



An Oshkosh Corporation Company

Operation and Safety Manual

Original Instructions - Keep this manual with the machine at all times.

Boom Lift Models

450A Series II

450AJ Series II

Prior to S/N 0300160835 -

S/N E0300001114

510AJ

Prior to S/N E300001115

ANSI

CE



3121179

August 1, 2016

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NOTICE

DO NOT OPERATE THE MACHINE WHEN WIND CONDITIONS EXCEED 28 MPH (12.5 M/S).

Table 1-2. Beaufort Scale (For Reference Only)

Beaufort Number	Wind Speed		Description	Land Conditions
	mph	m/s		
0	0	0-0.2	Calm	Calm. Smoke rises vertically
1	1-3	0.3-1.5	Light air	Wind motion visible in smoke
2	4-7	1.6-3.3	Light breeze	Wind felt on exposed skin. Leaves rustle
3	8-12	3.4-5.4	Gentle breeze	Leaves and smaller twigs in constant motion
4	13-18	5.5-7.9	Moderate breeze	Dust and loose paper raised. Small branches begin to move.
5	19-24	8.0-10.7	Fresh breeze	Smaller trees sway.
6	25-31	10.8-13.8	Strong breeze	Large branches in motion. Flags waving near horizontal. Umbrella use becomes difficult.
7	32-38	13.9-17.1	Near Gale/Moderate Gale	Whole trees in motion. Effort needed to walk against the wind.
8	39-46	17.2-20.7	Fresh Gale	Twigs broken from trees. Cars veer on road.
9	47-54	20.8-24.4	Strong Gale	Light structure damage.

