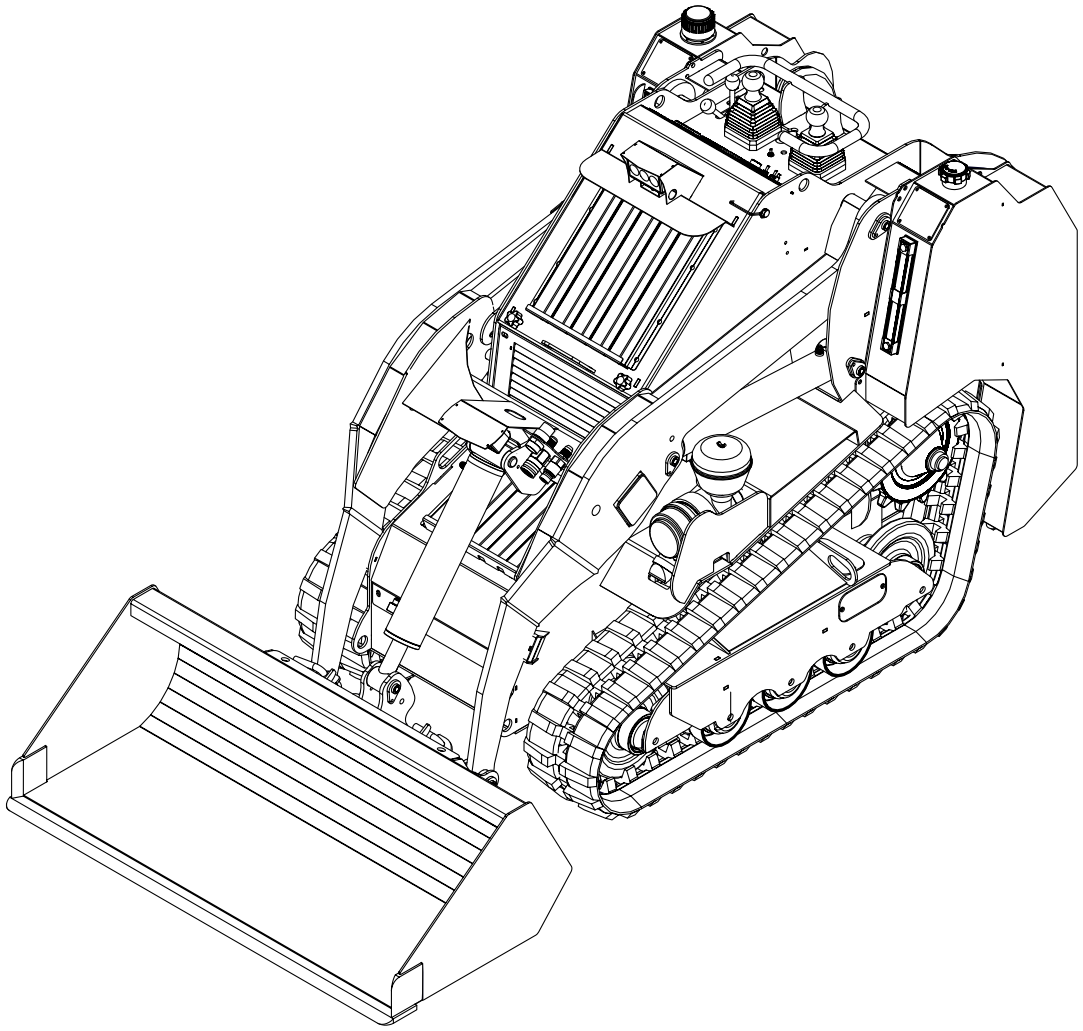


BAUMALIGHT™

TRL620D Tracked Mini Skidsteer

SERVICE MANUAL

Issue Date: May 2024

⚠ WARNING

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Always start and operate the engine in a well-ventilated area.

If in an enclosed area, vent the exhaust to the outside.

Do not modify or tamper with the exhaust system.

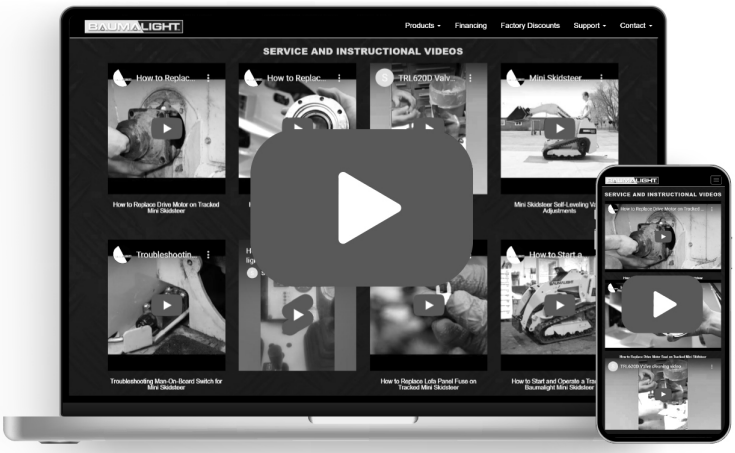
Do not idle the engine except as necessary.

For more information go to www.P65Warnings.ca.gov.

⚠ WARNING

Batteries, battery posts, battery terminals, and related accessories can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.



Service And Instructional Videos

Find online at baumalight.com/support

Following is a list of videos and documents available on Baumalights website and also on YouTube to help and enhance maintaining the skid steer. The list below was current at the time this manual was issued. Additional content may be available.

Activity ID Number	Activity Name	Description	Item Available
250	Informational Testing Process.	Breakout Force And Tipping Point Testing Process.	Video
246	Valve Repair.	Install D006744 Spring To Center Kit For Aux Lever.	Video
248	Drive Pump Seal.	Replacing Drive Pump Seal.	Video
234	Valve Repair.	Self Leveling Valve Leak.	Document
223	First Things To Check Machine Does Not Turn.	Check If Sprocket Is Spinning - Key Is Sheared.	Video
222	Engine Bogging Down.	Preventing Engine From Bogging Down While In Bulldozing Mode.	Video
213	Engine Bogging Down.	Trouble With Engine Bogging Down In Bulldozer Mode.	Document
214	Trouble Shooting Movement In Neutral.	Mini Skidsteer Moves When Joystick Is In Neutral Or Does Not Drive Straight.	Document
205	Calibrate Tachometer No.2.	Calibrate Tachometer Option 463-00111.	Document
208	Adjust Ground Speed.	Adjust Speed On Drive Pump.	Document
202	Calibrate Tachometer No.1.	Calibrate Tachometer Option 463-1000-35.	Document
195	Mini Plate Check.	Check Plate Adaptor Dimensions.	Document
184	Remove And Install Boom Valve.	Boom Valve Replacement.	Document

Activity ID Number	Activity Name	Description	Item Available
183	Replacing Drive Motor.	Process Of Replacing Drive Motor.	Video
169	First Things To Check.	Track Maintenance.	Document
163	First Things To Check.	Track Keeps Coming Off.	Document
162	Replacing Seal.	Replacing Drive Motor Seal.	Video/Document
46	TRL620D Radiator Replacing Engine Cooler Steps.	Replace TRL620D Radiator (Engine Cooler).	
153	Valve Repair.	Cleaning Stem On Boom Valve.	Video/Document
148	Wheel Motor Seal Replacement.	Wheel Motor Seal Instructions.	Document
146	Trouble Shooting Engine Cooler.	First Thing To Check.	Document
134	Changing Bolts On Aux Pump.	Replacing Bolts On Auxiliary Pump.	Document
117	Self-Leveling Valve.	How To Adjust Self-Leveling Valve.	Video/Document
125	Valve Repair.	Spool Valve Parts For D003723.	Document
126	Valve Repair.	3 Spool Section Valve D003723.	Document
92	Troubleshooting.	Taking Apart Man-On-Board Switch.	Video
84	Trouble Shooting Engine Shut Down.	With Flashing Aux 1 Panel Light.	Video/Document
83	Replacing Fuse.	Replacing Lofa Panel Fuse.	Video
31	Tips.	Starting And Operating Unit.	Video
1	Replace Hydraulic Cooler.	Remove Old Cooler.	Video
2	Replace Hydraulic Cooler.	Install New Hydraulic Cooler.	Video
54	Troubleshooting.	Unable To Lift Boom.	Video
19	Troubleshooting.	Unable To Drive.	Video
24	Leaks.	Tracing Leaks.	Video
13	Track Maintenance.	Install New Track.	Video
12	Track Maintenance.	Remove Track.	Video
16	Track Maintenance.	Adjust Track Tension.	Video
25	Replacing Drive Pump.	Removing Drive Pump.	Video
26	Replacing Drive Pump.	Installing New Drive Pump.	Video
28	Valve Repair.	Reassembling Float Spool In Boom Valve.	Video
29	Valve Repair.	Troubleshooting Sagging Boom.	Video

TABLE OF CONTENTS

1 INTRODUCTION 7
1.1 Overview 7
1.2 Serial Number Plates 7
2 SAFETY 8
2.1 Safety Alert Symbol And Safety Words 8
2.2 Maintenance Hazards 8
3 PREPARE SKIDSTEER FOR SERVICE 11
3.1 Lift Arm Lock 11
3.1.1 Engage Lift Arm Lock 11
3.1.2 Disengage Lift Arm Lock 11
3.2 Disconnect Negative Battery Cable 12
4 ENGINE 14
4.1 Safety 14
4.2 Cooling System 14
4.2.1 Pressure Test 14
4.2.2 Remove And Install Radiator 14
4.3 Fuel System 17
4.3.1 Check For Fuel 17
4.3.2 Purge Air From Fuel System 18
5 DRIVE SYSTEM 22
5.1 Safety 22
5.2 Hydraulic Fluid 22
5.3 Hydrostatic Pump 22
5.3.1 Adjust Ground Speed/Drive Power 22
5.3.2 Adjust Neutral 24
5.3.3 Check Hydraulic Pressure 25
5.3.4 Remove And Install Pump Assembly 26
5.3.5 Repair 26
5.3.6 Replace Pump Drive Coupler 27
5.4 Drive Motor 28
5.4.1 Remove And Install 28
5.4.2 Repair 29
5.5 Joystick 29
5.5.1 Remove And Install 29
5.5.2 Repair 29
5.6 Tracks 30
5.6.1 Inspect 30
5.6.2 Remove And Install Track 30
5.6.3 Remove And Install Drive Gear 31
5.6.4 Remove And Install Front Idler Roller 32
5.6.5 Remove And Install Beam Rollers 32
5.6.6 Remove And Install Rear Idler Roller 33

6 HYDRAULIC SYSTEM 34
6.1 Safety 34
6.2 Hydraulic Fluid 34
6.3 Hydraulic Gear Pump 34
6.3.1 Check Hydraulic Pressure 34
6.3.2 Remove And Install Gear Pump 34
6.3.3 Repair 35
6.4 Hydraulic Valve 35
6.4.1 Check And Adjust Auxiliary Hydraulic Pressure 35
6.4.2 Remove And Install 36
6.4.3 Repair 37
6.5 Self Leveling Valve 37
6.5.1 Adjustment 37
6.5.2 Remove And Install 38
6.5.3 Repair 38
6.6 Lift Cylinder 39
6.6.1 Remove And Install 39
6.6.2 Repair 39
6.7 Tilt Cylinder 39
6.7.1 Remove And Install 39
6.7.2 Repair 39
7 ELECTRICAL SYSTEM 40
7.1 Electrical Diagrams 40
7.1.1 Test Operator On Board Switch 40
7.2 Instrument Panel 41
7.2.1 Remove And Install LOFA Panel 41

1 INTRODUCTION

1.1 Overview

This manual covers the Baumalight Tracked Mini Skidsteer TRL620D and is intended to be used by experienced technicians.

Use the Table of Contents as a guide to locate required information.

1.2 Serial Number Plates

The skidsteer has two serial number plates. One located in the engine compartment above the radiator, and one by the instrument panel.

2 SAFETY

2.1 Safety Alert Symbol And Safety Words

You must read, understand and follow the instructions given by the operating unit manufacturers, as well as the instructions in this manual.

The safety information in this manual is denoted by the safety alert symbol:



This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

The level of risk is indicated by the following signal words:

DANGER

DANGER - Indicates a hazardous situation, which, if not avoided, WILL result in death or serious injury.

WARNING

WARNING - Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION - Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE - Indicates a situation that could result in damage to the equipment or other property.

2.2 Maintenance Hazards

Before servicing, park machine on a firm and level surface, lower lift arms, set park brake, remove key and place a “Do Not Operate” tag on control panel. Read and understand this manual.

If you do not understand any part of the manual, contact your Baumalight dealer.

Always wear face and/or eye protection, safety shoes, and other protective equipment appropriate for the job.

Do not make unauthorized modifications. Contact your Baumalight dealer before you weld, cut/drill holes, or make any other modifications.

Always use Baumalight replacement parts.

WARNING

Moving parts can crush and cut.

Keep clear of moving components.

Follow lockout procedure before servicing.

WARNING

Entanglement hazard.

Keep clear of moving components.

Wear proper protective equipment appropriate for the job.

⚠ WARNING

Prevent death or serious injury.

Before performing inspections, service or maintenance:

- **Park machine on firm, level surface.**
- **Lower lift arms to ground.**
- **Engage parking brake.**
- **Turn engine off and remove key.**
- **Place "Do Not Operate" tag on control panel.**

⚠ WARNING

Burn hazard.

Hot and high pressure hydraulic oil.

Allow oil to cool before servicing.

⚠ WARNING

Burn hazard.

Hot and high pressure engine coolant.

Allow coolant to cool before servicing.

⚠ WARNING

Crushing hazard.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

Raised lift arms or attachment can lower unexpectedly, resulting in death or serious injury.

NEVER enter area under raised lift arms or attachment.

Lower lift arms to ground, engage parking brake, shut off engine and remove key before servicing.

Avoid High Pressure Fluids

⚠ WARNING

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Use body and face protection while searching for leaks. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never use your hands.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Prevent the hazard by relieving pressure before connecting or disconnecting hydraulic hoses. Verify all connections are tight before applying pressure.

Search for leaks with a piece of cardboard or wood. Protect hands and body from high pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or serious infection may result.

Raised Lift Arms

⚠ WARNING

Crushing hazard.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

Raised lift arms or attachment can lower unexpectedly, resulting in death or serious injury.

NEVER enter area under raised lift arms or attachment.

