

TOWING MIRRORS FITTING INSTRUCTIONS

PRADO 250 SERIES 08/2024-CURRENT
POWER FOLD TM2450 - TM2453

INCLUDES

**MSA
POWER FOLD™**
MODELS WITH
CAMERA PROVISION



MSA
4X4 ACCESSORIES



MSA4X4.COM.AU | GEAR FOR LIFE

CONGRATULATIONS

ON PURCHASING A QUALITY SET OF MSA 4X4 TOWING MIRRORS!



MSA 4X4 Towing Mirrors are simple to fit as they mount onto the vehicle door in the same position as the existing mirrors, using existing holes and wiring.

Getting Started:

Here's what comes inside the box:

- 1 x** Left hand side mirror
- 1 x** Right hand side mirror
- 1 x** Complete fitting kit
- 1 x** Installation instructions

If anything is missing, please contact us via:
warranties@msa4x4.com.au

IMPORTANT INFORMATION

WHAT TO KNOW BEFORE INSTALLING MSA 4X4 TOWING MIRRORS:

MSA 4X4 Towing Mirrors are labelled 'Left' and 'Right', on the packaging and on the mirror bases. The Left mirror is installed on the Passenger's side and the Right mirror is installed on the Driver's side.



RECOMMENDED TOOLS FOR INSTALLATION

- PHILLIPS HEAD & FLATHEAD SCREWDRIVER
- SMALL RATCHET WITH 10MM SOCKET WITH EXTENSION BAR
- TRIM PANEL REMOVAL TOOLS
- TORQUE WRENCH
- TAPE MEASURE
- MASKING TAPE
- T6 TORX BIT



Image for illustration purposes only.

INSTALL STEPS

1 PREPARE THE VEHICLE

Position the vehicle on flat ground with at least 1 metre of clear space on all sides.

Measure a box, 300mm away from and all around the vehicle (50mm masking tape is recommended). Ensure that the lines are perpendicular with the vehicle and meet at 90° angles in the corners. This will help when realigning the cameras in the **MSA Towing Mirrors** after installation. Turn on the vehicles camera function. The lines must be visible from the vehicles' 360° camera view. Adjust if required.



Image for illustration purposes only.



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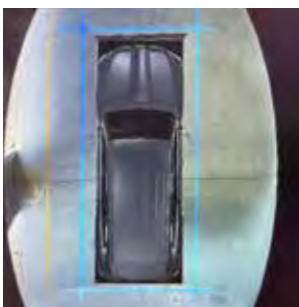


Image for illustration purposes only.

✓ PLEASE NOTE

DO NOT MOVE THE VEHICLE UNTIL THE MSA MIRRORS HAVE BEEN INSTALLED AND THE CAMERAS HAVE BEEN RE-ADJUSTED.

✓ TIP

TAKE A PHOTO OF THE 360° CAMERA VIEW PRIOR TO REMOVAL OF THE MIRRORS FOR REFERENCE WHEN READJUSTING THE MSA MIRRORS.

2 REMOVING THE FACTORY MIRROR

Remove the interior door trims and the original factory fitted mirrors as per the vehicle manufacturer's instructions. Assistance, holding the mirror during the removal process may be required to avoid any accidental damage to the original mirrors and/or the vehicle.



Retain and secure the nuts and/or bolts with the original factory mirrors. They will not be required to install the new **MSA Towing Mirrors** on this model vehicle. However they will be required if reinstalling is ever required.

Trace the wires from the original mirror, located in the vehicle's door, and disconnect any connected plugs. Follow this same route when installing the new **MSA Towing Mirrors**. Taking a photo of the original wire positioning before disconnecting may be helpful.



Toyota Prado 250 Series with factory mirrors

MSA TOWING MIRRORS

3 REMOVING THE FACTORY CAMERA

✓ PLEASE NOTE

DISMANTLING THE FACTORY MIRRORS, REMOVING THE SIDE MIRROR CAMERAS AND SAFETY EXIT ASSIST (SEA) SENSOR AND THEN INSTALLING THEM INTO THE MSA TOWING MIRRORS, WILL BE REQUIRED FOR THE CAMERA FEATURE TO WORK ON THIS MIRROR MODEL.

Prior to dismantling the **Factory Mirror**, use a white pencil, or similar, to mark the orientation of the **Camera Lens**. Make a small mark pointing away from the vehicle. This will help with aligning the **Camera** in the correct orientation in the **MSA Towing Mirror**.

