

HAYMAN REESE
PART No: 02848RW
FORD RANGER / MAZDA BT-50

INSTALLATION INSTRUCTIONS

PLEASE ENSURE THAT INSTRUCTIONS ARE UNDERSTOOD PRIOR TO FITMENT



Towbar Installation Instructions Towbar capacity
FORD RANGER / MAZDA BT-50 10/2011-08/2015

Part Number 02848RW

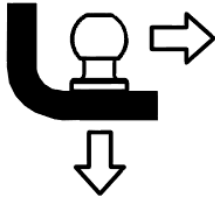
Max Towing Braked 3500kg

Max Static Ball Load 350kg

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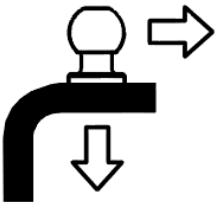
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HIGH RIDE VERSION (TUB AND CAB)

Rating Braked	3500 Kg
Rating Unbraked	750 Kg
Max Static Ball Load	350 Kg



STANDARD VERSION (TUB)

Rating Braked	2500 Kg
Rating Unbraked	750 Kg
Max Static Ball Load	250 Kg

Warning:

1. Do not, drill, cut, weld or otherwise modify the towbar.
2. If you are using electric welding on a motor vehicle, **always** check that the vehicle is not equipped with electronic engine or instrument management equipment. Failure to do so could **destroy** any onboard computers. If in doubt, check with the vehicle's manufacturer.

General:

1. Ensure all hardware items have been included
2. It is recommended that the instructions are read through and completely understood before making any attempt to fit this product.
3. Be wary of any changes to vehicle designs or other accessories that may conflict with the installation of this product.
4. Before drilling ensure that the area is clear of fuel, electrical & other components.
5. All holes drilled into the body panels shall have all burrs & swarf removed then coated with a suitable rust preventative paint.
6. The high tensile fasteners supplied with this product were used to achieve the specified rating. If replacement is required ensure that fasteners of the same rating & quality are used. Contact an authorised **Hayman Reese** dealer if further information is required.
7. Ensure that all hardware is fastened to torque list below check fasteners on regular basis.
8. Towbar load rating sticker provided with this product shall be conspicuously located on inside rear end of the driver's door. **(See diagram below).**
9. Hayman Reese recommends that you check your tow ball to ensure that it complies with the Australian standards **AS 4177.2**.
10. **PLEASE NOTE:** It is advised to remove your lug or tbn when not actually towing so as to produce a clear view of the vehicles registration plate if obscured, and to also provide maximum available departure angle.

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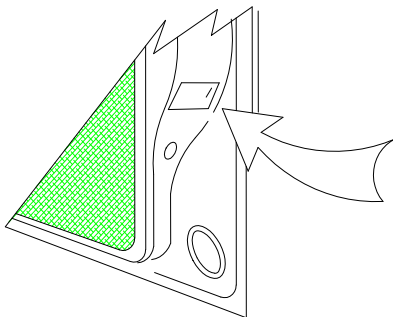
Tow bar Maintenance and Care.

Hayman Reese recommends that bolt torque's, as listed below, are routinely and regularly inspected and checked for correct tension. Replace any worn or defective parts.

We recommended to remove Tow Ball Mounts (TBM's, tongues or lugs) when not being used for any considerable length of time.

So as to avoid injury, when not towing it is suggested that the tongue, Pull Pin and R-clip are removed then stored in a safe, clean and dry place, away from excessive moisture.

Hitch Pull Pins and spring "R" clips are regularly checked for proper installation. Replace any worn or defective parts.



Place load rating sticker
inside driver's door here

RECOMMENDED ASSEMBLY TORQUE LISTING

Diameter Grade 8.8 Bolt

M6	9.5 Nm
M8	21.7 Nm
M10	43.4 Nm
M12	77.3 Nm
M16	189.8 Nm

FOR TOWING PURPOSES ONLY

For towing capacity details please refer to vehicle owner's manual or to the manufacturer. Overloading can void your warranties.

