SKID LOADERS

MUSTANG®

2022 / 2032

SKID-STEER LOADER

SERVICE MANUAL

PART #908272

MUSTANG®

Mustang Manufacturing Company, Inc., A Gehl® Company

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SPECIFICATIONS

	2022	2032
Engine: Make	Yanmar	Yanmar
Model	3TNE88	3TNE88
Fuel	Diesel	Diesel
Displacement	100 CID (1,64 L)	100 CID (1,64 L)
Horsepower - Net	SAE 36 hp (27 kW) @ 3000 rpm	SAE 36 hp (27 kW) @ 3000 rpm
Torque - Maximum	77 ft-lbs (104 N•m) @ 1600 rpm	77 ft-lbs (104 N•m) @ 1600 rpm
Rated Operating Load (SAE)	1050 lbs (476 kg)	1250 lbs (567 kg)
Operating Weight	4400 lbs (1996 kg)	4600 lbs (2087 kg)
Shipping Weight	3950 lbs (1792 kg)	4150 lbs (1882 kg)
Chaincases (each)	4.5 US gal (17 L)	5.0 US gal (19 L)

Specifications Below Apply To All 2022 and 2032 models	
Capacities	
Hydraulic Reservoir	8.0 US gal (30 L)
Engine Oil	5.0 US quarts (4,8 L)
Fuel Tank	8.5 US gal (32,2 L)
Radiator	6.5 quarts (6,2 L)
Electrical	
Battery	12 volt DC with 1000 CCA
Starter	12 volt DC (2.3 kW)
Alternator	55 A
Hydraulic System	
Main Hydraulic System Pressure	2750 psi (190 bar)
Standard Flow Rate (Single)	14.4 gpm (54,5 L/min)
Travel Speed	0 to 7.0 mph (0 to 11,0 km/h)

Tire Options	
10.50 x 15 - 8 ply	
8.5 x 15 - 8 ply	
10 x 16.5 - 6 ply	Standard Flotation tires
10 x 16.5 - 8 ply	Heavy Duty Flotation tires
27 x 8.50 x 15 - 6 ply	
27 x 10.50 x 15	Heavy Duty Fat Foot Flotation Tires
6.5 x 16	Solid Rubber tires

Buckets and Capacities			
Width - inches (millimeters)	**Bucket Description**	**Capacity (Heaped)**	
48 inches (1219 mm)	Utility	11.9 cubic feet	0,34 cubic meters
54 inches (1372 mm)	Dirt/Construction	9.5 cubic feet	0,27 cubic meters
54 inches (1372 mm)	Utility	13.5 cubic feet	0,38 cubic meters
60 inches (1524 mm)	Utility	15.2 cubic feet	0,43 cubic meters
61.5 inches (1562 mm)	Dirt/Construction	13.0 cubic feet	0,37 cubic meters
61.5 inches (1562 mm)	Bucket/Construction	13.0 cubic feet	0,37 cubic meters

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General Information

The above safety alert symbol means: ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! It stresses an attitude of "Heads Up for Safety" and can be found throughout this service manual and on the decals on the machine.

Before operating or working on this machine, read and study the following safety information. In addition, be sure that every individual who operates or works with this equipment is familiar with these safety precautions.

The use of skid-steer loaders is subject to certain hazards that cannot be eliminated by mechanical means, but only by exercising intelligence, care and common sense. Such hazards include, but are not limited to, hillside operation, overloading, instability of the load, poor maintenance and using the equipment for a purpose for which it is not intended or designed.

The Mustang Company ALWAYS considers the operator's safety when designing its machinery and guards exposed moving parts for the operator's protection. However, some areas cannot be guarded or shielded in order to assure proper operation. Furthermore, the Operator's Manual and the decals on the machine warn of additional hazards and should be read and observed closely.

This section of the manual includes procedures, which when followed, will allow safe performance of service procedures: Mandatory Safety Shutdown Procedure, Lift Cylinder Liftarm Support Device, Roll Over Protective Structure (ROPS)/Falling Object Protective Structure (FOPS) Lock Mechanism, Loader Raising and Lowering Procedures, and Relieving Hydraulic Pressure.

Signal Words

DANGER

"DANGER" indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

"WARNING" indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

"CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. May also alert against unsafe practices.

Additional Safety Reminders



Read and understand the Service Manual and all decals before maintaining, adjusting or servicing this equipment.

Doors, Guards and Shields - Some photographs in this manual may show doors, guards and shields open or removed for illustrative purposes only. BE SURE all doors, guards and shields are in their proper operating positions BEFORE starting engine to operate unit.

