

Our associates will ensure the tool works properly before you leave the store. If you experience issues with the tool while completing your project, simply bring it back to the Tool Rental Center to get a replacement. If you purchase Damage Protection at the time of your rental, you are not responsible for repair costs for tools that break due to normal use.

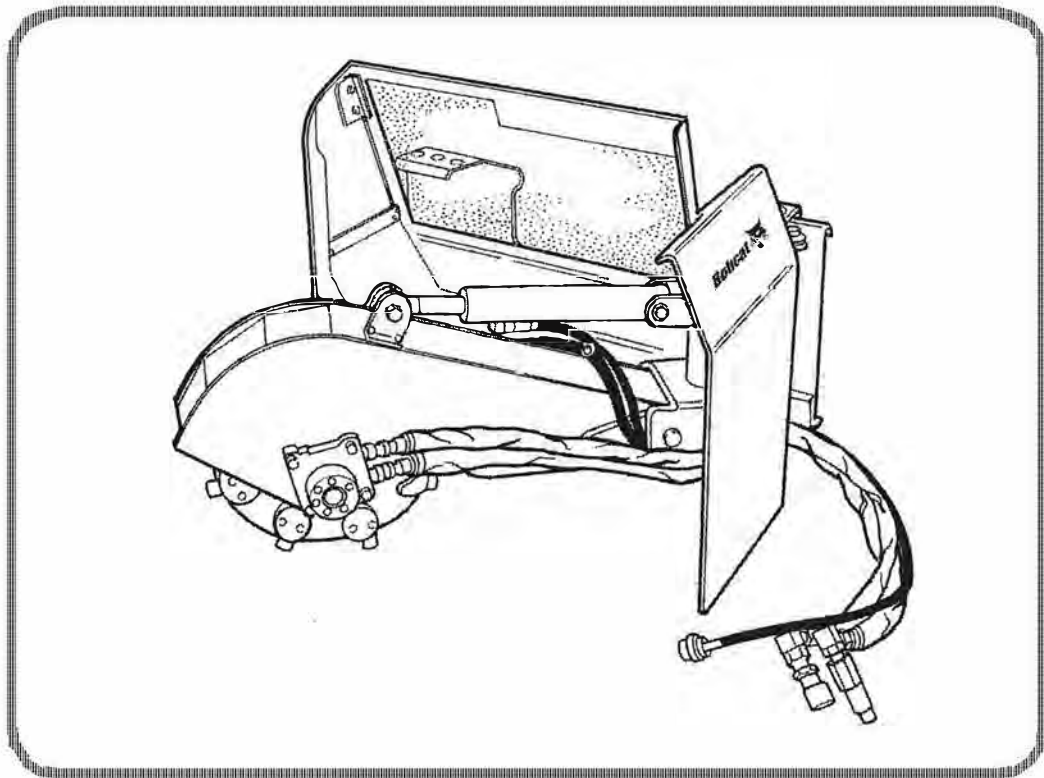




Bobcat®

Operation & Maintenance Manual Stump Grinder

(SG30) S/N 005600101 & Above



Dealer Copy -- Not for Resale



CONTENTS

FOREWORD3

SAFETY AND TRAINING RESOURCES11

OPERATING INSTRUCTIONS19

PREVENTIVE MAINTENANCE81

SPECIFICATIONS93

WARRANTY99

ALPHABETICAL INDEX103

REFERENCE INFORMATION

Write the correct information for YOUR Bobcat stump grinder in the spaces below. Always use these numbers when referring to your Bobcat stump grinder.

Stump Grinder Serial Number _____

NOTES:

YOUR BOBCAT DEALER:

ADDRESS:

PHONE:



Bobcat Company
P.O. Box 128
Gwinner, ND 58040-0128
UNITED STATES OF AMERICA

Doosan Bobcat EMEA s.r.o.
U Kodetky 1810
263 12 Dobris
CZECH REPUBLIC

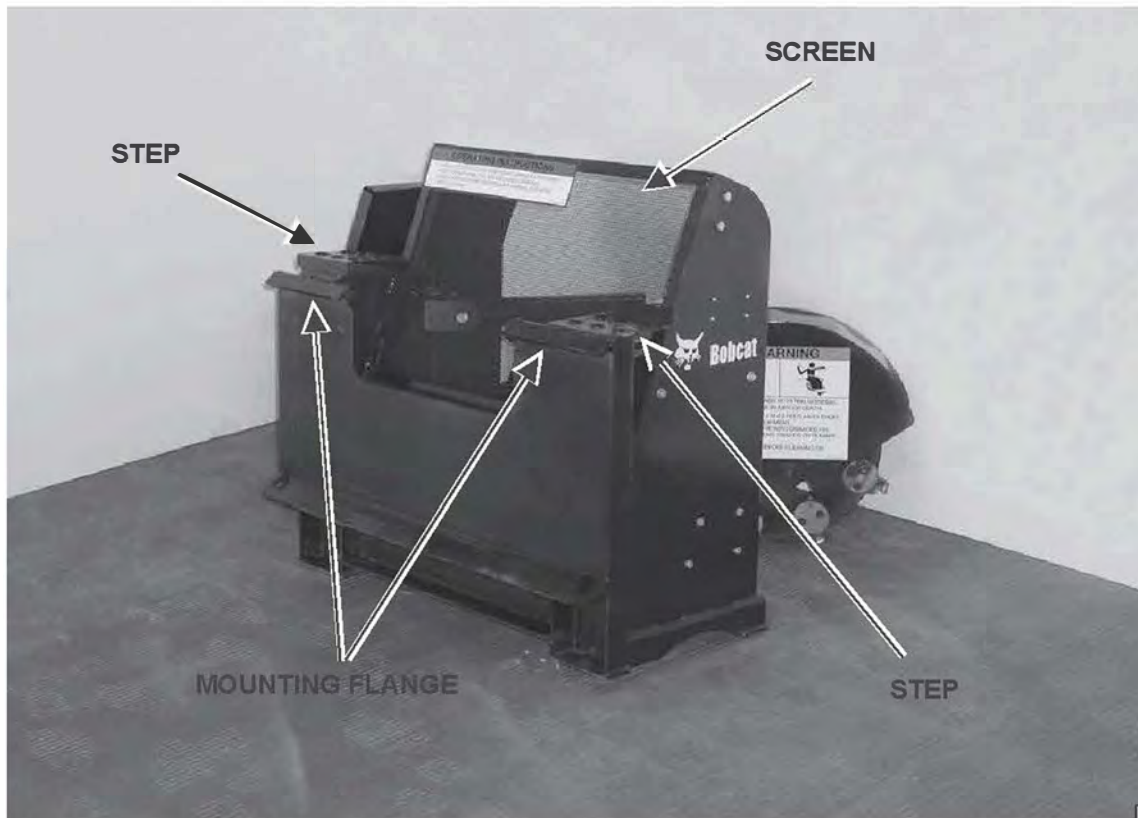
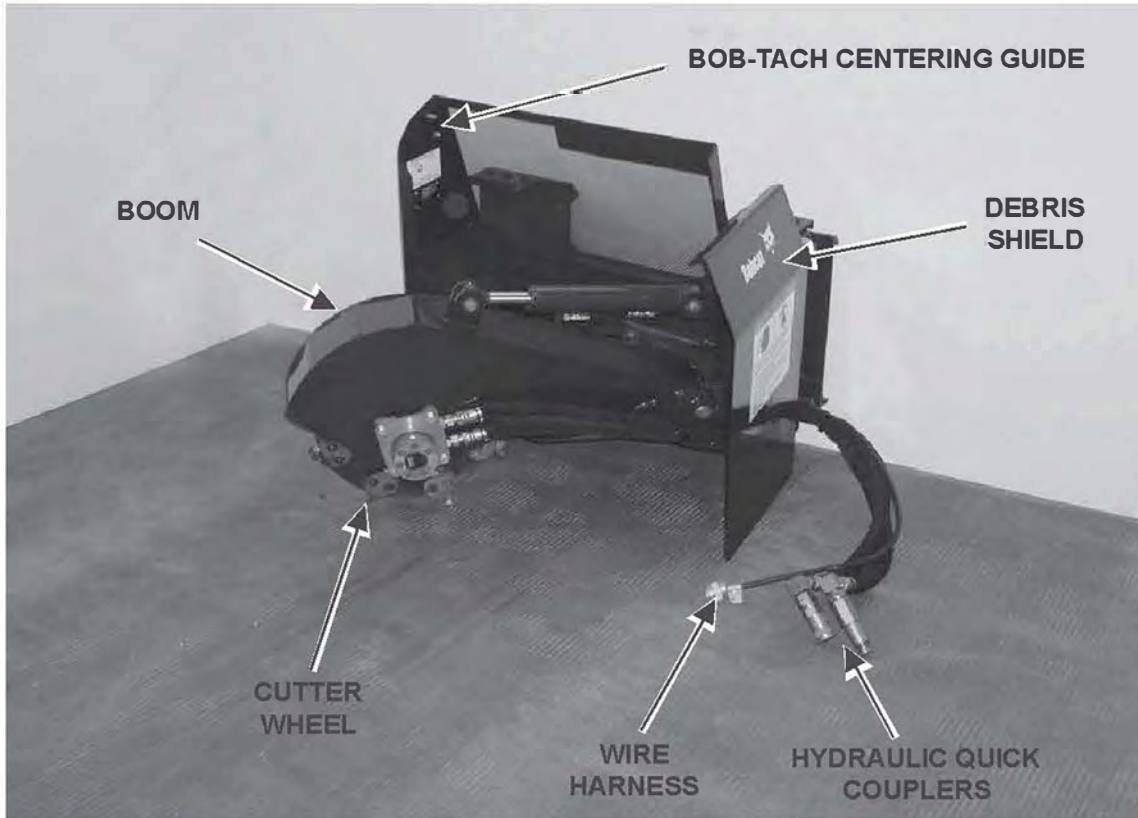
Dealer Copy -- Not for Resale

FOREWORD

This Operation & Maintenance Manual was written to give the owner / operator instructions on the safe operation and maintenance of the Bobcat stump grinder. READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR BOBCAT STUMP GRINDER. If you have any questions, see your Bobcat dealer. This manual may illustrate options and accessories not installed on your Bobcat stump grinder.

