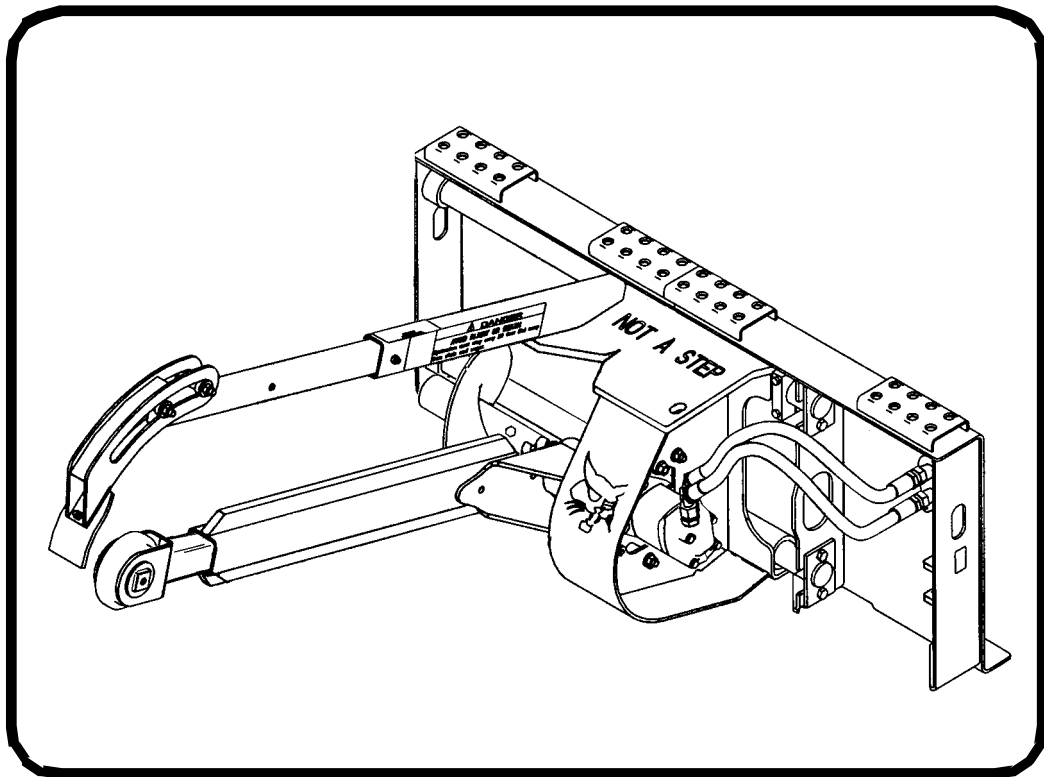




Bobcat®

Operation & Maintenance Manual Trencher

(LT213 Trencher) - S/N 045300101 & Above
(LT313 Trencher) - S/N 045400101 & Above
(LT414 Trencher) - S/N A0RS00101 & Above



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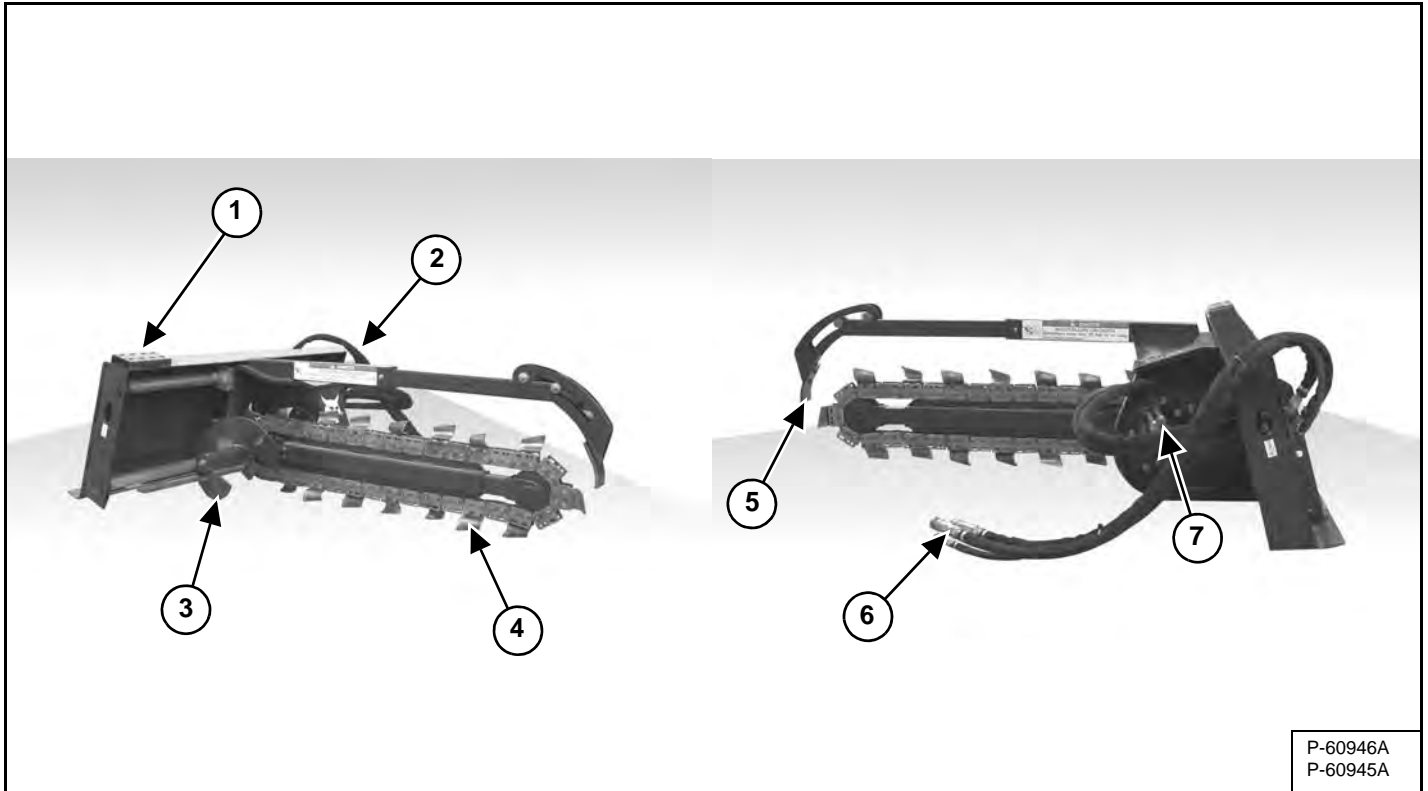


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ATTACHMENT IDENTIFICATION (CONT'D)

