

ACCESSORYZERS™





ACCESSORYZERS™

Having equipment with features and functions that allow you and your customers to do more is a vital part of a rental company's utilization equation. Skyjack offers a range of accessory products to further expand a given product's adaptability and your power to offer a truly flexible rental choice.

Accessoryzers™ is a Skyjack brand which covers factory certified attachments, options and accessories. These are developed, designed, and tested to provide increases in productivity, improved working conditions and minimal manual work.

PEAK PERFORMANCE

VERTICAL MAST / DC ELECTRIC SCISSORS

Skyjack's Vertical Mast and DC Scissors offer easy to service, low maintenance designs in a compact and versatile package. Renowned for simplicity and reliability, they are used in applications where a straight vertical lift is required, their slide-out deck extensions provide a larger work area and "up and over" capability. Each product has a standard configuration that can be augmented with additional options that take performance and versatility to new levels.

FLASHING & DUAL FLASHING LIGHTS

BIO OIL ALL MOTION AUDIBLE ALARM

SJ16 OUTDOOR WIND RATING

POWERED EXTENSION DECK

AGM BATTERIES HIGH CAPACITY BATTERIES

VERTICAL MAST / DC ELECTRIC SCISSORS

FLASHING & DUAL FLASHING LIGHTS

Beacon type flashing lights positioned for maximum visibility and increased awareness to warn personnel of a working machine. Ideal for loud environments.

SINGLE FLASHING LIGHT

Availability	Models	
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632

DUAL FLASHING LIGHTS

Availability	Models	
Vertical Mast	SJ12	SJ16
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632

ALL MOTION AUDIBLE ALARM

The alarm produces 80 to 100 dB of sound, alerting personnel that the machine is in close proximity. This audible warning alerts personnel within the working area that the machine is in motion.

Availability	Models	
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632



VERTICAL MAST / DC ELECTRIC SCISSORS

HIGH CAPACITY BATTERIES

Improve your machines performance and duty cycle efficiency by upgrading to the high capacity battery. 220 Ah to 250 Ah upgrades are available.

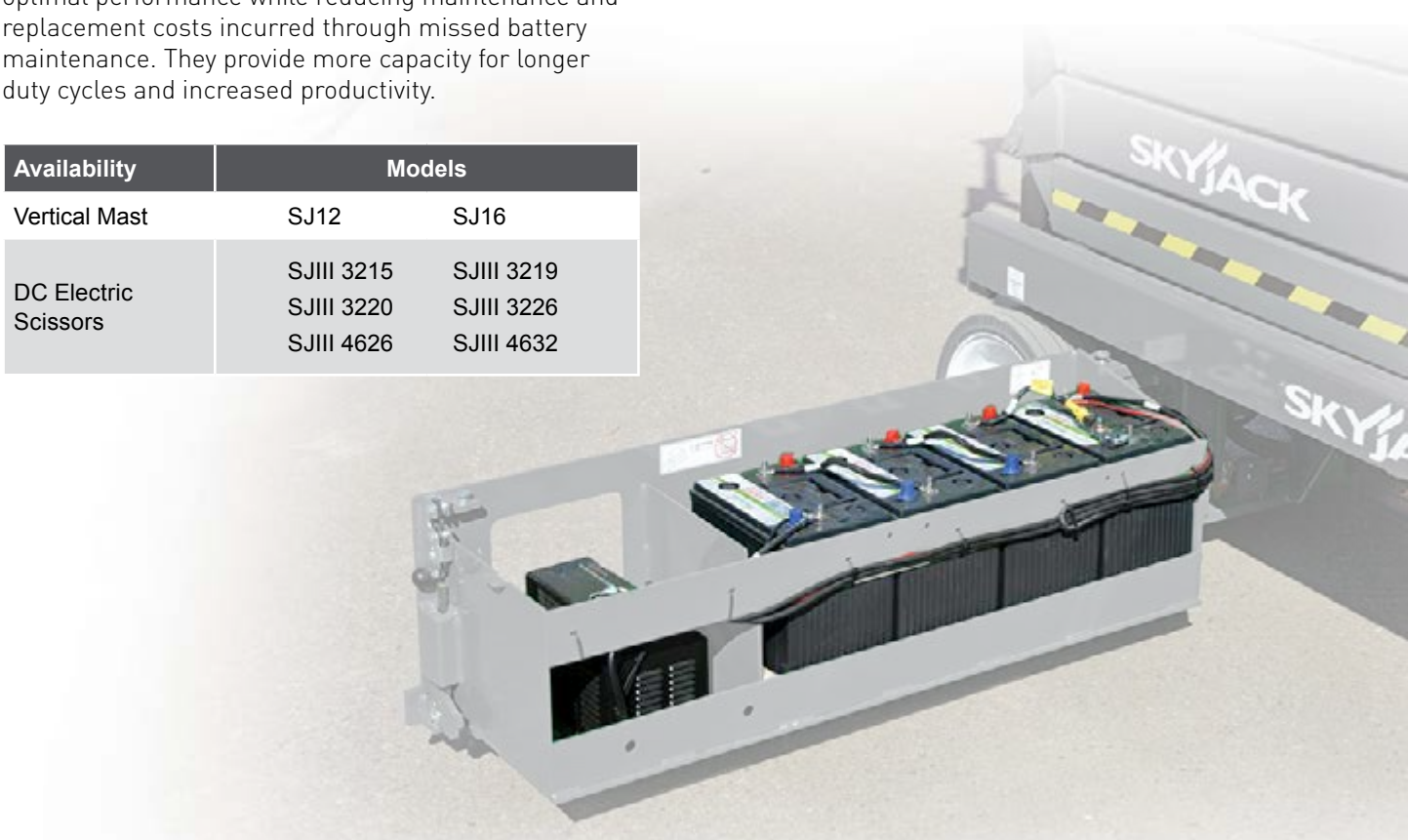
Availability	Models	
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632



