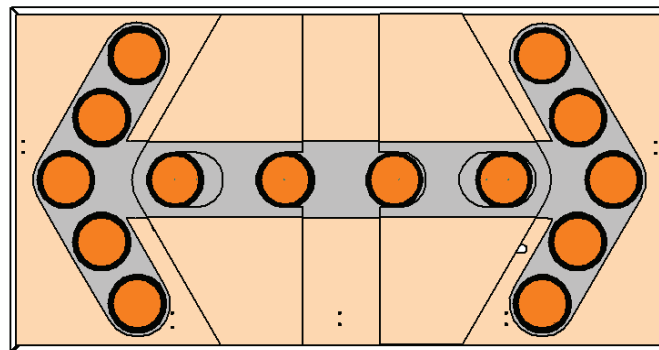
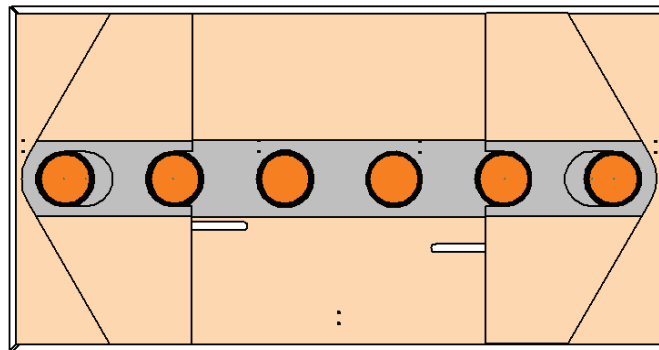


STINSON ARROW BOARD MODEL NO. TC12-3060 USER MANUAL



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GENERAL DESCRIPTION

Stinson Arrow Board model no. TC12-3060 conforms to MOT specification for TC12 Arrow Boards

The standard configuration is a roof rack system allowing the Arrow Board to stand up (vertically) while deployed or lay flat (horizontally) via a motor driven actuator. The actuator is driven via an up/down switch on the Cab Controller.

Switches on the cab controller will activate the bar lights, left arrow lights, right arrow lights, the up/down motor and wing actuators. A beacon switch is also provided as an option.

To activate the Arrow Board, turn the Bar switch to the UP position. The Bar LEDs will now be ON. Left and right Arrows can now be deployed.

To de activate the Arrow Board, turn the bar switch to the OFF position. The wings will return to the extended position and all LEDs on the Arrow Board will turn off.

See section CAB CONTROLLER for more detail.

MODEL TABLE

The AUTO1 version is typically installed on a stainless-steel rack system allowing the Arrow Board too move into upright position. A Cable, Cab Controller and Up/Down Actuator are typically supplied. Standard cable lengths are 30 ft. For custom cable lengths please contact Customer Service

Stinson will factory install the rack. For rack dimensions and drawings, please see Stinson Customer Service. 1-800-561-6639

AUTO2 and MAN versions are typically vertically installed in a fixed position. A cable and Cab Controller are typically supplied.

Pivot or gravity mount units are available.

For wireless communication between Cab Controller and the Arrow Board a wireless option is available.

For more information on these and other options Contact Stinson Customer Service for more information.

MODEL NO.	TYPE	DESCRIPTION
TC12-3060-X	AUTO1	WINGS ARE DRIVEN AUTOMATICALLY VIA INTERNAL ACTUATORS. PROVISION FOR UP DOWN ACTUATOR (FOR RACK MOUNT ARROW BOARDS)
	AUTO2	WINGS ARE DRIVEN AUOMATIALLY VIA INTERNAL ACTUATORS NO PROVISION FOR UP DOWN ACTUATORS
	MAN	MANUAL WINGS ONLY
	P	PIVOT OR GRAVITY MOUNT

Table 1 OPTIONS

MODEL NO.	DESCRIPTION
TC12-3060	CAB CONTROLLER FOR AUTO1 BEACON SWITCH AVAILABLE
TC12-4848	CAB CONTROLLER FOR AUTO2 CAB CONTROLLER FOR MAN

Table 2 CAB CONTROLLERS

INSTALLATION

The electrical installation is shown in figure 1. For field installations, the user shall provide necessary AWG cable. The fuse shall be physically located at the Battery terminal and rated at 30 AMP. A 10 AWG cable is required to power the Arrow Board.