SECTION 2 - USER RESPONSIBILITIES, MACHINE PREPARATION, AND INSPECTION

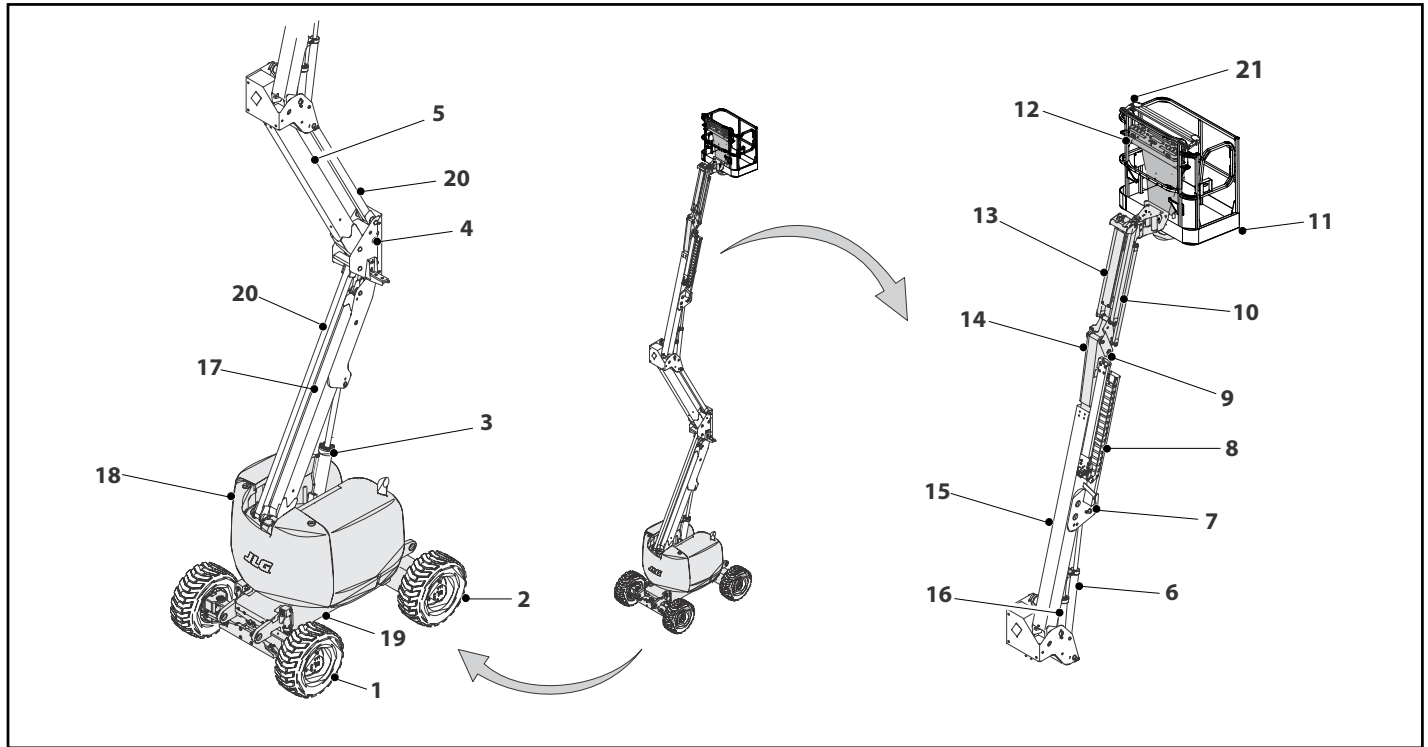


Figure 2-1. Basic Nomenclature - Sheet 1 of 2

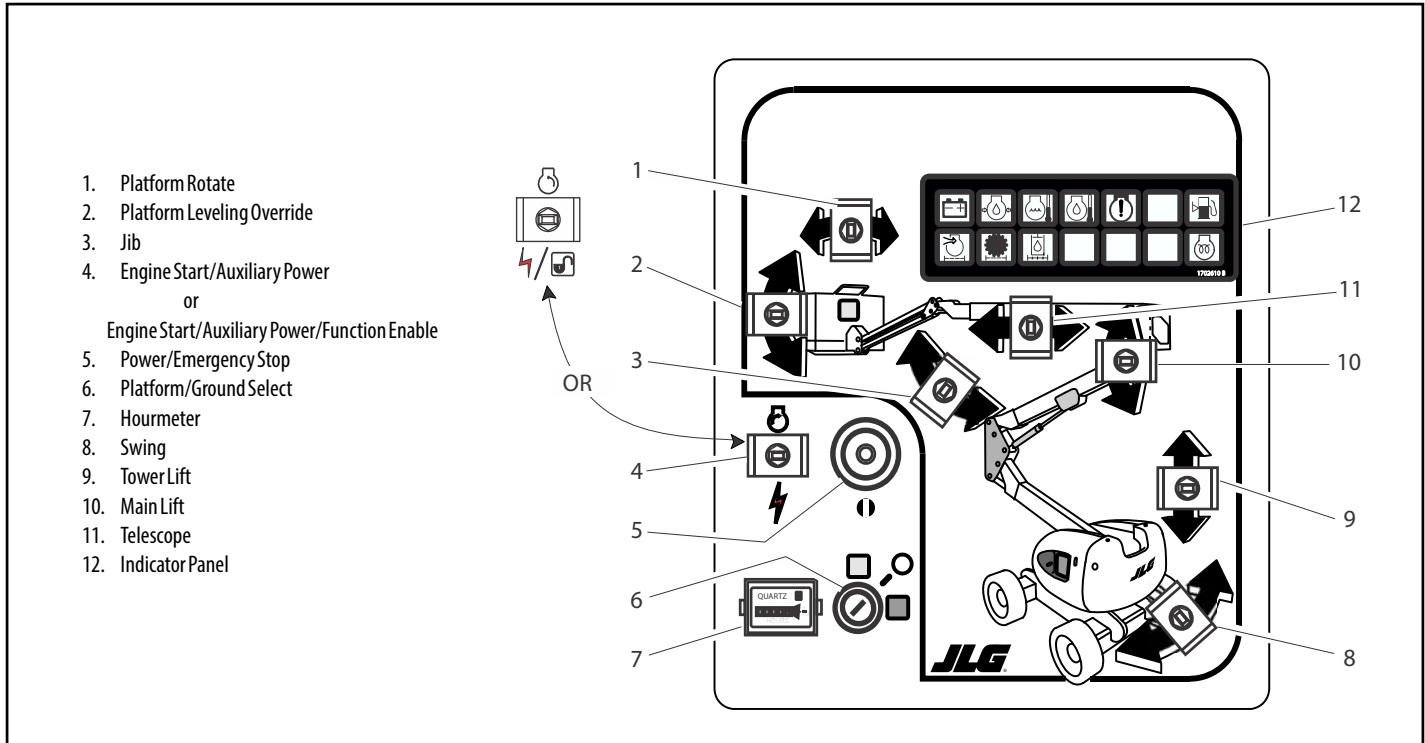


Figure 3-1. Ground Control Station - AJ Models

13. Function Speed Control

Controls the speed of Boom and Swing Functions. Rotate CCW for slower speed and CW for faster speed. To adjust to creep, turn knob fully CCW until it clicks.

14. Main Lift/Swing

The dual axis joystick is provided for main lift and swing. Push forward to lift up, pull backward to lower. Move right to swing right, move left to swing left. Proportional control of these functions can be attained by using the Function Speed control.