ABSORBENT GLASS MAT (AGM) BATTERIES

Save a step in the overall maintenance by eliminating battery watering with the absorbent glass mat (AGM) maintenance-free batteries. The AGM battery provides optimal performance while reducing maintenance and replacement costs incurred through missed battery maintenance. They provide more capacity for longer duty cycles and increased productivity.

Availability	Models	
Vertical Mast	SJ12	SJ16
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632



VERTICAL MAST / DC ELECTRIC SCISSORS

POWERED EXTENSION DECK

Allows the operator to extend the platform deck with ease and precision so that 1.83 m of additional workspace is available along with up-and-over reach.

Availability	Models
DC Electric Scissors	SJIII 3220

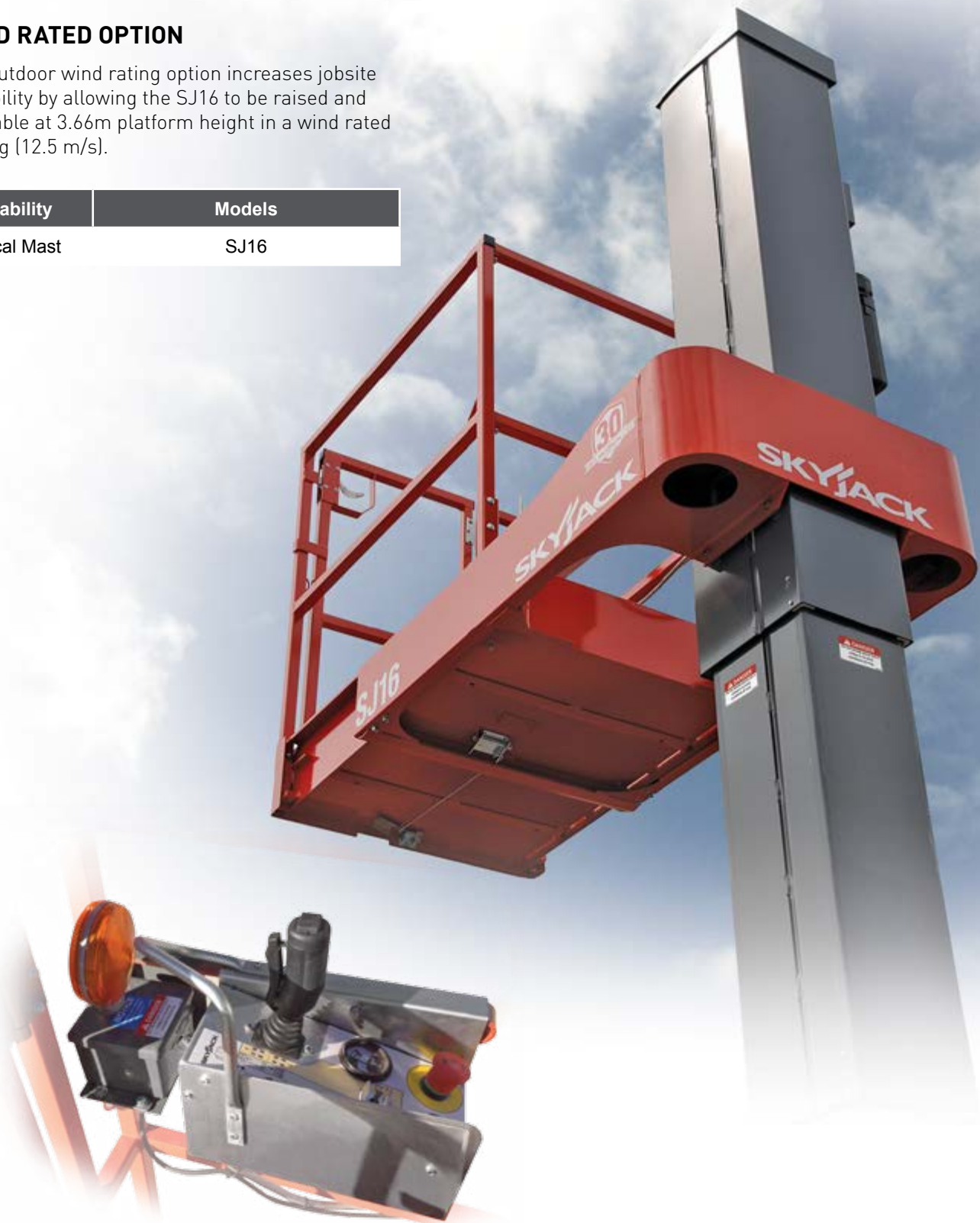


VERTICAL MAST / DC ELECTRIC SCISSORS

WIND RATED OPTION

The outdoor wind rating option increases jobsite flexibility by allowing the SJ16 to be raised and driveable at 3.66m platform height in a wind rated setting (12.5 m/s).

Availability	Models
Vertical Mast	SJ16



PROFESSIONAL PRODUCTIVITY

VERTICAL MAST / DC ELECTRIC SCISSORS

Designed to provide the capability of carrying out specific task(s), Skyjack has provided a series of factory approved attachments engineered to deliver increased productivity and improved working practices.

TOOL TRAY
BOARD/DRYWALL CARRIER
LIGHT DUTY PIPE AND STEEL STUD RACK
DC HEAVY DUTY PIPE RACK
DC LIGHT DUTY PIPE RACK

VERTICAL MAST / DC ELECTRIC SCISSORS

TOOL TRAY

The tool tray for the vertical mast lift has been designed to keep your tools and components within arm's reach. It is ideal for maintenance activities in environments such as factories, retail outlets, distribution centers, theatres, airports, entertainment facilities and more.

Availability	Models	
Vertical Mast	SJ12	SJ16



VERTICAL MAST / DC ELECTRIC SCISSORS

LIGHT DUTY PIPE AND STEEL STUD RACK

