snorkel

TB80
TB86J



CE

OPERATOR'S MANUAL

ANSI/CSA/CE/AS/NZS
TB80 Serial number 170900008 and after
TB86J Serial number 170800201 and after
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Limited Warranty

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General Specifications – TB86J Triple Capacity

Aerial Platform

Working height	91' 1" (27.8 m)
Maximum platform height	85' 1" (24.7 m)
Horizontal reach	77' 3" (23.5 m)
Main boom	
Articulation	-13.5° to +70°
Extension	44' (13.4 m)
Jib boom	
Articulation	-70° to +70°
Turntable rotation	360° continuous
Turning radius, 4 wheel steer	7' 10" (2.4 m)
Tail swing	78.5" (1.9 m)
Wheelbase	10' (3 m)
Ground clearance	13" (33 cm)
Maximum wheel load	22,040 lbs (9,997 kg)
Maximum ground bearing pressure	99 psi (6.93 kg/cm²)
Maximum distributed floor load	450 psf (2,197 kg/m²)
Level sensor setting	3.5 degrees
Weight, EVW	
Approximate	39,930 lbs (18,112 kg)
Maximum allowable manual force (side pull)	90 lb (400 N)
Width	8' 6" (2.5 m)
Stowed length	36' 10" (11.2 m)
Stowed length, tucked stow	36' 7.5" (11.1 m)
Stowed height	9' 8" (2.9 m)

Platform

Dimensions	
Standard Steel	39" x 96" (99 cm x 244 cm)
Optional Aluminum	30" x 92" (76 cm x 234 cm)
Optional Steel	30" x 60" (76 cm x 152 cm)
Optional Aluminum	30" x 60" (76 cm x 152 cm)
Rated work load	
Single Capacity Steel 39" x 96"	500 lb (227 kg)
Triple Capacity Steel 39" x 96"	
Unrestricted	500 lb (227 kg)
Restricted	750 lb (340 kg)
Restricted	1,000 lb (454 kg)
Steel 30" x 60"	500 lb (272 kg)
Aluminum 30" x 60"	600 lb (294 kg)
Aluminum 30" x 92"	500 lb (272 kg)
Rotation	176 degrees
Maximum number of occupants	2 people
Optional AC generator	110 V
Optional AC generator	220 V
Optional AC generator	220 V, 3-phase, 12 kw
Optional Welder	

Function Speed

Turntable rotation	
Booms retracted	90 to 100 seconds
Booms extended	190 to 220 seconds
Main boom	
Up	
Booms retracted	65 to 75 seconds
Booms extended	100 to 120 seconds
Down	
Booms retracted	60 to 70 seconds
Booms extended	80 to 95 seconds
Extend	80 to 90 seconds
Retract	60 to 70 seconds
Jib	
Up	25 to 35 seconds
Down	25 to 35 seconds
Platform rotation	16 to 20 seconds
Drive	
High, booms stowed	3.0 mph (4.8 km/h)
Mid, booms stowed	1.5 mph (2.4 km/h)
Low, booms raised/extended	0.6 mph (1 km/h)

Drive System

Standard	Four wheel drive
Gradeability	40%

Tires

Foam filled	15-625NHS, 16 ply

Electrical System

Voltage	12 V DC negative chassis ground
Source	Two - 12 V 550 CCA batteries
Fluid recommended	distilled water

Hydraulic System

Maximum pressure	3,200 psi (22,063 kPa)
Reservoir capacity	40 US gal (151 l)
System capacity	65 US gal (246 l)
Maximum operating temperature	200°F (93°C)
Hydraulic fluid recommended	
Above 10°F (-13°C)	ISO VG32
Below 10°F (-13°C)	ISO VG15

Engine

Gas/LP dual fuel	Kubota WG2503-GL-ET
Diesel	Kubota V2403-T
Diesel	Kubota V2403-CR-TIE4B

