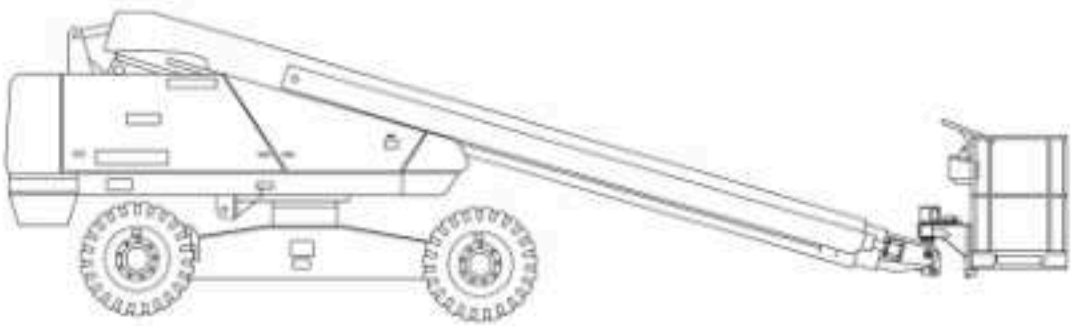
snorkel

TB42
TB50



OPERATOR'S MANUAL

Part Number 0074923
August 2018

Replaces 0074923 July 2014

MidWestTech | Snorkel TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >

Table of Contents

Electrical Danger ..... Inside Front Cover
California Proposition 65 ..... Inside Front Cover

Chapter 1 – Introduction
Aerial Platform Features 1
Options 1
Operator's Manual 1
Safety Alerts 2
Operation 2
Maintenance 2
Manual of Responsibilities 2
Additional Information 2

Chapter 2 – Specifications
Component Identification 3
Working Envelope – TB42 4
Working Envelope – TB50 5
General Specifications – TB42 6
General Specifications – TB50 7
Engine Specifications 8
Engine Oil Viscosity 10

Chapter 3 – Safety
Electrocution Hazards 13
Minimum Safe Approach Distance 13
Prestart Inspection 14
Work Place Inspection and Practices 14
Operation 14
Tip-Over and Falling Hazards 15
Electrical System 15
Hydraulic System 15
Engine and Fuel Handling Precautions 16
Placards and Decals 16

Chapter 4 – Safety Devices
Emergency Stop Controls 17
Emergency Power System 17
Emergency Lowering Knob 18
Ground Operation Switch 18
Platform Foot Switch 18
Guardrails 18
Lanyard Anchors 18
Ground Fault Circuit Interrupter 19
Tilt Alarm 19
Engine Protection Systems 19
- High Engine Temperature Alarm 19
- Low Oil Pressure Alarm 19

Horn 20
All Motion Alarm 20
Flashing Light 20
Driving Lights 20
Platform Work Lights 20

Chapter 5 – Gauges and Displays
Hour Meter 21
Engine Temperature Gauge 21
Ammeter – Cummins/Deutz/Ford Engines 21
Voltmeter – General Motors Engines 21
Engine Air Filter Gauge 21
Fuel Gauge 21
Engine Oil 22
Hydraulic Fluid Filter Gauge 22
Fluid Level and Temperature Gauge 22

Chapter 6 – Controls
Battery Disconnect Switch 23
Lower Controls 23
- Emergency Stop Button 23
- Control Selector Switch 23
- Start Switch 23
- Ground Operation Switch 24
- Rotation Switch 24
- Boom Elevation Switch 24
- Boom Extend/Retract Switch 24
- Boom Speed Knob 24
- Platform Level Switch 25
- Platform Rotation Switch 25
- Engine/Emergency Power Switch 25
- Throttle Switch 25
- Fuel Switch 25
- Hydraulic System Warm-up Switch 25

Circuit Breaker Reset Buttons 26
Upper Controls 26
- Start Switch 26
- Emergency Stop Button 27
- Drive Joystick 27
- Drive Range Switch 27
- Boom Joystick 28
- Boom Extension Switch 28
- Platform Level Switch 28
- Platform Rotation Switch 28
- Boom Speed Knob 28
- Throttle Switch 28
- Engine/Emergency Power Switch 28

Platform Foot Switch 29
Machine/Generator Switch 29
Hydraulic System Warm-up Switch 29
Driving and Platform Work Lights 29
Horn Button 30

