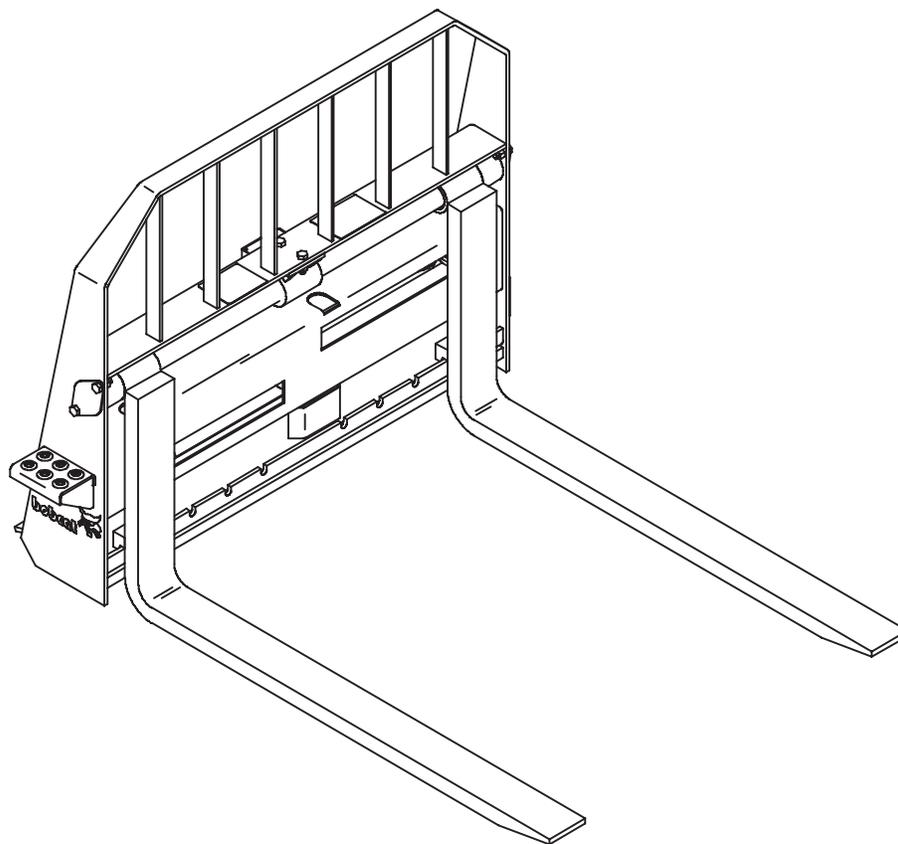




# HYDRAULIC PALLET FORK

42" Model (S/N 230900101 & Above)  
48" Model (S/N 230800101 & Above)

## Service Manual



Product: Bobcat Hydraulic Pallet Fork Service Repair Workshop Manual  
Full Download: <https://www.arepairmanual.com/downloads/bobcat-hydraulic-pallet-fork-service-repair-workshop-manual/>

Sample of manual. Download All 42 pages at:  
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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-2003-0903



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



B-10731a

-  Never service attachments without instructions. See Operation & Maintenance Manual and Attachment Service Manual.
-  Cleaning and maintenance are required daily.
-  Never service or adjust attachment with the engine running unless instructed to do so in manual.
-  Always lower the attachment 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.



**Bobcat®**

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**PREVENTIVE  
MAINTENANCE**