The light duty pipe rack maximizes platform work space and productivity. The pipe rack is an ideal aid for plumbers, electricians and maintenance workers, who want to organize platform materials without limiting machine movement within tight spaces. For securing a load, the pipe rack features a durable nylon strap with flat hook, while a stowable cradle permits travel through narrow doorways.

Availability	Models	
Vertical Mast	SJ12	SJ16



VERTICAL MAST / DC ELECTRIC SCISSORS

DC LIGHT DUTY PIPE RACK

Skyjack’s light duty pipe rack maximizes platform work space without sacrificing productivity. Available on all SJIII scissor lifts, the pipe rack is an ideal aid for plumbers, electricians and maintenance workers, who want to organize platform materials without limiting machine movement within tight spaces.

Availability	Models	
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632



DC HEAVY DUTY PIPE RACK

For work applications where carrying capacity is critical, the heavy duty pipe rack is the ideal attachment for a safe and secure solution. Mounted at the rear of the platform for optimized platform space.

Availability	Models	
DC Electric Scissors	SJIII 3215	SJIII 3219
	SJIII 3220	SJIII 3226
	SJIII 4626	SJIII 4632



VERTICAL MAST / DC ELECTRIC SCISSORS



BOARD/DRYWALL CARRIER

Easy to install, the board carrier is designed specifically for applications that require holding and lifting sheet materials. A safe and simple solution, the board carrier makes lifting material less strenuous and more efficient, while leaving the platform free for tools, and other material.

Availability	Model	
DC Electric Scissors	SJIII 3219	SJIII 3220
	SJIII 4626	SJIII 4632



PEAK PERFORMANCE ROUGH TERRAIN SCISSORS

Known as an industry leader in scissor lifts for decades, Skyjack continues to supply its machines for class-leading rough terrain performance. Each product has a standard configuration that can be augmented with additional options that take performance and versatility to peak levels.