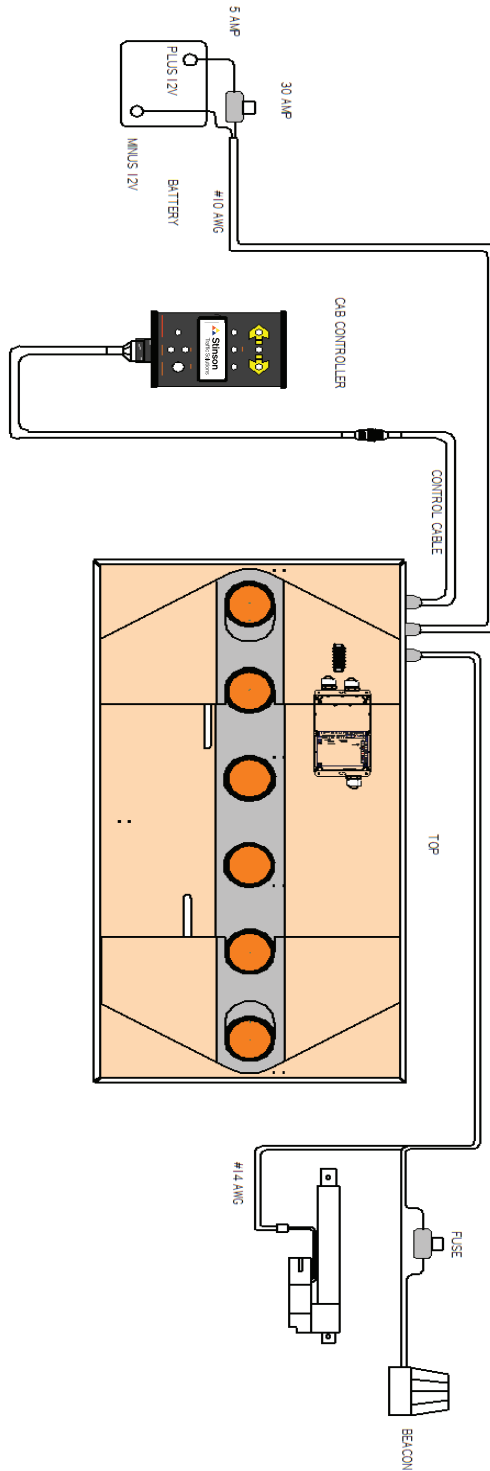


Figure 1 Installation Electrical

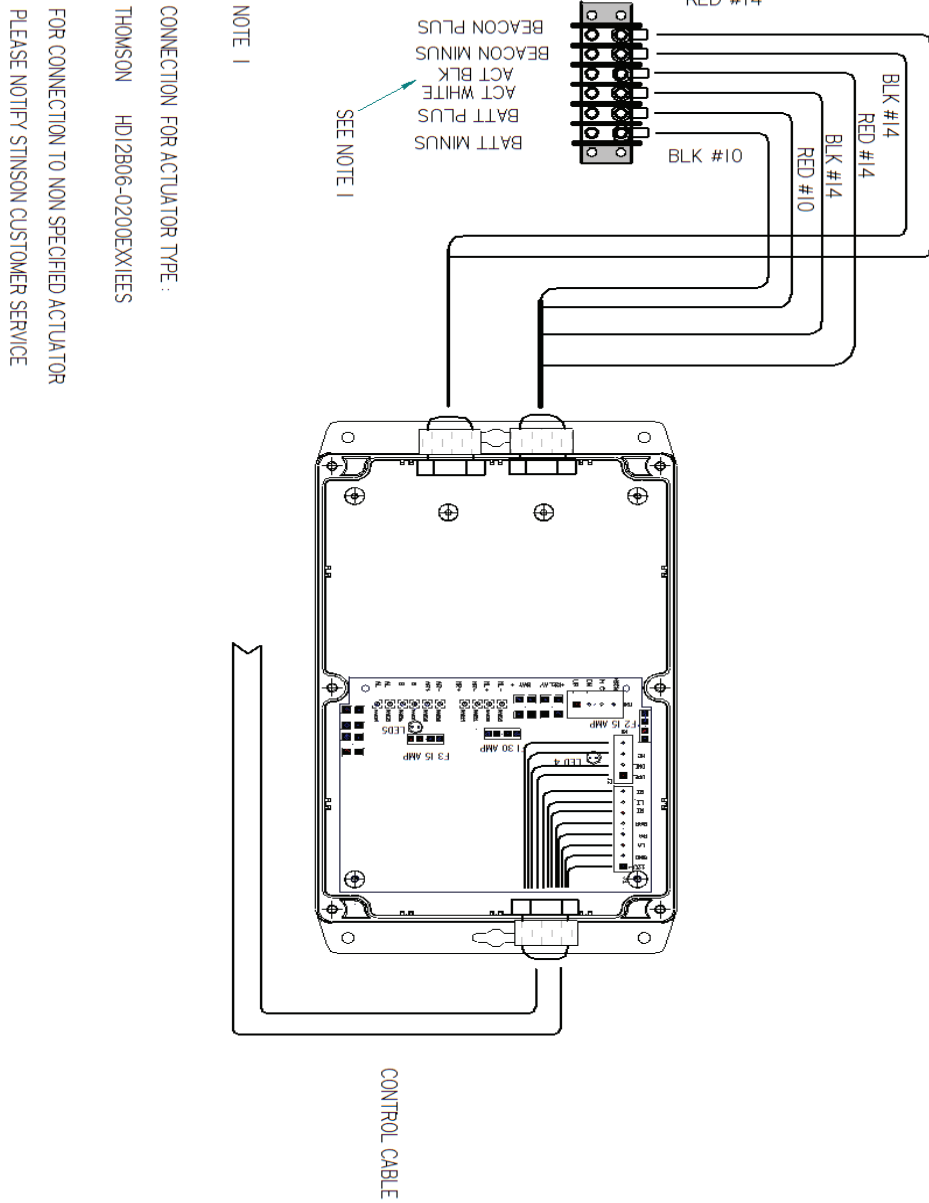


Figure 2 Terminal Block Wiring

CAB CONTROLLER

The top row of toggle switches control Arrow Board LEDs and actuators. To activate the LEDs the BAR switch is moved to the ON or to the UP position. The bar row is now activated. The center LED will flash approximately 40-50 times per second.

The left and right LEDs and actuators can now be deployed by moving the left and right toggle switches to the UP or ON position.

To de activate the Arrow Board, turn the bar switch to the OFF position. The wings will return to the extended position and all LEDs on the Arrow Board will turn off.

The switch at the lower left controls raising and lowering the Arrow Board. When the switch is in the UP position, the arrow board will be in the UP or operating position. The two LEDs beside the switch indicate the position of the Arrow Board. The top LED (red) is ON when the Arrow Board is in the UP position. The lower LED is ON (green) when the Arrow Board is in the down position.

There is an option for a beacon switch.



Figure 3 Cab Controller

ARROW BOARD CONTROLLER

The Arrow Board Controller is located inside the Arrow Board. Signals from the Cab Controller activate actuator relays and Arrow Board LEDs. The on and off timing of the LEDs is controlled by electronic circuitry.

A photo sensor is located on the printed circuit board. A clear window located on the rear panel of the Arrow Board allows light to illuminate the photo cell. During night time operation, the LED intensity is reduced.

For proper operation of the photo cell, this window should be clear.

The removal and installation of the Arrow Board Controller is straight forward.

OPERATING INSTRUCTIONS

NOTE: When in the vertical position, The Arrow Board is designed for use in moving operations at or below 40 km/hr.