Lower lift arms to ground, engage park brake, shut off engine and remove key before servicing.

Avoid Loud Noise

⚠ WARNING

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Hazards From Modifying Equipment

Do not make any alterations to the skidsteer. Altering the equipment may cause unsafe conditions and may void the manufacturer's warranty.

3 Prepare Skidsteer For Service

3.1 Lift Arm Lock

⚠ WARNING

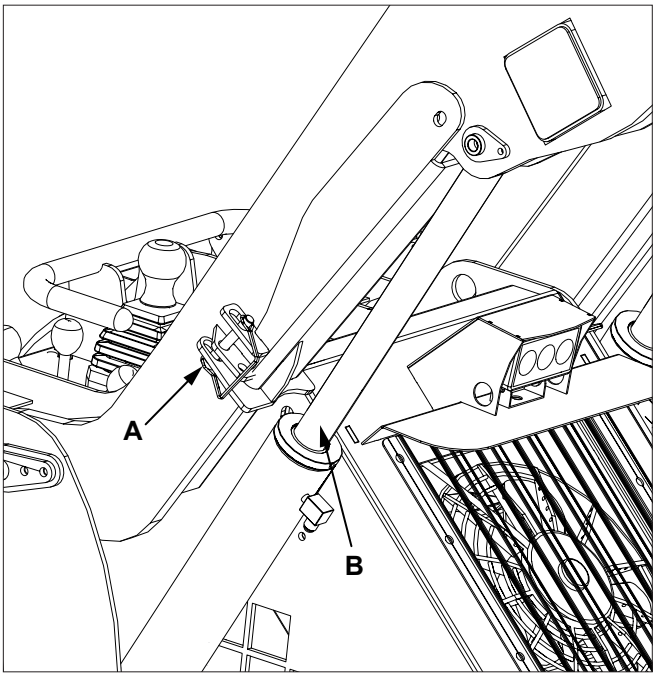
Crushing hazard.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

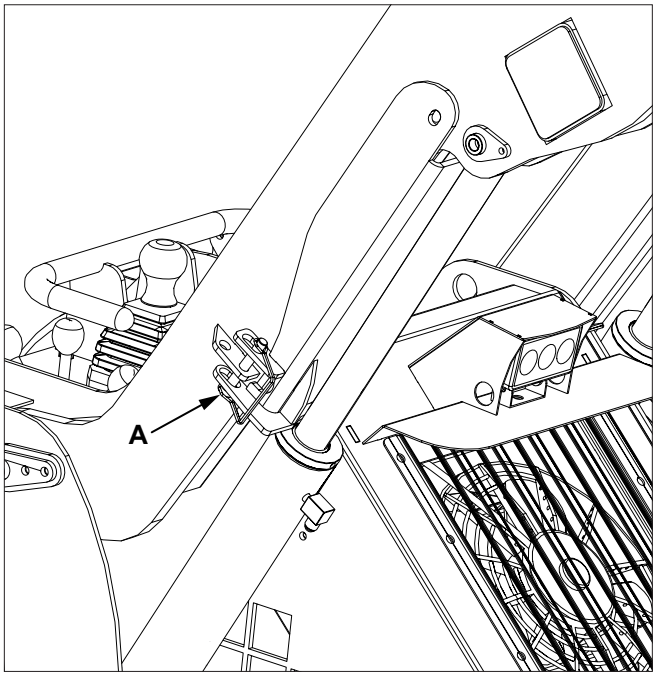
3.1.1 Engage Lift Arm Lock

1. Start engine.
2. Verify the area is clear of bystanders and obstructions, and fully raise lift arms.
3. Engage park brake, shut off engine and remove key.
4. Remove quick lock pin (A) and pivot lift arm lock down until resting on cylinder ram (B).



Lift Arm Lock Disengaged

5. Install quick lock pin (A) in lower hole as shown in Lift Arm Lock Engaged illustration.



Lift Arm Lock Engaged

6. Lower lift arms until lift arm lock is tight against cylinder barrel.
7. Stop engine and remove key.

3.1.2 Disengage Lift Arm Lock

1. Start engine.
2. Verify the area is clear of bystanders and obstructions.
3. Fully raise lift arms.
4. Shut off engine and remove key.
5. Pivot lift arm lock up and attach to lift arm with quick lock pin (A) in upper hole as shown in Lift Arm Lock Disengaged illustration.
6. Lower lift arms to ground.
7. Shut off engine and remove key.

3.2 Disconnect Negative Battery Cable

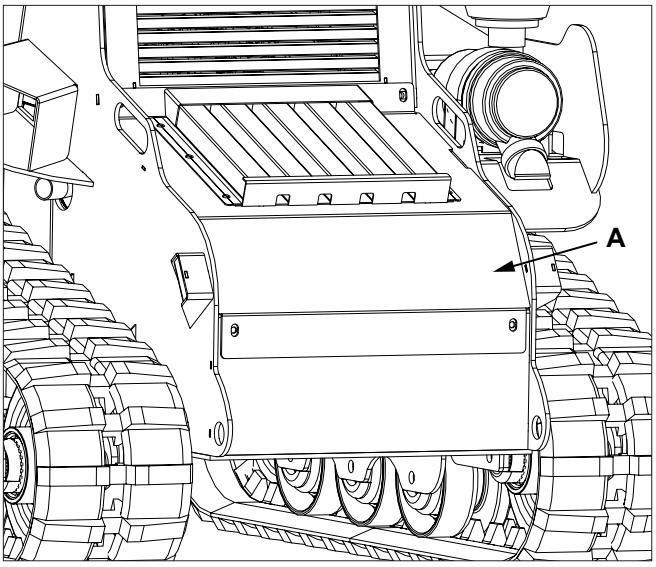
⚠ WARNING

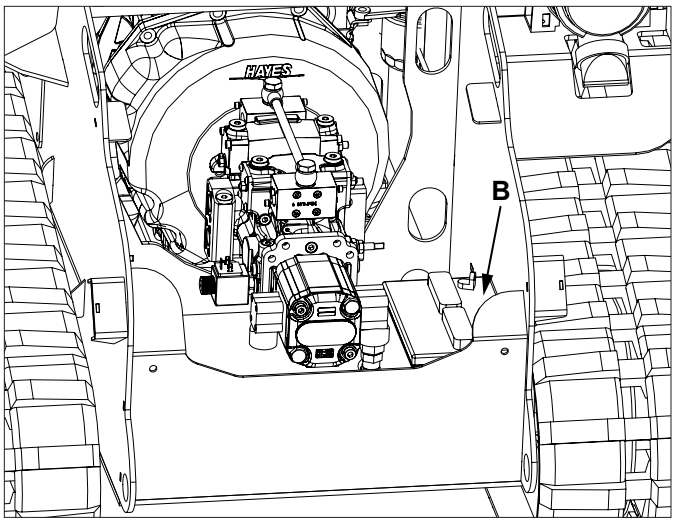
Batteries, battery posts, battery terminals, and related accessories can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

3.2.1 Models With Battery In Front

1. Raise lift arms and install lift arm lock. See Lift Arm Lock in Section 3.1.
2. Remove cover (A) to access battery (B).

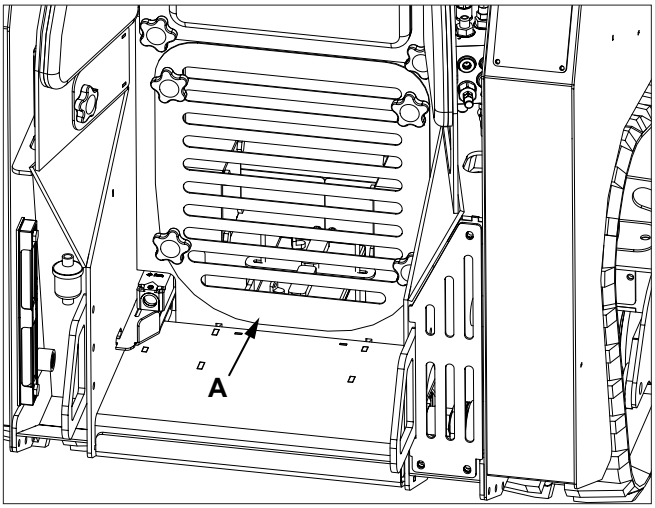


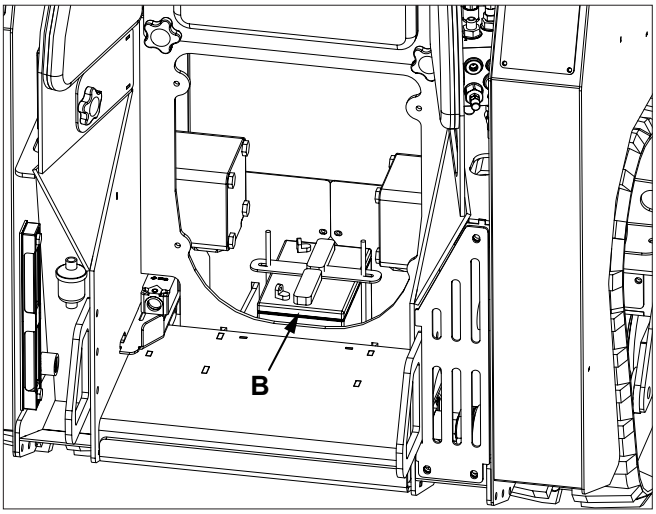


3. Loosen and remove negative (-) battery cable from battery.

3.2.2 Models With Battery In Rear

1. Remove cover (A) to access battery (B).





2. Loosen and remove negative (-) battery cable from battery.

4 ENGINE

4.1 Safety

WARNING

Prevent death or serious injury.

1. **Park machine on firm, level surface.**
2. **Engage parking brake.**
3. **Verify all controls are in neutral.**
4. **Stop engine and remove key.**

WARNING

Prevent death or serious injury.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

WARNING

Burn hazard.

Hot and high pressure engine coolant.

Allow coolant to cool before servicing.

4.2 Cooling System

Note: *Refer to OEM engine manual for detailed engine information and specifications.*

4.2.1 Pressure Test

1. Park skidsteer on firm level surface.
2. Stop engine and remove key.
3. Remove radiator cap and check pressure rating on cap.
4. Add coolant in radiator if low.

NOTICE

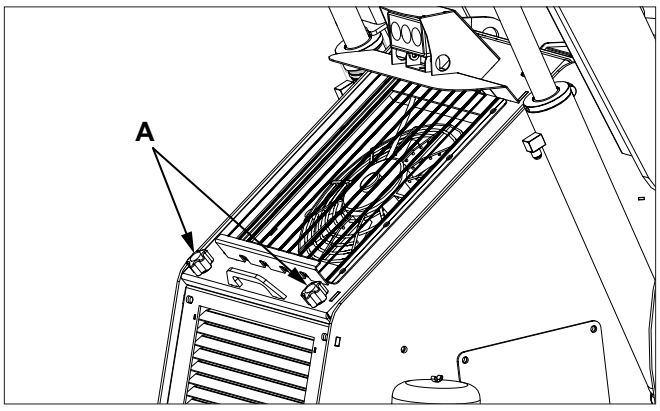
Prevent damage.

Do not exceed pressure rating listed on radiator cap.

5. Follow instruction for the pressure tester and test system. Do not exceed the pressure rating listed on radiator cap.

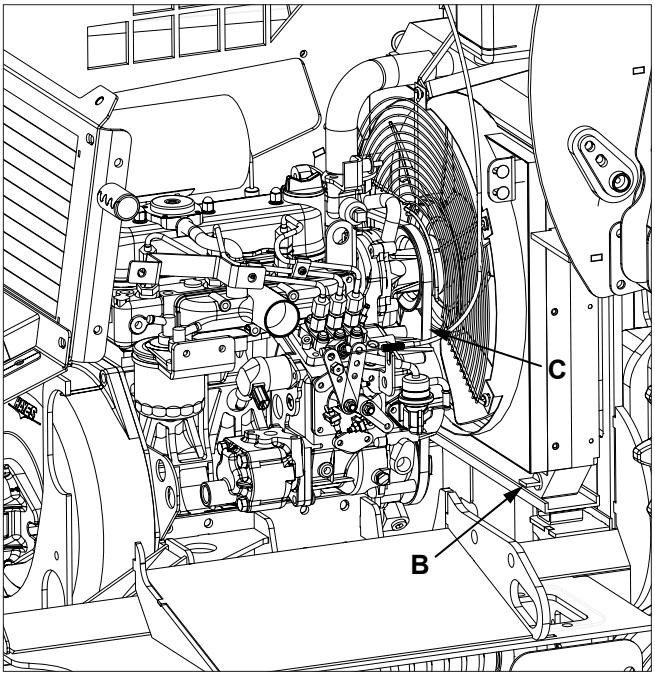
4.2.2 Remove And Install Radiator

1. Raise lift arms and install lift arm lock. See Lift Arm Lock in Section 3.1.
2. Disconnect negative (-) battery cable. See Disconnect Negative Battery Cable in Section 3.2.
3. Loosen knobs (A) and pivot hydraulic oil cooler upward. Engage pin to hold cooler in open position.