BOBCAT COMPANY IS ISO 9001 CERTIFIED	5
SERIAL NUMBER LOCATION	7
Attachment Serial Number	7
DELIVERY REPORT	7
ATTACHMENT IDENTIFICATION	8
FEATURES AND ACCESSORIES	9
Standard Items	9

ATTACHMENT IDENTIFICATION



Dealer Copy -- Not for Resale

FEATURES AND ACCESSORIES

Standard Items

The stump grinder is equipped with the following Standard Items:

- Screen Protection
- Debris Shield

SAFETY AND TRAINING RESOURCES

SAFETY INSTRUCTIONS	13
Safe Operation Is The Operator's Responsibility	13
Safe Operation Needs A Qualified Operator	13
Use Safety Rules	14
Call Before You Dig	14
Avoid Silica Dust	14
FIRE PREVENTION	15
Maintenance	15
Operation	15
Electrical	15
Hydraulic System	15
Fueling	15
Starting	15
Spark Arrester Exhaust System	15
Welding And Grinding	16
Fire Extinguishers	16
PUBLICATIONS AND TRAINING RESOURCES	17
ATTACHMENT SIGNS (DECALS)	18

Dealer Copy -- Not for Resale

SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility

	Safety Alert Symbol
<p>This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.</p>	

	WARNING
---	----------------

Operator must have instructions before operating the machine. Untrained operators can cause injury or death.

W-2001-0502

IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the machine.

I-2019-0284

	DANGER
---	---------------

The signal word DANGER on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1002-1107

	WARNING
---	----------------

The signal word WARNING on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2044-1107

The Bobcat machine and attachment must be in good operating condition before use.

Check all of the items on the Bobcat Service Schedule Decal under the 8-10 hour column or as shown in the Operation & Maintenance Manual.

Safe Operation Needs A Qualified Operator

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the attachment.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Bobcat Company include the Delivery Report, Operation & Maintenance Manual, Operator's Handbook, Safety Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by your Bobcat dealer before the product is delivered.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine and attachment safely under all conditions of the work area. Always fasten seat belt before operating.

Know the Work Conditions

- Know the weight of the materials being handled. Avoid exceeding the machine load capacities. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he or she needs to know about excessive slopes.
- Know the location of any underground lines. Call local utilities or the TOLL FREE phone number found in the *Call Before You Dig* section of this manual.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, respiratory equipment, and hearing protection are required for some work. See your Bobcat dealer about Bobcat safety equipment for your machine.

SI ATT-0819

Dealer Copy -- Not for Resale

SAFETY INSTRUCTIONS (CONT'D)

Use Safety Rules

- Read and follow instructions in the machine and the attachment's Operation & Maintenance Manual before operating.
- Check for underground lines before operating attachment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the Bob-Tach® levers are in the locked position and the wedges are fully engaged into the holes of the attachment (if applicable).
- Check that the attachment is securely fastened to the machine.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the attachment only from the operator's position.
- Operate the attachment according to the Operation & Maintenance Manual.
- When learning to operate the attachment, do it at a slow rate in an area clear of bystanders.
- DO NOT permit personnel to be in the work area when operating the machine and attachment.
- The attachment must be used ONLY on approved machines. See your Bobcat dealer for updated list of approved attachments for each machine model.
- DO NOT modify equipment or add attachments that are not approved by the manufacturer.
- DO NOT make any adjustments or repairs on the machine or attachment while the engine is running.
- Keep shields and guards in place. Replace if damaged.

Call Before You Dig



Call Before You Dig Dial 811 (USA Only) 1-888-258-0808 (USA & Canada)

When you call, you will be directed to a location in your state / province, or city for information about buried lines (telephone, cable TV, water, sewer, gas, etc.).

Avoid Silica Dust



Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Do not exceed Permissible Exposure Limits (PEL) to silica dust as determined by OSHA or other job site Rules and Regulations. Use a respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the state of California to cause cancer.

Dealer Copy -- Not for Resale

SI ATT-0819

FIRE PREVENTION



Maintenance

The machine and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Battery gas can explode and cause serious injury. Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Fueling



Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

Ultra Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations with higher Sulfur content. Avoid death or serious injury from fire or explosion. Consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

Starting

Do not use ether or starting fluids on any engine that has glow plugs. These starting aids can cause explosion and injure you or bystanders.

Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

Spark Arrester Exhaust System

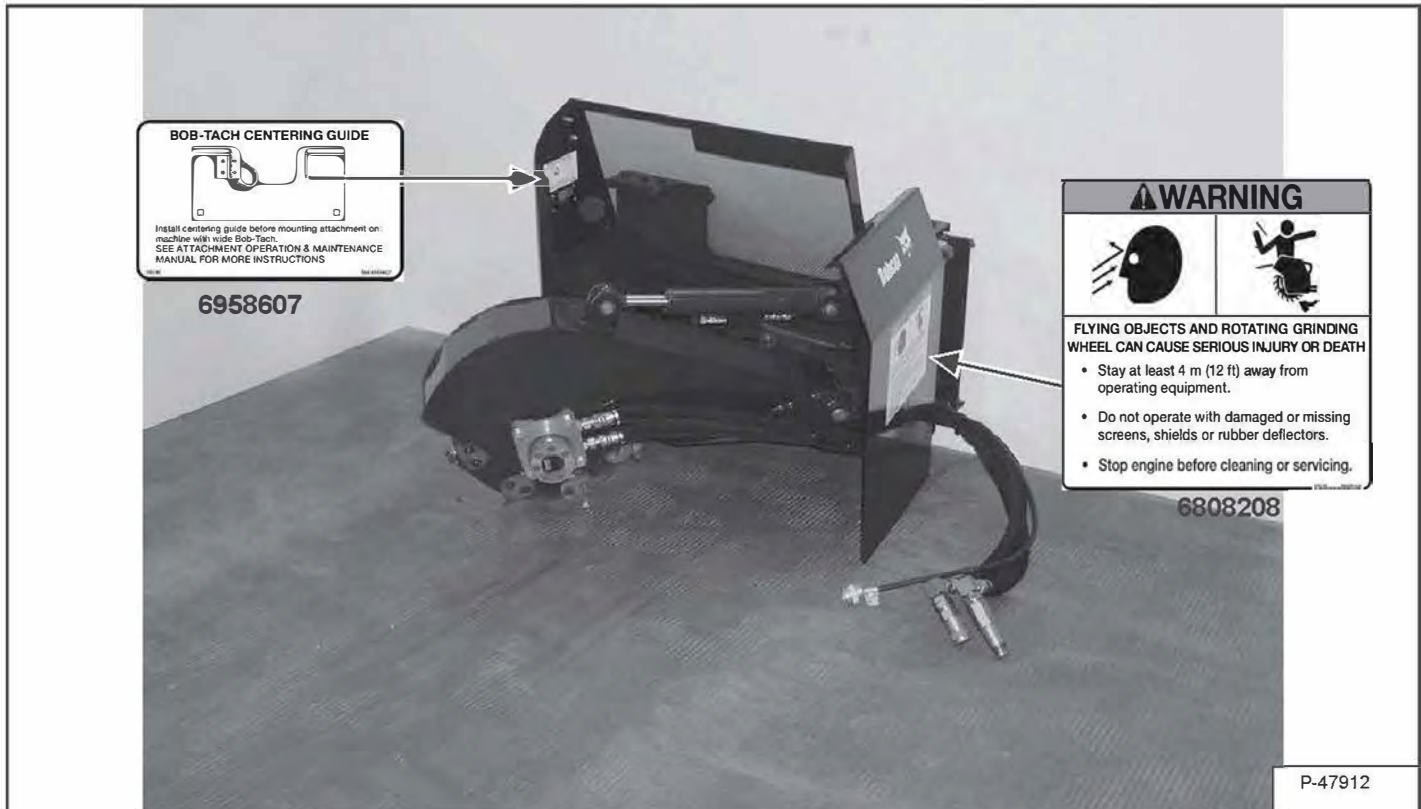
The spark arrester exhaust system is designed to control the emission of hot particles from the engine and exhaust system, but the muffler and the exhaust gases are still hot.

Check the spark arrester exhaust system regularly to make sure it is maintained and working properly. Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrester muffler (if equipped).

Dealer Copy -- Not for Resale

ATTACHMENT SIGNS (DECALS)

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 attachment dealer.



