MANITOU HANDLING YOUR WORLD

MUSTANG BY MANITOU

106
(SN 11257 and Up)

206 (EU)
(SN 21244 and Up)

306
(SN 31365 and Up)

406 (EU)
(SN 41250 and Up)

506
(SN 51242 and Up)

MLA-1
MLA-3
MLA-4
MLA-5



Articulated Loader

Operator's Manual

50940661 Rev. B 02/20

Original Instructions

Supersedes: 50940006

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Mustang AL106, AL206, AL306, AL406 and AL506, Manitou MLA-1, MLA-3, MLA-4 and MLA-5 Articulated Loader Operator Manual

Document type: Operator Manual (operation, controls, safety and routine maintenance)

Brand: Mustang

Models: AL106, AL206, AL306, AL406 and AL506

Manitou equivalent: MLA-1, MLA-3, MLA-4 and MLA-5

Machine: Articulated Loader

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Serial numbers: 106 SN 11257 and Up; 206 (EU) SN 21244 and Up; 306 SN 31365 and Up; 406 (EU) SN 41250 and Up; 506 SN 51242 and Up

Language: English

Main contents

- General Information
- Safety
- Specifications
- Operation
- Maintenance
- Troubleshooting
- Index

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- Below-ground hazards also include water mains, tunnels and buried foundations. Know what is underneath the work site before starting to dig.
- Before working near power lines (either above-ground or buried cable-type), always contact the power utility and establish a safety plan with them.
- If temperatures are changing, be cautious of dark and wet patches when working or traveling over frozen ground. Stay away from ditches, overhangs and other weak support surfaces.
- The operator's area, steps and hand holds must be free of oil, dirt, ice and unsecured objects.
- If a lighting system is installed, check its operation before working in darkness.
- Always keep lights, mirrors and windows clean. Poor visibility can cause accidents.
- NEVER start the engine if there is any indication that maintenance or service work is in progress, or if a warning tag is attached to the controls.
- Replace damaged safety decals and a lost or damaged operator's manual.
- Terrain and soil conditions at the work site, approaching traffic, weather-related hazards and any above-or below-ground obstacles and hazards should be observed and monitored by all work crew members.
- Adjust the seat to allow full actuation of all controls. Never adjust the seat during machine operation.
- Read the operator's manual provided with each attachment used with the machine before starting the engine.
- Before working on or with the machine, remove jewelry, tie back long hair, and do not war loose-fitting garments, such as, scarves, ties, unzipped jackets, etc., which could become caught in the moving parts of the machine and cause injury.

During Operation

- ALWAYS fasten the seat belt securely and properly. Never operate the machine without the seat belt fastened around the operator.
- Check indicators and displays for normal conditions after starting the engine. Listen for unusual sounds and remain alert for other potentially hazardous conditions.
- Control the machine cautiously and gradually until fully familiar with all the controls and handling.
- Do not overload the machine. See weights and capacities information starting on page 35 for the load limits.
- If the machine is equipped with a 2-post ROPS, do not overfill the attachment and lift loads higher than the operator's head. Objects can fall out of the attachment and roll down the lift arm toward the operator causing severe injury. Install a a Falling-Object Protective Structure (FOPS) if the machine is used to lift loads above the operator's head.

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4. On models 306, 206, and MLA-3:
   a. If necessary, raise the lift arm to allow for down-stop lock bar (*A*, *Fig. 38*) removal.
   b. Remove spring pins (*A*) from both ends of the down-stop lock bar (*B*). Remove lift arm lock bar (*B*) from the machine.
   c. Lower the lift arm all the way. Tilt the attachment hitch all the way back.

      Note: *Holes (C) in the frame, in the lift arm and holes (D) in the tilt pivot arm must align to allow down-stop lock bar (A) to pass completely through all the holes.*

   d. Perform the "Mandatory Safety Shutdown Procedure" on page 10.
   e. Slide the down-stop lock bar (*B*) all the way through holes (C) in the frame, holes in the lift arm and holes (D) in the tilt pivot arm.
   f. Replace the lock pins (*A*) into both ends of the down-stop lock bar (*B*).