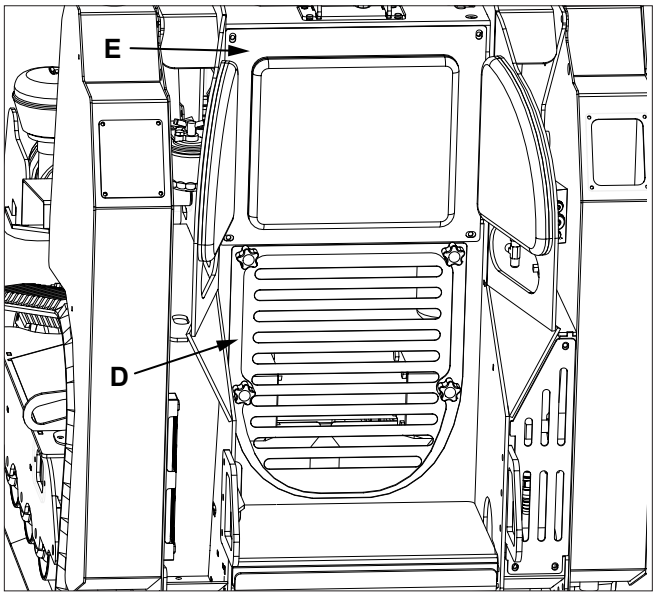


Note: *Side panels have been removed for clarity.*

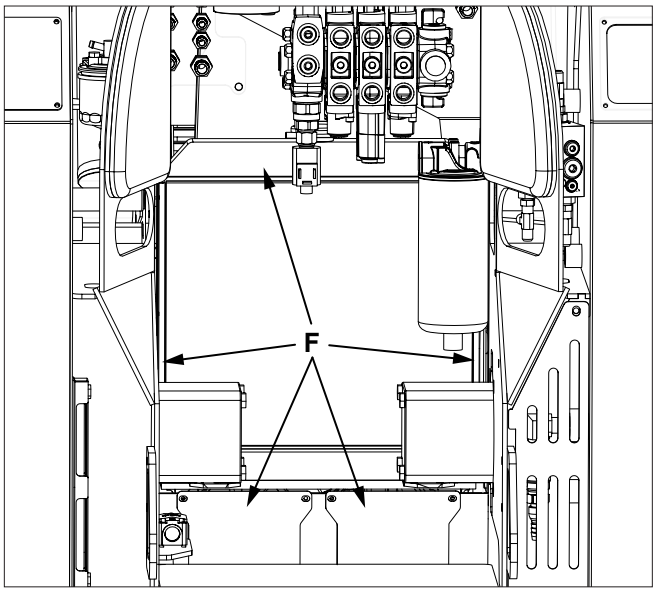
4. Open drain valve (B) on radiator and drain coolant into a suitable container. Close drain valve.
5. Disconnect upper and lower coolant hoses from radiator.
6. Remove fan guard.
7. Loosen alternator and remove fan belt (C).



8. Remove covers (D) and (E).

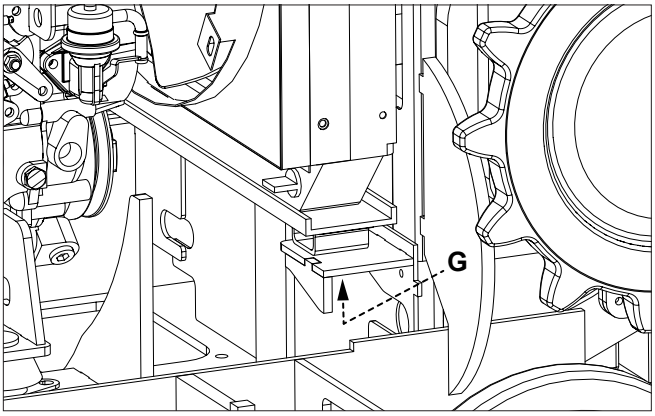


9. Remove radiator covers (F).

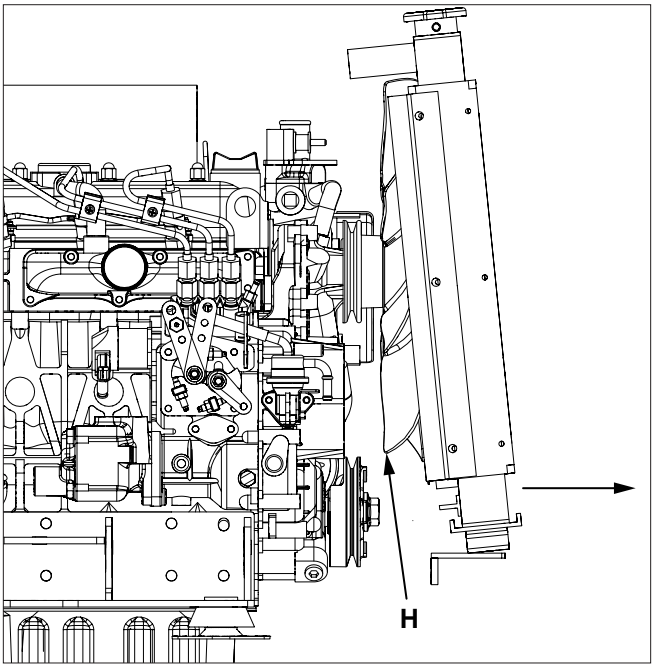


Note: *Some models may have different radiator mounting brackets. The procedure is the same for both.*

10. Remove cotter pin and radiator mounting bolt (G) on both sides.



11. Lift the radiator slightly and swing the bottom of the radiator back towards drive motor and hold in place.
12. Remove radiator fan (H) with a 10 mm socket or wrench.



13. Carefully lift and remove radiator.

14. To install radiator:
    - Position radiator in skidsteer.
    - Install fan.
    - Install radiator mounting bolts (G) and cotter pins.
    - Install covers (D), (E) and (F).
    - Install fan belt (C) and guard.
    - Connect radiator hoses.
    - Refill cooling system.
    - Connect negative (-) battery cable.
    - Start engine and check for leaks.
    - Stop engine.
    - Top off cooling system if needed.
    - Close hydraulic oil cooler.
    - Lower lift arms.

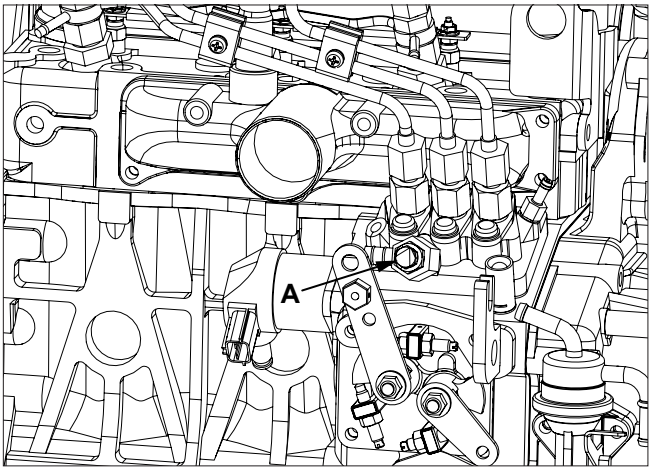
Engine Model	Cooling System Capacity
D1005-E4 D1105-E4 D1305-E4	0.82 gal (3.1 L)
V1505-E4	1.06 gal (4.0 L)

4.3 Fuel System

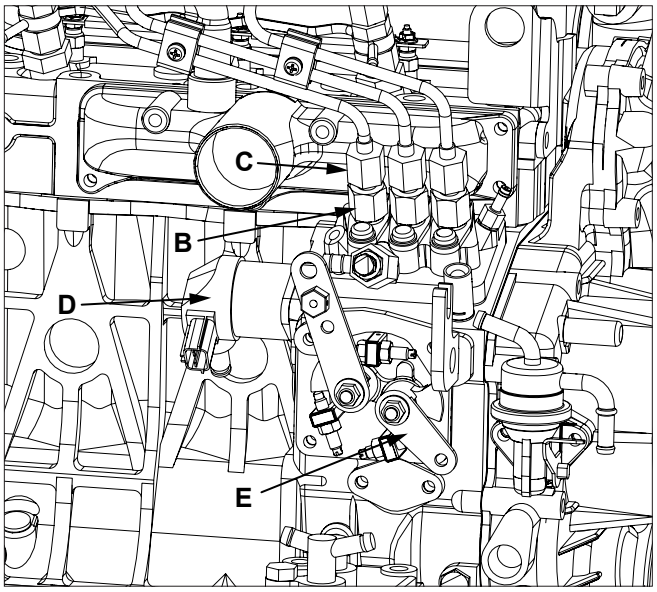
4.3.1 Check For Fuel

Use this procedure if engine will not start and no smoke from exhaust while cranking engine over.

1. Verify there is fuel in fuel tank.
2. Verify throttle is in the mid-full throttle position.
3. Loosen bolt/nut (A).



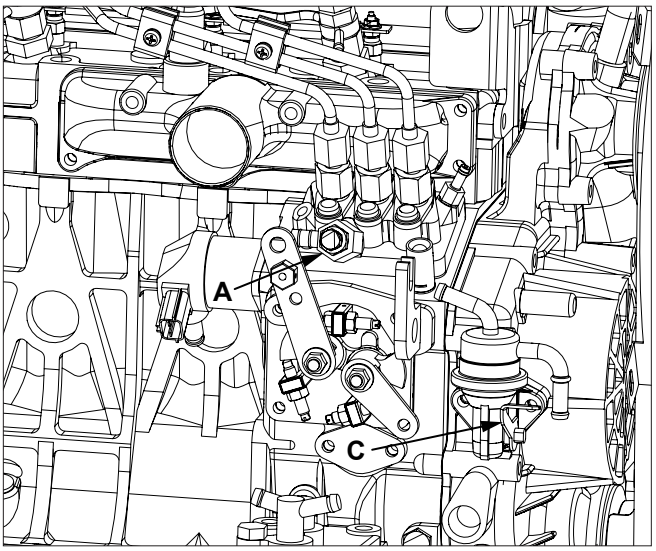
4. Crank engine over or operate manual lift pump to see if fuel escapes around bolt/nut.
5. If fuel is present around bolt/nut, tighten bolt/nut (A) and go to next step. If no fuel is present, go to step 10.
6. Hold nut (B) and loosen injection line nut (C).



7. Crank engine over to see if fuel escapes around injection line nut (C). Test each line.
8. If fuel is present, contact your Baumalight dealer.
9. Hold nut (B) and tighten injection line nut (C) on each injection line.
10. Remove shutoff solenoid (D). With solenoid removed, actuate lever (E) to stop engine. Does engine start? If engine starts, shut off engine and install new shutoff solenoid (D). If engine does not start, replace fuel pump and retest.

4.3.2 Purge Air From Fuel System

1. Park skidsteer on firm level surface.
2. Stop engine and remove key.
3. Loosen bolt/nut (A).
4. Operate manual lift pump (B) until no air bubble escapes around bolt/nut.
5. Once fuel is present around bolt/nut, tighten bolt/nut (A).



4.4 Remove And Install Engine

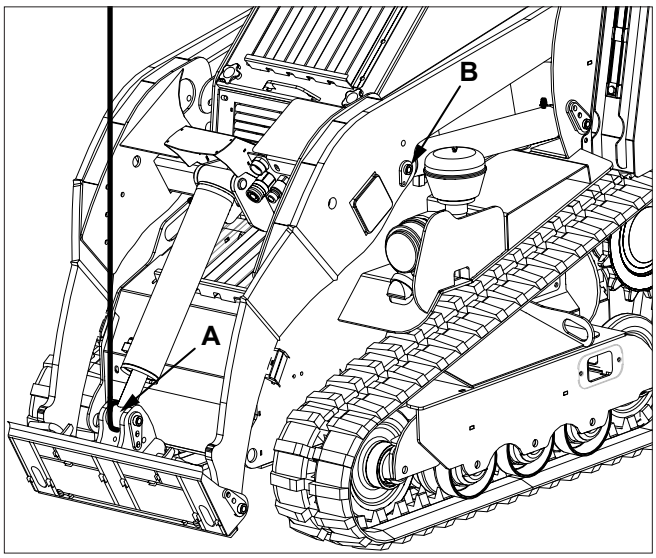
⚠ WARNING

Prevent death or serious injury.

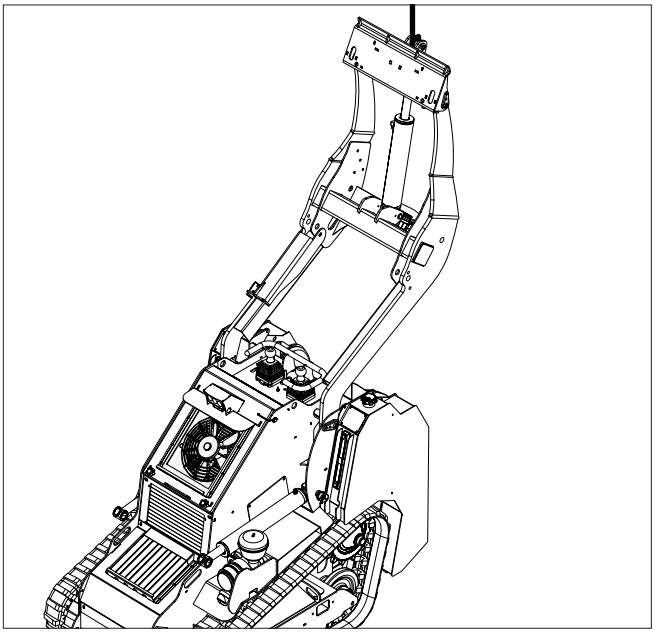
Before performing inspections, service or maintenance:

- **Park machine on firm, level surface.**
- **Lower lift arms to ground.**
- **Engage parking brake.**
- **Turn engine off and remove key.**
- **Place "Do Not Operate" tag on control panel.**

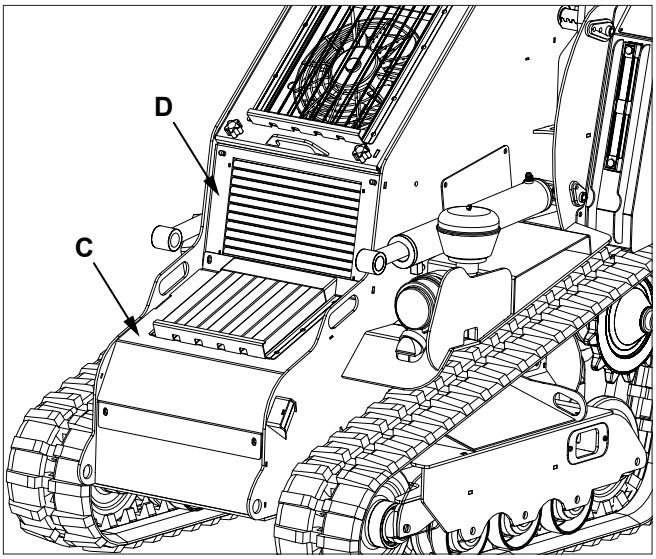
1. Remove bucket or attachment from skidsteer.
2. Park skidsteer on firm level surface.
3. Stop engine and remove key.
4. Close shutoff valve in main hydraulic line from tank.
5. Drain engine coolant into a suitable container.
6. Connect a adequate lifting device to lift arm mounting plate center pin (A).
7. Remove lift cylinder pins (B) on both sides.