Prior to operation make sure both the Arrow Board and Cab Controller are connected as shown in Figure 1

TROUBLE SHOOTING

In the event of failure, please review Table 6 below

The controller is fused to protect against short circuits in the Arrow Board

There are LED indicators that will illuminate under the following Conditions

1. An Lamp (Led) short circuit will open F2. Under these conditions LED 4 will illuminate indicating fuse F2 has failed or is open.
2. A wing Actuator failure or short circuit will open F3. Under these conditions LED 5 will illuminate indicating fuse F3 has failed or is open.
3. A short circuit in the up/down actuator circuit will open F1.

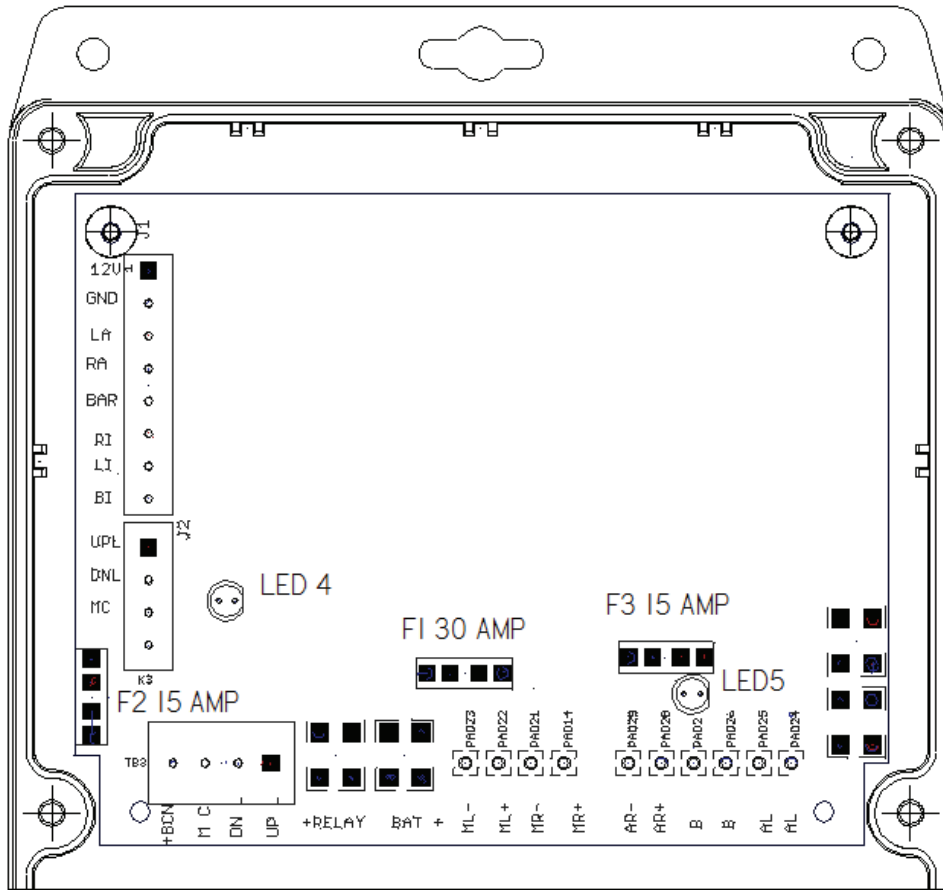
In the case of fuse failure, attempt to find short location prior to applying power to controller.

Replace fuses with sizes indicated in figure 6.

For replacement parts, please see parts list. You can contact our customer service for assistance in securing a damaged component.

