-Print- -Go back-



Innovation in Mobility



Accessibility With Style®

for

# Caltrans

General Motors Minivan Conversion

## SERVICE MANUAL

Servicing by authorized Ricon service technicians is required during the warranty period.

Ricon service personnel must refer to this manual for operating and general maintenance instructions.

32DV0004.A

## **REVISION RECORD**

REVISION	DATE	PAGE	DESCRIPTION OF CHANGE	ECO
32DV0004 .A	04/27/00	NA	Initial release for production.	NA

32DV0004.A ii

## **TABLE OF CONTENTS**

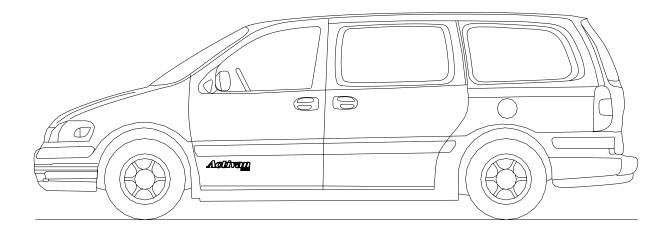
Cl	<u>hapter</u>	<u>Page</u>
I.	INTRODUCTION	1-1
	LIMITED WARRANTY	1-2
	GENERAL SAFETY PRECAUTIONS	1-3
II.	ACTIVAN FEATURES	2-1
	FOLDING RAMP	2-1
	REAR STORAGE BIN AND SPARE TIRE MOUNT	2-1
	BACK-UP RAMP (OPTIONAL)	
	Q'STRAINT® WHEELCHAIR RESTRAINT SYSTEM	
	REMOVABLE FRONT PASSENGER SEAT.	
	DRIVER SEAT STORAGE DRAWER	
	FOLD AWAY MIDDLE SEAT	_
	OPEN DOOR WARNING LIGHT	_
	INTERIOR FLOOR LIGHTS	
	PASSENGER HANDGRIPS	
	NON-SKID FLOOR	2-4
III.	ACTIVAN EMERGENCY INFORMATION	3-1
	A. REAR DOOR EMERGENCY RELEASE	
	B. SPARE TIRE, FIRE EXTINGUISHER, FIRST-AID AND TRIANGLE FLARE KITS	
	1. SPARE TIRE	
	2. FIRE EXTINGUISHER	
	3. TRIANGLE FLARE KIT	
	4. FIRST-AID KIT	_
	C. TOWING PRECAUTIONS	
	D. JACKING/HOISTING ACTIVAN VEHICLE	_
	E. BACK-UP RAMP (OPTIONAL)	3-3
IV.	. ACTIVAN MAINTENANCE	
	F. DAILY SAFETY CHECK	
	G. FLOOR PANEL CUTTING PRECAUTION	4-1
	H. MAINTENANCE SCHEDULE	4-2
	I. RICON INSTALLED CIRCUIT BREAKER	4-3
	J. RICON MODIFICATION TO FACTORY SYSTEMS	4-3
	1. BYPASS OF FACTORY SIDE AIRBAGS	
	2. MODIFICATION OF FACTORY AUTOMATIC LEVELING SYSTEM	4-3
٧.	ACTIVAN SPARE PARTS	5-1

## **LIST OF FIGURES**

<u>Chap</u>	<u>ster-Figure</u>	<u>Page</u>
2-1	FOLDING RAMP STOWED	2-1
2-2	FOLDING RAMP SWUNG OUT	2-1
2-3	FOLDING RAMP DEPLOYED	2-1
2-4	STORAGE BIN/SPARE TIRE MOUNT	2-1
2-5	STORAGE BIN COMPONENTS	2-1
2-6	BACK-UP RAMP IN PLACE	2-2
2-7	BACK-UP RAMP STOWAGE LOCATION	2-2
2-8	Q'STRAINT ANCHOR POINTS	2-2
2-9	WHEELCHAIR POSITION IN VAN	2-2
2-10	REMOVABLE FRONT SEAT	2-2
2-11	FRONT SEAT LOCKED IN PLACE	2-2
2-12	DRIVER SEAT STORAGE DRAWER	2-3
2-13	FOLDAWAY MIDDLE SEAT	2-3
2-14	MIDDLE SEAT UP	2-3
2-15	DOOR-AJAR WARNING LIGHT	2-3
2-16	INTERIOR FLOOR LIGHTS	2-4
2-17	PASSENGER HANDGRIPS	2-4
2-18	NON-SKID FLOOR	2-4
3-1	REAR DOOR RELEASE HANDLE	3-1
3-2	VEHICLE CARGO AREA	
3-3	SPARE TIRE	3-1
3-4	VEHICLE SUPPORT POINTS	3-2
3-5	BACK-UP RAMP IN PLACE	3-3
3-6	BACK-UP RAMP ANCHOR SLOTS	3-3
4-1	FLOOR CUTTING PRECAUTION	4-1
4-2	RICON INSTALLED INLINE FUSE	4-3
5-1	INTERIOR DECALS	5-2
5-2	EXTERIOR DECALS	5-3
5-3	ELECTRICAL COMPONENTS	5-4
5-4	DRIVER SIDE FIXED FRONT SEATBASE	5-5
5-5	REMOVABLE FRONT SEATBASE	5-6
5-6	MANUAL FOLDING RAMP ASSEMBLY	5-7
5-7	RAMP MOUNTING BRACKET ASSEMBLY	5-8
5-8	RAMP TENSIONER ASSEMBLY	5-8
5-9	STORAGE BIN SPARE TIRE MOUNT	5-9
5-10	DRIVER AND PASSENGER FOOTRESTS	5-10
5-11	REAR FOOTRESTS	5-10
5-12	CARGO AREA ITEMS	5-10
5-13	ACTIVAN FLARE KITS	5-11
<u> IST</u> (	OF TABLES	
4-1	MAINTENANCE SCHEDULE	4-2

## I. ACTIVAN INTRODUCTION

he RICON conversion of the General Motors minivan for *Caltrans* results in a unique, lowered-floor design for transporting mobility-challenged individuals. The *Caltrans* Activan features a manual folding ramp, removable passenger seat, folding middle seat, driver side sliding door, a powered sliding door, and optional self adjusting ride height.



