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Po Box 122 Margate QLD 4019 Australia

REPLACES: 15.02.10 REVISED: 22.07.10

#### BM87SY

#### FITTING INSTRUCTIONS

#### 9/00 –MITSUBISHI ROSA BUS BE649 and BE64D SERIES (see figures 4 and 5 for changes) BIG TUBE™ PROTECTION BAR VEHICLE FRONTAL PROTECTION SYSTEM (VFPS)

Check installation hardware before commencing.

- 1. For Buses with mesh inserts in bumper: Remove mesh insert from Drivers side of bumper (three PK screws) see figure 1, and using a grinder, cut centre support for mesh from rear of bumper. Blow all fillings clear and treat all exposed metal with a rust inhibitor.
- 2. Remove tow hook from passenger side chassis rail. See figure 2.
- 3. Remove two 14mm head bolts from outside top front of chassis on passengers and drivers side. See figure 3.
- 4. Feed passenger side mount through from back of bumper and attach to outside of chassis rail. Use 3/8 x 1 ½ bolts (supplied) with nuts and washers on wire for top holes and 9/16 x 1 ½ bolts and nuts (supplied) for where tow hook was removed.
- 5. Drives side: remove two original bolts from bottom chassis rail. Feed drivers side mount through <u>front</u> of bumper. Use 3/8 x 1 ½ bolts with nuts and washer on wire (supplied). **DO NOT TIGHTEN**. Attach steel angle bracket (supplied) from steel protection bar mount to where bolts were removed on bottom of chassis rail. Use 3/8 x 1 ½ bolts and nuts for bottom of chassis and 9/16 x 1 ½ bolt and nuts for angle bracket to protection bar mounts.
- 6. Align mounts with each other in vertical position. See figure 4 and 5. TIGHTEN ALL BOLTS.
- 7. Splice ECB wiring into original indicator/park light wiring (access behind bumper).
- 8. Fit ECB LED indicator / park lights (supplied) into protection bar as per instructions supplied with the LED indicator kit. **NOTE: Ensure park light is to outside. See figure 6.**
- 9. Attach protection bar to inside of steel protection bar mounts. Use ½ x 1 ½ bolts and nuts (supplied).
- 10. Align protection bar with vehicle. Se figure 7 and 8. TIGHTEN ALL BOLTS.
- 11. Reattach tow hook to passenger side steel protection bar mount. Use original bolts.
- 12. Connect ECB indicator/ park lights. Check for correct operation.

NOTE: Ensure ECB air vents in protection bar have rear up sweep trimmed off so airflow is straight through.

#### ENSURE NUMBER PLATE IS CLEARLY VISABLE



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**Note:** When fitting/refitting the licence plate to the vehicle, ensure there is no obstruction to licence plate vision in accordance with local authorities. If required relocate licence plate to an alternate location.

#### **Further VFPS Notes:**

- a) Do not attach VFPS to the vehicle using anchorages not intended for this purpose (e.g. engine mounting bolts).
- b) Do not use this product for any vehicle make or model, other than those specified by the VFPS manufacturer.
- c) Do not remove the plaque or label from the VFPS.
- d) Do not modify the structure of the VFPS in any way.
- e) No accessory or fitment should project forward of the VFPS forward profile.
- f) ENSURE THESE INSTRUCTIONS ARE LEFT WITH VEHICLE OWNER AND/OR OPERATOR.

#### **IMPORTANT INFORMATION**

Periodically check bolts and nuts for correct tightness, especially if travelling on rough roads

#### FITTING KIT

| 2 – Steel protection bar mounts.   | 8 - 9/16 flat washers.                       |
|------------------------------------|--|
| 1 – Steel angle bracket.           | 4 - 9/16 spring washers.                     |
| $6 - 3/8 \ge 1 \frac{1}{2}$ bolts. | $4 - \frac{1}{2} \times 1 \frac{1}{2}$ bolt. |
| 4 - 3/8 nuts wire/washer.          | $4 - \frac{1}{2}$ nut                        |
| 2 - 3/8 nuts.                      | $8 - \frac{1}{2}$ flat washer.               |
| 8 - 3/8 flat washers.              | $4 - \frac{1}{2}$ spring washer.             |
| 6 - 3/8 spring washers.            | 6 – Cable locks.                             |
| $4 - 9/16 \ge 1 \frac{1}{2}$ bolt  | 3 – Modified ECB air vents – as per step 9   |
| 4 - 9/16 nut.                      | 1 – ECB LED Indicator / Park light kit       |

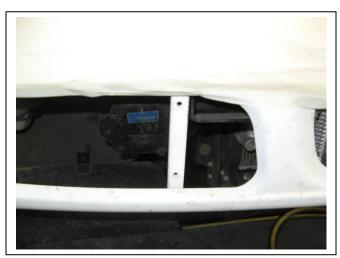


Figure 1: Drivers side mesh support. Remove from rear of bar using grinder or similar.



**Figure 2:** Passengers side 14mm and 21mm bolts to be removed for fitment.



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**Figure 3:** Drivers side 14mm bolts to be removed for fitment.



Figure 4: BE649 series Rosa Bus with mounts fitted.



**Figure 5:** BE64D Series Rosa bus with mounts fitted.

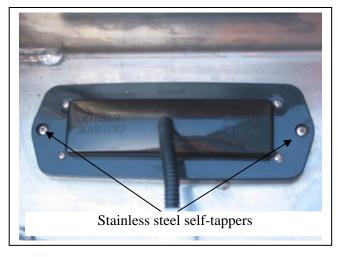


Figure 6



Figure 7: Front view



Figure 8: Side View



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# We value your comments

Dear Fitter,

ECB would like to know how you went with the installation of this product. We value your comment and may need to contact you to clarify some details so please complete your contact details clearly.

We would appreciate if you could complete as many of the following details as possible.

| Your Name:                                  | Your contact No.                                  |
|---|---|
| Product Part No.                            | Product Invoice No.                               |
| Product Description:                        | Make, model, and year of vehicle:                 |
| Product Work Order No.                      | Company your from/Company product purchased from: |
| Date of Fitment://                          | Yes No  |
| Was the fitting hardware supplied complete? |   |
| If no what was not supplied                 |   |
|   |   |
| Did the installation go well?               | Yes No  |
| Please provide comments                     |   |
|   |   |
|   |   |

Please draw diagrams if you need to.

**Fax to** (07) 3283 1168



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See other side of

this page for

photos of all

mounts

# DESPATCH CHECKLIST BM87SY

| Work Order # |  |
|--------------|--|
| Finish:      |  |
| Transport:   |  |
| Due Date:    |  |

- O 2 Steel mounting brackets.
- O 1 Steel angle bracket.
- O = 1 Bolt Kit.
- *O* 1 ECB LED Indicator / Park light kit.
- O 2 ECB overriders **Fitted to bar.**
- O 3 Modified ECB air vents as per step 9. (fitted to bar)



Is this product "the best it can be" Yes // Wrapper's initials // Checker initials // Checker initials

All parts checked and completed by:

| Nut and bolts:    | Date// |
|-------------------|--------|
| Order control:    | Date// |
| Final wrap check: | Date// |



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"7" cut into each mount