SYMPTOM	CAUSE
The Cab Controller does not operate LEDs or actuators. There is no LED indication on the Cab Controller	The Arrow Board is not connected to the Battery or the Battery polarity is reversed.
The Cab Controller does not operate LEDs or actuators. The UP or DOWN LED correctly indicates mechanical configuration of the Arrow Board	Battery Voltage is under 11.5 volts.
Wing Actuators do not function	<p>Check Voltage at Wing Actuator. If the voltage is present, the Wing Actuator has failed.</p> <p>If there is no Actuator voltage, check for open Actuator fuse (F3 15 AMP). See Fuse Legend figure 6.</p>
UP/DOWN Actuator Motor does not activate.	<p>Check voltage at UP/DOWN Actuator. If present UP/DOWN Actuator has failed.</p> <p>If there is no Actuator voltage, check for open UP/DOWN fuse (F1 30 Amp) in the Arrow Board Controller. See fuse legend figure 6.</p>
Bar, Left, Right LEDs are not ON	Check for open fuse (F2 15 Amps). See fuse legend figure 6.
The Arrow Board LED intensity is low	Probably the solar window at the rear of the Arrow Board is dirty not allowing the photo sensor to operate at full intensity.

Table 3 TROUBLE SHOOTING GUIDE



FUSE TABLE			
FUSE DES	FUNCTION	LED INDICATOR	FUSE TYPE
F1	UP/DOWN ACTUATOR	NONE	30 AMP MINI
F2	LAMPS	LED4	15 AMP MIMI
F3	LEFT/RIGHT ACTUATORS	LED5	15 AMP MINI