The Activan is built to the highest standards of quality and it complies with all currently applicable federal motor vehicle safety standards. Ricon provides a comprehensive warranty that assures years of dependable service. For maximum safety, Ricon recommends that the vehicle conversion components be inspected and serviced at least every six months, or sooner if usage is high.

This manual contains emergency operation information, maintenance information, and spare parts for the Activan. It is intended to supplement the original vehicle manufacturer Service Manual. For information or instructions regarding non-Ricon features, refer to the original manufacturer Service Manual.

If there are questions about this manual or additional copies of this Service Manual are needed, please contact Ricon Product Support at the following location:

## **Ricon Corporation**

7900 Nelson Road
Panorama City, CA 91402
Outside (818) Area Code
World Wide Website

. . . . . www.riconcorp.com

..... (818) 267-3000

. . . . . (800) 322-2884

32DV0004.A **1 - 1** 

## RICON ACTIVAN LIMITED WARRANTY

**Ricon Corporation (Ricon)** warrants to the original purchaser of this product that Ricon will repair or replace, at its option, any parts that fail because of defective material or workmanship as follows:

- Repair or replace for a period of 7 years or 70,000 miles (112,000 km), whichever comes first, the structural metal component of the Ricon installed floor and ramp. These components are warranted for "rust-through" damage. Surface rust is not covered.
- Repair or replace for a period of 3 years from the in-service date or 36,000 miles (58,000 km), whichever occurs first, all other Activan components. Maintenance items and normal wear and tear excluded.
- Labor costs for specified parts replaced under this warranty for a period of three years or 36,000 miles from date of purchase. A Ricon rate schedule determines the parts covered and labor allowed. Under normal circumstances, warranty work must be performed by an authorized Ricon Activan service technician. In an emergency, and if service from an Activan service technician is not readily available, it is the owners responsibility to contact Ricon for authorization prior to commencement of any repair, and Ricon reserves the right to limit the extent of those repairs. Unauthorized repair or parts replacement by someone other than an authorized Activan service technician is not covered by this warranty. Ricon also reserves the right to require that defective parts be returned for inspection prior to paying warranty claims. Diagnostic work or troubleshooting is not covered by this warranty.

Ricon reserves the right to discontinue models or options, change specifications, materials, equipment or design at any time without notice and without incurring obligation.

This warranty is in lieu of any other warranty expressed or implied. This warranty covers only those parts installed by Ricon and is intended to supplement the vehicle manufacturer warranty. Refer to the vehicle manufacturer warranty coverage of original vehicle equipment.

#### This Warranty Does Not Cover:

Damage caused by accident, road hazard, misuse, lack of proper maintenance, failure to follow towing, hoisting, and other
operating instructions.

<u>NOTE</u>: Ricon recommends that this product be inspected by an authorized Ricon service technician at least once every six months or sooner if necessary. Any required maintenance or repair should be performed at that time.

## **⚠** WARNING

THIS PRODUCT HAS BEEN DESIGNED AND MANUFACTURED TO EXACT SPECIFICATIONS. ANY MODIFICATION OF THIS PRODUCT CAN BE DANGEROUS.

## This Warranty Is Void If:

- The conversion has been maintained or repaired by someone other than an authorized Ricon Activan service technician, or by a person not authorized by Ricon to perform such maintenance or repair.
- The conversion has been modified or altered in any respect from its original design without written authorization by Ricon.

Ricon disclaims liability for any personal injury or property damage that results from operation of a Ricon product that has been modified from the original Ricon design. No person or company is authorized to change the design of this Ricon product without written authorization by Ricon.

Ricon's obligation under this warranty is exclusively limited to the repair or exchange of parts that fail within the applicable warranty period.

Ricon assumes no responsibility for expenses or damages, including incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply.

Important: The warranty registration card must be completed and returned to Ricon within twenty (20) days after installation of this Ricon product for the warranty to be valid. The warranty is not transferable.

The warranty gives specific legal rights. There may be other rights that vary from state to state.

**1 - 2** 32DV0004.A

#### A. GENERAL SAFETY PRECAUTIONS

The following general safety precautions must be followed during operation and maintenance of the Activan:

- Under no circumstances should maintenance, repair, or adjustment of the Activan be attempted without the immediate presence of an individual capable of rendering aid.
- An injury, no matter how slight, should always be attended. Always administer first aid or seek medical attention immediately.
- Protective eyeshields and appropriate clothing should be worn during maintenance, repair and adjustment of the Activan.
- To avoid injury, the user must always exercise caution when using the ramp, and be certain that hands, feet, legs, and clothing are not in the path of its movement.
- Batteries contain acid that can burn. Wear protective clothing and eye protection at all times. If acid comes in contact with skin, flush affected area with water and wash with soap immediately. Do not place anything on top of battery. Do not smoke or use an open flame near battery.
- Before jacking vehicle, it must be safely parked on level ground, with ignition turned OFF, parking brake set and tires safely blocked.
- Always work in a properly ventilated area.
- Read and understand all instructions before using the Activan ramp or other components.
- Inspect ramp prior to each use. If an unsafe condition exist, do not use it.
- Keep others clear of the ramp when it is being used.
- Ricon recommends that the ramp be used with the Activan parked on **level** ground. It is dangerous to use the ramp if the vehicle is parked on a slope.
- The Activan ramp and other system components require regular maintenance. Ricon recommends a thorough vehicle inspection by an authorized Ricon service technician at least once every six months. To provide maximum safety, the ramp and other components should always be maintained at their highest level of performance.

32DV0004.A **1 - 3** 

## II. ACTIVAN FEATURES

This chapter overviews the features provided by the RICON conversion of the General Motors minivan for *Caltrans*.

