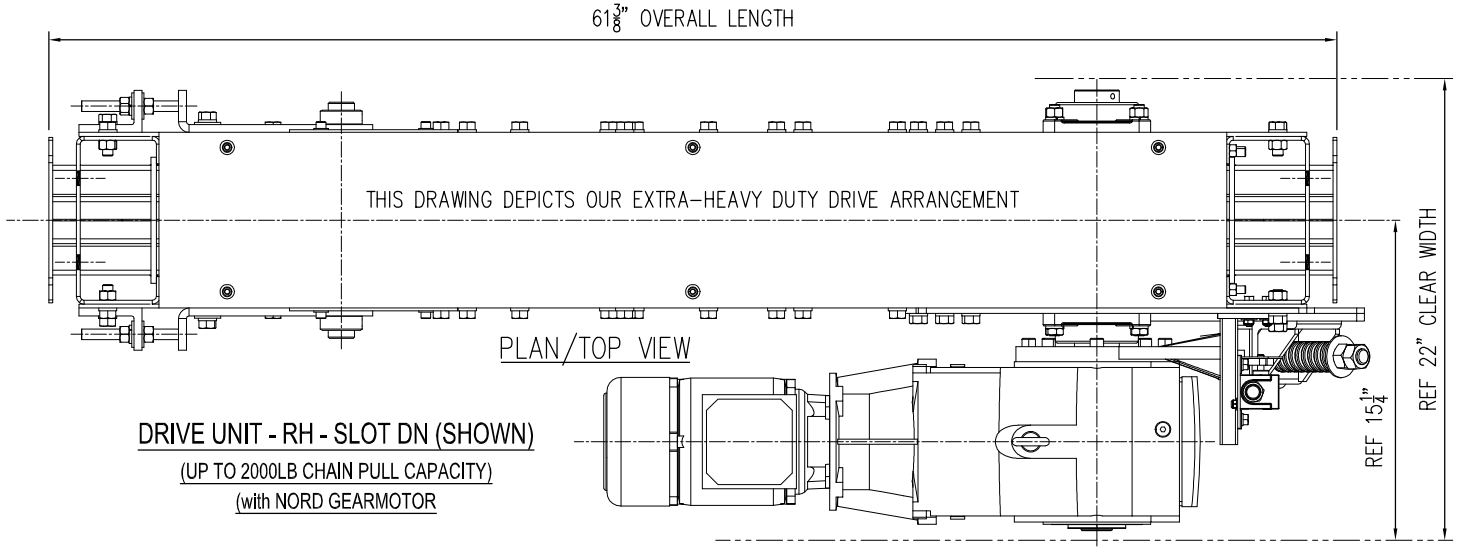
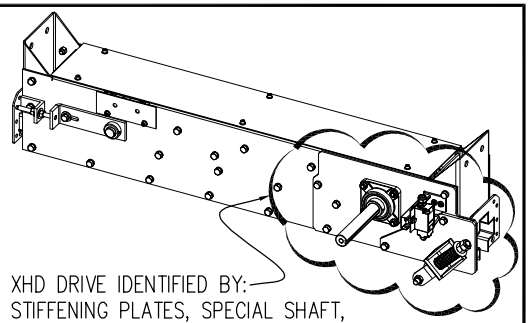
|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX HD INLINE DRIVE UNIT |
| DATE | AUG-2020 | | |
| APPR'D BY | | PART NUMBER: | DU60-CHART |
| SCALE | NTS | DRAWING NUMBER: | 310 |
| | | REV | A |



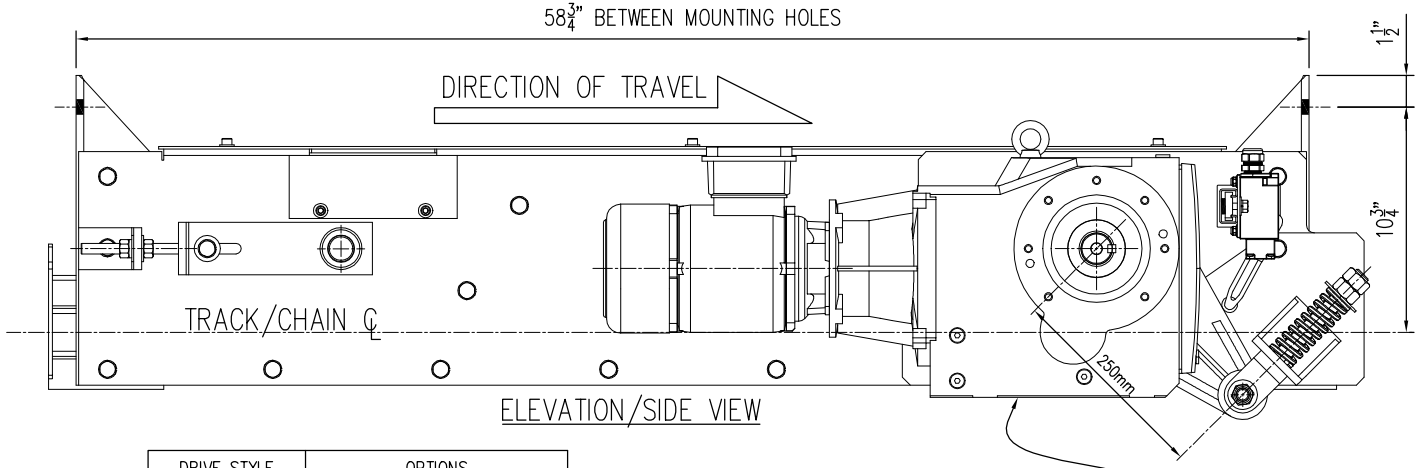
XHD DRIVE IDENTIFIED BY:
STIFFENING PLATES, SPECIAL SHAFT,
GUSSETED BRACKET & LARGER CLEVIS

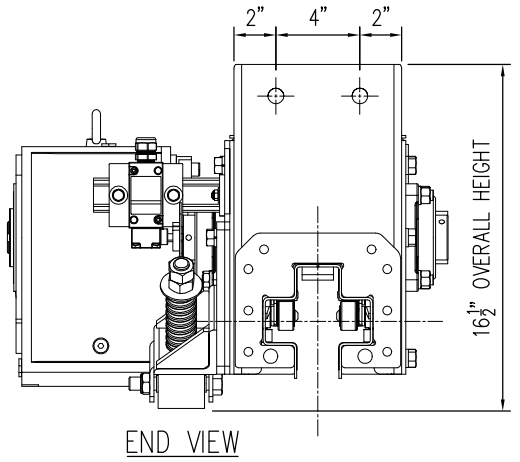
**DRIVE UNIT - RH - SLOT DN (SHOWN)**

(UP TO 2000LB CHAIN PULL CAPACITY)
(with NORD GEARMOTOR

**FOR SLOT SIDEWAYS:**

1) AN ADDITIONAL CAT CHAIN GUIDE, THRUST BEARINGS AND RETAINING BOLTS ARE INCLUDED IN THE ASSEMBLY
2) PLEASE INDICATE GEARMOTOR POSITION EITHER UNDERSLUNG OR OVERSLUNG




XHD HOLLOW BORE REDUCER AND TORQUE ARM
W/LIMIT SWITCH STYLE TORQUE LIMITER ARRANGEMENT
ALLOWS UP TO 2000 LBS OF CHAIN PULL CAPACITY

| ITEM | PART No | DRIVE STYLE: CHAIN PULL CAPACITY (LBS) | DRIVE STYLE: CHAIN PITCH | OPTIONS: HANDING | OPTIONS: SLOT POSITION | OPTIONS: REVERSIBLE |
|---|---|---|---|---|---|---|
| 1 | DU60-2006 | 2000 | 6 | BOTH LEFT HAND OR RIGHT HAND CAPABLE | CAPABLE OF ALL POSITIONS (DN/UP/SW) (SLOT DOWN) (SLOT UP) (SLOT SIDEWAYS) | (CONSULT PACLINE) |
| 2 | DU60-2008 | 2000 | 8 | | | |
| | | | | | | |
| | | | | | | |

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | | |

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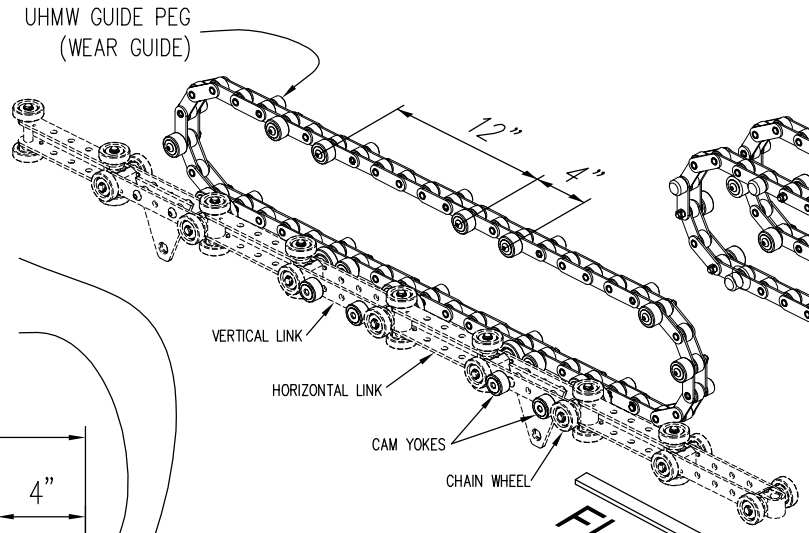
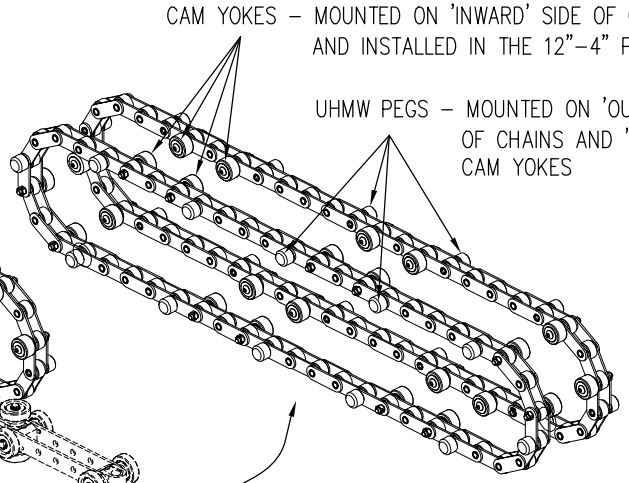
| | | | |
|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX XHD INLINE DRIVE UNIT |
| DATE | AUG-2020 | | |
| APPR'D BY | | PART NUMBER: | DU60-CHART |
| SCALE | NTS | DRAWING NUMBER: | 311 |
| | | REV | A |