8. Raise lift arms up and over skidsteer as shown. Keep lifting device attached with slight tension.



9. Remove covers (C) and (D).



10. Disconnect negative (-) battery cable from battery.

11. Disconnect hoses and electrical harness from hydraulic cooler assembly (E).

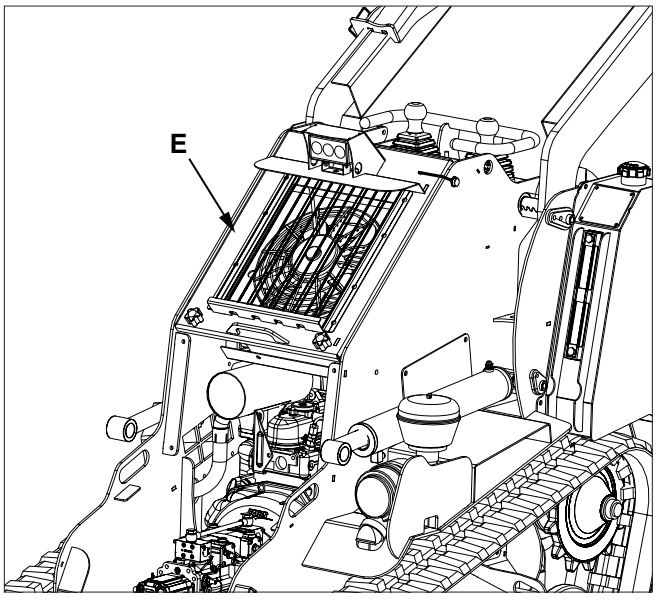
⚠ WARNING

Prevent death or serious injury.

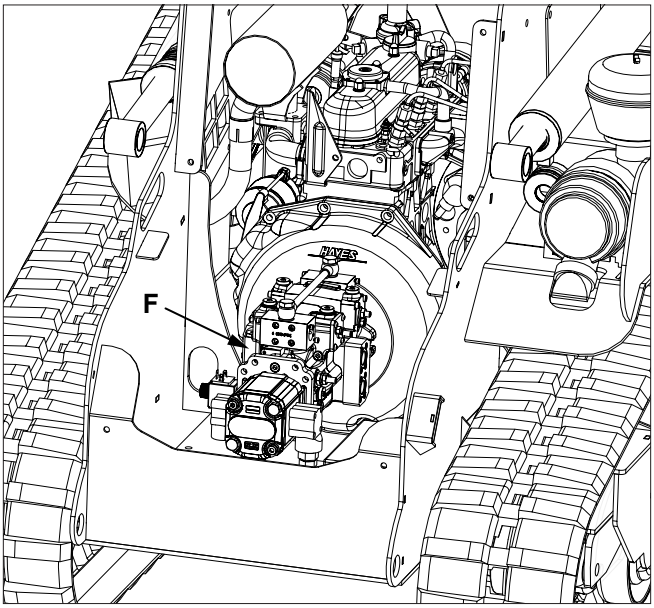
Hydraulic oil cooler assembly weight is approximately 120 lbs (55 kg).

Use an adequate lifting device and a safe handling procedure to remove and install hydraulic oil cooler assembly.

12. Remove hydraulic cooler assembly (E).



13. Connect an adequate lifting device to pump assembly (F).

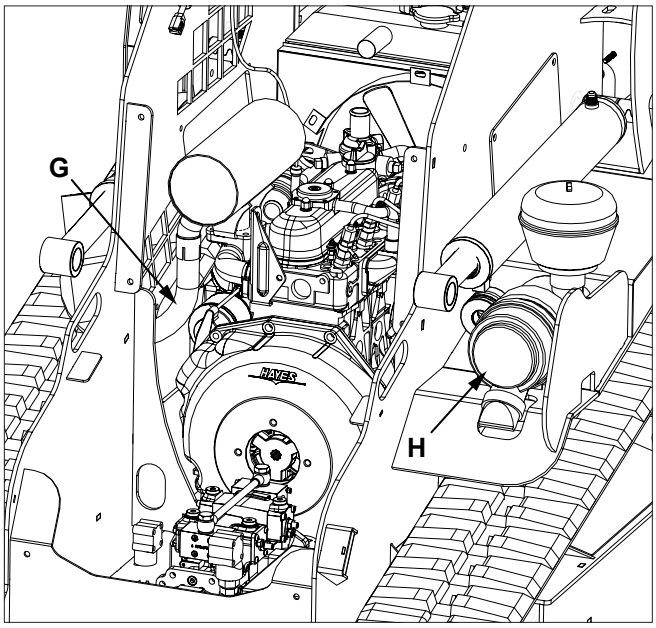


14. Remove pump mounting hardware.

Note: *Hoses do not need to be disconnected from pump assembly. A ratchet type pulling device connected to pump and skidsteer frame may ease pulling pump straight forward to disconnect from engine.*

15. Remove pump assembly from engine and set on skid plate.

16. Disconnect exhaust pipe (G) from muffler.
17. Remove air intake pipe between engine and air cleaner (H).
18. Remove fan guard.
19. Remove coolant hoses between engine and radiator.
20. Disconnect fuel hoses from engine.
21. Disconnect throttle from engine.
22. Disconnect wiring harnesses from engine.



Note: *Side panels have been removed for clarity.*

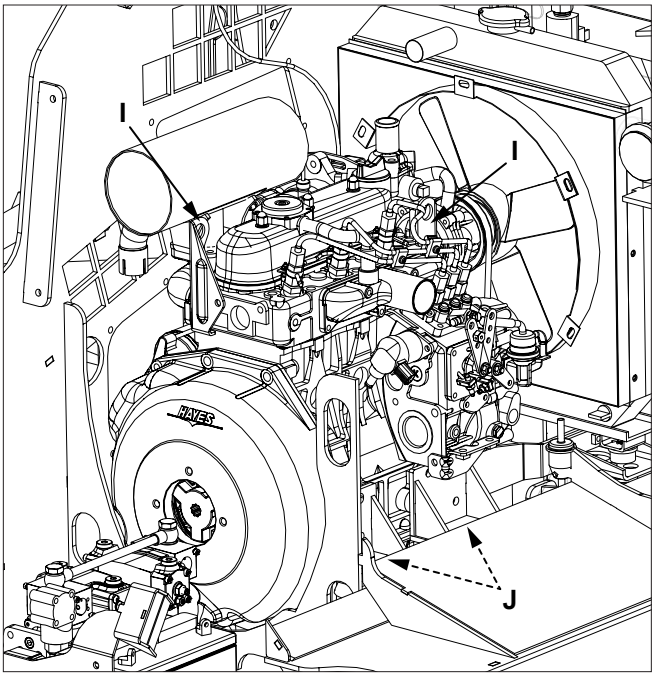
⚠ WARNING

Prevent death or serious injury.

Engine weight is approximately 150 lbs (68 kg).

Use an adequate lifting device and a safe handling procedure to remove and install engine.

23. Connect an adequate lifting device to lifting points (I) on engine. Apply slight tension.
24. Remove engine mount bolts (J) on both side of engine.
25. Carefully lift engine up and out of skidsteer. Set engine on safe and secure support stands or mount in an engine stand.



26. To install engine:
    - Position engine in skidsteer and install mounting bolts.
    - Install fan guard.
    - Connect wiring harnesses.
    - Connect throttle.
    - Install coolant hoses.
    - Install exhaust pipe and air intake pipe.
    - Connect fuel hoses.
    - Install hydraulic cooler (E) and connect hoses and wiring harness.
    - Refill cooling system to proper level.
    - Open hydraulic system shutoff valve.
    - Refill hydraulic system to proper level.
    - Connect negative (-) battery cable.
    - Install covers (C) and (D).
    - Lower lift arms and install lift cylinder pins (B).
    - Start engine and check for leaks.
    - Stop engine.
    - Top off cooling system and hydraulic system if needed.

5 DRIVE SYSTEM

5.1 Safety

⚠ WARNING

Prevent death or serious injury.

1. **Park machine on firm, level surface.**
2. **Engage parking brake.**
3. **Verify all controls are in neutral.**
4. **Stop engine and remove key.**

⚠ WARNING

Prevent death or serious injury.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

⚠ WARNING

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Use body and face protection while searching for leaks. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never use your hands.

5.2 Hydraulic Fluid

AW32 is recommended for general conditions and climates. MV22 is recommended for colder climates.

5.3 Hydrostatic Pump

5.3.1 Adjust Ground Speed/Drive Power

The ground drive hydraulic pump is factory set to deliver a equal balance between ground speed and drive power. If more speed/less power, or less speed/more power from the factory setting is desired, use the following steps to adjust pump.

⚠ WARNING

Prevent death or serious injury.

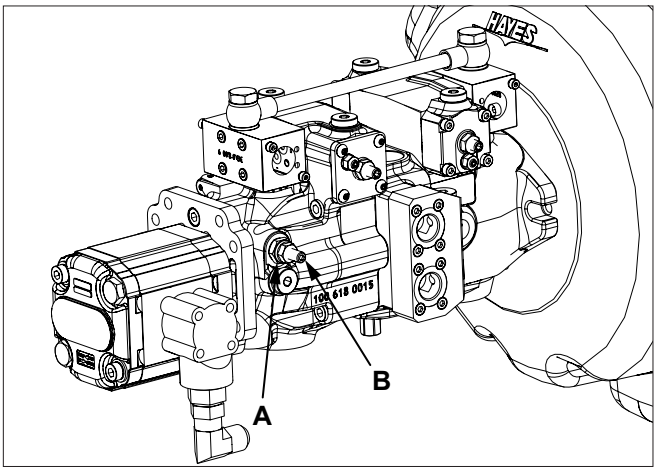
Before performing adjustments:

- **Park machine on firm, level surface.**
- **Lower lift arms to ground.**
- **Engage park brake.**
- **Turn engine off and remove key.**
- **Place "Do Not Operate" tag on control panel.**

1. Operate skidsteer to bring hydraulic fluid to normal operating temperature.
2. Lower lift arms to the ground, engage park brake, shut off engine and remove key.
3. Open/remove covers to access hydraulic pump.

Note: *Increasing ground speed will reduce the drive power and may result in the engine stalling under load conditions. Adjust in small increments until desired speed/power is achieved.*

4. Hold hex screw (B) and loosen locknut (A).
5. Hold locknut (A) with wrench and rotate hex screw (B) clockwise to increase ground speed, or counter clockwise to decrease ground speed.
6. Hold hex screw (B) and tighten locknut (A), close/install covers and test operation.



5.3.2 Adjust Neutral

If skidsteer moves with joystick in the neutral position, use the following steps to adjust pump.

⚠ WARNING

Prevent death or serious injury.

Before performing adjustments:

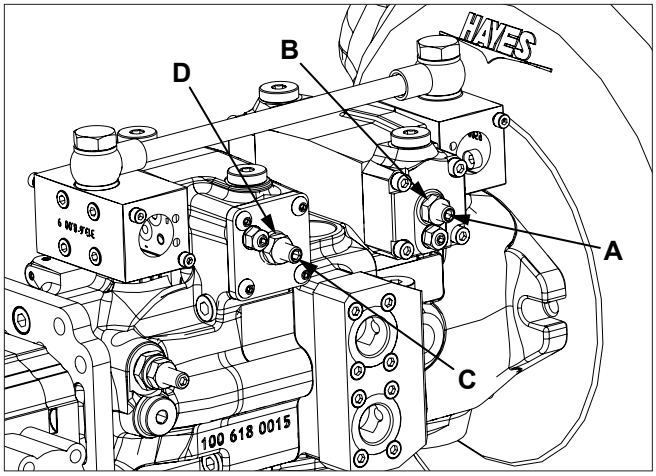
- **Park machine on firm, level surface.**
- **Lower lift arms to ground.**
- **Engage park brake.**
- **Turn engine off and remove key.**
- **Place "Do Not Operate" tag on control panel.**

1. Operate skidsteer to bring hydraulic fluid to normal operating temperature.
2. Lower lift arms to the ground, engage park brake, shut off engine and remove key.
3. Open/remove covers to access hydraulic pump.

Note: *Adjust in small increments until skidsteer no longer moves with travel joystick in the neutral position.*

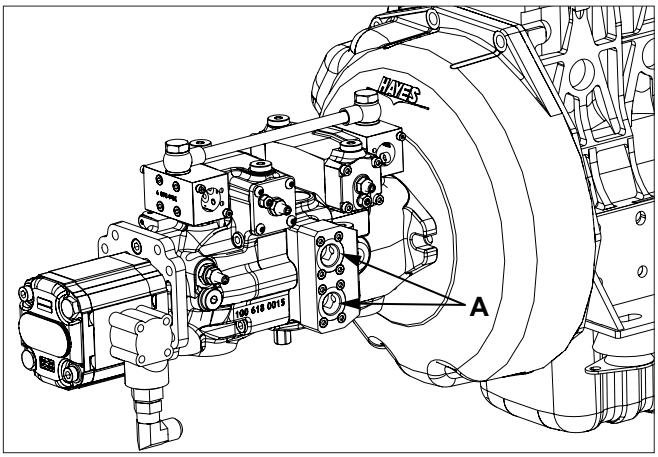
4. **To adjust right side track:** Hold hex screw (A) 5/32 in. hex wrench and loosen locknut (B) with a 1/2 in. wrench. Hold locknut with wrench and rotate hex screw counter clockwise to decrease forward movement, or clockwise to decrease rearward movement.

   To adjust left side track: Hold hex screw (C) with a 5/32 in. hex wrench and loosen locknut (D) with a 1/2 in. wrench. Hold locknut with wrench and rotate hex screw counter clockwise to decrease forward movement, or clockwise to decrease rearward movement.
5. Hold hex screw (A) or (C) and tighten locknut (B) or (D), close/install covers and test operation.

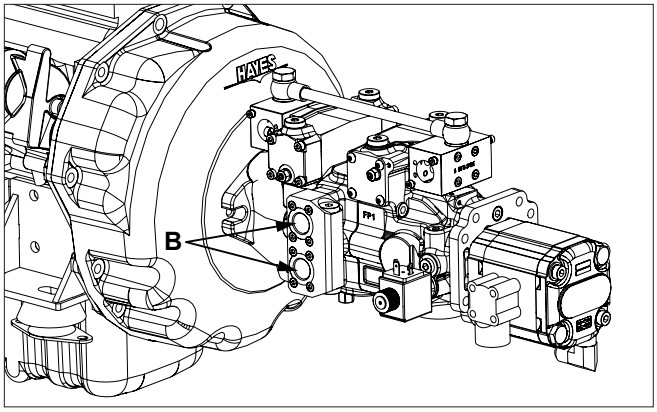


5.3.3 Check Hydraulic Pressure

1. Lower lift arms to the ground, engage park brake, stop engine and remove key.
2. Move drive joystick to all positions to relieve hydraulic pressure.
3. Mark drive motor hoses to ensure correct reassembly.
4. Remove left side drive motor hoses from pump ports (A). Cap hoses.
5. Install a pressure gauge with a minimum 4000 psi (207 bar) capacity in one port, or install a pressure gauge in each port (A). Install plug in open port if using one pressure gauge.