Damaged or Worn-out Parts - For safe operation, replace damaged or worn-out parts with genuine Mustang service parts, BEFORE operating this equipment.

Attachments - Mustang skid-steer loaders are designed and intended to be used only with Mustang Company attachments or approved referral attachments. The Mustang Company cannot be responsible for operator safety if the loader is used with a non-approved attachment.



Battery Safety - To avoid injury from a spark or short circuit, disconnect the negative battery cable (-) before servicing any part of the electrical system. Do not tip the battery more than 45º to avoid spilling electrolyte.

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Fig. 2-1 The locking pin secures the liftarm support device underneath the liftarm in the "storage" position.



Fig. 2-2 Grab o-ring tether on locking pin and pull it out, allowing the support device to lie on the lift cylinder.

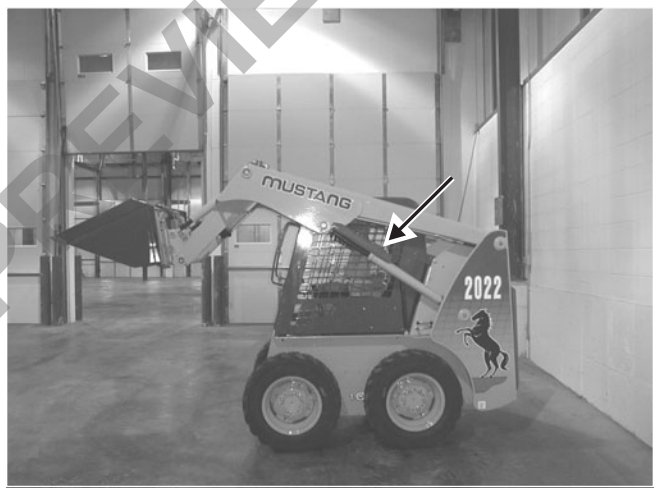


Fig. 2-3 Start the loader and raise the liftarm until the support device drops onto the lift cylinder rod, above the lift cylinder tube.

Liftarm Support Device

WARNING

BEFORE leaving the operator's compartment to work on the loader with the liftarm raised, ALWAYS engage the liftarm support device. Turn the keyswitch to OFF, remove the key and take it with you.

Many service procedures require a raised liftarm to allow easier access to loader components. For operator and service personnel safety, a liftarm support device is standard on Mustang skid-steer loaders. Used as a cylinder block, it helps prevent a raised liftarm from unexpectedly lowering.

BE SURE to engage the liftarm support device whenever the liftarm is raised. When the device is not being used, secure it to the anchor pin on the underside of the liftarm using the lock pin and retainer provided.

The liftarm support device is a safety device which must be kept in proper operating condition at ALL times.

The following procedures outline the correct way to engage and disengage the liftarm support device.

Liftarm Support Device Engagement

1. Lower liftarm until contact with loader frame.
2. Turn keyswitch to OFF position to stop engine. Remove key and take it with you.
3. Leave operator's compartment. Press in and hold lock pin button to release its locking mechanism. Remove lock pin holding support device up against liftarm. Allow support device to come down into contact with lift cylinder. **Figs. 2-1 and 2-2**
4. Return to operator's compartment and restart engine.
5. Use lift control to raise liftarm until lift arm support device drops over end of lift cylinder and around cylinder rod. Slowly lower liftarm until free end of support device contacts top end of lift cylinder. **Figs. 2-3 and 2-4**
6. Make sure liftarm support device is secure against cylinder end. Then, stop loader engine, remove key and leave operator's compartment.

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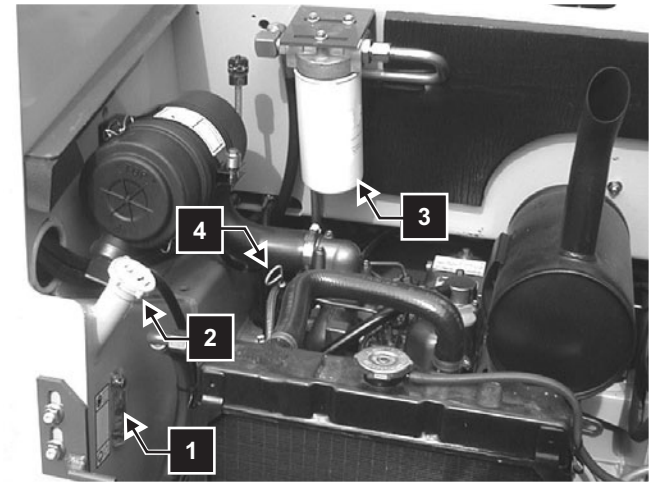


Fig. 3-1 Hydraulic oil level indicator (1), hydraulic oil fill (2), hydraulic filter (3) and engine oil dipstick (4).

