snorkel

AB60J



CE

OPERATOR'S MANUAL

ANSI/CSA/CE/AS/NZS
Replaces 0181972 ANSI February 2020
Replaces 0182099EE CE March 2006

Part Number 0181972
May 2024

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819...
Order the manual at mid-west-tech.com >

Table of Contents

Electrical Danger ..... Inside Front Cover
Proposition 65 Warning ..... Inside Front Cover
Danger Symbols ..... Inside Front Cover
Fall Restraint Lanyard Anchor Points ..... Inside Front Cover
Safety Rules ..... Inside Front Cover

Chapter 1 – Introduction

Aerial Platform Features 1
Options 1
Operator's Manual 1
Safety Alerts 2
Operation 2
Maintenance 2
Used Material Disposal 2
Manual of Responsibilities – ANSI 2
MEWP Safe Use – AS/NZS 3
AS/NZS 1418.10 Commissioning 3
CE Compliance 3
Additional Information 3

Chapter 2 – Specifications

Component Identification 5
Working Envelope 6
General Specifications 7
Engine Specifications 8
Engine Oil Viscosity 10

Chapter 3 – Safety

Electrocution Hazards 13
Minimum Safe Approach Distance – ANSI 13
Minimum Safe Approach Distance – AS/NZS 14
Platform Capacity 14
Manual Force 14
Wind Speeds 14
Prestart Inspection 14
Work Place Inspection and Practices 14
Operation 15
Tip-Over and Falling Hazards 15
Electrical System 16
Hydraulic System 16
Engine and Fuel Handling Precautions 16
Placards and Decals 17
General Safety Rules 17

Chapter 4 – Safety Devices

Emergency Stop Controls 19
Emergency Power System 19
Emergency Lowering Knobs 19
Ground Operation Switch 20
Platform Foot Switch 20
Guardrails 20
Fall Protection Anchors 21
Ground Fault Circuit Interrupter 21
Platform Overload Sensing System 21
Tilt Alarm/Warning Lights 21
Engine Protection Systems 21
High Engine Temperature Alarm 22
Low Oil Pressure Alarm 22
Horn 22
All Motion Alarm 22
Flashing Lights 22
Driving Lights 22
Platform Work Lights 22
Bumpguard System 22
Snorkel Guard 23

Chapter 5 – Gauges and Displays

Diagnostic Center Displays 25
Dual Fuel Engine Display 25
Diagnostic Center/Engine Display 25
Hour Meter 26
Engine Temperature Gauge 26
Ammeter – Continental, Cummins, Ford and Hatz Engines 26
Voltmeter – General Motors Engines 26
Engine Warning Light 26
Engine Air Filter Gauge 26
Fuel Gauge 27
Engine Oil 27
Hydraulic Fluid Filter Gauge 27
Fluid Level and Temperature Gauge 27

Chapter 6 – Controls

Battery Disconnect Switch 29
Lower Controls 29
Emergency Stop Button 29
Control Selector Switch 29
Start Switch 29
Ground Operation Switch 30
Rotation Switch 30
Riser Boom Elevation Switch 30
Main Boom Elevation Switch 30
Boom Extension Switch 30
Jib Articulation Switch 30
Boom Speed Knob 30
Platform Level Switch 31
Platform Rotation Switch 31
Engine/Emergency Power Switch 31
Throttle Switch 31
Fuel Switch 31
Hydraulic System Warm-up Switch 31
Circuit Breaker Reset Buttons 32
Upper Controls 32
Start Switch 32
Emergency Stop Button 32
Drive Joystick 33
Drive Range Switch 33
Boom Joystick 33
Riser Boom Elevation Switch 34
Boom Extension Switch 34
Jib Articulation Switch 34
Platform Level Switch 34
Platform Rotation Switch 34

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

Boom Speed Knob 34
Throttle Switch 34
Engine/Emergency Power Switch 34
Horn 34
Platform Overload Warning Light 35
Override Switch 35
Platform Foot Switch 35
Machine/Generator Switch 35
Hydraulic System Warm-up Switch 35
Dual Fuel 35
Driving and Platform Work Lights 36