LT414 Trencher

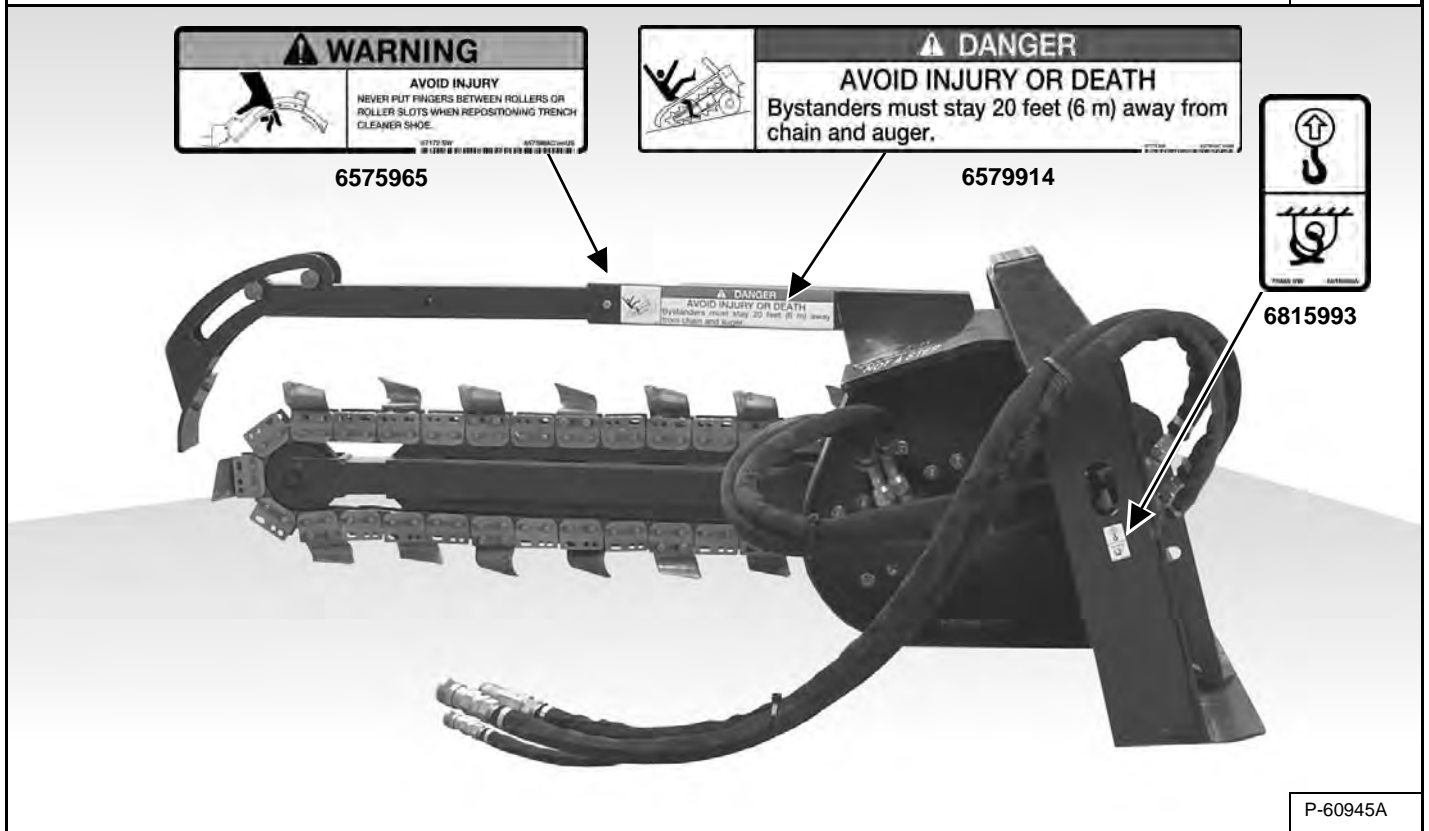
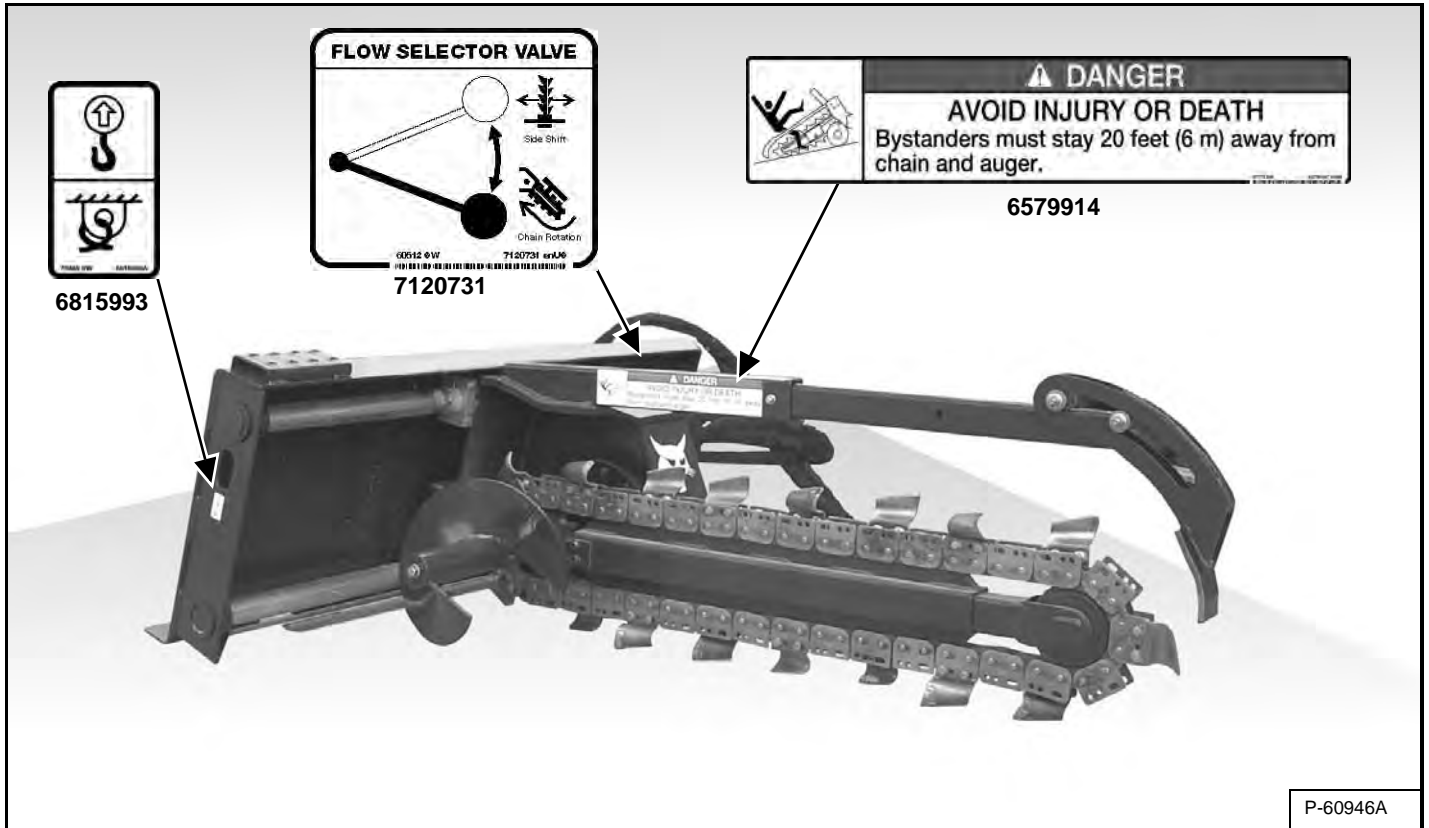


ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Step	5	Trench Cleaner Shoe
2	Side Shift Valve	6	Quick Couplers
3	Auger	7	Hydraulic Motor
4	Digging Chain		

ATTACHMENT SIGNS (DECALS) (CONT'D)

LT414 Trencher

Follow the instructions on all the Attachment Signs (Decals) that are on the attachment. Replace any damaged attachment signs and be sure they are in the correct locations. Attachment signs are available from your Bobcat dealer.