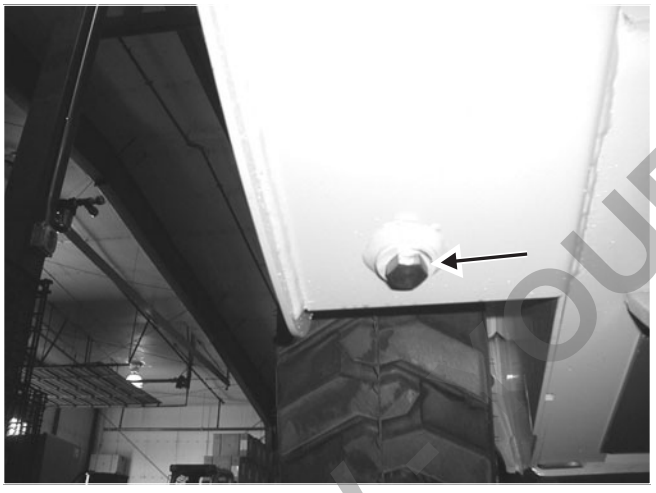


Fig. 3-2 Hydraulic oil drain plug located behind the left rear tire.

General Information

WARNING

NEVER service this unit when any part of the machine is in motion. ALWAYS BE SURE to exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE (see *Safety* chapter) BEFORE servicing this equipment.

Routine lubrication is an important factor in preventing excessive part wear and early failure. Loader and engine operation depends on using correct grade, high-quality lubricating oils. This chapter and the chart below list locations, temperature ranges and type of recommended lubricants to be used when servicing this machine. In addition, refer to the engine manual for specific grades and ratings as spelled out by the engine manufacturer.

NOTE: Whenever service is performed on hydraulic components (valves, cylinders, hoses, etc.), fuel tanks and lines, care must be taken to prevent discharging fluid onto the ground. Catch and dispose of fluid per local waste disposal regulations.

Hydraulic Oil Reservoir

The oil reservoir for hydraulic and hydrostatic systems has a capacity of eight U.S. gallons (30 liters). A visual oil level indicator (**Fig. 3-1**) is located on the lower left riser for convenient maintenance of the hydraulic oil level.

Hydraulic System Reservoir	Chaincases	Grease Fittings	Crankcase Oil (Diesel Engine)	Anti-freeze Coolant System
Use a Mobil DUE 15M, or Pedro-Canada Premium HVI60, or equivalent which contains anti-rust, anti-foam, and anti-oxidation additives & conforms to ISO VG46. Capacity: 8 Gallons (30 L)	Use hydraulic system oil or SAE grade 15W-40 motor oil. Capacity (each side): 4.5 Gallons (17 L)	Use lithium-based grease	✪ Below 32°F (0°C) use SAE Grade* 10 or 10W-30 ✪ Above 32°F (0°C) use SAE Grade* 15W-40 *Service Classification: API - CF-4/CG-4 Capacity: 5 Quarts (4,8 L)	Add a mixture of 50% water, 50% ethylene glycol to the recovery tank if coolant level in recovery tank is low. Capacity: 6.5 Quarts (6,2 L)

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Introduction

Mustang 2022/2032 skid-steer loaders have a welded steel mainframe. Maintenance, service and repair can be performed through standard access panels. The left rear mainframe riser serves as the hydraulic reservoir. A plastic tank bolted to the mainframe behind the ROPS serves as the fuel tank.

Two side cases provide mounting for the drive motors and for the front and rear axles. The side cases also serve as sealed housings for the drive chains and sprockets. Oil is used inside these cases to ensure the chains always receive proper lubrication.

The liftarm and the lift and tilt cylinders are mounted with pivot pins. Capscrews are used to secure the pivot pins. A Rollover Protective Structure/Falling Object Protective Structure (ROPS/FOPS) is standard for operator safety, and both the seat and restraint bar include safety interlock switches.