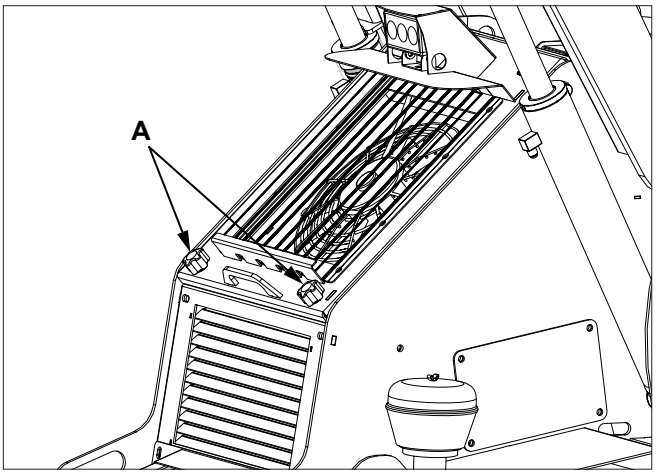
6. Start engine and move drive joystick to right side and observe pressure on gauge(s). If using one pressure gauge, switch plug and gauge and retest.
7. Pump pressure should be 3600 psi (248 bar).
8. Repeat steps 3-6 for right side (B), moving joystick to left side.



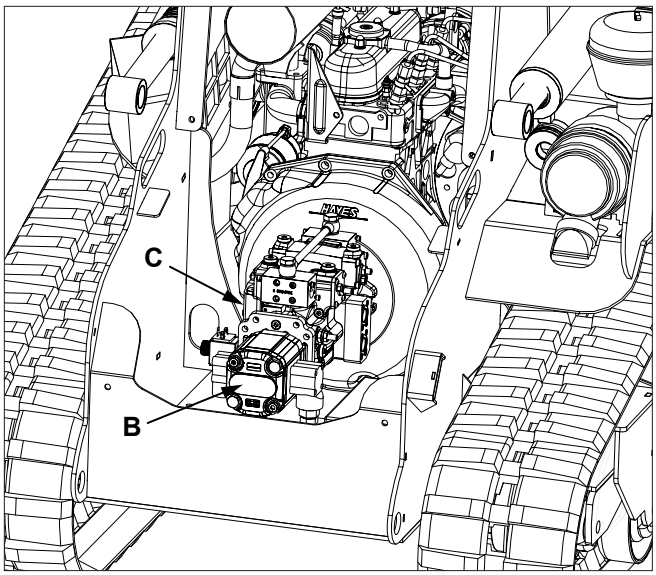
9. Stop engine.
10. If pressure is low, verify hydraulic fluid is at proper level in tank. If fluid is at proper level, replace hydraulic filter.
11. Test operation. If pressure is still low, clean strainer in suction line in bottom of hydraulic tank.
12. Test operation. If pressure is still low, contact your Baumalight dealer.

5.3.4 Remove And Install Pump Assembly

1. Remove bucket or attachment from skidsteer.
2. Park skidsteer on firm level surface.
3. Raise lift arms and install lift arm lock. See Lift Arm Lock in Section 3.1.
4. Disconnect negative (-) battery cable. See Disconnect Negative Battery Cable in Section 3.2.
5. Loosen knobs (A) and pivot hydraulic oil cooler upward. Engage pin to hold cooler in open position.



6. Close shutoff valve in main hydraulic line from tank.
7. Remove mounting hardware and gear pump (B) from hydrostatic pump (C).
8. Identify and remove hydraulic lines and hoses from hydrostatic pump (C).



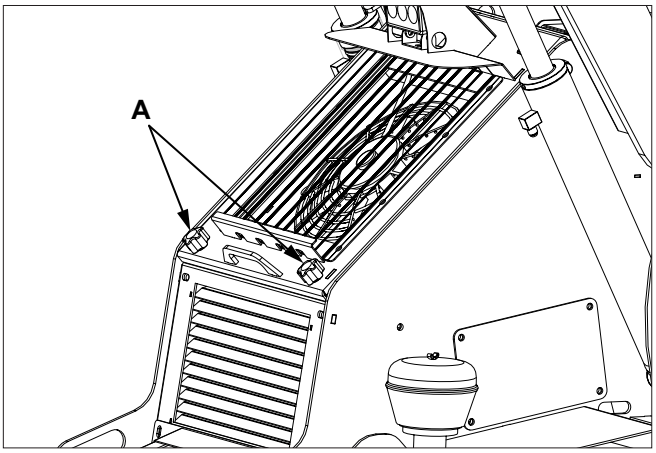
9. Connect an adequate lifting device to hydrostatic pump (C). Remove mounting hardware and lift pump out of skidsteer.
10. Clean and inspect related parts.
11. Install pump and mounting hardware.
12. Install gear pump and mounting hardware.
13. Connect hydraulic hoses and lines.
14. Open shutoff valve in main hydraulic line from tank.
15. Connect negative (-) battery cable.
16. Install covers and close hydraulic cooler.
17. Add hydraulic fluid to tank if needed.
18. Lower lift arms.
19. Test operation.

5.3.5 Repair

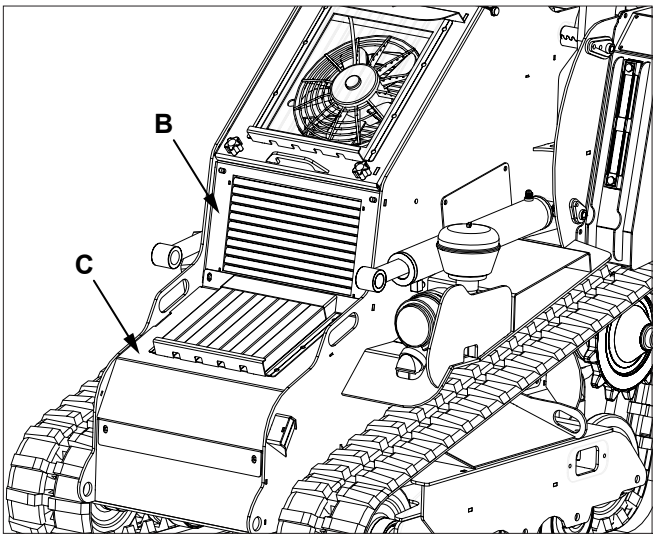
Hydrostatic pump seals are available. Go to baumalight.com for a parts list and drawing of the pump.

5.3.6 Replace Pump Drive Coupler

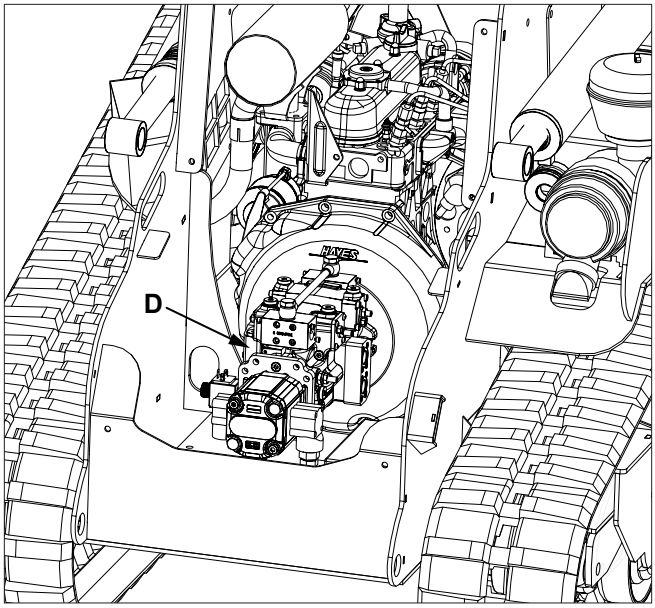
1. Remove bucket or attachment from skidsteer.
2. Park skidsteer on firm level surface.
3. Raise lift arms and install lift arm lock. See Lift Arm Lock in Section 3.1.
4. Disconnect negative (-) battery cable. See Disconnect Negative Battery Cable in Section 3.2.
5. Loosen knobs (A) and pivot hydraulic oil cooler upward. Engage pin to hold cooler in open position.



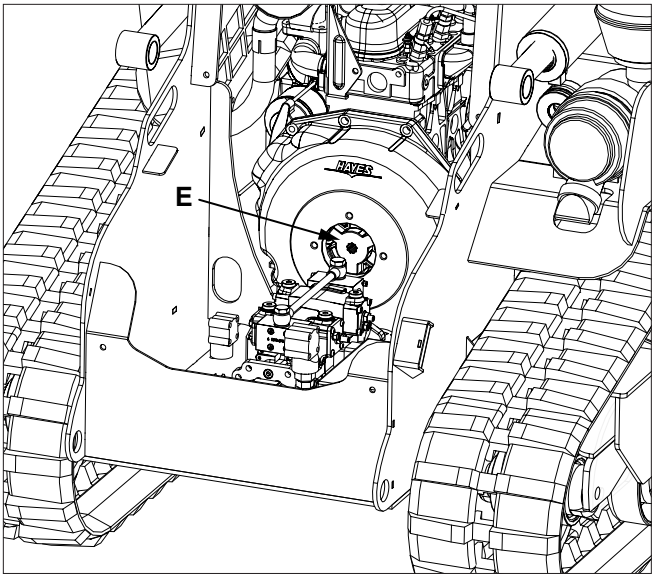
6. Remove covers (B) and (C).



7. Disconnect negative (-) battery cable from battery.
8. Connect an adequate lifting device to pump assembly (D).



9. Remove pump mounting hardware.
10. A ratchet type pulling device connected to pump and skidsteer frame may ease pulling pump straight forward to disconnect from motor. Set pump assembly on skid plate.
11. Remove and replace coupler (E).

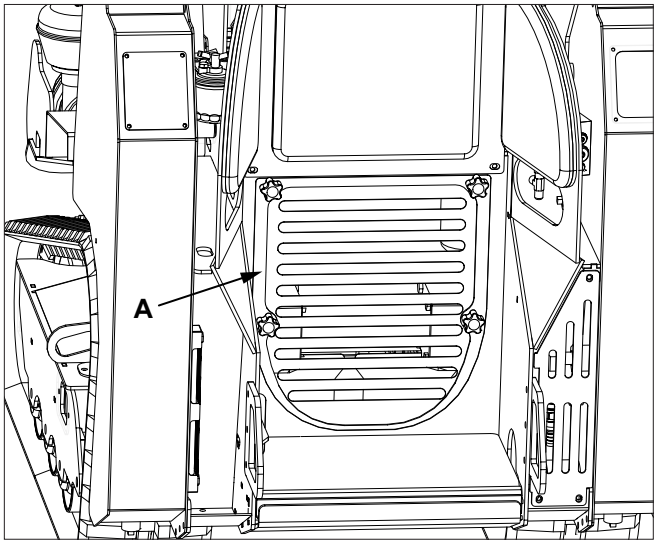


12. Clean and inspect related parts.
13. Install pump assembly and mounting hardware.
14. Connect negative (-) battery cable.
15. Install covers and close hydraulic cooler.
16. Lower lift arms.
17. Test operation.

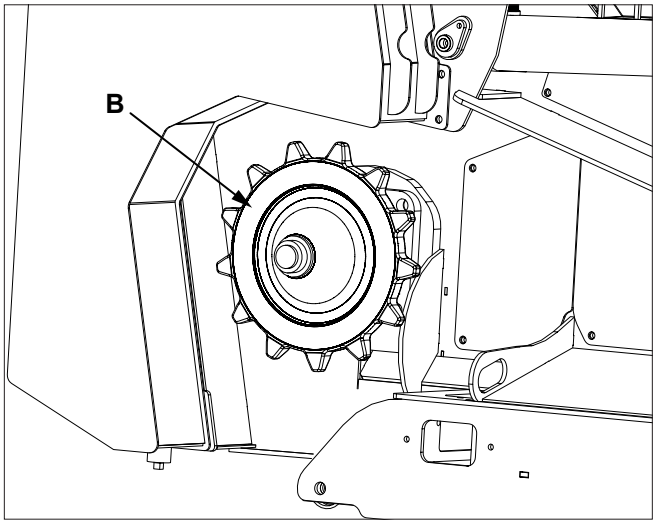
5.4 Drive Motor

5.4.1 Remove And Install

1. Remove track. See Remove And Install Track in Section 5.6.2.
2. Remove cover (A).



3. Identify hose locations and disconnect hydraulic hoses from drive motor.
4. Remove drive gear (B).



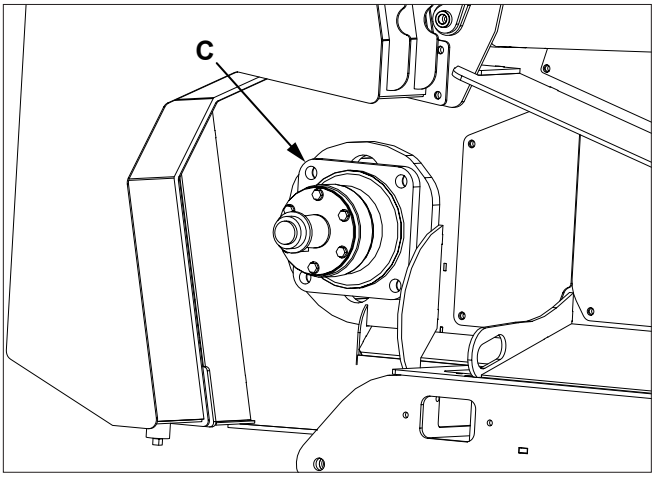
⚠ WARNING

Prevent death or serious injury.

Drive motor weight is approximately 75 lbs (34 kg).

Use an adequate lifting device and a safe handling procedure to remove and install drive motor.

5. Remove mounting hardware and remove drive motor (C).



6. Clean and inspect all related parts.
7. Install drive motor and mounting hardware.
8. Install drive gear (B).
9. Connect hydraulic hoses to drive motor.
10. Install cover (A).
11. Install track. See Remove And Install Track in Section 5.6.2.
12. Test operation.