Chapter 7 – Prestart Inspection

Operator's Manual Holder 37
Engine 37
Oil Level 37
Coolant 37
Radiator 38
Fuel Tank 38
Fuel Line 39
Air Filter 39
Charging System 39
Cold Weather Start Kit 39
Electrical System 39
Battery Fluid Level 40
Battery Terminals 40
Cables and Wiring Harness 40
Hydraulic System 40
Fluid Level 40
Fluid Filter 41
Hoses, Tubes, and Fittings 41
Tires and Wheels 41
Lower Control Station 41
Operating Controls 42
Emergency Stop 42
Emergency Power 42
Emergency Lowering 42
Level Sensor 43
Flashing Lights 43
Sandblast Protection Kit 44
Structures 44
Weldments 44
Boom Slide Pads 44
Fasteners 44
Pins 45
Lower Lift Cylinder Pin 45
Upper Control Station 45
Guardrail System 45
Fall Protection Anchors 45
Operating Controls 45
Emergency Stop 46
Emergency Power 46
Horn 46
Snorkel Guard 46
Electrical Power Outlet 46
All Motion Alarm 47
Air Line to Platform 47
Driving and Platform Work Lights 47
Tow Kit 47
Platform Glazier Package 47
Platform Control Cover 48
Placards and Decals 48
Inspection and Maintenance Schedules 52
Prestart Inspection Checklist 53

Chapter 8 – Operation

Cold Weather Start Up 55
Engine Cold Weather Start Kit 55
Continental, Cummins, Ford 55
and Kubota— Block Heater 55
General Motors — Radiator Hose In-Line 55
Hydraulic System Cold Weather Warm-Up 55
Hydraulic System Warm-up Switch 55
Manually Warming The Hydraulic System 56
Preparing for Operation 56
Lower Controls 56
Upper Controls 57
Boom Operation 57
Driving and Steering 57
Drive Speeds 58
Platform Overload Sensing System 58
Snorkel Guard 59
Override Switch 59
Gradeability 59
Percent vs. Degree of Slope 60
Driving on a Slope 60
Calculating Percent Grade 60
Machine Gradeability 61
All Motion Alarm 61
Four Wheel Drive 61
Electrical Power Outlet 61
AC Generator 61
Dual Fuel 62
Air Line 62
Driving Lights 62
Platform Work Lights 62
Platform Glazier Package 63
Platform Capacity 63
Bumpguard System 63

Chapter 9 – Stowing and Transporting

Stowing 65
Transporting 65
Driving 65
Winching 66
Hoisting 66
Securing for Transport 67
Storage 68

Chapter 10 – Emergency Operation

Emergency Power System 69
Lower Controls 69
Upper Controls 69
Override Switch 70
Riser Boom 70
Main Boom 71
Towing 71