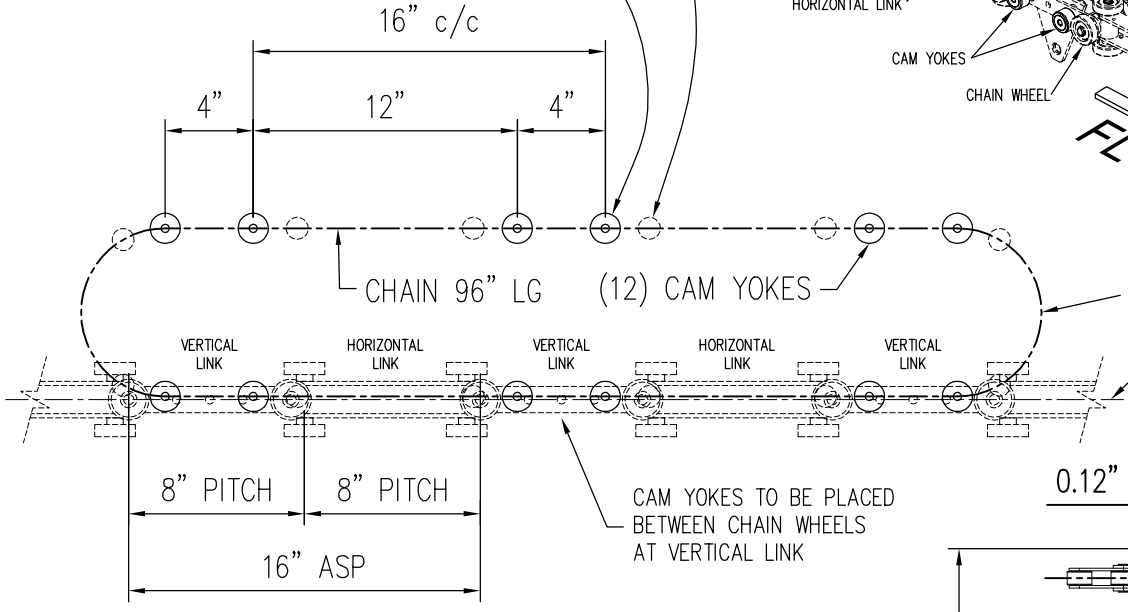
INSTALLATION INSTRUCTIONS
INSTALLER TO ENGAGE CONVEYOR CHAIN
INTO CAT CHAIN ON VERTICAL LINK



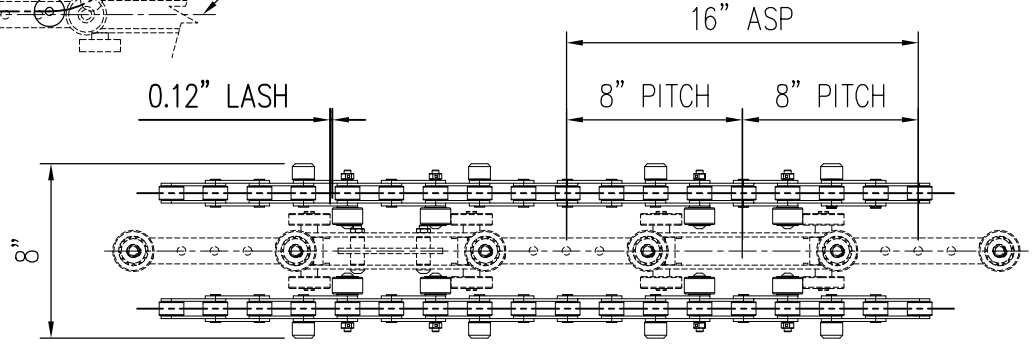



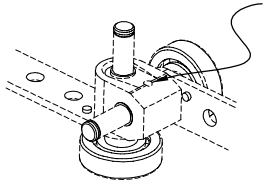

UHMW GUIDE PEGS TO BE MOUNTED ON
THE OUTWARD SIDE OF CHAINS

CAM YOKES ARE MOUNTED TO
THE INWARD SIDE OF CHAINS




THE 8" PITCH – CAT CHAIN ASSEMBLY CONSISTS OF:
(2) 8FT SEGMENTS OF 2" PITCH – HOLLOW PIN CHAIN
(2) CONNECTING LINKS
(24) CAM YOKES (PRE–ASSEMBLED TO CHAIN)
(24) UHMW GUIDE PEG (PRE–ASSEMBLED TO CHAIN)



NOTE:
CONVEYOR CHAIN BLOCK
LUBRICATION HOLES TO BE FACE UP

# 8" PITCH

**NOTE:**
**ONLY FOR SYSTEMS WITH PENDANT HARDWARE SHIPPED AFTER NOV-2022**

| REV | DATE | DESCRIPTION | REV'D BY |
|---|---|---|---|
| B | NOV–2022 | CHANGED INSTALL POSITION FROM HORIZ TO VERTICAL LINK | A.B. |
| A | AUG–2020 | GEN II RELEASE | A.B. |



| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

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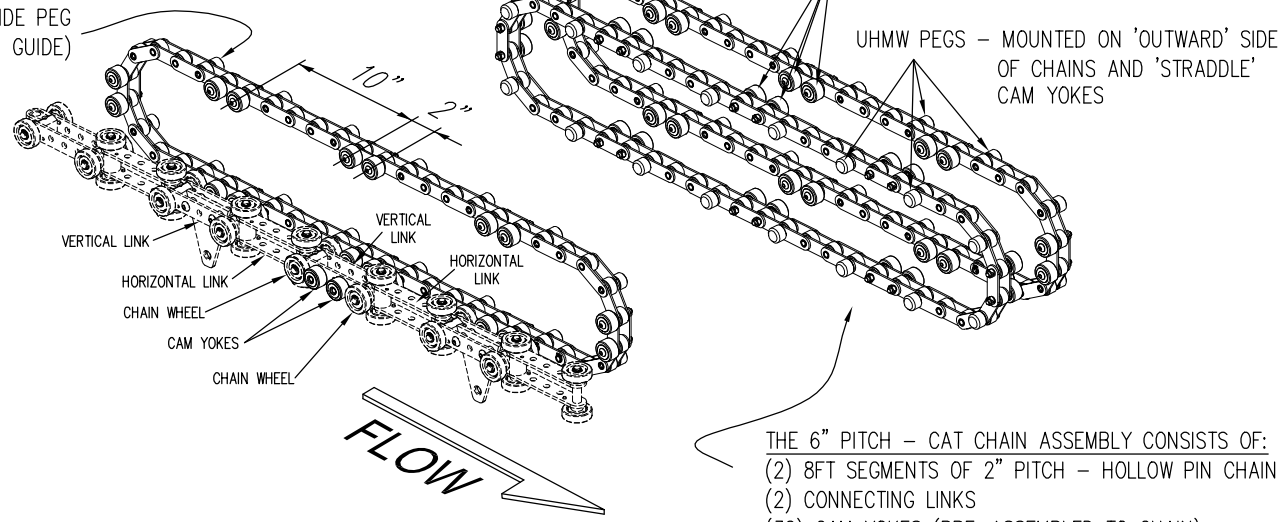
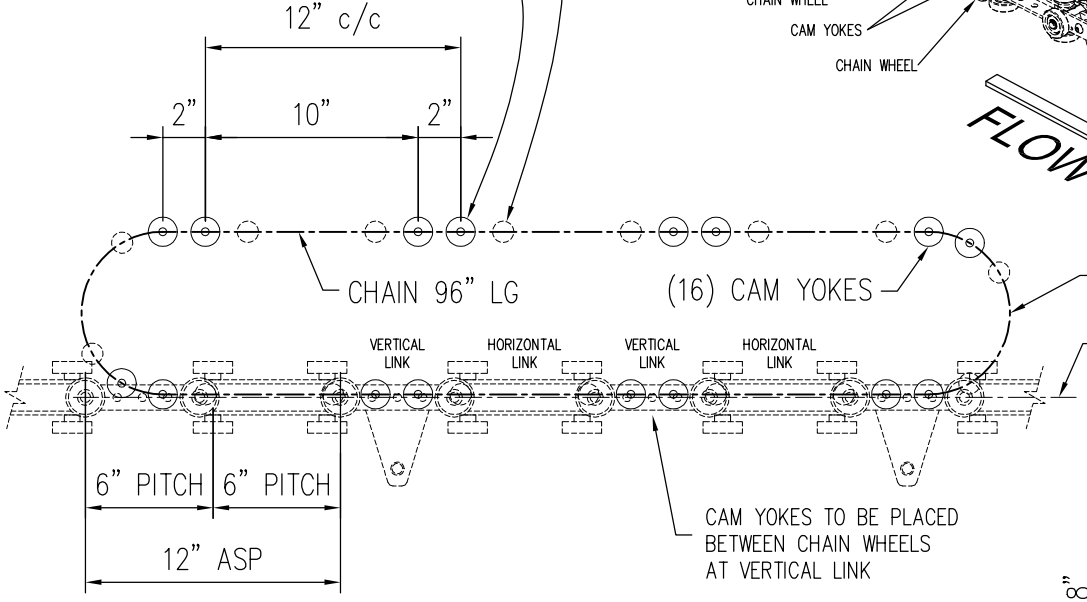
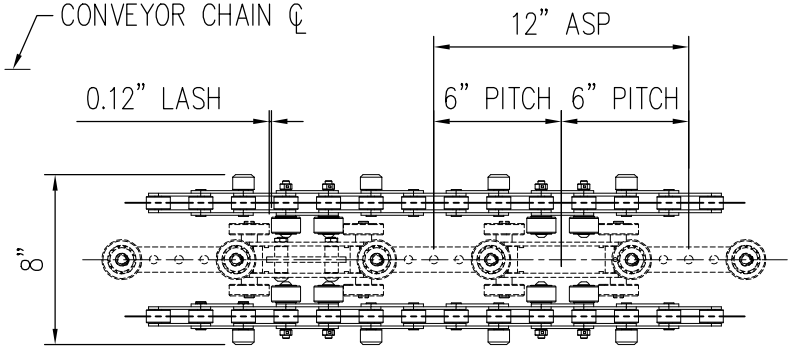
| | | | | |
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | 8" PITCH CAT CHAIN & INSTALLATION | |
| DATE | AUG–2020 | | | |
| APPR'D BY | | PART NUMBER: | CC60–8 | DRAWING NUMBER: 312 |
| SCALE | NTS | | | REV B |