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STEP 1. All Vehicles

- a. Disconnect the sensor and light connections.
- b. Lower the spare wheel.

CAUTION: BE AWARE OF WHEEL DISLOGEMENT WHEN LOWERING.

STEP 2. Complete either Step 2.1/ 2.2/ 2.3 or 2.4 depending on Vehicle application

2.1 For Vehicle with steel bumper

- a. Remove the 2 x M12 Flange Bolts from either side of the bumper step assembly and remove the steel bumper from vehicle.

NOTE: Place the bumper step assembly in a safe place to avoid damage.

- b. Remove two bolts from each side connecting the step mount bracket from rear bumper step assembly and discard the bolts.
- c. Align three existing holes of the passenger side mount bracket with the passenger side arm of the towbar. Use two M12 Bolts and Nuts to loosely secure the bracket.

- d. Turn the assembly around and mark the centre of the fourth hole, remove the two M12 Bolts and Nuts from the assembly.
- e. Using the centre marked, drill a 16mm hole on the step mount bracket.
- f. Repeat the step 'b' to 'e' on the driver side.
- g. Apply anti rust paint on both step mount brackets.
- h. Loosely secure the step mount bracket to rear bumper step assembly using the spacer (Item 10) in between, with the M10x40 Bolts and M10 Washers (items 11 & 12) for both side. Refer page (8) exploded view for item 10 identification.

2.2. For Vehicles with Plastic Rear Bumper

- a. Remove the bolts from either side of the plastic rear bumper, and remove the plastic bumper from the vehicle.

NOTE: Place the bumper step assembly in a safe place to avoid damage.

- b. Release the two lock nuts on each side of the bumper and slide the step mount bracket outwards to have a gap of 1200mm. The Lock nuts are located on the underside of the bumper.

2.3. For Vehicles with Factory Fitted Towbar

- a. Remove the 2x M12x 40 Step bolts from either side of the Bumper step assembly as shown in Fig 1 & 2, and make sure to retain the 2 sets of M12 step bolts.
- b. Remove Towbar.



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Fig 1



Fig 2



NOTE: Place the bumper step assembly on a safe place to avoid damage.

2.4 For CAB CHASSIS Vehicles

- a. Proceed to step 3.

STEP 3. Move Wire Loom located on Diff Housing

- a. Remove wiring loom mounted on the diff housing.
- b. Drill a 8mm hole through the connector bracket from bottom to top surface which is welded on the diff housing as shown in Fig 3.



Fig 3

- c. Apply anti-rust or paint to newly drilled hole to prevent corrosion.
- d. Mount the wiring loom on the newly drilled top hole of the connector bracket.

STEP 4. Towbar Fitment

NOTE: Two persons required to lift towbar up to vehicle.

- a. Insert the Nut plate (Item 4) into the passenger side of the Chassis Rail and align with the holes as shown in Fig 4 & 5, repeat with item 3 on the driver side.

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Fig 4



Fig 5

- b. Loosely secure the towbar side arm to the Vehicle chassis rail via Nut plates using two M12 bolts and washers (item 5 & 6) on either side as shown in Fig 6.



Fig 6

STEP 5. Bumper Fitment

5.1 Fitment of Bumper step assembly for steel and plastic version

- a. Loosely secure the step mount bracket of the rear bumper step assembly to the chassis rail via towbar sidearm using three sets of M12 bolts & washer (Items 5&6).

NOTE: Use 1xM12 Nut & Washer per side for the hole that doesn't have a captive nut.

5.2. Fitment of Bumper step for the factory fitted towbar version

- a. Loosely secure the towbar sidearm to the chassis rail using three sets of M12 bolts and washers (Items 5&6) as shown in Fig 7

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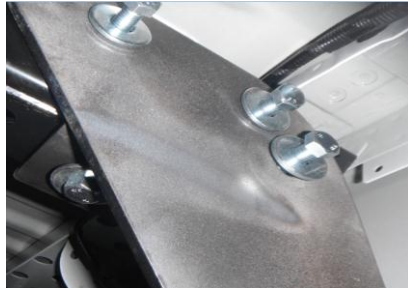


Fig 7

NOTE: Use 1xM12 Nut & washer per side for the hole that doesn't have a captive nut.

