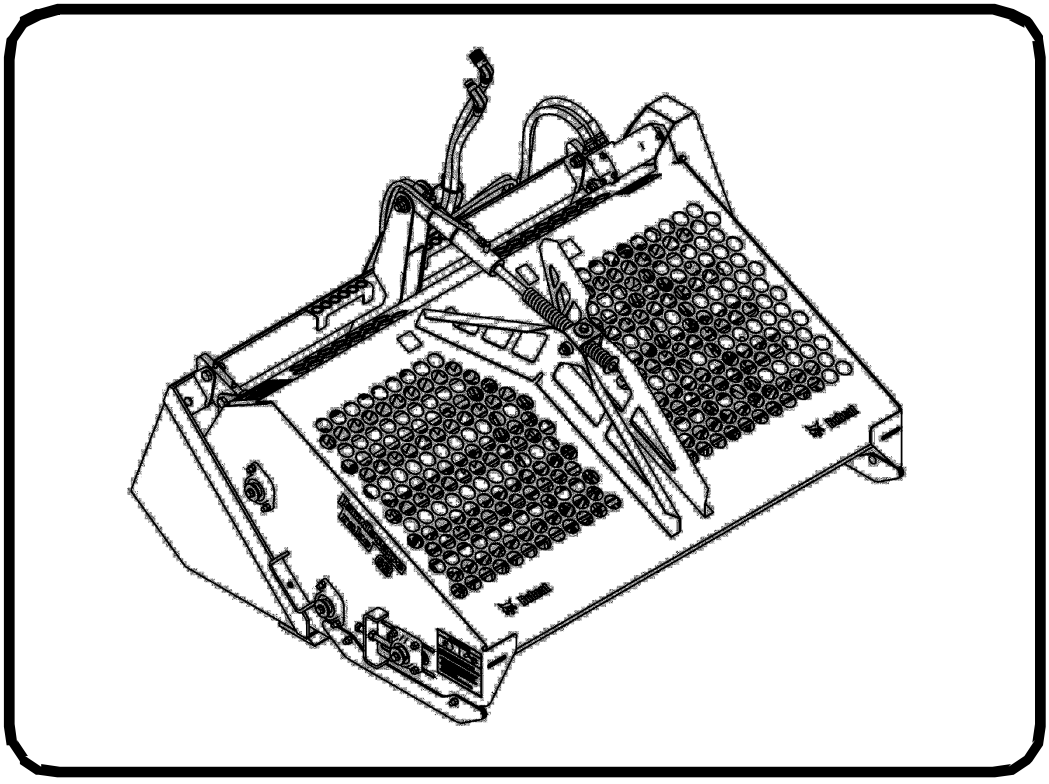
EN

Bobcat®

Operation & Maintenance Manual
Landscape Rake

(LR 5B) S/N 910700101 & Above
(LR 6B) S/N 063000101 & Above



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CONTENTS

FOREWORD 3

SAFETY AND TRAINING RESOURCES 11

OPERATING INSTRUCTIONS 25

PREVENTIVE MAINTENANCE 67

SPECIFICATIONS 87

WARRANTY 91

ALPHABETICAL INDEX 95

REFERENCE INFORMATION

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

Attachment Serial Number _____

NOTES:

_____

_____

_____

YOUR BOBCAT DEALER:

_____

ADDRESS:

_____

PHONE:

_____

CE

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

Doosan Bobcat EMEA s.r.o.
U Kodetky 1810
26312 Dobris
CZECH REPUBLIC

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FOREWORD

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

DECLARATION OF CONFORMITY 5

BOBCAT COMPANY IS IS0 9001 CERTIFIED 7

SERIAL NUMBER LOCATION 8
Attachment Serial Number 8

DELIVERY REPORT 8

ATTACHMENT IDENTIFICATION 9

FEATURES AND ACCESSORIES 10
Standard Items 10

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Declaration of Conformity for Interchangeable Equipment

Directive 2006/42/EC of the European Parliament and of The Council
"Machinery Directive Article 1(1)(b)"

Manufacturer

Bobcat

Bobcat Company
World Headquarters
250 East Beaton Drive
West Fargo, ND 58078-6000
UNITED STATES OF AMERICA

Equipment Also Compliant to Other EC Directive(s) or Standard(s) Listed Below:

Technical Documentation Homologation Manager
Doosan Bobcat Engineering
s.r.o. U Kodetky 1978
26312 Dobříš
CZECH REPUBLIC

Description of Equipment

Type of Interchangeable Equipment:	Landscape Rake	
Model Name: Model Code:	LR 5B	LR 6B
Lot Series:	910700101 & above	063000101 & above

Declaration of Conformance
This equipment conforms to the requirements of an interchangeable equipment as specified in Machinery Directive 2006/42/EC Article1(1)(b) and any other directives listed. This declaration applies exclusively to the interchangeable equipment and does not include any hydraulic, electrical or mechanical adaptation done by the installer. Installation shall be done in accordance with instructions and specifications included in this manual.

Authorized Signatory and Place of Declaration

Troy Kraft
Vice President Engineering

Date: December 29, 2009
Place: Bismarck, North Dakota, USA

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BOBCAT COMPANY IS IS0 9001 CERTIFIED

ISO 9001 is an international standard that specifies requirements for a quality management system that controls the processes and procedures which we use to design, develop, manufacture, and distribute Bobcat products.

British Standards Institute (**BSI**) is the Certified Registrar Bobcat Company chose to assess the company's compliance with the ISO 9001 at Bobcat's manufacturing facilities in Gwinner, North Dakota (U.S.A.), Pontchâteau (France), and the Bobcat corporate offices (Gwinner, Bismarck, and West Fargo) in North Dakota. **TÜV Rheinland** is the Certified Registrar Bobcat Company chose to assess the company's compliance with the ISO 9001 at Bobcat's manufacturing facility in Dobris (Czech Republic). Only certified assessors, like BSI and TÜV Rheinland, can grant registrations.

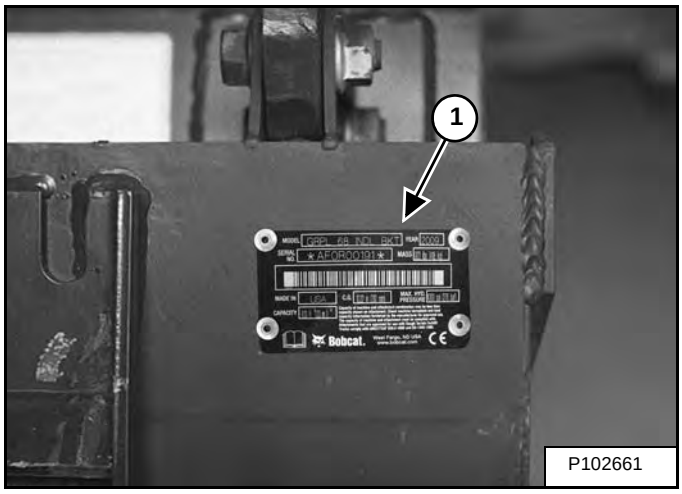
ISO 9001 means that as a company we say what we do and do what we say. In other words, we have established procedures and policies, and we provide evidence that the procedures and policies are followed.

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SERIAL NUMBER LOCATION

Attachment Serial Number

Figure 1

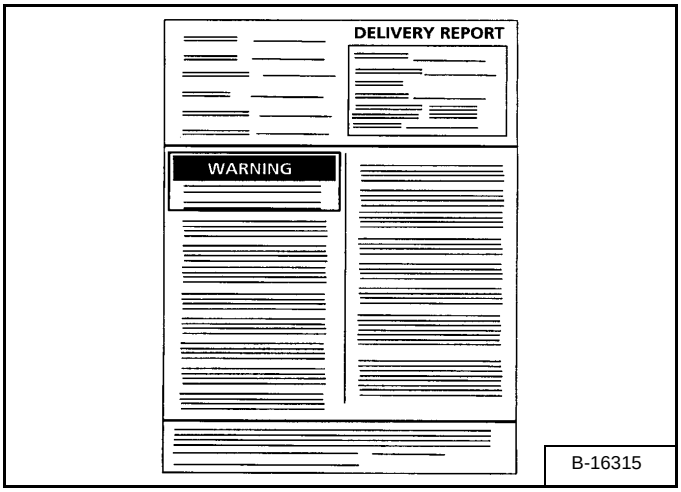


It is important to make the correct reference to the serial number of the landscape rake when making repairs or ordering parts. Early or later models (identifications made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation **[Figure 1]**.

The landscape rake serial number plate (Item 1) **[Figure 1]** is located on the back side of the bucket in the upper right corner.

DELIVERY REPORT

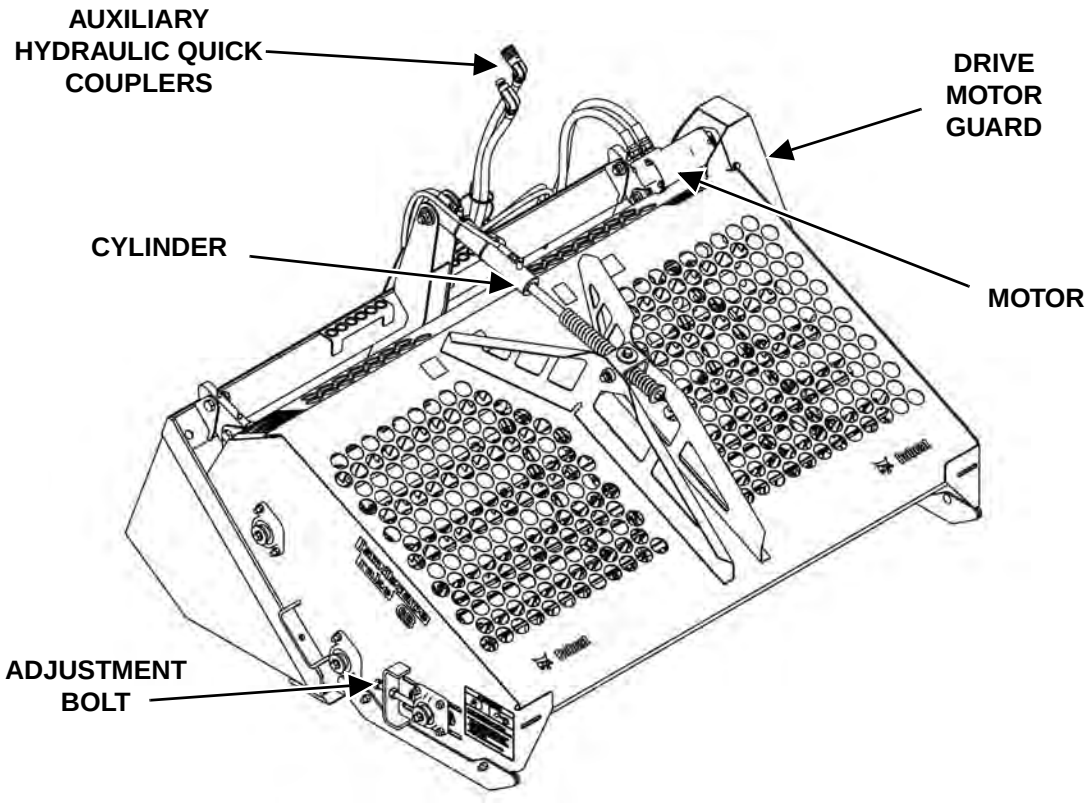
Figure 2



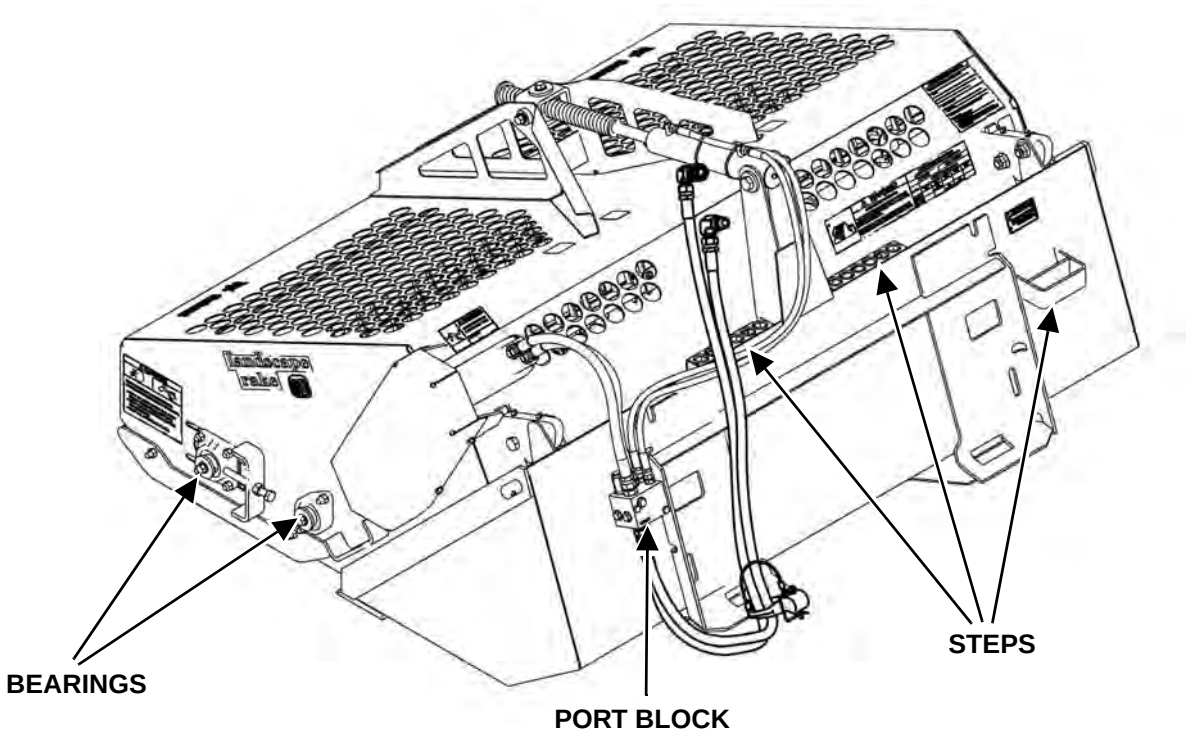
The delivery report **[Figure 2]** contains a list of items that must be explained or shown to the owner or operator by the dealer when the Bobcat landscape rake is delivered.

The delivery report must be reviewed and signed by the owner or operator and the dealer.

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P102674



P102673

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FEATURES AND ACCESSORIES

Standard Items

The landscape rake is equipped with the following Standard Items:

- Adjustable Side Skis To Control Depth
- Top Cover Opens For Easier Dumping

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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
- 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
- Pictorial Only Safety Signs 19

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SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility

Safety Alert Symbol

This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

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 co-ordination 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. For driving on public roads, the machine must be equipped as stipulated by the local regulations authorising operation on public roads in your specific country. 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.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, respiratory equipment, hearing protection, Special Applications Kits or a Front Window Guard are required for some work. See your Bobcat dealer about Bobcat Safety equipment for your machine.

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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.

Avoid Silica Dust



Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Use a respirator, water spray or other means to control dust.

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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.

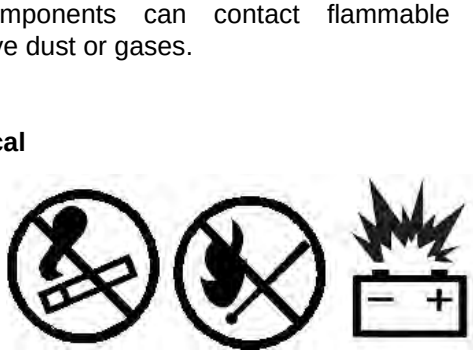
The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolants 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 petrol or diesel fuel for cleaning parts. Use commercial non-flammable 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).

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FIRE PREVENTION (CONT'D)

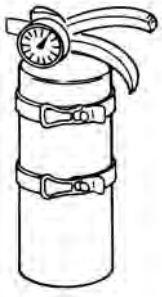
Welding And Grinding

Always clean the machine and attachment, disconnect the battery, and disconnect the wiring from the Bobcat controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing non-metallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Fire Extinguishers



Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

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PUBLICATIONS AND TRAINING RESOURCES

The following publications are also available for your Bobcat attachment. You can order from your Bobcat dealer.

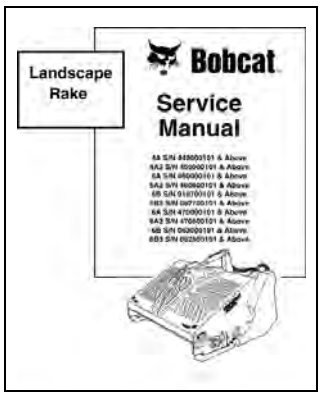
For the latest information on Bobcat products and the Bobcat Company, visit our web site at **bobcat.com**



OPERATION & MAINTENANCE MANUAL

6724804enGB

Complete instructions on the correct operation and the routine maintenance of the Bobcat Attachment.



SERVICE MANUAL

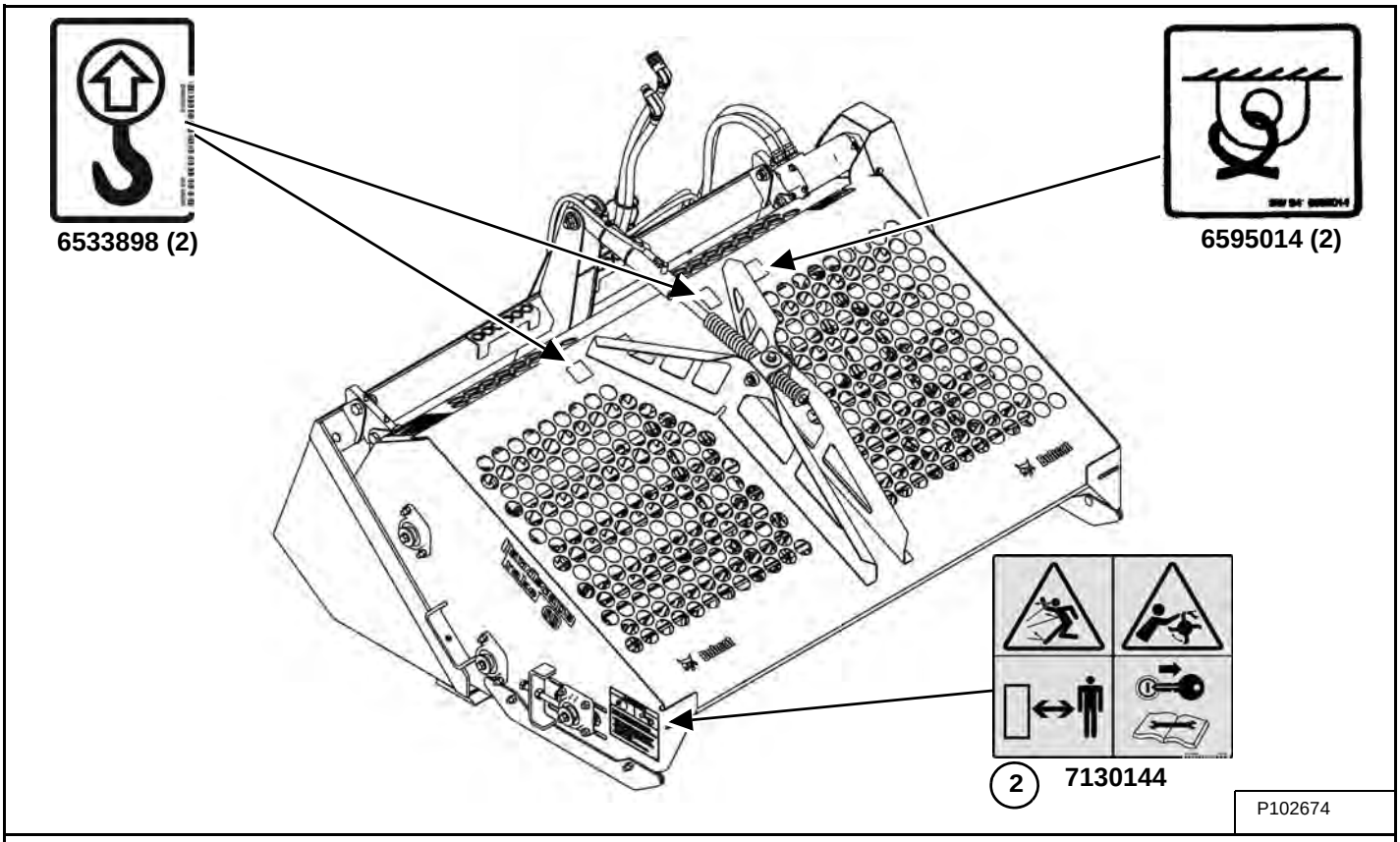
6900890

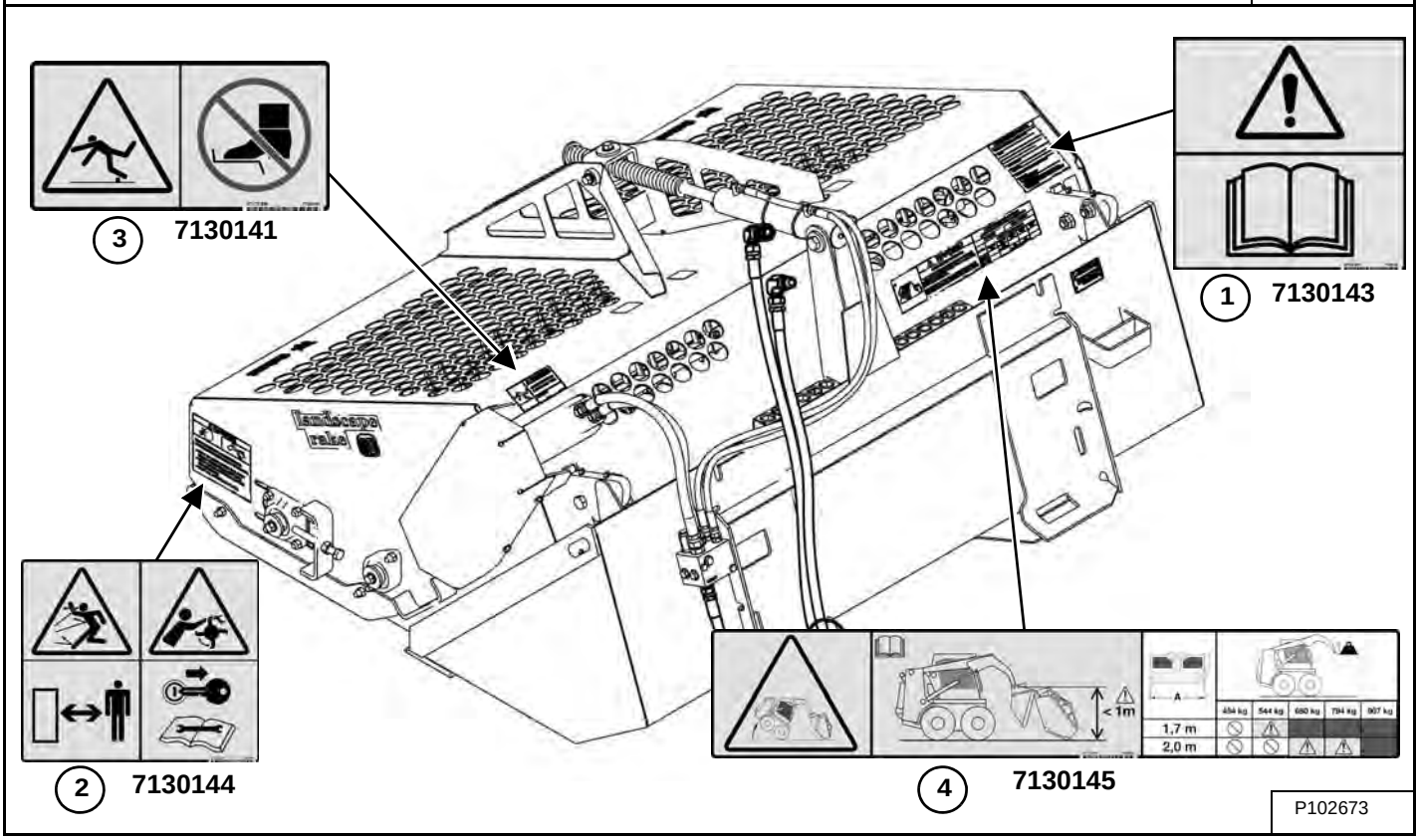
Complete maintenance and overhaul instructions for your Bobcat Attachment.

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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 dealer.