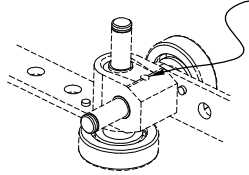
INSTALLATION INSTRUCTIONS
INSTALLER TO ENGAGE CONVEYOR CHAIN
INTO CAT CHAIN AT VERTICAL LINK




THE 6" PITCH – CAT CHAIN ASSEMBLY CONSISTS OF:
(2) 8FT SEGMENTS OF 2" PITCH – HOLLOW PIN CHAIN
(2) CONNECTING LINKS
(32) CAM YOKES (PRE–ASSEMBLED TO CHAIN)
(32) UHMW GUIDE PEGS (PRE–ASSEMBLED TO CHAIN)



NOTE:
CONVEYOR CHAIN BLOCK
LUBRICATION HOLES TO BE FACE UP

# 6" PITCH

**NOTE:**
**ONLY FOR SYSTEMS WITH PENDANT HARDWARE SHIPPED AFTER NOV-2022**

| REV | DATE | DESCRIPTION | REV'D BY |
|---|---|---|---|
| B | NOV–2022 | CHANGED INSTALL POSITION FROM HORIZ TO VERTICAL LINK | A.B. |
| A | AUG–2020 | GEN II RELEASE | A.B. |



| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

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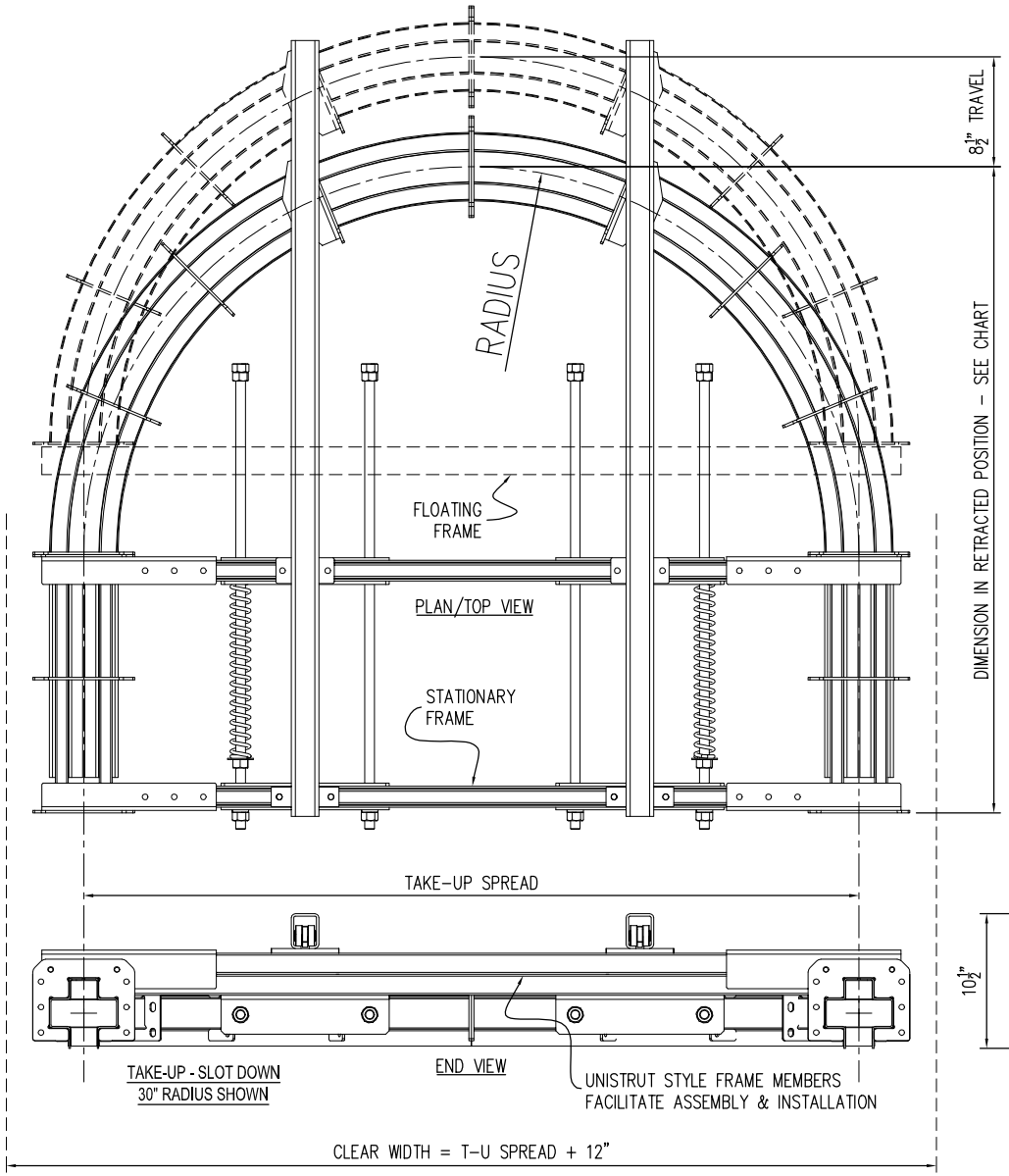
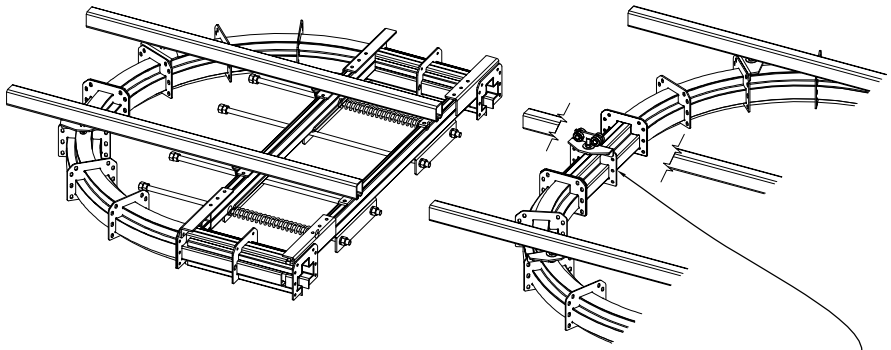
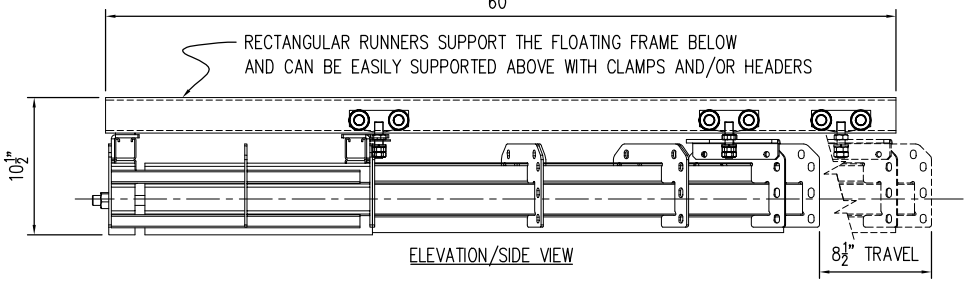
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | 6" PITCH CAT CHAIN & INSTALLATION | |
| DATE | AUG–2020 | | | |
| APPR'D BY | | PART NUMBER: | CC60–6 | DRAWING NUMBER: 313 |
| SCALE | NTS | | | REV B |