NOTE: *Main lift and swing functions may be selected at the same time. Maximum speed is reduced when both functions are selected.*

15. Drive Orientation Override

When the boom is swung over the rear tires or further in either direction, the Drive Orientation indicator will illuminate when the drive function is selected. Push and release the switch, and within 3 seconds move the Drive/Steer control to activate drive or steer. Before driving, locate the black/white orientation arrows on both the chassis and the platform controls and match the control direction arrow to the intended chassis direction.

16. Soft Touch/SkyGuard Override Switch (If Equipped)

The machine can be equipped with one of three options. It may have Soft Touch, SkyGuard, or both Soft Touch and SkyGuard.

If equipped with Soft Touch, the switch enables the functions that were cut out by the Soft Touch system to operate again at creep speed, allowing the operator to move the platform away from the obstacle that caused the shutdown situation.

If equipped with SkyGuard, the switch enables functions cut out by the Skyguard system to be operated again, allowing the operator to resume use of machine functions.

If equipped with both Soft Touch and SkyGuard, the switch

2. After engine has had sufficient time to warm up, shut engine off.
3. Turn SELECT switch to PLATFORM.
4. From Platform, pull POWER/EMERGENCY STOP switch out, then push the ENGINE START switch until engine starts.

NOTE: *Footswitch must be in released (up) position before starter will operate. If starter operates with footswitch in the depressed position, DO NOT OPERATE MACHINE.*

Shutdown Procedure

CAUTION

IF AN ENGINE MALFUNCTION CAUSES AN UNSCHEDULED SHUTDOWN, DETERMINE THE CAUSE AND CORRECT IT BEFORE RESTARTING THE ENGINE.

1. Remove all load and allow engine to operate at low speed for 3-5 minutes; this allows further reduction of internal engine temperature.
2. Push POWER/EMERGENCY STOP switch in.
3. Turn MASTER switch to Off.

Refer to Engine Manufacturer's manual for detailed information.

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4.13 TOWING

⚠ WARNING

RUNAWAY VEHICLE/MACHINE HAZARD. MACHINE HAS NO TOWING BRAKES. TOWING VEHICLE MUST BE ABLE TO CONTROL MACHINE AT ALL TIMES. ON-HIGHWAY TOWING NOT PERMITTED. FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE SERIOUS INJURY OR DEATH.

MAXIMUM TOWING SPEED 5 M.P.H. (8 K.M.H.) FOR NO LONGER THAN 30-45 MINUTES.

MAXIMUM TOWING GRADE 25%.

Prior to Towing

Prior to towing the machine, complete the following:

⚠ CAUTION

DO NOT TOW MACHINE WITH ENGINE OPERATING OR DRIVE HUBS ENGAGED.

1. Retract, lower and position boom over rear drive wheels in line with direction of travel.

2. Disconnect drive hubs by inverting disconnect cap. (See Figure 4-5.) After towing the machine, complete the following:
3. Reconnect drive hubs by inverting disconnect cap. (See Figure 4-5.)