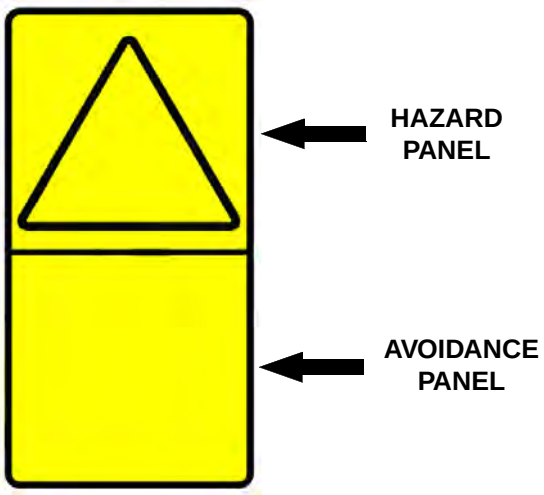
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ATTACHMENT SIGNS (DECALS) (CONT'D)

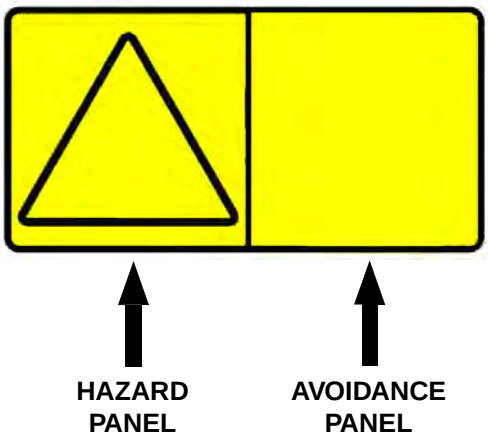
Pictorial Only Safety Signs

Safety signs are used to alert the equipment operator or maintenance person to hazards that may be encountered in the use and maintenance of the equipment. The location and description of the safety signs are detailed in this section. Please become familiarised with all safety signs installed on the machine / attachment.

Vertical Configuration



Horizontal Configuration



The format consists of the hazard panel(s) and the avoidance panel(s):

Hazard panels depict a potential hazard enclosed in a safety alert triangle.

Avoidance panels depict actions required to avoid the hazards.

A safety sign may contain more than one hazard panel and more than one avoidance panel.

NOTE: See the numbered ATTACHMENT SIGNS (DECALS) on Page 18 for the location of each correspondingly numbered pictorial only decal.

1. General Warning (7130143)

This safety sign is located on the back side of the landscape rake.



WARNING

AVOID INJURY OR DEATH

Never use the attachment without instructions. Read the Operation & Maintenance Manual.

W-2850-0410

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ATTACHMENT SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

2. Warning (7130144)

This safety sign is located on both sides of the landscape rake.



WARNING

DO NOT ENTER OR EXIT ON THIS SIDE

You could slip, trip or fall and become seriously injured.

W-2809-1009

WARNING

AVOID INJURY OR DEATH

- **Bystanders must keep at least 3 m (10 ft) away from the machine and attachment when operating.**
- **Never leave the operating position when the engine is running.**

W-2320-0910

3. Tripping Hazard (7130141)

This safety sign is located on the top left side of the landscape rake.



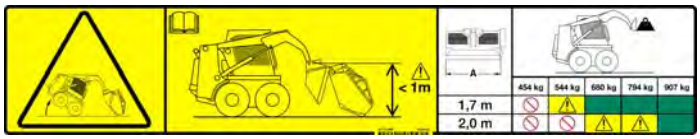
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ATTACHMENT SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

4. Lift Restriction (7130145)

This safety sign is located on the back of the landscape rake.



WARNING

AVOID TIPPING

Lift restriction requires that loaded rake not be lifted more than 1 m (3 ft).

Consult the LIFT RESTRICTION decal before lifting or dumping.

W-2842-0910

See the machine's Operation & Maintenance manual and Operator's Handbook for the Rated Operating Capacity (ROC).

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OPERATING INSTRUCTIONS

INITIAL SETUP 25
Tilt Restrictor Installation 25

DAILY INSPECTION 26
Attachment Mounting Frame 26
Telescopic Handler Adapter Frame 26
Bob-Tach 27

OPERATING PROCEDURE WITH LOADERS 29
Approved Loader Models And Requirements 29
Machine / Attachment Setup 30
Entering And Exiting The Loader 32
Installation 34
Hydraulic Quick Couplers 41
Control Functions 42
Operation With The Loader 44
Removal 47

OPERATING PROCEDURE WITH TELESCOPIC HANDLERS 51
Approved Telescopic Handler Models And Requirements 51
Entering And Exiting The Telescopic Handler 52
Installation 53
Hydraulic Quick Couplers 57
Control Functions 58
Operation With The Telescopic Handler 59
Removal 62

LIFTING THE ATTACHMENT 63
Procedure 63

TRANSPORTING THE ATTACHMENT ON A TRAILER 63
Fastening 63

TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER 64
Loading And Fastening 64

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INITIAL SETUP

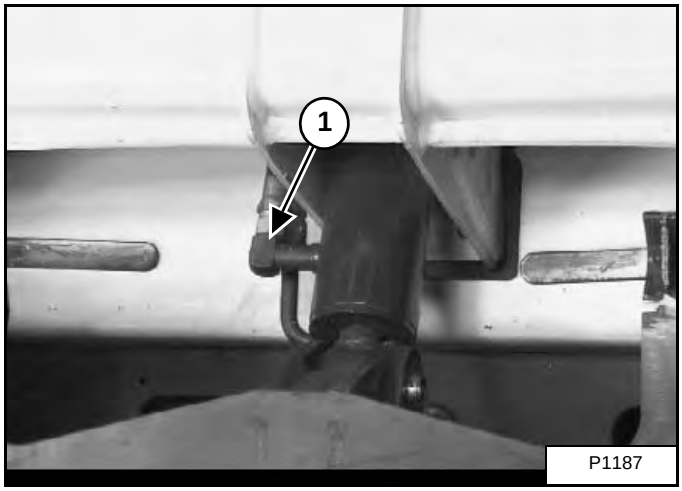
Tilt Restrictor Installation

NOTE: It is recommended that tilt restrictor be installed on all loaders with a single tilt cylinder. See your Bobcat dealer for parts information.

It is optional to install the tilt restrictor on loaders with dual tilt cylinders (773 and 873).

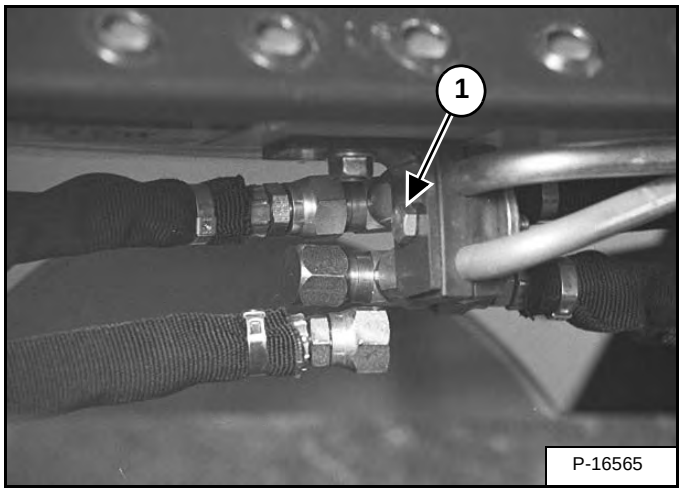
The tilt restrictor will slow the tilt function. This will allow more precise movement of the landscape rake. (This becomes more noticeable as the landscape rake's bucket fills with debris.)

Figure 3



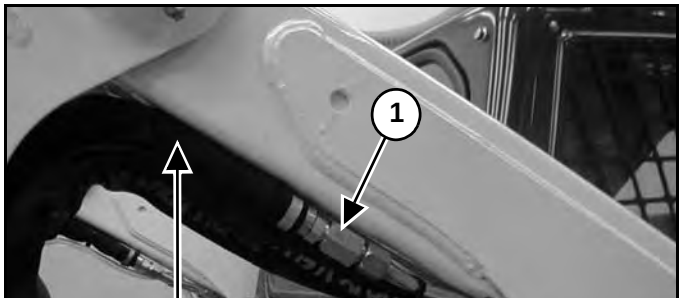
Install the tilt restrictor (Item 1) **[Figure 3]** (on loaders with single tilt cylinder), between the hose and the fitting on the rod end side of the tilt cylinder.

Figure 4



For model 773 (dual tilt cylinders), install the tilt restrictor (Item 1) **[Figure 4]** between the tee fitting and the tube line that goes to the rod end of the tilt cylinders.

Figure 5



For Model 873 (dual tilt cylinders), install the tilt restrictor (Item 1) **[Figure 5]** between the hose and the tube on the right lift arm. (This hose goes to the rod end of the tilt cylinders.)

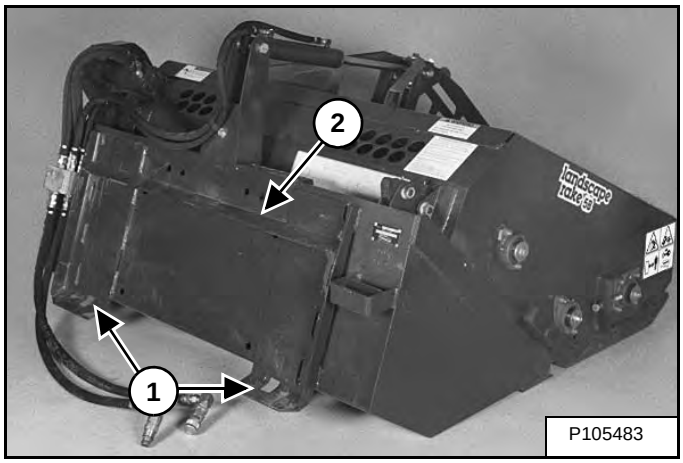
NOTE: Two tie straps holding the tilt cylinder hoses (Item 2) [Figure 5] will need to be removed before installing the tilt restrictor. Install new tie straps to the hoses after the restrictor has been installed.

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DAILY INSPECTION

Attachment Mounting Frame

Figure 6

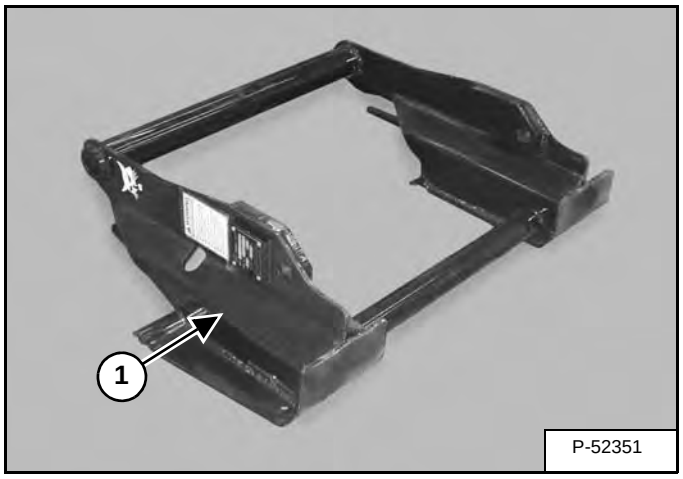


Inspect the Bob-Tach® wedge mounts (Item 1), mounting flange (Item 2) **[Figure 6]** and all welds on the landscape rake for wear and damage each time the landscape rake is removed from the machine.

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

Telescopic Handler Adapter Frame

Figure 7



Inspect the adapter frame (Item 1) **[Figure 7]** and all welds on the attachment mount for wear and damage each time the attachment is removed from the machine.

Repair or replace damaged parts.

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Bob-Tach

Hand Lever Bob-Tach

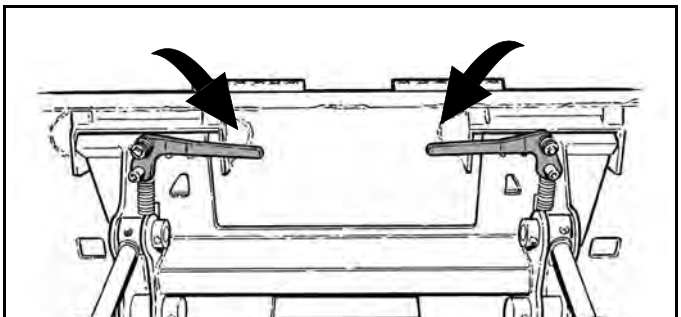
⚠ WARNING

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

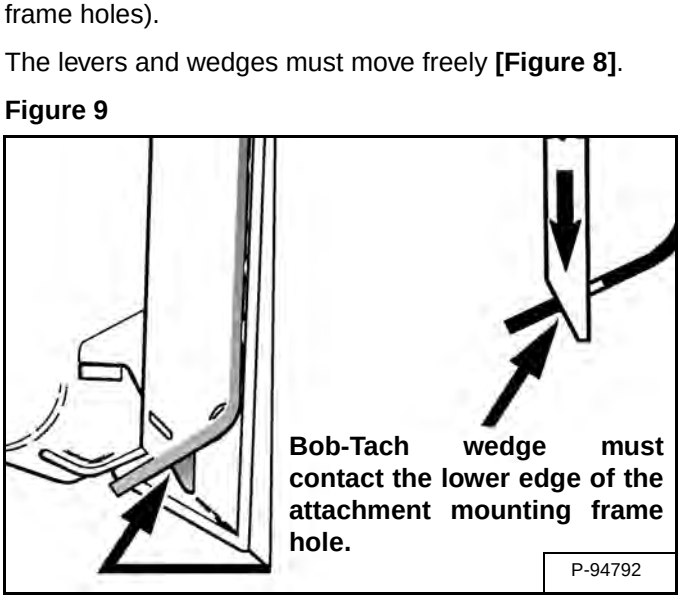
Figure 8



Push down on the Bob-Tach levers until they are fully engaged in the locked position **[Figure 8]** (wedges fully extended through the attachment mounting frame holes).

The levers and wedges must move freely **[Figure 8]**.

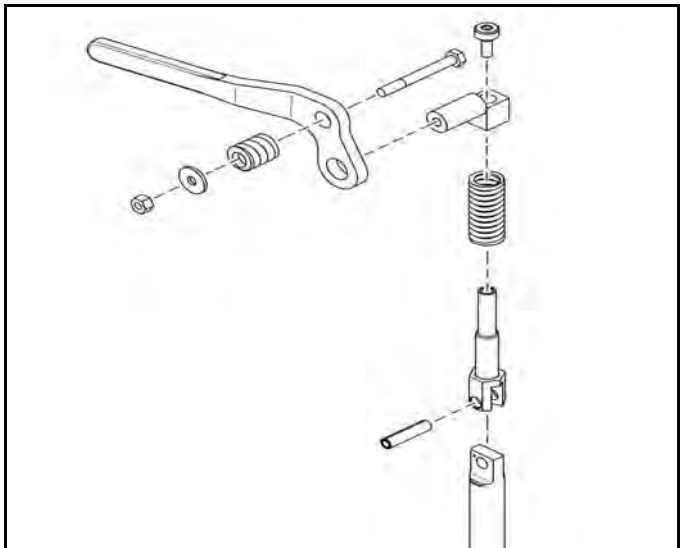
Figure 9



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 9]**.

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.

Figure 10



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 **[Figure 10]**. 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.)

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Bob-Tach (Cont'd)

Power 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.

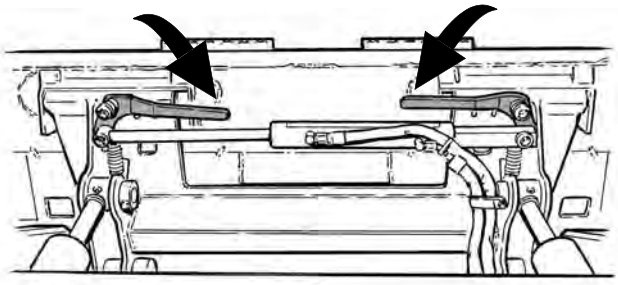
W-2715-0208

Figure 11



B-15993A

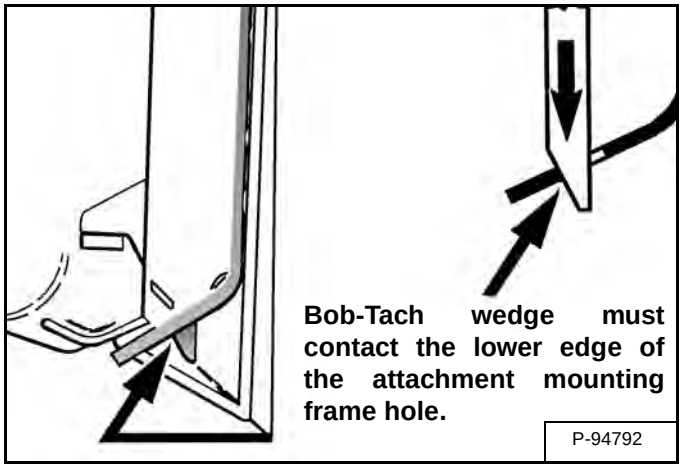
Figure 12



P-41500A

Push (Item 1) **[Figure 11]** and hold the BOB-TACH "WEDGES DOWN" switch until the levers are fully engaged in the locked position **[Figure 12]** (wedges fully extended through the attachment mounting frame holes).

Figure 13



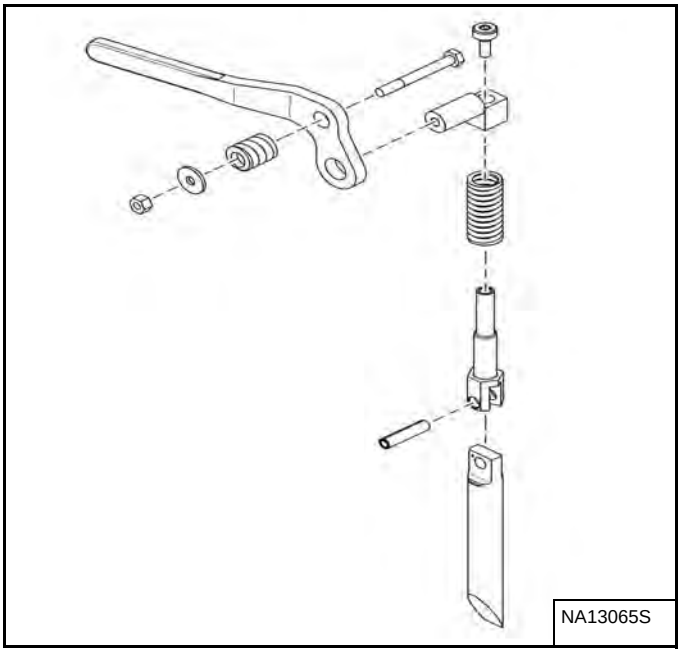
Bob-Tach wedge must contact the lower edge of the attachment mounting frame hole.

P-94792

The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 13]**.

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.

Figure 14



NA13065S

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 **[Figure 14]**. 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.)

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OPERATING PROCEDURE WITH LOADERS

Approved Loader Models And Requirements

Figure 15

LOADER MODEL	LANDSCAPE RAKE	
	LR 5B	LR 6B
743	X	
751	X	
753	X	
753L	X	X
7753	X	X
763	X	X
773	X	X
843		X
853		X
863		X
864		X
873		X
A300		X
A770		X
S130	X	
S150	X	X
S160	X	X
S175	X	X
S185	X	X
S205	X	X
S220		X
S250		X
S300		X
S450	X	
S510	X	X
S530	X	X
S550	X	X
S550	X	X
S570	X	X
S590	X	X
S630	X	X
S650	X	X
S740		X
S770		X
S850		X
T140	X	
T180	X	X
T190	X	X
T250		X
T300		X
T320		X
T450	X	
T550	X	X
T590	X	X
T650	X	X
T770		X
T870		X

X = Approved

The chart **[Figure 15]** shows the approved landscape rake models for each loader model.

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.

⚠ WARNING

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 16

EARLIER MODELS

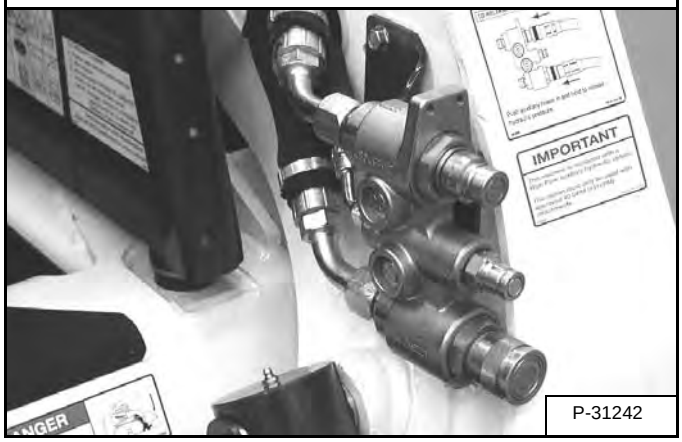
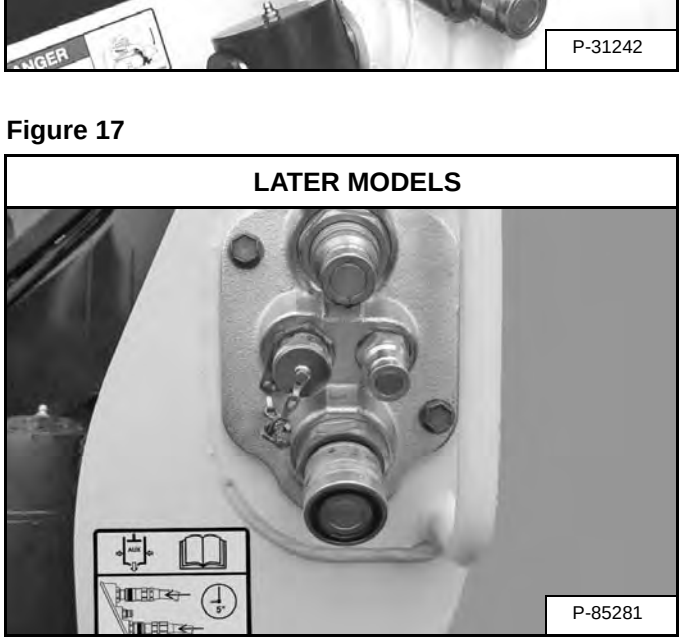


Figure 17

LATER MODELS



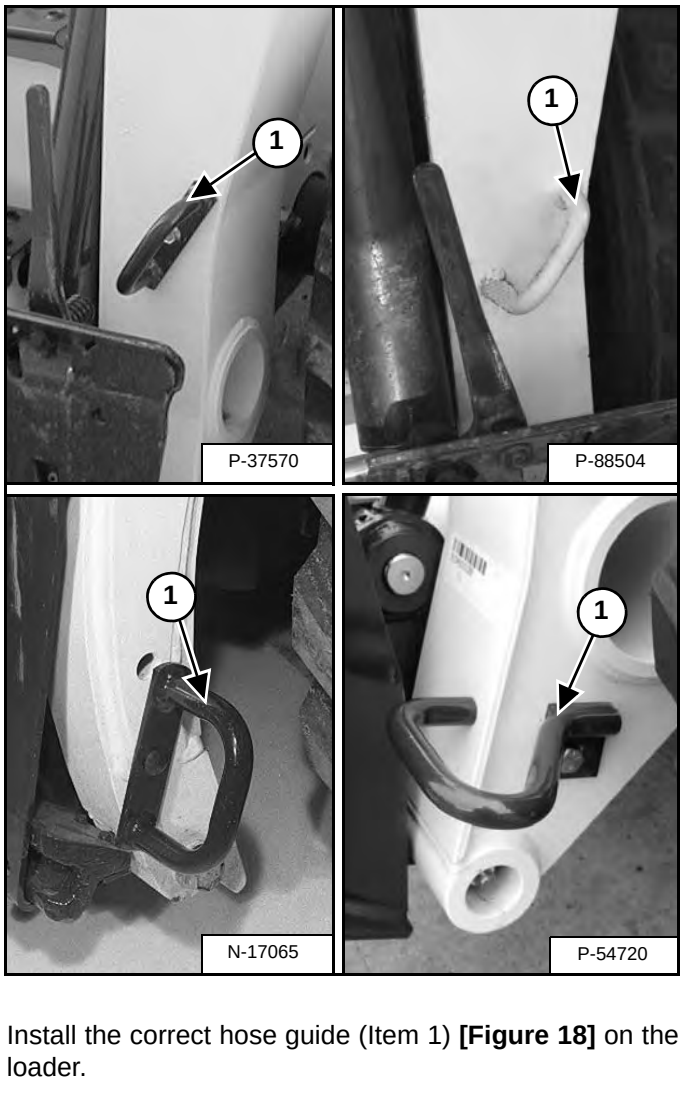
The loader must be equipped with front auxiliary hydraulics **[Figure 16]** or **[Figure 17]** for proper operation of the attachment. See your Bobcat dealer for available kits.