ADDING STRAIGHT TRACK BETWEEN THE CURVES INCREASES SPREAD WIDTH
NOTE THAT ADDITIONAL RUNNERS MAY BE REQUIRED TO SUPPORT THE LOAD

| | | TAKE-UP STYLES | | | | | | OPTIONS |
|---|---|---|---|---|---|---|---|---|
| ITEM | PART No | DESCRIPTION | RADIUS | RETRACTED LENGTH | MINIMUM SPREAD | ADJ. TYPE | # OF RUNNERS | SLOT POSITION | HEAVY DUTY |
| 1 | TU60-24SC | 180° TAKE-UP | 24" | 44" | 48" | SCREW | 2 | SLOT DOWN<br>SLOT UP<br>SLOT INSIDE<br>SLOT OUTSIDE<br><br>(ALL CAPABLE OF ANY RADIUS OR ADJUSTMENT TYPE) | UNISTRUT FRAME MEMBERS ARE REPLACED WITH GUSSETED FORMED ANGLES<br><br>CURVES HAVE ADDITIONAL FLANGES<br><br>EXTRA RUNNER(S) |
| 2 | TU60-24SP | | | | | SPRING | | | |
| 3 | TU60-30SC | | 30" | 50" | 60" | SCREW | 2 | | |
| 4 | TU60-30SP | | | | | SPRING | | | |
| 5 | TU60-36SC | | 36" | 56" | 72" | SCREW | 2 | | |
| 6 | TU60-36SP | | | | | SPRING | | | |
| 7 | TU60-48SC | | 48" | 68" | 96" | SCREW | 3 | | |
| 8 | TU60-48SP | | | | | SPRING | | | |




| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | | |

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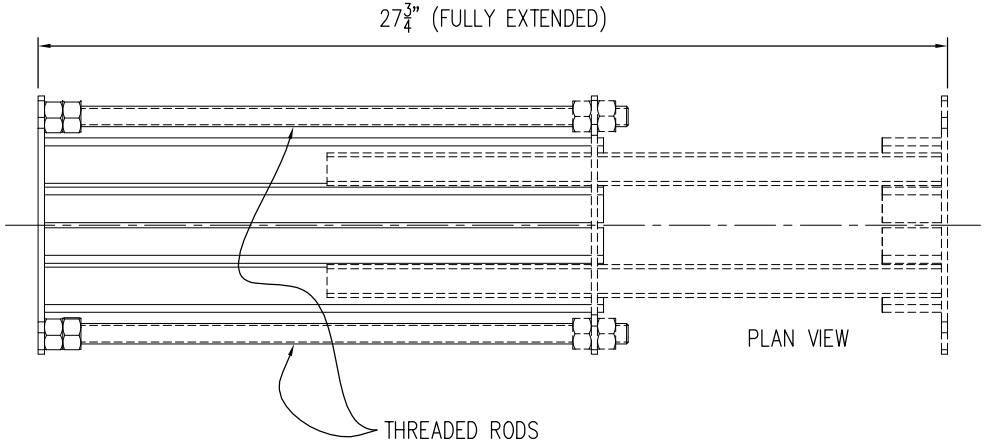
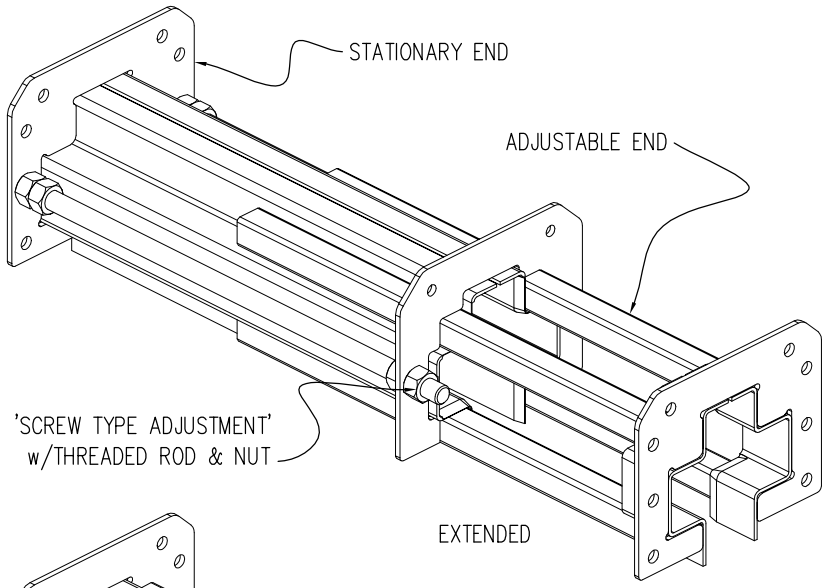
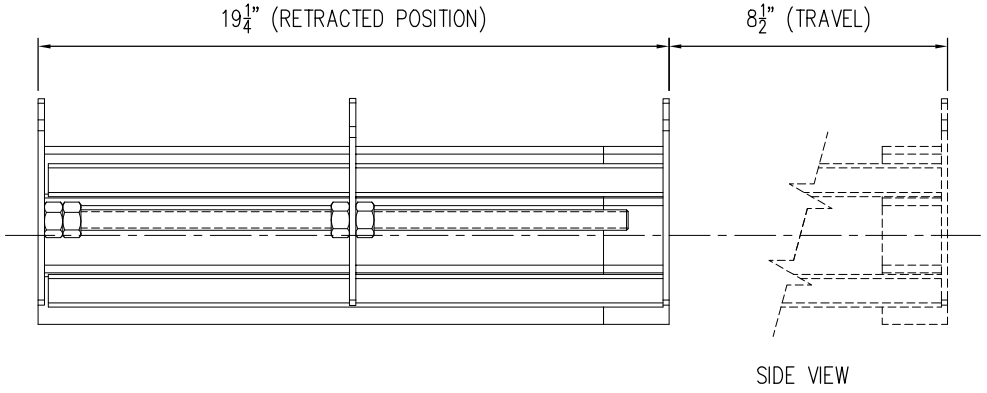
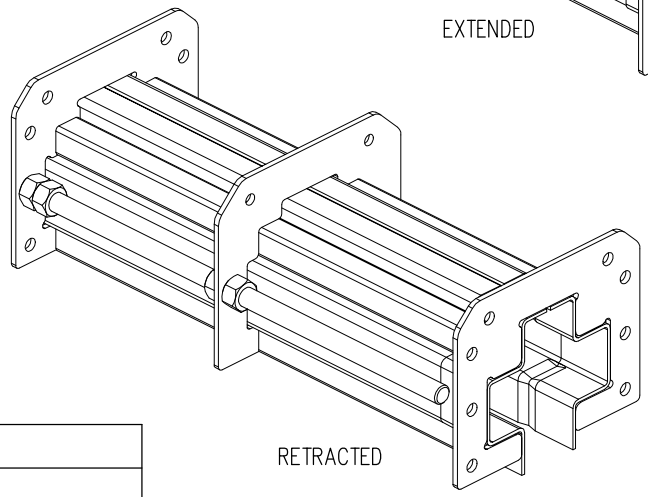
| SCALE | NTS |

DRAWING NAME: PACMAX TAKE-UP ASSEMBLY
PART NUMBER: TU60-CHART
DRAWING NUMBER: 314
REV: A




| ITEM | PART No | DESCRIPTION | STYLE | USAGE |
|---|---|---|---|---|
| 1 | ES60-500 | EXPANSION UNIT | WITHOUT THREADED RODS | USED TO TAKE UP ANY THERMAL EXPANSION WHILE IN AN OVEN ENVIROMENT |
| 2 | ES60-501 | TENSION UNIT | WITH THREADED RODS | FOR USE IN LIEU OF A TAKE-UP UNIT (SEE DRAWING 314) SUCH AS IN AN 'OVER-UNDER' SYSTEM, TOW-LINE, ALSO WHEN CLEARANCES ARE CRITICAL IN THE INVERTED POSITION |

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

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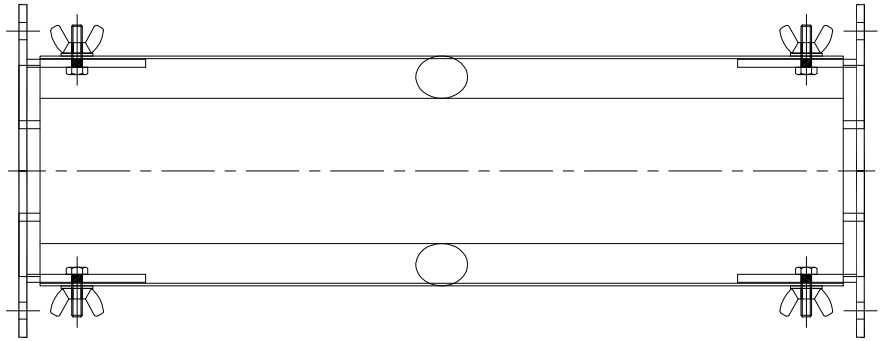
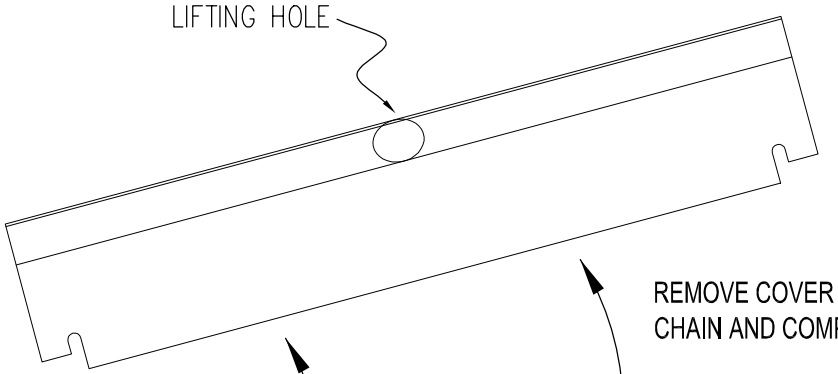
DRAWING NAME: EXPANSION SECTION/TENSION UNIT