#### FOLDING RAMP

The Activan folding ramp provides wheelchair access to the vehicle interior through the side door. It is stored in a folded position inside the vehicle when not used. This is referred to as the "stowed" position, and is shown in **Figure 2-1**. The ramp can swing outward like a gate, shown in **Figure 2-2**, to provide entry or exit without deploying the ramp. To use the ramp, it is unfolded, or "deployed" as shown in **Figure 2-3**.



FIGURE 2-1: FOLDING RAMP STOWED



FIGURE 2-2: FOLDING RAMP SWUNG OUT



FIGURE 2-3: FOLDING RAMP DEPLOYED

#### □ REAR STORAGE BIN AND SPARE TIRE MOUNT

Refer to **Figures 2-4 and 2-5**. The Activan rear storage bin also serves as a spare tire mount. Components for the Activan Q'Straint Wheelchair Restraint System, the First Aid kit, and triangle flare kit are stored in the bin when not in use. The fire extinguisher is mounted on the right side of the bin.



FIGURE 2-4: STORAGE BIN/SPARE TIRE MOUNT



FIGURE 2-5: STORAGE BIN COMPONENTS

32DV0004.A **2 - 1** 

## □ BACK-UP RAMP (OPTIONAL)

**Figure 2-6** shows the optional back-up ramp, or supplemental ramp, attached to the door sill. The back-up ramp is a spare ramp that can be used when the manual folding ramp is not available. **Figure 2-7** shows the back-up ramp stored in the rear cargo area of the vehicle.



FIGURE 2-6: BACK-UP RAMP IN PLACE



FIGURE 2-7: BACK-UP RAMP STOWAGE LOCATION

## □ Q'STRAINT® WHEELCHAIR RESTRAINT SYSTEM

Refer to **Figure 2-8**. The Activan Q'Straint Wheelchair Restraint System securely anchors wheelchairs to the floor of the vehicle. Anchoring is a safety feature that prevents inadvertent movement of occupied, or unoccupied, wheelchairs. There are several anchoring points on the interior floor, providing flexibility in where and how a wheelchair is anchored. Refer to **Figure 2-9** for examples of where wheelchairs can be anchored. Note that a **maximum** of two wheelchairs can be accommodated at any one time.

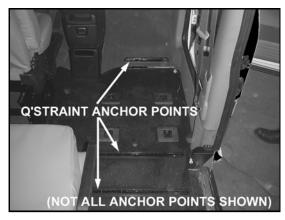


FIGURE 2-8: Q'STRAINT ANCHOR POINTS

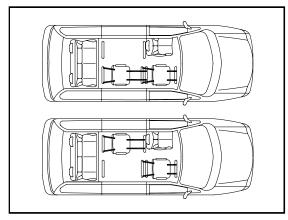


FIGURE 2-9: WHEELCHAIR POSITIONS IN VAN

## □ REMOVABLE FRONT PASSENGER SEAT

**Figure 2-10** shows a removable front passenger seat. The seat can be removed from the vehicle to create more storage space, or additional area in which to secure wheelchairs. A handle located at the lower back of the seat releases it from the floor. During vehicle operation, the release handle must be in the **INWARD** position as shown in **Figure 2-11.** 

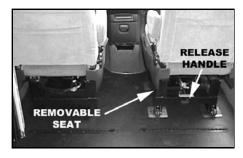


FIGURE 2-10: REMOVABLE FRONT SEAT



FIGURE 2-11: FRONT SEAT LOCKED IN PLACE

**2 - 2** 32DV0004.A

#### DRIVER SEAT STORAGE DRAWER

Figure 2-12 shows the slide-out storage drawer located below the driver seat.

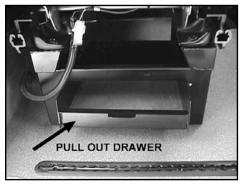


FIGURE 2-12: DRIVER SEAT STORAGE DRAWER

#### FOLDAWAY MIDDLE SEAT

The *Activan* foldaway middle seat can be folded up against the interior wall to provide additional storage space, or space for securing a wheelchair. **Figure 2-13** shows the seat in its normal seating configuration, and **Figure 2-14** shows the seat in its raised position.



FIGURE 2-13: FOLDAWAY MIDDLE SEAT



FIGURE 2-14: MIDDLE SEAT UP

### OPEN-DOOR WARNING LIGHT

Refer to **Figure 2-15**. The vehicle is equipped with a dash mounted warning light that flashes when either sliding door is open, or ajar, or the rear hatch is NOT properly closed. The vehicle ignition must be ON to power the light. Do not drive vehicle if any door is ajar!



FIGURE 2-15: DOOR-AJAR WARNING LIGHT

32DV0004.A **2 - 3** 

## □ INTERIOR FLOOR LIGHTS

**Figure 2-16** shows the location of five interior lights. One light is above the side doorway, and the other four are at floor level. Opening any door will turn on all lights.

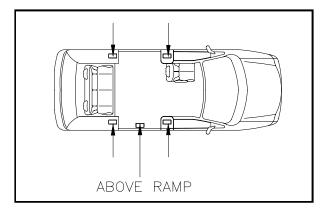


FIGURE 2-16: INTERIOR FLOOR LIGHTS

## PASSENGER HANDGRIPS

Refer to Figure 2-17 for the location of five handgrips that are available to passengers.

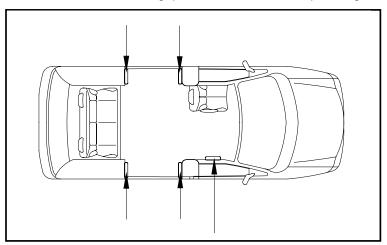


FIGURE 2-17: PASSENGER HANDGRIPS

## □ NON-SKID FLOOR

Refer to **Figure 2-18**. The floor of the Caltrans Activan is covered with non-skid flooring material to provide secure footing for passengers and their mobility equipment.