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Machine / Attachment Setup

Hose Guide Installation (Earlier Version)

Figure 18

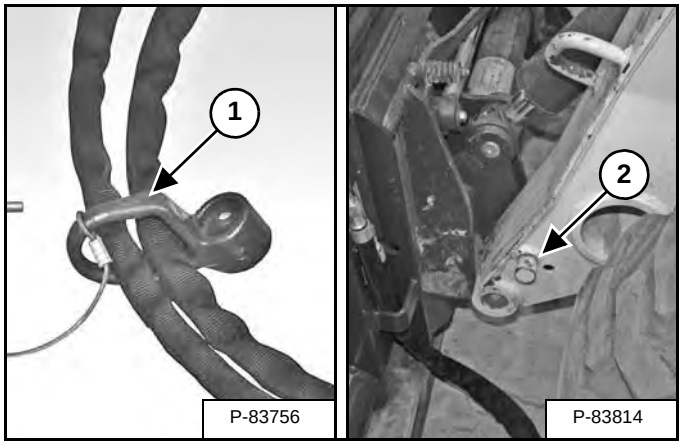


Install the correct hose guide (Item 1) **[Figure 18]** on the loader.

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

Hose Guide Installation (Removable - If Equipped)

Figure 19



NOTE: Some attachments are factory equipped with a removable hose guide (Item 1) installed on the hydraulic hoses. The removable hose guide is factory installed for use with Bobcat loaders equipped with a mounting post (Item 2) [Figure 19]. Removable hose guide and mounting post kits are available through your Bobcat dealer.

Installation of removable hose guide is done during hose routing. (See Hose Routing (Removable - If Equipped) on Page 40.)

Figure 20



Shown is the removable hose guide (Item 1) **[Figure 20]** correct orientation for a loader.

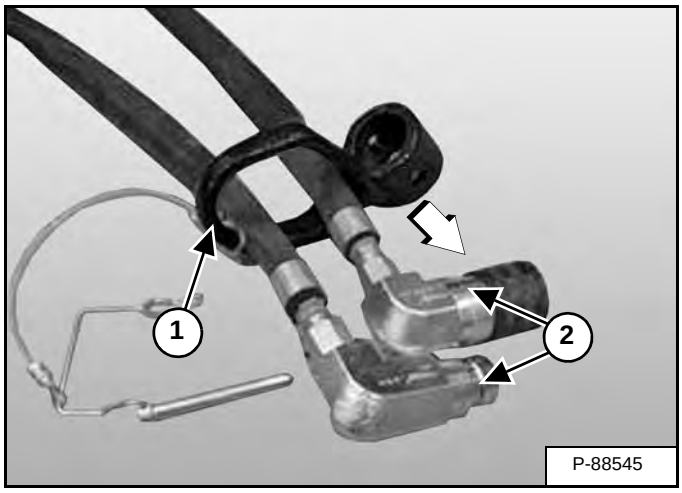
NOTE: The removable hose guide orientation may need to be changed for correct installation onto the machine.

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Machine / Attachment Setup (Cont'd)

Hose Guide Installation (Removable - If Equipped) (Cont'd)

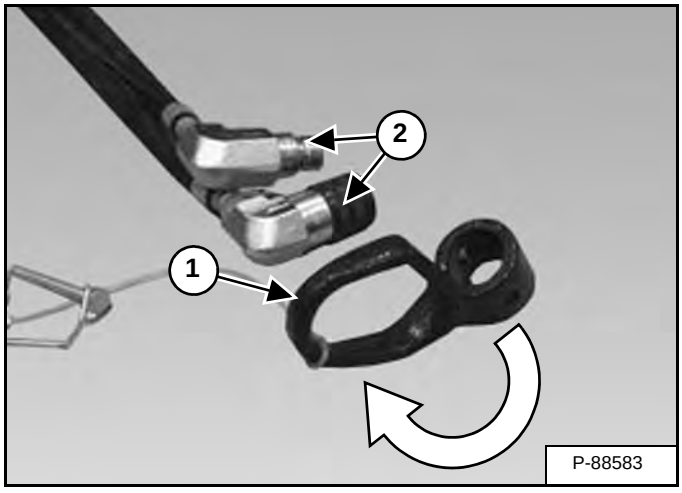
Figure 21



To change the removable hose guide (Item 1) **[Figure 21]** orientation, slide the removable hose guide off the hoses.

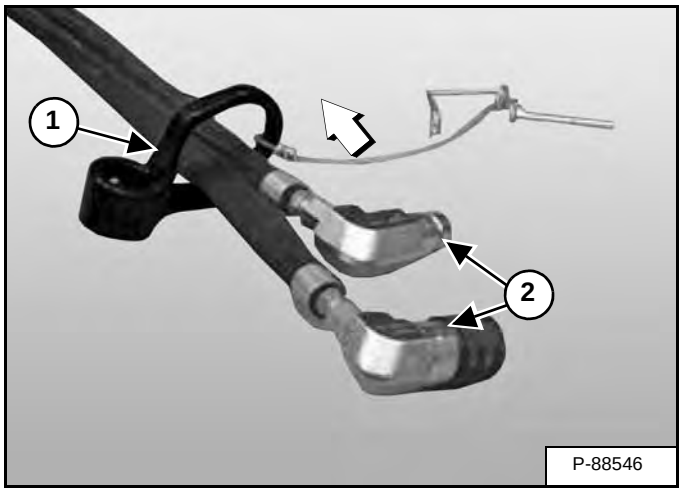
NOTE: It may be necessary to remove the hose couplers (Item 2) [Figure 21].

Figure 22



Flip the removable hose guide (Item 1) over to reverse its orientation on the hoses (Item 2) **[Figure 22]**.

Figure 23



Slide the removable hose guide (Item 1) **[Figure 23]** back onto the hoses.

NOTE: If the couplers (Item 2) [Figure 23] were removed, reinstall at this time.

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Entering And Exiting The Loader

Entering

⚠ WARNING

AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belt fastened snugly.**
- **The seat bar must be lowered.**
- **Keep your feet on the pedal controls or footrests and hands on the controls.**

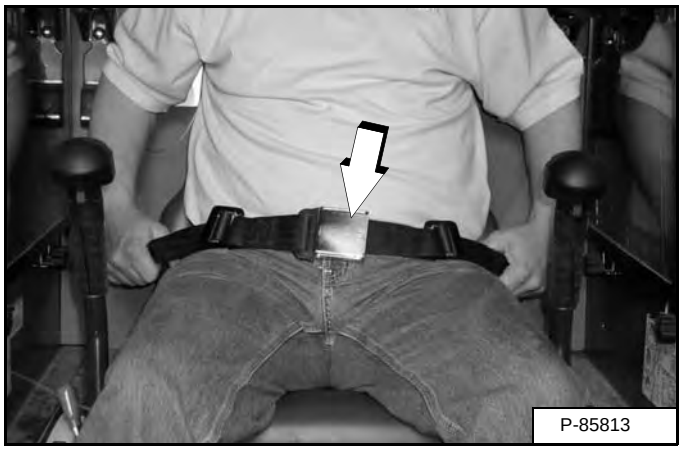
W-2261-0909

Figure 24



Use the landscape rake step, grab handles (on cab) and the safety treads (on top of the loader lift arms and frame) to enter and exit the loader **[Figure 24]**.

Figure 25



Enter the loader. Fasten the seat belt and adjust it so the buckle is centred between your hips **[Figure 25]**.

Figure 26



Lower the seat bar and engage parking brake **[Figure 26]**.

Put the foot pedals or hand controls in NEUTRAL position.

NOTE: Keep your hands on the steering levers and your feet on the foot pedals (or footrests) while operating the loader.

See the loader's Operation & Maintenance Manual and Operator's Handbook for detailed information on operating the loader.

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Entering And Exiting The Loader (Cont'd)

Exiting

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

Stop the engine and engage the parking brake.

Lift the seat bar and make sure the lift and tilt functions are deactivated.

Remove the key.

Exit the loader.

⚠ WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

- **Lower the lift arms, put the attachment flat on the ground.**
- **Stop the engine and engage the parking brake.**
- **Move all pedals, handles, joysticks, and other controls until they are LOCKED or in the NEUTRAL position.**

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

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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.

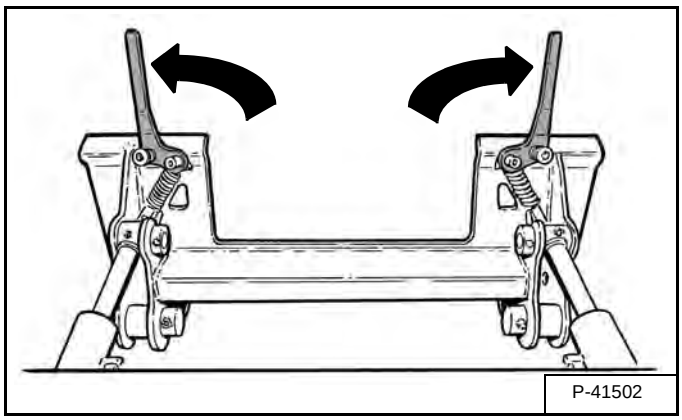
⚠ WARNING

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 28.)

Figure 27

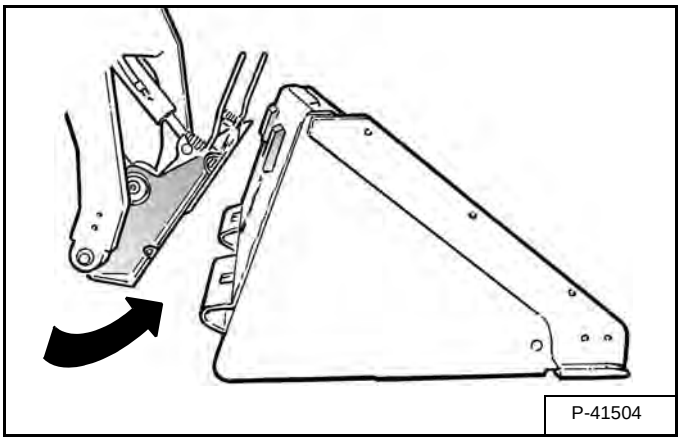


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) **[Figure 27]**.

Enter the loader. (See Entering And Exiting The Loader on Page 34.)

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

Figure 28

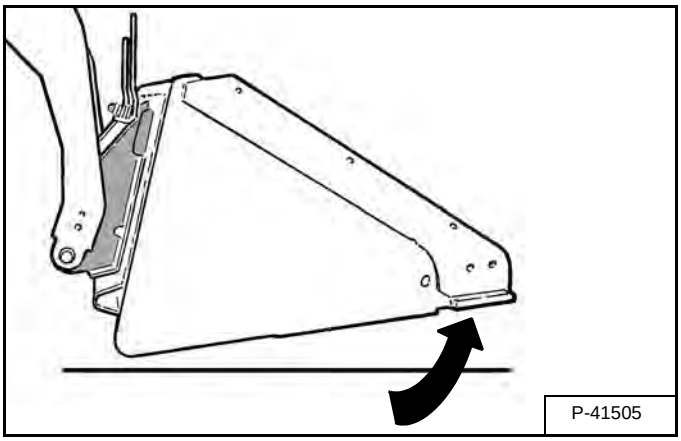


Lower the lift arms and tilt the Bob-Tach forward.

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 28]**.

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

Figure 29



Tilt the Bob-Tach backward until the attachment is slightly off the ground **[Figure 29]**. 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 34.)

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Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

⚠ WARNING

AVOID INJURY OR DEATH

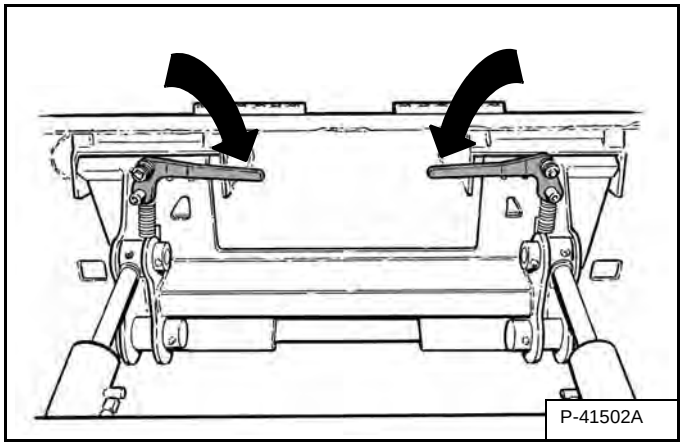
Before you leave the operator's seat:

- **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.

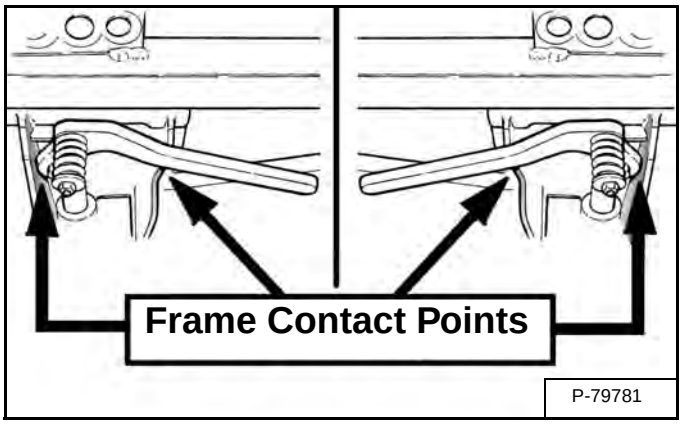
W-2463-1110

Figure 30



Push down on the Bob-Tach levers until they are fully engaged in the locked position **[Figure 30]** (wedges fully extended through the attachment mounting frame holes).

Figure 31



Both levers must contact the frame as shown when locked **[Figure 31]**.

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

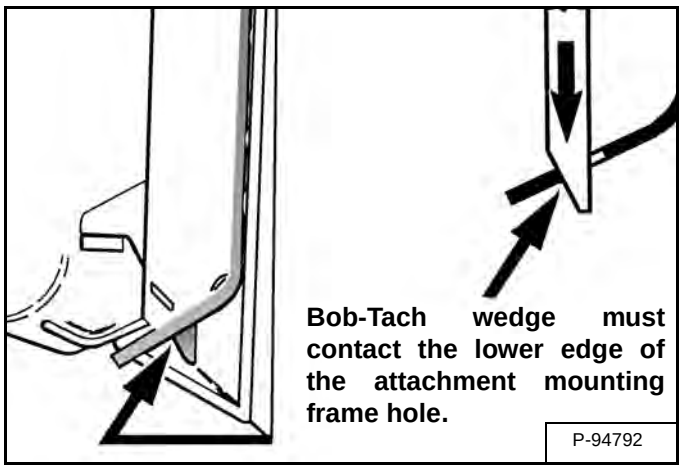
⚠ WARNING

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 32



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 32]**.

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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 machine may be equipped with a Power Bob-Tach.

Enter the loader. (See Entering And Exiting The Loader on Page 34.)

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

Figure 33

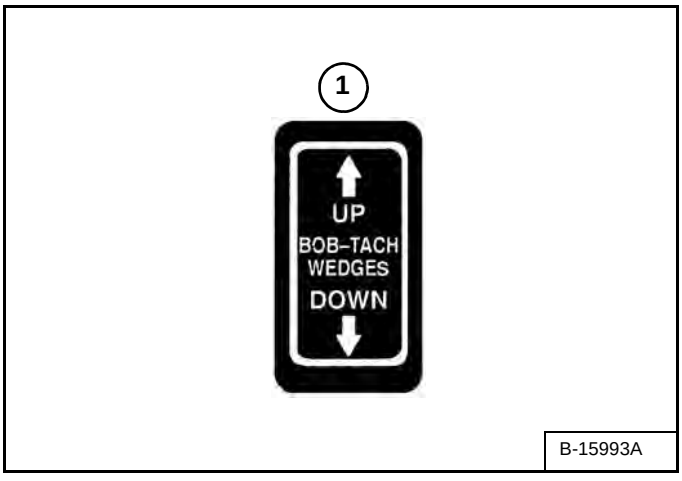
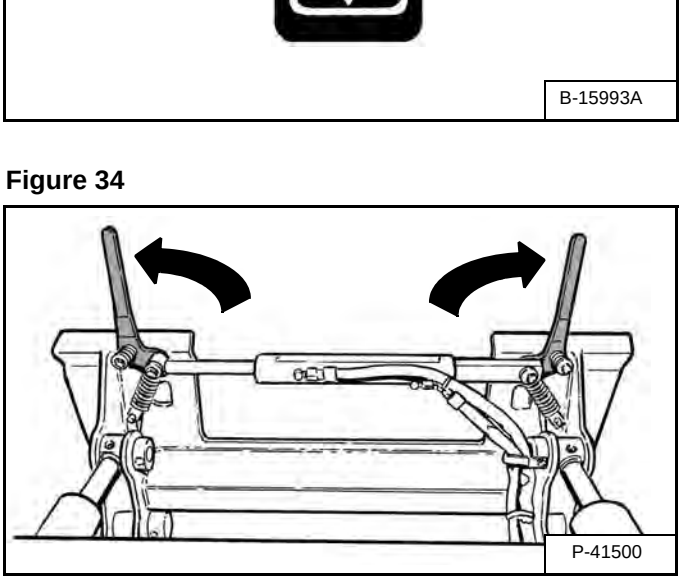
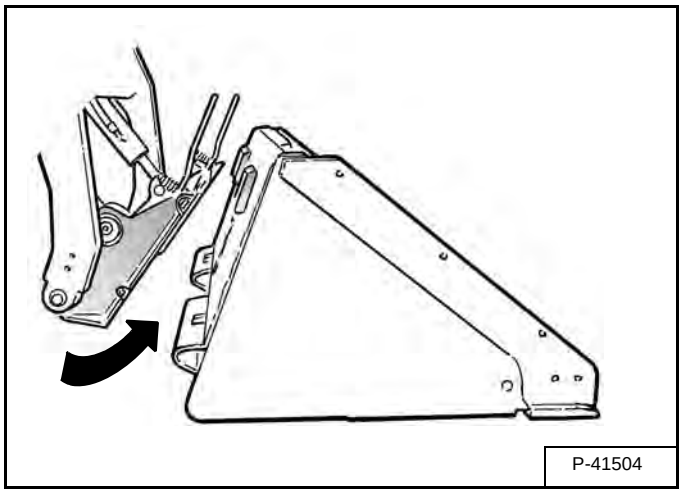


Figure 34



Push and hold the BOB-TACH "WEDGES UP" switch (Item 1) **[Figure 33]** until the levers are fully raised (wedges fully raised) **[Figure 34]**.

Figure 35



Lower the lift arms and tilt the Bob-Tach slightly 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 35]**.

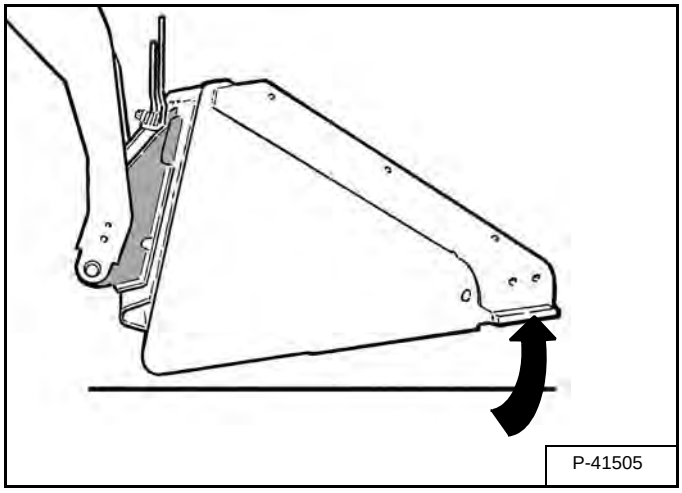
NOTE: Be sure the Bob-Tach levers do not hit the attachment.

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Installation (Cont'd)

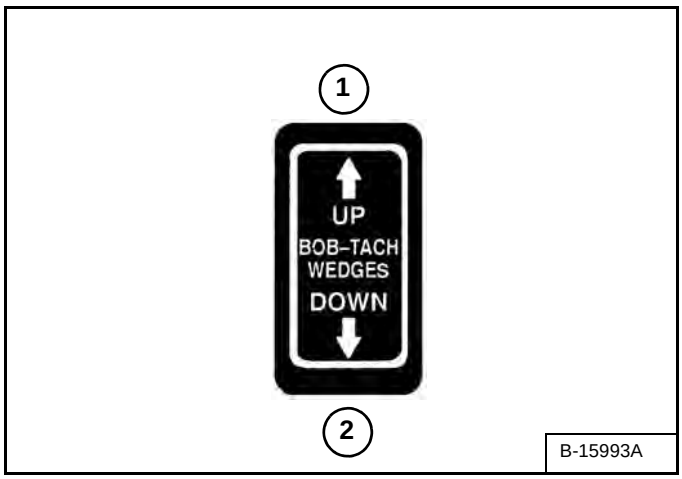
Power Bob-Tach (Cont'd)

Figure 36



Tilt the Bob-Tach backward until the attachment is slightly off the ground **[Figure 36]**. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

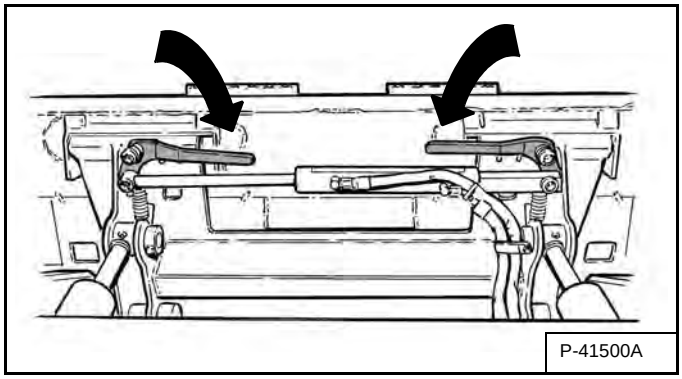
Figure 37



NOTE: The Power Bob-Tach system has continuous pressurised 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.

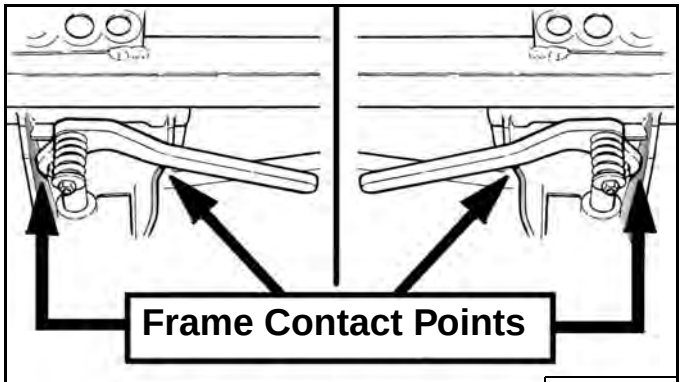
Push and hold the BOB-TACH "WEDGES UP" switch (Item 1) **[Figure 37]** until the levers are fully raised (wedges fully raised).

Figure 38



Push and hold the BOB-TACH "WEDGES DOWN" switch (Item 2) **[Figure 37]** until the levers are fully engaged in the locked position **[Figure 38]** (wedges fully extended through the attachment mounting frame holes).

Figure 39



Both levers must contact the frame as shown when locked **[Figure 39]**.

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.

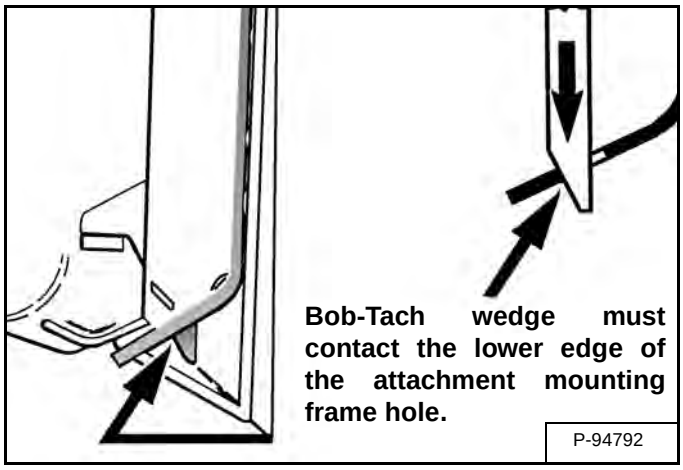
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Installation (Cont'd)

Power Bob-Tach (Cont'd)

Figure 40



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 40]**.

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

Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 34.)