MidWestTech | Snorkel TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >

Chapter 7 – Prestart Inspection

Operator's Manual....31
Engine....31
Oil Level....31
Coolant....31
Radiator....32
Fuel Tank....32
Fuel Line....33
Air Filter....33
Charging System....33
Cold Weather Start Kit....33
Electrical System....34
Battery Fluid Level....34
Battery Terminals....34
Cables and Wiring Harness....34
Hydraulic System....34
Fluid Level....34
Fluid Filter....35
Hoses, Tubes, and Fittings....35
Tires and Wheels....35
Lower Control Station....36
Operating Controls....36
Emergency Stop....36
Emergency Power....36
Emergency Lowering....36
Level Sensor....37
Flashing Light....37
Sandblast Protection Kit....38
Structures....38
Weldments....38
Slide Pads....38
Wire Ropes....38
Fasteners....39
Upper Control Station....39
Guardrail System....39
Lanyard Anchors....40
Operating Controls....40
Emergency Stop....40
Emergency Power....40
Horn....41
Electrical Power Outlet....41
All Motion Alarm....41
Air Line to Platform....41
Driving and Platform Work Lights....41
Tow Kit....42
Platform Glazier Package....42
Platform Control Cover....42
Placards and Decals....42
Prestart Inspection Checklist....49

Chapter 8 – Operation

Cold Weather Start Up....51
Engine Cold Weather Start Kit....51
Cummins, Kubota and Ford – Block Heater....51
Cummins – Ether Injection....51
Deutz – Manifold Preheater....52
GM – Radiator Hose In-Line....52
Hydraulic System Cold Weather Warm-Up....52
Hydraulic System Warm-up Switch....52
Manually Warming The Hydraulic System....52
Preparing for Operation....52
Lower Controls....52
Upper Controls....53
Boom Operation....54
Driving and Steering....54
Drive Speeds....55
Motion Warning Alarm....55
Four Wheel Drive....55
Gradeability....55
Percent vs. Degree of Slope....56
Driving on a Slope....56
Calculating Percent Grade....56
Machine Gradeability....57
All Motion Alarm....57
Four Wheel Drive....57
Electrical Power Outlet....57
AC Generator....57
Dual Fuel....58
Air Line....58
Driving Lights....58
Platform Work Lights....58
Platform Glazier Package....59
Platform Capacity....59

Chapter 9 – Stowing and Transporting

Stowing....61
Transporting....61
Driving....61
Winching....62
Hoisting....62
Securing for Transport....63

Chapter 10 – Emergency Operation

Emergency Power System....65
Lower Controls....65
Upper Controls....65
Emergency Lowering....66
Towing....67

Chapter 11 – Troubleshooting

Troubleshooting Chart....69
Fuel Line Air Bleeding – Kubota V2403-M-T....73

Appendix A – Glossary

Limited Warranty

MidWestTech | Snorkel TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >

Engine Specifications – Diesel

Engine	Displacement	Fuel Grade	Coolant	Operating Temperature	Oil Capacity	Oil Grade
Cummins B3.3	199 cu. in. (3.26 liter)	**Diesel** ASTM No. 2D fuel with a minimum Cetane no. of 40.[1] For operating temperature below 0°C (32°F) use winterized No. 2D.	50% Water 50% Antifreeze[2]	140°F to 212°F 60°C to 100°C	2 US gal (7.5 liter)[3]	SAE 15W-40[3] API CH4/SG
Deutz F3L-2011F	125 cu. in. (2.0 liter)[3]	**Diesel** • DIN 51 601 (February 1986).[1] • BS 2869: A1 and A2 (with A2 refer to Deutz manual about sulfur content)[1] • ASTM D 975-88: 1-D and 2-D • CEN EN 590 or DIN EN 590 • NATO Code F-54 and F-75 • For operating temperatures below 0°C (32°F) use winter grade diesel.	Air	172°F to 203°F 78°C to 95°C	1.59 US gal (6.0 liter)	API: CD or higher[3]
Deutz F3L-1011F	125 cu. in. (2.0 liter)[3]	**Diesel** • DIN 51 601 (February 1986).[1] • BS 2869: A1 and A2 (with A2 refer to Deutz manual about sulfur content)[1] • ASTM D 975-88: 1-D and 2-D • CEN EN 590 or DIN EN 590 • NATO Code F-54 and F-75 • For operating temperatures below 0°C (32°F) use winter grade diesel.	Air	172°F to 203°F 78°C to 95°C	6 US qt (5.7 liter)	API: CC/SE CC/SF CD/SE CD/SF CE/SF CE/SG[3]
Kubota V2403-M-T	148.5 cu. in. (2.43 liter)	**Diesel** Diesel Fuel No. 2-D ASTM D975[1]	50% water 50% Antifreeze[2]	NA	2.51 gal (9.5 liter)	API: CF grade or higher[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 TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >

⚠Danger

Pinch points may exist between moving components. Death or serious injury can result from being trapped between components, buildings, structures, or other obstacles. Make sure all personnel stand clear while operating the aerial platform.