DAILY INSPECTION (CONT'D)

Bob-Tach (Cont'd)

Power Bob-Tach



AVOID INJURY OR DEATH

The Bob-Tach wedges must extend through the holes in the attachment mounting frame. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off.

W-2715-0208

Figure 22

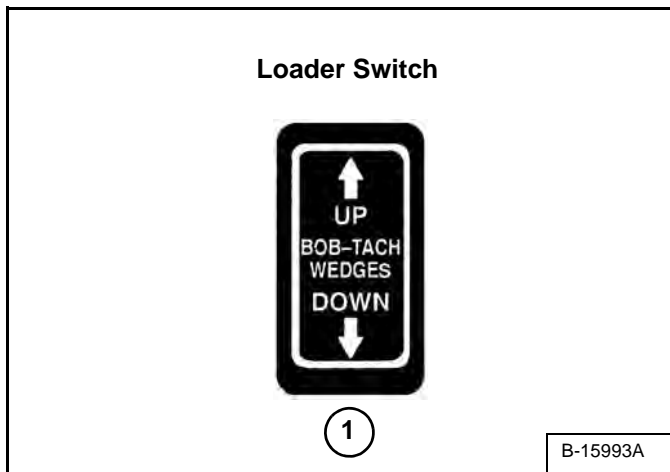


Figure 23

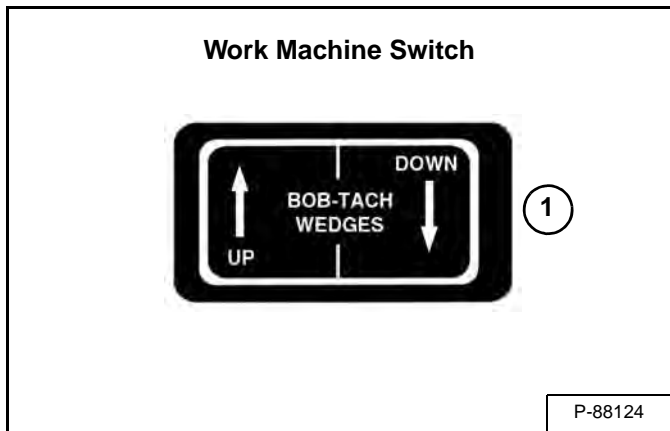
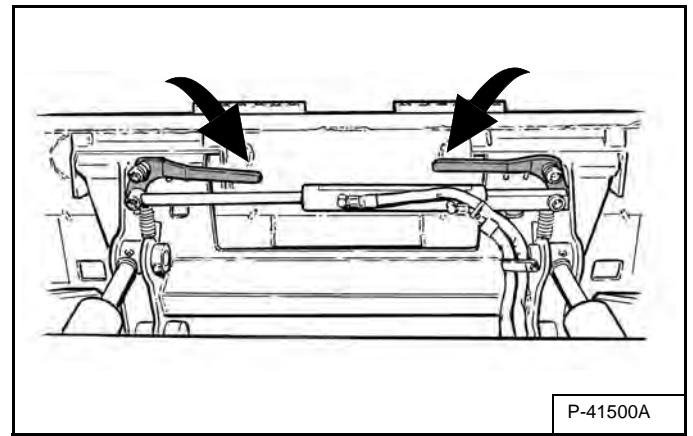
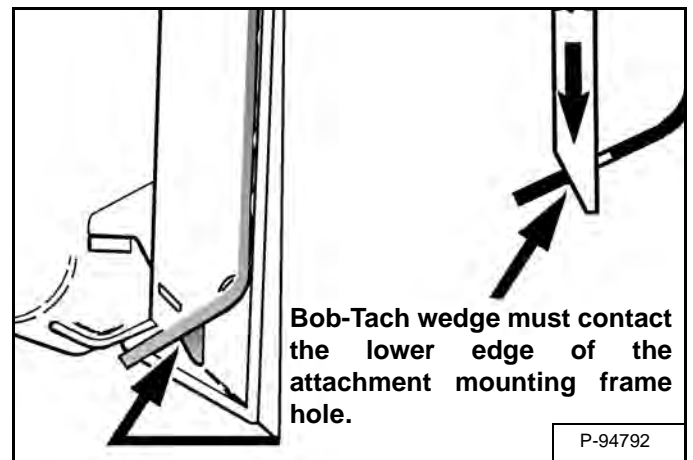


Figure 24



Push (Item 1) [Figure 22] or [Figure 23] and hold the BOB-TACH "WEDGES DOWN" switch until the levers are fully engaged in the locked position [Figure 24] (wedges fully extended through the attachment mounting frame holes).

Figure 25



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 25].

NOTE: If the wedge does not contact the lower edge of the hole, the attachment will be loose and can come off the Bob-Tach.

Inspect the mounting frame on the attachment. (See the machine's Operation & Maintenance Manual for inspecting the Bob-Tach). Replace any parts that are damaged, bent or missing. Keep all fasteners tight. Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges. (See the machine's Operation & Maintenance Manual for the correct procedure.)

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

For First Time Installation

New attachments and new loaders are factory equipped with flush face couplers. If installing an attachment equipped with poppet style couplers, the attachment couplers will have to be changed to match the loader. See your Bobcat dealer for parts information.

IMPORTANT

- **Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.**
- **Contain and dispose of any oil leakage in an environmentally safe manner.**

I-2278-0608

With the loader engine off and using the hose guides (if equipped), route the attachment hydraulic hoses to the loader. Connect the attachment hydraulic quick couplers to the loader couplers. (See Hydraulic Quick Couplers on Page 40.)

Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the loader or attachment.

NOTE: It may be necessary to loosen the quick couplers on the attachment hydraulic hoses to remove any twists in the hoses.

! WARNING

AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- **When fluids are under pressure.**
- **Flying debris or loose material is present.**
- **Engine is running.**
- **Tools are being used.**

W-2019-0907

Loosen the quick coupler connections on the attachment hydraulic hoses while connected to the loader. Do not remove the quick couplers.

Rotate the attachment hydraulic hoses as needed so the hoses are not twisted or contacting any moving parts of the loader or attachment.

