

X101R™

X101R FUEL WATER SEPARATOR / CATCH CAN FITMENT INSTRUCTIONS

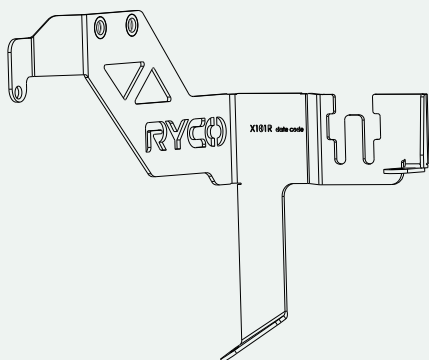


FORD RANGER - See RYCO catalogue for specific application details.

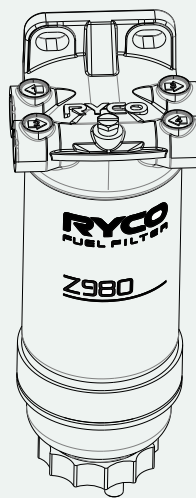
The Ryco X101R kit includes mounting bracket specifically designed for the vehicle, and all components required to complete the installation of Ryco Z980K16 series fuel water separator and RCC360 series Catch Can. It is recommended that the installation is conducted by a qualified mechanic following the procedures in this instruction sheet.



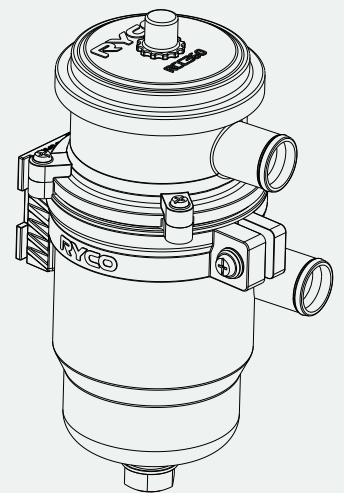
**BRACKET
LOCATION**
SEE LAST PAGE FOR
COMPLETE SET UP