PART NUMBER: ES60-CHART

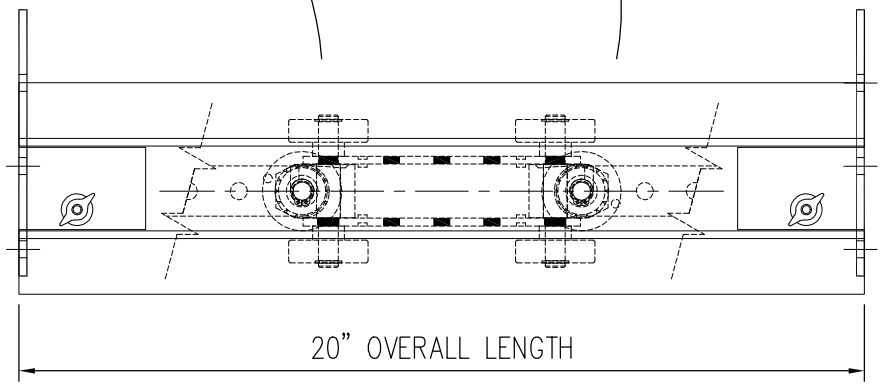
DRAWING NUMBER: 315

REV: A

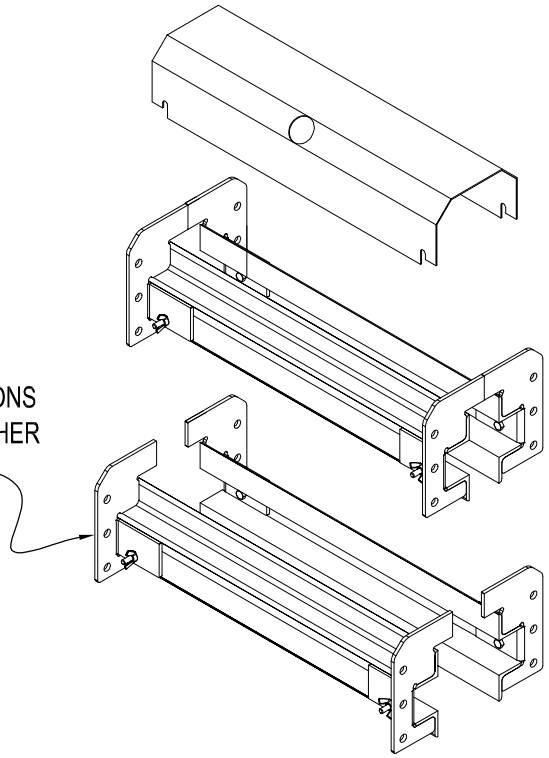




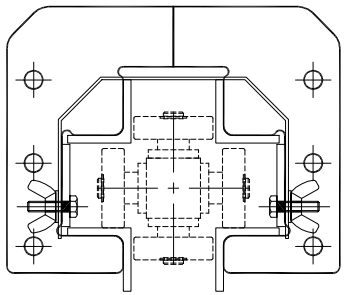

REMOVE COVER TO INSPECT
CHAIN AND COMPONENTS

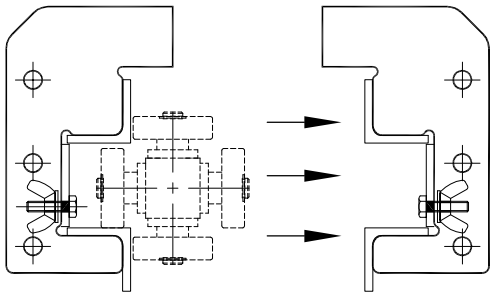



'TRACK & FLANGE' SECTIONS
ARE SPLIT TO ALLOW EITHER
SIDE TO BE REMOVED



REMOVE EITHER SIDE FOR CHAIN
INSTALLATION and/or MAINTENANCE





MAINTENANCE UNIT COMPONENTS
ARE ZINC PLATED

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | | |

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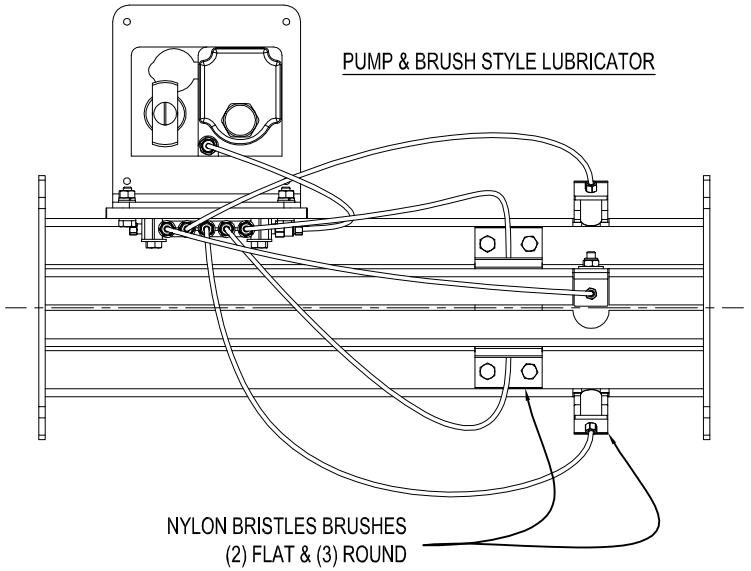
DRAWING NAME: PACMAX MAINTENANCE SECTION

PART NUMBER: MU60–20

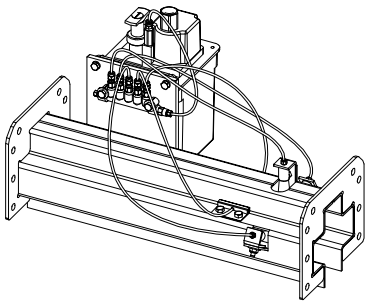
DRAWING NUMBER: 316

REV: A

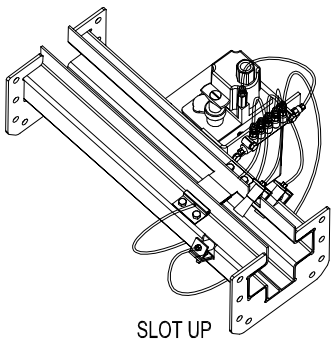
PUMP & BRUSH STYLE LUBRICATOR



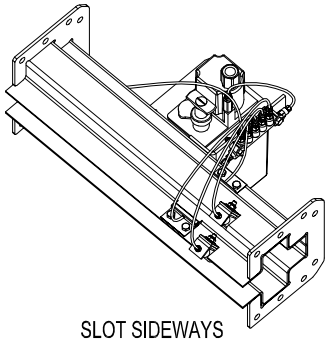
NYLON BRISTLES BRUSHES
(2) FLAT & (3) ROUND



SLOT DOWN

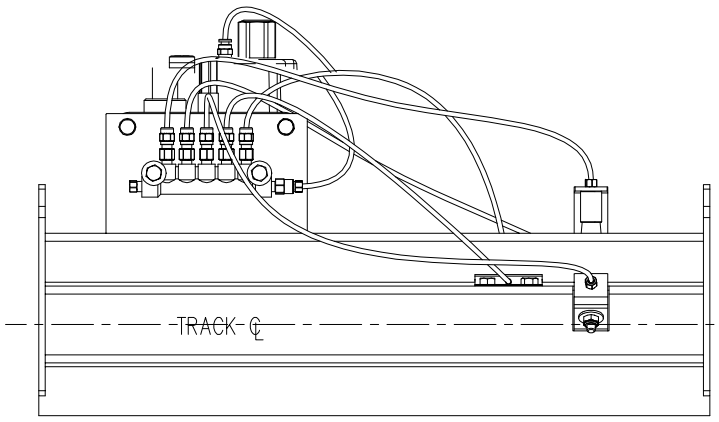


SLOT UP



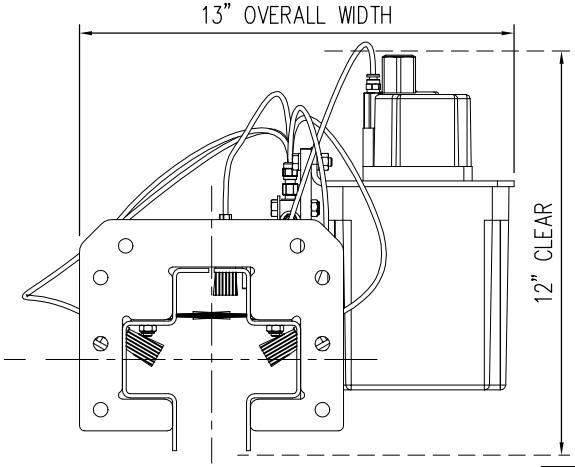
SLOT SIDEWAYS

| PART No | DESCRIPTION | PUMP VOLTAGE | RECOMMENDED LUBRICANT | SLOT POSITION |
|---|---|---|---|---|
| LB60-SD-AB | 5-BRUSH PUMP STYLE | 120 VAC<br>240 VAC | PL-30<br>PL-217 | SLOT DN |
| LB60-SD-C | 5-BRUSH PUMP STYLE | 24 VDC | PL-30<br>PL-217 | SLOT DN |
| LB60-SU-AB | 5-BRUSH PUMP STYLE | 120 VAC<br>240 VAC | PL-30<br>PL-217 | SLOT UP |
| LB60-SU-C | 5-BRUSH PUMP STYLE | 24 VDC | PL-30<br>PL-217 | SLOT UP |
| LB60-SS-AB | 5-BRUSH PUMP STYLE | 120 VAC<br>240 VAC | PL-30<br>PL-217 | SLOT SW |
| LB60-SS-C | 5-BRUSH PUMP STYLE | 24 VDC | PL-30<br>PL-217 | SLOT SW |




20" OVERALL LENGTH

SLOT DOWN - SHOWN




5-BRUSH - PUMP TYPE LUBRICATOR
FOR USE ON SYSTEMS THAT HAVE
OPEN WHEEL CONVEYOR CHAIN.
LUBRICANT IS APPLIED TO WHEELS,
CHAIN BLOCKS & PINS

OPERATION
LUBRICANT IS PUMPED TO THE
NYLON BRISTLE BRUSHES

OTHER LUBRICATOR STYLES
DRIP TYPE - SEE DRAWING 318
SHOT TYPE AVAILABLE - (c/w PROGRAMMABLE CONTROL PANEL,
RESERVOIR, PUMP, MANIFOLDS, METERING VALVES & NOZZLES)
CAN STAND ALONE OR INTERCONNECT WITH OTHER PANELS
CONTACT PACLINE FOR MORE INFORMATION