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

Chapter 11 – Troubleshooting
Troubleshooting Chart 73

Appendix A – Glossary

Appendix B – Inspection Checklists

Limited Warranty

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

Engine Specifications

Engine	CID	Fuel Grade	Coolant	Operating Temperature	Oil Capacity	Oil Grade
Continental TM27	79.3 cu. in. (1.3 liter)[3]	**Gasoline** Unleaded gasoline 85 octane (motor method)[1] **LPG** Gas Processors Association Standard 2140[1] Category: special duty propane	50% Water 50% Antifreeze[2]	180°F to 202°F 81°C to 94°C	6 US qt (5.7 liter)[3]	API: SE, SF, SE/CD SF/CD[3]
Cummins B3.3	199 cu. in. (3.26 liter)[3]	**Diesel** ASTM No. 2D fuel with a minimum Cetane number of 40.[1] For operating temperatures below 32°F (0°C) use winterized No. 2D.	50% Water 50% Antifreeze[2]	140°F to 212°F 60°C to 100°C	2 gal (7.5 liter)[3] total 1.6 qt (1.5 liter)[3] Low to High	API CH4[3]
Cummins 4B3.9	239 cu. in. (3.9 liter)[3]	**Diesel** ASTM No. 2D fuel with a minimum Cetane number of 40.[1] For operating temperatures below 32°F (0°C) use winterized No. 2D.	50% Water 50% Antifreeze[2]	140°F to 212°F 60°C to 100°C	2.5 gal (9.4 liter)[3]	SAE 5W-30[3] API: CE/SF CD/SF[3]
Ford LRG 423	79.3 cu. in. (1.3 liter)[3]	**Gasoline** Unleaded gasoline 85 octane (motor method)[1] **LPG** Gas Processors Association Standard 2140[1] Category: special duty propane	50% Water 50% Antifreeze[2]	160°F to 190°F 71°C to 88°C	4 US qt (3.8 liter)[3]	**Gasoline** API: SH SG only if SH is not available[3] **LPG** SG or SH[3]

Note 1: Refer to the engine manufacturers manual for specific fuel recommendations and specifications.

Note 2: Refer to the engine manufacturers manual for specific coolant recommendations and specifications.

Note 3: Refer to the engine manufacturers manual for specific lubricating oil recommendations and specifications.