Rollover & Falling Object - Protective Structure (ROPS/FOPS) Components

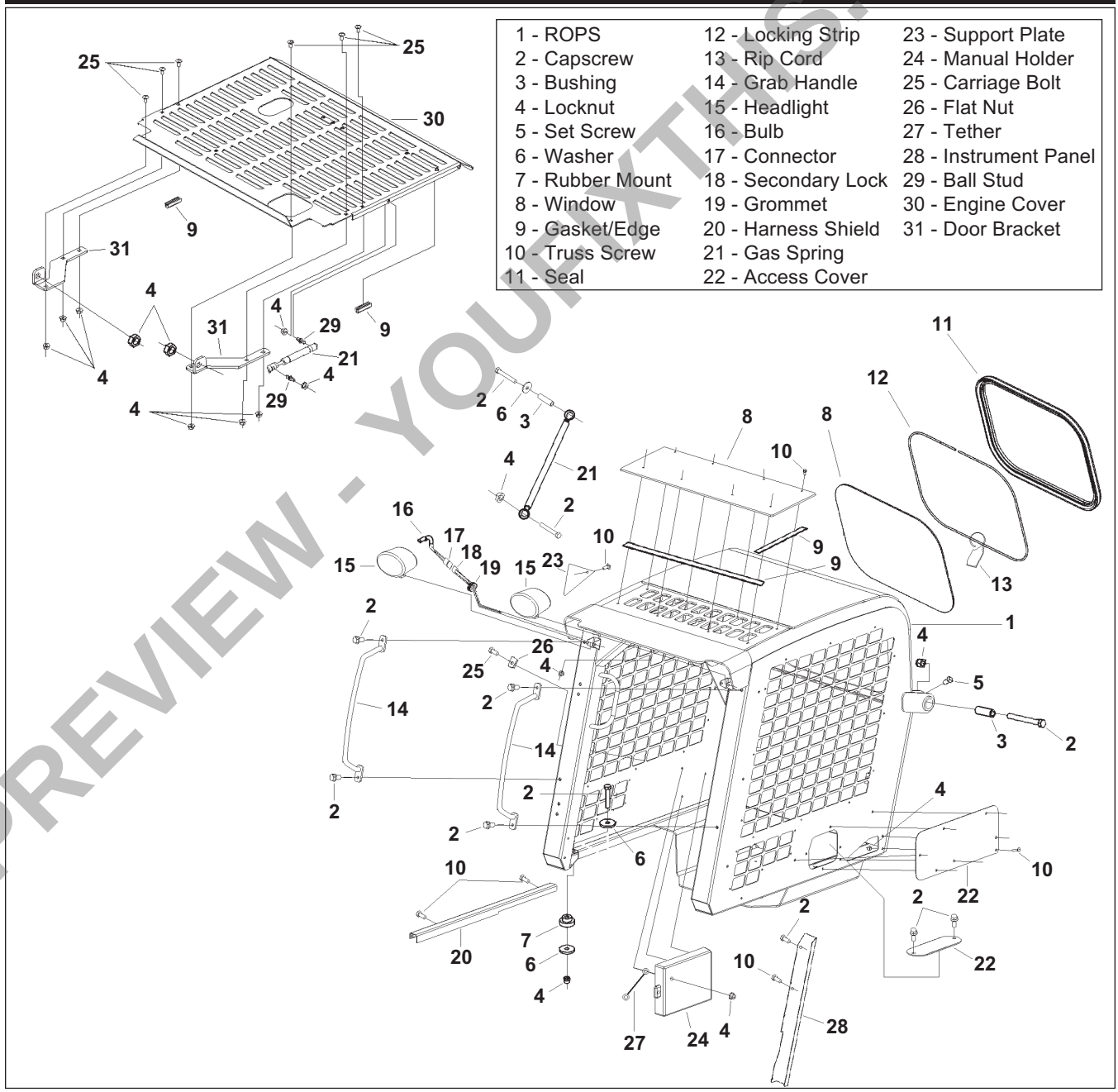


Fig. 4-1 Assembly view of ROPS components.

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Introduction

This chapter covers removal, installation, assembly, and adjustment procedures for standard and optional controls equipment on Mustang 2022/2032 skid-steer loaders.

Equipment Identification

Because there are a variety of options available for the 2022/2032, it is IMPORTANT to properly identify the equipment BEFORE beginning service procedures. Illustrations and photographs are provided with each procedure to aid in servicing this equipment.

Hand/Foot Controls

On loaders with "Hand/Foot controls," left and right drive control handles operate independently of each other. Pushed forward together moves the loader forward, but push either one further forward than the other and the loader turns. Separate foot pedals control the lift and tilt functions of the liftarm and bucket. Engine speed is controlled with the hand throttle lever located to the right of the operator's seat. The auxiliary hydraulics are actuated by the right control handle.