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

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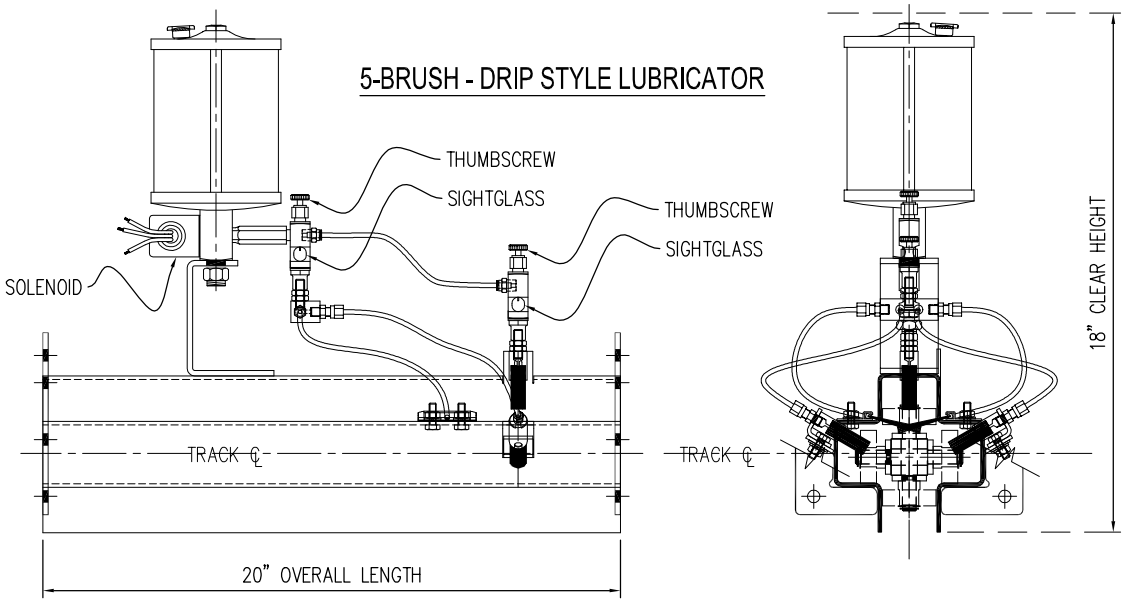
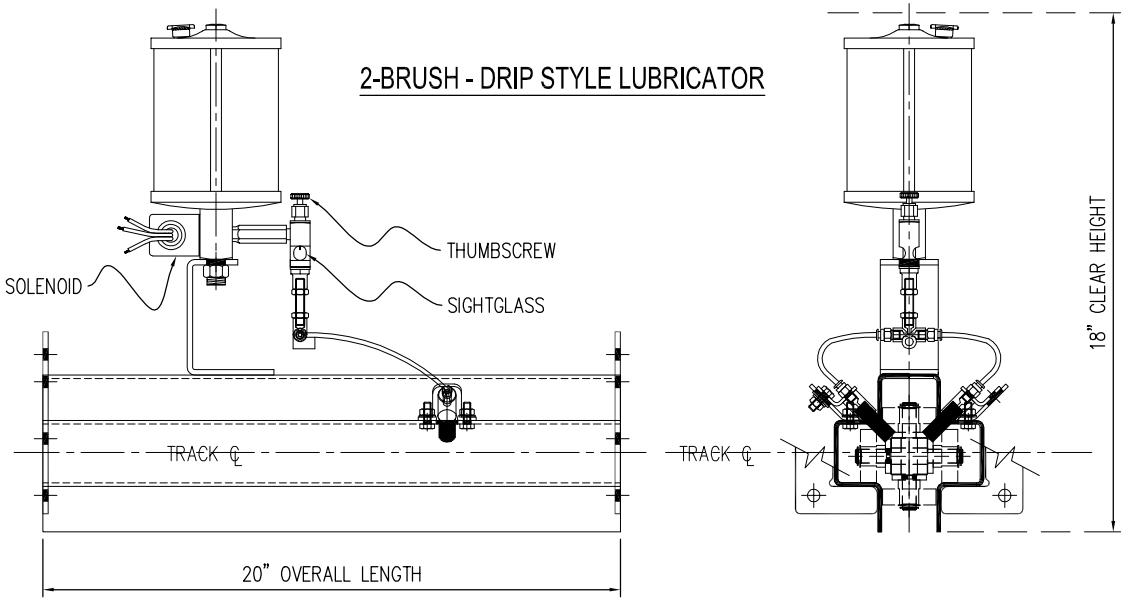
| SCALE | NTS |

DRAWING NAME: PACMAX PUMP STYLE LUBRICATOR
PART NUMBER: LB60-CHART
DRAWING NUMBER: 317
REV: A

## 5-BRUSH - DRIP STYLE LUBRICATOR




## 2-BRUSH - DRIP STYLE LUBRICATOR




| PART No | DESCRIPTION | SLOT POSITION | RECOMMENDED LUBRICANT | SOLENOID VOLTAGE |
|---|---|---|---|---|
| LB60-5BSD-A | 5-BRUSH DRIP TYPE | SLOT DOWN ONLY AVAILABLE AT TIME OF PRINTING | PL-30 OR PL-217 | 120 VAC 50Hz 60Hz |
| LB60-5BSD-B | | | | 240 VAC 50Hz 60Hz |
| LB60-5BSD-C | | | | 24 VDC |
| LB60-2BSD-A | 2-BRUSH DRIP TYPE | | PL-30 ONLY | 120 VAC 50Hz 60Hz |
| LB60-2BSD-B | | | | 240 VAC 50Hz 60Hz |
| LB60-2BSD-C | | | | 24 VDC |

5-BRUSH DRIP TYPE LUBRICATOR
FOR USE ON SYSTEMS THAT HAVE OPEN WHEEL CONVEYOR CHAIN
LUBRICANT IS APPLIED TO WHEELS, CHAIN BLOCKS & PINS

2-BRUSH DRIP TYPE LUBRICATOR
FOR USE ON SYSTEMS THAT HAVE SEALED WHEEL CONVEYOR CHAIN
LUBRICANT IS APPLIED TO CHAIN BLOCKS & PINS ONLY

OPERATION
WHEN THE SOLENOID IS ACTIVATED, GRAVITY CAUSES LUBRICANT TO FLOW.
THE FLOW IS METERED USING A THUMBSCREW & SIGHTGLASS ARRANGEMENT
AND LUBRICANT IS APPLIED VIA NYLON BRISTLE BRUSHES

OTHER LUBRICATOR OPTIONS
PUMP & BRUSH TYPE – SEE DRAWING 317
SHOT TYPE AVAILABLE – (c/w PROGRAMMABLE CONTROL PANEL,
RESERVOIR, PUMP, MANIFOLDS, METERING VALVES & NOZZLES)
CAN STAND ALONE OR INTERCONNECT WITH OTHER PANELS
CONTACT PACLINE FOR MORE INFORMATION

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
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| DATE | AUG-2020 | | | |
| APPR'D BY | | PART NUMBER: | LB60-CHART | DRAWING NUMBER: 318 REV A |
| SCALE | NTS | | | |

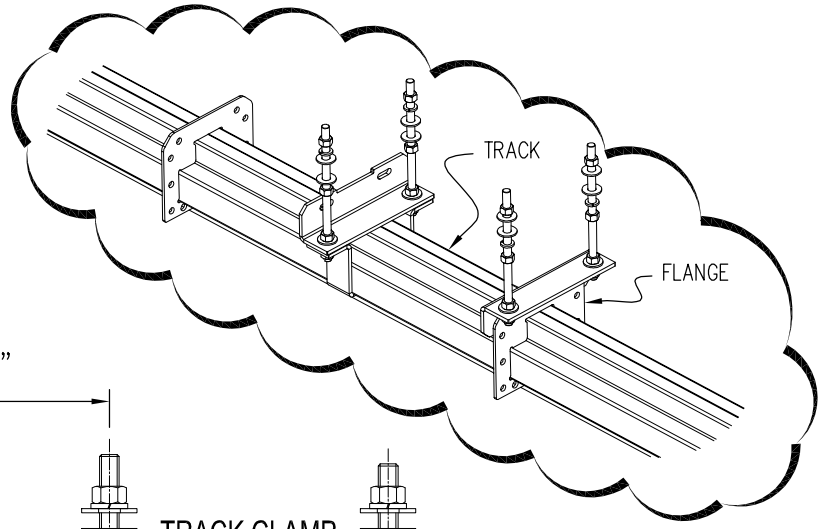
PROPER SUPPORT OF THE CONVEYOR IS CRITICAL TO THE FUNCTION & DURABILITY OF THE CONVEYOR AS WELL AS THE SAFETY OF ANY OPERATORS OR THOSE IN THE VICINITY.

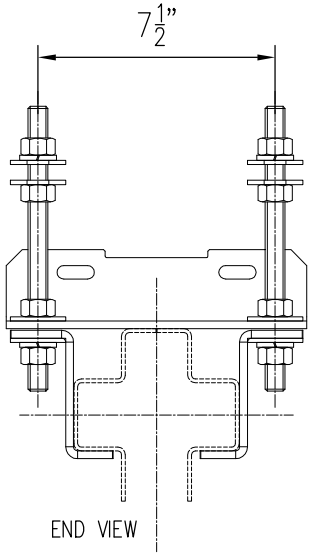
REFER TO THE PACLINE ENGINEERING MANUAL TO DETERMINE THE APPROPRIATE NUMBER OF CLAMPS AND/OR SUPPORTS REQUIRED FOR YOUR LAYOUT. PLEASE NOTE THAT ADDITIONAL CLAMPS MAY BE REQUIRED FOR BRACING.

THE TRACK CLAMP ASSEMBLY SUPPORTS THE CONVEYOR AS WELL AS THE PRODUCT BEING CONVEYED.

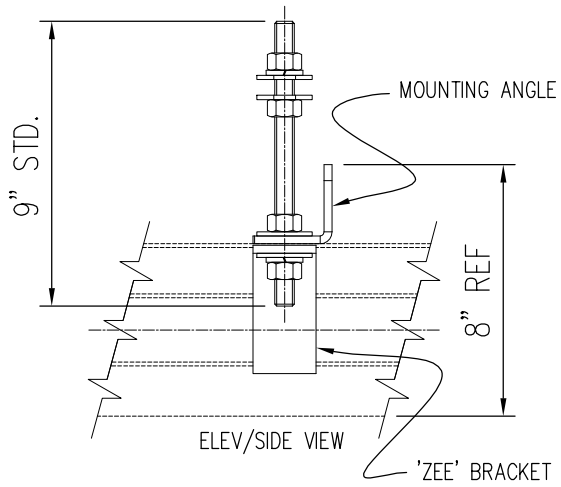
THE CLAMPS CAN BE CONFIGURED TO ATTACH TO EITHER THE TRACK OR FLANGE.