✓ TIP

START FROM THE CORNER CLOSEST TO THE MIRROR BASE AND WORK AROUND THE MIRROR CAP.



Mirror Housing Screws

Place the **Mirror** on a bench or stable non-slip surface. Be careful not to damage or scratch the **Factory Mirror**. Use a **Trim Removal Tool** to carefully unclip the **Mirror Glass** from the **Mirror** and disconnect any **Blind Spot Monitoring** (BSM) and heating plugs. Remove the **Mirror Cap**, using a **Trim Removal Tool** and set aside.

To gain access to the **Camera Bracket** and **Safety Exit Assist Sensor Bracket**, remove the six screws (*circled in RED*), from the **Mirror Housing** and unclip from the **Mirror Body**. Be gentle as each section is still connected by cables. Unplug the **Camera** and **Safety Exit Assist Sensor** (*circled in RED*), and remove the three small screws holding the brackets in place and separate.

Remove the two **Torx Screws** from **Camera Bracket** and set the camera aside. Remove the two **Phillips Head Screws** from the **Safety Exit Assist Sensor Bracket**

✓ PLEASE NOTE

RETAIN THE TWO TORX AND PHILLIPS HEADS SCREWS AS THEY ARE REQUIRED TO ATTACH THE CAMERA AND THE SAFETY EXIT ASSIST SENSOR TO THEIR RESPECTIVE BRACKETS IN THE MSA TOWING MIRRORS, SO BE SURE NOT TO LOSE THEM.

Repeat for the opposite **Mirror**.

Be careful to separate the left hand side (*passenger side*) and right hand side (*driver side*) cameras. As the left hand side camera will be installed into the left hand side **MSA Towing Mirror** and the right hand side camera will be installed into the right hand side **MSA Towing Mirror**.



Camera and Safety Exit Assist Sensor



INSTALL STEPS

4 INSTALLING THE TOWING MIRRORS

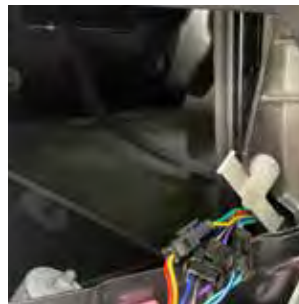
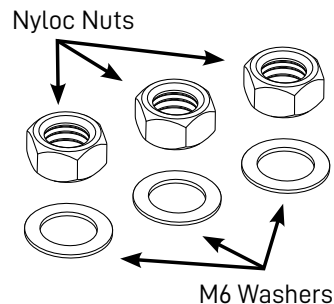
Assistance, holding the mirror during the installation process may be required to avoid any accidental damage to the new **MSA Towing Mirrors** and/or the vehicle.

Use the supplied **Backing Plate**, **Washers** and **Nyloc Nuts** to secure the **MSA Towing Mirrors** into place. From the outside align the pre fixed studs on the mirror with the original bolt holes in the vehicle door. Pass the studs through the holes. Feed the wiring loom through the large rectangle hole in the **Backing Plate** and place the **Backing Plate** over the 3 pre fixed mirror bolts. Start from the top bolt, attach the **Flat Washers** and **Nylon Nuts**, and secure the nuts about half way up the thread. After all the bolts have been started, double check the rubber surrounding the door is not caught under the mirror base and the rubber seal provided is sitting flush against the mirror and door frame.

Finally, secure and tighten all the bolts to 8nm.

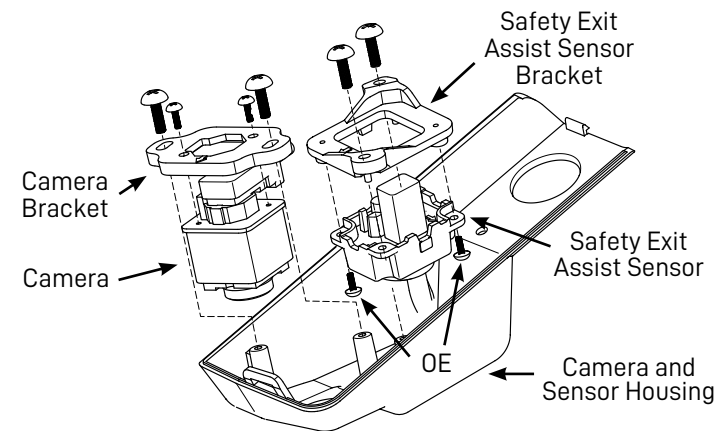
✓ PLEASE NOTE

ENSURE THE WIRING LOOM RUNS AROUND THE WINDOW GUIDE RAIL, THE SAME WAY AS THE FACTORY MIRROR LOOM.