T-Bar Controls

On loaders with "T-Bar controls," the left T-Bar controls the forward and reverse directions of the hydrostatic drive motors (traction control) and pumps for both sides of the loader. The right T-Bar controls the lift and tilt functions of the liftarm and bucket. For control of engine speed, foot and hand throttles are standard. A pivoting foot pedal control is standard on the floor for flow control of the auxiliary hydraulics.

Dual Hand Controls

On loaders with "Dual Hand controls," left and right drive control handles operate independently of each other. Pushed forward together moves the loader forward, but push either one further forward than the other and the loader turns. The left drive control handle also operates lift functions of the liftarm. The right drive control handle also operates tilt functions of the bucket. Engine speed is controlled by hand and/or foot throttles. A pivoting foot pedal control is standard on the floor for flow control of the auxiliary hydraulics.

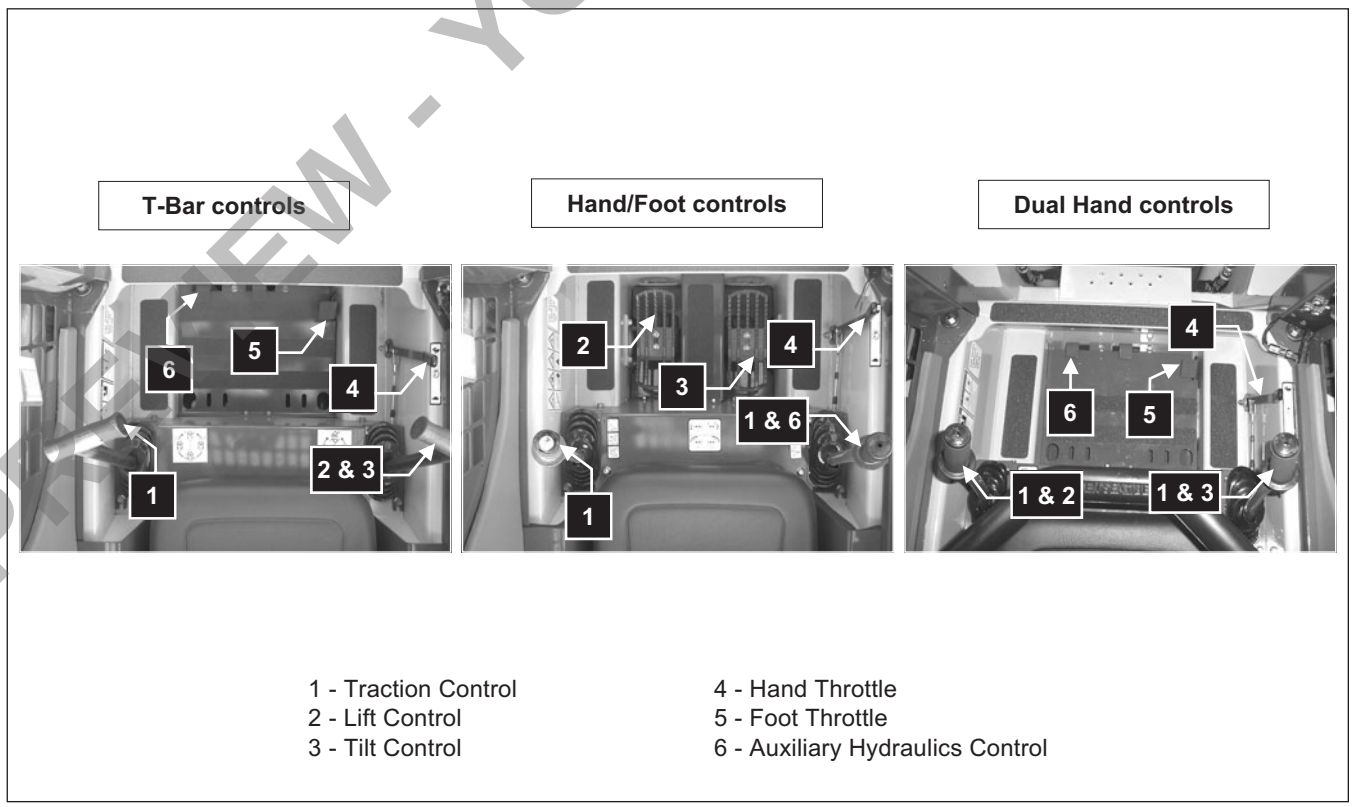


Fig. 6-1 Control locations on T-Bar, Hand/Foot and Dual Hand controls.

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Troubleshooting Guide

The following troubleshooting guide lists potential hydrostatic system problems, as well as possible causes hand remedies, for Mustang 2022/2032 skid-steer loaders.