⚠ WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

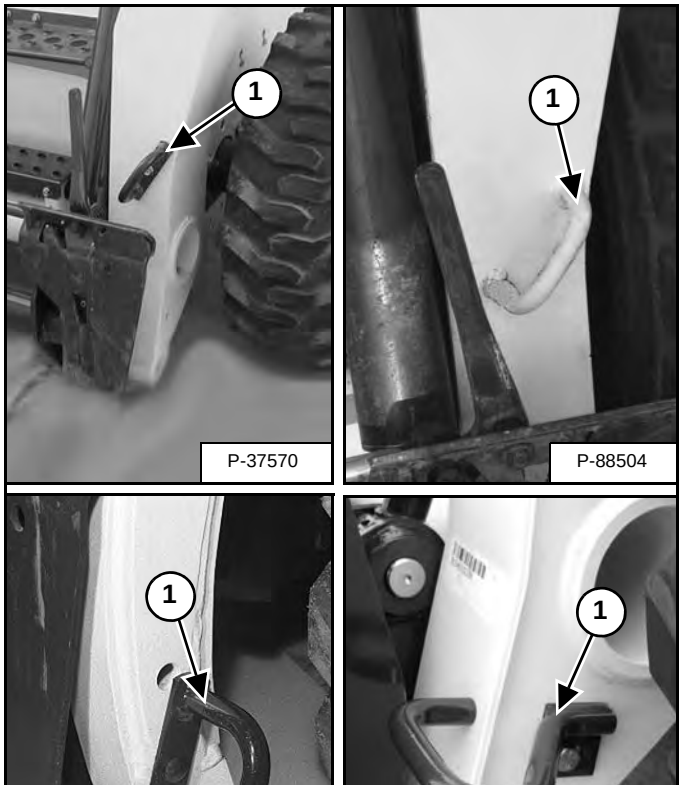
- **Lower the lift arms and put the attachment flat on the ground.**
- **Stop the engine.**
- **Engage the parking brake.**
- **Raise the seat bar.**
- **Move all controls to the NEUTRAL / LOCKED position to make sure the lift, tilt and traction drive functions are deactivated.**

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.

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Hose Routing (Earlier Version)

Figure 41

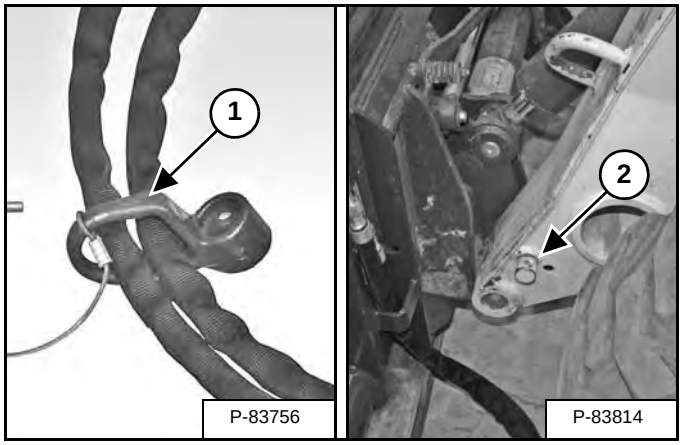


Route hoses through hose guide (Item 1) **[Figure 41]** and connect quick couplers to the loader. (See Hydraulic Quick Couplers on Page 43.)

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

Hose Routing (Removable - If Equipped)

Figure 42



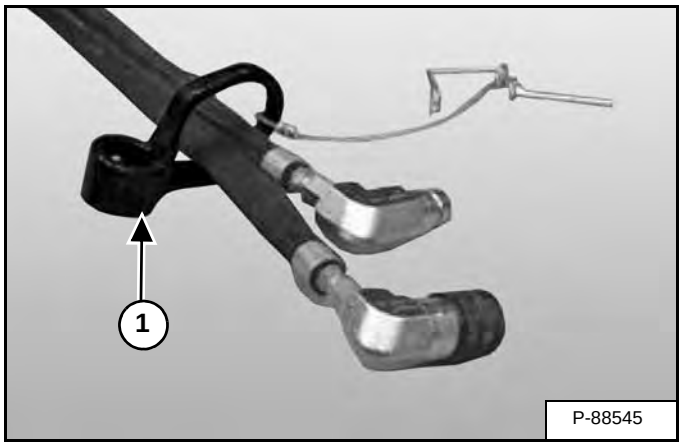
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Installation (Cont'd)

Hose Routing (Removable - If Equipped) (Cont'd)

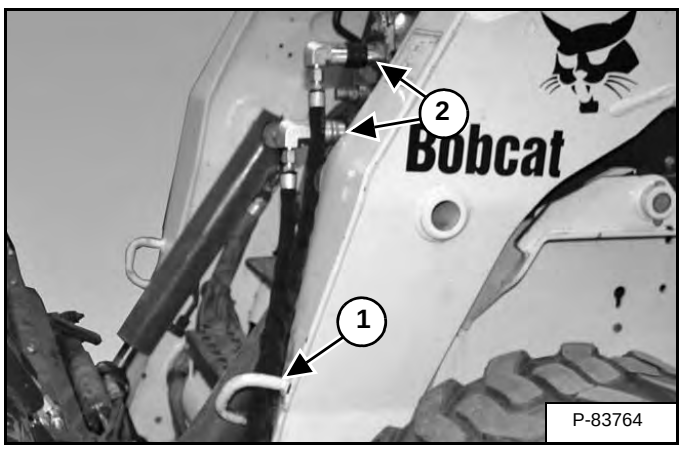
NOTE: Some attachments include removable hose guide (Item 1) for use on loaders equipped with a mounting post (Item 2) [Figure 42]. Removable hose guide and mounting post kits are available through your Bobcat dealer.

Figure 43



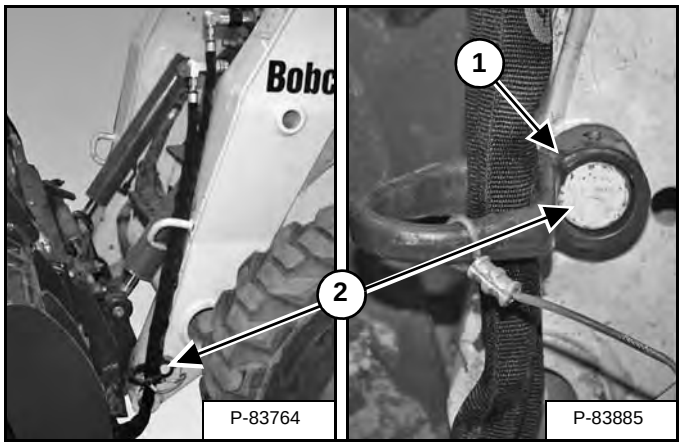
The removable hose guide (Item 1) **[Figure 43]** is pre-installed on the hydraulic hoses. If the orientation of the hose guide needs to be changed. (See Hose Guide Installation (Removable - If Equipped) on Page 32.)

Figure 44



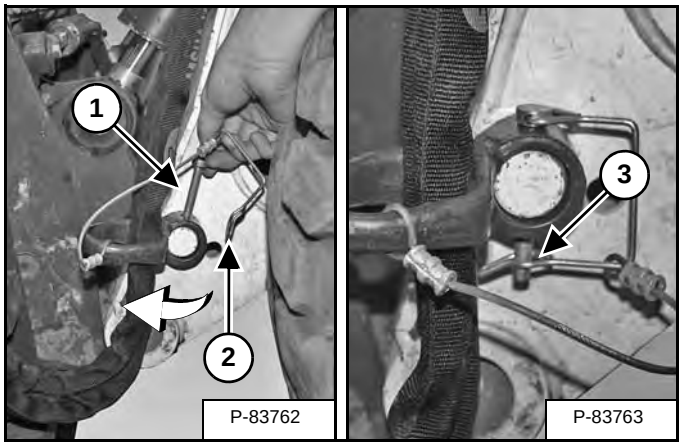
If your loader has an earlier version hose guide, route the attachment hydraulic hoses through the hose guide (Item 1). Connect the quick couplers to the loader (Item 2) **[Figure 44]**. (See Hydraulic Quick Couplers on Page 43.)

Figure 45



Install the removable hose guide (Item 1) onto the mounting post (Item 2) **[Figure 45]** located on the side of the loader lift arm.

Figure 46



Insert lock pin (Item 1) through the removable hose guide and mounting post and latch eyelet (Item 2) onto the lock pin (Item 3) **[Figure 46]**.

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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 43.)

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 34.)

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 doctor familiar with this injury.

W-2072-EN-0909

Check the attachment hydraulic quick coupler connections for leaks.

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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.

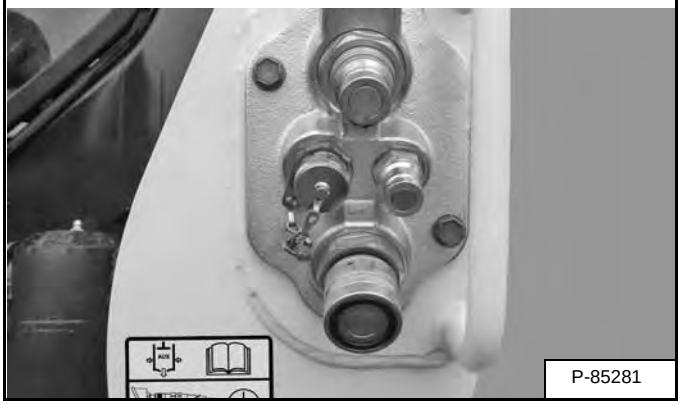
Figure 47

EARLIER MODELS



P-31242

LATER MODELS



P-85281

⚠ 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 47]**.

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler **[Figure 47]**.

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 42.) 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.

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Control Functions

Manual Auxiliary Control

⚠ 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

Enter the loader. (See Entering And Exiting The Loader on Page 34.)

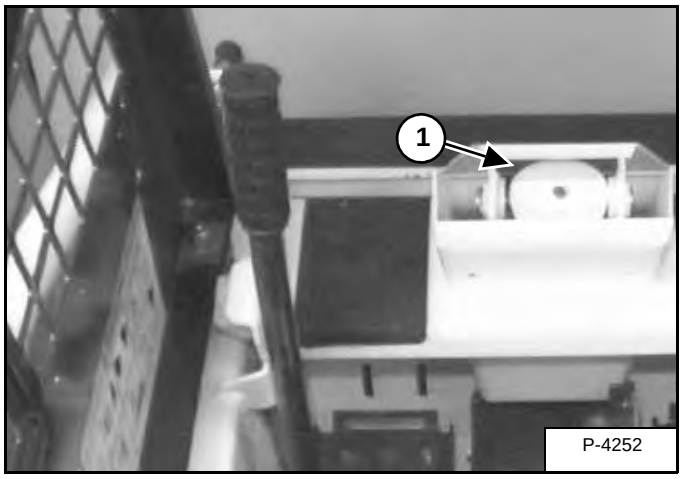
Start the engine and release the park brake.

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

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

NOTE: Some models may require removing an auxiliary control lock bolt before using the auxiliary control for the first time. See the loader's Operation & Maintenance Manual for the correct procedure.

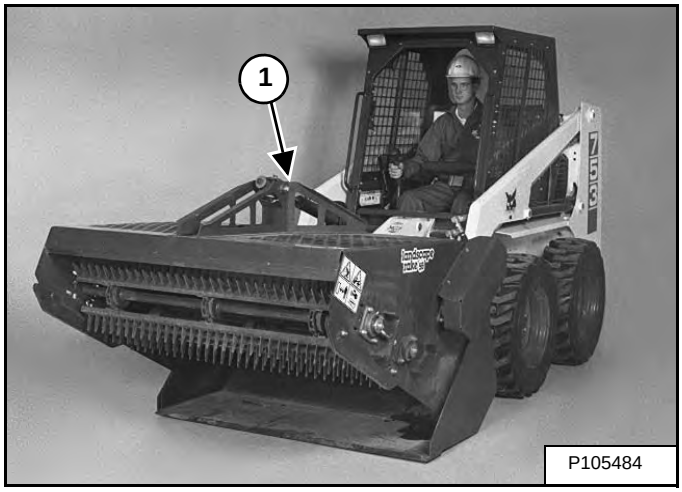
Figure 48



To start landscape rake rotation, move the right steering lever (Item 1) **[Figure 48]** completely to the right. The steering lever will lock in this position for continuous rake rotation.

To stop landscape rake rotation, move the right steering lever (Item 1) **[Figure 48]** to the left. The steering lever needs to be centred (left to right) for the rake rotation to stop.

Figure 49



To retract the landscape rake cylinder (Item 1) **[Figure 49]**, move the right steering lever (Item 1) **[Figure 48]** to the left. Hold the lever in this position until the rake is opened the desired amount.

To extend the landscape rake cylinder (Item 1) **[Figure 49]**, move the right steering lever (Item 1) **[Figure 49]** to the right, hold in this position until the rake is completely closed. As the rake closes, the rake chain will rotate.

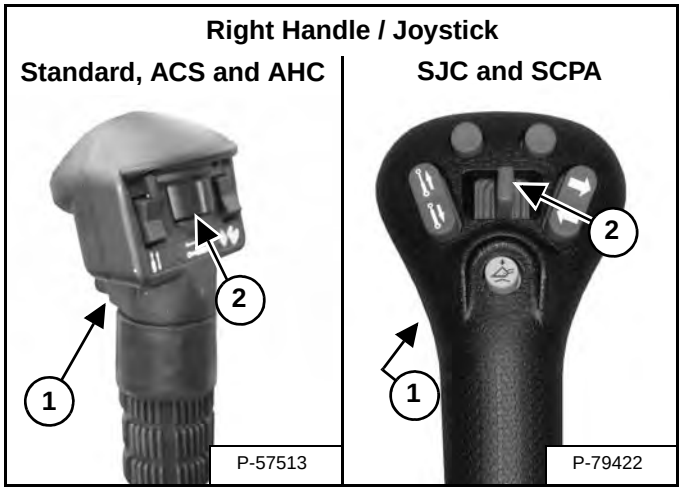
Move the auxiliary control lever to the NEUTRAL position before leaving the operator cab.

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Control Functions (Cont'd)

Electrical Control Handle

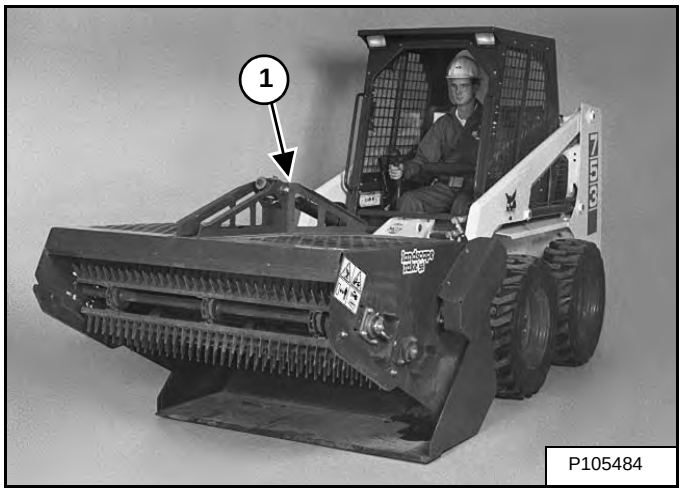
Figure 50



To start landscape rake rotation, press the switch (Item 1) **[Figure 50]**.

To stop landscape rake rotation, press the switch (Item 1) **[Figure 50]** a second time.

Figure 51



To retract the landscape rake cylinder (Item 1) **[Figure 51]**, move the switch (Item 2) **[Figure 50]** to the left. Hold the switch in this position until the rake is opened the desired amount.

To extend the landscape rake cylinder (Item 1) **[Figure 51]**, move the switch (Item 2) **[Figure 50]** to the right, until the bucket is completely closed. As the rake closes, the rake chain will rotate.

NOTE: When installing the landscape rake on a loader equipped with high flow auxiliary hydraulics the loader auxiliary hydraulics must be operated in standard flow. High flow operation will cause damage to the landscape rake.

IMPORTANT

If high-flow switch is in the ON position, High-Flow Hydraulics will flow through the front auxiliary quick coupler. Damage to unapproved attachments can result.

I-2237-0505

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Operation With The Loader

⚠ WARNING

FLYING OBJECTS AND ROTATING PARTS CAN CAUSE INJURY OR DEATH

- **Stay at least 3 m (10 ft) away from operating equipment.**
- **Stop engine before cleaning or servicing.**
- **Keep all guards in place.**

W-2706-0910

Refer to Daily Inspection before using the rake attachment. (See DAILY INSPECTION on Page 28.)

Control Ground Preparation

Thoroughly inspect the ground before raking.

Remove large branches and rocks which are 150 mm (6 in) or larger.

Check to see if the ground is compacted.

NOTE: If the ground is extremely compacted, use an attachment such as a tiller or scarifier to loosen the ground at least 102 mm (4 in) in depth.

Put the landscape rake flat on the ground.

Stop the engine and exit the loader.

Figure 52

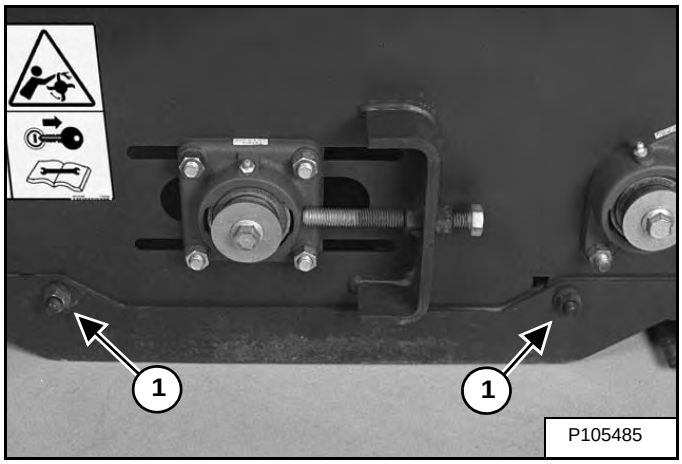


Figure 53



Remove the runner bolts (Item 1) **[Figure 52]** and reposition the runners to the desired height in any of the mounting holes (Item 1) **[Figure 53]**.

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OPERATING PROCEDURE WITH LOADERS (CONT'D)

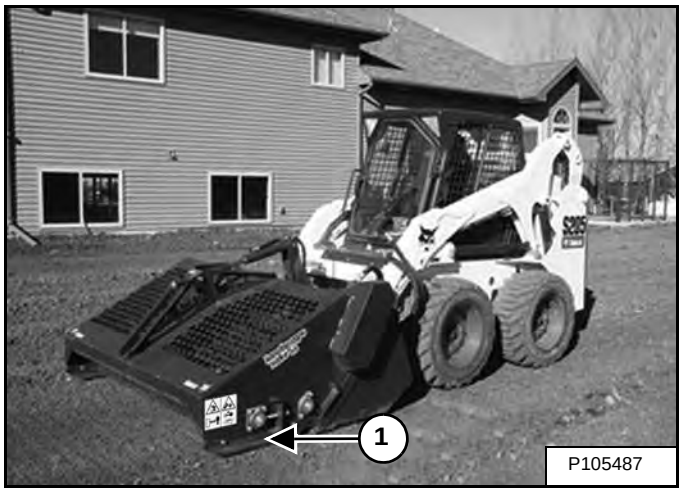
Operation With The Loader (Cont'd)

Recommended Raking Procedure

With the operator in the seat, seat belt fastened and seat bar lowered, start the engine.

Place the lift arms in float position. (See the loader's Operation & Maintenance Manual for correct procedure.)

Figure 54



Tilt the rake forward until the runners (Item 1) **[Figure 54]** are level with the ground.

Engage the auxiliary hydraulics (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.) and put the lift arms in float position.

Lower the rake to the ground and drive **backward** while operating the rake.

NOTE: Drive the loader backward at a slow travel speed for the best performance.

Use the Bob-Tach to tilt the rake up or down as needed during raking.

NOTE: Some conditions may require several passes to get the best results.

NOTE: The rake chain tension needs to be inspected every 25 hours. Adjust the chain if necessary. (See DRIVE CHAIN ADJUSTMENT on Page 74.)

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Operation With The Loader (Cont'd)

Dumping The Landscape Rake

Figure 55

LANDSCAPE RAKE MODEL	RATED OPERATING CAPACITY (ROC)				
	454 KG (1000 LB)	544 KG (1200 LB)	680 KG (1500 LB)	794 KG (1750 LB)	907 KG (2000 LB)
LR 5B		X*	X	X	X
LR 6B			X*	X*	X

X* = Lift restriction requires that loaded rake not be lifted more than 1 m (3 ft). Tipping can result.

X = Approved

NOTE: Some loader / rake combinations have a lift restriction. See the table above [Figure 55] and decal on the rake.

WARNING

AVOID TIPPING

Lift restriction requires that loaded rake not be lifted more than 1 m (3 ft).

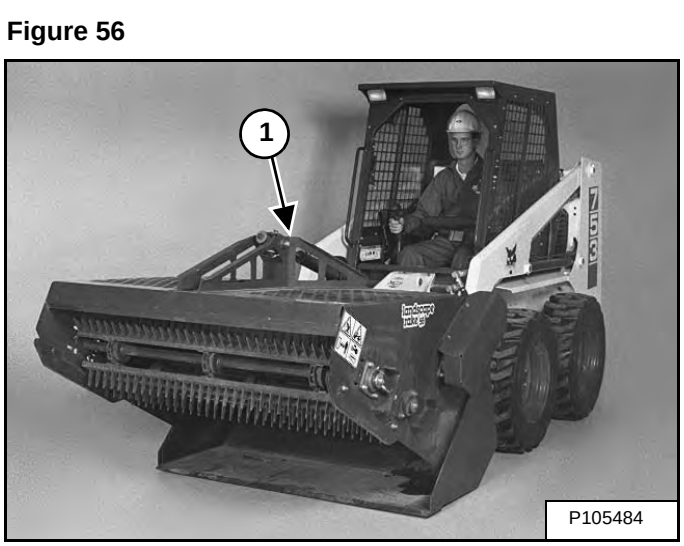
Consult the LIFT RESTRICTION decal before lifting or dumping.

W-2842-0910

When the material begins to bounce out of the bucket and up against the rake screen, the bucket is full.

Lift the landscape rake slightly off the ground, carry the load low, and drive to the dump site.

Figure 56



Open the rake **[Figure 56]** (See Control Functions on Page 44.)

Figure 57



Raise the rake and tilt the bucket forward until all the debris is removed from the bucket **[Figure 57]**.

Close the rake. (See Control Functions on Page 44.) Tilt the bucket back until the landscape rake is level with the ground.

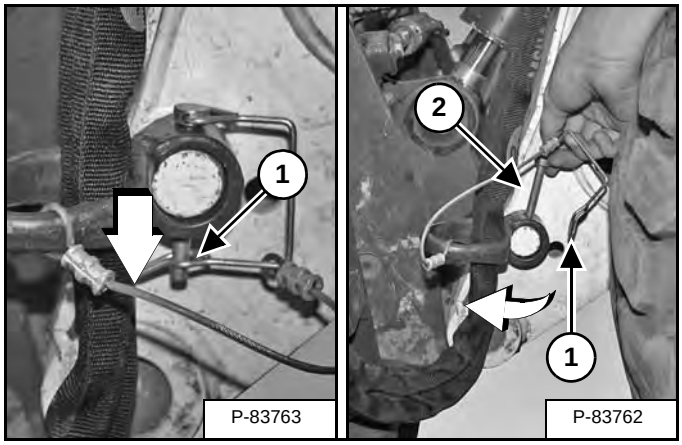
Return to the landscaping site, lower the rake to the ground, and continue raking.

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Removal

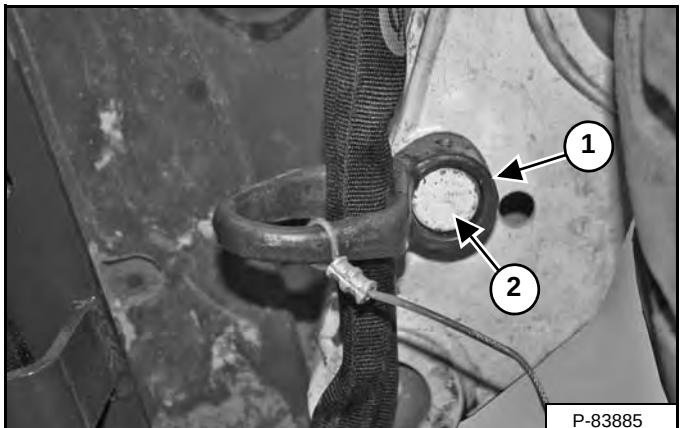
Hose Removal (Removable - If Equipped)

Figure 58



Unlatch eyelet (Item 1) from the lock pin (Item 2). Remove lock pin (Item 2) **[Figure 58]** from the removable hose guide and mounting post.

Figure 59



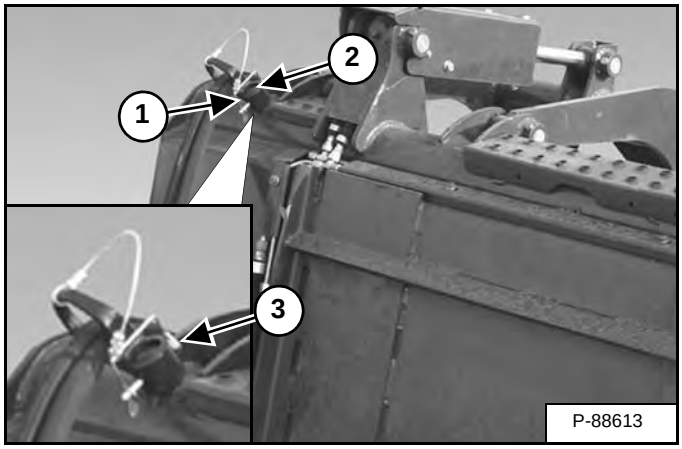
Remove the removable hose guide (Item 1) from the mounting post (Item 2) **[Figure 59]**.