Dealer Copy -- Not for Resale

OPERATING INSTRUCTIONS

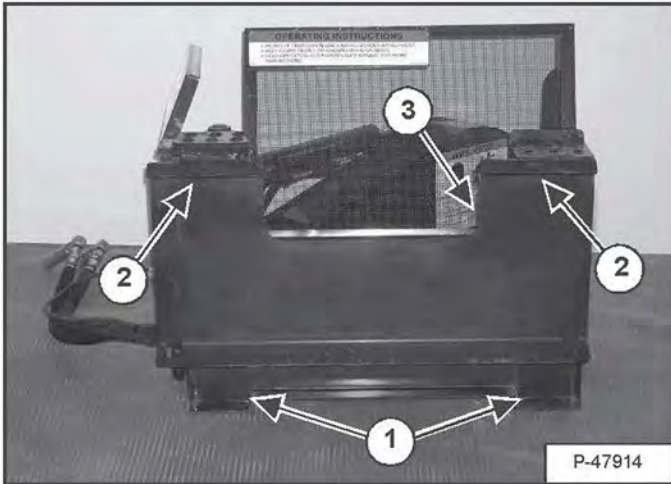
DAILY INSPECTION	21
Attachment Mounting Frame	21
Debris Shield	21
Screen	21
Bob-Tach	22
OPERATING PROCEDURE WITH LOADERS	23
Approved Loader Models And Requirements	23
Machine / Attachment Setup	23
Entering And Exiting The Loader	24
Installation	26
Hydraulic Quick Couplers	29
Electrical Harness	30
Control Functions	31
Operation With The Loader	33
Removal	36
OPERATING PROCEDURE WITH MINI TRACK LOADERS	38
Approved Mini Track Loader Models And Requirements	38
Machine / Attachment Setup	38
Entering And Leaving The Operator's Position	39
Installation	40
Hydraulic Quick Couplers	44
Electrical Harness	45
Control Functions	46
Operation With The Mini Track Loader	50
Removal	53
OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS	55
Approved Small Articulated Loaders Models And Requirements	55
Machine / Attachment Setup	56
Entering And Exiting The Small Articulated Loader	57
Installation	59
Hydraulic Quick Couplers	67
Electrical Harness	68
Control Functions	69
Operation With The Small Articulated Loader	70
Removal	74
LIFTING THE ATTACHMENT	78
Procedure	78
TRANSPORTING THE ATTACHMENT ON A TRAILER	79
Fastening	79
TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER	79
Loading And Fastening	79

Dealer Copy -- Not for Resale

DAILY INSPECTION

Attachment Mounting Frame

Figure 3

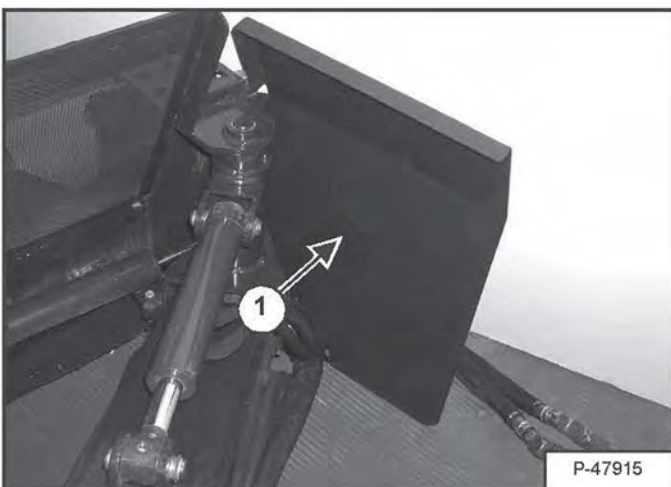


Inspect the Bob-Tach® wedge mounts (Item 1), mounting flange (Item 2), Bob-Tach centering guide (Item 3) [Figure 3] and all welds on the stump grinder mount for wear and damage each time the stump grinder is removed from the machine.

Frequently inspect the stump grinder to ensure that all components are secure and that all bolts and nuts are thoroughly tightened.

Debris Shield

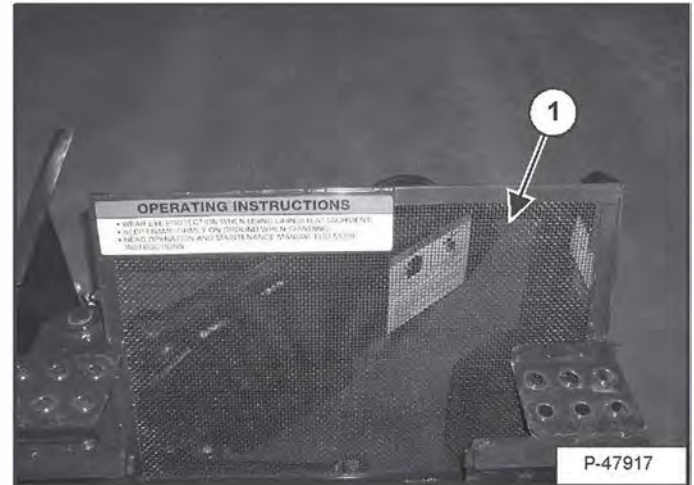
Figure 4



Inspect the debris shield (Item 1) [Figure 4] for damage. Replace the debris shield if damaged.

Screen

Figure 5



Inspect the screen (Item 1) [Figure 5] for damage or wear. Replace the screen if damaged. (See REMOVAL AND INSTALLATION OF SCREEN on Page 90.)

Dealer Copy -- Not for Resale

DAILY INSPECTION (CONT'D)

Bob-Tach

Hand Lever Bob-Tach



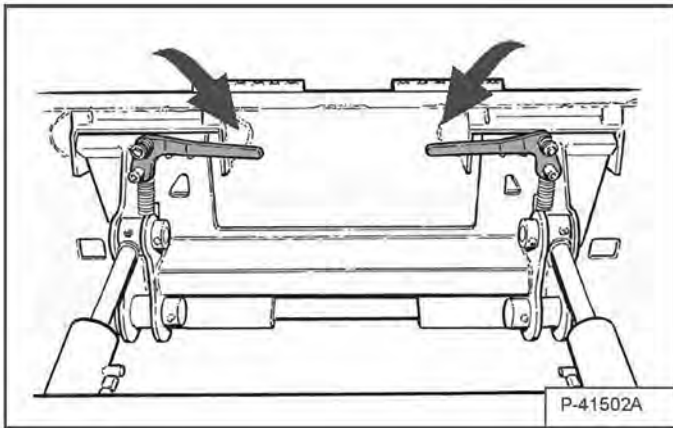
WARNING

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

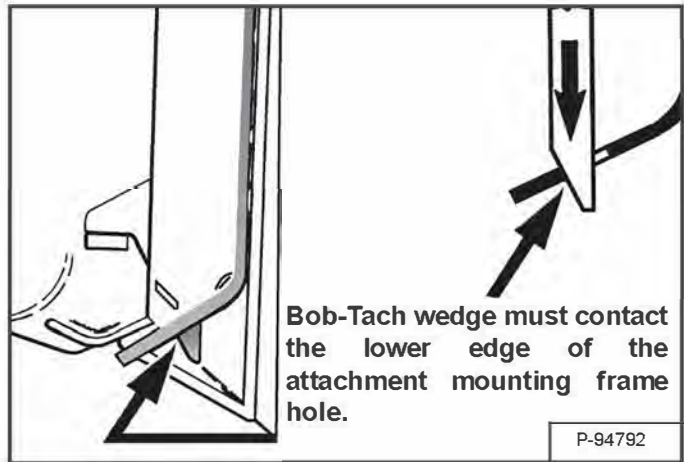
Figure 6



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 6] (wedges fully extended through the attachment mounting frame holes).

The levers and wedges must move freely [Figure 6].

Figure 7



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 7].

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 stump grinder. (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

Hand Lever Bob-Tach

NOTE: The illustrations and instructions provided explain how to install a bucket attachment on to a loader. Follow these same instructions if you are installing different attachments such as a grapple, tiller, combo bucket, etc.

The attachment mounting frame for the attachment has a top flange that is designed to receive the top edge of the Bob-Tach and the lower part of the frame is designed to receive the Bob-Tach wedges.

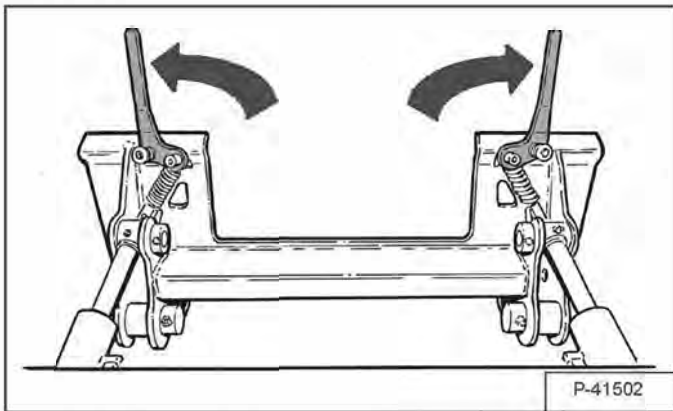
WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

W-2744-0608

Always inspect the loader's Bob-Tach and the attachment mounting frame before installation. See the loader's Operation & Maintenance Manual. (See DAILY INSPECTION on Page 21.)

Figure 14

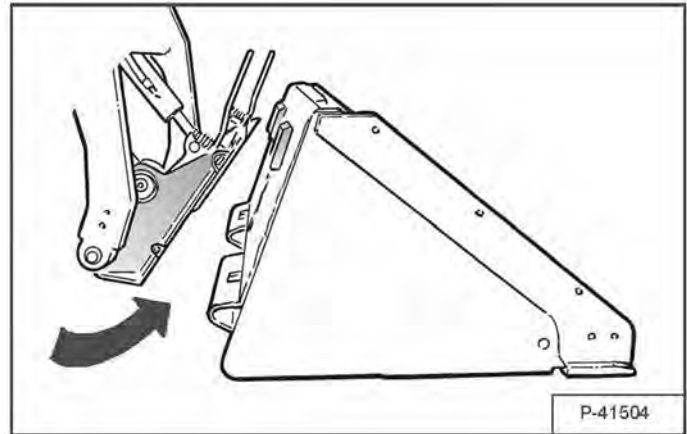


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) [Figure 14].

Enter the loader. (See Entering And Exiting The Loader on Page 24.)