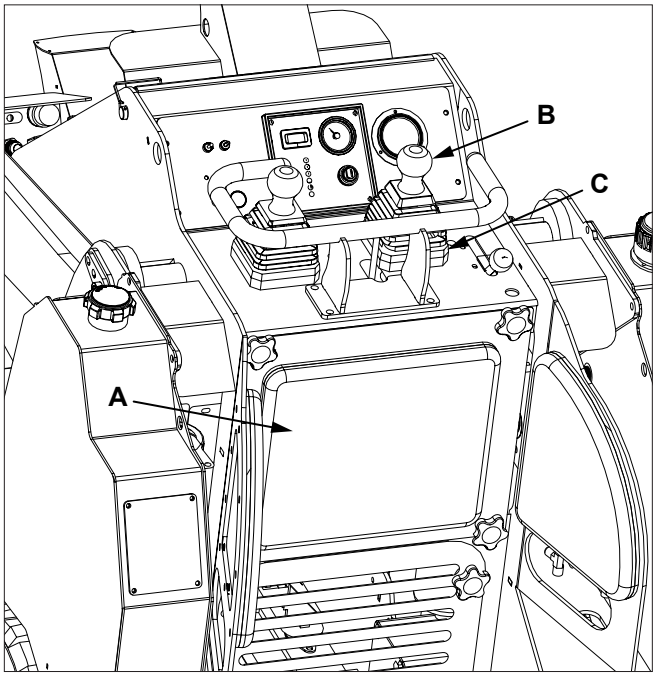
5.4.2 Repair

Drive motor seals are available. Go to baumalight.com for a parts list and drawing of the drive motor.

5.5 Joystick

5.5.1 Remove And Install

1. Park skidsteer on firm level surface.
2. Stop engine and remove key.
3. Remove cover (A).
4. Remove joystick knob (B) and boot (C).



5. Identify hose locations and disconnect hydraulic hoses from joystick.
6. Remove mounting hardware and remove joystick.
7. Clean and inspect all related parts.
8. Install joystick and mounting hardware.
9. Connect hydraulic hoses.
10. Install boot (C) and knob (B).
11. Install cover (A).
12. Test operation.

5.5.2 Repair

Joystick seals are available. Go to baumalight.com for a parts list and drawing of the joystick.

5.6 Tracks

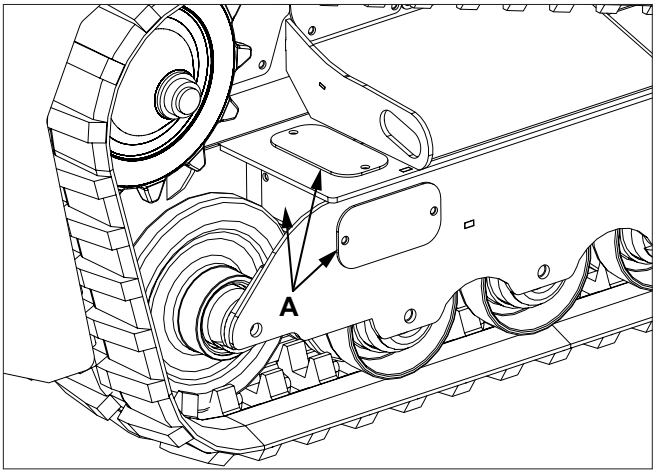
5.6.1 Inspect

Inspect track surface for tears and cracks. Check center lugs for gouging and excessive wear. Clean tracks periodically. Replace excessively worn or damaged tracks.

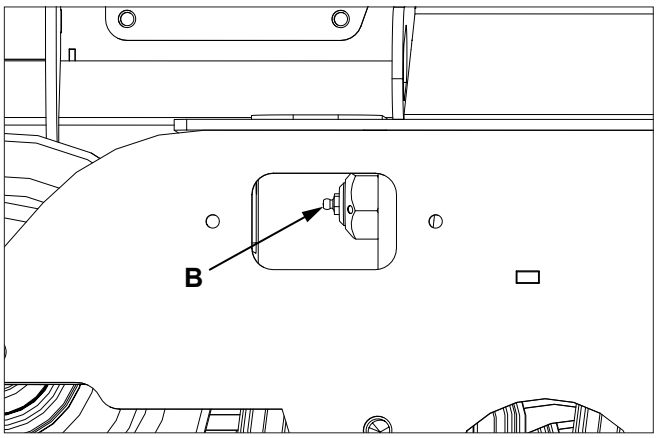
5.6.2 Remove And Install Track

Note: *Right side track is illustrated. The procedure is the same for the left side track.*

1. Park skidsteer on a firm level surface.
2. Lower lift arms to the ground.
3. Stop engine and remove key.
4. Raise side of skidsteer so track is slightly off the ground.
5. Support skidsteer with devices rated for the weight of the skidsteer.
6. Remove covers (A).



7. Carefully loosen grease fitting (B) to allow grease to escape and loosen track.



8. Remove rear idler roller (C).

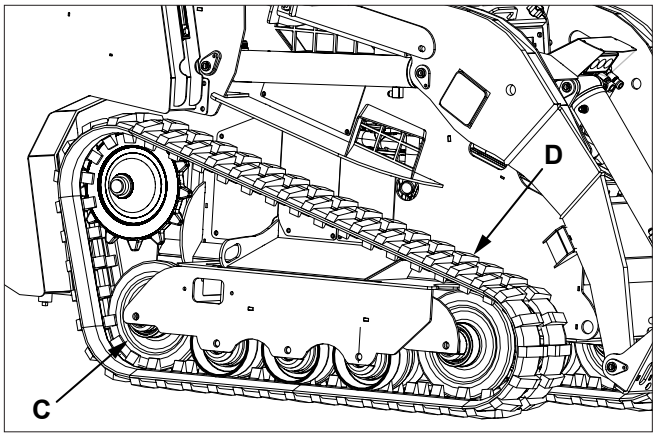
⚠ WARNING

Prevent death or serious injury.

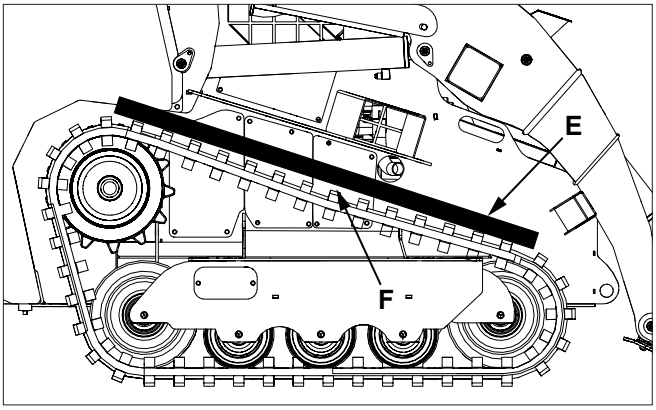
Track weight is approximately 130 lbs (59 kg).

Use an adequate lifting device and a safe handling procedure to remove and install track.

9. Remove track (D).



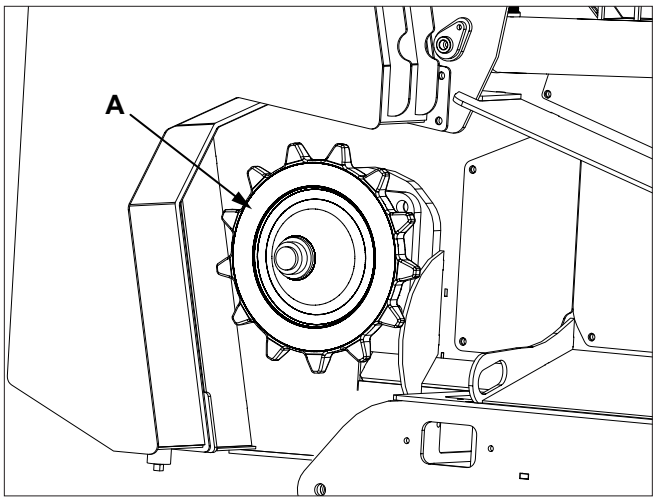
10. Clean and inspect all related parts.
11. Orient track the correct way and position track beside the skidsteer.
12. Position bottom of track so it is aligned under idler rollers and front roller.
13. Position track over the drive gear.
14. Install rear idler roller (C).
15. Tighten grease fitting (B).
16. Place a straight edge (E) on top of track as shown.
17. Pump grease into fitting (B) to adjust track tension so dimension (F) is no more than 1 in. (25 mm). Too much tension will stretch the track.



18. Install covers (A).
19. Remove support devices.

5.6.3 Remove And Install Drive Gear

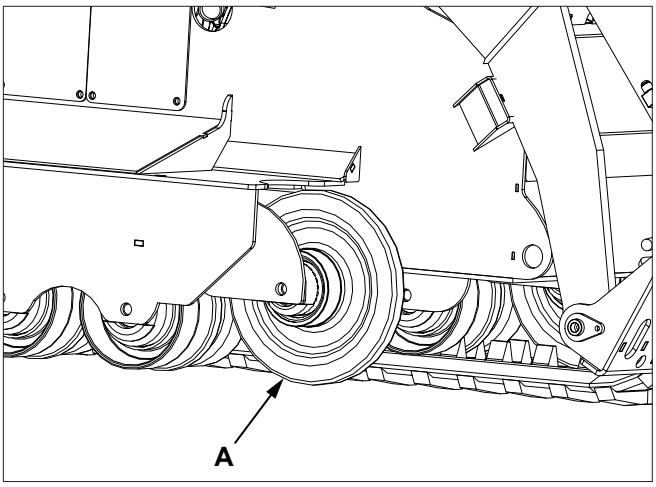
1. Remove track. See Remove And Install Track in Section 5.6.2.
2. Remove drive gear (A).



3. Clean and inspect all related parts.
4. Install drive gear (A).
5. Tighten nut to 1753 lb ft (2377 Nm) of torque.
6. Install track. See Remove And Install Track in Section 5.6.2.
7. Test operation.

5.6.4 Remove And Install Front Idler Roller

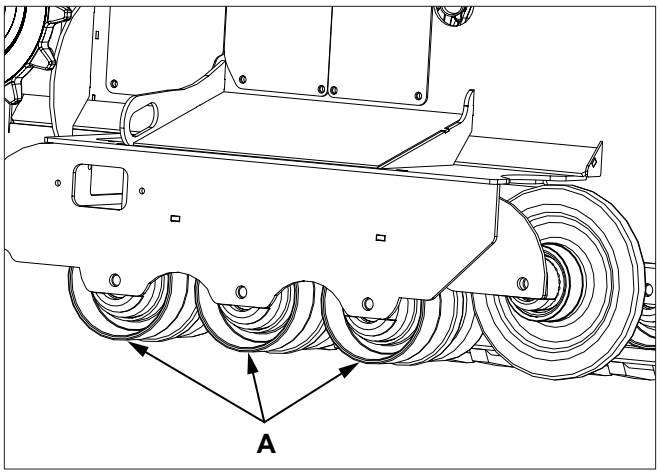
1. Remove track. See Remove And Install Track in Section 5.6.2.
2. Remove front idler roller (A).



3. Clean and inspect all related parts.
4. Install front idler roller (A).
5. Install track. See Remove And Install Track in Section 5.6.2.
6. Test operation.

5.6.5 Remove And Install Beam Rollers

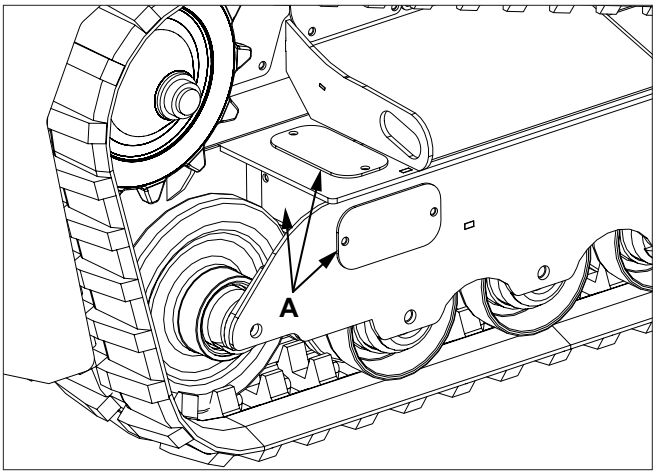
1. Remove track. See Remove And Install Track in Section 5.6.2.
2. Remove beam roller(s) (A).



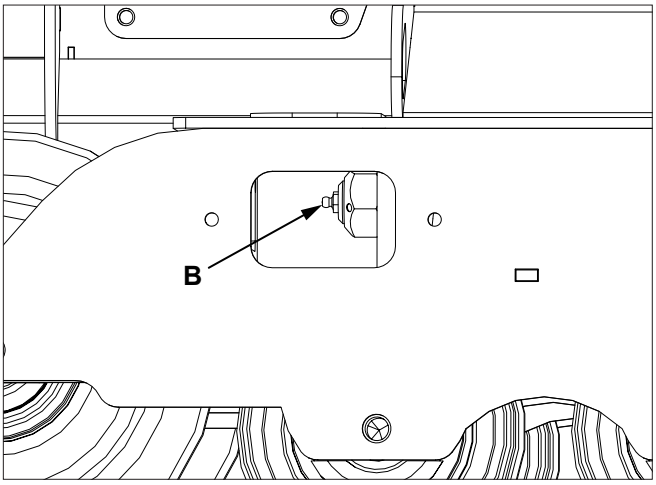
3. Clean and inspect all related parts.
4. Install beam roller(s) (A).
5. Install track. See Remove And Install Track in Section 5.6.2.
6. Test operation.

5.6.6 Remove And Install Rear Idler Roller

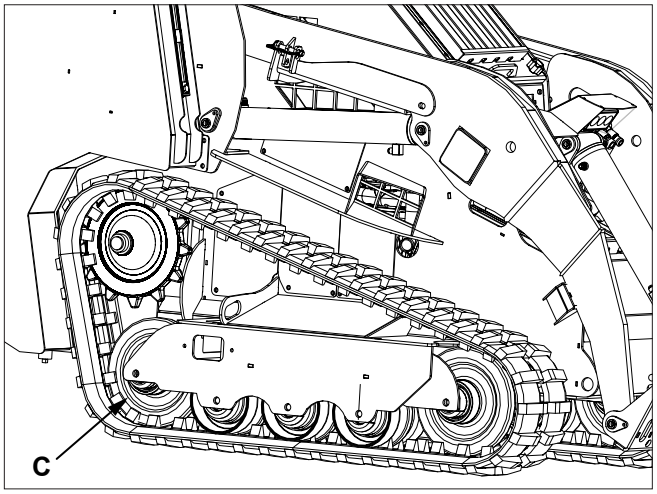
1. Park skidsteer on a firm level surface.
2. Lower lift arms to the ground.
3. Stop engine and remove key.
4. Raise side of skidsteer so track is slightly off the ground.
5. Support skidsteer with devices rated for the weight of the skidsteer.
6. Remove covers (A).