With the twist(s) removed from the hydraulic hoses, tighten the attachment quick coupler connections while the couplers are still connected to the loader. This will help hold the hydraulic hoses in position while tightening.

Tighten the quick couplers connections to 63 N•m (46 ft-lb) torque before starting the loader.

Enter the loader. (See Entering And Exiting The Loader on Page 32.)

Start the engine, press the PRESS TO OPERATE LOADER button and release the parking brake.

Engage auxiliary hydraulics. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

! WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Check the attachment hydraulic quick coupler connections for leaks.

OPERATING PROCEDURE WITH VERSAHANDLERS

Approved VersaHANDLER Models And Requirements

Figure 65

VERSAHANDLER MODEL	TRENCHER
	LT313 S/N 045400101 & Above
V417	X

X = Approved

The chart [Figure 65] shows the approved trencher model for the V417 VersaHANDLER.

The warranty is void if this attachment is used on a non-approved carrier. See your Bobcat dealer for an updated list of approved carriers.



Never use attachments or buckets which are not approved by the Bobcat Company. Attachments and buckets for safe loads of specified densities are approved for each model. Unapproved attachments and buckets can cause injury or death.

W-2662-0108

Figure 66



The VersaHANDLER must be equipped with front auxiliary hydraulics [Figure 66] for proper operation of the trencher. See your Bobcat dealer for available kits.

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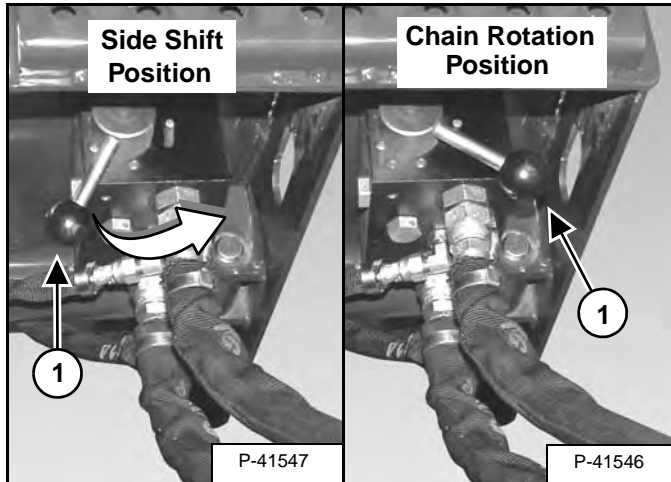
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OPERATING PROCEDURE WITH VERSAHANDLERS (CONT'D)

Operation With The VersaHANDLER (Cont'd)

Hydraulic Side Shift (Cont'd)

Figure 80



To resume normal trenching operation, move the selector valve lever (Item 1) to the chain rotation position [Figure 80].

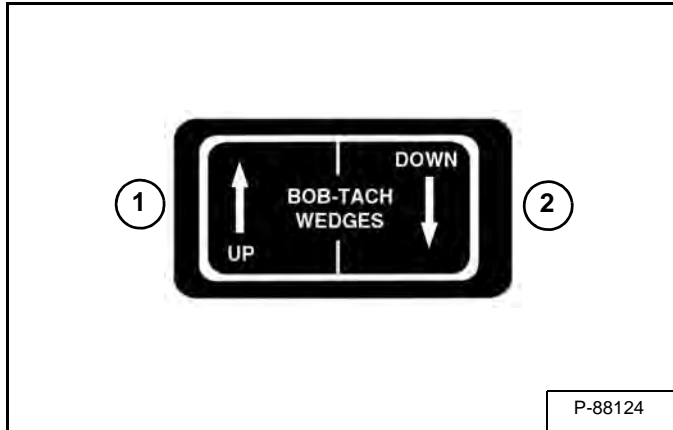
Move to the operator position, fasten seat belt and lower the restraint bar (if equipped), start engine and disengage the parking brake.

OPERATING PROCEDURE WITH UTILITY WORK MACHINES (CONT'D)

Installation (Cont'd)

Power Bob-Tach (Cont'd)

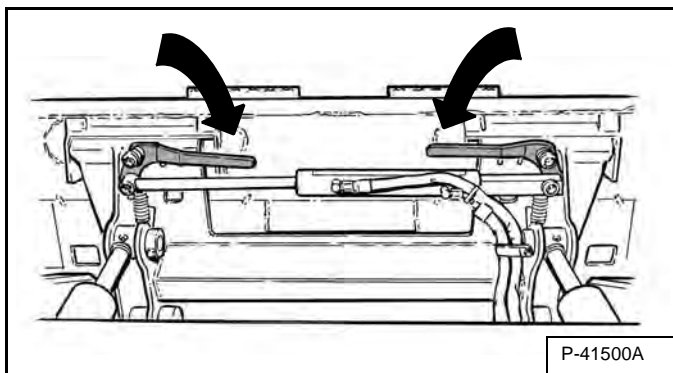
Figure 103



NOTE: The Power Bob-Tach system has continuous pressurized hydraulic fluid to keep the wedges in the engaged position and prevent attachment disengagement. Because the wedges can slowly lower, the operator may need to reactivate the switch (BOB-TACH “WEDGES UP”) to be sure both wedges are fully raised before installing the attachment.

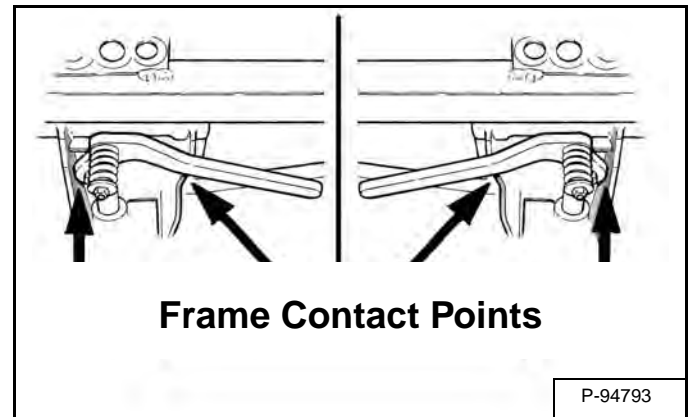
Push and hold the BOB-TACH “WEDGES UP” switch (Item 1) [Figure 103] until the levers are fully raised (wedges fully raised).

Figure 104



Push and hold the BOB-TACH “WEDGES DOWN” switch (Item 2) [Figure 103] until the levers are fully engaged in the locked position [Figure 104] (wedges fully extended through the attachment mounting frame holes).

Figure 105



Both levers must contact the frame as shown when locked [Figure 105].

If both levers do not engage in the locked position, see your Bobcat dealer for maintenance.