- b. Loosely secure the step mount bracket of the rear bumper step assembly to the chassis rail via towbar sidearm using the retained M12 step bolts (2 Sets) along with the supplied M12 flat washer (item 18) and Nut (item 9) as shown in Fig 8.



Fig 8

NOTE: Torque the M12 Step bolts shown in fig 8 to 100Nm and for all other refer to table on page 3.

5.3 Fitment of CAB Chassis

- a. Loosely secure towbar using 3 sets of M12 Bolts, washer & Nuts

NOTE: Use 1xM12 Nut & washer per side for the hole that doesn't have a captive nut

STEP 6. Torque all bolts to recommended specification as per table on Page 3. Tighten Vertical M12 Bolts x2 per side first ten horizontal bolts.

NOTE: Ensure rear bumper is aligned prior to fastening horizontal M12 Fasteners

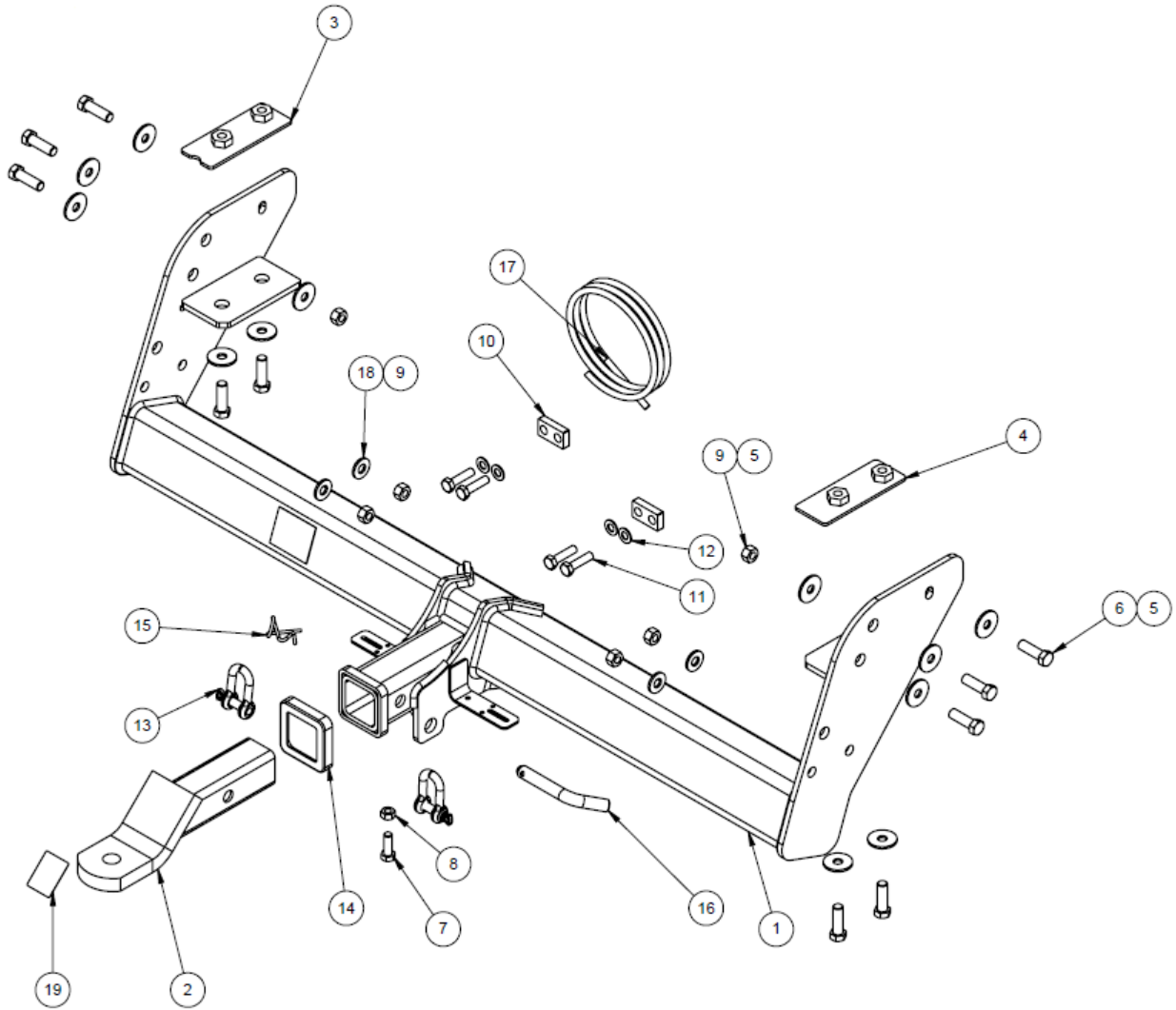
STEP 7. Reconnect all electrical connections to rear bumper/ step assembly.