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

Figure 15

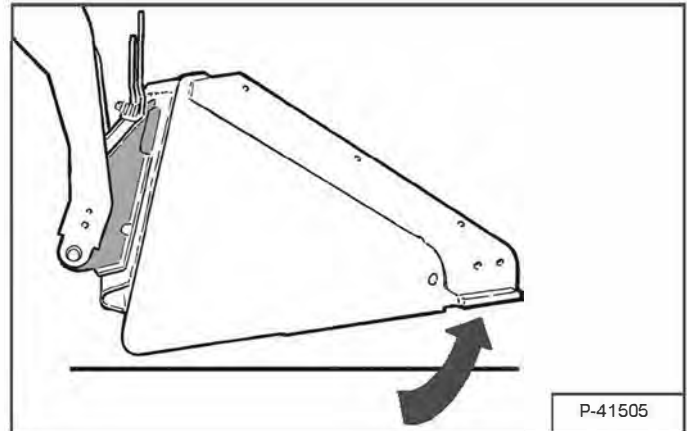


Lower the lift arms and tilt the Bob-Tach forward.

Drive the loader slowly forward until the top edge of the Bob-Tach is completely under the top flange of the attachment mounting frame [Figure 15].

NOTE: Be sure the Bob-Tach levers do not hit the attachment.

Figure 16



Tilt the Bob-Tach backward until the attachment is slightly off the ground [Figure 16]. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

NOTE: When leaving the operator's seat to install an attachment, tilt the attachment until it is slightly off the ground.

Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 24.)

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

! WARNING

AVOID INJURY OR DEATH

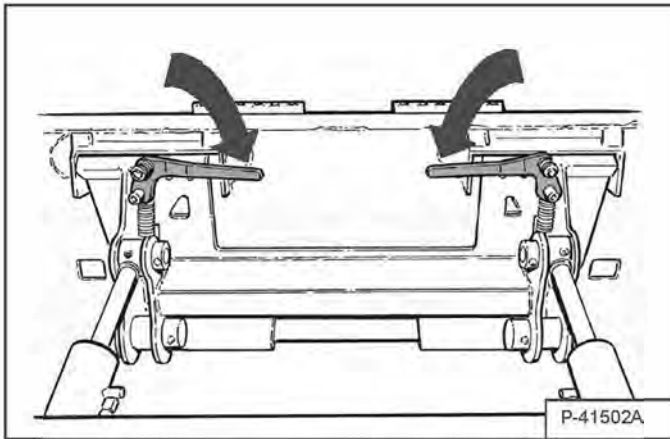
Before you leave the operator's seat:

- Lower the lift arms and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the seat bar.
- Move all controls to the **NEUTRAL / LOCKED** position to make sure the lift, tilt and traction drive functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. See your Bobcat dealer for service if controls do not deactivate.

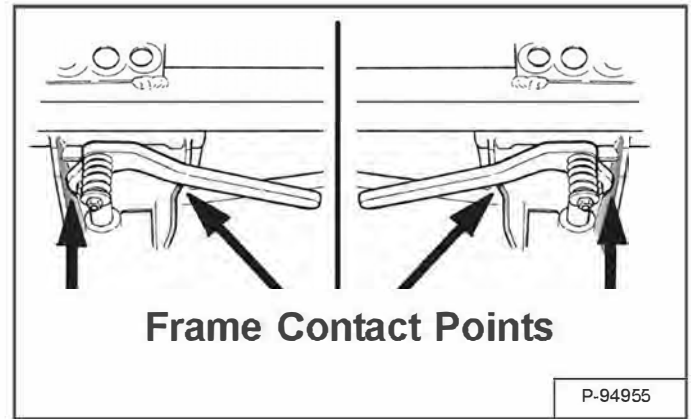
W-2463-1110

Figure 17



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 17] (wedges fully extended through the attachment mounting frame holes).

Figure 18



Both levers must contact the frame as shown when locked [Figure 18].

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

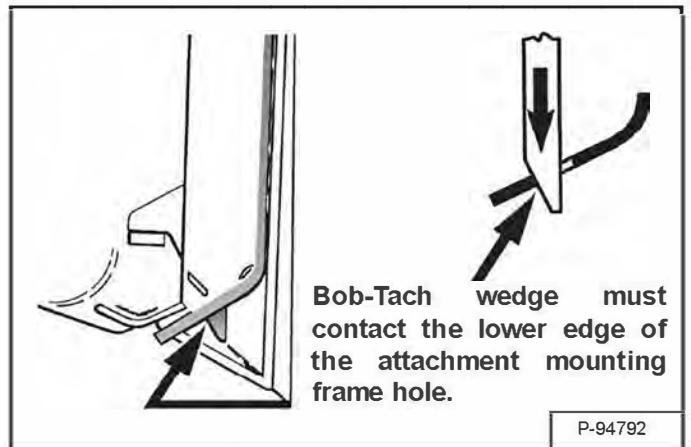
! WARNING

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 19



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 19].

Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 29.)

Connect the electrical harness. (See Electrical Harness on Page 30.)

Dealer Copy -- Not for Resale

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 29.)

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 24.)

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 LOADERS (CONT'D)

Hydraulic Quick Couplers

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

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.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

Figure 20



! WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

To Connect:

Remove any dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage or excessive wear. If any of these conditions exist, the coupler(s) **[Figure 20]** must be replaced.

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler.

NOTE: Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the loader or attachment. (See For First Time Installation on Page 28.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Push the couplers together, retract the sleeve on the female coupler until the couplers disconnect.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Hydraulic Quick Couplers

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

New attachments and new mini track 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 mini track loader. See your Bobcat dealer for parts information.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

Figure 46



⚠ WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

To Connect:

Remove any dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage, or excessive wear. If any of these conditions exist, the coupler(s) must be replaced **[Figure 46]**.

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler.

NOTE: Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the mini track loader or attachment. (See For First Time Installation on Page 43.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the mini track loader's Operation & Maintenance Manual for correct procedure.)

Push the coupler together, retract the sleeve on the female coupler until the couplers disconnect.

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation

Hand Lever Bob-Tach

NOTE: The illustrations and instructions provided explain how to install a bucket attachment on to a small articulated loader. Follow these same instructions if you are installing different attachments such as a grapple, tiller, combo bucket, etc.

The attachment mounting frame for the attachment has a top flange that is designed to receive the top edge of the Bob-Tach and the lower part of the frame is designed to receive the Bob-Tach wedges.

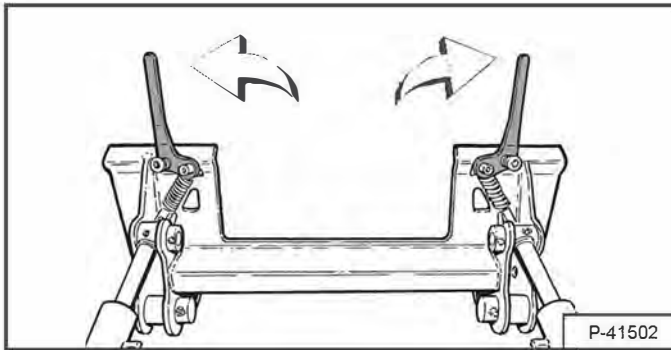
WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

W-2744-0608

Always inspect the small articulated loader's Bob-Tach and the attachment mounting frame before installation. See the small articulated loader's Operation & Maintenance Manual. (See DAILY INSPECTION on Page 21.)

Figure 77

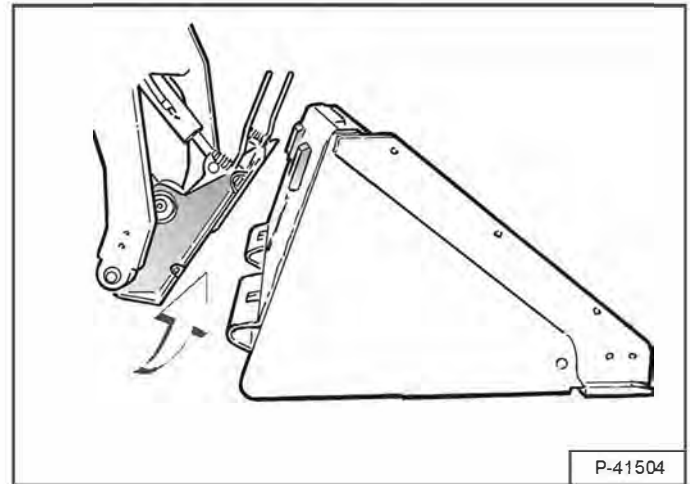


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) **[Figure 77]**.

Enter the small articulated loader. (See Entering And Exiting The Small Articulated Loader on Page 57.)

Start the engine, press the operate switch and release the parking brake.

Figure 78

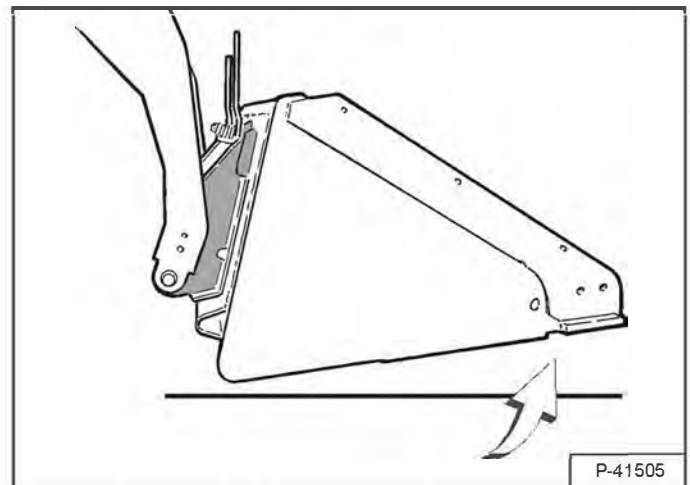


Lower the lift arm and tilt the Bob-Tach forward.