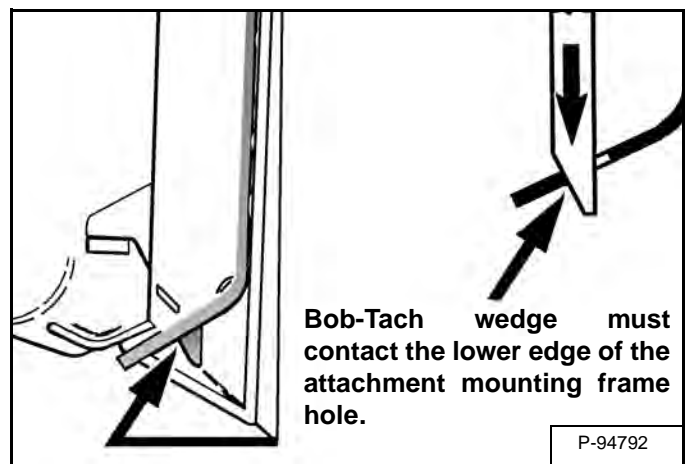


AVOID INJURY OR DEATH

The Bob-Tach wedges must extend through the holes in the attachment mounting frame. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off.

W-2715-0208

Figure 106



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 106].

Lower the lift arm and put the attachment flat on the ground.

LIFTING THE ATTACHMENT

Procedure

Figure 122

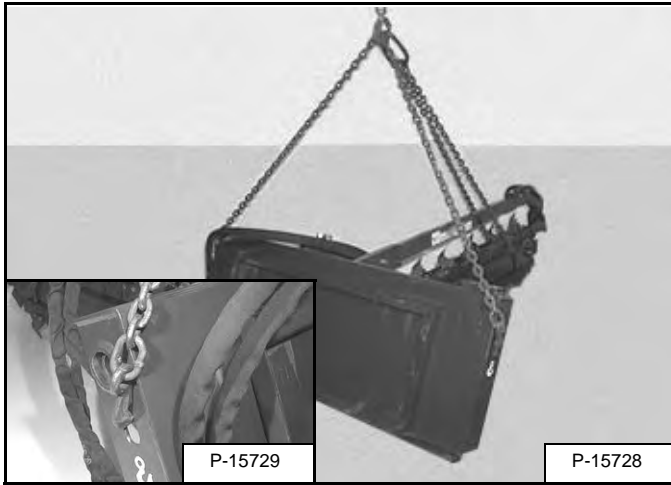
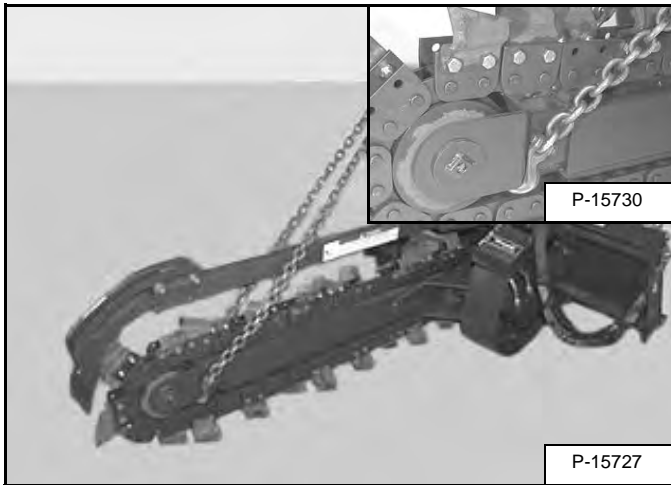


Figure 123



NOTE: Use chains that are in good condition and of adequate size to lift the attachment [Figure 122] and [Figure 123].

Fasten the chains to the trencher [Figure 122] and [Figure 123].

TRANSPORTING THE ATTACHMENT ON A TRAILER

Fastening

Figure 124

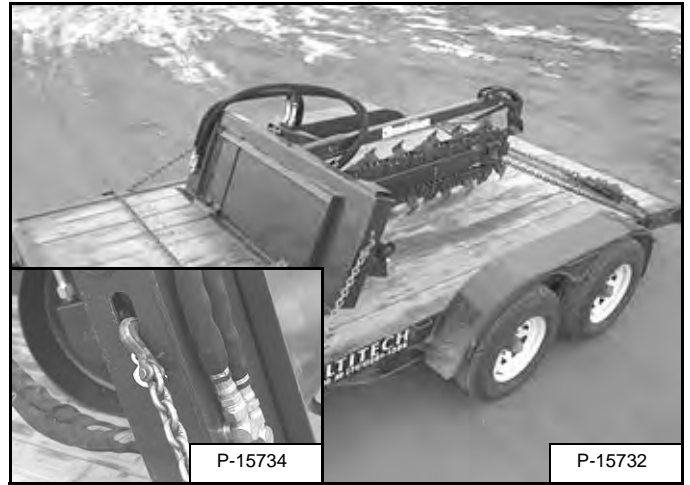


Figure 125



Fasten the chains to the trencher [Figure 124] and [Figure 125].

Use chain binders to prevent the trencher from moving during transport.

Secure the hydraulic hoses to the trencher.

REMOVAL AND INSTALLATION OF DIGGING CHAIN

Procedure(s)

One Piece Procedure

NOTE: The chain may be removed in one piece or split. Both procedures are shown.

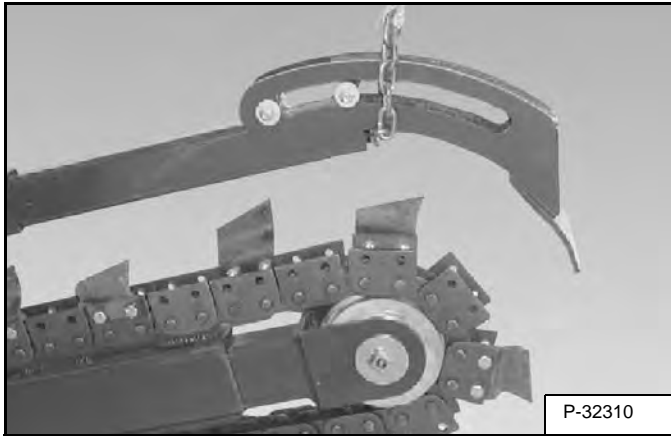


AVOID INJURY

Grease and fitting can be under high pressure. Stand on side of boom opposite lube fitting when applying or removing tension from digging chain. Keep bystanders away. Use correct fitting to prevent pressure from blowing it off.