Disconnect the hydraulic quick couplers. (See Hydraulic Quick Couplers on Page 43.)

Remove hoses from hose guide (earlier version).

Hose Storage (If Equipped)

Figure 60



Install the removable hose guide (Item 1) onto the storage post (Item 2) **[Figure 60]** (if equipped).

Insert lock pin (Item 3) **[Figure 60]** through the removable hose guide and storage post and latch eyelet onto the lock pin.

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Removal (Cont'd)

Hand Lever Bob-Tach

Lower the lift arms and put the attachment flat on the ground. Lower or close the hydraulic equipment (if equipped).

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 loader.

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

Exit the loader. (See Entering And Exiting The Loader on Page 34.)

⚠ WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

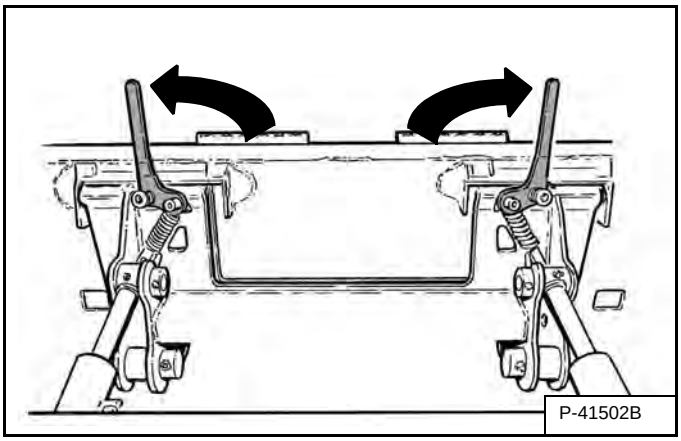
- **Lower the lift arms and put the attachment flat on the ground.**
- **Stop the engine.**
- **Engage the parking brake.**
- **Raise the seat bar.**
- **Move all controls to the NEUTRAL / LOCKED position to make sure the lift, tilt and traction drive functions are deactivated.**

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

Disconnect auxiliary hydraulic hoses (if applicable). (See Hydraulic Quick Couplers on Page 43.)

Figure 61



Pull the Bob-Tach levers up **[Figure 61]** until they are fully raised (wedges fully raised).

⚠ WARNING

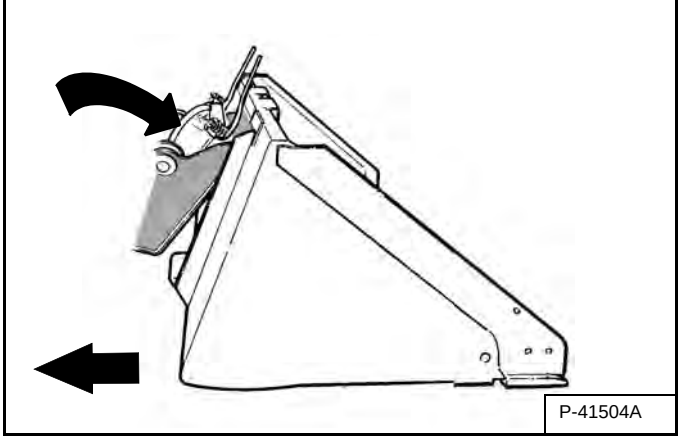
Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Enter the loader. (See Entering And Exiting The Loader on Page 34.)

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

Figure 62



Tilt the Bob-Tach forward and drive the loader backward, away from the attachment **[Figure 62]**.

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Removal (Cont'd)

Power Bob-Tach

Lower the lift arms and put the attachment flat on the ground. Lower or close the hydraulic equipment (if equipped).

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 loader.

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

Exit the loader. (See Entering And Exiting The Loader on Page 34.)

⚠ 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

Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 43.)

Enter the loader. (See Entering And Exiting The Loader on Page 34.)

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

Figure 63

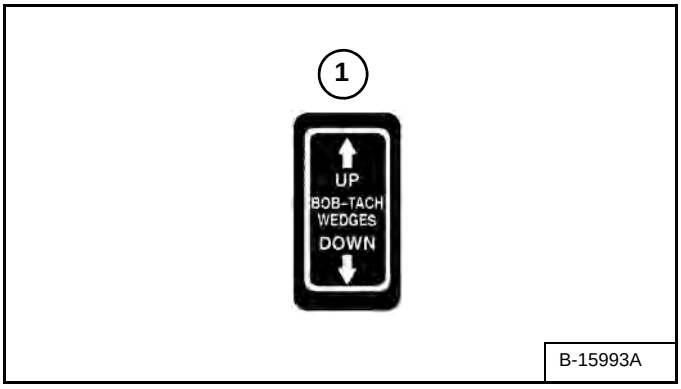
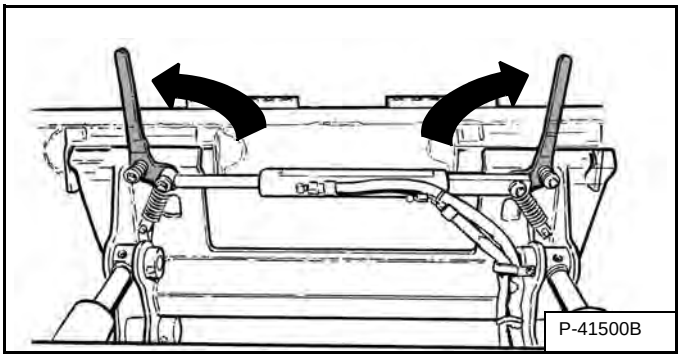


Figure 64



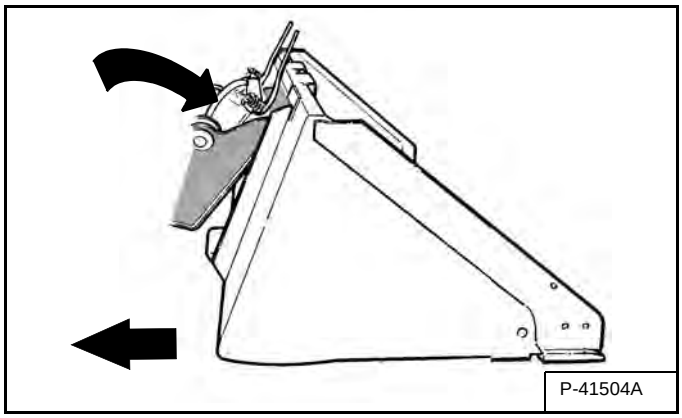
Push and hold the BOB-TACH "WEDGES UP" switch (Item 1) **[Figure 63]** (Front Panel) until the levers **[Figure 64]** are fully raised (wedges fully raised).

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Removal (Cont'd)

Power Bob-Tach (Cont'd)

Figure 65



Tilt the Bob-Tach forward and drive the loader backward, away from the attachment **[Figure 65]**.

NOTE: The Power Bob-Tach system has continuous pressurised 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") when removing an attachment to be sure both wedges are fully raised.

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OPERATING PROCEDURE WITH TELESCOPIC HANDLERS

Approved Telescopic Handler Models And Requirements

Figure 66

TELESCOPIC HANDLER MODELS	LANDSCAPE RAKE
	LR 6B S/N 063000101 & ABOVE
T2250	X
T2556	X
T2566	X
T35100	X
T35100L	X
T35100SL	X

X = Approved

The chart **[Figure 66]** shows the approved landscape rake model for the each Telescopic Handler model.

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.

⚠ WARNING

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.

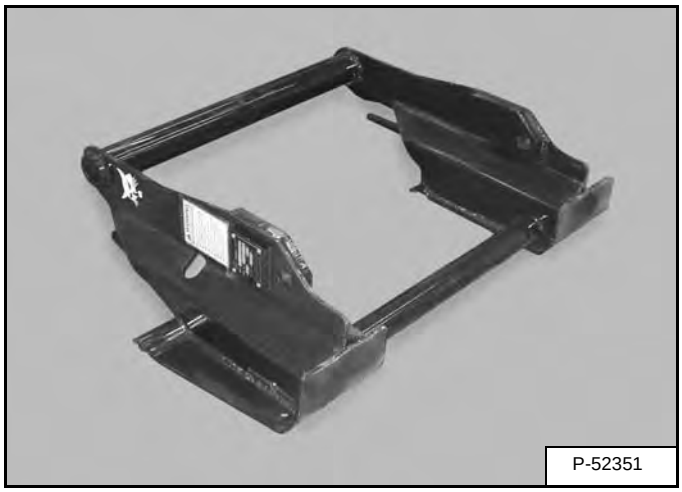
W-2662-0108

Figure 67



The Telescopic Handler must be equipped with front auxiliary hydraulics **[Figure 67]** for proper operation of the landscape rake. See your Bobcat dealer for available kits.

Figure 68



The Telescopic Handler must be equipped with the adapter frame **[Figure 68]** (or Bob-Tach) for proper operation of the landscape rake. See the adapter frame Operation & Maintenance Manual for proper installation of the adapter frame.

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Entering And Exiting The Telescopic Handler

Entering

⚠ WARNING

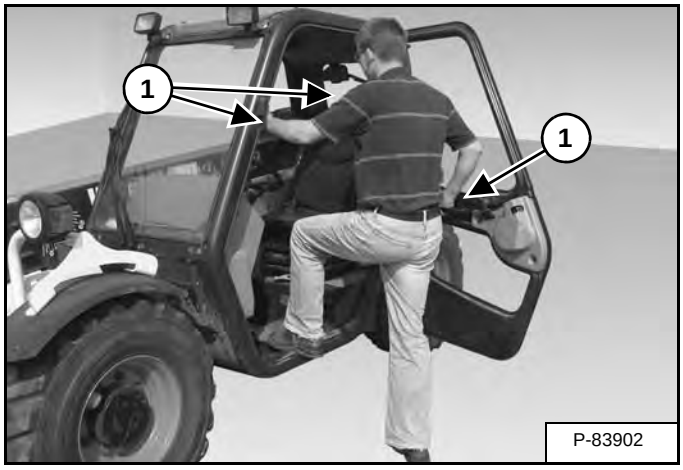
AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belt fastened snugly.**
- **Lower the restraint bar (if equipped).**
- **Keep your feet and arms inside the cab.**

W-2810-1109

Figure 69



Use the hand grabs (Item 1) **[Figure 69]** to enter the operator cab.

NOTE: Maintain three-point contact at all times while entering or exiting the Telescopic Handler. Do not jump.

Figure 70



Fasten seat belt and lower the restraint bar (Item 1) **[Figure 70]** (*if equipped*), and engage the parking brake.

Put the Travel Direction Control lever and joystick in NEUTRAL.

See the Telescopic Handler's Operation & Maintenance Manual and Operator's Handbook for detailed information on operating the Telescopic Handler.

Exiting

Put the Travel Direction Control Lever and the Joystick in NEUTRAL.

Engage the parking brake.

Retract and lower the boom and attachment flat on the ground.

Stop the engine.

Raise the restraint bar (*if equipped*) and make sure the lift, tilt, boom extend, auxiliary hydraulic and traction drive functions are deactivated.

Remove the key.

Exit the Telescopic Handler.

⚠ WARNING

Before you leave the operator's position:

- **Put the travel Direction Control Lever and the Joystick in neutral.**
- **Engage the parking brake.**
- **Retract and lower the boom and attachment flat on the ground.**
- **Stop the engine. Raise the restraint bar (if equipped).**

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2637-0607

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Installation

Hand Lever Bob-Tach

NOTE: The illustrations and instructions provided explain how to install a bucket attachment on to a Telescopic Handler. 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.

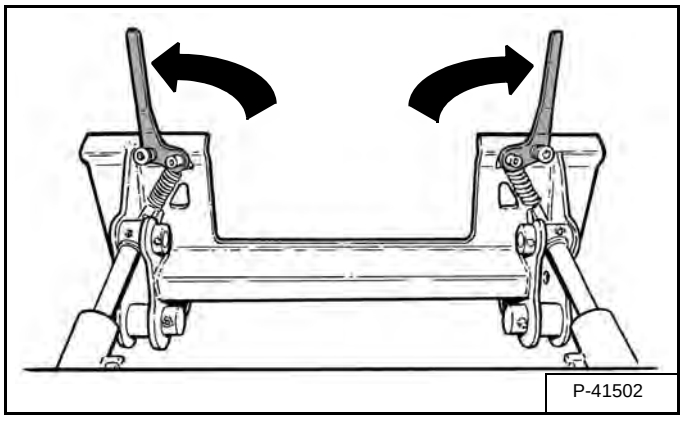
⚠ WARNING

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

Always inspect the Telescopic Handler's Bob-Tach and the attachment mounting frame before installation. See the Telescopic Handler's Operation & Maintenance Manual. (See DAILY INSPECTION on Page 28.)

Figure 71

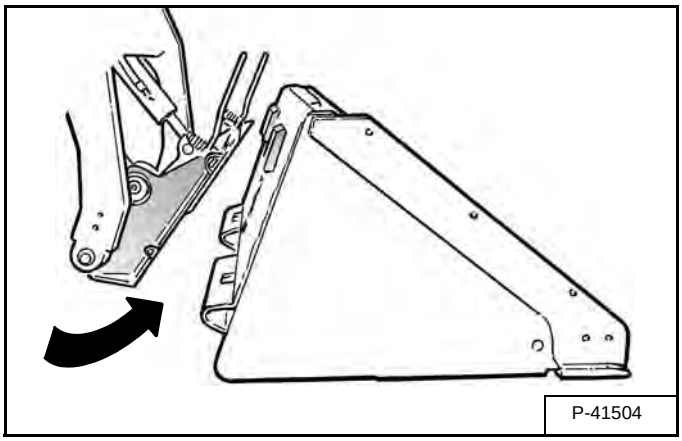


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) **[Figure 71]**.

Enter the Telescopic Handler. (See Entering And Exiting The Telescopic Handler on Page 54.)

Start the engine and release the parking brake.

Figure 72

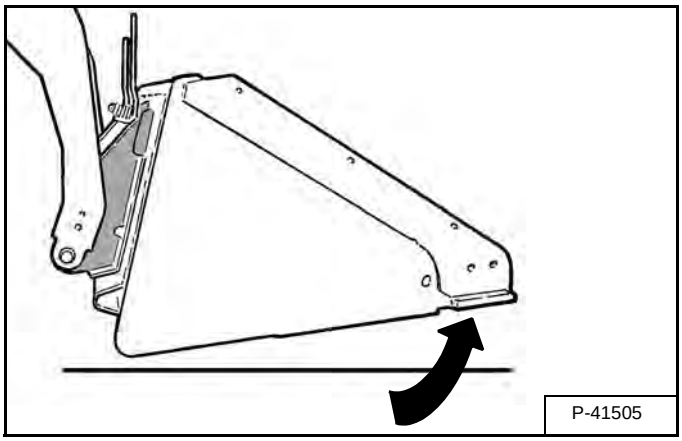


Lower the boom and tilt the Bob-Tach forward.

Drive the Telescopic Handler slowly forward until the top edge of the Bob-Tach is completely under the top flange of the attachment mounting frame **[Figure 72]**.

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

Figure 73



Tilt the Bob-Tach backward until the attachment is slightly off the ground **[Figure 73]**. 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 Telescopic Handler. (See Entering And Exiting The Telescopic Handler on Page 54.)

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Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

⚠ WARNING

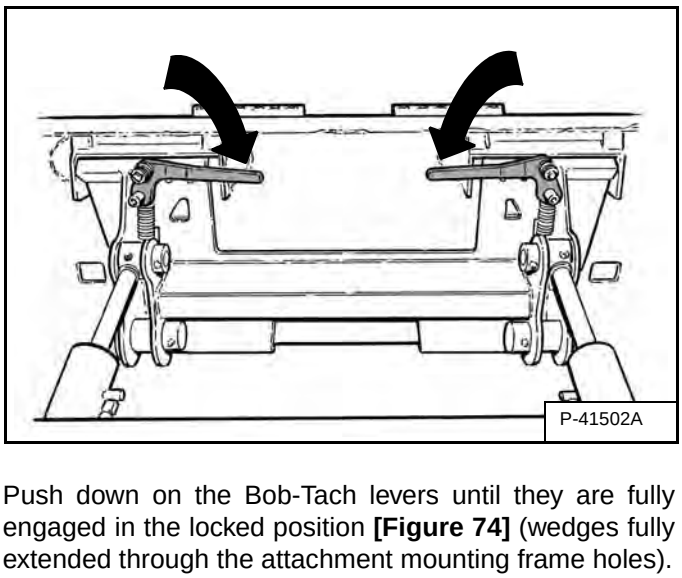
Before you leave the operator's position:

- **Put the travel Direction Control Lever and the Joystick in neutral.**
- **Engage the parking brake.**
- **Retract and lower the boom and attachment flat on the ground.**
- **Stop the engine. Raise the restraint bar (if equipped).**

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

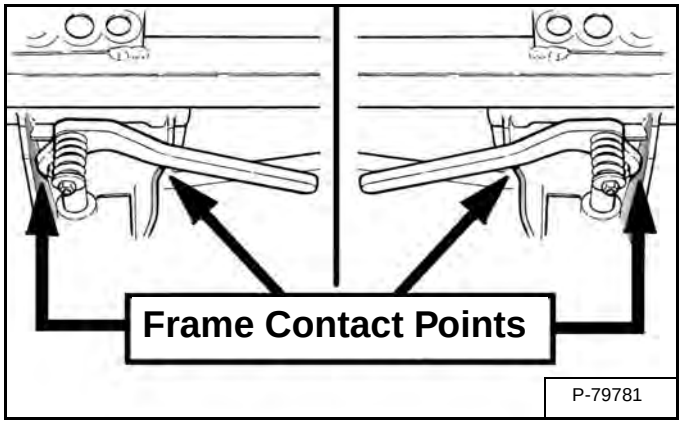
W-2637-0607

Figure 74



Push down on the Bob-Tach levers until they are fully engaged in the locked position **[Figure 74]** (wedges fully extended through the attachment mounting frame holes).

Figure 75



Both levers must contact the frame as shown when locked **[Figure 75]**.

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

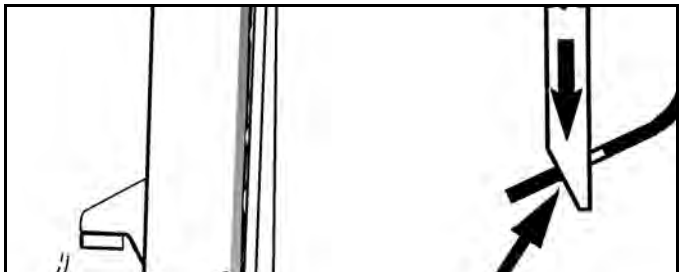
⚠ WARNING

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 76



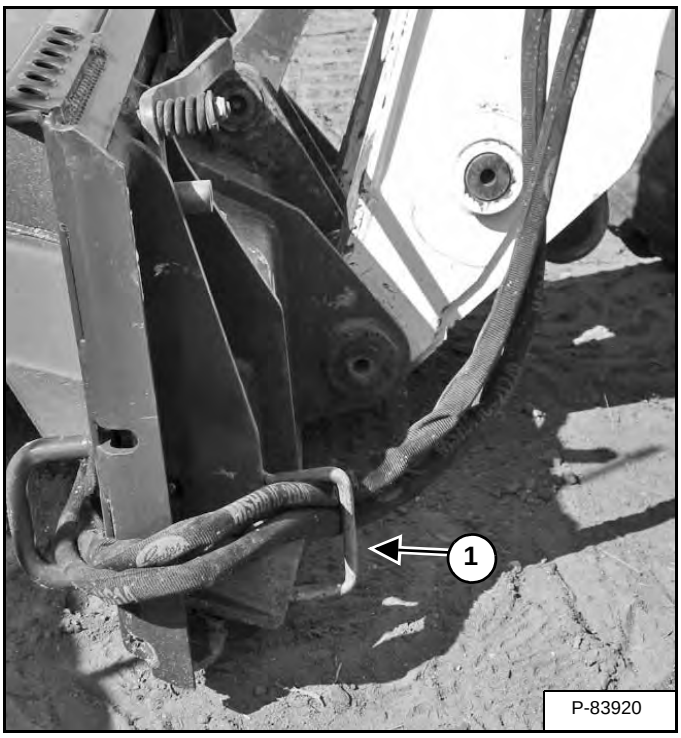
The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach **[Figure 76]**.

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Installation (Cont'd)

Hose Routing

Figure 77



Route the hydraulic hoses through the hose guide (Item 1) **[Figure 77]** and connect quick couplers to the Telescopic Handler. (See Hydraulic Quick Couplers on Page 59.)

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Installation (Cont'd)

For First Time Installation

New attachments and new Telescopic Handlers 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 Telescopic Handler. 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 Telescopic Handler engine off and using the hose guides (if equipped), route the attachment hydraulic hoses to the Telescopic Handler. Connect the attachment hydraulic quick couplers to the Telescopic Handler couplers. (See Hydraulic Quick Couplers on Page 59.)

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

Enter the Telescopic Handler. (See Entering And Exiting The Telescopic Handler on Page 54.)

Start the engine and release the parking brake.

Engage auxiliary hydraulics. (See the Telescopic Handler'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 doctor familiar with this injury.

W-2072-EN-0909

Check the attachment hydraulic quick coupler connections for leaks.

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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 Telescopic Handlers 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 Telescopic Handler. 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 78



⚠ 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 78]**.

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler **[Figure 78]**.

NOTE: Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the Telescopic Handler or attachment. (See For First Time Installation on Page 58.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the Telescopic Handler'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.

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Control Functions

IMPORTANT

When using ground engaging attachments, boom extension must not exceed 250 mm (9.8 in). Exceeding this limit can cause boom and / or hydraulic cylinder damage.

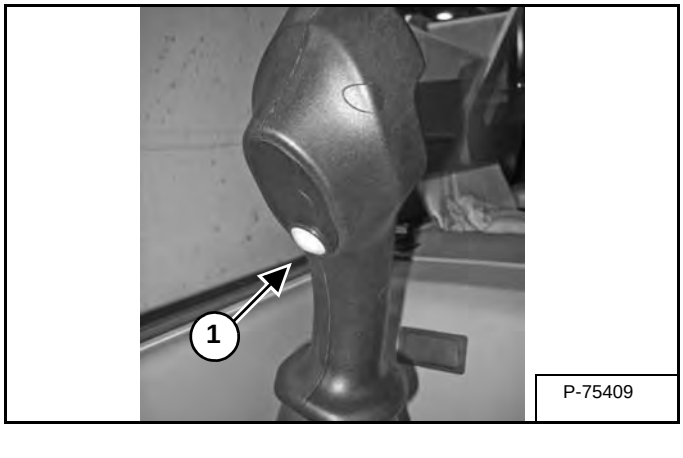
I-2266-0910

Enter the Telescopic Handler. Fasten seat belt and lower the restraint bar (if equipped), and start the engine.

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

NOTE: The auxiliary hydraulics must be activated prior to attachment operation.

Figure 79



To start landscape rake forward rotation, press the button (Item 1) **[Figure 79]**.

To stop landscape rake forward rotation, press the button (Item 1) **[Figure 79]** a second time.

Figure 80

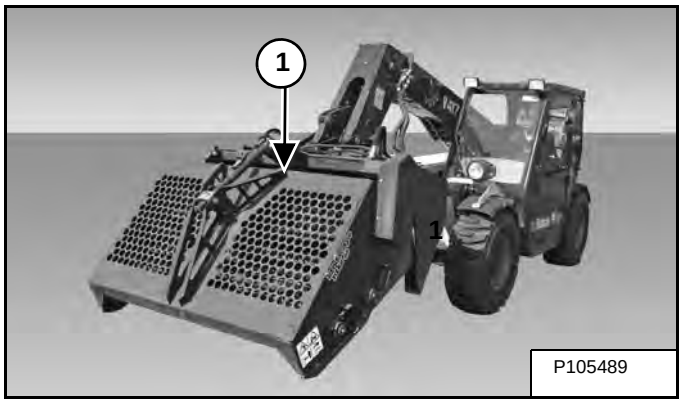
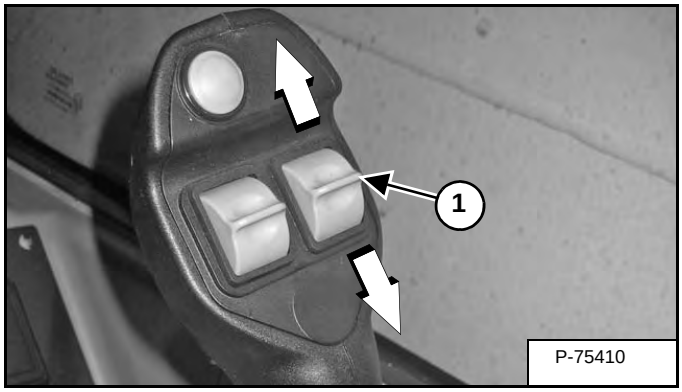


Figure 81



To retract the landscape rake cylinder (Item 1) **[Figure 80]**, move the switch (Item 1) **[Figure 81]** down. Hold the switch in this position until the rake is opened the desired amount.