When a problem occurs, don't overlook simple causes. A malfunction can be caused by something as simple as low oil level. After a mechanical failure has been corrected, be sure to locate and correct the cause of the problem.

IMPORTANT

DO NOT attempt to service or repair major hydrostatic system components, such as the hydrostatic pumps or drive motors, unless authorized to do so by your Mustang Dealer/Distributor. Any unauthorized repair will void the warranty.

Problem	Possible Cause	Remedy
No response from the hydrostatic drive or the lift/tilt systems.	Hydraulic oil viscosity is too high.	Allow longer warm-up or replace oil with the proper viscosity oil.
	Hydraulic oil supply is too low.	Check for low oil level in reservoir. Add oil as needed.
	Hydrostatic pump drive is disconnected. Drive coupling failure.	Check for broken or worn pump Drive Coupling and replace, as needed.
Traction drive will not operate in either direction.	Parking brake is engaged.	Disengage parking brake.
	Hydraulic oil supply too low.	Check for low oil level in reservoir. Add oil if necessary.
	Control rod linkage disconnected.	Check linkage connection at control levers and neutral centering mechanisms. Reconnect linkage.
	Low or no charge pressure.	See hydrostatic pump manual.
	Hydrostatic pump relief valves are malfunctioning.	Inspect and clean the relief valves. Replace them as needed.
Drive wheels do not turn in proper direction for T-Bar movement.	High pressure hydraulic hoses between hydrostatic pump and drive motors are connected wrong.	Reconnect hoses to proper ports on the drive motors. Refer to schematic and figures in hydrostatic chapter.

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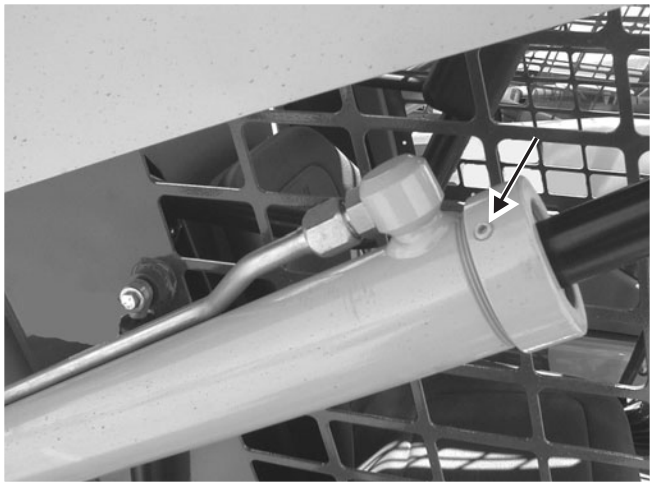


Fig. 8-40 Location of set screw on collar of cylinder.



Fig. 8-41 Use pipe wrench to loosen collar from cylinder barrel.

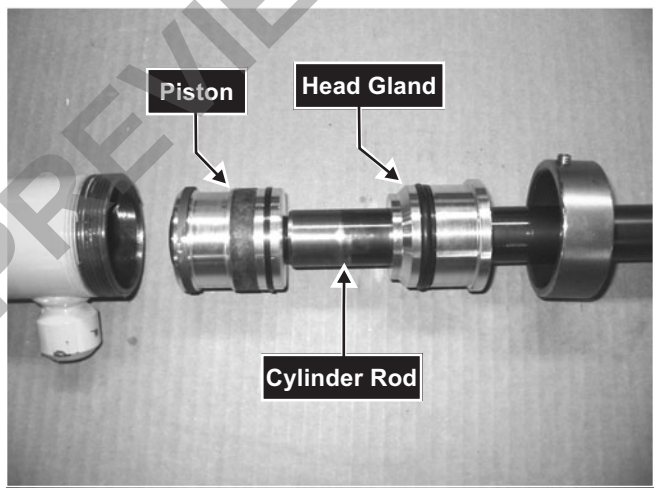


Fig. 8-42 View of piston assembly.

Lift and Tilt Cylinder - Disassembly and Assembly

The lift and tilt cylinders have a built in cushion which slows the travel of the cylinder as it nears the end of its stroke. Nicks or burrs on a cylinder shaft can cause seal damage in the gland, which can cause external leaks. Shaft inspection can detect damage early before it becomes large enough to damage seals.