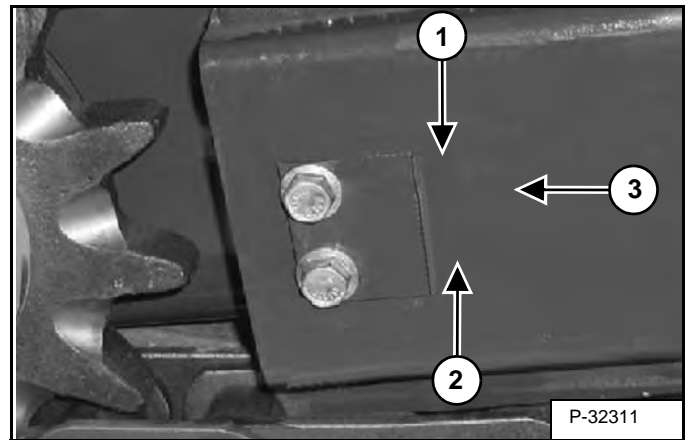
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Figure 135



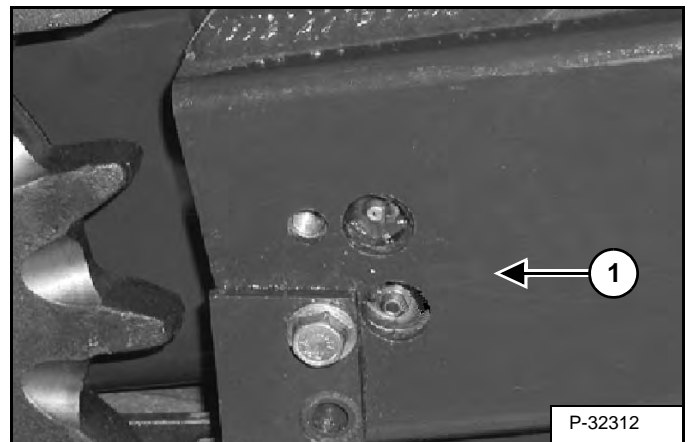
With the trencher installed on the machine, disconnect the auxiliary hydraulic hoses and install a hoist on the end of the boom [Figure 135].

Figure 136



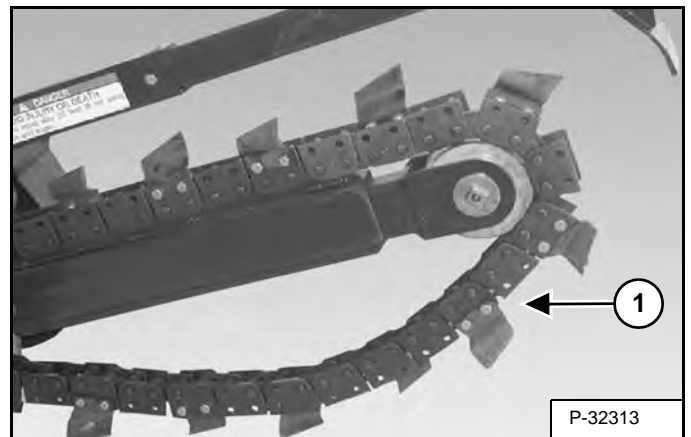
Remove the top bolt (Item 1) and loosen the bottom bolt (Item 2). Pivot the cover (Item 3) down [Figure 136].

Figure 137



Loosen the bleed screw (Item 1) [Figure 137].

Figure 138

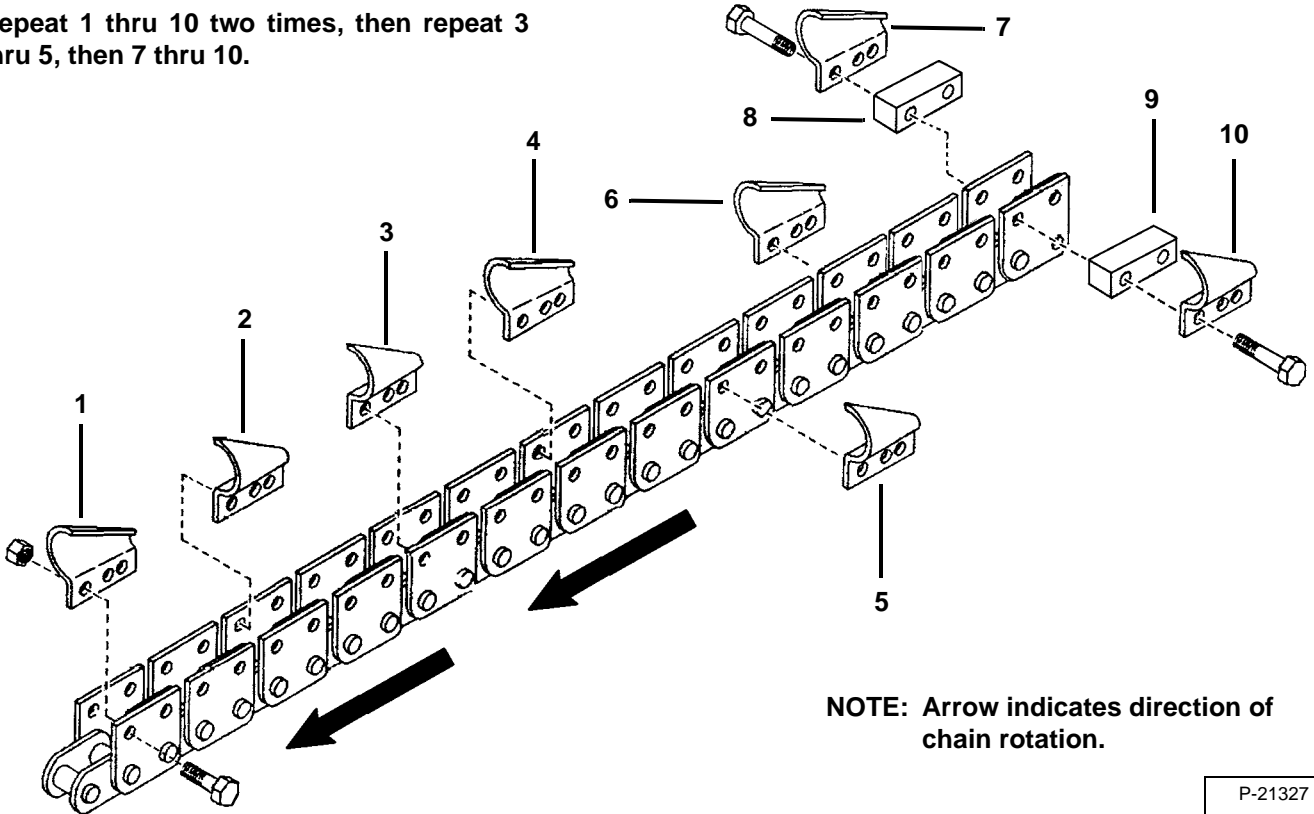


Push the cylinder back to put clearance in the chain (Item 1) [Figure 138].