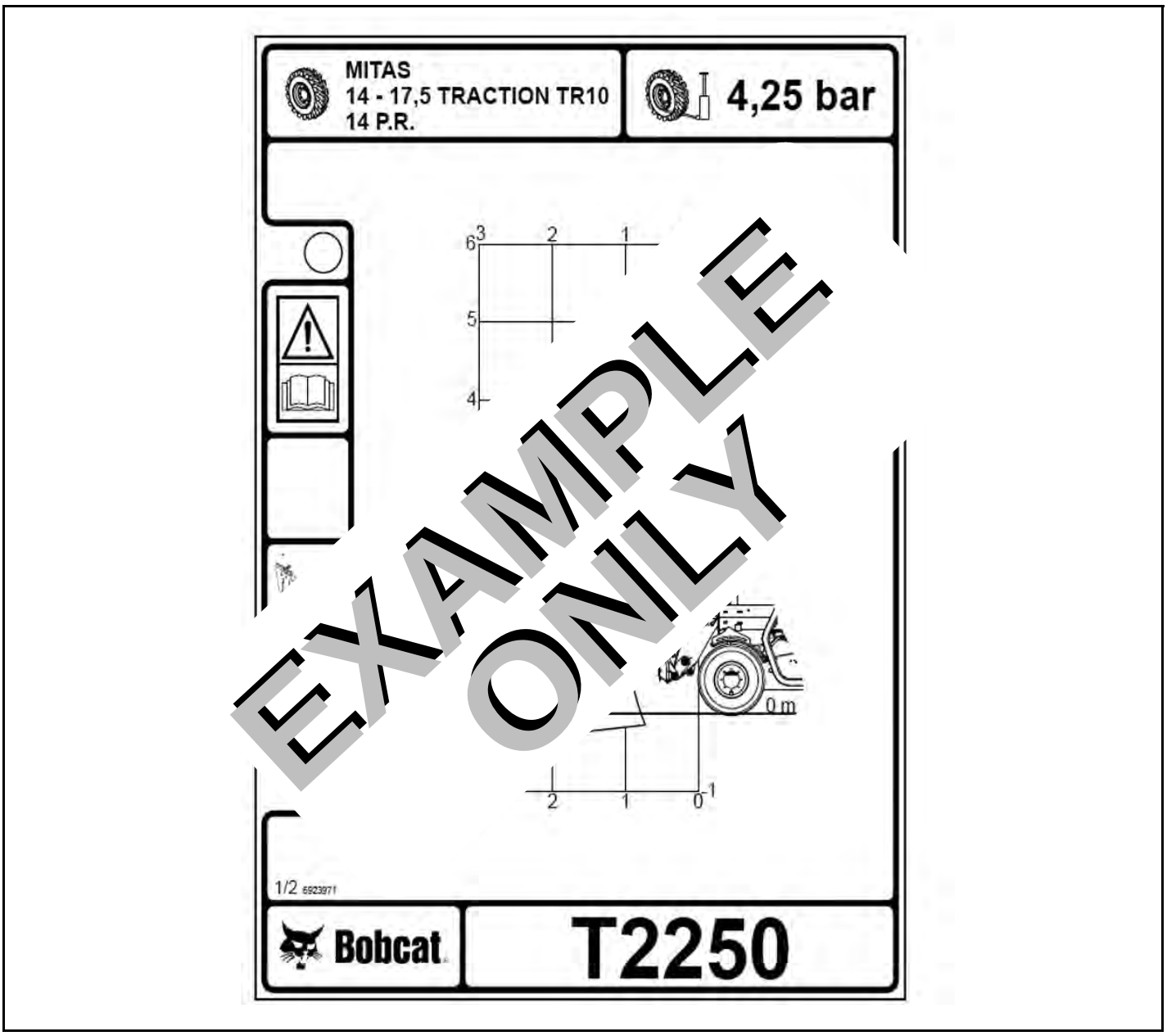
To extend the landscape rake cylinder (Item 1) **[Figure 80]**, move the switch (Item 1) **[Figure 81]** up, until the bucket is completely closed. As the rake closes, the rake chain will rotate.

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Operation With The Telescopic Handler

Load Capacity Chart

Figure 82



The Load Capacity Chart **[Figure 82]** is an **"EXAMPLE ONLY"**. See the Telescopic Handler's Operation & Maintenance Manual and Operator's Handbook for more information on the Load Capacity Charts for your Telescopic Handler.

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Operation With The Telescopic Handler (Cont'd)

⚠ WARNING

FLYING OBJECTS AND ROTATING PARTS CAN CAUSE INJURY OR DEATH

- **Stay at least 3 m (10 ft) away from operating equipment.**
- **Stop engine before cleaning or servicing.**
- **Keep all guards in place.**

W-2706-0910

Control Ground Preparation

Thoroughly inspect the ground before raking.

Remove large branches and rocks which are 150 mm (6 in) or larger.

Check to see if the ground is compacted.

NOTE: If the ground is extremely compacted, use an attachment such as a tiller or scarifier to loosen the ground at least 102 mm (4 in) in depth.

Put the landscape rake flat on the ground.

Stop the engine and exit the Telescopic Handler.

Figure 83

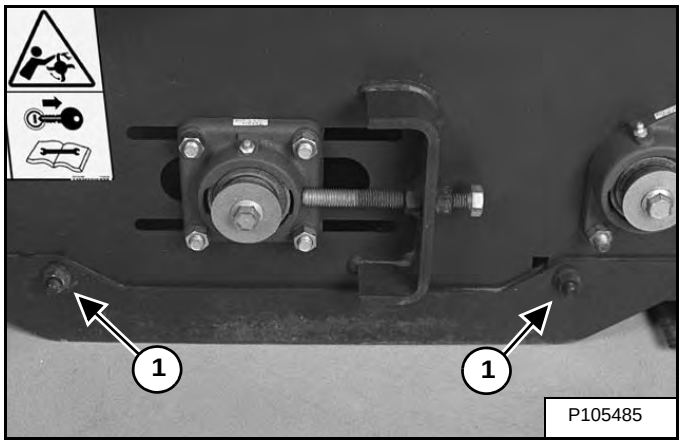
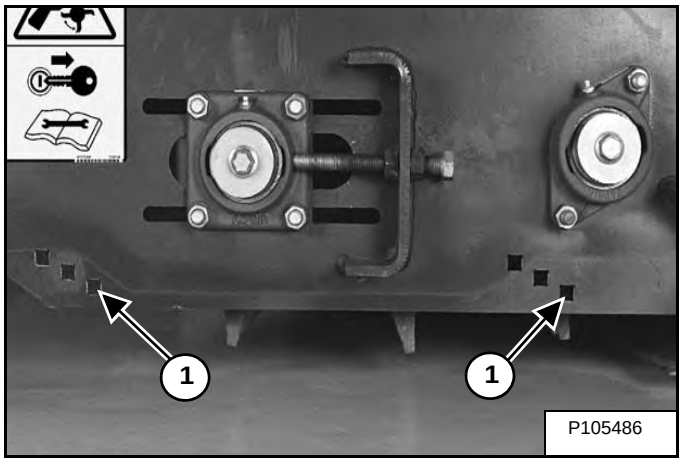


Figure 84



Remove the runner bolts (Item 1) **[Figure 83]** and reposition the runners to the desired height in any of the mounting holes (Item 1) **[Figure 84]**.

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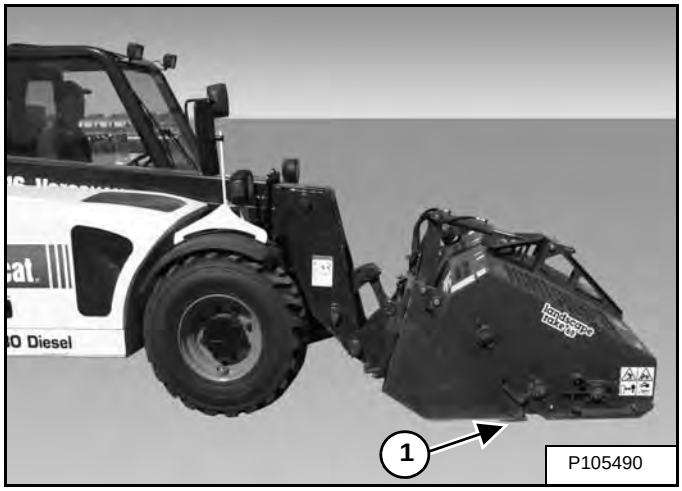
Operation With The Telescopic Handler (Cont'd)

Recommended Raking Procedure

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

Place the boom in float position. (See the Telescopic Handler's Operation & Maintenance Manual for the correct procedure.)

Figure 85



Tilt the rake forward until the runners (Item 1) **[Figure 85]** are level with the ground.

Engage the auxiliary hydraulics. (See the Telescopic Handler's Operation & Maintenance Manual and Operator's Handbook for correct procedure.) Put the boom in float position.

Lower the rake to the ground and drive **backward** while operating the rake.

NOTE: Drive the Telescopic Handler backward at a slow travel speed for the best performance.

Use the Bob-Tach to tilt the rake up or down as needed during raking.

NOTE: Some conditions may require several passes to get the best results.

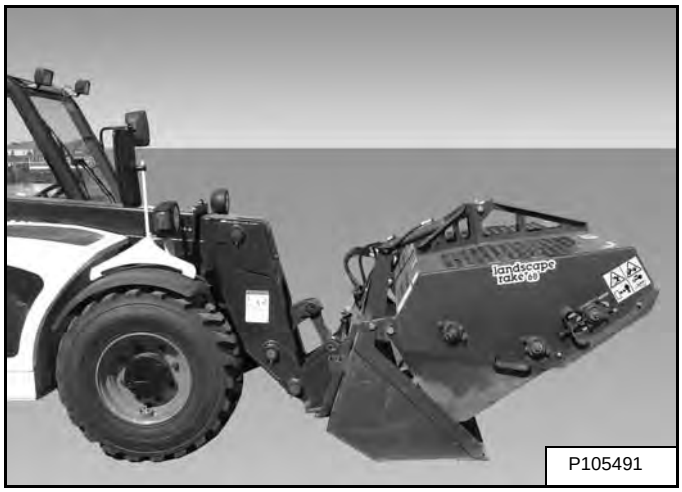
NOTE: The rake chain tension needs to be inspected every 25 hours. Adjust the chain if necessary. (See DRIVE CHAIN ADJUSTMENT on Page 74.)

Dumping The Landscape Rake

When the material begins to bounce out of the bucket and up against the screen, the bucket is full.

Lift the landscape rake slightly off the ground, carry the load low, and drive to the dump site.

Figure 86



Open the rake **[Figure 86]**. (See Control Functions on Page 44.)

Figure 87



Raise the rake and tilt the bucket forward until all the debris is removed from the bucket **[Figure 87]**.

Close the rake. (See Control Functions on Page 44.) Tilt the bucket back until the landscape rake is level with the ground.

Return to the landscaping site, lower the rake to the ground, and continue raking.

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Removal

Hand Lever Bob-Tach

Lower the boom and put the attachment flat on the ground. Lower or close the hydraulic equipment (if equipped).

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 Telescopic Handler.

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

Exit the Telescopic Handler. (See Entering And Exiting The Telescopic Handler on Page 54.)

⚠ WARNING

Before you leave the operator's position:

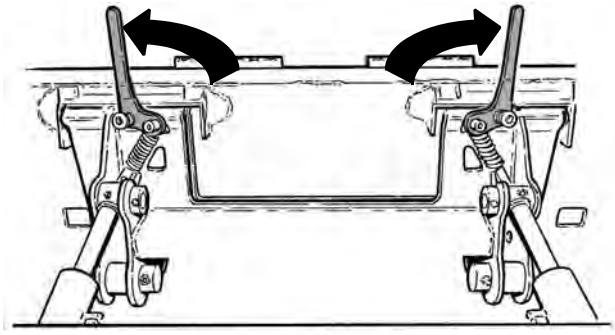
- **Put the travel Direction Control Lever and the Joystick in neutral.**
- **Engage the parking brake.**
- **Retract and lower the boom and attachment flat on the ground.**
- **Stop the engine. Raise the restraint bar (if equipped).**

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2637-0607

Disconnect auxiliary hydraulic hoses (if applicable). (See Hydraulic Quick Couplers on Page 59.)

Figure 88



Pull the Bob-Tach levers up **[Figure 88]** until they are fully raised (wedges fully raised).

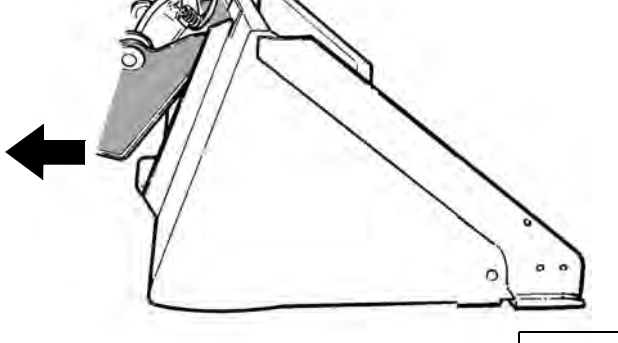
⚠ WARNING

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

W-2054-1285

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

Figure 89



Tilt the Bob-Tach forward while backing the Telescopic Handler away from the attachment **[Figure 89]**.

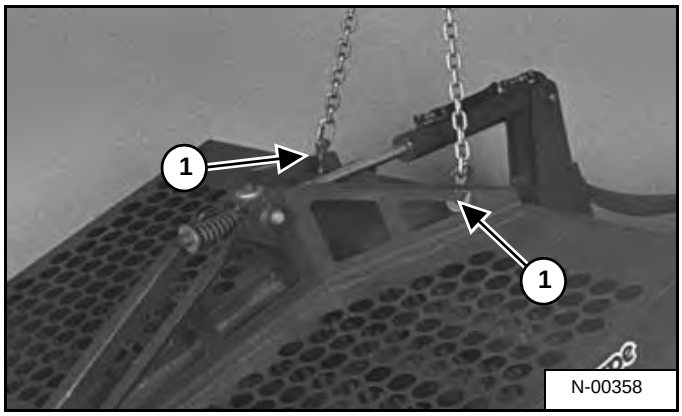
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LIFTING THE ATTACHMENT

Procedure

NOTE: Use chains that are in good condition and of adequate size to lift or secure the attachment.

Figure 90



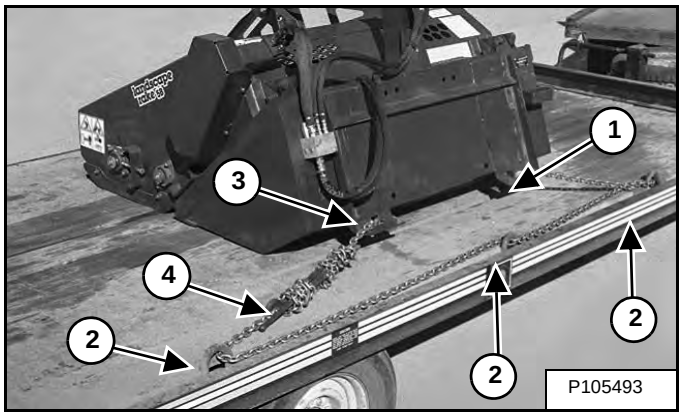
Hook each end of the chain (Item 1) **[Figure 90]** to the lifting slots in the rake frame.

TRANSPORTING THE ATTACHMENT ON A TRAILER

Fastening

Use a loader or chain hoist to load the landscape rake onto the transport vehicle.

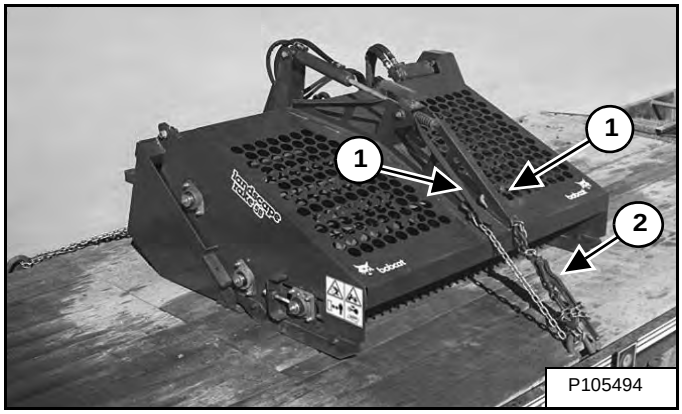
Figure 91



Fasten a chain (Item 1) to one of the Bob-Tach wedge holes, route the chain through the eyes (Item 2) and to the other Bob-Tach wedge hole (Item 3) **[Figure 91]**.

Use a chain binder (Item 4) **[Figure 91]** to tighten the chain and prevent the landscape rake from moving during transport.

Figure 92



Fasten each end of a chain (Item 1) **[Figure 92]** to the front slot in the rake frame, route the chain through the eye on the transport vehicle.

Use a chain binder (Item 2) **[Figure 92]** to tighten the chain and prevent the landscape rake from moving during transport.

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TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER

Loading And Fastening

⚠ WARNING

AVOID SERIOUS INJURY OR DEATH

Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

W-2058-0807

Be sure the transport and towing vehicles are of adequate size and capacity for weight of machine and attachment combination. (See machine and attachment Operation & Maintenance Manuals for specifications.)

Loading

The rear of the trailer must be blocked or supported when loading and unloading to prevent the front of the trailer from raising.

- Load the heaviest end of the machine and attachment combination first.
- Lower the attachment to the floor.
- Stop the engine.
- Engage the parking brake (if equipped).
- Exit the machine. (See the machine's Operation & Maintenance Manual for the correct procedure.)

Fastening

Install the chains at the front and rear tie down positions on the machine. (See the machine's Operation & Maintenance Manual to properly chain the machine to the transport vehicle.)

- Install chains on the attachment (if needed).
- Fasten each end of the chain to the transport vehicle.

NOTE: Use chain binders to prevent the attachment and machine from moving during transport.

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PREVENTIVE MAINTENANCE

MAINTENANCE SAFETY 67

TROUBLESHOOTING 69
Chart 69

SERVICE SCHEDULE 70
Daily Inspection 70
25 Hour Inspection 70
300 Hour Inspection 70

LUBRICATING THE ATTACHMENT 71
Lubrication Locations 71

DRIVE CHAIN ADJUSTMENT 72
Procedure 72

REMOVAL AND INSTALLATION 73
Hydraulic Cylinder 73
Cylinder And Rod Guide 74
Rod Guide Housing 75
Drive Chain 76
Landscape Rake Chain 77

ATTACHMENT STORAGE AND RETURN TO SERVICE 83
Storage 83
Return To Service 83

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MAINTENANCE SAFETY

WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death. W-2003-0807

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

CORRECT



P-90216

- **Never service attachments / implements without instructions. See Operation & Maintenance Manual and Attachment / Implement Service Manual.**
- **Cleaning and maintenance are required daily.**
- **Never service or adjust attachment / implement with the engine running unless instructed to do so in manual.**
- **Always lower the attachment / implement to the ground before lubricating or servicing.**
- **Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate skin or eyes.**
- **Stop, cool and clean engine of flammable materials before checking fluids.**
- **Keep body, loose objects and clothing away from moving parts, electrical contacts, hot parts and exhaust.**
- **Safety glasses are needed for eye protection from electrical arcs, battery acid, compressed springs, fluids under pressure and flying debris or when tools are used. Use eye protection approved for type of welding.**

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL. Always use genuine Bobcat replacement parts.**

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TROUBLESHOOTING

Chart

⚠ WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0807

If the attachment is not working correctly, check the hydraulic system of the machine thoroughly before making any repairs on the attachment. Attachment problems can be affected by a hydraulic system that is not operating to specifications. Connect a flow meter to the machine to check the hydraulic pump output, relief valve setting and tube lines to check flow and pressure. (See the machine's Service Manual for the correct procedure to connect the flow meter.)

Use the following troubleshooting chart to locate and correct problems which most often occur with the attachment.

PROBLEM	CAUSE	CORRECTION
Rake chain does not turn in either direction.	Drive chain on hydraulic motor is broken or loose.	Replace the chain or adjust as needed.
	Drive sprocket is off the shaft.	Install the drive sprocket and tighten bolt.
	Auxiliary hydraulics are not activated.	Activate auxiliary hydraulics
	Faulty machine valve.	Repair machine valve.
Rake chain comes off sprocket.	Rake chain is too loose.	Adjust the rake chain tension.
Rake chain jumps irregularly.	Rock in link of chain.	Remove the rock.
	Sprockets are loose or out of alignment.	Check alignment and tighten the bolts.
Rake chain is excessively noisy during operation.	Rake chain links are binding.	Use a spray type chain lubricant to loosen the links.

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SERVICE SCHEDULE

Maintenance work must be done at regular intervals. Failure to do so can result in damage to the rake attachment. This service schedule is a guide for correct maintenance of the rake attachment.

Daily Inspection

1. Clean the rake attachment to keep it free of material build up.
2. Lubricate the 10 grease fittings (one fitting located under the chain guard).
3. Lubricate the links in the chain bar with a spray type chain lubricant (Not a penetrating oil).
4. Check all nuts, bolts, and guards for tightness.
5. Check safety signs (decals) and safety treads for damage. Replace if damaged, clean if soiled.
6. Check all hydraulic hoses and fittings.
7. Check for loose or damaged parts.

25 Hour Inspection

1. Remove the bolt on the chain guard, wipe clean and lubricate the drive chain. Check the chain for the correct tension (a half link can be removed). Install chain guard before operation.
2. Adjust the tension of the rake chain.
3. Check idler alignment to make sure the rake chain is travelling on the centre of each idler.

300 Hour Inspection

1. Check the rake teeth. The rake teeth are 76 mm (3 in) long when new, if the rake teeth show wear of 6,35 mm (0.25 in) or more, the rake tooth should be hard surfaced with a hard surface welding rod.
2. Check for bent rake teeth. Bent rake teeth can usually be straightened. Do not use heat to straighten teeth. Heat will cause the hardened teeth to become soft.
3. Check chain and sprocket for wear. Replace the parts as needed.

⚠ WARNING

AVOID INJURY OR DEATH

Before cleaning, servicing or repairing the Landscape Rake attachment:

- **Level and lower the attachment to the ground.**
- **Stop the engine.**
- **Release pressure in all hydraulic circuits.**

W-2237-0496

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LUBRICATING THE ATTACHMENT

Lubrication Locations

Figure 93

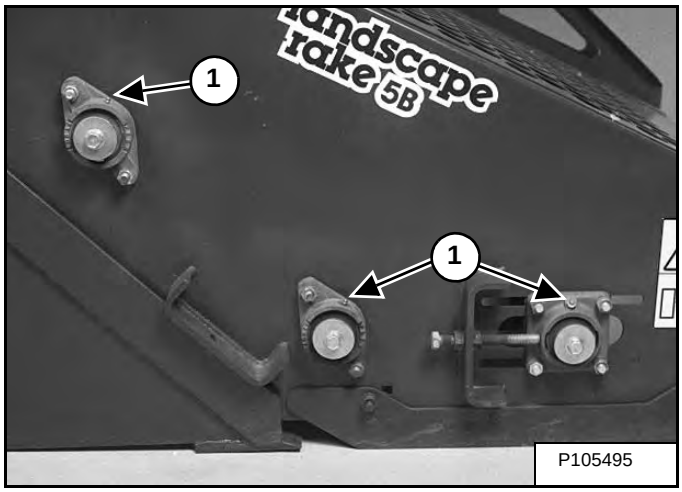
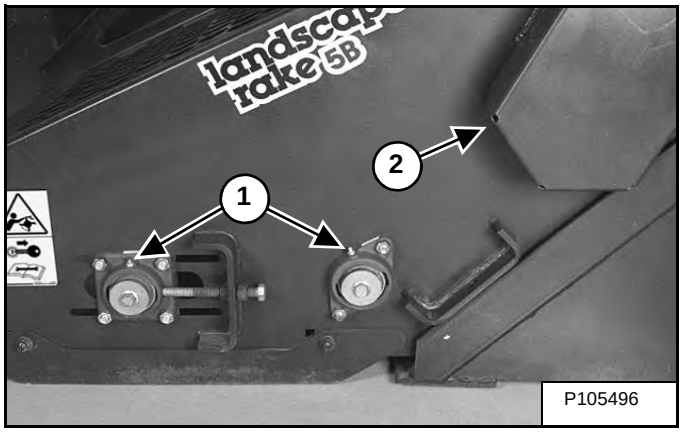


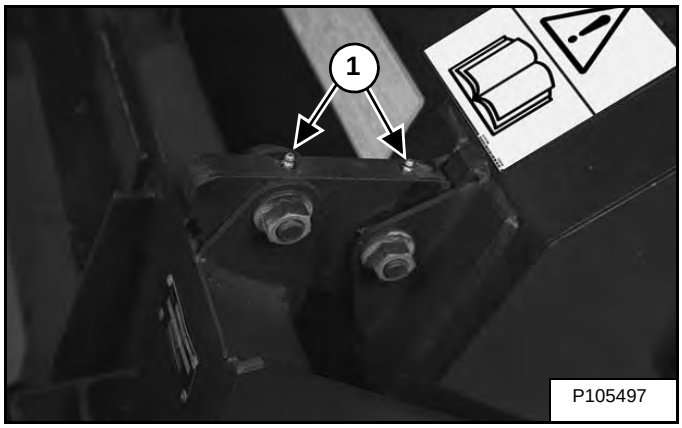
Figure 94



Lubricate the grease fittings on the rake chain mounting bearings (Item 1) **[Figure 93]** and **[Figure 94]** every eight hours.