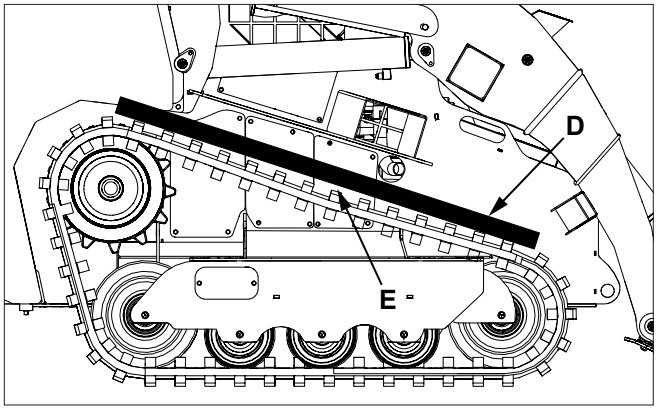
7. Carefully loosen grease fitting (B) to allow grease to escape and loosen track.



8. Remove rear idler roller (C).



9. Install rear idler roller (C).
10. Tighten grease fitting (B).
11. Place a straight edge (D) on top of track as shown.
12. Pump grease into fitting (B) to adjust track tension so dimension (E) is no more than 1 in. (25 mm). Too much tension will stretch the track.



13. Install covers (A).
14. Remove support devices.
15. Test operation.

6 HYDRAULIC SYSTEM

6.1 Safety

⚠ WARNING

Prevent death or serious injury.

1. **Park machine on firm, level surface.**
2. **Engage parking brake.**
3. **Verify all controls are in neutral.**
4. **Stop engine and remove key.**

⚠ WARNING

Prevent death or serious injury.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

⚠ WARNING

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Use body and face protection while searching for leaks. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never use your hands.

6.2 Hydraulic Fluid

AW32 is recommended for general conditions and climates. MV22 is recommended for colder climates.

6.3 Hydraulic Gear Pump

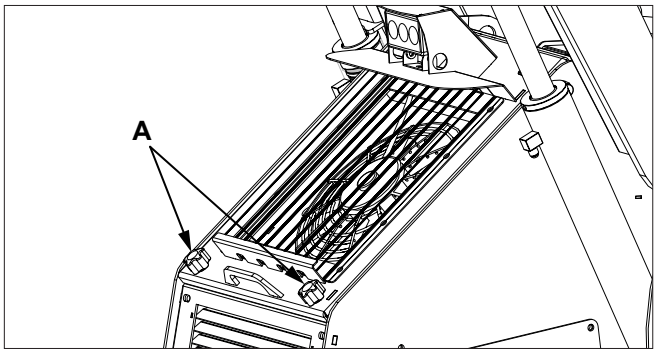
6.3.1 Check Hydraulic Pressure

1. Stand on operators platform and start engine.
2. Increase engine RPM to operating speed.
3. Move joystick to rollback position and hold.
4. Pressure on instrument panel gauge should be at least 3000 psi (207 bar). Stop engine.
5. If there is no pressure, check operator on board switch. See Test Operator On Board Switch in Section 7.1.1.

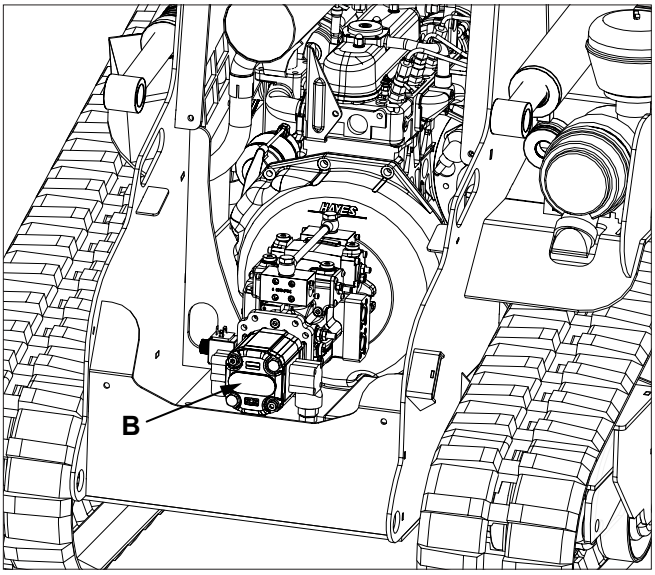
   If pressure is low, verify hydraulic fluid is at proper level in tank. If fluid is at proper level, replace hydraulic filter.
6. Test operation. If pressure is still low, clean strainer in suction line in bottom of hydraulic tank.
7. Test operation. If pressure is still low, contact your Baumalight dealer.

6.3.2 Remove And Install Gear Pump

1. Remove bucket or attachment from skidsteer.
2. Park skidsteer on firm level surface.
3. Raise lift arms and install lift arm lock. See Lift Arm Lock in Section 3.1.
4. Disconnect negative (-) battery cable. See Disconnect Negative Battery Cable in Section 3.2.
5. Loosen knobs (A) and pivot hydraulic oil cooler upward. Engage pin to hold cooler in open position.



6. Close shutoff valve in main hydraulic line from tank.
7. Identify and remove hydraulic lines and hoses from gear pump (B).



8. Remove mounting hardware and lift pump (B) out of skidsteer.
9. Clean and inspect related parts.
10. Install pump and mounting hardware.
11. Connect hydraulic hoses and lines.
12. Open shutoff valve in main hydraulic line from tank.
13. Connect negative (-) battery cable.
14. Install covers and close hydraulic cooler.
15. Add hydraulic fluid to tank if needed.
16. Lower lift arms.
17. Test operation.

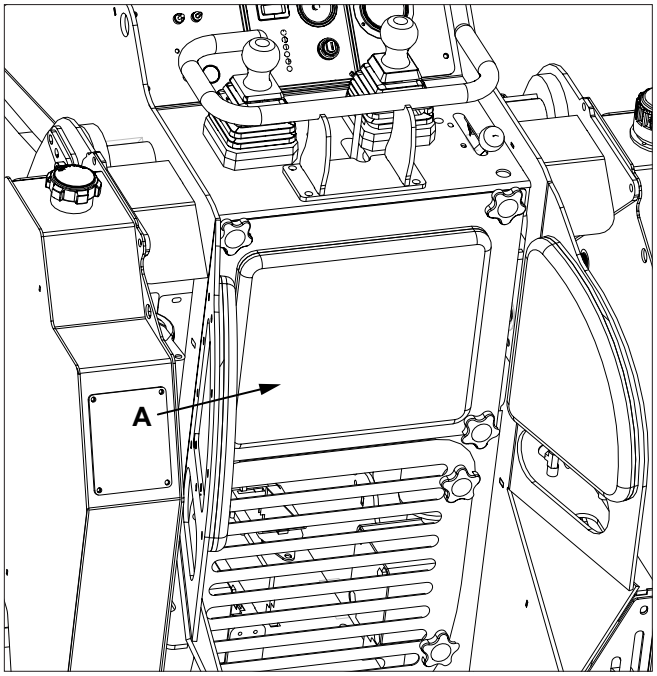
6.3.3 Repair

Gear pump seals are available. Go to baumalight.com for a parts list and drawing of the gear pump.

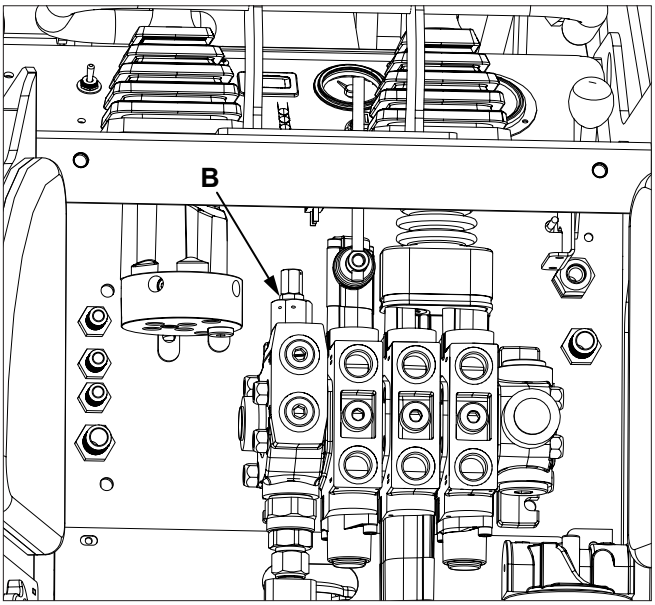
6.4 Hydraulic Valve

6.4.1 Check And Adjust Auxiliary Hydraulic Pressure

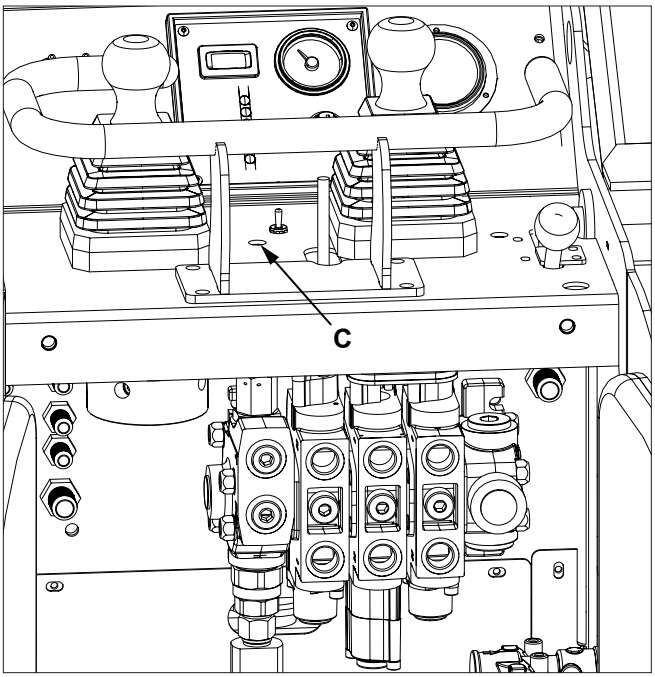
1. Stand on operators platform and start engine.
2. Allow hydraulic fluid to warm up.
3. Increase engine RPM to operating speed.
4. Move joystick to rollback position and observe auxiliary hydraulic pressure on instrument panel gauge. Pressure should be approximately 3000 psi (207 bar).
5. If pressure is low, verify hydraulic fluid is at proper level in tank. If fluid is at proper level, adjust auxiliary hydraulic pressure using the following procedure.
6. Remove cover (A).



7. Loosen jam nut (B) on boom valve with 17 mm wrench.



8. Insert 5 mm hex wrench down through access hole (C) on control panel and into hex screw on boom valve.



9. Hold locknut (B) with wrench and rotate hex adjustment screw 1/4 turn clockwise to increase auxiliary pressure. Tighten locknut, start engine and move joystick to rollback position to test operation.

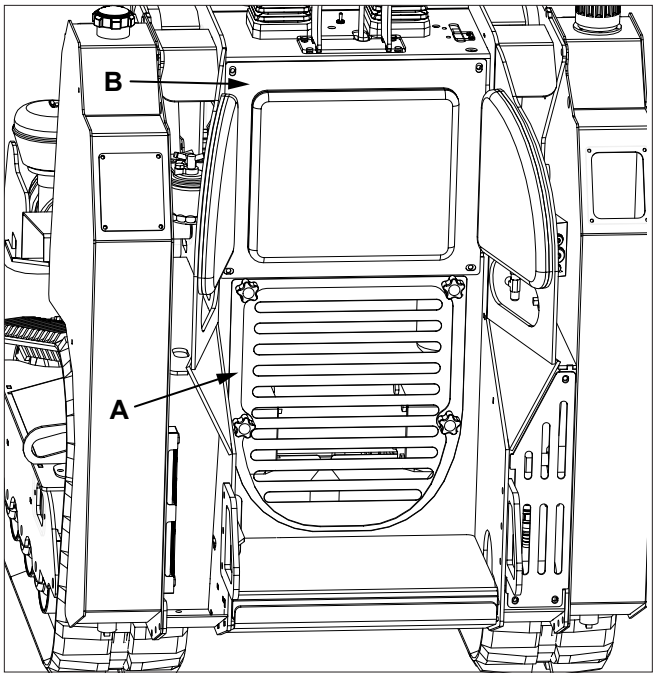
10. Repeat step 9 again if needed.

Test operation. If pressure is still low, contact your Baumalight dealer.

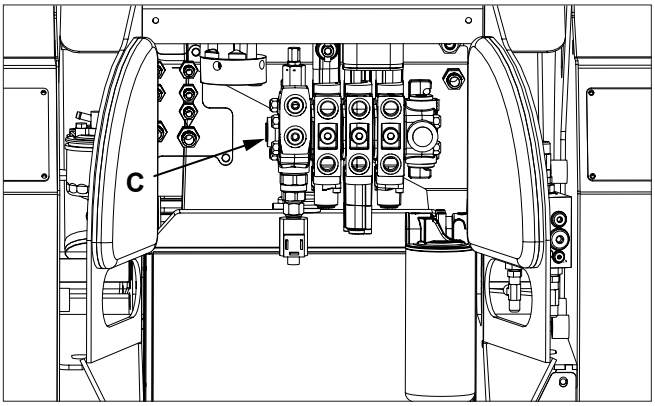
11. Tighten locknut (B) and install cover (A).

6.4.2 Remove And Install

1. Park skidsteer on firm level surface.
2. Lower lift arms to the ground.
3. Stop engine and remove key.
4. Remove covers (A) and (B).



5. Identify hose locations and disconnect hydraulic hoses from valve (C).



6. Remove mounting hardware and remove valve.
7. Clean and inspect all related parts.
8. Install valve and mounting hardware.
9. Connect hydraulic hoses.
10. Install covers (A) and (B).
11. Test operation.

6.4.3 Repair

Hydraulic valve seals are available. Go to baumalight.com for a parts list and drawing of the valve.