INDEPENDENT AUTO-LEVELLING OUTRIGGERS
HYBRID DIESEL POWER PACK

DIESEL SCRUBBER HYDRAULIC GENERATOR

ALL MOTION AUDIBLE ALARM FLASHING LIGHT
FULL HEIGHT SPRING HINGED GATE
DUAL 1.22 m POWERED EXTENSION DECKS

ROUGH TERRAIN SCISSORS

DUAL 1.22 m POWERED EXTENSION DECKS

Effortlessly gives the operator the power at their fingertips to extend the platform deck providing an increased work area.

Availability	Model	
Rough Terrain Scissors	SJ8831 RT	SJ8841 RT



ABSORBENT GLASS MAT (AGM) BATTERIES

Save a step in the overall maintenance by eliminating battery watering with the absorbent glass mat (AGM) maintenance-free batteries. The AGM battery not only delivers optimal performance but offering more capacity for longer duty cycle and increased productivity. 250 Ah to 330 Ah upgrades are available.

Availability	Model
Rough Terrain Scissors	SJ6832 RTE



HYBRID DIESEL POWER PACK

The hybrid power pack features a generator integrated with the Skyjack controls. Designed specifically for the SJ6832 RTE, the hybrid power pack can operate at a variety of job sites, including ones with no line power available, by charging the machine while in use. The hybrid power pack can also be used to provide autonomous AC power to the platform to run power tools, etc.

Availability	Model
Rough Terrain Scissors	SJ6832 RTE



ROUGH TERRAIN SCISSORS

DIESEL SCRUBBER

For use in “confined or indoor applications” where there is a requirement to significantly reduce carbon monoxide, hydrocarbons and exhaust irritants. It can be easily installed on any EURO Stage IIB diesel engine, is maintenance free and use exhaust gas heat energy to burn harmful exhaust irritants.

Availability	Models	
Rough Terrain Scissors	SJ6826 RT	SJ6832 RT
	SJ8831 RT	SJ8841 RT
	SJ9241 RT	SJ9250 RT



ALL MOTION AUDIBLE ALARM

The alarm produces 80 to 100 dB of sound, alerting personnel that the machine is in close proximity. This audible warning alerts personnel within the working area that the machine is in motion.

Availability	Models	
Rough Terrain Scissors	SJ6826 RT	SJ6832 RT
	SJ6832 RTE	SJ8831 RT
	SJ8841 RT	SJ9241 RT
	SJ9250 RT	



HYDRAULIC GENERATOR - 2.0 kW / 3.5 kW

The hydraulic generator supplies power to the platform to run power tools, etc. The generator is activated by the operator in the platform. Capable of 110V or 220V AC.

Availability	Models		Power
Rough Terrain Scissors	SJ6826 RT	SJ6832 RT	2.0 kW
	SJ8831 RT	SJ8841 RT	3.5 kW
	SJ9241 RT	SJ9250 RT	



* Steel protective cover not shown

PROFESSIONAL PRODUCTIVITY

ROUGH TERRAIN SCISSORS

Designed to provide the capability to carry out specific tasks, Skyjack has provided a series of factory approved attachments engineered to deliver increased productivity and improved working practices.

MATERIAL HANDLING STAND
RT HEAVY DUTY PIPE RACK



MATERIAL HANDLING STAND

The material handling stand is a multi-purpose attachment. It has the ability to be used as a pipe rack for large duct pipes and other pipe/conduit. It also features a fold down cradle and extendable arms to be used as a sheet stand for boards and/or panels — ideal for cladding applications. Designed for Skyjack’s full size rough terrain scissiors, the material handling stand gives a safe, secure, and productive solution for transportation and material installation.

Availability	Models	
Rough Terrain Scissiors	SJ8831 RT	SJ8841 RT
	SJ9241 RT	SJ9250 RT



RT HEAVY DUTY PIPE RACK

Ideal for HVAC, plumbing and fire sprinkler installation, the heavy duty pipe rack is designed for durability and sturdiness. It provides a secure, safe and productive accessory. An added feature to the pipe racks is a spool holder ideal for electrician type applications.

Availability	Models	
Rough Terrain Scissors	SJ6826 RT	SJ6832 RT
	SJ6832 RTE	SJ8831 RT
	SJ8841 RT	SJ9241 RT
	SJ9250 RT	

PEAK PERFORMANCE

TELESCOPIC / ARTICULATING BOOM LIFTS

Skyjack's Telescopic and Articulating Boom Lifts are designed to offer the best possible reach solution, whether it be at height, horizontal reach or up and over clearance. Each product has a standard configuration that can be augmented with additional options that take performance and versatility to new levels.