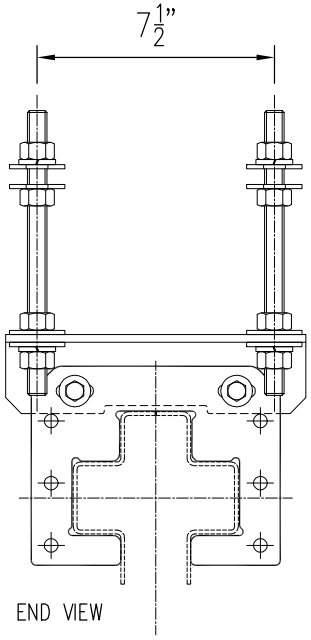
THE ASSEMBLY IS COMPRISED OF:
A MOUNTING ANGLE, (2) 'ZEE' BRACKETS AND $\frac{5}{8}$" THREADED RODS & $\frac{3}{8}$" BOLTS w/HARDWARE



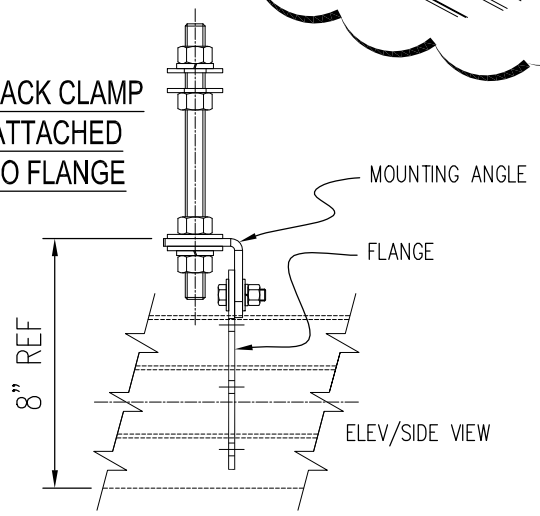




## TRACK CLAMP ATTACHED TO TRACK




## TRACK CLAMP ATTACHED TO FLANGE




ALL CLAMP COMPONENTS ARE ZINC PLATED

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|
| | | (2) BOLT – HHCS 3/8-16NC x 1-1/4" LG c/w FW's, LW's & NUTS | |
| | | (2) THREADED ROD – 5/8-11NC x 9" LG c/w FW's, LW's & NUTS | |
| | | (2) 'ZEE' BRACKETS | |
| | | (1) MOUNTING ANGLE | |

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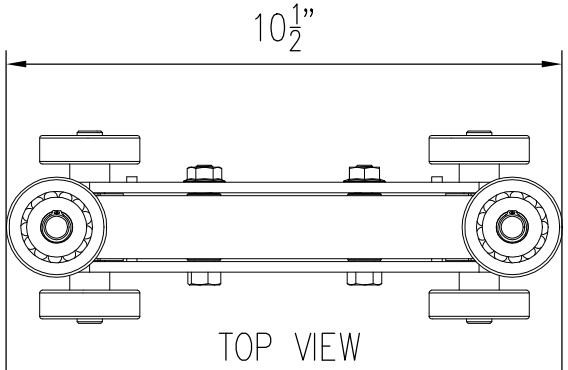
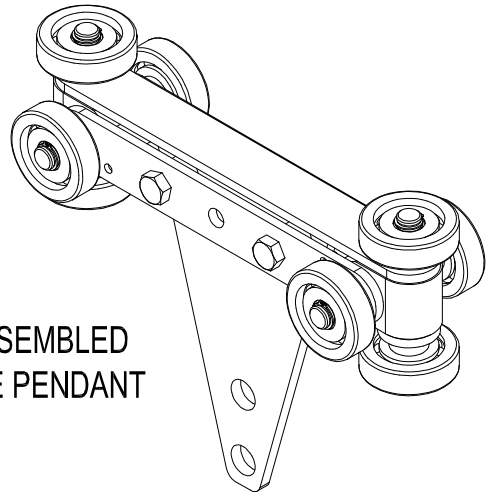
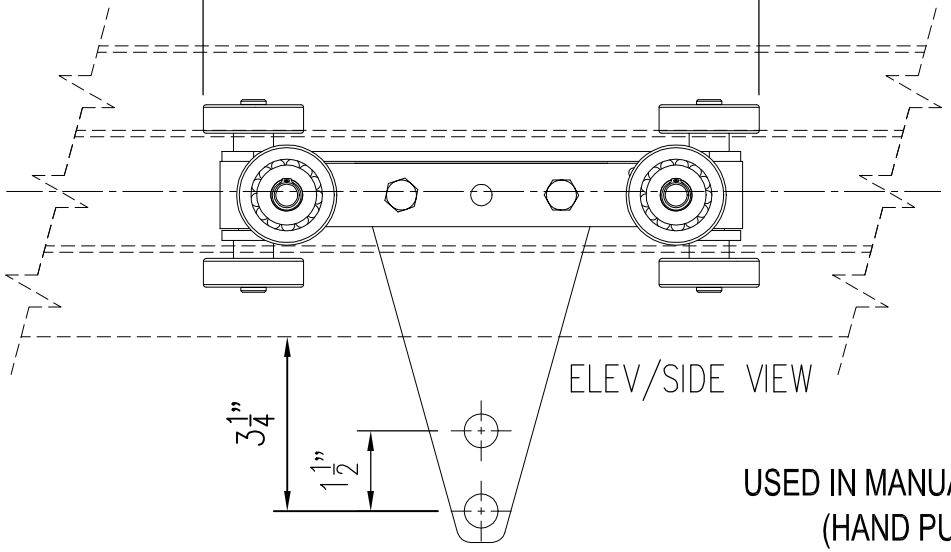
|---|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | PACMAX TRACK CLAMP | | |
| DATE | AUG-2020 | | | | |
| APPR'D BY | | PART NUMBER: | TC60-01 | DRAWING NUMBER: 319 | REV A |
| SCALE | NTS | | | | |



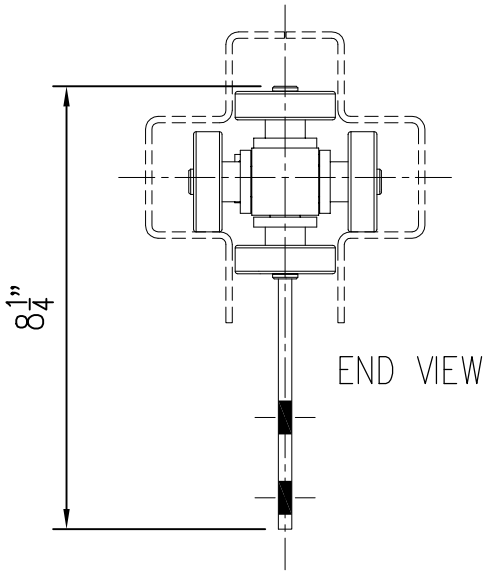

TOP VIEW



8" PITCH LINK ASSEMBLED
with DOUBLE-HOLE PENDANT




ELEV/SIDE VIEW




END VIEW

USED IN MANUAL SYSTEMS
(HAND PUSHED)

200 LB TROLLEY CAPACITY

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

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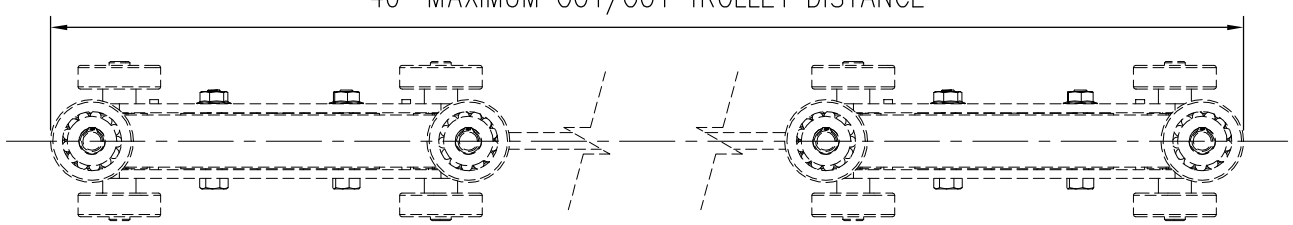
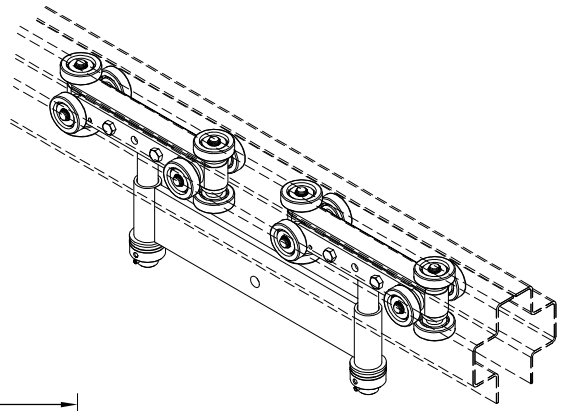
|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | SINGLE HAND PUSH TROLLEY | |
| DATE | AUG-2020 | | | |
| APPR'D BY | | PART NUMBER: | TR60-417P | DRAWING NUMBER: 320 |
| SCALE | NTS | | | REV A |