**HYDRAULIC  
SYSTEM**

**MAIN FRAME**

**SPECIFICATIONS  
AND  
SCHEMATICS**

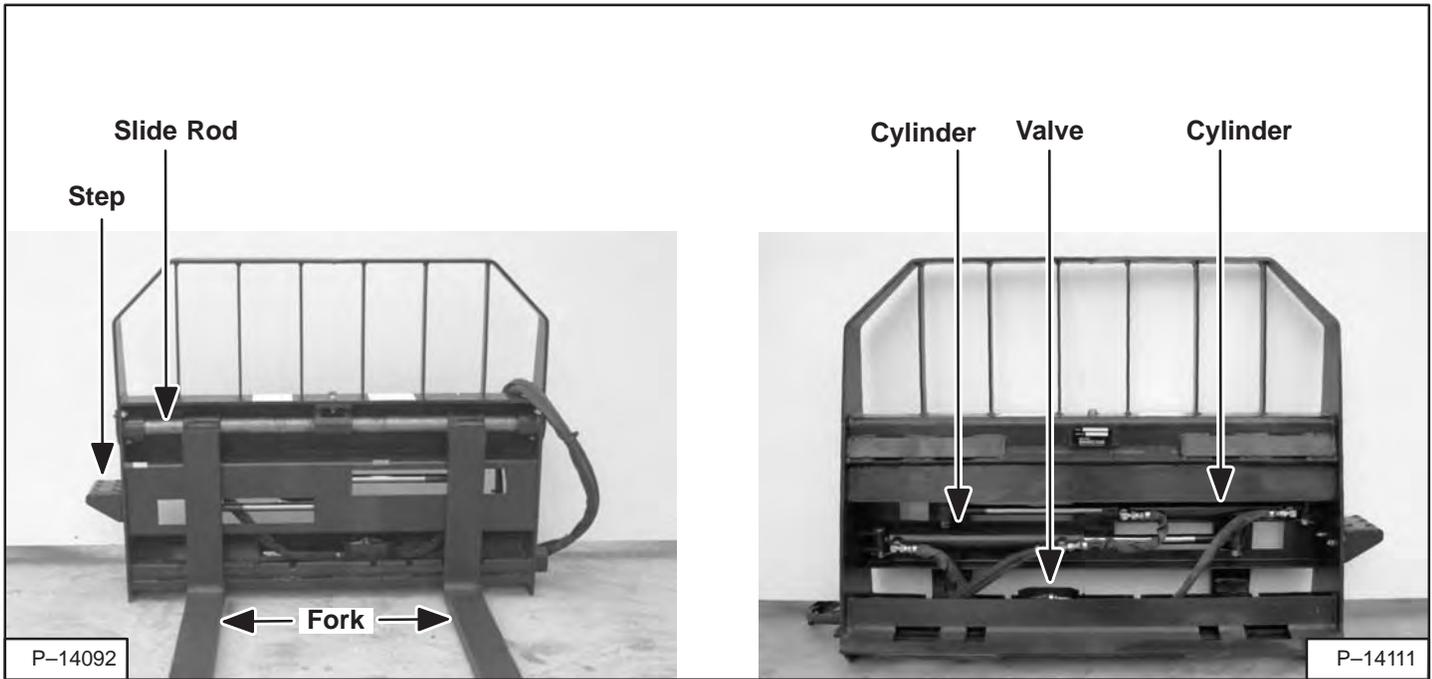
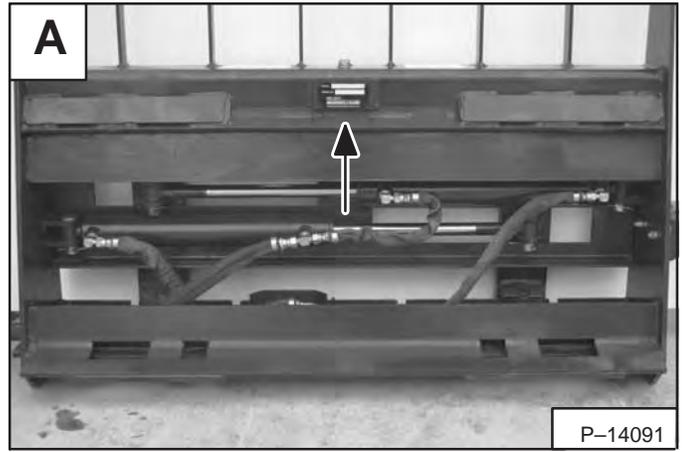
**CALIFORNIA  
PROPOSITION 65 WARNING**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