NOTE: The grease fitting on the drive sprocket bearing is located under the drive motor shield (Item 2) [Figure 94].

Figure 95



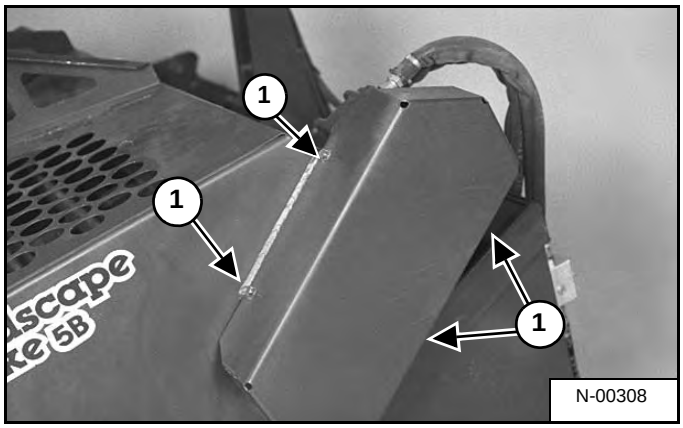
Lubricate the grease fittings (Item 1) **[Figure 95]** on the rake hinges.

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DRIVE CHAIN ADJUSTMENT

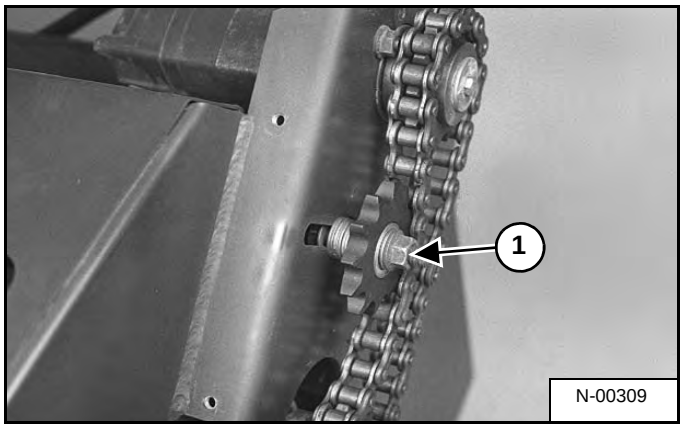
Procedure

Figure 96



Remove the four bolts (Item 1) **[Figure 96]** from the motor shield.

Figure 97



Loosen the adjustment sprocket bolt (Item 1) **[Figure 97]** and move the sprocket to adjust the chain tension to be 12,7 mm (0.5 in) deflection in the middle of the chain.

⚠ WARNING

AVOID INJURY OR DEATH
Never operate with covers or guards removed.
W-2121-0788

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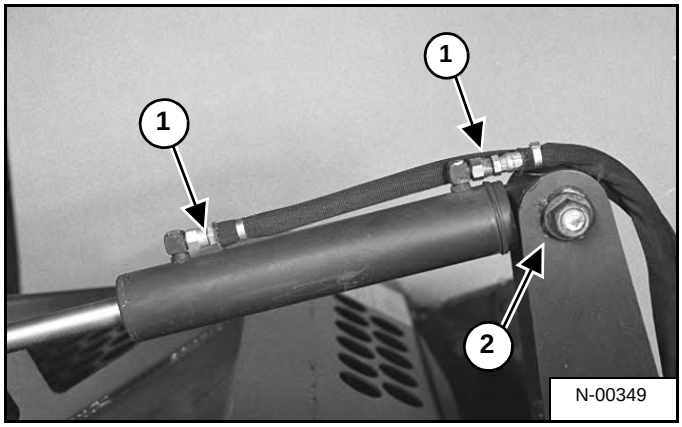
REMOVAL AND INSTALLATION

Hydraulic Cylinder

NOTE: Be sure to fully extend the cylinder before stopping the machine's engine. Exit the machine.

Relieve auxiliary pressure.

Figure 98



Disconnect the hydraulic hoses (Item 1) **[Figure 98]** from the cylinder.

Remove the mounting nut (Item 2) **[Figure 98]** and bolt from the cylinder base end mounting bracket.

NOTE: Apply anti-seize compound to the entire pivot bolt and nut during assembly.

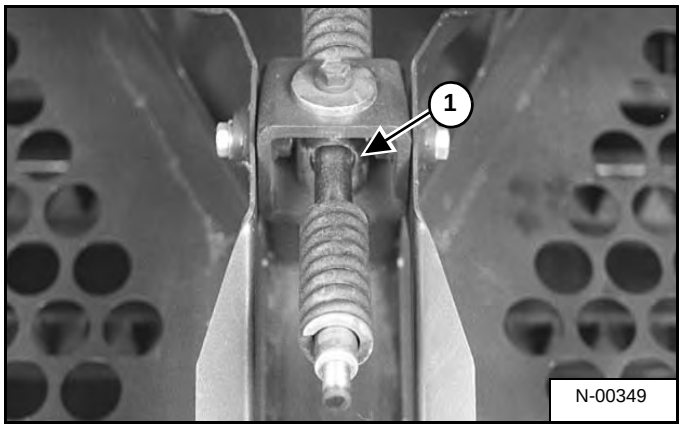
Figure 99



Install a wrench (Item 1) on the cylinder rod flats while removing the nut (Item 2) **[Figure 99]** and washer.

Installation: Tighten the nut to 170 - 190 N•m (125 - 140 ft-lb) torque.

Figure 100



Remove the two springs, check the condition of the rod, slide the rod from the rod guide (Item 1) **[Figure 100]** and remove the cylinder from the attachment.

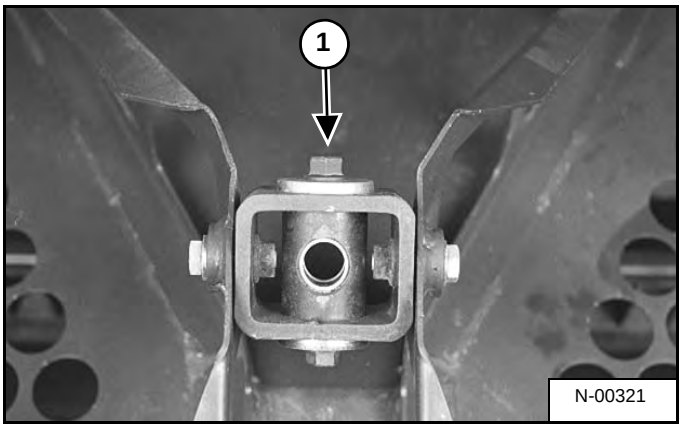
Inspect the cylinder for wear or damage and replace if necessary.

NOTE: See the landscape rake Service Manual for disassembly, assembly and repair of the cylinder.

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Cylinder And Rod Guide

Figure 101



Remove the bushing mounting bolt (Item 1) **[Figure 101]** and inspect the bushing for wear or damage. Replace if necessary.

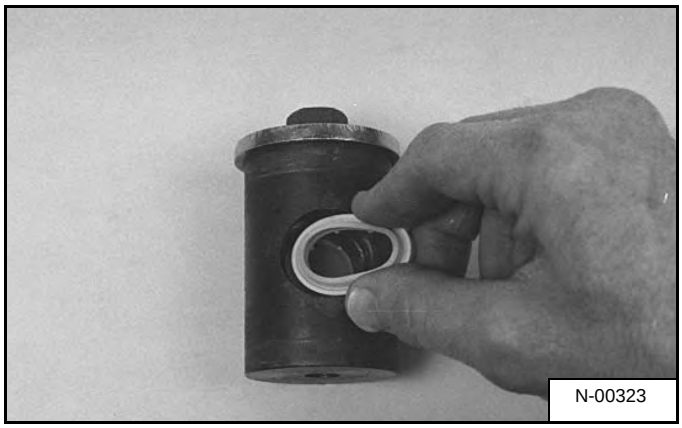
NOTE: The rod wipers can be removed from the guide while on the rake. The guide is removed from the rake for clarity.

Figure 102



Remove the seals (Item 1) **[Figure 102]** from the guide.

Figure 103



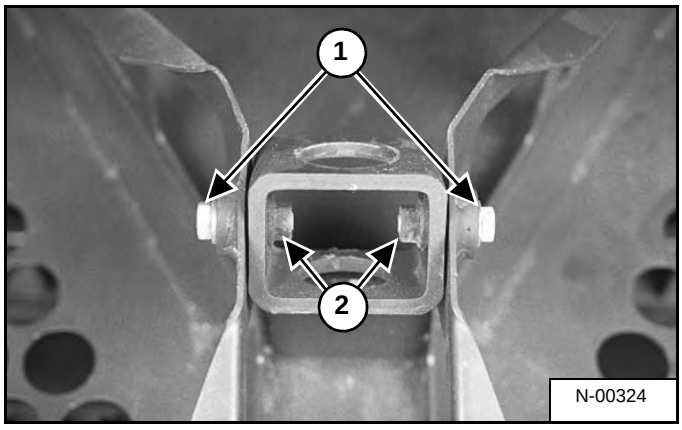
When installing the seals, the lip must be toward the outside of the guide **[Figure 103]**.

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REMOVAL AND INSTALLATION (CONT'D)

Rod Guide Housing

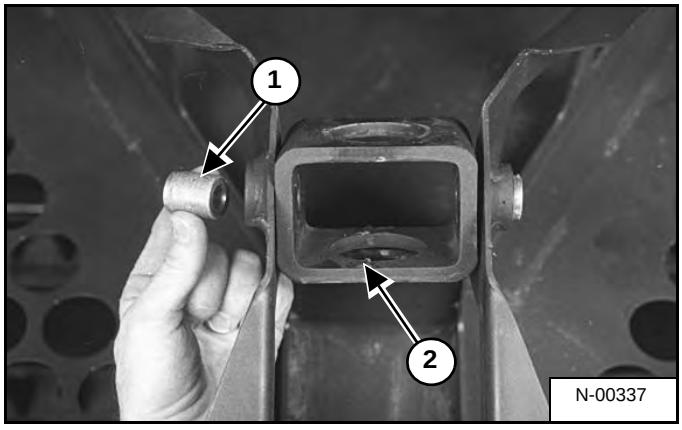
Figure 104



Remove the bolts (Item 1) and nuts (Item 2) **[Figure 104]** from the pivot bushings.

Installation: Use anti-seize on the bolts and nuts during assembly.

Figure 105



Remove the pivot bushings (Item 1) **[Figure 105]** from the frame.

Remove the housing (Item 2) **[Figure 105]**.

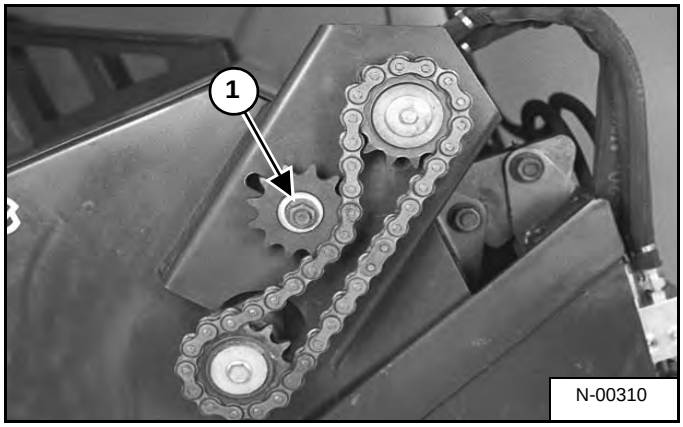
Installation: Use anti-seize on the pivot bushings during assembly.

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Drive Chain

Remove the shield from the drive motor. (See DRIVE CHAIN ADJUSTMENT on Page 74.)

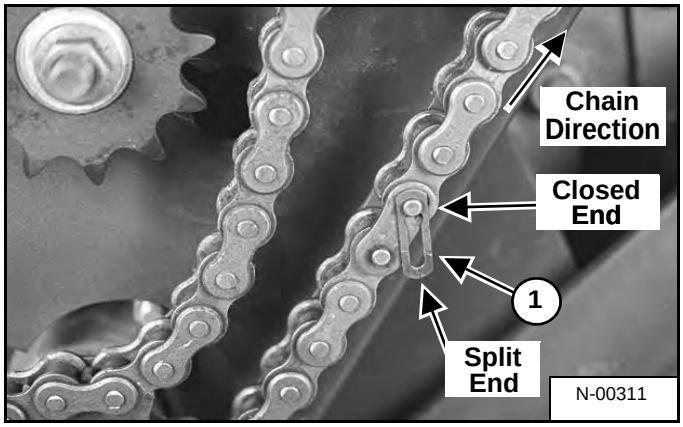
Figure 106



Loosen the adjustment sprocket bolt (Item 1) **[Figure 106]** and slide the sprocket away from the chain.

Installation: Install the same number of washers (Item 1) **[Figure 106]** behind the sprocket during assembly.

Figure 107



Remove the clip (Item 1) **[Figure 107]** from the chain link.

NOTE: When installing the clip (Item 1) [Figure 107], the closed end of the clip must be in the direction of the chains rotation.

Figure 108



Remove the retainer **[Figure 108]**.

Figure 109



Separate the drive chain and the link **[Figure 109]**.

Remove the drive chain from the sprockets.

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Landscape Rake Chain

NOTE: The chain removal procedure was done using an over head hoist and the landscape rake positioned upside down.

Remove the shield from the drive motor. (See DRIVE CHAIN ADJUSTMENT on Page 74.)

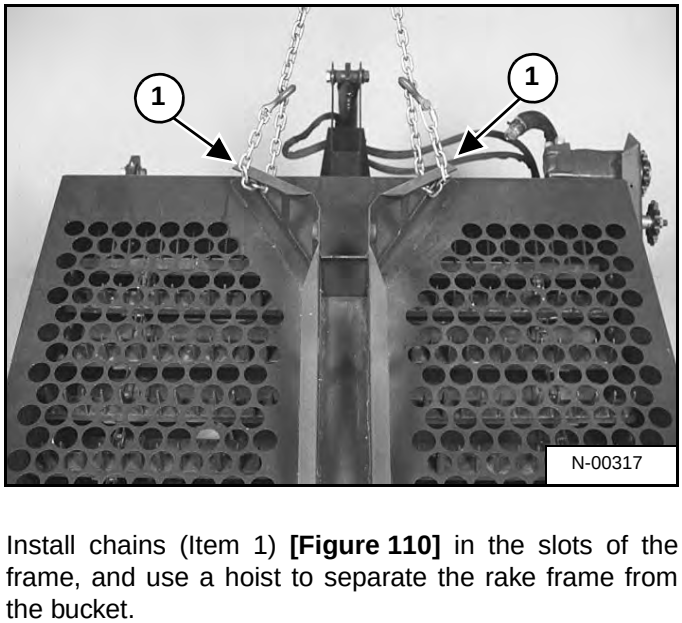
Remove the drive motor chain. (See Drive Chain on Page 78.)

Remove the hydraulic hoses from the motor.

Remove the rake cylinder. (See Hydraulic Cylinder on Page 75.)

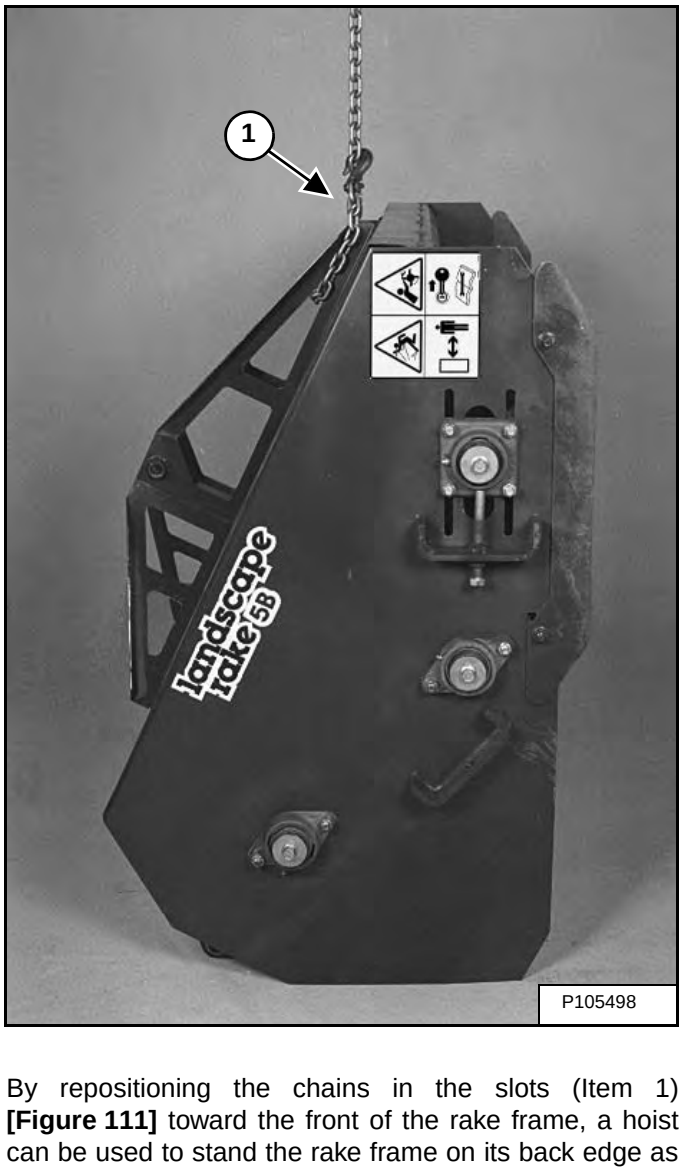
Remove the hinges.

Figure 110



Install chains (Item 1) **[Figure 110]** in the slots of the frame, and use a hoist to separate the rake frame from the bucket.

Figure 111



By repositioning the chains in the slots (Item 1) **[Figure 111]** toward the front of the rake frame, a hoist can be used to stand the rake frame on its back edge as shown.

Continue to pull the rake frame into the upside down position. The rake frame will be stable in this position for chain removal.

Position the master links to the top. Release the tension fully from the rake chain.

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Landscape Rake Chain (Cont'd)

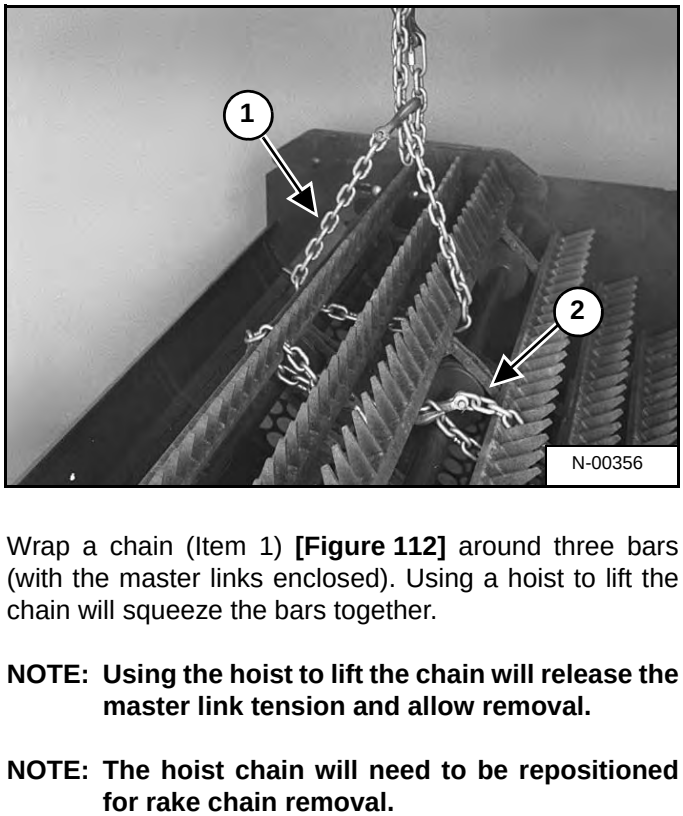
⚠ WARNING

AVOID INJURY

Do not attempt to separate the rake chain master links by standing under or reaching under the attachment. The Landscape Rake chain can suddenly separate and shift when the chain master links are removed. Use a chain or other restraining device to hold the rake bars together before removing the master links.

W-2236-0496

Figure 112



Wrap a chain (Item 1) **[Figure 112]** around three bars (with the master links enclosed). Using a hoist to lift the chain will squeeze the bars together.

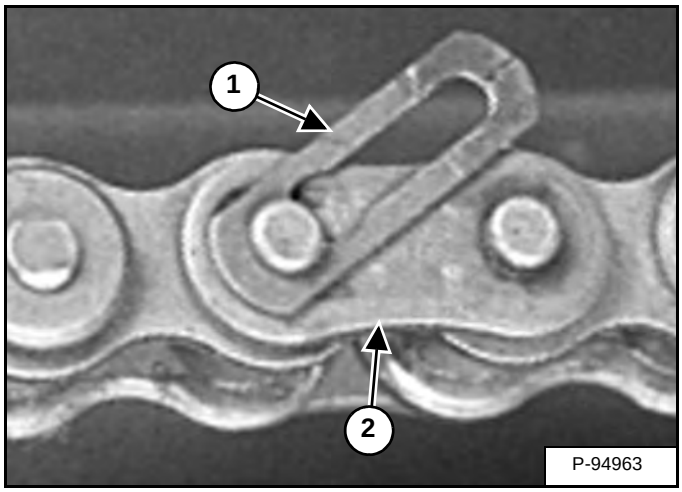
NOTE: Using the hoist to lift the chain will release the master link tension and allow removal.

NOTE: The hoist chain will need to be repositioned for rake chain removal.

Install a safety chain (Item 2) **[Figure 112]** to prevent the bars from separating while repositioning the hoist chain.

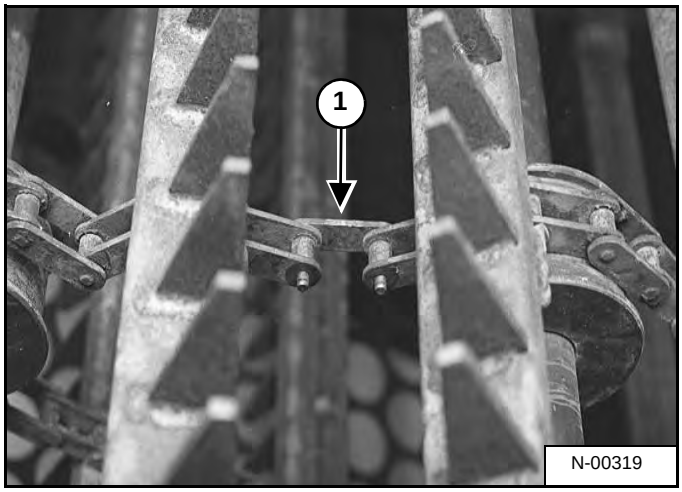
Lower the hoist chain until the safety chain is holding the rake chain in a secure position.

Figure 113



Remove the clip (Item 1) and the retainer (Item 2) **[Figure 113]** from the three master links.