Disassembly Procedure

1. Remove lift or tilt cylinder from loader. See the corresponding procedure in this chapter.
2. Purge oil from cylinder by facing ports downward, pumping cylinder rod back and forth several times.
3. Use an Allen wrench to loosen set screw on cylinder collar. **Fig. 8-40**
4. Clamp rod end in a vise and slide cylinder onto shaft to prevent cylinder tube from turning.
5. Use a clamp or pipe wrench to remove collar from cylinder tube. **Fig. 8-41**
6. Remove rod assembly and inspect cylinder rod and tube for dents or nicks that may cause damage to o-rings and seals. **Fig. 8-42**
7. Loosen and remove locknut that secures head gland, seal kit, and piston on cylinder rod.
8. Remove piston assembly. **Fig. 8-42**
9. Slide head gland, seals, and o-rings off cylinder rod and inspect for wear.
10. Change seals as needed. Refer to lift or tilt cylinder assembly views for reassembly order.

NOTE: Soaking seals in warm water prior to installation will make them pliable and easier to install. However, BE SURE to dry them and coat with hydraulic oil for proper installation.

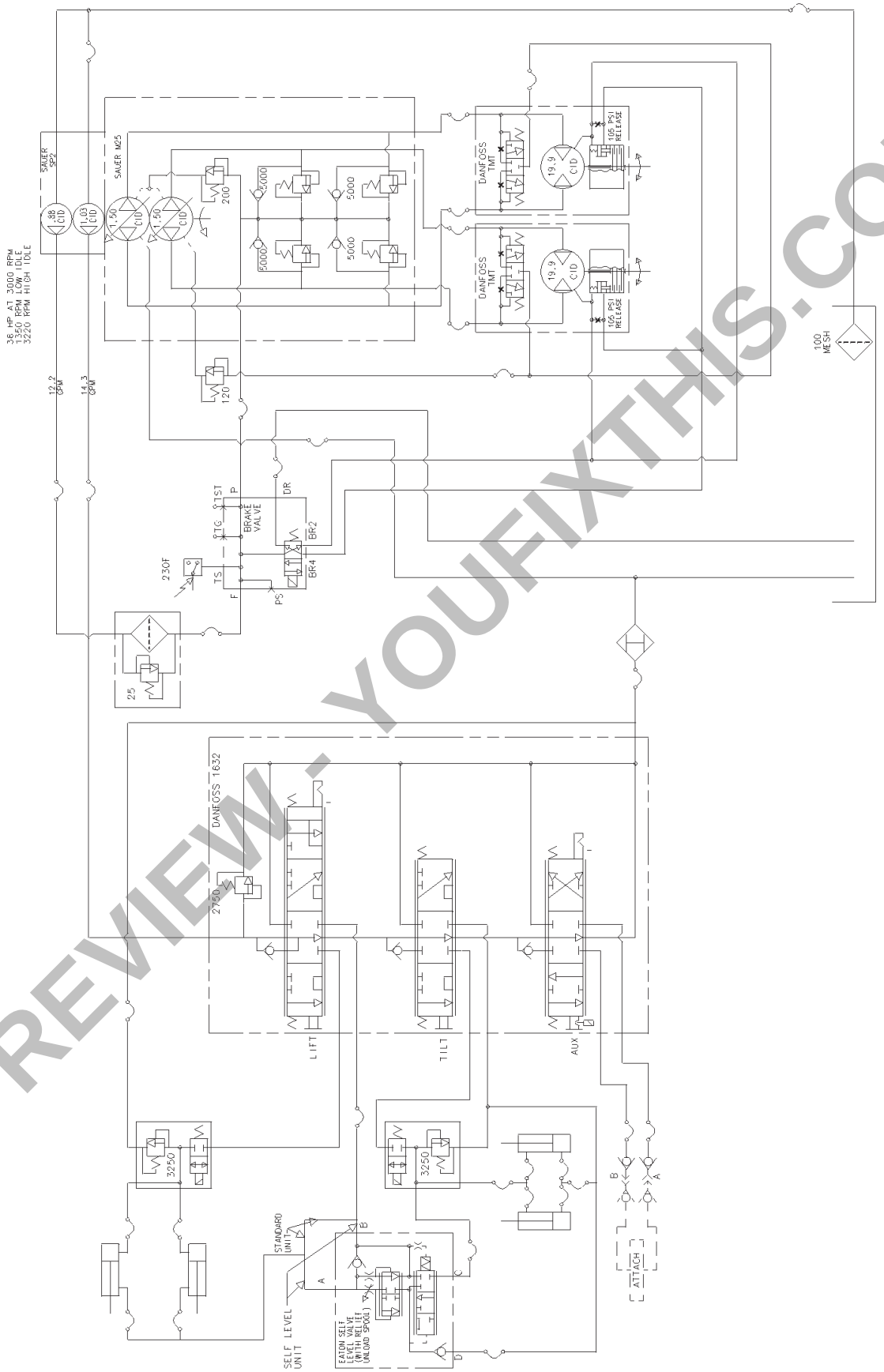
Assembly Procedure

1. Slide collar onto cylinder rod (threaded end of collar should face threaded end of cylinder rod).
2. Slide head gland, larger diameter first, onto cylinder rod.
3. Install piston on cylinder rod.
4. Secure head gland and piston on cylinder rod with a washer and locknut. The locknut should be torqued to 225 ft-lbs (305 N•m).