SECONDARY GUARDING – SGE – ELECTRONIC

AUXILIARY TOP RAIL

SECONDARY GUARDING – SGM – MECHANICAL

HYDRAULIC GENERATOR

DIESEL SCRUBBER AIRLINE TO PLATFORM

HYDRAULIC OIL COOLER

LOCKABLE CONTROL BOX COVER **LIFTING LUGS**

FLASHING LIGHT

ALL MOTION AUDIBLE ALARM PLATFORM ENTRY GATE

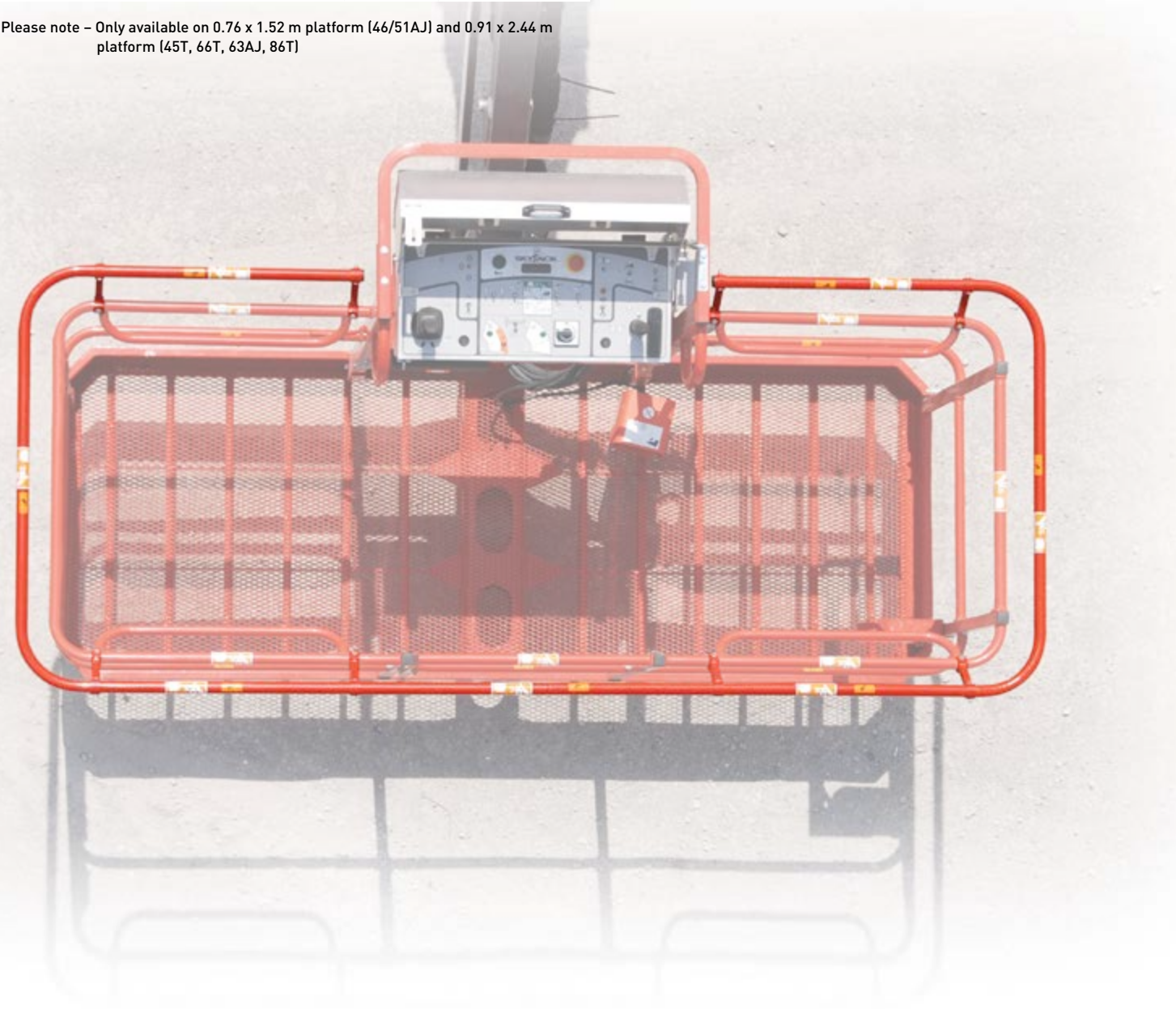
2.44 OR 1.52 m PLATFORM

AUXILIARY TOP RAIL

The auxiliary top rail features robust railing tubes which are easy to install. For additional pinch point protection, the auxiliary top rail option provides an extra outer railing mounted on top of the existing platform rails.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ

Please note – Only available on 0.76 x 1.52 m platform (46/51AJ) and 0.91 x 2.44 m platform (45T, 66T, 63AJ, 86T)



SECONDARY GUARDING – SGE - ELECTRICAL

The Skyjack SGE system features a sensor bar that, when pushed, instantly stops all functions and initiates an audible siren and high intensity flashing beacon. If the bar is released within one second the siren and beacon will cease and the selected function will return. If pressure is applied for more than one second the siren and beacon will continue to activate and the engine will stop, halting all functions until reset. The applicable emergency controls can still be operated to bring the platform down to ground safely. If the system is accidentally activated by the operator, it can be easily reset using the illuminated push button on the control box.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



SECONDARY GUARDING - SGM – MECHANICAL

The Skyjack SGM system features a protective steel structure that is designed to reduce the possibility of the operator being held against the controls in the event of unintended contact with an obstruction. The system does not impair operator visibility, mobility on the platform or access to the work area.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



TELESCOPIC / ARTICULATING BOOM LIFTS

HYDRAULIC GENERATOR - 3.5 kW *

The hydraulic generator supplies power to the platform to run power tools, etc. The generator is activated by the operator in the platform. Capable of 110V or 220V AC.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ

*This option includes the Hydraulic Oil Cooler



HYDRAULIC OIL COOLER

Maintain the hydraulic efficiency and hydraulic component life of your machine by selecting a hydraulic oil cooler. Ideal for hot climates or for machines that are running intensive duty cycles.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



AIRLINE TO PLATFORM

A convenient air compressor-ready package provides air to platform via 12.5 mm hose. The 12.5 mm airline to platform is integrated into the boom lift's aluminium e-chain providing air power needs.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ

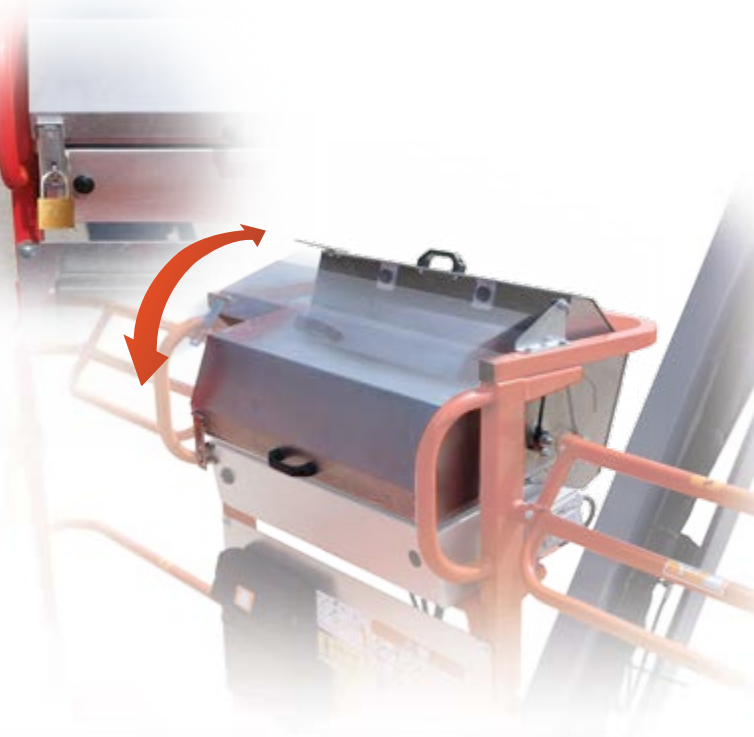


TELESCOPIC / ARTICULATING BOOM LIFTS

LOCKABLE CONTROL BOX COVER

The all-aluminium lockable control box cover keeps un-authorized users out and protects the controls from various weather conditions and job site debris. The control box cover is durable and is pad-lock ready.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



DIESEL SCRUBBER

For use in “confined or indoor applications” where there is a requirement to significantly reduce carbon monoxide, hydrocarbons and exhaust irritants. It can be easily installed on any EURO Stage IIB diesel engine, is maintenance free and use exhaust gas heat energy to burn harmful exhaust irritants.

Availability	Models		
Telescopic Booms	SJ45 T		
Articulating Booms	SJ46 AJ	SJ51 AJ	



ALL MOTION AUDIBLE ALARM

The alarm produces 80 to 100 dB of sound, alerting personnel that the machine is in close proximity. This audible warning alerts personnel within the working area that the machine is in motion.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



PROFESSIONAL PRODUCTIVITY

TELESCOPIC / ARTICULATING BOOM LIFTS

Designed to provide the capability to carry out specific tasks, Skyjack has provided a series of factory approved attachments engineered to deliver increased productivity and improved working practices.