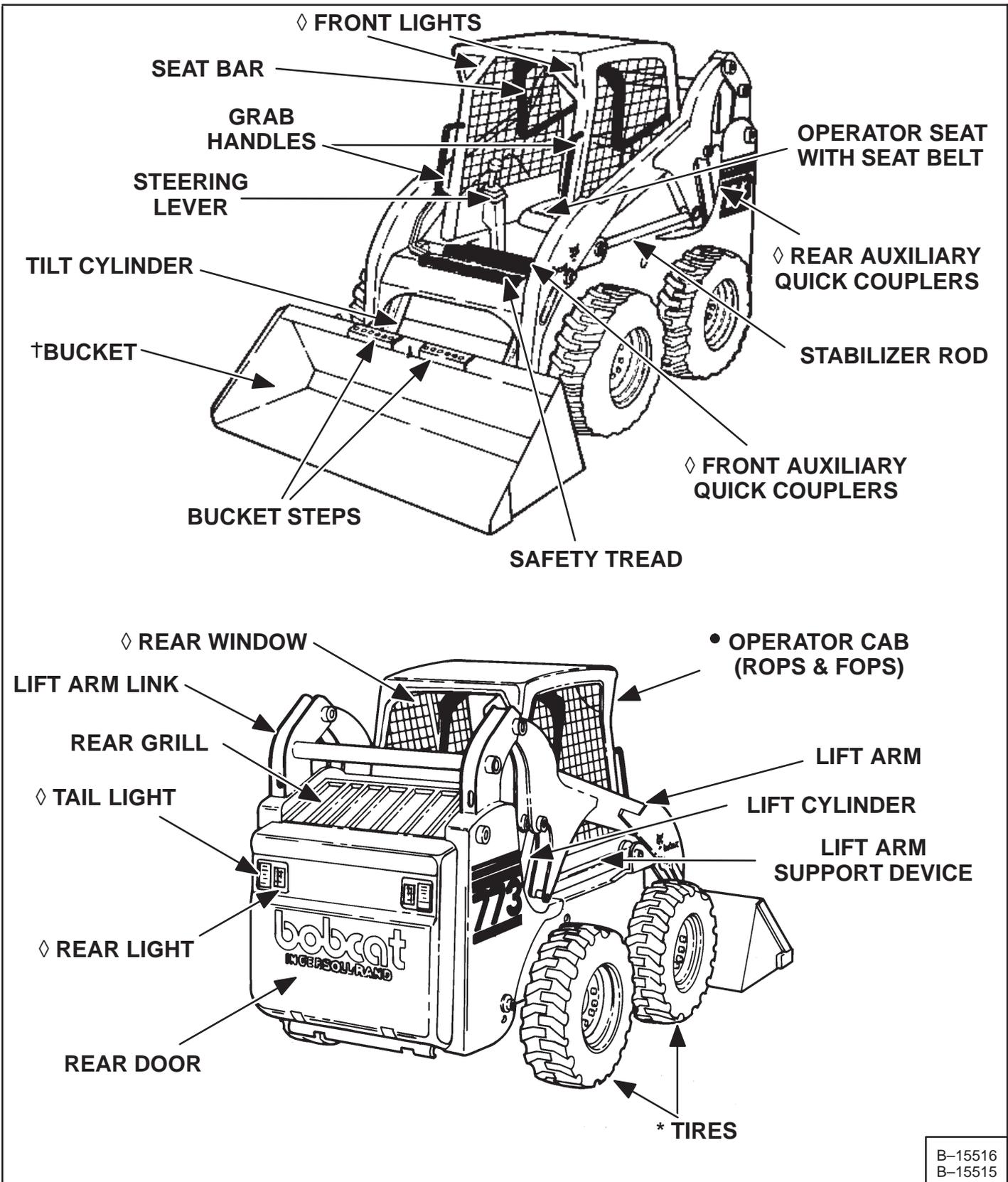


### SERIAL NUMBER LOCATION

Always use the serial number of the Hydraulic Pallet Fork when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation [A].



## BOBCAT LOADER IDENTIFICATION



◇ OPTIONAL OR FIELD ACCESSORY (Not Standard Equipment)

\* TIRES – The Bobcat loader is factory equipped with heavy duty flotation tires. See Specifications Section and your Bobcat dealer for available tires.

† BUCKET – Several different buckets and other attachments are available for the Bobcat loader.

• ROPS, FOPS – Roll Over Protective Structure per SAE J1040 and ISO 3471, and Falling Object Protective Structure per SAE J1043 and ISO 3449, Level I. Level II is available. The Bobcat loader is base-equipped with a standard operator cab as shown. Extra insulated cab is available as an option (Reduced noise level).

# PREVENTIVE MAINTENANCE

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**TROUBLESHOOTING**



Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, 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-2003-0199

PROBLEM	CAUSE	CORRECTION
Hydraulic Pallet Fork does not mount properly on the Bob-Tach.	Bob-Tach wedges are not fully retracted.	Retract Bob-Tach wedges.
	Debris lodged between the Bob-Tach and the Hydraulic Pallet Fork.	Remove debris from between Bob-Tach and Hydraulic Pallet Fork.
	Worn or damaged parts.	Replace worn or damaged parts.
Forks won't operate.	Front auxiliary hydraulics not engaged.	Engage loader front auxiliary hydraulics.
	No hydraulic flow.	Check quick coupler connections. Check for damaged hose ends and fittings.

## INSPECTION

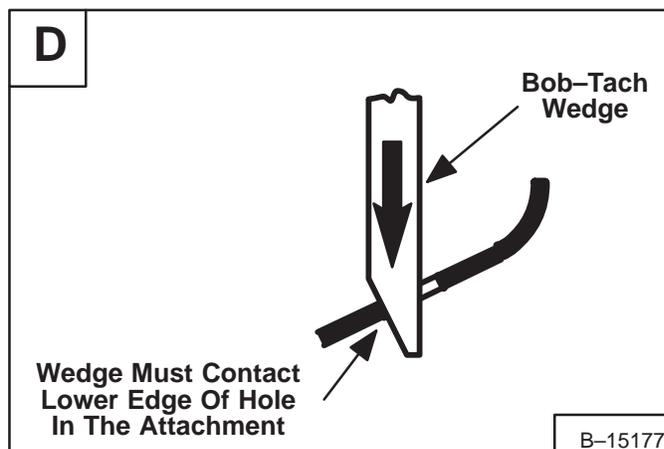
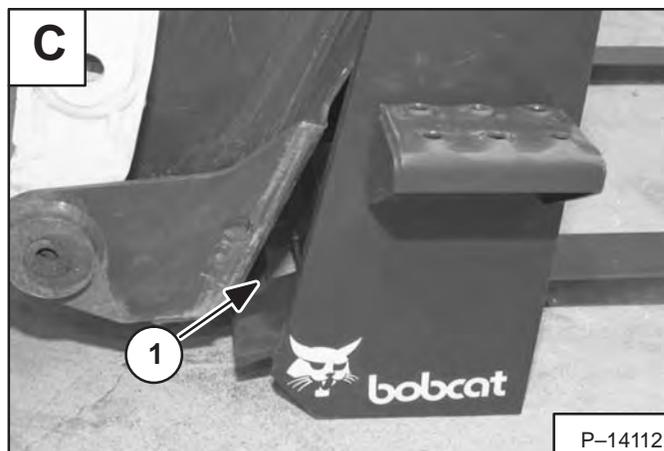
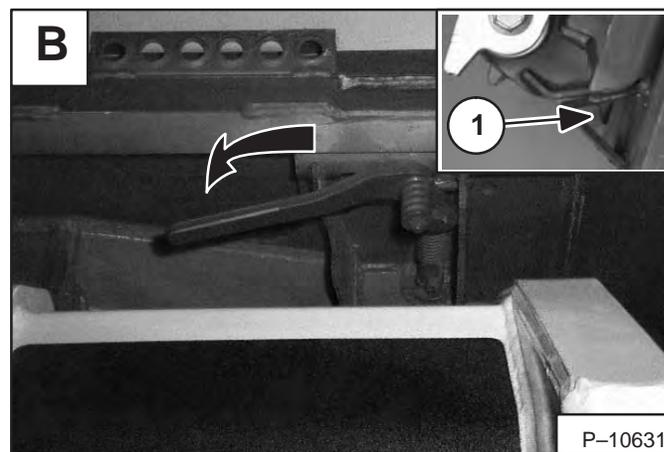
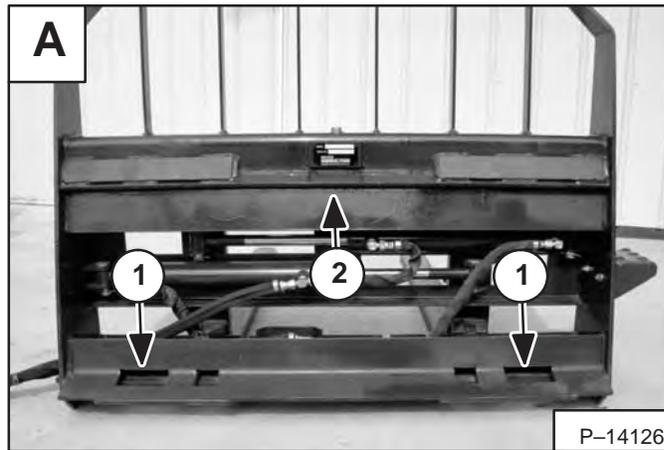
### Hydraulic Pallet Fork Mount Inspection