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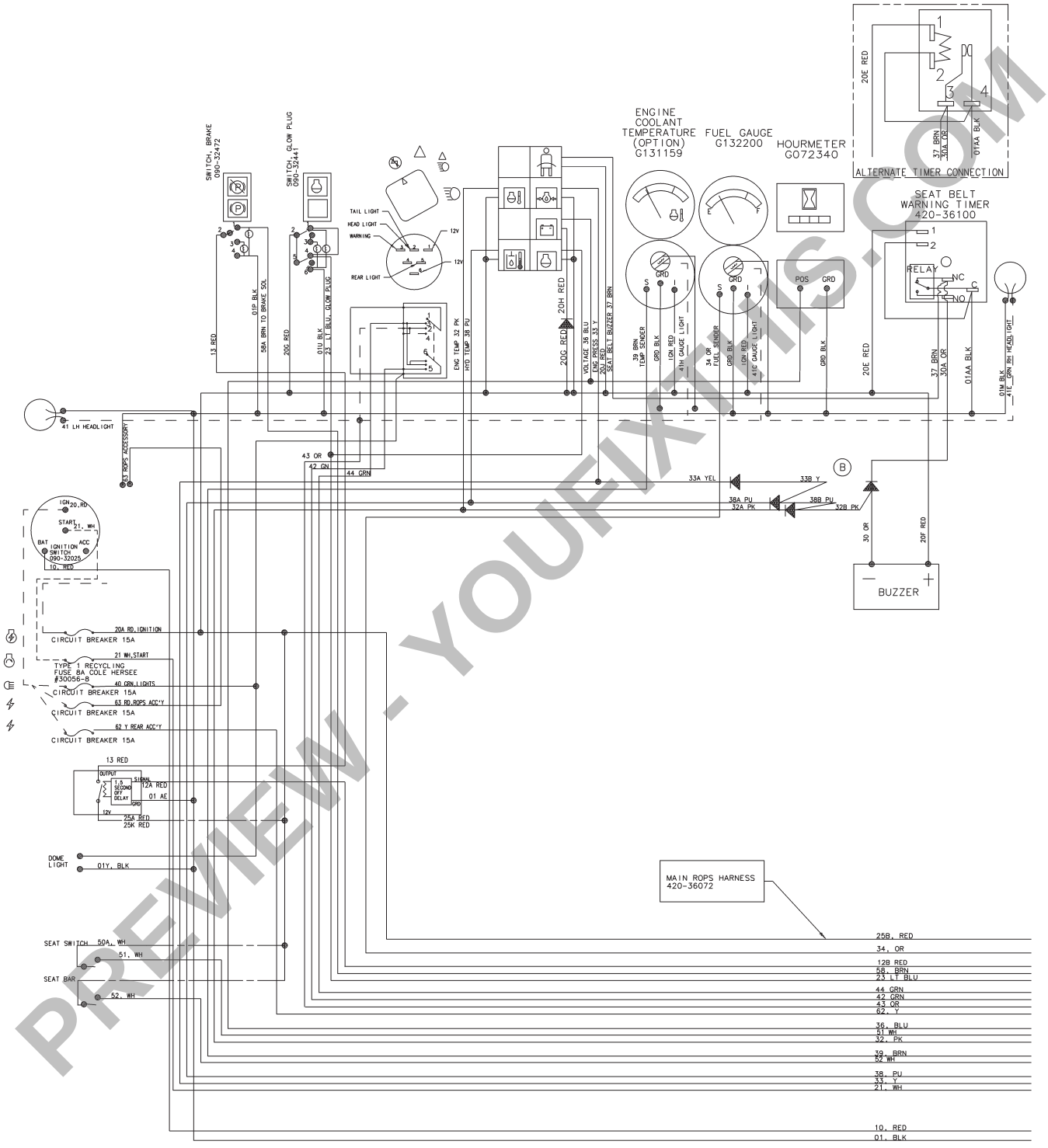
Hydraulic/Hydrostatic System Schematic



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Electrical System Schematic



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