PLATFORM WORK LIGHTS

BOOM PIPE RACK



BOOM PIPE RACK

The pipe rack is designed to make it easier for plumbers, electricians and maintenance workers to carry pipes or conduits to height without sacrificing work space. The pipe rack is rail mounted on the front of the platform making it convenient for loading and unloading materials.

Availability	Models		
Telescopic Booms	SJ86 T		
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ

Pipe size cannot exceed 6 m long by 10 cm diameter



PLATFORM WORK LIGHTS

Ideal for any work applications involving low light conditions, the platform work light option includes two LED lights that can be repositioned in any corner of the basket.

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



DEDICATED APPLICATIONS

ROUGH TERRAIN SCISSORS / TELESCOPIC /
ARTICULATING BOOMS

A series of packaged options and accessories that combine to produce solutions to specific applications. Skyjack's application packages represent a whole that is greater than a sum of its parts so that the product can excel at the given application.



HOSTILE ENVIRONMENT PACKAGE
ARCTIC WEATHER PACKAGE
COLD WEATHER START KIT

TELESCOPIC / ARTICULATING BOOM LIFTS

HOSTILE ENVIRONMENT PACKAGE

Protect your investment with the hostile environment package. Abrasive blasting can cause loose debris such as dust, sand or other fine particles that could wreak havoc to your machines. Primarily for ironworkers, sandblasting and shipyard work, the hostile environment package provides additional protection for the control box, cylinders and boom sections.

- Cylinder bellows
- Boom wipers
- Covers for fly boom cutouts
- Control box cover

Availability	Models
Telescopic Booms	SJ86 T
Articulating Booms	SJ63 AJ



ROUGH TERRAIN SCISSORS / TELESCOPIC /
ARTICULATING BOOM LIFTS

COLD WEATHER START KIT

Be winter ready with the cold weather start kit which features cold start engine oil, battery blanket and a hydraulic tank heater.

- Cold start engine oil
- Battery blanket
- Hydraulic tank heater

Availability	Models	
Rough Terrain Scissors	SJ6826 RT	SJ6832 RT
	SJ8831 RT	SJ8841 RT
	SJ9241 RT	SJ9250 RT
Telescopic Booms	SJ45 T	SJ66 T
	SJ86 T	
Articulating Booms	SJ46 AJ	SJ63 AJ
	SJ51 AJ	

ARCTIC WEATHER PACKAGE

For extreme temperature conditions, the Arctic Weather package includes arctic engine oil, battery blanket, hydraulic tank heater, block heater, arctic hydraulic oil, arctic platform rotator and arctic gear oil in the axles and swing drive, glow plugs, arctic hydraulic hoses and an oversized foot switch cover.

- Arctic engine oil
- Battery blanket
- Hydraulic tank heater
- Block heater
- Arctic hydraulic oil
- Arctic gear oil in axles & swing drive
- Glow plugs
- Arctic hydraulic hoses

Availability	Models		
Telescopic Booms	SJ45 T	SJ66 T	SJ86 T
Articulating Booms	SJ46 AJ	SJ51 AJ	SJ63 AJ



ROUGH TERRAIN SCISSORS / TELESCOPIC /
ARTICULATING BOOM LIFTS

TYRE OPTIONS

Terrainability, traction, durability and comfort are the characteristics of maximum performance. No matter what landscape (mud or grass), Skyjack have suitable tyres to meet your needs.

NON MARKING GRIP LUG FOAM FILLED TYRES

Greater machine flexibility can be achieved through the use of non-marking foam filled tyres - extending machine use to both indoor or outdoor applications. Still not sacrificing the rough terrain characteristics, the non-marking tyres eliminate markings for clean surface applications.