Inspect the Bob-Tach wedge mounts (Item 1) [A] mounting flange (Item 2) [A] and all welds on the Hydraulic Pallet Fork mount for wear and damage each time the Hydraulic Pallet Fork is removed from the loader.

### Bob-Tach Inspection

Move the Bob-Tach levers to engage the wedges [B]. The levers and wedges must move freely.

The wedges must extend through the holes in the attachment mounting frame (Item 1) [B].



## WARNING

Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

The spring loaded wedge (Item 1) [B] must contact the lower edge of the hole in the attachment (Item 1) [C] and [D].

If the wedge does not contact the lower edge of the hole [C] and [D] the attachment will be loose and can come off the Bob-Tach.

## INSPECTION (Cont'd)

### Bob-Tach Inspection (Cont'd)

Inspect the mounting frame on the attachment and the Bob-Tach, linkages and wedges for excessive wear or damage [A]. Replace any parts that are damaged, bent, or missing. Keep all fasteners tight.

Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges. (See the correct loader Operation & Maintenance Manual for *LUBRICATION OF THE BOBCAT LOADER.*)

### Fork Inspection

(See ANSI Standard below)

Inspect forks regularly to maintain rated lift capacity.

**Blade wear:** Check blade wear in the area shown (Item 1) [B]. If the original thickness is reduced to 90%, the fork must be replaced. Measure the vertical member of the blade for the original thickness.

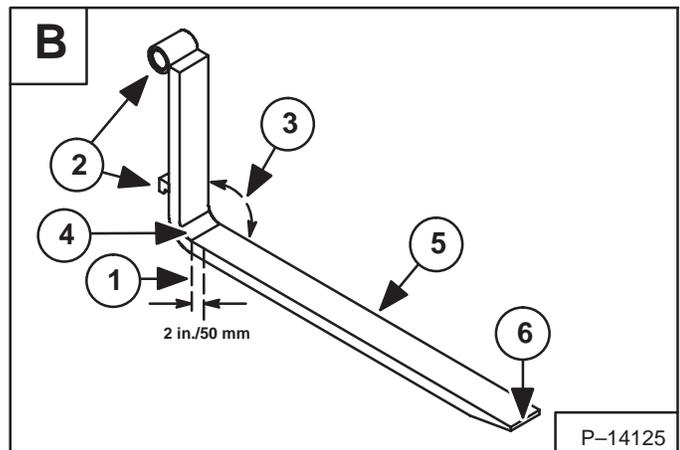
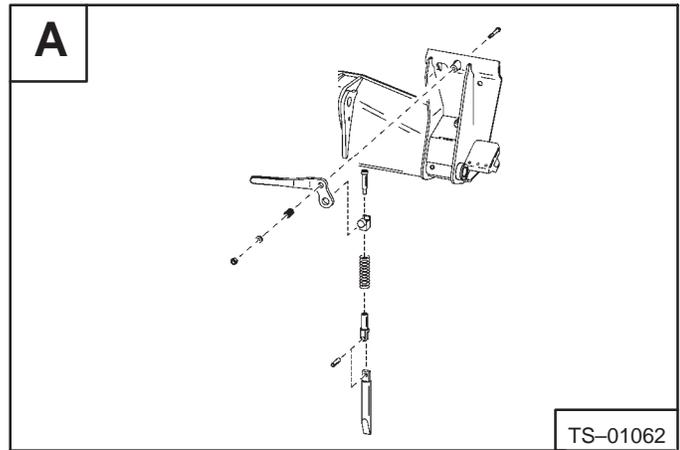
**Locking / Width Adjustment Mechanism:** Check for wear, damage and cracked welds (Item 2) [B].