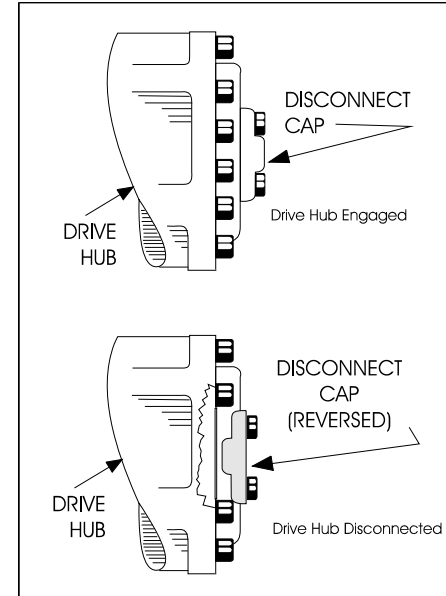


Figure 4-5. Drive Disconnect Hub

Table 4-2. Decal Legend - Prior to S/N 0300141424

Item #	ANSI 0272573-11	Australian 0272574-6	Japan 0272575-10	Korean 0272576-10	French/ 0272577-12	Chinese 0272578-10	Portuguese/ Spanish 0272579-11	CE 0273452-4	English/ Spanish 0271189-7
17	--	--	--	--	--	--	--	--	--
18	1701504	1701504	1701504	1701504	1701504	1701504	1701504	1701504	1701504
19	--	--	--	--	1704006	--	1704008	--	1704007
20	1702631	1702631	1702631	1702631	1702631	1702631	1702631	1702631	1702631
21	--	--	--	--	--	--	--	--	--
22	--	1702958	--	--	--	--	--	--	--
23	1701509	1701509	1701509	1701509	1701509	1701509	1701509	1701509	1701509
24	1702300	1702300	1702300	1702300	1702300	1702300	1702300	1702300	1702300
25	1701500	1701500	1701500	1701500	1701500	1701500	1701500	1701500	1701500
26	1701529	1701529	1701529	1701529	1701529	1701529	1701529	1701529	1701529
27	--	--	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--	--	--
32	--	--	--	--	--	--	--	--	--
33	--	--	--	--	--	--	--	--	--
34	3252347	--	1703980	1703981	1703984	1703982	1703985	1705828	1703983

Table 6-3. Operating Specifications - 510AJ

Unrestricted Rated Capacity	500 lb (230 kg)
Maximum Capacity	500 lb (230 kg)
Maximum Travel Grade (Gradeability) with Boom retracted and approximately horizontal. Tower Boom fully lowered (if equipped).	45%
Maximum Travel Grade (Sideslope) with Boom retracted and approximately horizontal. Tower Boom fully lowered (if equipped) - ANSI Markets.	5°
Maximum Travel Grade (Sideslope) with Boom retracted and approximately horizontal. Tower Boom fully lowered (if equipped) - CE & Australia Markets.	4°
Maximum Drive Speed:	4.5 mph (2.0 m/s)
Maximum Hyd. Operating Pressure	4500 psi (310 bar)
Electrical System Voltage	12 volts
Gross Machine Weight	16,104 lb (7305 kg)

Reach Specifications

Table 6-4. Reach Specifications - 450

Max. Platform Height	45ft (13.72 m)
Max. Horizontal Reach	24.5ft (7.47 m)
Up & Over Height	25ft 2 in (7.7 m)
Main Boom Up Angle	75°
Main Boom Down Angle	-24°

Table 6-5. Reach Specifications - 510

Max. Platform Height	51.8 ft (15.81 m)
Platform Rotation	180°
Max. Horizontal Reach	31.1 ft (9.48 m)
Up & Over Height	24.08 ft (7.34 m)
Jib Length	4.5 ft (1.37 m)
Jib Angle	135° (+70°, -65°)

SECTION 6 - GENERAL SPECIFICATIONS & OPERATOR MAINTENANCE

Table 6-26. Exxon Unavis HVI 26 Specs

Specific Gravity	32.1
Pour Point	-76°F (-60°C)
Flash Point	217°F (103°C)
Viscosity	
at 40°C	25.8 cSt
at 100°C	9.3 cSt
Viscosity Index	376
NOTE: <i>Mobil/Exxon recommends that this oil be checked on a yearly basis for viscosity.</i>	

Table 6-27. Quintolubric 888-46

Density	0.91 @ 15°C (59°F)
Pour Point	<-20°C (<-4°F)
Flash Point	275°C (527°F)
Fire Point	325°C (617°F)
Autoignition Temperature	450°C (842°F)
Viscosity	
at 0°C (32°F)	360 cSt
at 20°C (68°F)	102 cSt
at 40°C (104°F)	46 cSt
at 100°C (212°F)	10 cSt
Viscosity Index	220