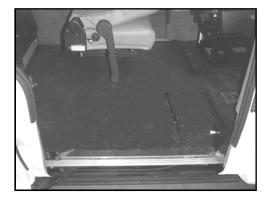


FIGURE 2-18: NON-SKID FLOOR

**2 - 4** 32DV0004.A

## III. ACTIVAN EMERGENCY INFORMATION

his chapter describes the use of several emergency features incorporated into the Ricon conversion of the General Motors minivan for *Caltrans*. This chapter must be thoroughly understood by all operators before attempting to use the vehicle. This chapter is a supplement to corresponding sections of the vehicle manufacturers Service Manual. Refer to the vehicle manufacturer Service Manual for information concerning non-Ricon features.

#### A. REAR DOOR EMERGENCY RELEASE

Refer to **Figure 3-1**. The emergency release handle for the rear door, or hatch, can be used to open the door from **inside** the vehicle. The handle is located at the passenger side of rear door. Pull handle UP and push door open.

## B. SPARE TIRE, FIRE EXTINGUISHER, FIRST AID AND TRIANGLE FLARE KITS

**Figure 3-2** shows the storage bin with its cover removed. The spare tire, fire extinguisher, triangle flare kit, and first aid kit are located in cargo area behind rear seat. Access is through rear hatch. Follow label instructions when using these items. Refer to following sections for further information.

## **№** WARNING

- RICON CORPORATION DISCLAIMS LIABILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE CAUSED BY USE OF A TIRE SIZE WHICH VARIES FROM THAT SPECIFIED BY VEHICLE MANUFACTURER.
- UNDER NO CIRCUMSTANCES SHOULD VEHICLE BE PUT IN MOTION WITHOUT SPARE TIRE PROPERLY SECURED.



FIGURE 3-1: REAR DOOR RELEASE HANDLE



FIGURE 3-2: VEHICLE CARGO AREA

## 1. SPARE TIRE

Refer to **Figure 3-3** and the following paragraphs. The Activan conversion relocated the spare tire to the rear of the vehicle, behind the rear seat. Refer to following paragraphs for spare tire removal-and-installation procedures.

## ♠ WARNING

THE REAR STORAGE BIN COVER IS NOT PERMANENTLY HINGED. SUPPORT BIN COVER WITH TWO HANDS WHEN REMOVING OR INSTALLING.

#### a. Spare Tire Removal:

- 1) Refer to **Figure 3-3**. Remove storage bin cover.
- 2) Remove spare tire cover.
- Remove spare tire retaining screw by turning counterclockwise.
- 4) Remove spare tire from vehicle.
- 5) Store spare tire hold-down plate and retaining screw.



FIGURE 3-3: SPARE TIRE

## b. Spare Tire Installation:

- 1) Refer to **Figure 3-3**. Position spare tire on front of storage bin.
- 2) Position hold-down plate on front of spare tire, locating two screws in wheel lug holes.
- 3) Insert spare tire retaining screw through hole in bin, spare tire, and then into hold-down plate. Turn clockwise until tight.
- 4) Replace spare tire cover.
- 5) Reinstall storage bin cover.

#### 2. FIRE EXTINGUISHER

The fire extinguisher is a type B:C, size 1 dry chemical device. The extinguisher is located in the rear of the vehicle, secured to the outside of storage bin. Follow instructions on extuinguisher for maintenance and usage.

#### 3. TRIANGLE FLARE KIT

The triangle flare kit is located inside the storage bin, behind the rear seat. Follow label instructions on item used.

### 4. FIRST AID KIT

The first aid kit is located inside the storage bin, behind the rear seat. Follow label instructions on item used.

#### C. TOWING PRECAUTIONS

## **CAUTION**

This vehicle may be equipped with pneumatic rear suspension. Check Operator Manual before towing or raising vehicle. Do not tow or raise vehicle until you have contacted the owner or Ricon Product Support, if the manual is not available.

## **CAUTION**

The Activan ground clearance is low; use caution when towing to avoid damage:

- This vehicle must be transported on a flat-bed tow truck, or a tow truck with a rear dolly. Any other means will result in damage to the rear suspension and will void the warranty.
- Tow with extreme care if the rear suspension appears damaged.

## D. JACKING AND HOISTING THE VEHICLE

The vehicle jack and jack-handle are stored in the rear cargo area, behind the driver side trim panel. Instructions for jack usage are on the jack, in the vehicle owner guide/manual, and on the inside of the trim panel cover. Refer to **Figure 3-4**. The vehicle jacking points are relocated by the Activan conversion. Lift the vehicle by its frame, at the points shown.

## **CAUTION**

Empty the rear air bags before lifting the vehicle off the ground. Do this by first raising it <u>slightly</u>, without the tires leaving the ground.

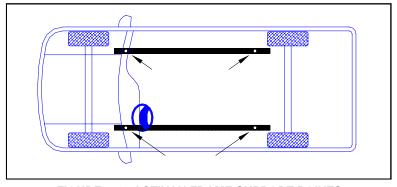


FIGURE 3-4: ACTIVAN FRAME SUPPORT POINTS

32DV0004.A 3 - 2

## E. BACK-UP RAMP (OPTIONAL)

The optional back-up ramp is stored in the rear cargo area of the vehicle. The spare ramp is used when the manual folding ramp is not available, or is inoperative. **Figure 3-5** shows the two ramp anchor slots on the floor, in the vicinity of the door sill. Install the ramp in the doorway, as shown in **Figure 3-6**, with the two prongs on its rear edge inserted into the slots.

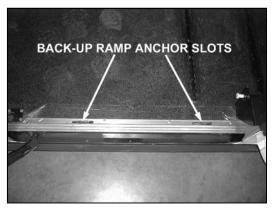


FIGURE 3-5: BACK-UP RAMP ANCHOR SLOTS



FIGURE 3-6: BACK-UP RAMP IN PLACE

32DV0004.A **3 - 3** 

## IV. ACTIVAN MAINTENANCE

The maintenance information in this chapter applies to the Ricon conversion of the GM minivan done for Caltrans. The information consists of a panel cutting precaution, maintenance schedule, circuit breaker location, and modifications to factory systems. This chapter supplements the related sections of the vehicle manufacturer Owner Manual. Refer to the manufacturer Owner or Service Manuals for information concerning non-Ricon features.