**Blade Angle:** (Item 3) [B] The angle between the blade and the vertical member must be no less than 86 degrees and no more than 93 degrees.

**Surface Cracks:** (Item 4) [B] Check blades for surface cracks at the heel and on top of the blade in the same area.

**Blade Straightness:** (Item 5) [B] The blade must be straight within 0.5% of the length of the blade. EXAMPLE: a 48 inch blade will have an allowable bend of 1/4 inch. ( $48 \times .005 = .24$ )

**Fork Tip Height:** (Item 6) [B] The difference in height of one blade tip, when compared to the other blade tip, must not exceed 3% of the blade length. EXAMPLE: a 48 inch blade can have an allowable difference of 1-7/16 inch. ( $40 \times .03 = 1.44$ )



## FORK INSPECTION, REPAIR AND TESTING STANDARDS

### 6.2.8 Inspection and Repair of Forks in Service on Fork Lift Trucks

(a) Forks in use shall be inspected at intervals of not more than 12 months (for single shift operations) or whenever any defect or permanent deformation is detected. Server applications will require more frequent inspection.

(b) Individual Load Rating of Forks. When forks are used in pairs (the normal arrangement), the rated capacity of each fork shall be at least half of the manufacturer's rated capacity of the truck, and at the rated load center distance shown on the lift truck nameplate.

**6.2.8.1 Inspection.** Fork inspections shall be carried out carefully by trained personnel with the aim of detecting any damage, failure, deformation, etc., which might impair safe use. Any fork which shows such a defect shall be withdrawn from service, and shall not be returned to service unless it has been satisfactorily repaired in accordance with para 6.2.8.2.

(a) Surface Cracks. The fork shall be thoroughly examined visually for cracks and if considered necessary, subjected to a non-destructive crack detection process, special attention being paid to the heel and welds attaching all mounting components to the fork blank. This inspection for cracks must also include any special mounting mechanisms of the fork blank to the fork carrier including bolt type mountings and forged upper mounting arrangements for hook or shaft type carriages. The forks shall not be returned to service if surface cracks are detected.

(b) Straightness of Blade and Shank. The straightness of the upper face of the blade and the front face of the shank shall be checked. If the deviation from straightness exceeds 0.5% of the length of the blade and/or the height of the shank, respectively, the fork shall not be returned to service until it has been repaired in accordance with para 6.2.8.2.

(c) Fork Angle (Upper Face of Blade to Load Face of the Shank). Any fork that has a deviation of greater than 3 deg. from the original specification shall not be returned to service. The rejected fork shall be reset and tested in accordance with para 6.2.8.2.

(d) Difference in Height of Fork Tips. The difference in height of one set of forks when mounted on the fork carrier shall be checked. If the difference in tip heights exceeds 3% of the length of the blade, the set of forks shall not be returned to service until repaired in accordance with para 6.2.8.2.

(e) Positioning Lock (Where Originally Provided). It shall be confirmed that the positioning lock is in good repair and correct working order. If any fault is found, the fork shall be withdrawn from service until satisfactory repair has been effected.

#### (f) Wear

(1) Fork Blade and Shank. The fork blade and shank shall be thoroughly checked for wear, special attention being paid to the vicinity of the heel. If the thickness is reduced to 90% of the original thickness, the fork shall not be returned to service.

(2) Fork Hooks (Where Originally Provided). The support face of the top hook and the retaining faces of both hooks shall be checked for wear, crushing, and other local deformations. If these are apparent to such an extent that the clearance between the fork and the fork carrier becomes excessive, the fork shall not be returned to service until repaired in accordance with para 6.2.8.2.

### 6.2.8.2. Repair and Testing

(a) Repair. Only the manufacturer of the fork or an expert of equal competence shall decide if a fork may be repaired for continual use, and the repairs shall only be carried out by such parties. It is not recommended that surface cracks or wear be repaired by welding. When repairs necessitating resetting are required, the fork shall subsequently be subjected to an appropriate heat treatment, as necessary.

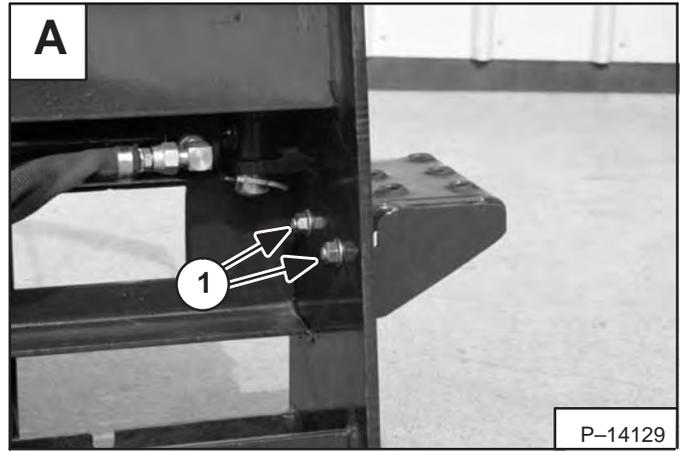
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**INSPECTION (Cont'd)**

**Replaceable Step Inspection**

Inspect and retighten the bolts (Item 1) **[A]** periodically.