SECTION 1
MOUNTING BRACKET

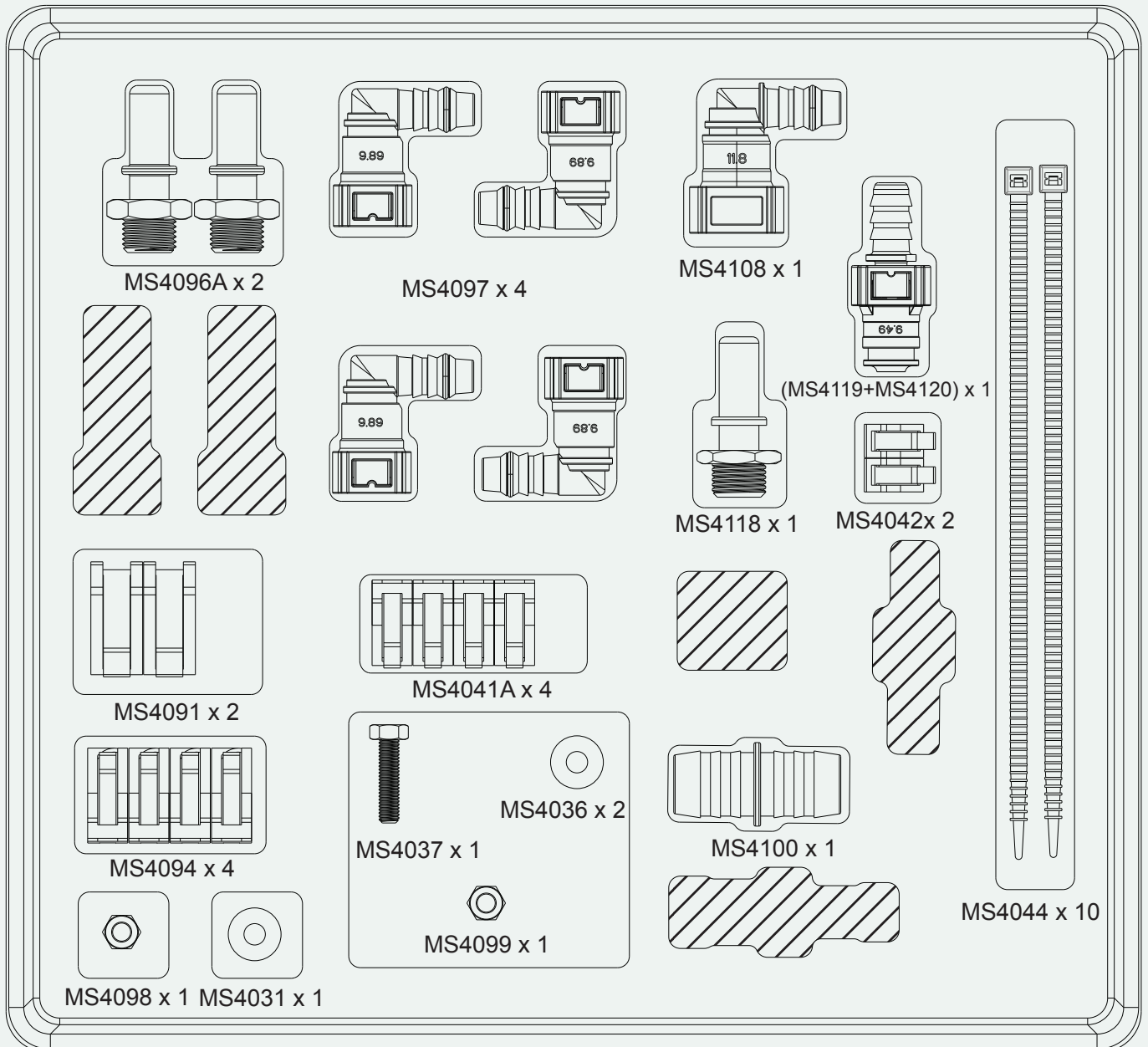


SECTION 2
FUEL WATER SEPARATOR



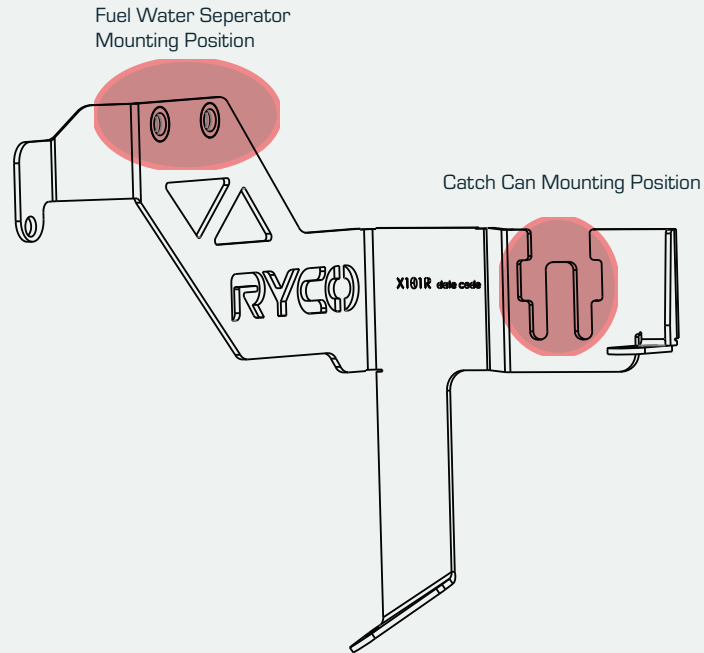
SECTION 3
CATCH CAN

COMPONENTS INCLUDED IN X101R KIT

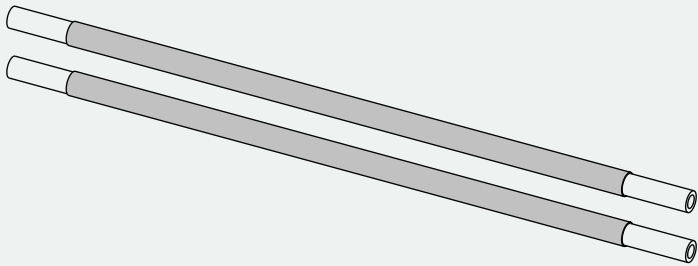


COMPONENTS INCLUDED IN X101R KIT

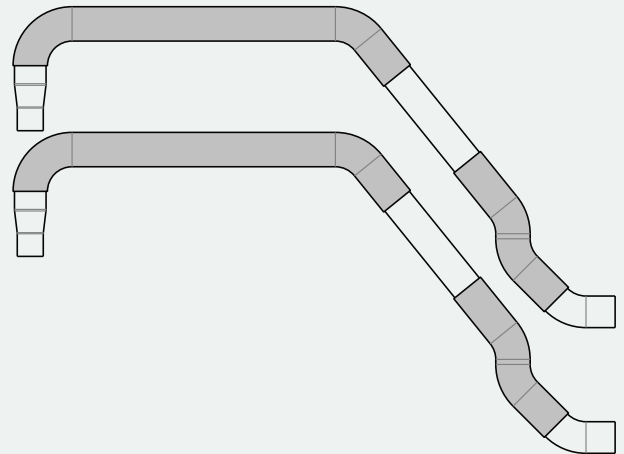
FB9803C
MOUNTING BRACKET x 1



HF9803
FUEL HOSE x 2 (660mm)