## **WARNING**

THIS RICON PRODUCT IS HIGHLY SPECIALIZED. ONLY AUTHORIZED RICON SERVICE TECHNICIANS USING RICON REPLACEMENT PARTS MAY PERFORM MAINTENANCE AND REPAIRS. MODIFYING, OR FAILING TO PROPERLY MAINTAIN THIS PRODUCT, MAY RESULT IN UNSAFE OPERATING CONDITIONS AND MAY VOID THE WARRANTY.

## A. DAILY SAFETY CHECK

Inspect the Activan prior to each use for the following conditions:

- All functions operate properly. DO NOT use ramp if there are unusual noises or movements.
- General appearance and lubrication are proper.
- All fasteners are tight.

## B. FLOOR PANEL CUTTING PRECAUTION

Refer to Figure 4-1. Electrical harnesses are routed beneath the floor in the areas shown. Do not cut or drill into these areas.

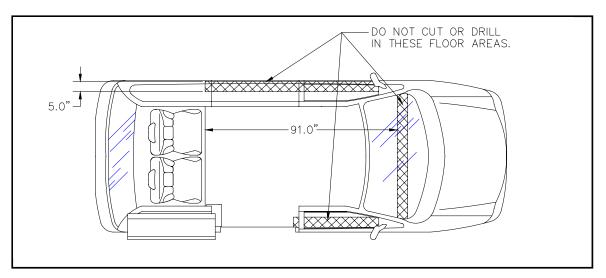


FIGURE 4-1: FLOOR CUTTING PRECAUTION

32DV0004.A **4 - 1** 

## C. MAINTENANCE SCHEDULE

Routine maintenance of the Ricon Activan will provide optimum performance while reducing the need for repairs. During the Ricon warranty period, an authorized Ricon service technician must perform maintenance inspections according to **Table 4-1**. After the warranty period expires, it is recommended that an authorized Ricon service technician continue these maintenance inspections at the same intervals. Service should be increased under conditions of heavy use (more than 10 ramp cycles per day).

TABLE 4-1: MAINTENANCE SCHEDULE			
SERVICE POINT	DESCRIPTION		
	DAILY SAFETY CHECK		
Removable Passen- ger Seat	Be certain removable passenger seat base is properly locked in position.		
Foldaway Middle Seat	Be certain folding seat is locked firmly in position (either folded or unfolded).		
	MONTHLY SAFETY CHECK		
Sliding Door	Clean lower door tracks and lightly lubricate contact surfaces.		
Folding Ramp	Clean and lightly lubricate pivot points and hinges.		
	SIX-MONTH SAFETY CHECK		
Removable Passen- ger Seat	Verify that locking mechanism on removable passenger seat operates properly by removing and reinstalling seat.		
Electrical Connections (under hood)	Be certain circuit breaker connections are free of corrosion; clean and apply protective coating as required.		
	ANNUAL SAFETY CHECK		
Under Carriage	Be certain undercoating is intact. Re-coat areas as required.		
	Note: The rust inhibiting coating should provide years of trouble free service. However, severe conditions (frequent use on unimproved or heavily salted road surfaces, etc) may cause premature corrosion.		
	Any area where undercoating is bulging due to flaky rust, should be cleaned using a wire brush, treated with primer and re-coated.		
Hoses and fittings	Be certain all fuel lines are intact and undamaged.		
	Be certain fuel fill hoses are free of cracks or other damage.		
END OF TABLE			

32DV0004.A **4 - 2** 

#### D. RICON INSTALLED INLINE FUSE

Refer to **Figure 4-2** for location of the in-line fuse installed by Ricon in the Caltrans GM Activan. This 10 amp fuse protects the dash-mounted Open Door Warning Light .

## **CAUTION**

Replace fuse with a part of the same rating. Never replace with a part rated higher in amperage.

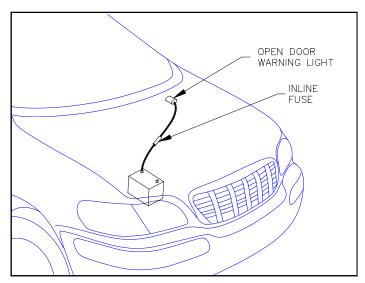


FIGURE 4-2: RICON INSTALLED INLINE FUSE

#### E. RICON MODIFICATIONS TO FACTORY SYSTEMS

Although Ricon has made extensive modifications to the vehicle chassis, we have minimized alterations to vehicle functions and systems. Most factory parts are undisturbed, but it has been necessary to relocate or modify some factory parts to accommodate chassis modifications. Most of these modifications are minimal and easily detected. Important modifications are discussed in this section.

## 1. BYPASS OF FACTORY SIDE AIRBAGS

## **WARNING**

THE SIDE IMPACT AIR BAGS (LOCATED IN FRONT DOORS) HAVE BEEN DISABLED. THIS IS NECESSARY TO ACCOMODATE <u>REMOVABLE</u> SEATS, WHICH PROVIDE SPACE IN THE FRONT SEAT AREA FOR PLACEMENT OF A WHEELCHAIR.

The original sensors that triggerred the side impact air bags were located in the seat cushion of each front seat, however, they are not present in the *Activan* removable seats. Installing sensors in <a href="removable">removable</a> seats is impractical because of the need to disconnect and reconnect the sensor each time the seat is removed and replaced. If the vehicle Safety Restraint System (SRS) detects a break in a seat sensor circuit it will illuminate the dash warning light and disable the airbag system. The vehicle will then need to be taken to a factory dealer to reset the SRS.

In addition, bypassing the side airbags eliminates the possibility of injury to a wheelchair occupant due to the bags rapid inflation.