- Controls to position the platform are located on the lower control panel on the turntable and on the upper control panel in the platform.
- Controls to drive the aerial platform are located on the upper control panel only.

Battery Disconnect Switch

The battery disconnect is located behind the door on the left side of the turntable above the batteries (refer to Figure 6.1).

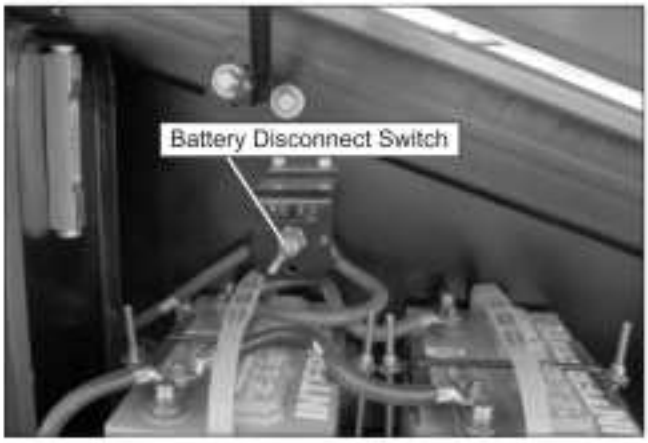


Figure 6.1 – Battery Disconnect Switch

The battery disconnect removes electrical power from all electrically controlled functions when in the off position.

- Place the switch in the on position to electrically connect the battery to the electrical system.

⚠Caution

Only authorized personnel should operate the aerial platform. Unqualified personnel may cause injury to coworkers or property damage. Lock the battery disconnect switch in the off position before leaving the aerial platform unattended.

- Turn the battery disconnect switch off to prevent unauthorized use of the aerial platform.

Lower Controls

The lower controls (refer to Figure 6.2) are located on the right side of the turntable. Boom and platform functions can be operated from the lower controls.

The following are located on the lower control panel:

- Emergency stop button
- Control selector switch
- Start switch
- Ground operation switch
- Rotation switch
- Boom elevation switch
- Boom extend/retract switch
- Boom speed knob
- Platform level switch
- Platform rotation switch
- Engine/emergency power switch
- Throttle switch
- Fuel switch (dual fuel machines)

Emergency Stop Button

The emergency stop button (refer to Figure 6.2) is a two-position, red push button.

- Push the button inward to disconnect power to all control circuits.
- Pull the button outward to restore power.

On older machines, the emergency stop is a two-position toggle switch with a red safety guard.

- Push the guard down over the toggle switch to disconnect power to all control circuits
- Lift the guard and push the toggle switch up to restore power.

Control Selector Switch

Use the control selector switch (refer to Figure 6.2) to select between the lower control and upper control operation.

- Push the switch upward to operate the aerial platform from the upper controls.
- Push the switch downward to operate the aerial platform from the lower controls.

Start Switch

The start switch (refer to Figure 6.2) works like an automobile ignition switch.

- Hold the switch in the start position until the engine starts, then release it to on.
- If the engine dies, the switch must be turned to off before it can be turned back to start.

An alarm sounds, when the switch is turned on, to warn others that the machine engine is being started.

MidWestTech | Snorkel TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >

To inspect the fuel tank:

1. Open the doors on the right side of the chassis to access the fuel gauge.
2. Check fuel level indicated on the gauge.
3. If necessary, remove the cap and add fuel.

Note
Refer to Chapter 2 for fuel grade specifications.

4. Make sure the cap is securely fastened.

Use the following procedure to change the LPG tank.

1. Close the shutoff valve (refer to Figure 7.6).

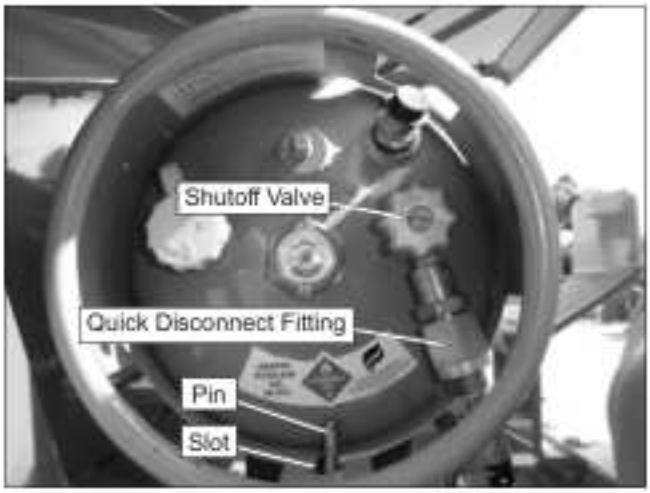


Figure 7.6 – LPG Tank

2. Remove the fuel line from the tank using the quick disconnect fitting.
3. Pull on each latch to release the straps from the tank.
4. Carefully lift the tank from the cradle.
5. Place a full tank in the cradle, making sure the slot in the tank aligns with the pin.
6. Latch both straps to secure the tank.
7. Connect the fuel line and open the shutoff valve.