Drive the small articulated loader slowly forward until the top edge of the Bob-Tach is completely under the top flange of the attachment mounting frame **[Figure 78]**.

NOTE: Be sure the Bob-Tach levers do not hit the attachment.

Figure 79



Tilt the Bob-Tach backward until the attachment is slightly off the ground **[Figure 79]**. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

Stop the engine and exit the small articulated loader. (See Entering And Exiting The Small Articulated Loader on Page 57.)

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

! WARNING

AVOID INJURY OR DEATH

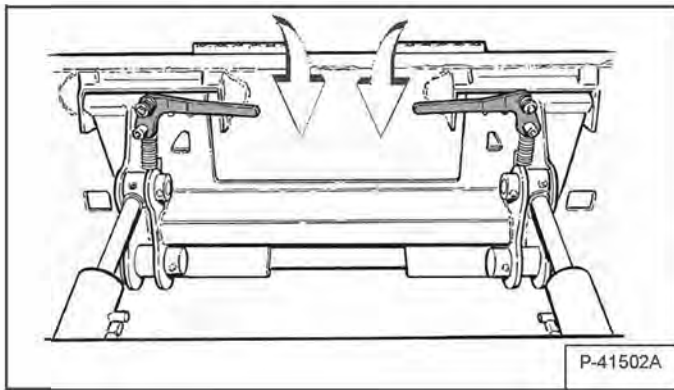
Before you leave the operator's seat:

- Lower the lift arm and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the arm rest.
- Move all controls to the **NEUTRAL / LOCKED** position to make sure the lift, tilt, telescoping, auxiliary hydraulics and traction drive functions are deactivated.
- The **Operator Interlock Control System (OICS)** must deactivate these functions when the armrest is up. See your Bobcat dealer for service if controls do not activate.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

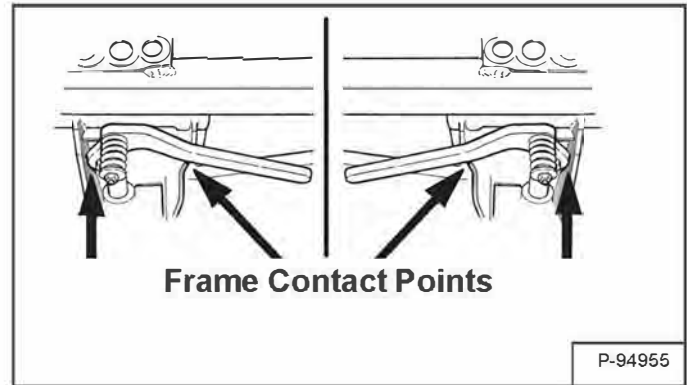
W-3095-0220

Figure 80



Push down on the Bob-Tach levers until they are fully engaged in the locked position **[Figure 80]** (wedges fully extended through the attachment mounting frame holes).

Figure 81



Both levers must contact the frame as shown when locked **[Figure 81]**.

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

! WARNING

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.

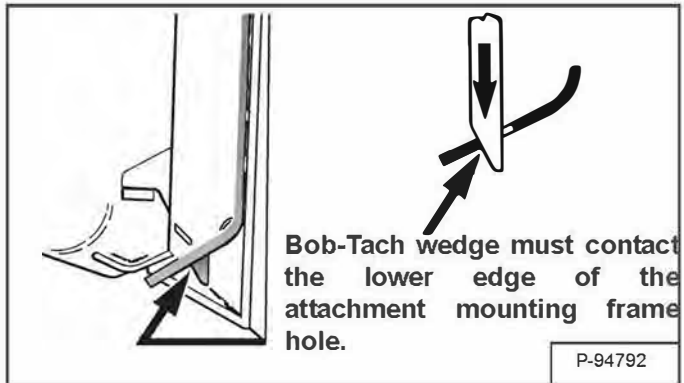
W-2715-0208

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

Figure 82



The wedges must extend through the holes (Item 2) in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 82]**.

Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 67.)

Connect the electrical connections. (See **Electrical Harness on Page 68.**)

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach

WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

W-2744-0608

This small articulated loader may be equipped with a Power Bob-Tach.

Enter the small articulated loader. (See Entering And Exiting The Small Articulated Loader on Page 57.)

Start the engine, press the operate switch and release the parking brake.

Figure 83

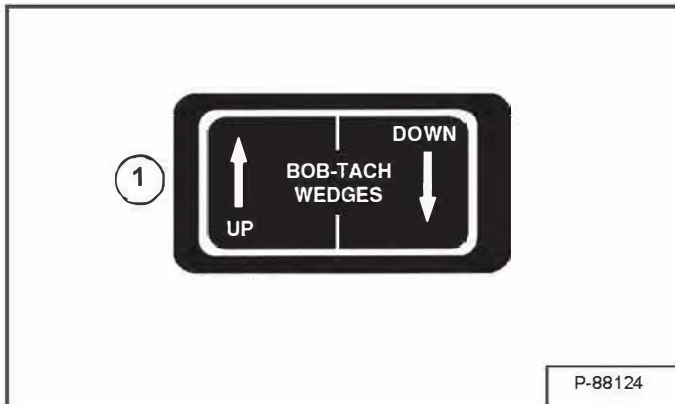
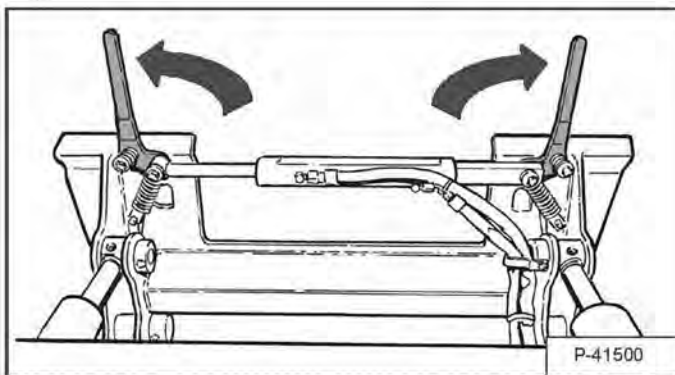
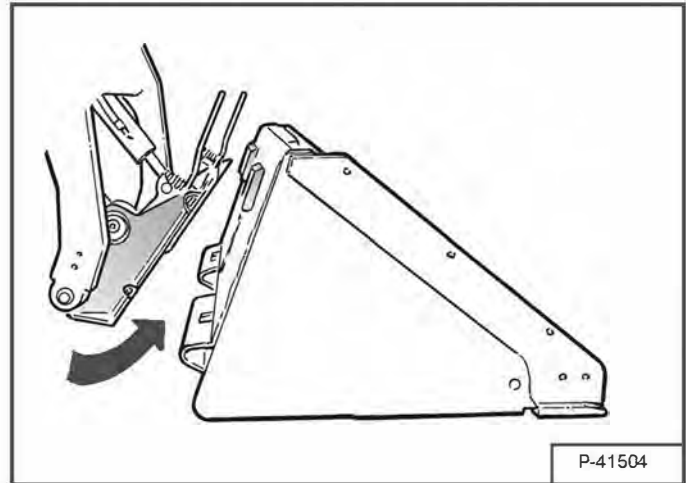


Figure 84



Push and hold the BOB-TACH "WEDGES UP" switch (Item 1) [Figure 83] until the levers are fully raised (wedges fully raised) [Figure 84].

Figure 85

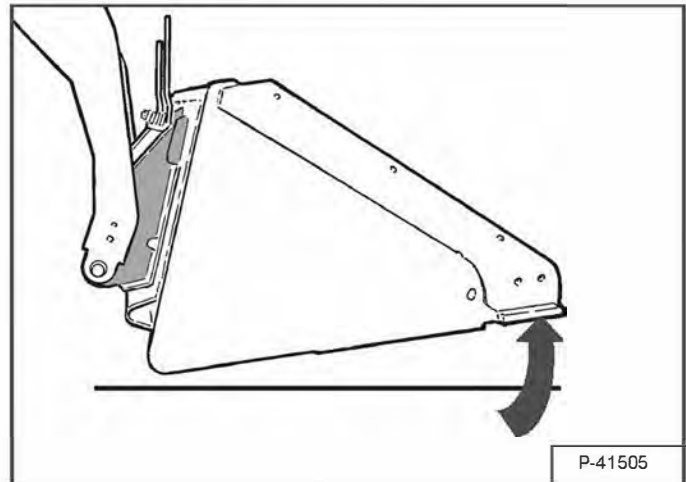


Lower the lift arm and tilt the Bob-Tach slightly forward.

Drive the small articulated loader slowly forward until the top edge of the Bob-Tach is completely under the top flange of the attachment mounting frame [Figure 85].

NOTE: Be sure the Bob-Tach levers do not hit the attachment.

Figure 86



Tilt the Bob-Tach backward until the attachment is slightly off the ground [Figure 86]. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

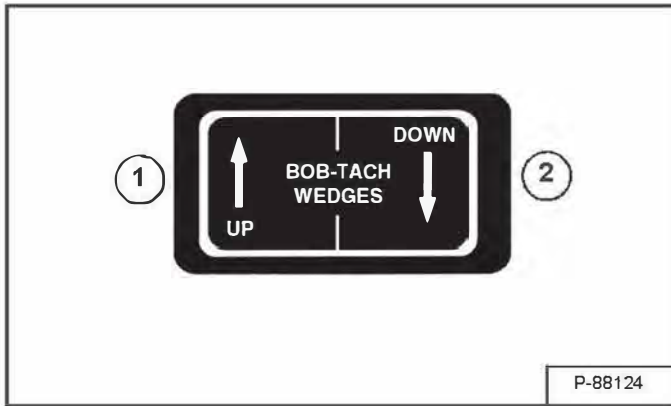
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach (Cont'd)

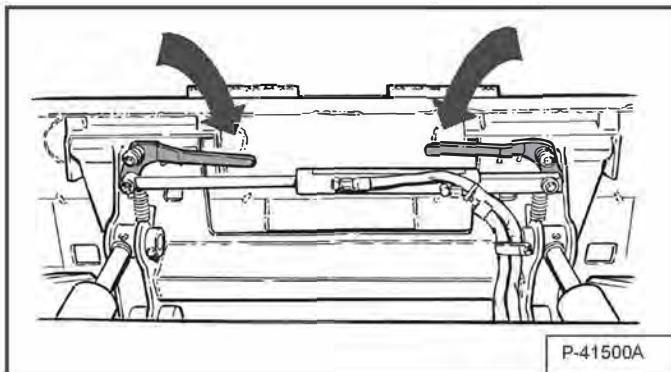
Figure 87



NOTE: The Power Bob-Tach system has continuous pressurized hydraulic oil 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.