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

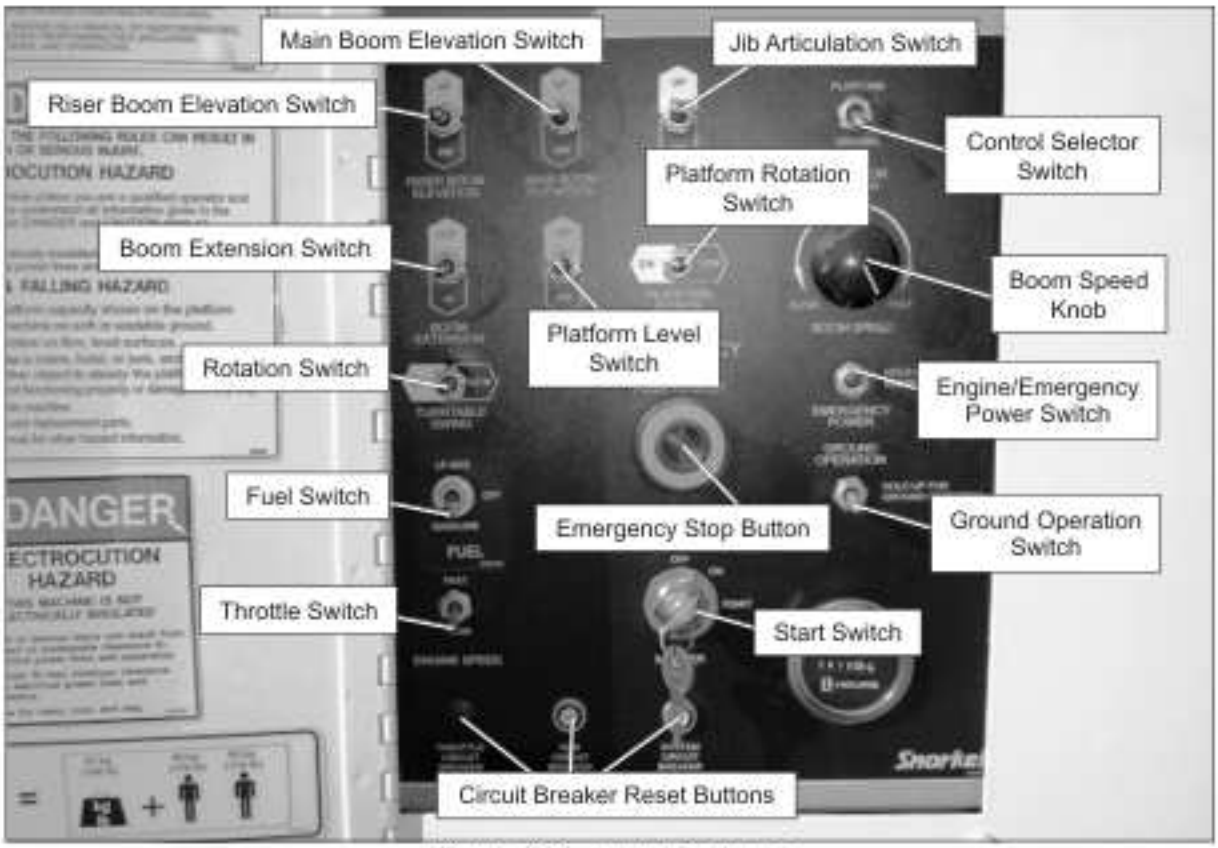


Figure 6.2 – Lower Controls

Ground Operation Switch

The ground operation switch (refer to Figure 6.2) is used to operate the machine from the lower controls. The switch is spring returned to the off position.

- Hold the ground operation switch upward continually to operate the machine from the lower controls.
- The engine speed increases when the switch is held upward.

Rotation Switch

The rotation switch (refer to Figure 6.2) is used to rotate the turntable in a clockwise or counterclockwise direction. The switch is spring returned to the center off position.

- Hold the switch to the left to rotate the turntable clockwise.
- Hold the switch to the right to rotate the turntable counterclockwise.

Riser Boom Elevation Switch

The riser boom elevation switch (refer to Figure 6.2) is used to raise or lower the riser boom. The switch is spring returned to the center off position.

- Hold the switch upward to raise the riser boom.
- Hold the switch downward to lower the riser boom.

Main Boom Elevation Switch

The main boom elevation switch (refer to Figure 6.2) is used to raise or lower the main boom. The switch is spring returned to the center off position.

- Hold the switch upward to raise the main boom.
- Hold the switch downward to lower the main boom.

Boom Extension Switch

The boom extension switch (refer to Figure 6.2) is used to extend or retract the tip boom. The switch is spring returned to the center off position.

- Hold the switch upward to extend the tip boom.
- Hold the switch downward to retract the tip boom.

Jib Articulation Switch

The jib switch (refer to Figure 6.2) is used to raise or lower the jib. The switch is spring returned to the center off position.

- Hold the switch upward to raise the jib.
- Hold the switch downward to lower the jib.

Boom Speed Knob

The boom speed knob (refer to Figure 6.2) is used to control the speed of the following boom functions:

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

Frequent Maintenance – Every 90 Days or 150 Hours

Components	Service Required	Recommended Lubricant or Further Instructions
Daily maintenance	Perform maintenance as per schedule	
Preventive inspection maintenance checklist	Perform inspection, complete form	Retain copy of checklist
Placards and decals inspection	Inspect using drawing and parts listing in section 1 (repair parts)	Replace any missing or unreadable decals/placards
Door hinges and latches	Lubricate	Spray lubricant
Rotation bearing	Lubricate	Extreme Pressure Grease Above 10° F NLGI Grade 2 Below 10° F NLGI Grade 1
Rotation bearing teeth & pinion	Lubricate	Open gear lubricant ASTM D 445
Tie rods	Lubricate	Extreme Pressure Grease Above 10° F NLGI Grade 2 Below 10° F NLGI Grade 1
Gear hubs	Check fluid level, fill ifl ow	Gear lubricant SAE Grade 80W-90
Swing drive	Check fluid level, fill ifl ow	Gear lubricant SAE Grade 80W-90
Platform rotator	Check smooth operation	Repair or replace if not working properly See Note below.
Platform controller	Check smooth operation & speeds	
Batteries	Check specific gravity	1.260/1.275 at 80° F.
Hydraulic return filter	Check condition	Replace if dirty
Engine RPM	Check for proper engine RPM	See engine manufactures owner's manual
Engine oil and filter	Replace per engine owners manual	
Engine fuel filter	Check condition	Replace every 6 months or if dirty

Note: Hydraulic fluid level should be between the minumum and maximum level as indicated on the reservoir.