Tighten the bolts to 25–28 ft.-lbs. (34–38 Nm) torque.



# HYDRAULIC SYSTEM

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Disassembly .....	10-20-5
Hydraulic Cylinder Removal And Installation .....	10-20-3
Parts Identification .....	10-20-4

**HYDRAULIC  
SYSTEM**



## HYDRAULIC CYLINDER

### Hydraulic Cylinder Removal And Installation

The left fork hydraulic cylinder (Item 1) [A] should be removed before removing the right fork hydraulic cylinder (Item 2) [A].

Position the left fork so the pin in the rod end of the left fork cylinder can be removed through the access hole (Item 1) [B] in the main frame.

For ease of positioning, place the hydraulic hoses in a container to catch released oil, and release the pressure in the hydraulic hoses by slowly removing the 90 degree elbows with the quick couplers from the fittings on the ends of the hoses. This will allow you to position the left fork by hand.

Mark the hoses (Item 1) [C] for ease of assembly.

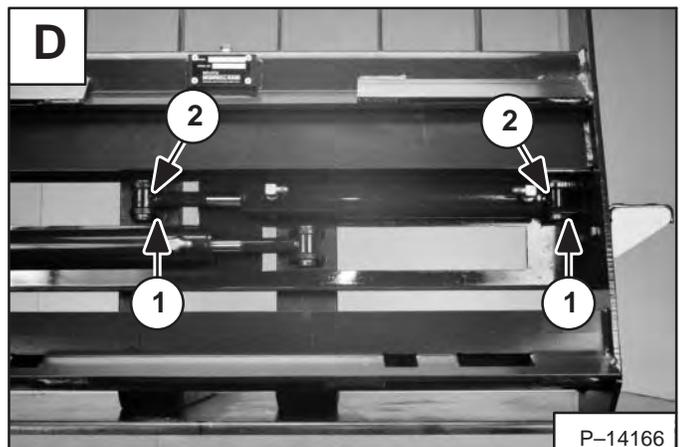
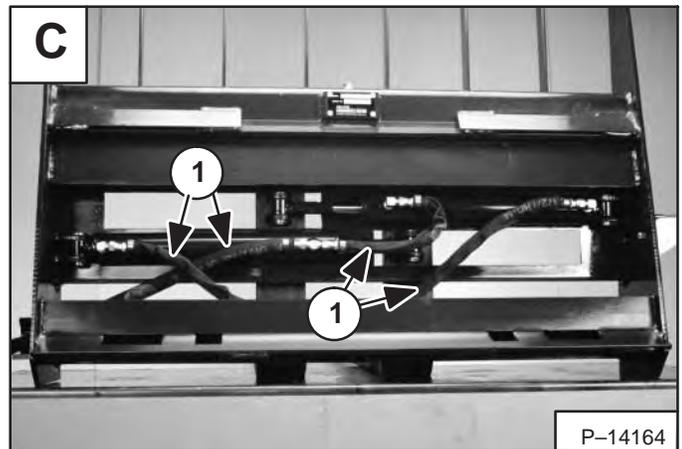
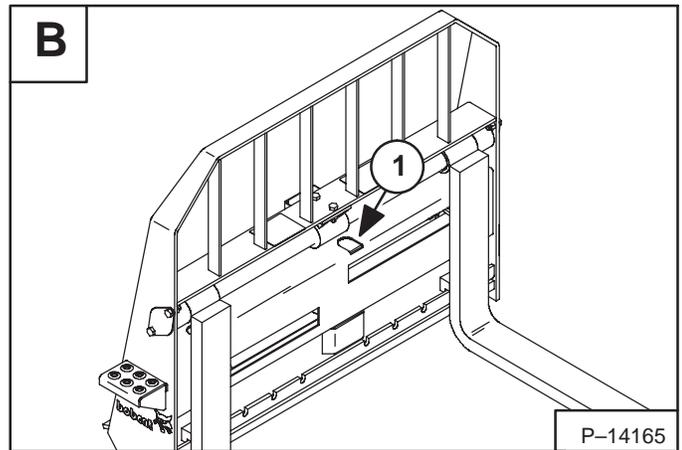
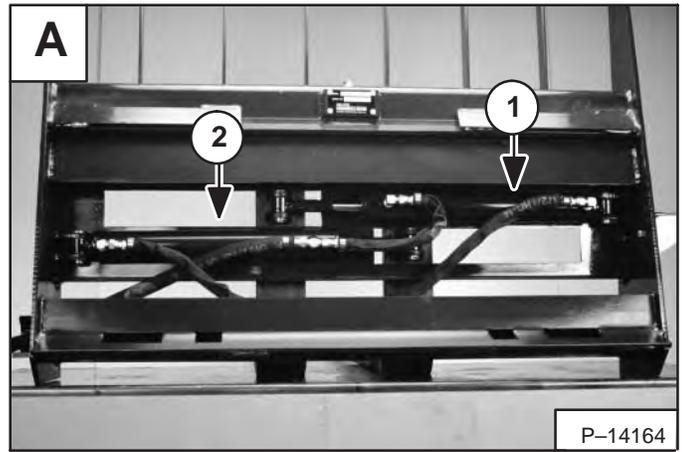
Remove the hoses.