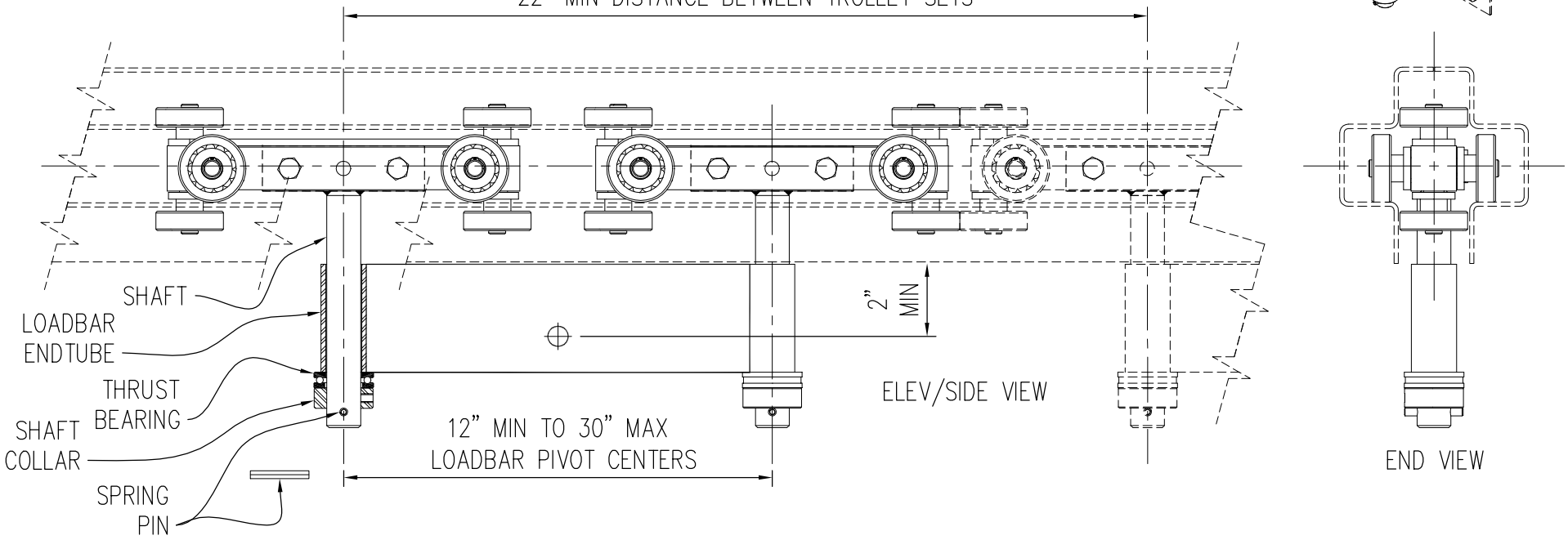
40" MAXIMUM OUT/OUT TROLLEY DISTANCE



TOP VIEW



22" MIN DISTANCE BETWEEN TROLLEY SETS




ELEV/SIDE VIEW

END VIEW

TROLLEY DISTANCE WILL VARY DEPENDING ON PRODUCT
SIZE & WEIGHTS PLUS CLEARANCE BETWEEN LOADS.
CONSULT A PACLINE ENGINEER FOR PROPER CONSTRUCTION

FOR MANUAL MONOPLANE SYSTEMS ONLY

400 LB LOAD CAPACITY

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| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
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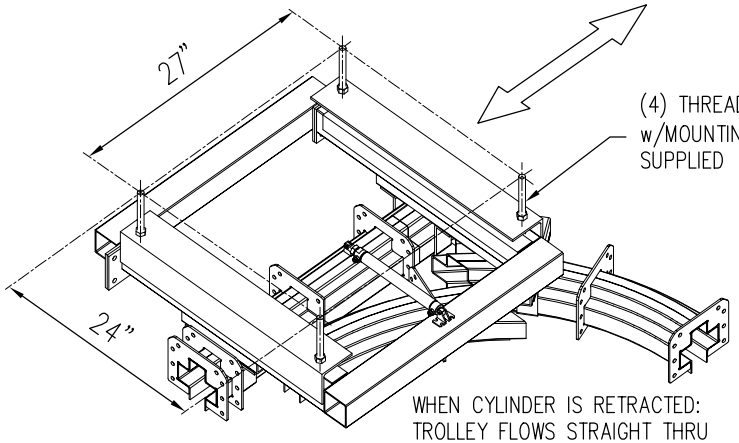
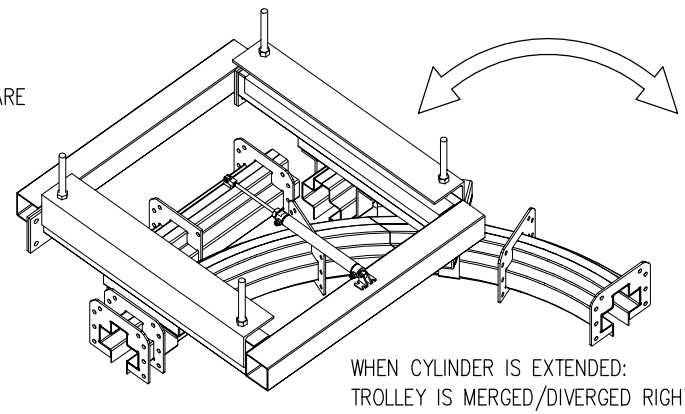
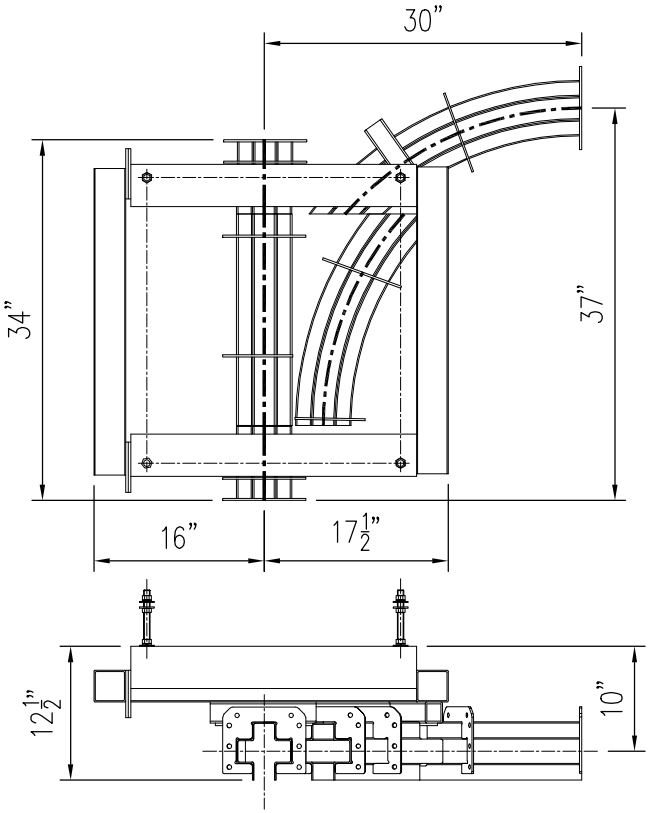
|---|---|---|---|---|---|
| DRAWN BY | | DRAWING NAME: | DUAL TROLLEY & LOAD BAR | | |
| DATE | AUG-2020 | | | | |
| APPR'D BY | | PART NUMBER: | CB60-400 | DRAWING NUMBER: | 321 |
| SCALE | NTS | | | | REV A |

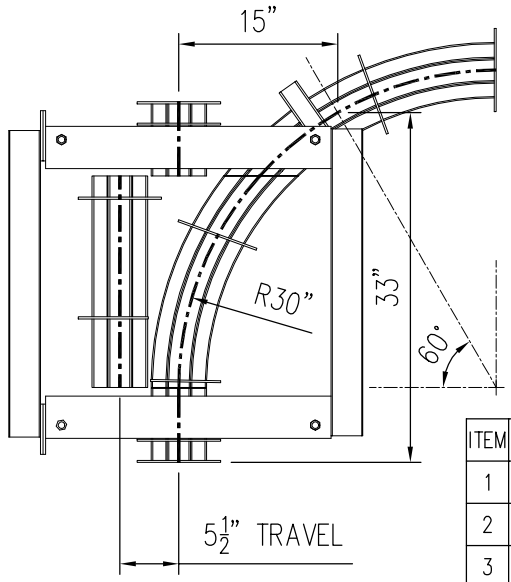



WHEN CYLINDER IS RETRACTED:
TROLLEY FLOWS STRAIGHT THRU



WHEN CYLINDER IS EXTENDED:
TROLLEY IS MERGED/DIVERGED RIGHT OR LEFT




30"R x 90° RH SHOWN

COMPLETE WITH:
PNEUMATIC CYLINDER, STANDARD
& FLOW CONTROL FITTINGS, MUFFLER,
CONTROL VALVE w/LEVER AND
30 FT OF TUBING

CUSTOMER TO PROVIDE AIR &
$\frac{3}{8}$" NPT FITTING TO CONTROL VALVE

CONSULT PACLINE ENGINEER
FOR FURTHER DETAILS

| ITEM | PART No | DESCRIPTION | RADIUS | DEGREE | HANDING |
|---|---|---|---|---|---|
| 1 | SW60-3060L | PNEUMATIC TRACK SWITCH | 30" | 60° | LH |
| 2 | SW60-3060R | | 30" | 60° | RH |
| 3 | SW60-3090L | | 30" | 90° | LH |
| 4 | SW60-3090R | | 30" | 90° | RH |

| ITEM | PART NO. | DESCRIPTION | DWG. REF. NO. |
|---|---|---|---|

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| REV | DATE | DESCRIPTION | REV'D BY |
|---|---|---|---|
| A | AUG-2020 | GEN II RELEASE | |



PACMAX ENCLOSED TRACK – ENGINEERING MANUAL – GEN II

| | |
|---|---|
| DRAWN BY | |
| DATE | AUG-2020 |
| APPR'D BY | |
| SCALE | NTS |

DRAWING NAME: PNEUMATIC TRACK SWITCH
PART NUMBER: SW60-CHART
DRAWING NUMBER: 322
REV: A