Figure 4 Fuse Legend

SPECIFICATION

See Stinson Customer Service for specification details

1-800-561-6639

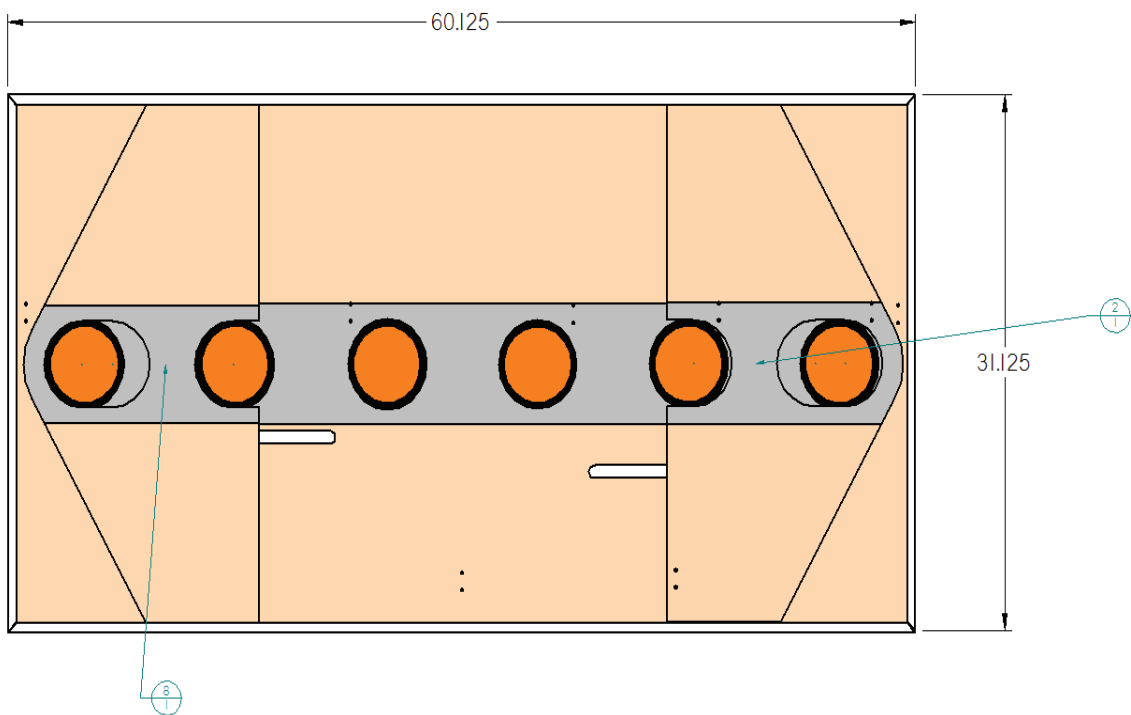
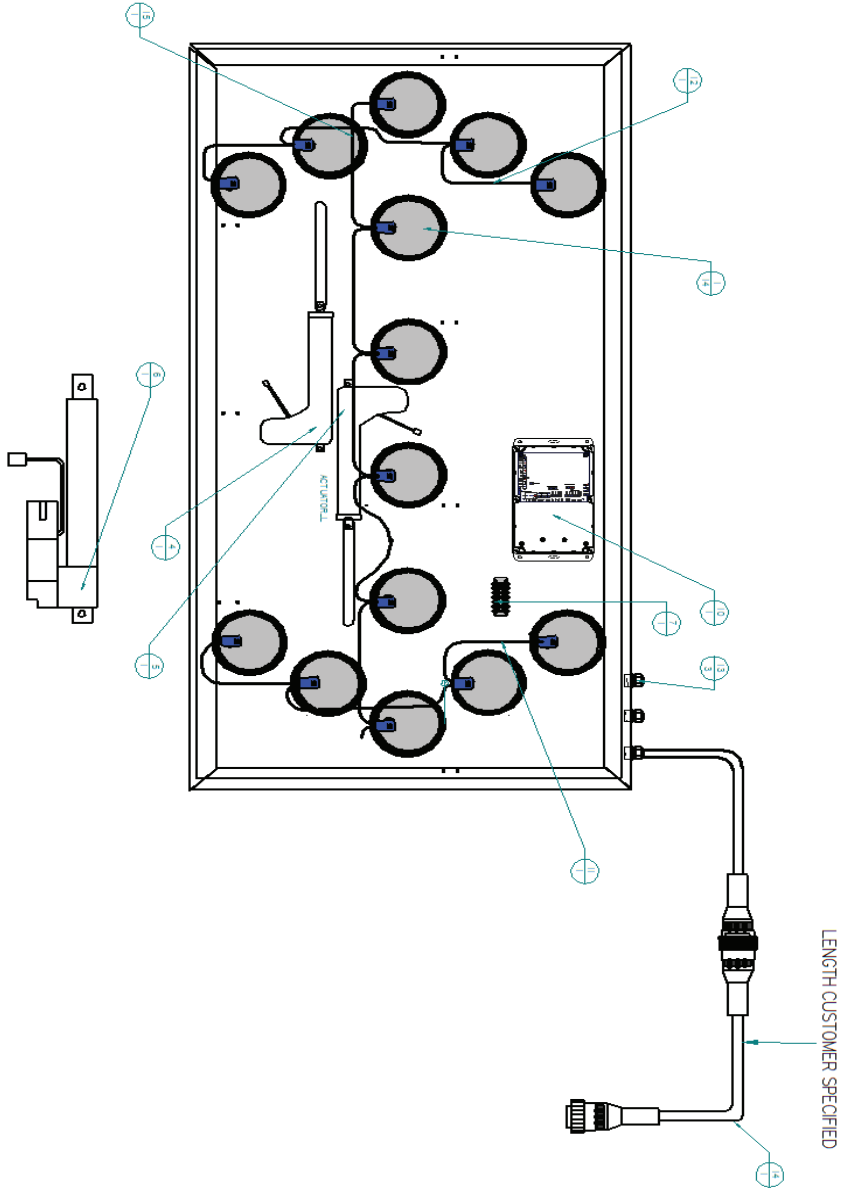


Figure 5 Outline DWG

SPARE PARTS

See Stinson Customer Service for spare part service

1-800-561-6639



Item Number	DESCRIPTION	PART NO.	QTY
1	LED	FI-534I	14
2	WING_RIGHT	CUSTOMER SERVICE	1
3	GROMMET	FI-91740	14
4	ACTUATOR_R	CUSTOMR SERVICE	1
5	ACTUATOR_L	CUSTOMER SERVICE	1
6	ACTUATOR UP/DN	CUSTOMER SERVICE	1
7	TERM_BLOCK	CUSTOMER SERVICE	1
8	WING_LEFT	CUSTOMER SERVICE	1
9	CAB CONTROLLER	CUSTOMER SERVICE	1
10	ARROW BOARD CONTROLLER	CUSTOMER SERVICE	1
11	HARNESS_3060_LEFT	CUSTOMER SERVICE	1
12	HARNESS_3060_RIGHT	CUSTOMER SERVICE	1
13	STRAIN RELIF	CUSTOMER SERVICE	3
14	HARNESS_3060_BAR	CUSTOMER SERVICE	1