## 2. MODIFICATION OF FACTORY AUTOMATIC LEVELING SYSTEM

The original equipment vehicle load leveling rear suspension responds to changes in vehicle load by automatically adjusting the ride height. Air is injected into, or removed from, the rear pneumatic shocks at the control of a ride height sensor located above the rear axle. This self leveling feature is not standard on all Activans

Lowering the vehicle interior floor has necessitated replacement of the tie rod linking the factory ride height sensor to the rear axle. Be certain to use the Ricon manufactured tie rod if replacement is necessary. Using a Ricon tie rod will assure correct operation of the automatic leveling system

## V. ACTIVAN SPARE PARTS

his chapter contains parts diagrams for RICON's GM minivan conversion for Caltrans. The exploded parts diagrams of major conversion assemblies show individual components referenced by numbers. Each accompanying parts list contains part reference numbers, part descriptions, quantity used on vehicle, and Ricon part numbers. To order a part, locate part on appropriate drawing, note its reference number, find this number on the accompanying parts list, and use the Ricon part number in the far right column. This chapter does not cover original GM parts. Contact the vehicle manufacturer for non-Ricon parts information.

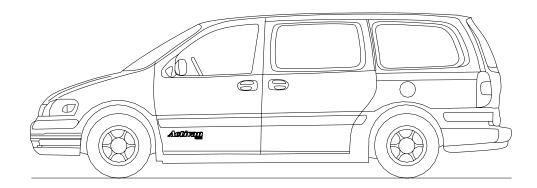


FIGURE	DIAGRAM	PAGE
5-1	INTERIOR DECALS	5-2
5-2	EXTERIOR DECALS	5-3
5-3	ELECTRICAL COMPONENTS	5-4
5-4	DRIVER SIDE FIXED FRONT SEATBASE	5-5
5-5	REMOVABLE FRONT SEATBASE	5-6
5-6	MANUAL FOLDING RAMP ASSEMBLY	5-7
5-7	RAMP MOUNTING BRACKET ASSEMBLY	5-8
5-8	RAMP TENSIONER ASSEMBLY	5-8
5-9	RAMP TENSIONER MOUNTING	5-8
5-10	SPARE TIRE MOUNT AND STORAGE BIN	5-9
5-11	DRIVER AND PASSENGER FOOTRESTS	5-10
5-12	REAR FOOTRESTS	5-10
5-13	CARGO AREA COMPONENTS	5-10
5-14	FLARE KITS	5-11