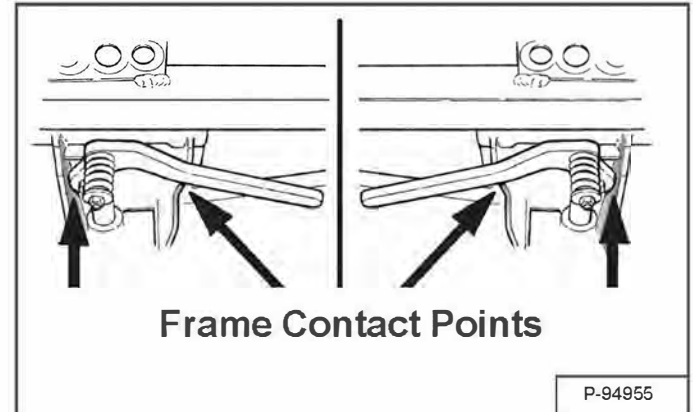
Push and hold the BOB-TACH “WEDGES UP” switch (Item 1) [Figure 87] until the levers are fully raised (wedges fully raised).

Figure 88



Push and hold the BOB-TACH “WEDGES DOWN” switch (Item 2) [Figure 88] until the levers are fully engaged in the locked position [Figure 88] (wedges fully extended through the attachment mounting frame holes).

Figure 89



Both levers must contact the frame as shown when locked [Figure 89].

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

! WARNING

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

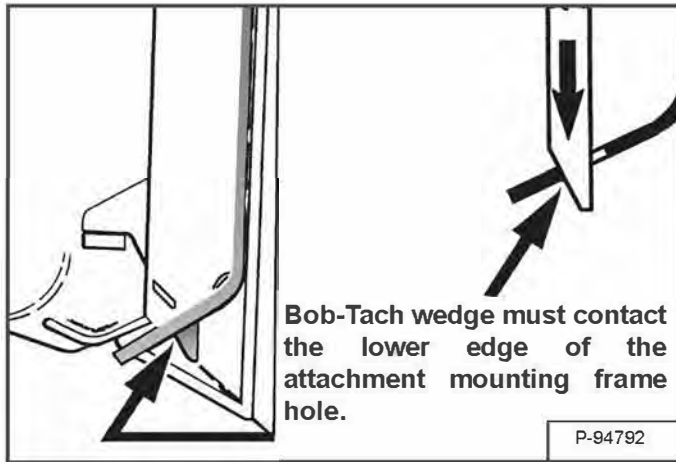
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach (Cont'd)

Figure 90



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 90]**.



WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Lower the lift arm and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the arm rest.
- Move all controls to the **NEUTRAL / LOCKED** position to make sure the lift, tilt, telescoping, auxiliary hydraulics and traction drive functions are deactivated.
- The Operator Interlock Control System (OICS) must deactivate these functions when the armrest is up. See your Bobcat dealer for service if controls do not activate.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-3095-0220

Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 67.)

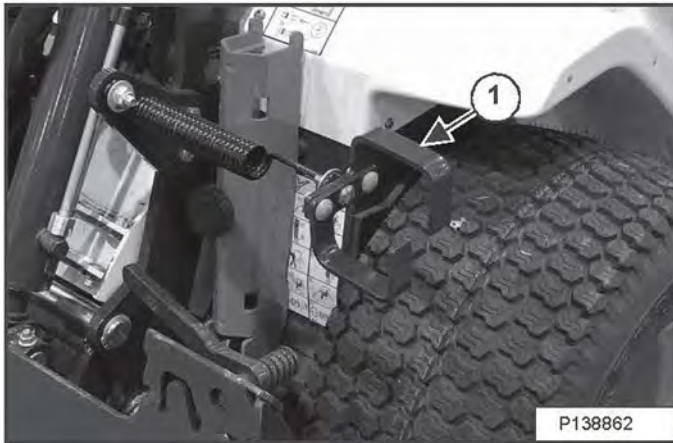
Connect the electrical connections. **(See Electrical Harness on Page 68.)**

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

Hose Routing

Figure 91



Route hoses through hose guide (Item 1) **[Figure 91]** and connect quick couplers to the small articulated loader. (See Hydraulic Quick Couplers on Page 67.)

NOTE: Hose guides are not included with the attachment. See your Bobcat dealer for available hose guide kits.

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

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Installation (Cont'd)

For First Time Installation

New attachments and new small articulated 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 small articulated 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 small articulated loader engine off and using the hose guides (if equipped), route the attachment hydraulic hoses to the small articulated loader. Connect the attachment hydraulic quick couplers to the small articulated loader couplers. (See Hydraulic Quick Couplers on Page 67.)

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

Enter the small articulated loader. (See Entering And Exiting The Small Articulated Loader on Page 57.)

Start the engine, press the operate switch and release the parking brake.

Engage auxiliary hydraulics. (See the small articulated 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 SMALL ARTICULATED LOADERS (CONT'D)

Hydraulic Quick Couplers

IMPORTANT

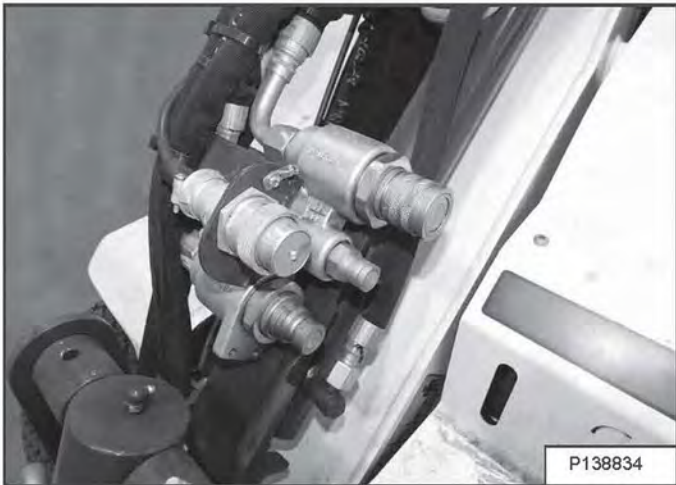
- **Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.**
- **Contain and dispose of any oil leakage in an environmentally safe manner.**

I-2278-0608

New attachments and new small articulated 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 small articulated loader. See your Bobcat dealer for parts information.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

Figure 92



! WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

To Connect:

Remove any dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage, or excessive wear. If any of these conditions exist, the coupler(s) must be replaced [Figure 92].

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler.

NOTE: Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the small articulated loader or attachment. (See For First Time Installation on Page 28.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the small articulated loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

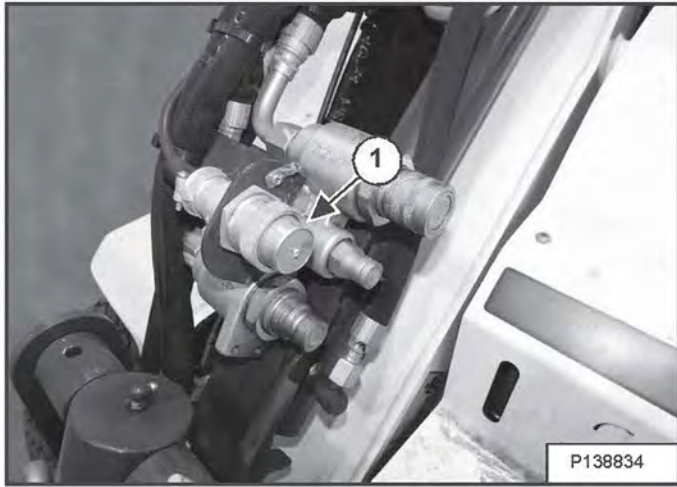
Push the couplers together, retract the sleeve on the female coupler until the couplers disconnect.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Electrical Harness

Figure 93



Connect the attachment 14-Pin wire harness to the electrical connector (Item 1) **[Figure 93]** on the small articulated loader.

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Control Functions

Enter the small articulated loader. Fasten the seat belt, lower the arm rest and start the engine. Press the operate switch and release the parking brake.

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

NOTE: Auxiliary hydraulics must be activated prior to attachment operation.

Figure 94



Cutter Wheel Rotation

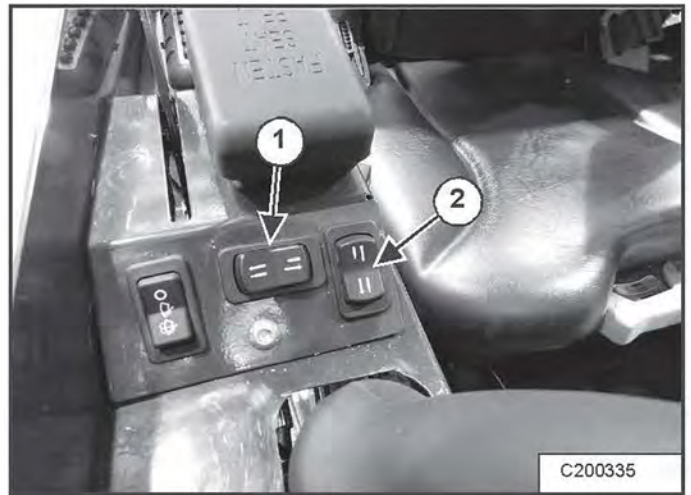
To engage the cutter wheel, push the switch (Item 1) [Figure 94] forward. Center the switch to stop the cutter wheel.