Figure 114

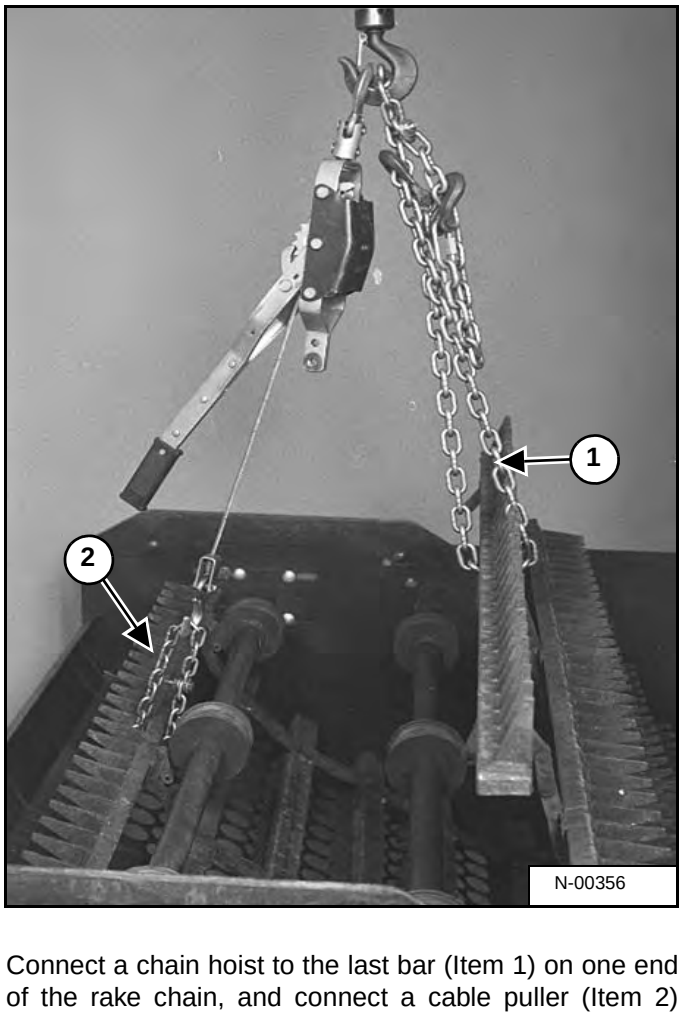


Remove the link (Item 1) **[Figure 114]** from the three chain connectors.

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Landscape Rake Chain (Cont'd)

Figure 115



Connect a chain hoist to the last bar (Item 1) on one end of the rake chain, and connect a cable puller (Item 2) **[Figure 115]** to the last bar on the other end of the rake chain.

Raise the hoist to release the safety chain from the rake chain.

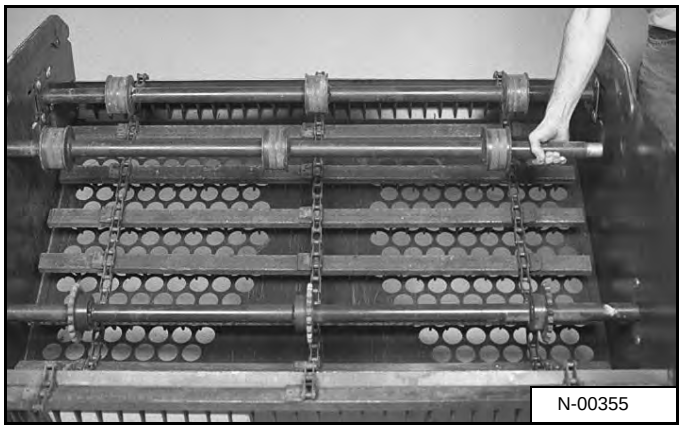
Release some tension from the cable puller and lower the chain hoist.

When lowered enough, one end of the rake chain can be laid over the front of the rake frame and the other end can be laid over the rear of the frame.

Installation: Use the reverse procedure to install the rake chain. Use the chain hoist and cable puller for the installation of the chain. Use a safety chain for the master link connection.

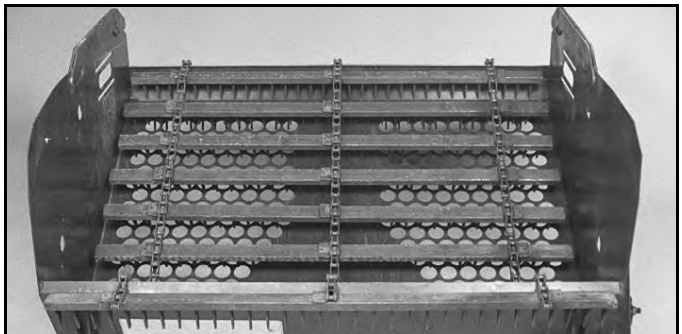
Remove the bearings from the shafts.

Figure 116



Remove the shafts from the frame **[Figure 116]**.

Figure 117



Remove the rake chain from the rake frame **[Figure 117]**.

Installation: Use the reverse procedure to install the rake chain. Use the chain hoist and cable puller for the installation of the chain. Use a safety chain for the master link connection.

Use the reverse procedure to put the landscape rake in the upright position.

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REMOVAL AND INSTALLATION (CONT'D)

Landscape Rake Chain (Cont'd)

Chain Bars Replacement (Welded)

Remove the rake chain assembly from the frame and put the assembly on the floor.

⚠ WARNING

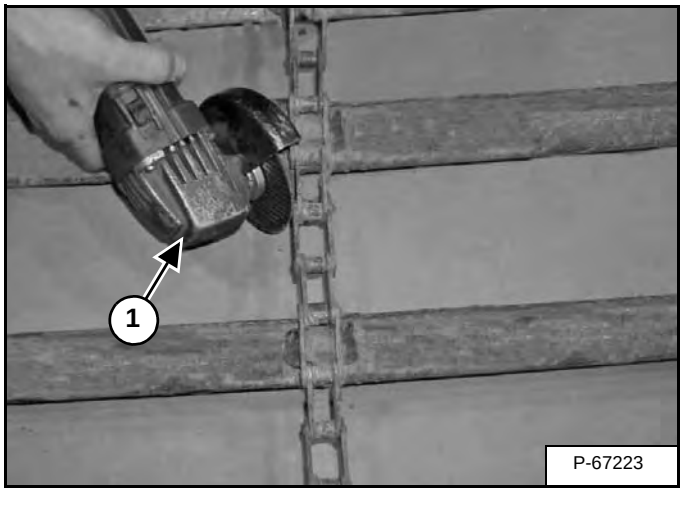
AVOID INJURY OR DEATH

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

Figure 118



Use a grinder (Item 1) **[Figure 118]** to remove the six centre links on each side of the bar to be replaced.

Use the link, retainer, and clip from the replacement bar and chain assembly to install the replacement bar.

Chain Bars Replacement (Bolt On)

⚠ WARNING

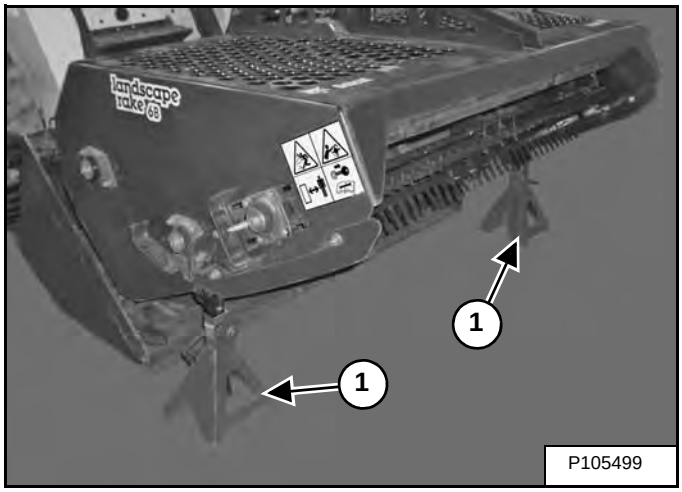
AVOID INJURY OR DEATH

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

Figure 119



Start the machine and raise the attachment.

Have a second person place jack stands (Item 1) **[Figure 119]** under both outer edges of the rake frame.

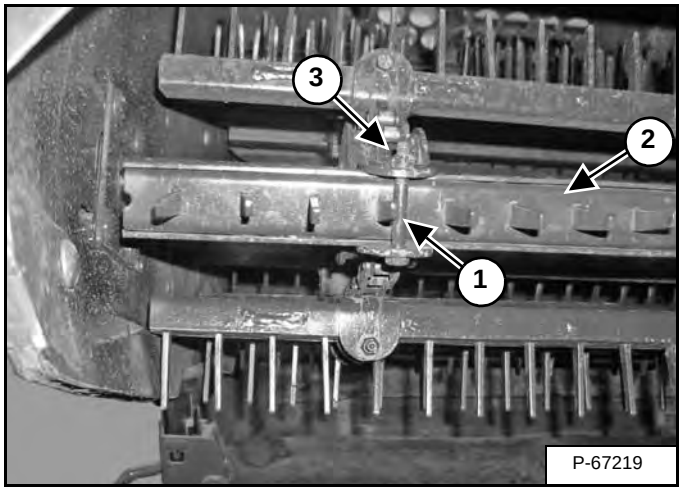
Lower the attachment and stop the engine.

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Landscape Rake Chain (Cont'd)

Chain Bars Replacement (Bolt On) (Cont'd)

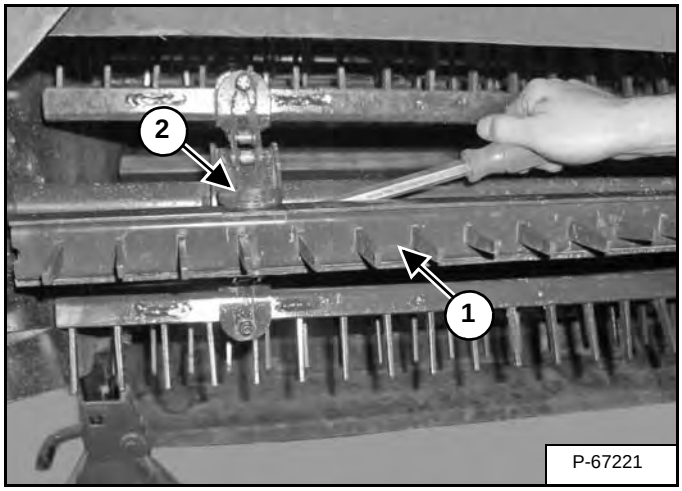
Figure 120



Remove the bolts (Item 1) which secure the bar (Item 2) **[Figure 120]** to the chains.

NOTE: The bolt must be installed with the nut (Item 3) [Figure 120] to the top to prevent damage to the threads during use.

Figure 121



Use a prybar to separate the bar (Item 1) from the mounting brackets (Item 2) **[Figure 121]**.

Figure 122

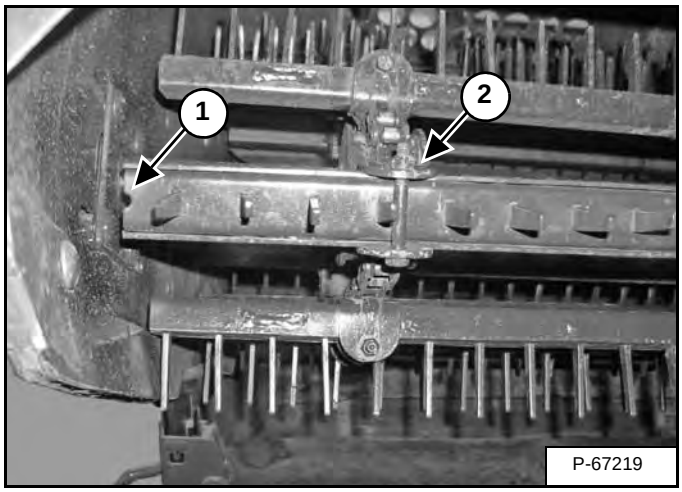
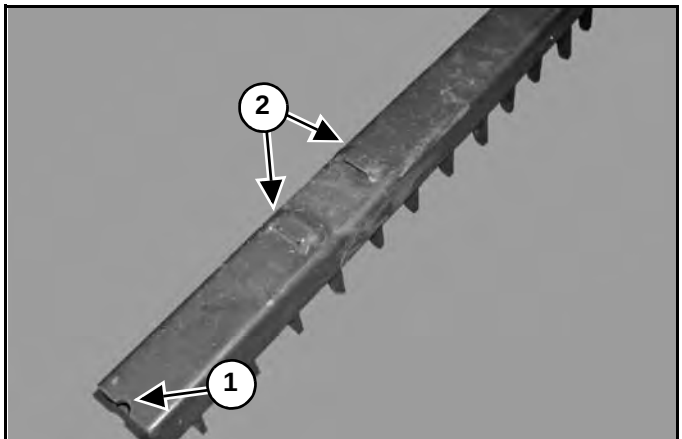


Figure 123



Installation: The bars are designed so the teeth are offset from one bar to the next when the bars are installed.

The bars must be staggered with the notches (located at one end of the bar) (Item 1) **[Figure 122]** and **[Figure 123]** positioned in the opposite direction for every bar.

The mounting bracket (Item 2) **[Figure 122]** must be positioned between the tabs (Item 2) **[Figure 123]** to prevent the bar from slipping in the brackets.

NOTE: It is normal for the rake teeth to loosen in the bar over time.

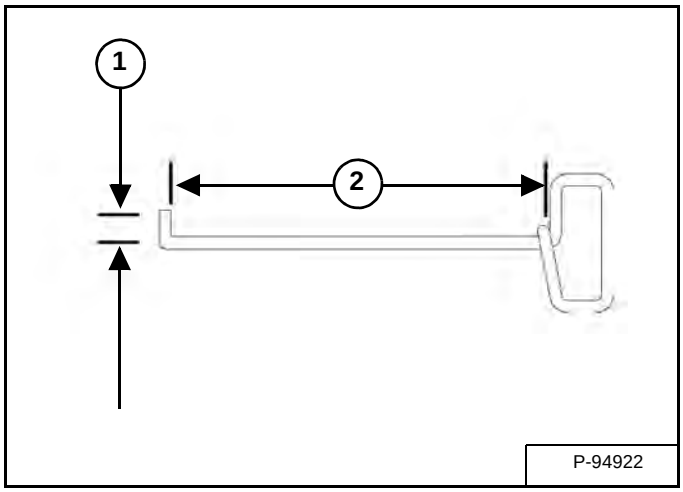
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Landscape Rake Chain (Cont'd)

Adjustment

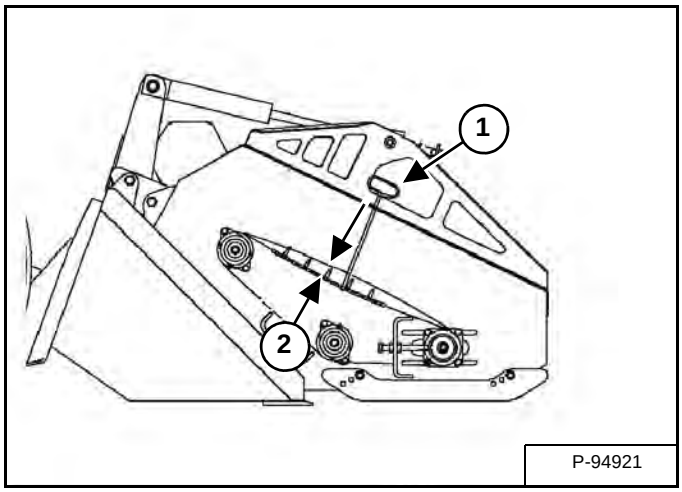
NOTE: The tool [Figure 124] is required to check the chain deflection.

Figure 124



To measure the chain deflection, a tool will need to be made. Using 3 - 4 mm (0.12 - 0.16 in) diameter rod, bend one end to have a 25 mm (1.0 in) hook (Item 1). Make a handle on the opposite end by looping the wire and twisting it. The distance between the hook and the handle should be about 460 mm (18 in) (Item 2) **[Figure 124]**.

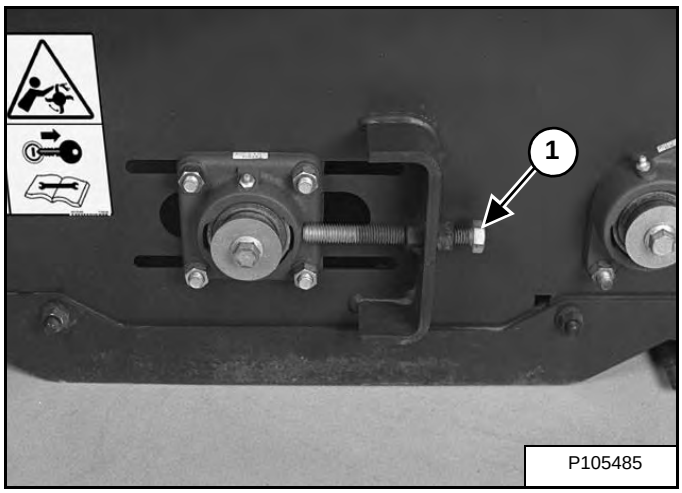
Figure 125



Use this tool (Item 1) **[Figure 125]** to reach through the top cutouts in the rake frame and the hook end to grab the chain.

With the tool (Item 1) just making contact with the chain, mark the tool at the frame cutout and then lift up with the tool until the chain is tight. Measure the distance (Item 2) **[Figure 125]** between the top of the frame and mark on the tool. This distance should be 76 - 102 mm (3 - 4 in).

Figure 126



If adjustment is needed, loosen the jam nut, and adjust the bolt (Item 1) **[Figure 126]**. Recheck chain deflection. Both sides of the chain should be adjusted as close to the same measurement as possible. When tension is correct, tighten the jam nut.

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ATTACHMENT STORAGE AND RETURN TO SERVICE

Storage

Sometimes it may be necessary to store your Bobcat attachment for an extended period of time. Below is a list of items to perform before storage.

- Thoroughly clean the attachment.
- Lubricate the attachment.
- Inspect the Bob-Tach wedge mounts, mounting flange and all welds on the attachment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Replace worn or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Place the attachment in a dry protected shelter.
- Place the attachment flat on 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 machine.

Return To Service

After the Bobcat attachment has been in storage, it is necessary to follow a list of items to return the attachment to service.

- Be sure all shields and guards are in place.
- Lubricate the attachment.
- Install and operate attachment, check for correct function.
- Check for leaks. Repair as needed.

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SPECIFICATIONS

(LR 5B, LR 6B) LANDSCAPE RAKE SPECIFICATIONS 87
Dimensions 87
Performance 87
Hydraulic System 87

Certain specification(s) are based on engineering calculations and are not actual measurements. Specification(s) are provided for comparison purposes only and are subject to change without notice. Specification(s) for your individual Bobcat equipment will vary based on normal variations in design, manufacturing, operating conditions and other factors.

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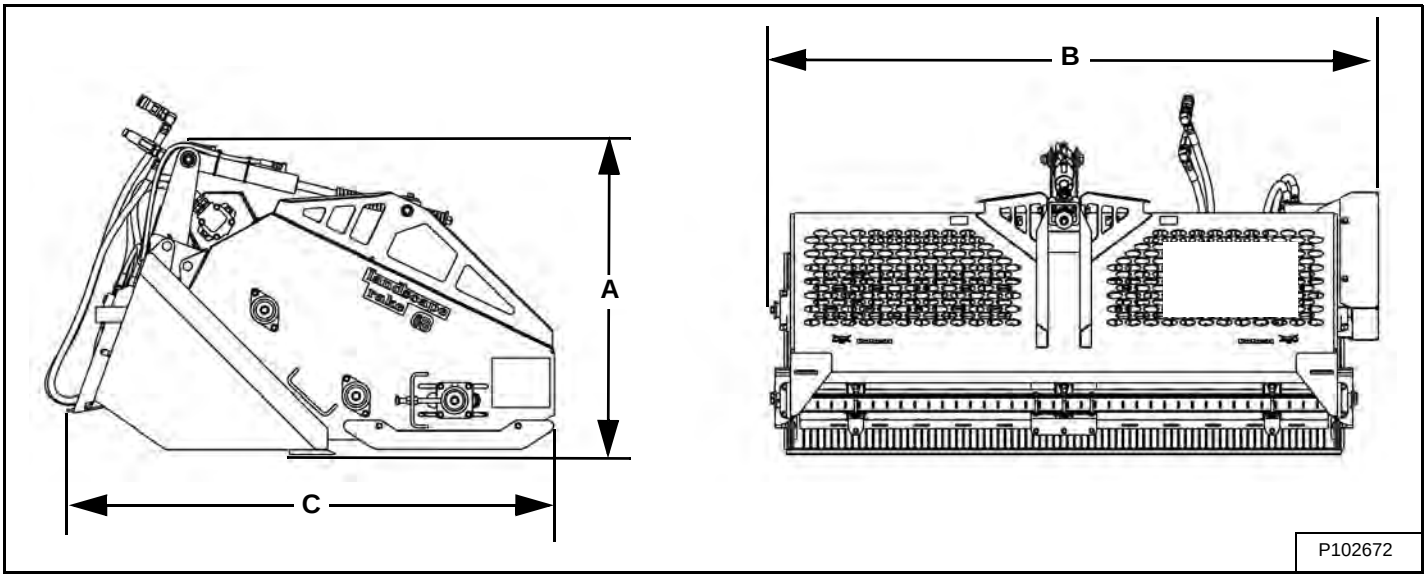


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(LR 5B, LR 6B) LANDSCAPE RAKE SPECIFICATIONS

Dimensions

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



	LR 5B	LR 6B
Height (A)	1027 mm (40.4 in)	1027 mm (40.4 in)
Width (B)	1693 mm (66.6 in)	1997 mm (78.6 in)
Length (C)	1607 mm (63.2 in)	1607 mm (63.2 in)

Performance

	LR 5B	LR 6B
Total Weight	503 kg (1109 lb)	561 kg (1237 lb)
Bucket Capacity	0,34 m^3 (12.1 ft^3)	0,40 m^3 (14.3 ft^3)
Rake Bars	Rectangular steel tubing of 50,8 x 25,4 x 3,175 mm wall (2 x 1 x 0.125 in wall)	
No. of Rake Teeth	384	456
Rake Chain	2060H Roller Chain	
Drive Chain	#80H Roller Chain	
Bearings	Sealed	
Rake Tooth		
Thickness	4,8 mm (0.1875 in)	
Length	76 mm (3 in)	

Hydraulic System

	LR 5B	LR 6B
Hydraulic Motor Displacement	394 cm^3 (24 in^3)	
Relief Valve Setting	6205 kPa (bar 62,0) (900 psi)	

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WARRANTY

WARRANTY 91

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WARRANTY

BOBCAT ATTACHMENTS

Doosan Bobcat EMEA s.r.o. (“Doosan”) warrants to its authorized dealers who in turn warrants to the customer that the Bobcat Attachments sold by Doosan, under normal use and proper maintenance shall be free from defects in workmanship and material for twelve (12) months after delivery to the customer. During the warranty period, the authorized Doosan dealer shall repair or replace, at Doosan’s option, without charge for parts, labour and travel of technicians, any part of the Doosan product which fails because of defects in material or workmanship. The customer shall provide the authorized Doosan dealer with prompt written notice of the defect and allow reasonable time for replacement or repair. Doosan may, at its option, request failed parts to be returned to the factory or to any other designated location. Transportation of the Doosan product to the authorized Doosan dealer for warranty work is not the responsibility of Doosan. Service schedules must adhere to prescribed intervals and Bobcat genuine parts/lubricants must be used. The warranty does not apply to tyres, tracks or other accessories not manufactured by Doosan. For coverage on engines, consult with your Bobcat Dealer. For these non-covered items, the customer shall refer solely to the warranty, if any, of the respective manufacturers thereof, in accordance with the respective manufacturers warranty statement. Some Doosan parts are covered pro-rata depending on the expected life-time of the part. Coverage for batteries, air-conditioning refill, couplers and ignition system parts (glow plugs, fuel injection pumps, injectors) is reduced as failures generally originate from factors not under Doosan’s control such as, but not limited to, prolonged storage, abuse or fuel quality. Reduced coverage is, depending on the component, limited from 50 to 500 operating hours. The warranty does not cover: (i) Oils and lubricants, coolant fluids, filter elements, brake linings, tune-up parts, bulbs, fuses, alternator fan belts, drive belts, pins, bushings and other high-wear items. (ii) Damages resulting from abuse, accidents, alterations, use of the product with any bucket or attachment not approved by Doosan, air flow obstructions, or failure to maintain or use the Doosan product according to the instructions applicable to it. (iii) Ground engaging parts such as bucket teeth and cutting edges. (iv) Fuel or hydraulic system cleaning, engine tune-up, brake inspection or adjustment. (v) Adjustments or slight defects which generally do not affect the stability or reliability of the machine.

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ALPHABETICAL INDEX

(LR 5B, LR 6B) LANDSCAPE RAKE SPECIFICATIONS 89
ATTACHMENT IDENTIFICATION 9
ATTACHMENT SIGNS (DECALS) 19
ATTACHMENT STORAGE AND RETURN TO SERVICE 85
BOBCAT COMPANY IS IS0 9001 CERTIFIED 7
DAILY INSPECTION 28
DECLARATION OF CONFORMITY 5
DELIVERY REPORT 8
DRIVE CHAIN ADJUSTMENT 74
FEATURES AND ACCESSORIES 10
FIRE PREVENTION 15
INITIAL SETUP 27
LIFTING THE ATTACHMENT 65
LUBRICATING THE ATTACHMENT 73
MAINTENANCE SAFETY 69
OPERATING PROCEDURE WITH LOADERS 31
OPERATING PROCEDURE WITH TELESCOPIC HANDLERS 53
PUBLICATIONS AND TRAINING RESOURCES 18
REMOVAL AND INSTALLATION 75
SAFETY INSTRUCTIONS 13
SERIAL NUMBER LOCATION 8
SERVICE SCHEDULE 72
TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER 66
TRANSPORTING THE ATTACHMENT ON A TRAILER 65
TROUBLESHOOTING 71
WARRANTY 93

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