32DV0004.A 5 - 1

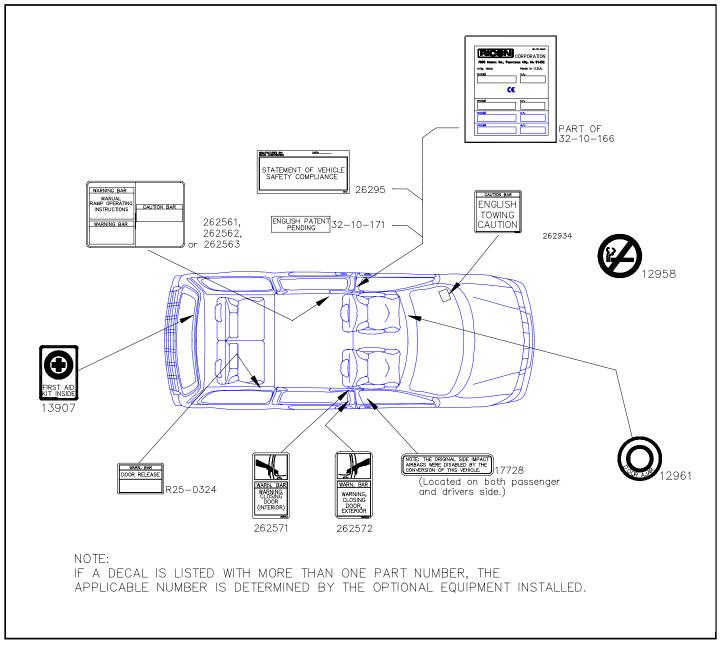


FIGURE 5-1: INTERIOR DECALS

5 - 2 32DV0004.A

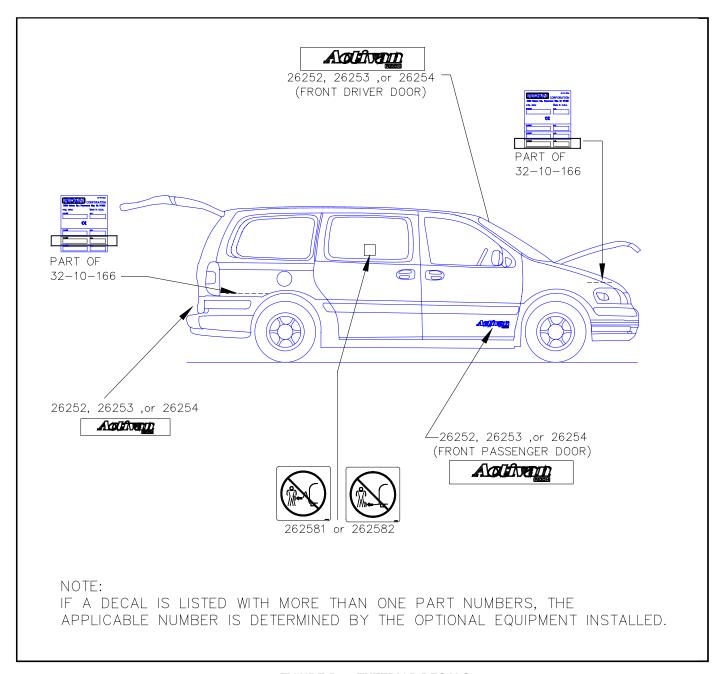


FIGURE 5-2: EXTERIOR DECALS

32DV0004.A 5 - 3

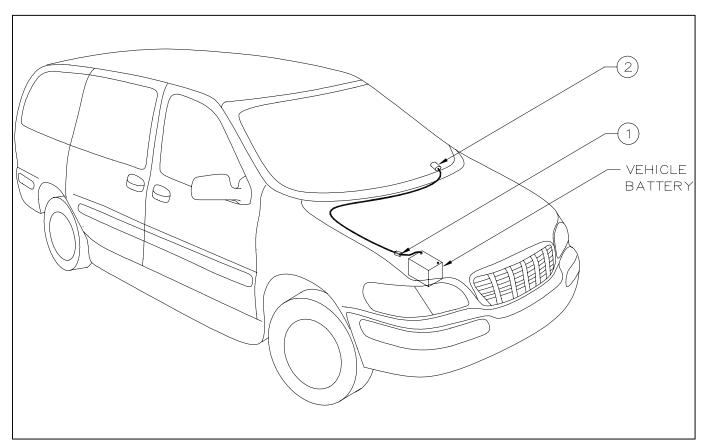


FIGURE 5-3: ELECTRICAL COMPONENTS

	ELECTRICAL COMPONENTS			
REF	ITEM	QTY.	RICON PN	
1 2	FUSE, 10 AMP DOOR AJAR INDICATOR	1 1	11570 NS5586	

5 - 4 32DV0004.A

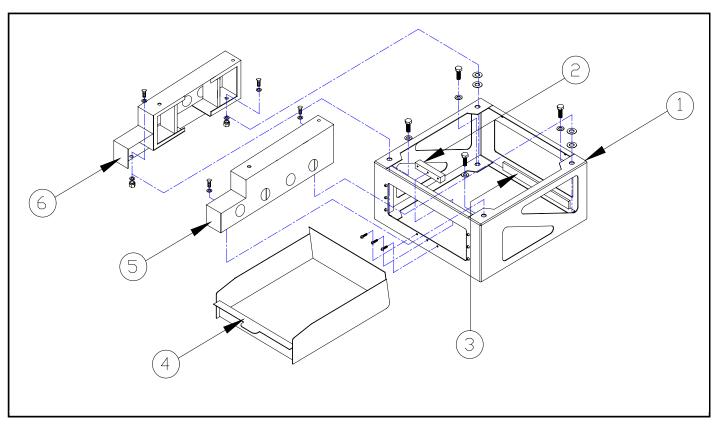


FIGURE 5-4: DRIVER SIDE FIXED FRONT SEATBASE

DRIVER SIDE FIXED FRONT SEATBASE				
REF	ITEM	QTY.	RICON PN	
1	SEAT BASE	1	18676	
2	DELRIN SLIDER	1	18677	
3	RUBBER BUMPER, ¼ X 1"	1	18678	
4	TRAY	1	18679	
5	SEATBASE SPACER, RH	1	18680	
6	SEATBASE SPACER, LH	1	18681	

32DV0004.A 5 - 5

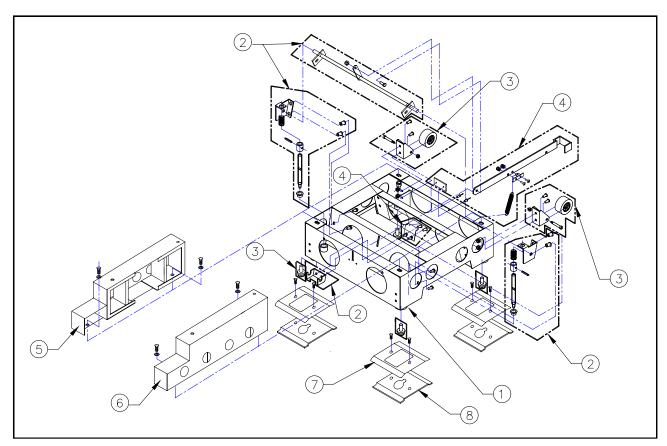


FIGURE 5-5: REMOVABLE FRONT SEATBASE

	REMOVABLE FRONT SEATBASE				
REF	ITEM	QTY	RICON PN		
1	SEATBASE FRAME	1	18694		
2	SEATBASE SHAFT	1	13266		
3	2" PLASTIC WHEEL	3	13265		
4	RELEASE HANDLE	1	13267		
5	SEATBASE SPACER, LH	1	18695		
6	SEATBASE SPACER, RH	1	18696		
7	KEYHOLE TRIM PLATE	4	18697		
8	KEYHOLE PLATE	4	18698		

5-6 32DV0004.A

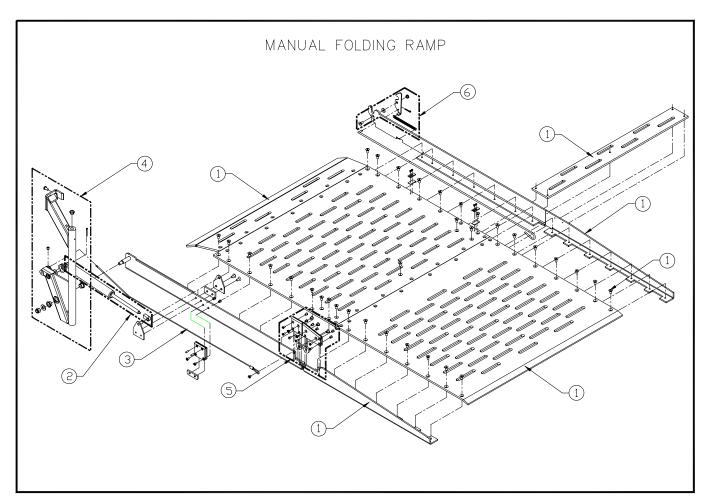


FIGURE 5-6: MANUAL FOLDING RAMP ASSEMBLY

	MANUAL FOLDING RAMP ASSEMBLY			
REF	ITEM	QTY.	RICON PN	
1	KIT, RAMP ASSY, w/RAILS	1	19525	
2	KIT, GAS STRUT	1	19526	
3	CABLE, 30" RAMP	1	19314	
4	KIT, MAIN SUPPORT ASSY	1	19527	
5	KIT, COVER ASSY	1	19528	
6	KIT, LATCH-RELEASE	1	14645	