ROUGH TERRAIN SCISSORS



Models	
SJ6826 RT	SJ6832 RT



Models	
SJ8831 RT	SJ8841 RT
SJ9241 RT	SJ9250 RT

TELESCOPIC BOOMS



Models
SJ86 T

ARTICULATING BOOMS



Models	
SJ46 AJ	SJ51 AJ
SJ63 AJ	



AVAILABLE OPTIONS SUMMARY

LEGEND

-  DIRECT FACTORY INSTALLED
-  DIRECT FACTORY / AFTERMARKET

VERTICAL MAST LIFTS	SJ12	SJ16
Peak Performance		
Dual flashing lights		
All motion audible alarm		
AGM batteries		
Bio oil		
Outdoor wind rating (SJ16 up to 3.65 m)		
Professional Productivity		
Tool tray		
Light duty pipe and steel stud rack		

DC ELECTRIC SCISSOR LIFTS	SJIII 3215	SJIII 3219	SJIII 3220	SJIII 3226	SJIII 4626	SJIII 4632
Peak Performance						
Flashing light						
Dual flashing light						
All motion audible alarm						
High capacity batteries						
AGM batteries						
Powered extension decks						
Professional Productivity						
Light duty pipe and steel stud rack						
Heavy duty pipe rack						
Board/drywall carrier						

AVAILABLE OPTIONS SUMMARY

ROUGH TERRAIN ELECTRIC SCISSOR LIFTS	SJ6832 RTE
Peak Performance	
Independent/auto leveling outriggers	
Hybrid power pack	
Flashing lights	
All motion audible alarm	
High capacity AGM batteries	
Professional Productivity	
Heavy duty pipe rack	

ROUGH TERRAIN SCISSOR LIFTS	SJ6826 RT	SJ6832 RT	SJ8831 RT	SJ8841 RT	SJ9241 RT	SJ9250 RT
Peak Performance						
Diesel scrubber						
Hydraulic generator						
Flashing light						
All motion audible alarm						
Full height spring hinged gates						
Duel 1.22 m powered extension decks						
Professional Productivity						
Heavy duty pipe rack						
Material handling stand						
Dedicated Applications						
Cold weather start kit						
Tyre Options						
Non marking grip lug foam filled tyres						

Please note: Standard lead times may be increased when optional equipment is added, consult factory. Capacities and machine weights may differ when options are added.

AVAILABLE OPTIONS SUMMARY

LEGEND

DIRECT FACTORY INSTALLED

DIRECT FACTORY / AFTERMARKET

TELESCOPIC BOOM LIFTS	SJ45 T	SJ66 T	SJ86 T
Peak Performance			
Auxiliary top rail			
0.91 m x 2.44 m platform			
Secondary guarding - electrical or mechanical			
Hydraulic generator			
Airline to platform			
Hydraulic oil cooler			
Lockable control box cover			
Flashing light			
Rear gate platform entry			
Lifting lugs			
All motion audible alarm			
Diesel scrubber			
Professional productivity			
Pipe rack			
Platform work lights			
Dedcated Applications			
Hostile environment package			
Cold weather package			
Arctic package			
Tyre Options			
Non marking grip lug foam filled tyres			

AVAILABLE OPTIONS SUMMARY

ARTICULATING BOOM LIFTS	SJ46 AJ	SJ51 AJ	SJ63 AJ
Peak Performance			
Auxiliary top rail			
0.76 m x 1.52 m platform			
0.91 m x 2.44 m platform			
Secondary guarding - electrical or mechanical			
Hydraulic generator			
Airline to platform			
Hydraulic oil cooler			
Lockable control box cover			
Flashing light			
Side gate platform entry			
Rear gate platform entry			
All motion audible alarm			
Diesel scrubber			
Professional Productivity			
Pipe rack			
Dedcated Applications			
Hostile environment package			
Cold weather package			
Arctic package			
Tyre Options			
Non marking grip lug foam filled tyres			

Please note: Standard lead times may be increased when optional equipment is added, consult factory. Capacities and machine weights may differ when options are added.

www.skyjack.com

Skyjack UK, Europe Head Office

Unit 1, Maes-y-Clawdd Maesbury Road
Industrial Estate Oswestry,
Shropshire, SY10 8NN, UK
Tel : +44-1691-676235
Fax : +44-1691-676239

Skyjack SAS (France)

74 Rue Sibert
F-42400 Saint-Chamond
France
Tel. : +33 (0) 4 78 73 53 32
Fax. : +33 (0) 4 78 56 52 42

Skyjack Hebebühnen GmbH (Germany)

Därmannsbusch 2a
D-58456 Witten
Allemagne
Tel. : +49 (0) 2302 20 26 909
Fax : +49 (0) 2302 20 25 671

Skyjack AB (Sweden)

Agnesbergsvägen 28
424 38 Agnesberg
Suède
Tel. : +46 31 21 22 45
Fax : +46 31 787 65 10

This brochure is for illustrative purpose only and based on the latest information at the time of printing.
Skyjack Inc. reserves the right to make changes at any time, without notice, to specifications, standard
and optional equipment. Consult the Operating Maintenance and Parts Manuals for proper procedures.