Fuel Tank Capacity

Gasoline or diesel	54 US gal (204 l)
LPG	43.5 lbs (19.7 kg)
Dual fuel	
Gasoline	40 US gal (151 l)
LPG	43.5 lbs (19.7 kg)

Ambient Air Temperature Operating Range

Fahrenheit	0°F to 110°F
Celsius	-18°C to 43°C

Maximum Wind Speed

Gust or steady	28 mph (12.5 m/s)

Manual Force

Maximum	90 lb (400 N)

Maximum Wind Speed

Gust or steady	28 mph (12.5 m/s)

Vibration

less than 2.5 m/sec²
0.3 m/sec² (measured)

Sound Pressure Level

At work station	below 100 dB(A)

Sound Power Level

below 107 dB(A)

Group Classification

Heavy duty – intended life	100,000 load cycles

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The lights are operational when the machine is set up for operation from the upper controls and the light switch is turned on (refer to Figure 8.9).

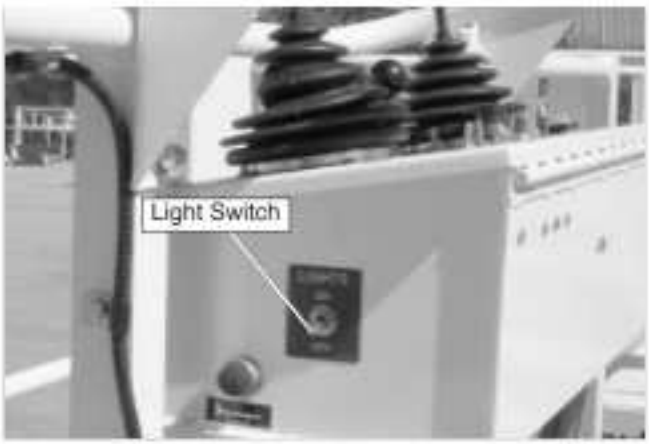


Figure 8.9 – Upper Controls

If the engine is running, the idle speed increases when the driving lights are turned on.

Note
Working with the driving or platform work lights on, while the engine is off, can discharge the batteries enough that the engine will not start or the emergency power system will not operate. If the engine cannot be left running while the lights are on, start and run the engine for at least 15 minutes each hour.

Platform Work Lights

The optional platform work lights (refer to Figure 8.10) are located on the top rail of the platform next to the upper controls. The direction a light points can be adjusted by using two 1/2" wrenches to loosen the clamp below the light. The lights are operational when the machine is set up for operation from the upper controls.

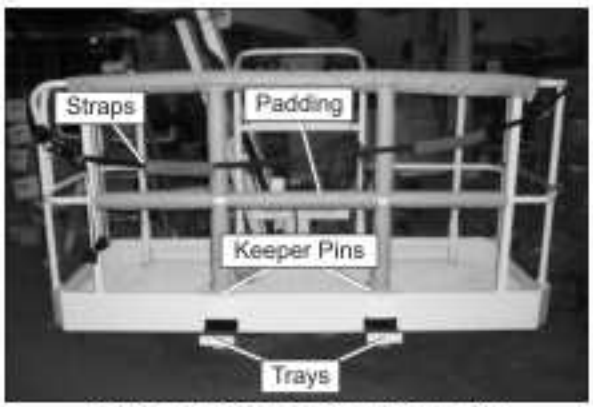


Figure 8.10– Upper Controls

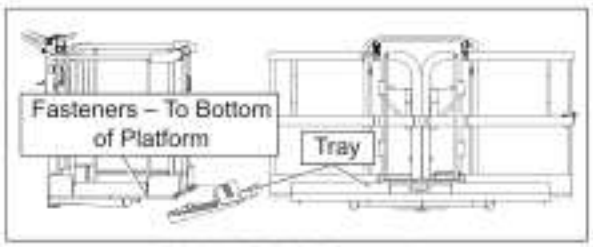
Platform Glazier Package

The glazier package allows the platform operator to position glass at the work place. Refer to the Glazier Package manual (Snorkel Part Number 0421269) for information on proper use of the glazier package.