STEP 8. Reattach spare wheel on to Vehicle.

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QTY	DESCRIPTION	ITEMS
1	Towbar	1
1	T.B.MOUNT 21161	2
1	NUT PLATE LH T6	3
1	NUT PLATE RH T6	4
12	WASHER FT M12x37x3mm	5
10	Bolt M12 x 30 x 1.75P GR 8.8	6
1	M10 - 1.5 x 30mm BOLT	7
1	M10x1.5 HEX NUT PC8	8
6	M12 x 1.75P HEX NUT PC8	9
2	SPACER PLATE	10
4	BOLT M10x40 1.5P GR8.8	11
4	FLAT WASHER M10 x 21 x 1.6	12
2	D SHACKLE	13
1	H/BOX COLLAR COVER	14
1	SPRING COTTER PIN ASSEMBLY	15
1	PULL PIN	16
1	WIRELOOM	17
4	WASHER FT M12x32x2.5	18
1	HAYMAN REESE STICKER	19



HAYMAN REESE
PART No: 100713-WL
MAZDA BT 50 / FORD T6 RANGER
INSTALLATION INSTRUCTIONS

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Wiring Loom Installation Instructions

MAZDA BT 50 / FORD T6 RANGER
Part No: 100713-WL

Tail Harness Length Require: 400mm

Mazda BT 50 – Pages: 2 – 4
Ford T6 Ranger – Pages: 5- 7

**If factory OEM RPA is fitted, Trouble Code will be logged
if disabled.**

Wiring Loom Installation Time: Approx. 20 Mins

The following steps are for the Mazda BT 50 only. For the Ford T6 Ranger models, please proceed to page 5.

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Page 1

Part No: 100713-WL

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MAZDA BT 50 / FORD T6 RANGER
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1. In the engine bay, connect the supplied power harness (P/No: 04825) ring terminal (1) to the positive battery.
2. Route the power harness (2) down towards the LHS of the vehicle under carriage.



3. From underneath the vehicle, route the power harness (1) along the LHS of the chassis rail towards the rear of the vehicle.
4. Ensure that the power harness is secured with cable ties (not supplied).

Note: When routing any harnesses underneath the vehicle, ensure to avoid all moving parts, sources of heat and sharp objects.



5. On the LHS rear under carriage, locate and disconnect the 6-way tail light connectors (1) and connect the 6-way trailer patch (P/No: 100713-WL) (2) in between.



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6. Connect the power harness 1-way male connector (1) to the power harness 1-way female connector (2).



7. Route the trailer harness along the rear of the vehicle across to the RHS tail light connectors.



8. On the RHS of the rear under carriage, disconnect the 6-way tail light connectors (1) and connect the 6-way trailer patch connectors (2) in between.