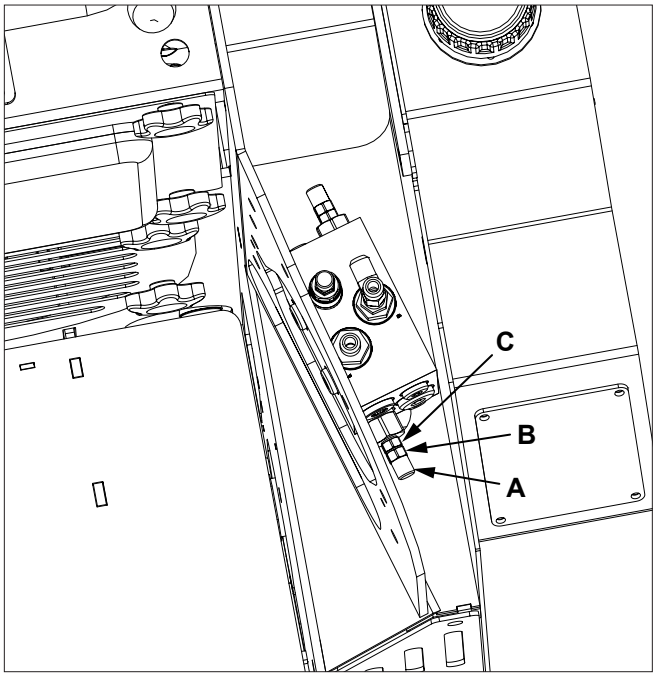
6.5 Self Leveling Valve

6.5.1 Adjustment

If the attachment does not stay level when the lift arms are raised, the self levelling valve may need adjustment.

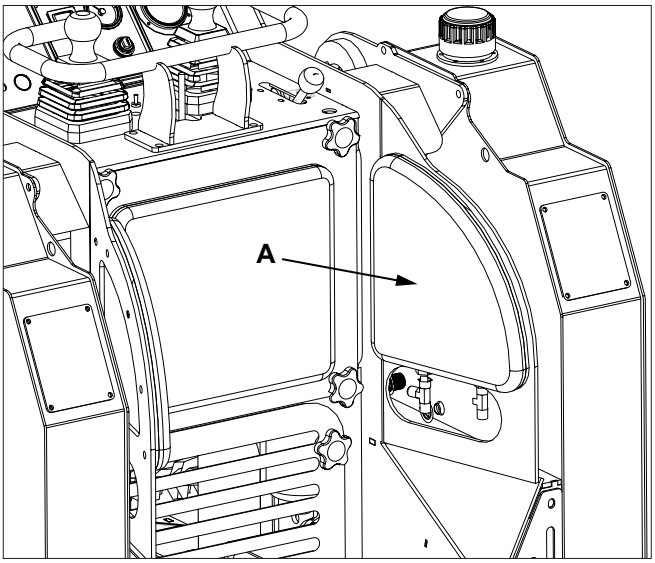
If attachment tilts forward too much:
Remove cap (A). Hold nut (B) and loosen lock nut (C). Continue to hold nut (B) and turn screw at location (C) under cap clockwise 1/2 turn with a flat blade screwdriver. Hold nut (B), tighten lock nut (C) and install cap (A). Test operation. Repeat procedure to get desired results.

If attachment needs to tilt faster to stay level:
Remove cap (A). Hold nut (B) and loosen lock nut (C). Continue to hold nut (B) and turn screw at location (C) under cap counter clockwise 1/2 turn with a flat blade screwdriver. Hold nut (B), tighten lock nut (C) and install cap (A). Test operation. Repeat procedure to get desired results.

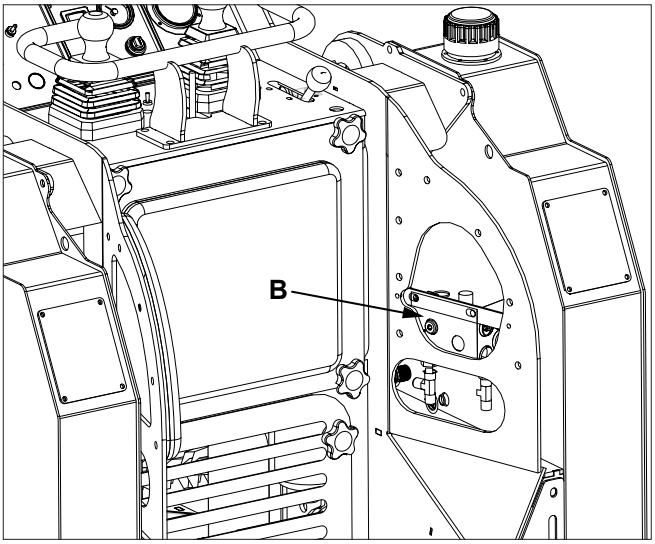


6.5.2 Remove And Install

1. Park skidsteer on firm level surface.
2. Lower lift arms to the ground.
3. Stop engine and remove key.
4. Remove cover (A).



5. Remove mounting hardware and self leveling valve (B).



6. Clean and inspect all related parts.
7. Install self leveling valve (B) and mounting hardware.
8. Install cover (A).
9. Test operation.

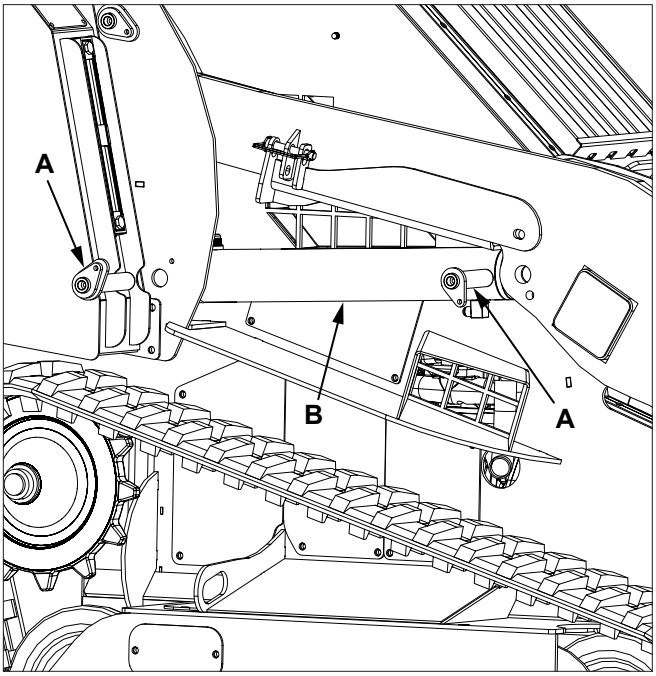
6.5.3 Repair

Leveling valve seals are available. Go to baumalight.com for a parts list and drawing of the valve.

6.6 Lift Cylinder

6.6.1 Remove And Install

1. Park skidsteer on firm level surface.
2. Lower lift arms to the ground.
3. Stop engine and remove key.
4. Remove pins (A) and cylinder (B).



5. Clean and inspect all related parts.
6. Install cylinder (B) and pins (A).
7. Test operation.

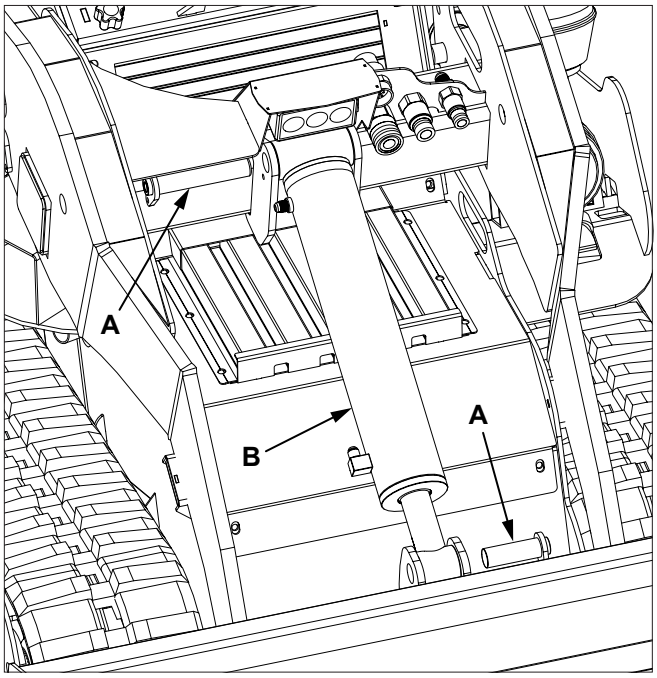
6.6.2 Repair

Cylinder seals are available. Go to baumalight.com for a parts list and drawing of the cylinder.

6.7 Tilt Cylinder

6.7.1 Remove And Install

1. Park skidsteer on firm level surface.
2. Lower lift arms to the ground.
3. Stop engine and remove key.
4. Remove pins (A) and cylinder (B).



5. Clean and inspect all related parts.
6. Install cylinder (B) and pins (A).
7. Test operation.

6.7.2 Repair

Cylinder seals are available. Go to baumalight.com for a parts list and drawing of the cylinder.

7 ELECTRICAL SYSTEM

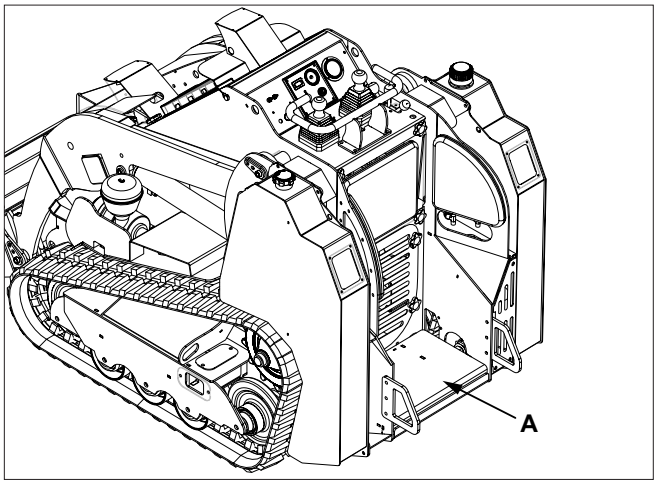
7.1 Electrical Diagrams

Go to baumalight.com for electrical schematics.

7.1 Operator On Board Switch

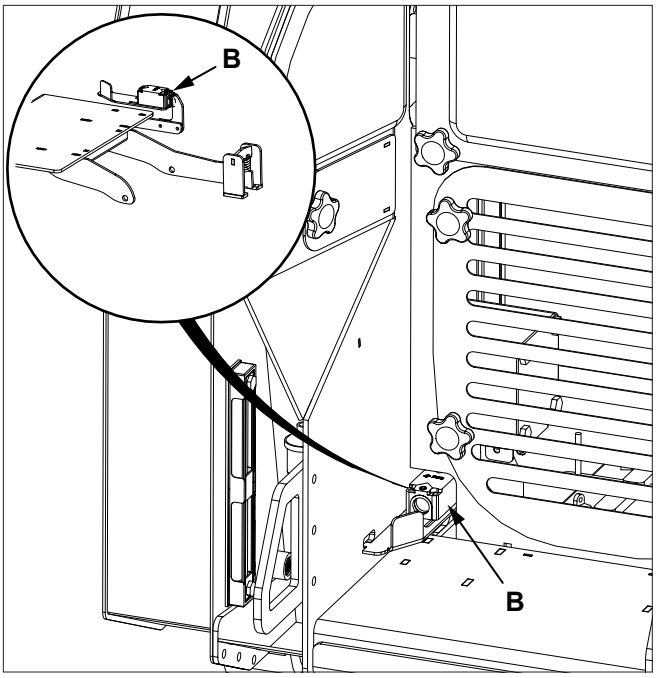
7.1.1 Test Operator On Board Switch

1. Lower lift arms to ground, stop engine. Test switch operation before startup and every 10 hours.
2. Stand on operators platform (A) and start engine.



3. Step off operators platform. The drive and boom functions should be disabled if safety switch is functioning correctly. If drive and boom functions are not disabled, stop engine and contact a Baumalight dealer. Do not operate skidsteer if operator on board safety switch (B) is not functioning correctly.

4. Switch (B) is mounted on a slotted bracket. If mounting hardware loosens, switch may need to be adjusted. Adjust so that switch is compressed when operator stands on platform.

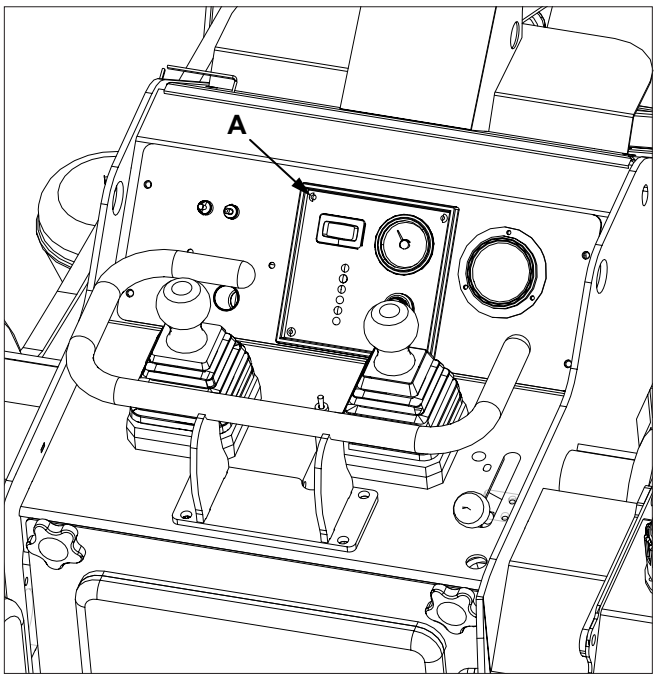


Note: *If the operator on board switch has failed and you need to move the skidsteer to a safe location for service, contact Baumalight for information.*

7.2 Instrument Panel

7.2.1 Remove And Install LOFA Panel

1. Disconnect negative battery cable. See Disconnect Negative Battery Cable in Section 3.2.
2. Remove screws (A) and gently pull instrument panel outward.



3. Replace individual components as necessary. Disconnect wiring harness from the component and remove mounting hardware.
4. Install new component and mounting hardware.
5. Connect wiring harness.
6. Install instrument panel and screws (A).

For parts, specifications and the latest machine information please visit our website.

www.baumalight.com

MTB MFG INC.
CORPORATE HEADQUARTERS
4575 Powell Rd.,
Wallenstein, Ontario Canada
N0B 2S0
Phone - 519.698.9864
Toll Free - 866.820.5603
Fax - 519.698.1087
www.baumalight.com