Figure 6 BOM

WARRANTY

WARRANTY POLICY

Thank you for purchasing this quality STINSON product. We are proud to stand behind every new STINSON product and this warranty policy is our commitment to you. Please read it carefully.

STINSON warrants that this product will conform to the manufacturer's standard specifications without defects in materials and workmanship as outlined below:

Product/ Component	Warranty Period
Mechanical Assembly; (trailers, metal sign frames, mounting hardware, arrow boards)	- 1 year - Standard coatings excepted
Molded Products; (barrels, cones, markers)	- 1 year on plastic integrity
Electrical and Electronic	- 1 year
Signs and Sheeted Products	- Sheeting defects, 30 days

Components, sub-assemblies and devices produced by other manufacturers are covered separately and individually under warranties provided by the specified manufacturer.

There are no warranties expressed or implied which extend these warranty periods. The loss of the product, loss of time, inconvenience, commercial loss or consequential damages, including cost of any labour, is not covered. STINSON reserves the right to change the design of the product without assuming any obligation to modify any product manufactured. This warranty is granted to the original purchaser of the product and is not assignable to any subsequent purchaser or user. Any leasing or borrowing of these goods or other use beyond normal demonstration of the same shall be deemed to be use by the original purchaser. The period of this warranty shall commence on the date of delivery to the first original purchasers. Proof purchase and delivery date may be required when warranty service is requested.

The sole remedy under this warranty shall be the repair or replacement of parts which have been determined to be defective after inspection by an approved representative of STINSON. STINSON reserves the right to request the return of parts replaced under this warranty or in disputable fitness and must be consulted for authorization before any such return. All defective parts replaced under this warranty shall become property of STINSON. If as claimed defect cannot be identified or reproduced in service, the purchaser will be held responsible for the costs of replacement or remanufactured parts. STINSON shall not be responsible for the transportation or mileage costs associated with repair or replacement of warranted products or parts. The costs of labour associated with corrections under this warranty shall be reimbursed at a rate deemed reasonable by STINSON if such labour is not performed by STINSON factory approved personnel. Tampering with the serial number or posted safety and operating instructions may constitute a breach of this warranty. This warranty shall not extend to any goods or parts which have been altered, repaired, operated, or maintained outside of approved STINSON procedures or directives. This warranty does not cover damage resulting from causes beyond the control of STINSON, including without limitation; misuse, abuse, neglect, or accident; external electrical faults, power surges, or power failure; damage occurring in shipment or from improper transportation, installation, operation or application; or damage resulting from improper usage or use of the product with components, accessories or other items not supplied by STINSON. The end-user is responsible for the selection, use and results obtained from the product.

This warranty applies only to products that have been paid for according to terms under which the product has been invoiced. Further, the buyer agrees that STINSON will not be required to honour any warranty claim from a customer whose account at STINSON is not current according to STINSON's payment terms. This warranty is exclusive and in lieu of all other warranty, expressed or implied including warranties of merchantability or of fitness for purpose, and no other warranties which extend beyond the descriptions on the face hereof. The remedies set forth herein and manufacturer shall not be liable for special, indirect or consequential damages. The obligations of STINSON hereunder shall not exceed the cost of the equipment or part upon which such liability is based.

Stinson Equipment Ltd. 130 Creditstone Rd. Concord Ontario L4K 1P2



130 Creditstone Road
Concord Ontario Canada L4K 1P2
Ph (905) 669-2360 Fax (905) 669-3537

Company

Address

Phone Fax

Product

Serial # Date Purchased



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