5 INSTALLING THE CAMERAS

The **Camera and Sensor Housing** is supplied separately from the **Towing Mirror**. Ensure the left hand side **Camera** and **Sensor** go with the left hand side **Camera** and **Sensor Brackets** and **Housing**. Use the two factory **Torx Screws**, to attach the **Camera** into the **Camera Bracket**. Place the **Camera Bracket** in the same orientation as the **Factory Mirror** and attach to the **Camera and Sensor Housing**. Use the two factory **Phillips Head Screws** to attach the **Sensor** into the **Sensor Bracket** and attach to the **Camera and Sensor Housing**. Plug in the **Camera and Sensor** into the plugs and clip the **Camera Housing** into the **MSA Towing Mirror**. Repeat for the other side.



MSA TOWING MIRRORS

6 PLUG & PLAY

MSA Towing Mirrors are supplied with a plug and play loom that plugs directly into the original plugs located in vehicle door. Run the **MSA Towing Mirror** wire in the same way as the original one, secure this wire and plug together, it will only go in one way. Please ensure this clicks firmly into place.



TIP

ENSURE THAT YOU RUN ANY EXCESS IN THE WIRE IN SUCH A WAY THAT IT DOES NOT GET CAUGHT UP OR DAMAGED BEHIND THE DOOR PANEL.

7 ALIGNING THE CAMERA

Now that the cameras are installed and the **MSA Towing Mirrors** are installed into the vehicle. Close the doors and turn on the vehicles 360 view (*refer to user manual*). Check that the box laid out on the floor at the beginning is still parallel to the vehicle. If the lines are not parallel, the **Camera Bracket** can be adjusted to correct the alignment. If the alignment is correct, skip the next step and proceed to re-installing the door trims.

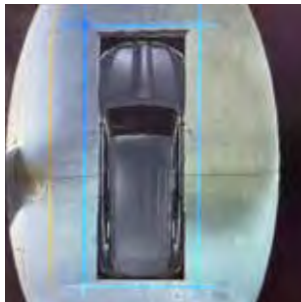


Image for illustration purposes only.

8 ADJUSTING THE CAMERA

With a small flathead screwdriver, pop the **Camera Housing** out of the mirror. Loosen the 2 inner screws holding the **Camera Bracket** in. Adjust the camera by rotating the camera clockwise or anti-clockwise to suit the drivers viewing preference. Tighten the 2 inner screws, plug the camera back in, clip the **Camera Housing** back into place and check the 360° view. Repeat this process until a satisfactory result is achieved. Secure the **Camera Housing** into the **Towing Mirror** with the supplied screw.



INSTALL STEPS

9 RE-INSTALLING DOOR TRIMS

Re-install the door trim, as per manufacturer's instructions.

✓ PLEASE NOTE

CHECK YOUR MIRROR HAS COMPLETE FUNCTION PRIOR TO FINAL RE-INSTALLATION OF THE DOOR TRIMS.

10 LET'S GO!

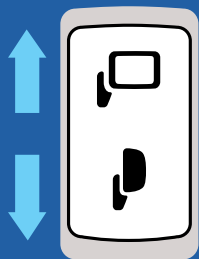
Adjust the mirrors to suit to the driver's viewing angle and preferences. The vertical and horizontal adjustments cater to drivers of differing heights and seated positions.

When rotating the mirror into the horizontal position, the mirror's actuator automatically adapts, allowing the mirror to retain the standard adjustments (*up, down, side to side*) from the vehicle's standard mirror adjuster.

✓ PLEASE NOTE

FOR POWER FOLD MODELS, THE MIRROR HEAD MAY BE LOOSE BEFORE INSTALLATION. THE MIRROR HEAD NEEDS TO BE ELECTRONICALLY FOLDED AND UNFOLDED, A MINIMUM OF X3 TIMES, AFTER THE MIRRORS ARE INSTALLED TO HELP SYNCHRONISE.

AS A SAFETY FEATURE THESE MIRRORS ARE DESIGNED TO MANUALLY FOLD INWARDS IF THEY COME INTO CONTACT WITH OBJECTS OUTSIDE THE CAR. PLEASE AVOID UNNECESSARY MANUAL FOLDING OF THE MIRRORS, AS IT CAN PREMATURELY WEAR DOWN THE GEAR SET WITHIN THE MOTOR.