Above 10° F (-13° C)
ISO VG32
Below 10° F (-13° C)
ISO VG15

Performed by: _____ Date: _____

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

SAFETY RULES

⚠Warning

All personnel shall carefully read, understand and follow all safety rules and operating instructions before operating or performing maintenance on any Snorkel aerial work platform.

Electrocution Hazard	Tip Over Hazard	Collision Hazard	Fall Hazard
			
THIS MACHINE IS NOT INSULATED!	**NEVER** elevate the platform or drive the machine while elevated unless the machine is on a firm, level surface	**NEVER** position the platform without first checking for overhead obstructions or other hazards.	**NEVER** climb, stand, or sit on platform guardrails or midrail.

USE OF THE AERIAL WORK PLATFORM: This aerial work platform is intended to lift persons and his tools as well as the material used for the job. It is designed for repair and assembly jobs and assignments at overhead workplaces (ceilings, cranes, roof structures, buildings etc.). Uses or alterations to the aerial work platform must be approved by **Snorkel**.

THIS AERIAL WORK PLATFORM IS NOT INSULATED! For this reason it is imperative to keep a safe distance from live parts of electrical equipment!

Exceeding the specified permissible maximum load **is prohibited!** See "Platform Capacity" for details.

The use and operation of the aerial work platform as a lifting tool or a crane **is prohibited!**

NEVER exceed the manual force allowed for this machine. See "Manual Force" for details.

DISTRIBUTE all platform loads evenly on the platform.

NEVER operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps, curbs, or debris; and avoiding them.

OPERATE machine only on surfaces capable of supporting wheel loads.

NEVER operate the machine when wind speeds exceed this machine's wind rating. See "Beaufort Scale" for details.

Do not operate the aerial platform in windy or gusty conditions. Do not add anything to or take anything into the aerial platform that will increase the wind loading such as billboards, banners, flags, etc.

IN CASE OF EMERGENCY push EMERGENCY STOP switch to deactivate all powered functions.

IF ALARM SOUNDS while platform is elevated, STOP, carefully lower platform. Move machine to a firm, level surface.

Climbing up the railing of the platform, standing on or stepping from the platform onto buildings, steel or prefab concrete structures, etc., **is prohibited!**

Dismantling the entry gate or other railing components **is prohibited!** Always make certain that the entry gate is closed!

It is prohibited to keep the entry gate in an open position when the platform is raised!

To extend the height or the range by placing of ladders, scaffolds or similar devices on the platform **is prohibited!**

NEVER perform service on machine while platform is elevated without blocking elevating assembly.

INSPECT the machine thoroughly for cracked welds, loose or missing hardware, hydraulic leaks, loose wire connections, and damaged cables or hoses before using.

VERIFY that all labels are in place and legible before using.

NEVER use a machine that is damaged, not functioning properly, or has damaged or missing labels.

To bypass any safety equipment **is prohibited** and presents a danger for the persons on the aerial work platform and in its working range.

NEVER charge batteries near sparks or open flame. Charging batteries emit explosive hydrogen gas.

Modifications to the aerial work platform **are prohibited** or permissible only at the approval by **Snorkel**.

AFTER USE, secure the work platform from unauthorized use by turning the keyswitch off and removing key.

The driving of MEWP's on the public highway is subject to national traffic regulations.

Certain inherent risks remain in the operation of this machine despite utilizing proper design practices and safeguarding.

Harness attachment points are provided in the platform and the manufacturer recommends the usage of a fall restraint harness, especially where required by national safety regulations.

Care must be taken to ensure that the machines meets the requirements of stability during use, transportation, assembly, dismantling when out of service, testing, or foreseeable breakdowns.

In the event of an accident or breakdown see "Emergency Operation." Do not operate the aerial platform if it is damaged or not functioning properly. Qualified maintenance personnel must correct the problem before putting the aerial platform back into service.