For continuous cutter wheel rotation, press the front switch (Item 2) [Figure 94] on the joystick. To stop broom rotation, press the switch a second time.

NOTE: See the small articulated loader's Operation & Maintenance Manual for more information on operation of the Auxiliary Hydraulic System.

To Raise, Lower And Angle The Stump Grinder

Figure 95



The following is from the operators POV.

To angle the stump grinder to the left, push the switch (Item 1) [Figure 95] to the left.

To angle the stump grinder to the right, push the switch (Item 1) [Figure 95] to the right.

Pressing the top of the switch (Item 2) [Figure 95] will raise the stump grinder.

Pressing the bottom of the switch (Item 2) [Figure 95] will lower the stump grinder.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Operation With The Small Articulated Loader

WARNING

AVOID EYE INJURY

Wear eye protection when using stump grinder attachment.

W-2897-1210

WARNING

MACHINE TIPPING OR ROLLOVER CAN CAUSE SERIOUS INJURY OR DEATH

- Keep the lift arm as low as possible.
- Do not travel or turn with the lift arm up.
- Turn on level ground. Slow down when turning.
- Go up and down slopes, not across them.
- Keep the heavy end of the machine uphill.
- Do not overload the machine.
- Check for adequate traction.

W-2444-1112

Inspect the stump grinder before operating. (See DAILY INSPECTION on Page 21.)

Enter the loader. (See Entering And Exiting The Loader on Page 24.)

Start the engine and release the parking brake.

Use the loader tilt function to tilt the stump grinder back and drive the loader / attachment to the starting point.

Position the loader / stump grinder to the stump.

Lower the stump grinder until the stump grinder is firmly positioned on the ground. (The front wheels may be slightly off the ground. This will make the stump grinder stable during the grinding operation.)

WARNING

CONTACT WITH MOVING PARTS OR FLYING OBJECTS CAN CAUSE INJURY OR DEATH

- Keep all bystanders 4 m (12 ft) away from equipment when operating.
- Do Not Operate with damaged or missing screens, shields or rubber deflectors.
- Stop engine before cleaning or servicing.

W-2375-0910

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

Start the Stump Grinder cutter wheel rotating.

Set the engine speed control to high rpm.

Figure 96



Swing the boom away from the operator cab and position the cutter wheel on the farthest side of the stump **[Figure 96]**.

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Operation With The Small Articulated Loader (Cont'd)

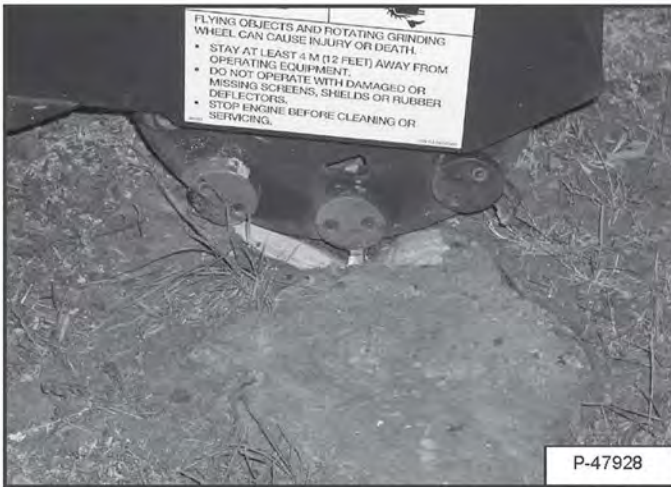
Figure 97



Lower the stump grinder boom until the cutter wheel is grinding the stump 25 – 30 mm (1.0 to 2.0 in) [Figure 97].

NOTE: The depth of the cut will vary depending on the type of wood and condition or age of the stump.

Figure 98



Engage the boom swing switch to swing the cutter wheel into the stump [Figure 98].

As the stump grinder passes through the stump, the swing speed will automatically slow down if the cutter wheel meets heavy resistance such as a green or hardwood stump.

If the cutter wheel stalls while passing through the stump, the depth of the cut is too deep. Raise the boom to a cutting depth that will not cause the cutter wheel to stall.

Figure 99



When the cutter has completed the pass, lower the boom 25 – 50 mm (1.0 to 2.0 in) and swing the cutter wheel back through the stump in the opposite direction [Figure 99].

Figure 100



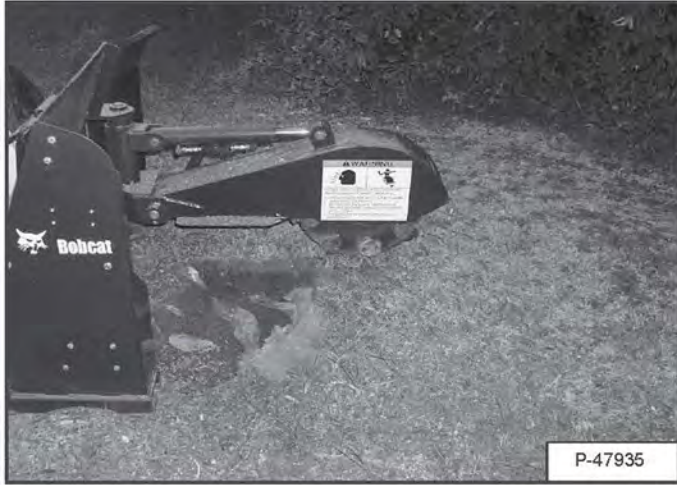
After each cutting pass, lower the cutter wheel and swing the boom through a complete cutting pass [Figure 100].

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Operation With The Small Articulated Loader (Cont'd)

Figure 101



Reposition the small articulated loader so the cutter wheel will contact the remaining stump and continue making cutting passes until the stump is completely removed [Figure 101].

When finished grinding the stump, disengage the cutter wheel rotation and raise the stump grinder boom.

Figure 102



Slightly raise the stump grinder and use the small articulated loader to push the ground material into the stump hole [Figure 102].

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Operation With The Small Articulated Loader (Cont'd)

Parking The Small Articulated Loader And Stump Grinder

Figure 103



Stop the small articulated loader on level ground.

Lower the lift arm and put the stump grinder flat on the ground **[Figure 103]**.

Set the engine speed control to the low idle position. Move all control levers to the NEUTRAL position.

Stop the engine and engage the parking brake. (See the small articulated loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the small articulated loader. (See Entering And Exiting The Loader on Page 24.)

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Lower the lift arm and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the arm rest.
- Move all controls to the **NEUTRAL / LOCKED** position to make sure the lift, tilt, telescoping, auxiliary hydraulics and traction drive functions are deactivated.
- The Operator Interlock Control System (OICS) must deactivate these functions when the armrest is up. See your Bobcat dealer for service if controls do not activate.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-3095-0220

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Removal

Hand Lever Bob-Tach

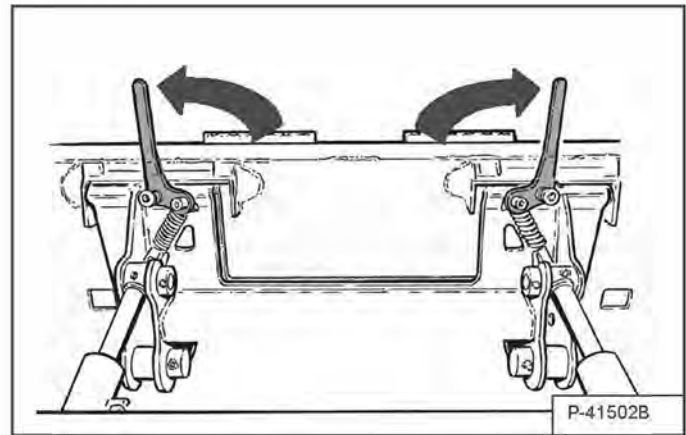
Lower the lift arm and put the attachment flat on the ground. Swing the boom fully to the right and lower the cutter wheel to the ground.

NOTE: In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the small articulated loader.

Stop the engine and release auxiliary hydraulic pressure (if applicable). (See the small articulated loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the small articulated loader. (See Entering And Exiting The Small Articulated Loader on Page 57.)

Figure 104



Pull the Bob-Tach levers up [Figure 104] until they are fully raised (wedges fully raised).



WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Lower the lift arm and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the arm rest.
- Move all controls to the NEUTRAL / LOCKED position to make sure the lift, tilt, telescoping, auxiliary hydraulics and traction drive functions are deactivated.
- The Operator Interlock Control System (OICS) must deactivate these functions when the armrest is up. See your Bobcat dealer for service if controls do not activate.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-3095-0220

Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 67.)

Disconnect the electrical connections. (See Electrical Harness on Page 68.)