Fuel Line
To inspect the fuel line:

1. Visually inspect the entire length of the fuel line starting at the fuel tank.
2. Trace the line to the engine, inspecting for leaks and damage.

Air Filter
The air filter gauge (refer to Figure 7.7) has an indicator to show when the filter needs replaced.

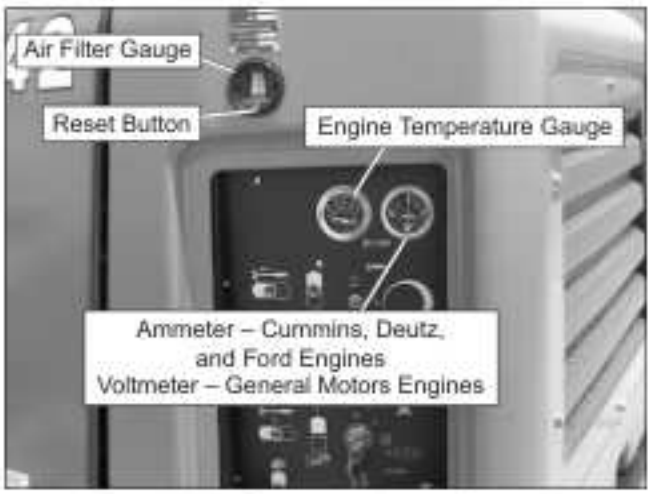


Figure 7.7 – Gauges at Lower Controls

To inspect the air filter:

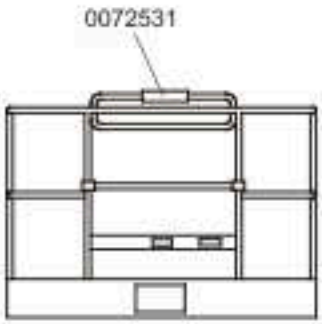
1. Turn the battery disconnect switch on and close the cowling door.
2. On dual fuel machines, set the fuel switch to either LPG or gasoline.
3. At the lower controls, pull the emergency stop button outward.
4. Insert the key into the start switch and turn the engine on.
5. Check the clear zone after running the engine for 30 seconds.
   - If the indicator is in the red area, replace the filter.
   - If the indicator is in the clear area, the filter is OK.
6. Shut off the engine.

Charging System
When the engine is running, the ammeter needle (refer to Figure 7.7) should be to the right of "0." Left of the "0" is discharging.

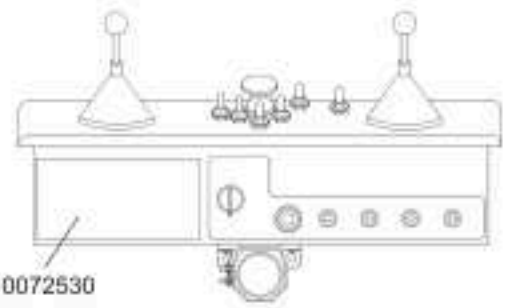
On machines with General Motors engines, when the engine is running, the voltmeter should indicate between 12.5 and 14 volts.

Cold Weather Start Kit
If the machine is equipped with an optional engine block heater, radiator hose in-line heater, visually inspect the heater and power cord. Inspect for leaks around the heater and for damage to the power cord.

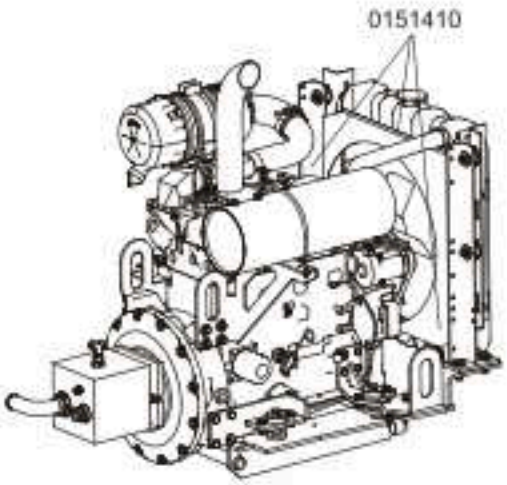
MidWestTech | Snorkel TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >



Platform



Upper Control Panel Front



Radiator



Platform Glazier Package



0072531



0072530



0151410



0421078



0421077

MidWestTech | Snorkel TB42, TB50 Telescopic Boom Lift Operator's Manual | Publication 0... Order the manual at mid-west-tech.com >