SECTION 6 - GENERAL SPECIFICATIONS & OPERATOR MAINTENANCE

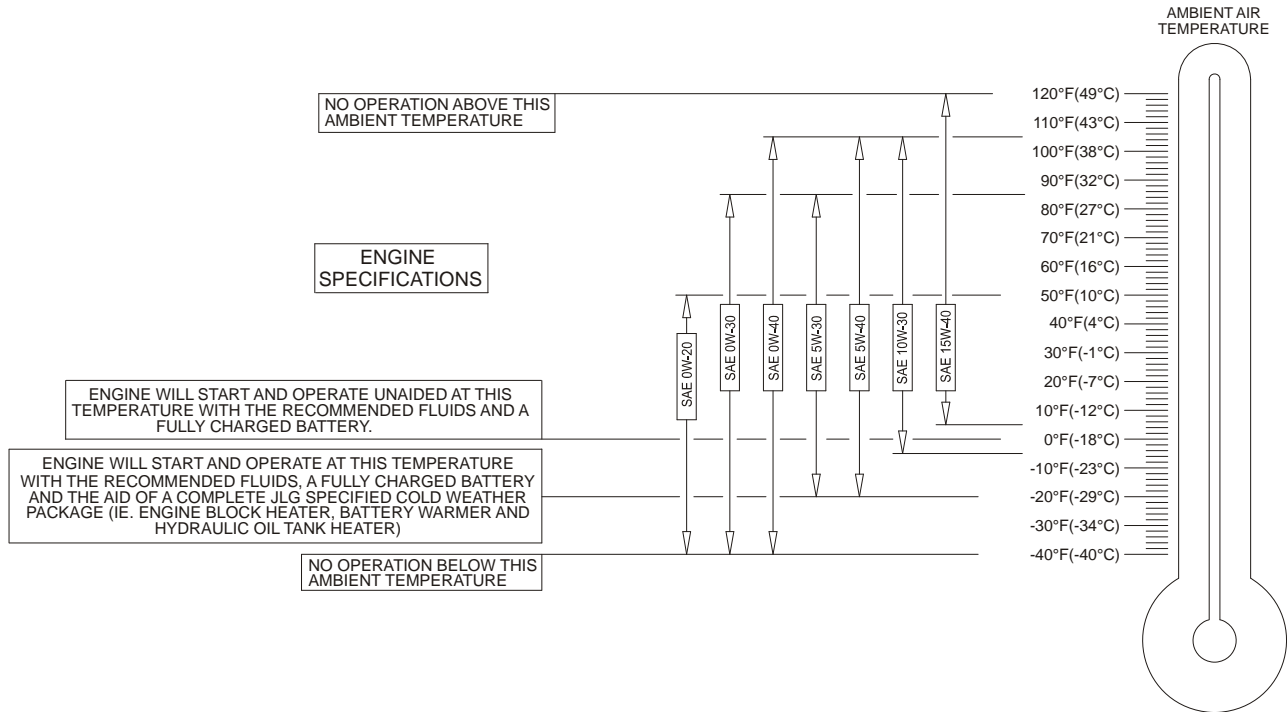
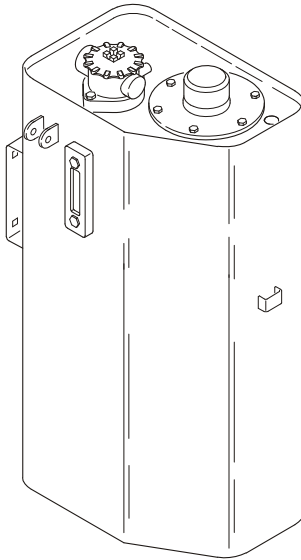


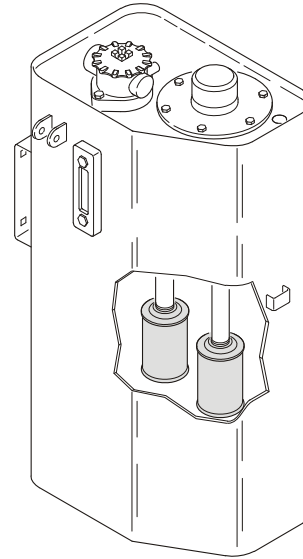
Figure 6-10. Engine Operating Temperature Specifications - Perkins - Sheet 1 of 2

7. Hydraulic Tank



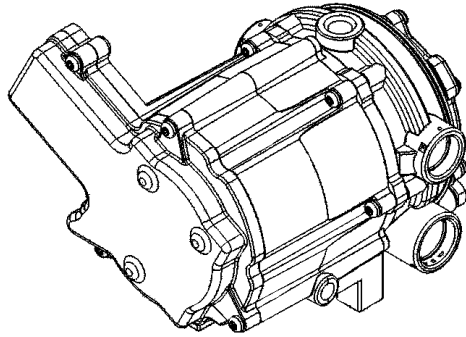
Lube Point(s) - Fill Cap
Capacity - 27 gal (102 L); 23.6 gal (89 L) to
the Full line on the sight gauge
Lube - HO
Interval - Check Level daily; Change every 2 years or
1200 hours of operation.

8. Suction Strainers



Lube Point(s) - 2
Interval - Every 2 years or 1200 hours of operation,
remove and clean at time of hydraulic oil change.

25. Electronic Pressure Regulator (LP only)



Interval - 3 Months or 150 hours of operation
Comments - Drain oil build up. Refer to Section 6.5, DRAINING OIL BUILD UP FROM THE PROPANE REGULATOR (Prior to S/N 0300137808)

26. Fuel Filter (Propane) - GM Engine



Interval - 3 Months or 150 hours of operation
Comments - Replace filter. Refer to Section 6.6, Propane Fuel Filter Replacement

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