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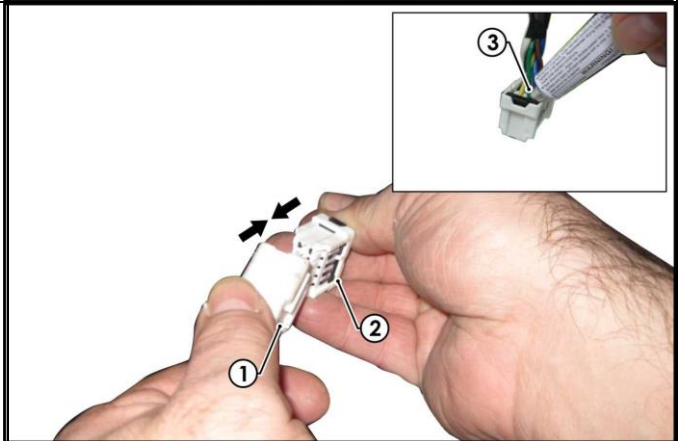
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9. Mount the tail harness socket (1) towbar mounting bracket using M4 fasteners (not supplied).
10. Route the tail harness (tail length 400mm) (2) along the towbar, towards the trailer patch.



11. Connect the trailer harness 8-way connector (1) to the tail light harness mating connector (2).
12. Waterproof the connectors using electrical grease (3) or silicone.



13. Test trailer harness function using trailer light board or multimeter.
14. Secure all harnesses using cable ties (not supplied).
15. Re-fit all removed parts and secure all fasteners ensuring there are no squeaks or rattles.
16. Please place the fitting instructions in the glove box after installation.

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The following steps are for the Ford T6 Ranger only. For Mazda BT 50 models, please refer to page 2.

1. In the engine bay, connect the supplied power harness (P/No: 04825) ring terminal (1) to the positive battery.
2. Route the power harness (2) down towards the LHS of the vehicle under carriage.

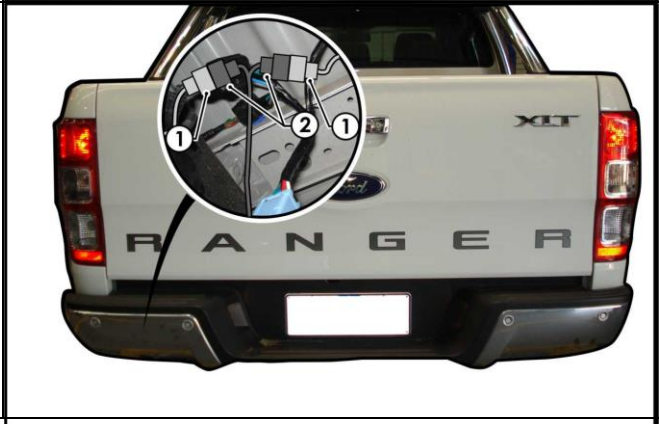


3. From underneath the vehicle, route the power harness (1) along the LHS of the chassis rail towards the rear of the vehicle.
4. Ensure that the power harness is secured with cable ties (not supplied).

Note: When routing any harnesses underneath the vehicle, ensure to avoid all moving parts, sources of heat and sharp objects.



5. On the LHS rear under carriage, locate and disconnect the 6-way taillight connectors (1) and connect the 6-way trailer patch (P/No: 100713-WL) (2) in between.