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >

Minimum Safe Approach Distance – AS/NZS

Minimum safe approach distances to energized power lines and their associated parts must be observed while operating the aerial platform.

⚠Danger

The aerial platform is not electrically insulated. Death or serious injury will result from contact with, or inadequate clearance from, an energized conductor. Do not go closer than the minimum safe approach distance as defined by national safety regulations.

AS/NZS 2550.10:2006 define minimum distances that must be observed when working near overhead power lines on poles and overhead power lines on towers. Refer to the clearance requirements decals on the machine to determine safe approach distances (refer to Figure 1).

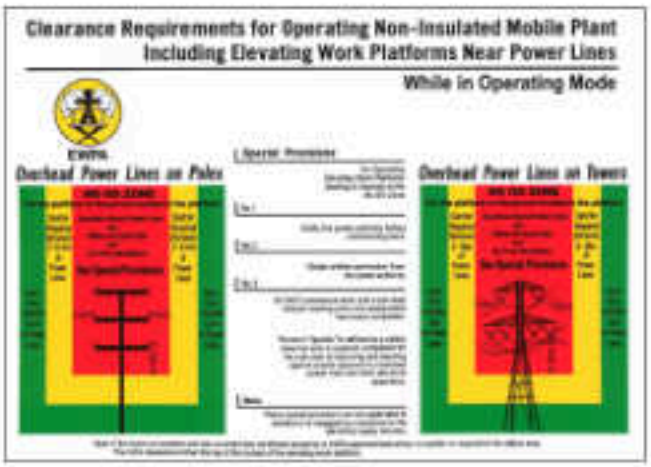


Figure 1 – Minimum Safe Approach Distance

Platform Capacity

Two people and their work materials may occupy the platform.

⚠Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not exceed the capacity values indicated on the machine decals, placards, and in the machine specifications in this manual.

The maximum unrestricted rated load capacity and the maximum number of occupants for the aerial platform are stated on machine decals, placards, and in the machine specifications in this manual.

Manual Force

Manual force is the force applied by the occupants to objects such as walls or other structures outside the work platform.

⚠Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not exceed the maximum allowable manual force indicated on the machine decals, placards, and in the machine specifications in this manual.

The maximum allowable manual force is limited to 150 lb (667 N) of force.

Wind Speeds

Do not add anything to the aerial platform that will increase the wind loading such as billboards, banners, flags, etc.

⚠Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not operate the machine in wind speeds of 28 mph (12.5 m/s) or greater.

Do not operate the aerial platform in windy conditions with wind gusts or steady wind speeds of 28 mph (12.5 m/s) or greater. Refer to Figure 2.

Prestart Inspection

Perform a prestart inspection before each shift as described in Chapter 7. Do not use the aerial platform on the job unless you are trained and authorized to do so.

Work Place Inspection and Practices

Do not use the aerial platform as a ground connection when welding.

- The welding ground clamp must be attached to the same structure that is being welded.
- Electrical current flow can be very intense, causing serious internal damage to some components.

BEAUFORT RATING	WIND SPEED				GROUND CONDITIONS
	m/s	km/h	ft/s	mph	
3	3,4~5,4	12,25~19,4	11.5~17.75	7.5~12.0	Papers and thin branches move, flags wave.
4	5,4~8,0	19,4~28,8	17.75~26.25	12.0~18	Dust is raised, paper whirls up, and small branches sway.
5	8,0~10,8	28,8~38,9	26.25~35.5	18~24.25	Shrubs with leaves start swaying. Wave crests are apparent in ponds or swamps.
6	10,8~13,9	38,9~50.0	35.5~45.5	24.5~31	Tree branches move. Power lines whistle. It is difficult to open an umbrella.
7	13,9~17.2	50,0~61,9	45.5~56.5	31.~38.5	Whole trees sway. It is difficult to walk against the wind.

Figure 2 – Beaufort Scale

MidWestTech | Snorkel AB60J Articulating Boom Lift Operator's Manual | Publication 01819... Order the manual at mid-west-tech.com >