## IMPORTANT

When repairing hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

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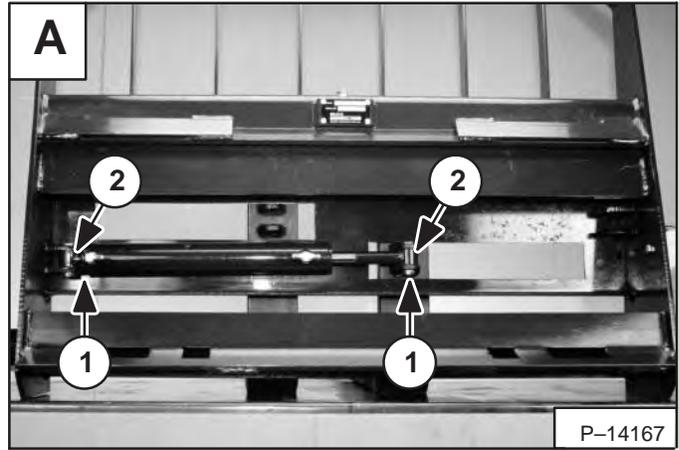
Remove the cotter pins (Item 1) [D] and pins (Item 2) [D] from both ends of the left fork cylinder. Remove the left fork cylinder.



## HYDRAULIC CYLINDER (Cont'd)

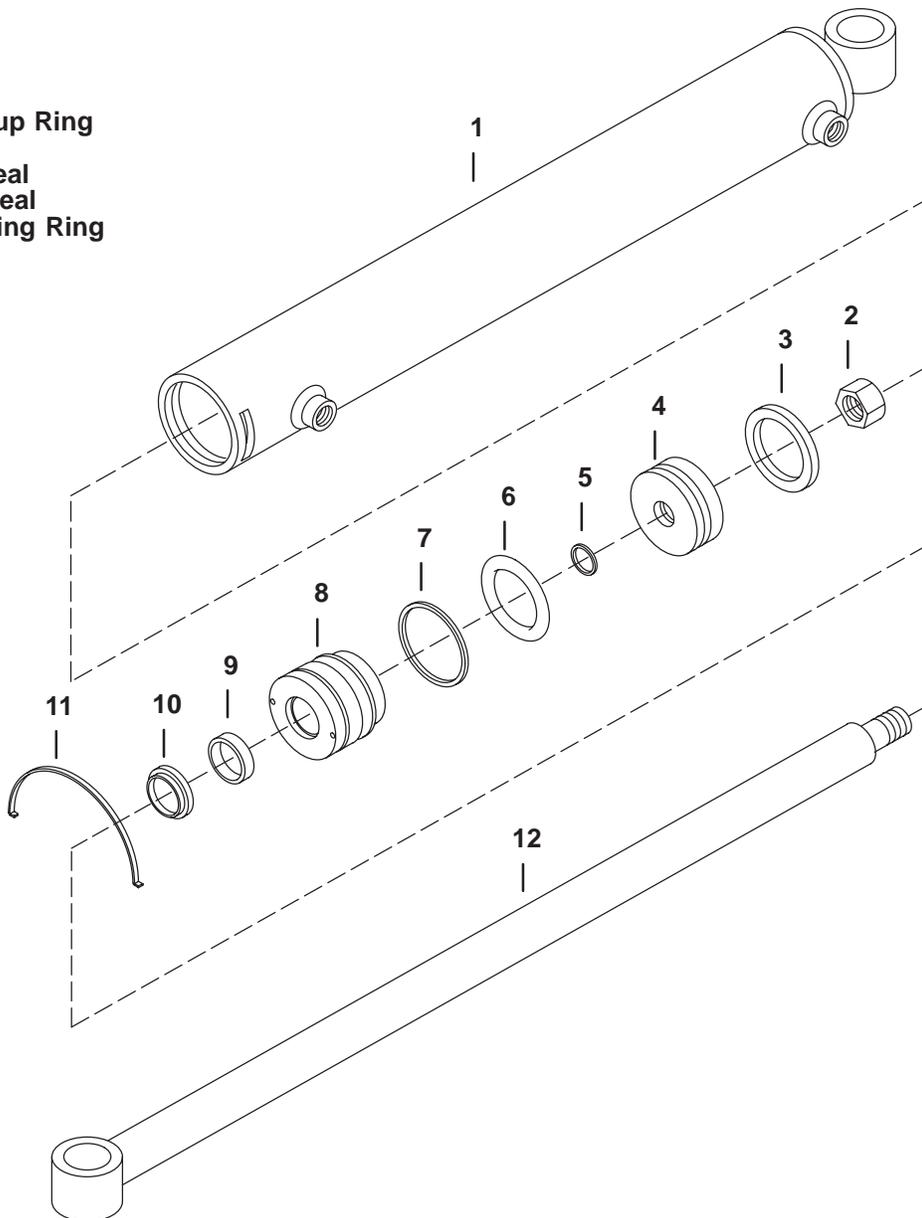
### Hydraulic Cylinder Removal And Installation (Cont'd)

Remove the cotter pins (Item 1) [A] and pins (Item 2) [A] from both ends of the right fork cylinder. Remove the right fork cylinder.