MIRROR FOLD CONTROLLER

WORKS WITH THE ORIGINAL FOLD IN AND OUT SWITCH

GVM INDICATOR PLATE

LEGALLY POSITION CAT 6 INDICATORS FOR GVM UPGRADES ABOVE 3500KG

MSA GVM INDICATOR PLATES ARE NOW AVAILABLE.

Contact the MSA team or visit the MSA website for more information.



NO DRILLING REQUIRED

ADR Compliant MSA cat 6 indicators are incorporated within the GVM INDICATOR plate.

Easily installed under the existing MSA Towing Mirror base.

THINKING OF UNDERGOING A GVM UPGRADE? BE INFORMED OF THE REGULATIONS TO BE ADR COMPLIANT.

Scan the QR codes for more information regarding ADR regulations

ADR 6



Cat 6 lamp is required for vehicles over 3500kg GVM and or over 6 metres in length. As per: Section 6.5.3 (Category) 6
For all NB1, N2 and N3 vehicles;
For N1 (NA & NB1), M2 and M3 vehicles exceeding 6 metres in length.

ADR 14



Mirror – ADR Approved. (ADR 14)
Cat 6 Indicator – ADR & UN ECE Approved.
(ADR 6, ECE R6 – Lamp as a component)
(ADR 13, ECE R48 Lamp Installation)



Toyota Prado 250 Series fitted with MSA POWER FOLD™ Towing Mirrors and MSA ADR Compliant CAT 6 Indicator mounted onto a MSA GVM Indicator Plate.

FITTED MIRROR DIMENSIONS



POSITION 1

Fit into garages and tight parking spaces



POSITION 2

Perfect for towing camper trailers, horse floats and smaller vans



POSITION 3

Perfect for tray backs and wider service bodies



POSITION 4

Perfect for towing large vans or wider loads



PLEASE NOTE

ALL DIMENSIONS ARE TAKEN FROM THE WIDEST PART OF THE MIRROR BODY ON THAT POSITION.

MSA 4X4 WARRANTY

**ADDRESS:**

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Arundel QLD, 4214

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PHONE:

+61 7 5594 6664

EMAIL:

warranties@msa4x4.com.au

WEBSITE:

msa4x4.com.au

All MSA 4X4 Accessories products are designed and manufactured to the highest quality standards to perform as they should. We stand behind our Driving Mirrors with a 5-year Manufacturer's Warranty.

All claims under this warranty should be made by returning the product at your cost to MSA 4X4 Accessories Pty Ltd, 43 Harrington Street, Arundel, QLD 4214, with the detail of the fault, proof of purchase, proof of identification and vehicle fitment details where relevant. 5-year manufacturer's warranty applies to the original purchaser only.

If we determine that an MSA 4X4 Towing Mirror is defective in materials or workmanship during the 5-year Warranty, we will either repair or replace the product. Repair or replacement is solely at the discretion of MSA 4X4 Accessories Pty Ltd.

This warranty does not apply to failure or damage caused by incorrect or faulty fitment, accidental or intentional damage, misuse or abuse, failure of other products, operation of the product outside of its environmental or technical specifications, or repair or modification carried out by anyone other than MSA 4X4 Accessories Pty Ltd. No charges will be accepted for external labour or materials. MSA 4X4 Accessories 5-year warranty does not cover any scratches, cracks or chips.

MSA 4X4 Accessories products are designed for lifestyle applications. Due to the harshness of the mining environment, MSA 4X4 Accessories products used in mining applications that may be operating outside of their environmental and technical specifications, are therefore excluded from the 5-Year Warranty. MSA 4X4 Accessories products used in mining applications are warranted for up to 1 year.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Maintenance of MSA 4X4 Towing Mirrors:

To help maintain the MSA 4X4 Towing Mirrors warranty, ensure that no harsh chemicals are used when washing the mirrors. Truck wash is NOT advisable. When a vehicle, fitted with MSA 4X4 Towing Mirrors, travels through coastal areas it is important to clean the mirrors regularly, as salt can damage the power coated finish. MSA 4X4 recommends using a soft sponge and a regular car washing liquid diluted with water, for cleaning. Rinse well and dry with a soft towel or microfibre cloth.



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