LT313 CHAIN PATTERNS (CONT'D)

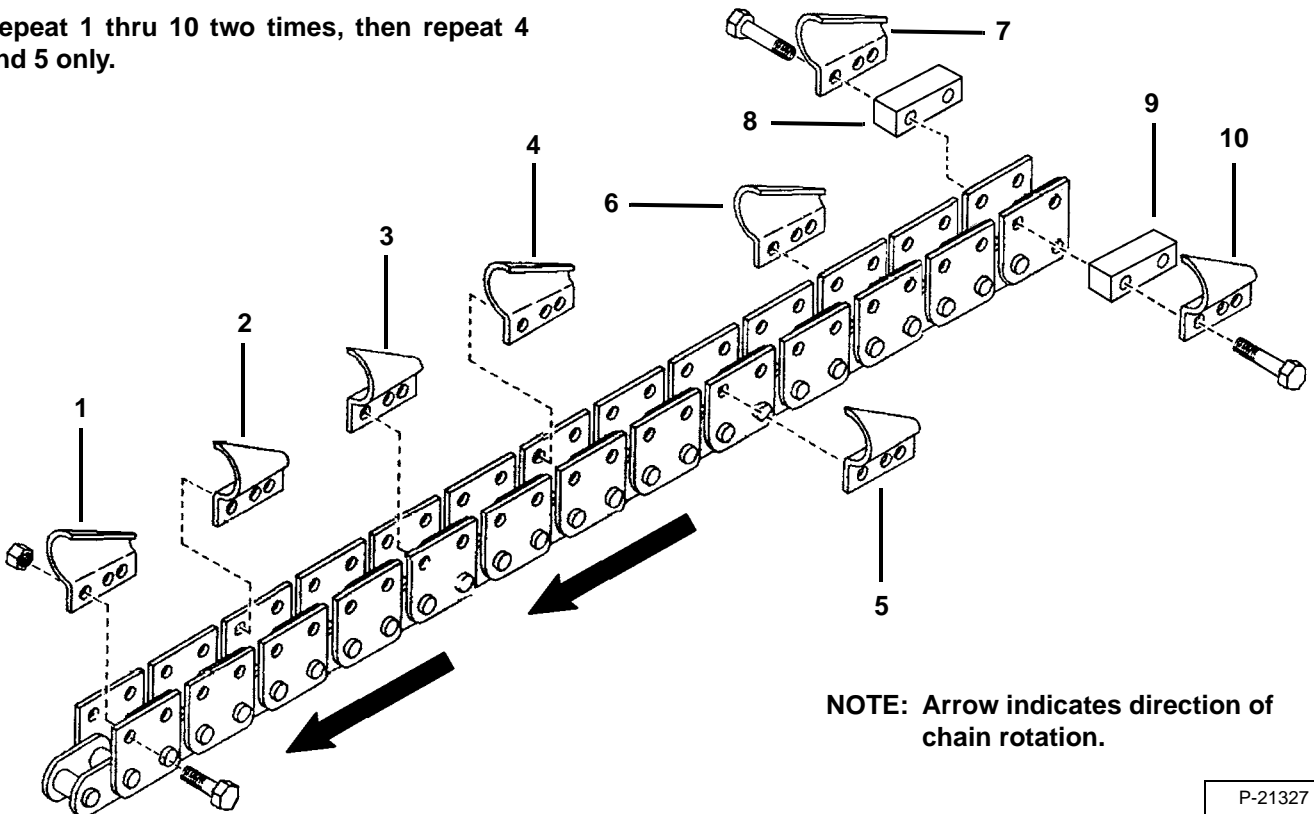
1,22 m x 203 mm (4 ft x 8 in) - DS Digging Chain

Repeat 1 thru 10 two times, then repeat 3 thru 5, then 7 thru 10.



0,91 m x 203 mm (3 ft x 8 in) - DS Digging Chain

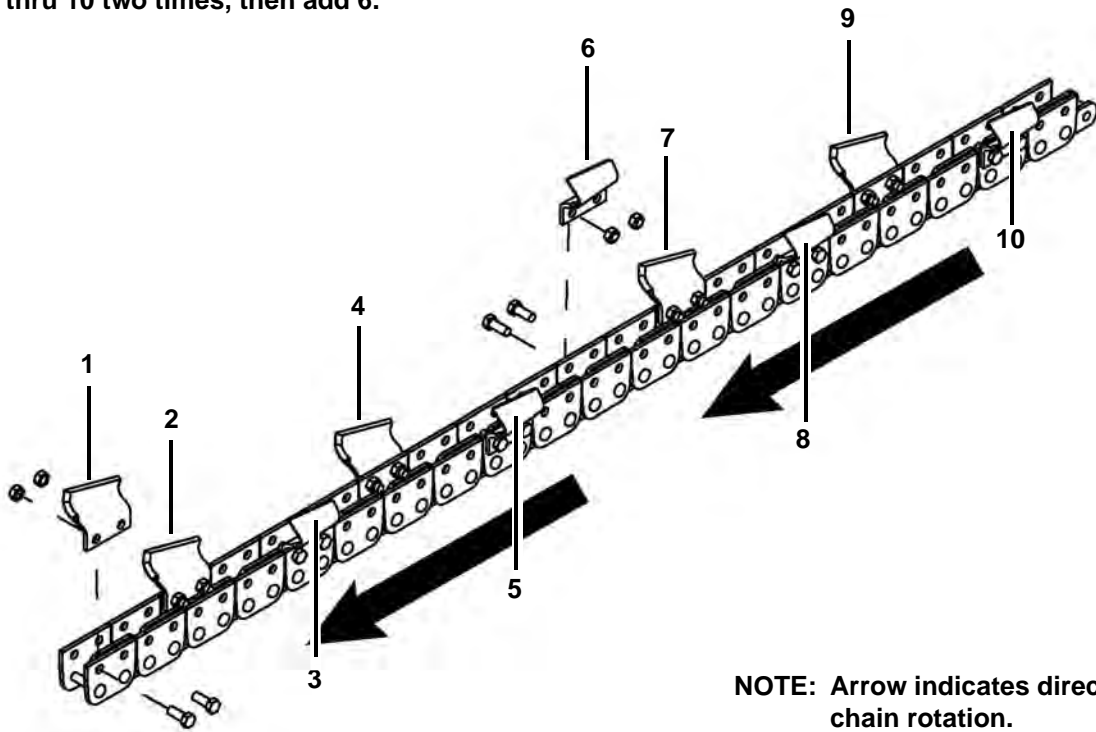
Repeat 1 thru 10 two times, then repeat 4 and 5 only.



LT414 CHAIN PATTERNS (CONT'D)

1,52 m x 152 mm (5 ft x 6 in) - SS Cup Digging Chain

Repeat 1 thru 10 two times, then add 6.