### Parts Identification

1. Case
2. Nut
3. Seal
4. Piston
5. O-ring
6. O-ring
7. Back-up Ring
8. Head
9. Rod Seal
10. Dust Seal
11. Retaining Ring
12. Rod



TS-1724

**NOTE:** The photos may not show the cylinder exactly as it appears, but the procedure is correct for all cylinders.

The following tools will be needed to disassemble and assemble the cylinder:

- OEM6192 – Spanner Wrench
- MEL1396 – Universal Seal Expander
- MEL1032 – Rod Seal Installation Tool

Place the base end of the hydraulic cylinder in a drain pan. Move the rod in and out to remove the fluid from the cylinder. Move the rod slowly so the fluid will go directly into the drain pan.

Place the base end of the cylinder in a vise.

## IMPORTANT

When repairing hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0888

Use a spanner wrench to turn the head counterclockwise, and remove the retainer clip (Item 1) [A].

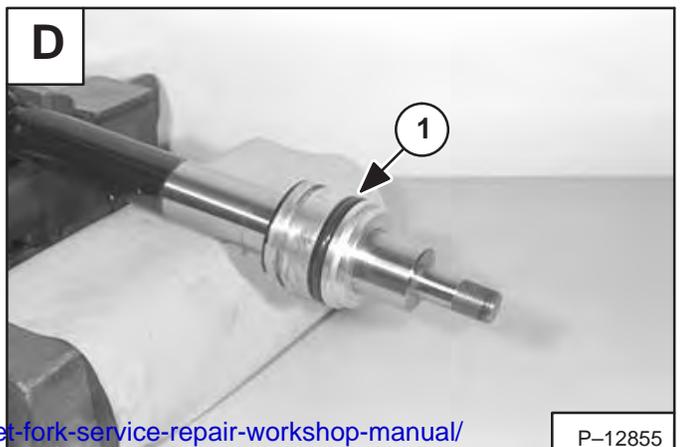
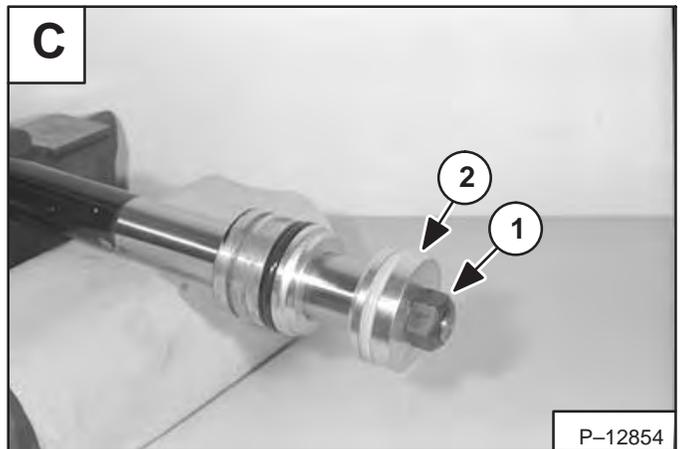
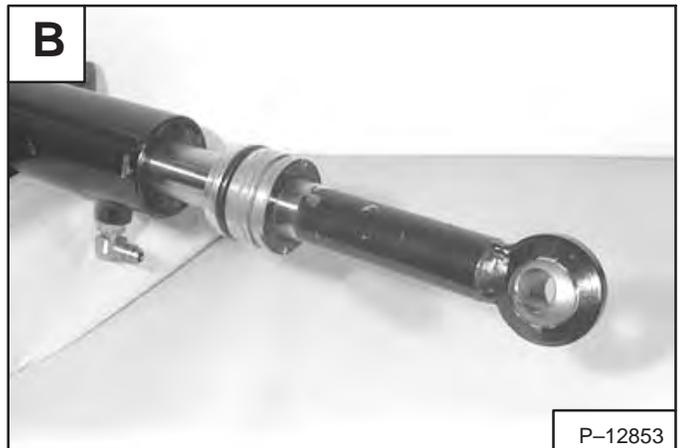
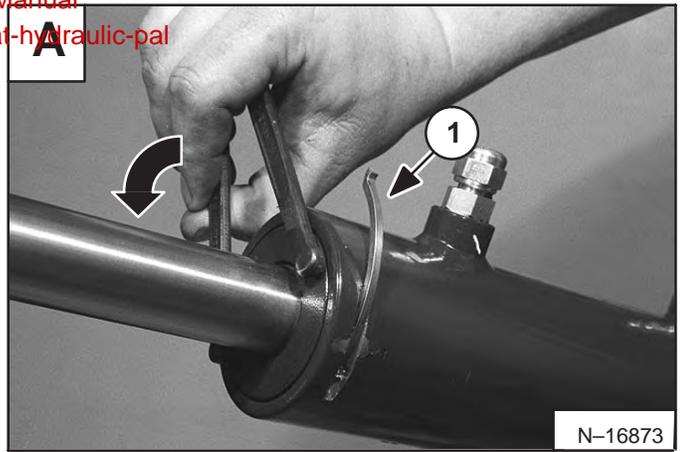
Remove the rod assembly from the cylinder case [B].

Remove the cylinder case from the vise.

Place the rod end in the vise.

Remove the nut (Item 1) [C] from the piston end of the rod and slide the piston (Item 2) [C] off the rod.

Remove the head (Item 1) [D] from the rod.



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