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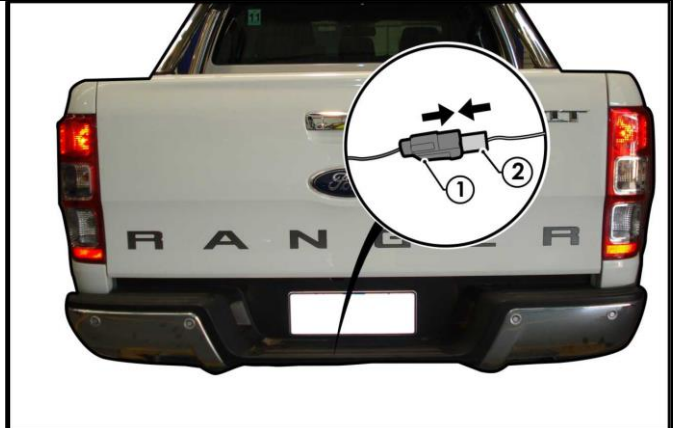
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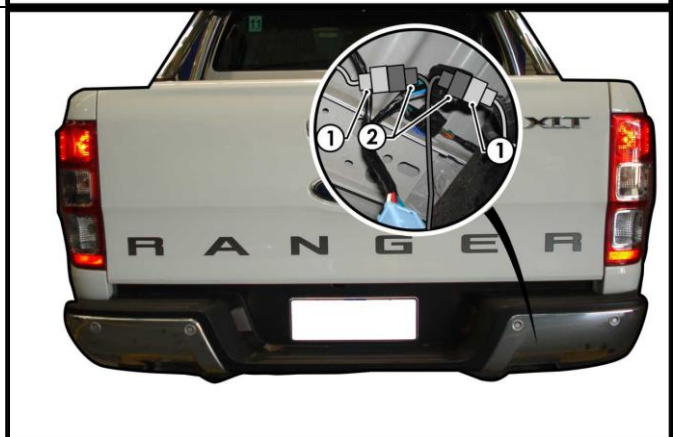
6. Connect the power harness 1-way male connector (1) to the power harness 1-way female connector (2).



7. Route the trailer harness along the rear of the vehicle across to the RHS taillight connectors.



8. On the RHS of the rear under carriage, disconnect the 6-way taillight connectors (1) and connect the 6-way trailer patch connectors (2) in between.



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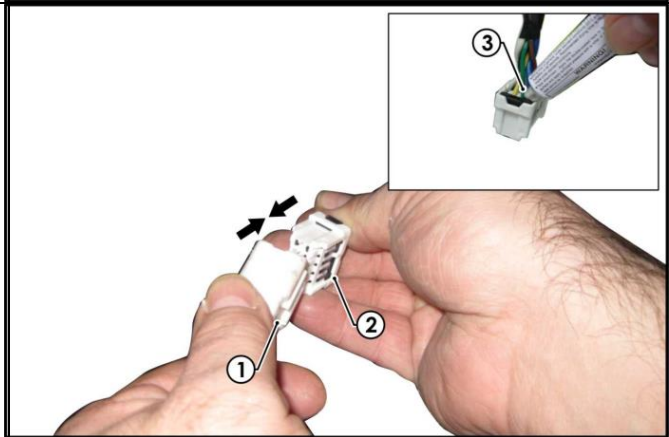
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MAZDA BT 50 / FORD T6 RANGER
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9. Mount the Tail Harness socket (1) towbar mounting bracket using M4 fasteners (not supplied).
10. Route the tail harness (tail length 400mm)(2) along the towbar towards the trailer patch.



11. Connect the trailer harness 8-way connector (1) to the tail light harness mating connector (2).
12. Waterproof the connectors using electrical grease (3) or silicone.



13. Test trailer harness function using a trailer light board or multimeter.
14. Secure all harnesses using cable ties (not supplied).
15. Re-fit all removed parts and secure all fasteners ensuring there are no squeaks or rattles.
16. Please place the fitting instructions in the glove box after installation.

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FITTING INSTRUCTIONS

Smart Pin (55070BL)

• These fitting instructions are supplied to ensure understanding of how the SMART PIN should be fitted and used correctly.

• Once installed, we recommend **ALL** instructions are kept and placed in the vehicle glove box.

NOTE: Routine maintenance and inspection of the towbar & SMART PIN is required. Regularly inspect for wear and check the tightness of the SMART PIN NUT. Follow instructions below to retighten the nut when necessary.