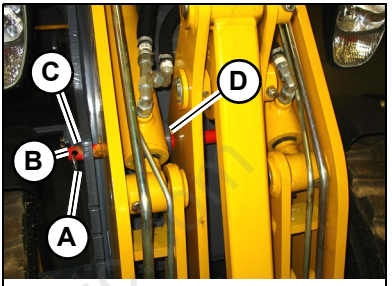


Figure 38 – 306, 206, and MLA-3 Lift Arm Down-Stop

      Important: *Down stop lock bar (B) must pass all the way through holes (C) in the frame, holes in the lift arm and holes (D) in the tilt pivot arm, with spring pins (A) installed in down stop lock bar (B) on outsides of the frame arm.*

5. On models 506 (SN 51931 and up), 406 (SN 41573 and up), MLA-4, and MLA-5:
   a. Press the top of the lift/tilt lockout switch (*D, Fig. 39*), to disable the lift arm lift and attachment tilt hydraulics.

Note: *Press the bottom of the lift/tilt lockout switch to release the lift/tilt lockout.*

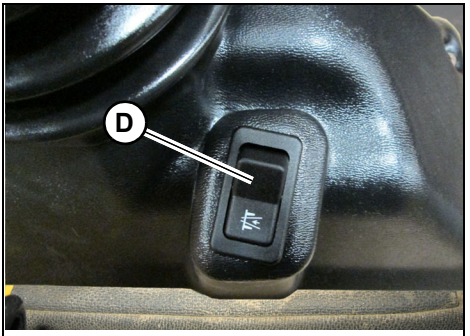


Figure 39 – Lift/Tilt Lockout Switch Models 506 (SN 51931 and up), 406 (SN 41573 and up), MLA-4, and MLA-5

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Check, Clean and Inspect

Service Procedure	Maximum Interval				
	10 Hours (or daily)	50 Hours (or weekly)	Monthly	250 Hours (or every six months)	500 Hours (or annually)
Check coolant system for leaks, dirt and debris; hoses for cracks/damage		x			
Check battery electrolyte level (if applicable)		x			
Check engine and engine mounts		x			
Check for hydraulic system for leaks, proper routing			x		
Check anti-freeze mixture			x		
Check V-belt tension and condition			x		
Check engine cover lock			x		
Check engine idle			x		
Replace fuel filter				x	
Check hinge pins, joint bushings, pivot bolts and bearings					x
Check for exhaust system damage					x
Clean battery terminals					x
Check timing belt					x
Check fuel injectors					x
Check electrical system for damage, wiring routing					x

1. Check before first use and every two hours after tightening until fastener torque stabilizes; every month thereafter.

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Leakage Check

Service Procedure	Maximum Interval				
	10 Hours (or daily)	50 Hours (or weekly)	Monthly	250 Hours (or every six months)	500 Hours (or annually)
Check engine for oil/coolant leaks	x				
Check cooling system for leaks	x				
Check hydraulic system for leaks		x			
Check axles for leaks		x			

Seal and Hose Troubleshooting

Problem	Possible Cause	Corrective Action
Oil, coolant or fuel leakage	Loose hose connection(s)	Tighten hose connections
	Damaged seals or hoses	Change seals/hoses as necessary
Hydraulic fluid leakage	Loose fittings	Tighten hydraulic connections
	Seals, hoses or lines damaged	Change seals, hoses or lines as necessary

Hydraulic System Troubleshooting

Problem	Possible Cause	Corrective Action
Hydraulics do not work or work only at a low performance level	Low hydraulic fluid level	Add hydraulic fluid
	Hydraulic fluid is not warm	Allow longer warm-up
	Engine to pump coupling or hydraulic pump damaged	Contact dealer
	Pressure limiting valves set too low or damaged	Contact dealer
	Hydraulic cylinder damaged	Contact dealer
	Control valves damaged	Contact dealer
	Engine speed is too low	Adjust engine speed—see “Accelerator pedal” on page 55 and “Hand Throttle” on page 64
	Dirty/restricted air filter(s)	Replace filter(s)
	Incorrect fuel grade	Change the fuel—see “Fluid Capacities/Lubricants” on page 33 for proper fuel grade
AL 400 (SN 41573 and up); AL 500 (SN 51931 and up) lift/tilt hydraulics non-functional	Lift/tilt lockout switch in activated position.	Switch the lift/tilt lockout switch to the deactivated position. See “Controls and Switches” on page 54.

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Full Version Available

Mustang AL106, AL206, AL306, AL406 and AL506, Manitou MLA-1, MLA-3, MLA-4 and MLA-5 Articulated Loader Operator Manual

Mustang AL106, AL206, AL306, AL406, AL506 and Manitou MLA-1 to MLA-5 articulated loader operator manual: safety, maintenance, fluids. Instant PDF download.

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