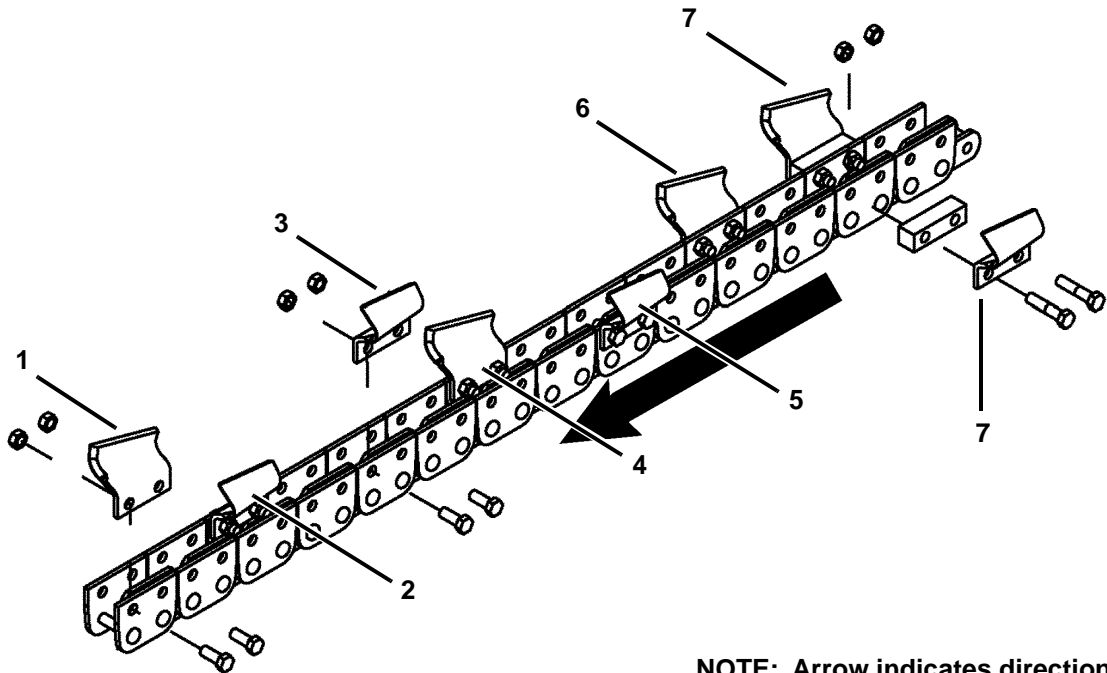


NOTE: Arrow indicates direction of chain rotation.

P-60958

1,52 m x 203 mm (5 ft x 8 in) - SS Cup Digging Chain

Repeat 1 thru 7 three times.



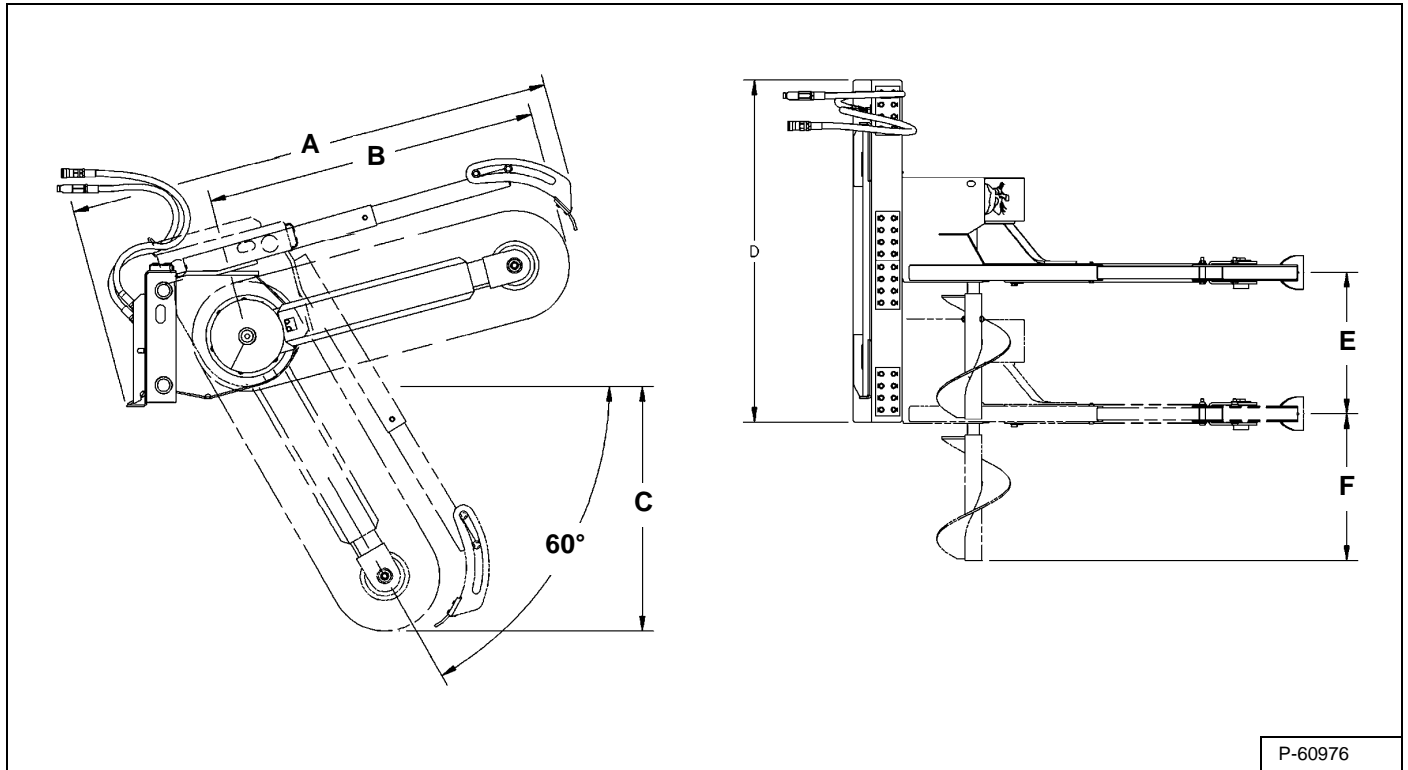
NOTE: Arrow indicates direction of chain rotation.

P-60959

(LT213 AND LT313) TRENCHER SPECIFICATIONS

Dimensions

- Where applicable, specifications conform to **SAE and ISO** standards and are subject to change without notice.



DESCRIPTION	LT213 (2 FT)	LT313 (3 FT)	LT313 (4 FT)
Overall Length (A)	1880 mm (74.0 in)	2019 mm (79.5 in)	2273 mm (89.5 in)
Standard Boom Length (B)	1334 mm (52.5 in)	1410 mm (55.5 in)	1664 mm (65.5 in)
Digging Depth @ 60° (C)	0,9 m (3 ft)	0,9 m (3 ft)	1,2 m (4 ft)
Frame Width (D)	1422 mm (56.0 in)	1422 mm (56.0 in)	1422 mm (56.0 in)
Auger Clearance (F)	351 - 401 mm (13.8 - 15.8 in)	607 - 686 mm (24 - 27 in)	607 - 686 mm (24 - 27 in)
Side Shift Travel (E)	587 mm (23.1 in)	587 mm (23.1 in)	587 mm (23.1 in)

Performance

DESCRIPTION	LT213 (2 FT)	LT313 (3 FT)	LT313 (4 FT)
Operating Weight (Without Teeth)	329 kg (725 lb)	433 kg (955 lb)	444 kg (980 lb)
Chain Size	42 mm (1.654 in)	50.8 mm (2 in)	50.8 mm (2 in)
Chain Speed @ 18 U.S. gpm (68 L/min)	98,5 m/min (323 ft/min)	106,7 m/min (350 ft/min)	106,7 m/min (350 ft/min)
Chain Tightener	Grease Cylinder	Grease Cylinder	Grease Cylinder
Auger Diameter	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)
Trenching Widths Available	101 - 203 mm (4 - 8 in)	152 - 305 mm (6 - 12 in)	152 - 305 mm (6 - 12 in)

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