WARNING

Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS (CONT'D)

Removal (Cont'd)

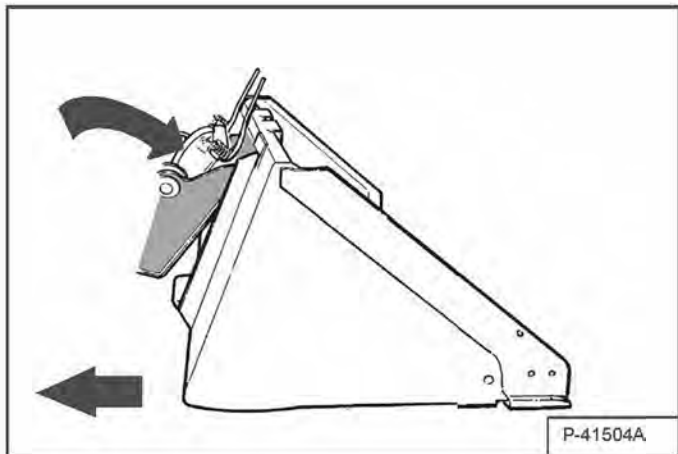
Hand Lever Bob-Tach (Cont'd)

Enter the small articulated loader. (See Entering And Exiting The Small Articulated Loader on Page 57.)

Start the engine, press the operate switch and release the parking brake.

Lower the stump grinder to the ground.

Figure 105



Tilt the Bob-Tach forward and drive the small articulated loader backward, away from the attachment **[Figure 105]**.

(SG30) STUMP GRINDER SPECIFICATIONS (CONT'D)

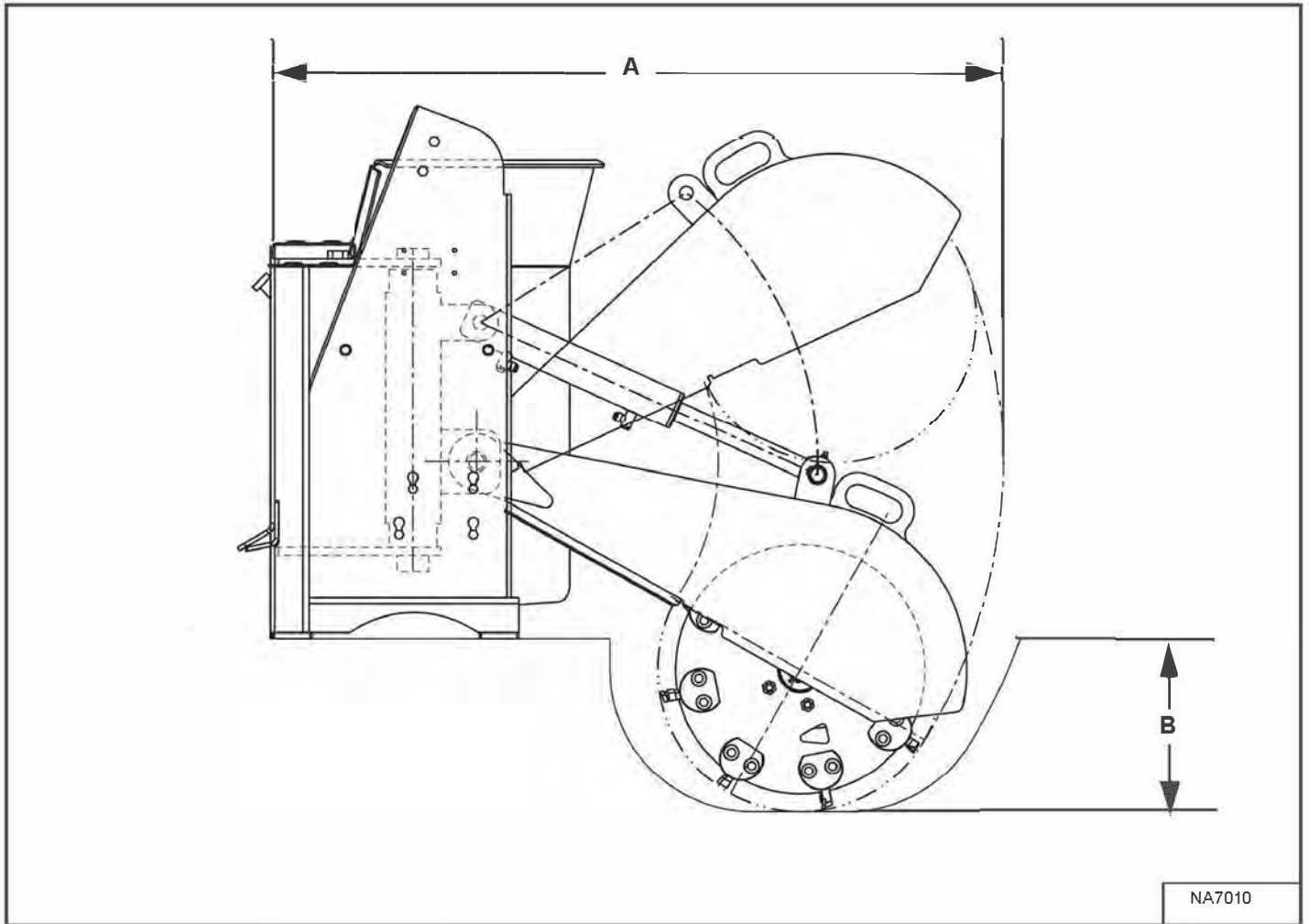
Dimensions (Cont'd)

DESCRIPTION	SG30
Transport Width (A)	914,4 mm (36.00 in)
Overall Length (With Boom Swung to Right) (B)	1003,3 mm (39.50 in)
Overall Height (C)	88,9 mm (33.50 in)
Range Of Operation (D)	1320,8 mm (52.00 in)
Degree Of Operation	90°

Dealer Copy -- Not for Resale

(SG30) STUMP GRINDER SPECIFICATIONS (CONT'D)

Performance



Dealer Copy -- Not for Resale

DESCRIPTION	SG30
Weight	209 Kg (460 lb)
Wheel Diameter w/teeth	457,2 mm (18.00 in)
Number Of Teeth	(6 right, 6 left, 4 straight)
Overall Length (A)	1175 mm (46.25 in)
Maximum Cutting Depth (B)	278,4 mm (11.00 in)
Wheel Speed	660 to 996 rpm

Hydraulic System

DESCRIPTION	SG30
Hydraulic Flow	37,8 - 53,0 L/min (10 - 14 U.S. gpm)



Bobcat®

Dealer Copy -- Not for Resale

WARRANTY

WARRANTY101

Dealer Copy -- Not for Resale



Bobcat®

Dealer Copy -- Not for Resale

WARRANTY

Bobcat Attachments

Bobcat Company warrants to its authorized dealers and authorized dealers of Bobcat Equipment Ltd., who in turn warrant to the owner, that each new Bobcat attachment will be free from proven defects in material and workmanship with respect to (i) all components of the product except as otherwise specified herein for twelve (12) months, (ii) auxiliary hydraulic quick couplers for six (6) months or 200 hours, whichever occurs first and (iii) non-serialized attachments for six (6) months. The foregoing time periods shall commence after delivery by the authorized Bobcat dealer to the original buyer.

During the warranty period, the authorized Bobcat dealer shall repair or replace, at Bobcat Company's option, without charge for parts and labor, any part of the Bobcat product which fails because of defects in material or workmanship. The owner shall provide the authorized Bobcat dealer with prompt written notice of the defect and allow reasonable time for replacement or repair. Bobcat Company may, at its option, require failed parts to be returned to the factory. Travel time of mechanics and transportation of the Bobcat product to the authorized Bobcat dealer for warranty work are the responsibility of the owner. The remedies provided in this warranty are exclusive.

This warranty does not cover replacement of scheduled service items and high wear items. The owner shall rely solely on the warranty, if any, of the respective manufacturers thereof. This warranty does not cover damages resulting from abuse, accidents, alterations, use of the Bobcat product as an attachment on any equipment not approved by Bobcat Company, air flow obstructions, or failure to maintain or use the Bobcat product according to the instructions applicable to it.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXCEPT THE WARRANTY OF TITLE. BOBCAT COMPANY DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOSS OR INTERRUPTION OF BUSINESS, LOST PROFITS, OR LOSS OF MACHINE USE, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY, STATUTE OR OTHERWISE, EVEN IF BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE TOTAL LIABILITY OF BOBCAT COMPANY AND THE AUTHORIZED BOBCAT DEALERS WITH RESPECT TO THE PRODUCT AND SERVICES FURNISHED HEREUNDER SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.



6570124 (11-17)

Printed in U.S.A.

Dealer Copy -- Not for Resale



Bobcat®

Dealer Copy -- Not for Resale

ALPHABETICAL INDEX

(SG30) STUMP GRINDER SPECIFICATIONS	95
ATTACHMENT IDENTIFICATION	8
ATTACHMENT SIGNS (DECALS)	18
ATTACHMENT STORAGE AND RETURN TO SERVICE	91
BOBCAT COMPANY IS ISO 9001 CERTIFIED	5
DAILY INSPECTION	21
DELIVERY REPORT	7
FEATURES AND ACCESSORIES	9
FIRE PREVENTION	15
LIFTING THE ATTACHMENT	78
LUBRICATING THE ATTACHMENT	86
MAINTENANCE SAFETY	83
OPERATING PROCEDURE WITH LOADERS	23
OPERATING PROCEDURE WITH MINI TRACK LOADERS	38
OPERATING PROCEDURE WITH SMALL ARTICULATED LOADERS	55
PUBLICATIONS AND TRAINING RESOURCES	17
REMOVAL AND INSTALLATION OF CUTTING TEETH	88
REMOVAL AND INSTALLATION OF SCREEN	90
SAFETY INSTRUCTIONS	13
SERIAL NUMBER LOCATION	7
TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER	79
TRANSPORTING THE ATTACHMENT ON A TRAILER	79
TROUBLESHOOTING	85
WARRANTY	101



Bobcat®

Dealer Copy -- Not for Resale



WARNING: Cancer and Reproductive Harm. This product can expose you to chemicals including lead and lead compounds, mineral oils, and phthalates which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Bobcat[®], the Bobcat logo and the colors of the Bobcat machine are registered trademarks of Bobcat Company in the United States and various other countries.