The package includes tray(s) with fasteners, platform rail padding, and tie-down straps with protectors (refer to Figure 8.11).



TB80 and TB86J Single Capacity



TB86J Triple Capacity

Figure 8.11 – Glazier Package

Platform Capacity

The platform rated load capacity is the total weight of the personnel and equipment that may be lifted in the platform. The work load is stated on the platform rating placard mounted on the toeboard at the rear of the platform. Do not exceed the rated load capacity.

The maximum total load carried by the glazier trays must not exceed 250 lb (113 kg). The weight of the load in the trays reduces the platform capacity by the amount of the load.

⚠Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. The glazier package may increase wind loads on the machine. Do not load the glazier trays anytime the wind speed is greater than 28 mph (12.5 m/s).

Do not operate the machine with a load on the glazier trays unless you have been fully trained and understand the hazards associated with lifting panels attached to the platform.

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Annual Maintenance – Every 500 Hours

Item	Procedure	Information	P/F/R
90 day or 150 hour maintenance	Perform maintenance per schedule	Retain copy of checklist	
Hydraulic oil reservoir	Clean and replace fluid	Above 10° F (-13° C) ISO VG32 Below 10° F (-13° C) ISO VG15	
Hydraulic return filter	Replace	After first 50 hours, then at recommended interval	
Hydraulic reservoir suction filter	Clean and reinstall		
Hydraulic pressures – single capacity machines	Pump setting	Standby pressure: 350-375 psi	
	Function pressures	Boom up: 2,450-2,550 psi	
		Boom down: 800-900 psi	
		Steer: 1,950-2,050 psi	
		Level: 2,800-3,000 psi	
		Extend: 1,450-1,550 psi	
		Retract: 2,450-2,550 psi	
		Swing: 1,250-1,350 psi	
Hydraulic pressures – TB86J triple capacity machines	Pump setting	Standby pressure: 350-375 psi	
	Function pressures	Boom up: 3,100-3,150 psi	
		Boom down: 1,200-1,250 psi	
		Steer: 1,950-2,050 psi	
		Level: 3,200-3,250 psi	
		Extend: 2,100-2,200 psi	
		Retract: 2,450-2,550 psi	
		Swing: 1,250-1,350 psi	
Gear hubs	Replace fluid	Gear lubricant SAE Grade 80W-90	
Swing drive	Replace fluid	Gear lubricant SAE Grade 80W-90	
Engine coolant	Check condition	See engine owner's manual	

Maintenance Table Key: P = Pass, F = Fail, R = Repaired

Performed by: _____ Date: _____

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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.

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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).

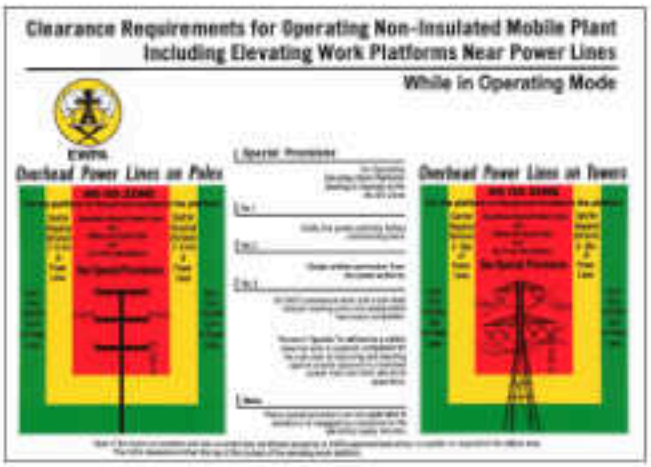


Figure 1 – Minimum Safe Approach Distance

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 90 lb (400 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.

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

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