32DV0004.A 5 - 7

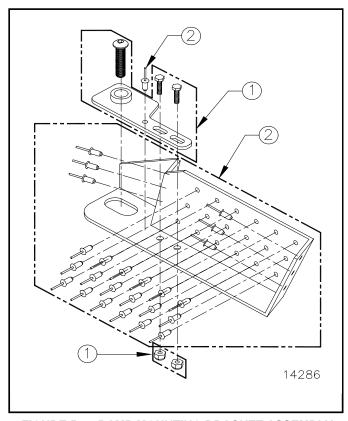


FIGURE 5-7: RAMP MOUNTING BRACKET ASSEMBLY

	RAMP MOUNTING BRACKET ASSEMBLY				
REF	ITEM	QTY.	RICON PN		
1	MOUNTING BRKT + HDWR	1	18606		
2	KIT, RAMP SUPPORT BRKT, HDWR	1	18607		

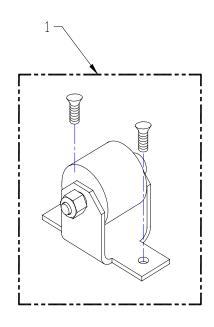


FIGURE 5-8: RAMP TENSIONER ASSEMBLY: RICON P/N 17513



FIGURE 5-9: RAMP TENSIONER MOUNTING

5 - 8 32DV0004.A

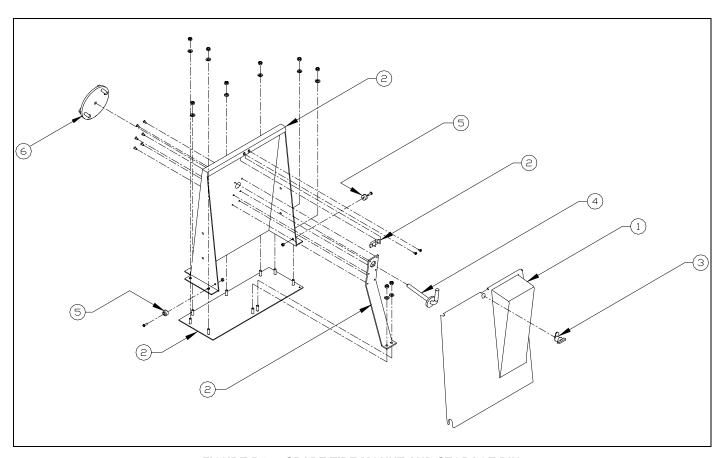


FIGURE 5-10: SPARE TIRE MOUNT AND STORAGE BIN

	SPARE TIRE MOUNT AND STORAGE BIN			
REF	ITEM	QTY.	RICON PN	
1 2 3 4 5	STORAGE BIN COVER STORAGE BIN CASE ASSY THUMB LOCK TIRE RETAINING SCREW COVER PIVOT	1 1 1 1	18670 18671 18672 18673 18674	
6	TIRE RETAINING PLATE	1	18675	

32DV0004.A 5 - 9

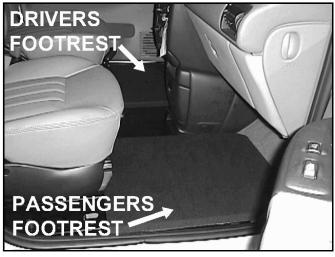


FIGURE 5-11: DRIVER AND PASSENGER FOOTRESTS

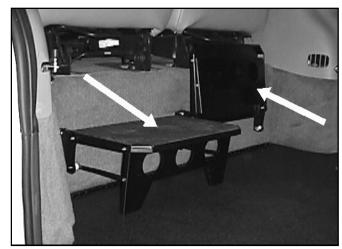


FIGURE 5-12: REAR FOOTRESTS

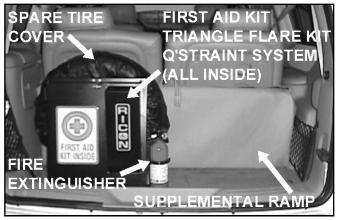


FIGURE 5-13: CARGO AREA ACCESSORIES

REF	ITEM	QTY	RICON PN
5-11	FOOTREST, DRIVER	1	11383
5-11	FOOTREST, PASSENGER	1	11382
5-12	FOOTREST, REAR	2	14164
5-13	Q'STRAINT SYSTEM	1	WD5327
5-13	SPARE TIRE COVER	1	50-50-049B
5-13	FIRST AID KIT	1	14030
5-13	TRIANGLE FLARE KIT	1	NS5585
5-13	FIRE EXTINGUISHER	1	NS5584
5-13	SUPPLEMENTAL RAMP	1	17579

5 - 10 32DV0004.A

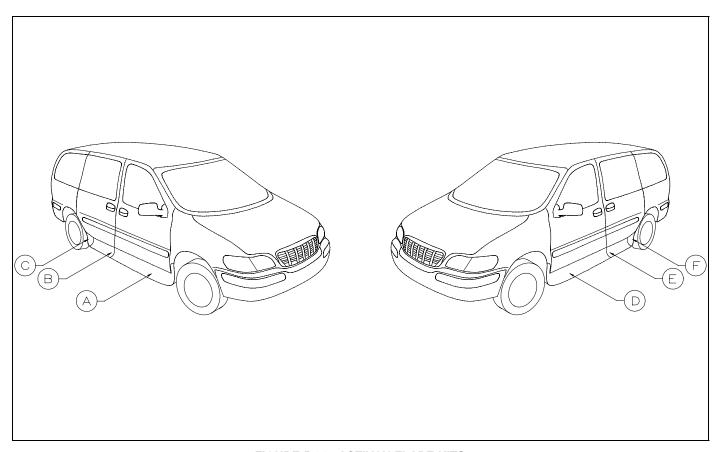


FIGURE 5-14: ACTIVAN FLARE KITS

ACTIVAN FLARE KITS			
REF	DESCRIPTION	QTY.	P/N
A B C D E F	KIT, FLARE, FRONT - PASSENGER SIDE KIT, FLARE, MIDDLE - PASSENGER SIDE KIT, FLARE, REAR - PASSENGER SIDE KIT, FLARE, FRONT - DRIVER SIDE KIT, FLARE, MIDDLE - DRIVER SIDE KIT, FLARE, REAR - DRIVER SIDE	1 1 1 1 1	19432 19433 19434 19435 19436 19437