***Do not tow with your vehicle if the R CLIP or the SMART PIN NUT is loose or missing. Replacement parts are available from your Hayman Reese Distributor.**

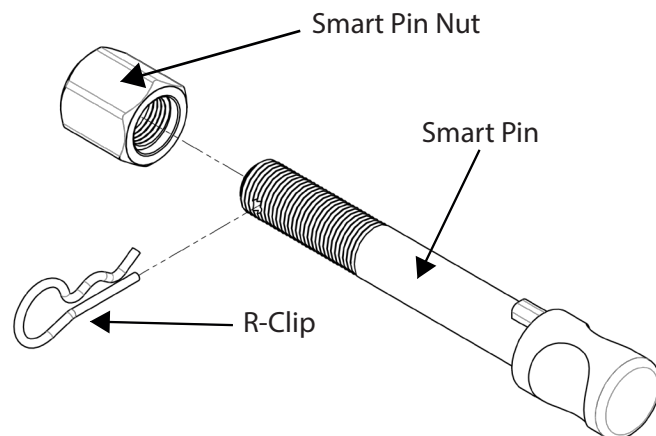


Fig 1. Smart Pin assembly

STEP 1 Insert Trailer Ball Mount (TBM) into towbar HITCHBOX, aligning hole in TBM SHANK with hole in HITCHBOX (Fig. 2).

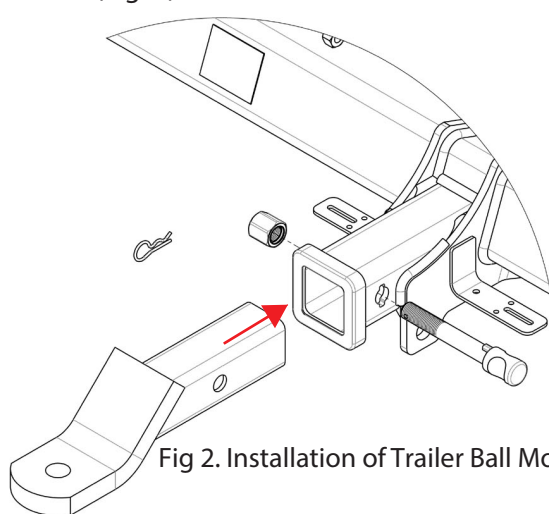


Fig 2. Installation of Trailer Ball Mount

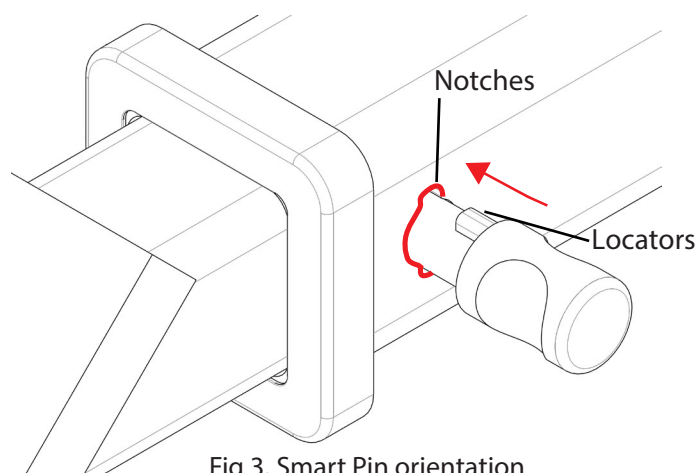


Fig 3. Smart Pin orientation

STEP 2 Insert SMART PIN through hole in HITCHBOX and hole in TBM SHANK; ensure the LOCATORS are inserted into the NOTCHES in the HITCHBOX (Fig. 3).

STEP 3 Screw SMART PIN NUT onto SMART PIN; tighten SMART PIN NUT until finger tight, ensuring TBM is restrained from movement.

STEP 4 Tighten SMART PIN NUT by turning nut a further 1/8th of a turn in the clockwise direction using a 24mm spanner (Fig 4).

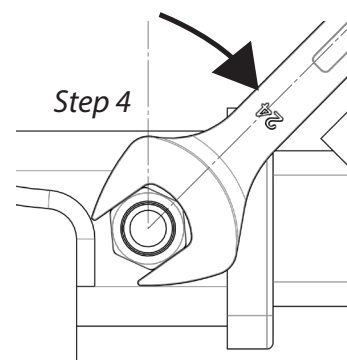


Fig 4. Tightening of Smart Pin Nut

STEP 5 Install SMART PIN R CLIP through the hole on the SMART PIN (Fig. 1).