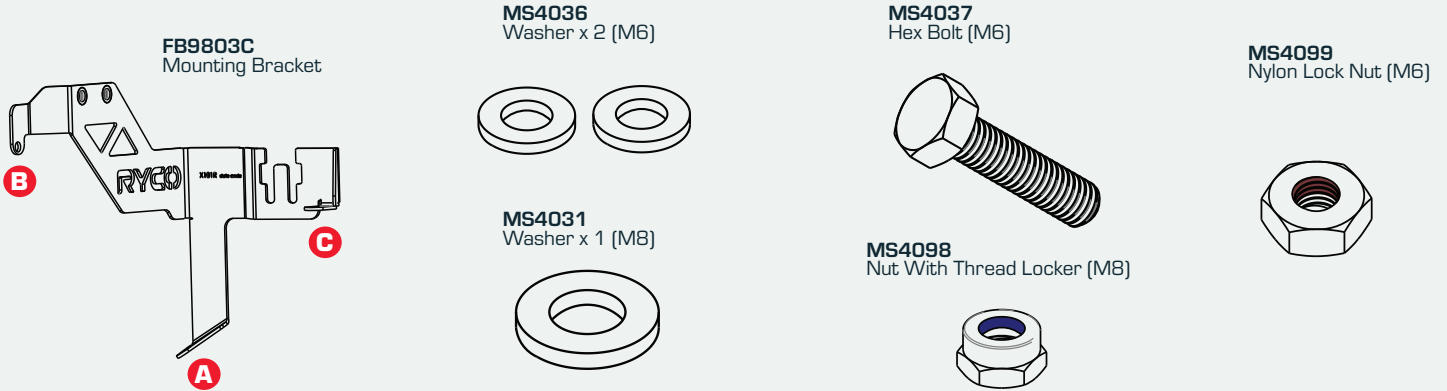


MH100
PCV HOSE x 2



SECTION 1 METAL BRACKET FITMENT

PARTS REQUIRED



TOOLS & PPE REQUIRED

- Ratchet Set
- Work Gloves

WORK PROCEDURE (1/4)

- 1 Remove the factory M6 nut on the fuse box from Point C
- 2 Locate the stud on the thermal expansion (TX) valve Point B. Position the bracket in the engine bay as per Fig.1, placing point B at the TX valve stud and Point C at the fuse box stud.
- 3 Loosely refit the factory M6 nut at Point C onto the fuse box stud, and the supplied M8 nut at Point B onto the TX valve stud. (Caution: Do not remove the factory nut holding the TX valve).
- 4 Note the position of the hole at Point A (Note: Some PX1 vehicles may not have this hole. If this is the case, drill a 7mm hole using the bracket slot as a template). From the front-left wheel house of the vehicle, install the supplied M6 bolt with washer upwards through the hole at Point A, and secure the bracket with the supplied M6 nylon lock nut and another M6 washer. (Caution: Note the bolt direction. Do not install the bolt so it protrudes into the wheel house).
- 5 Tighten all three (3) fasteners as per Fig. 2.

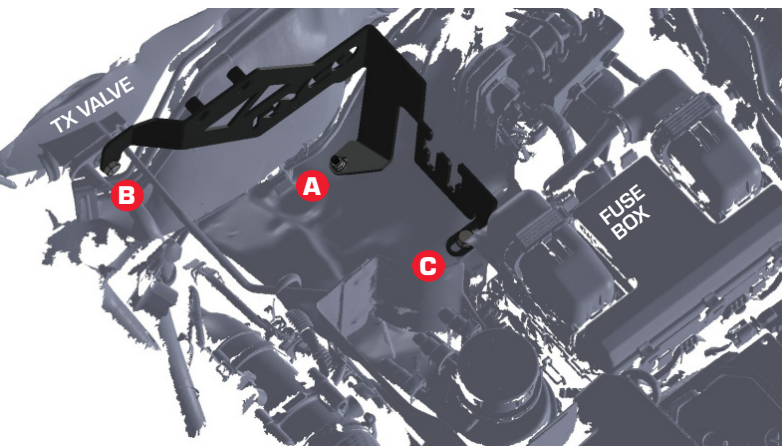


FIGURE 1
BRACKET IN ENGINE BAY

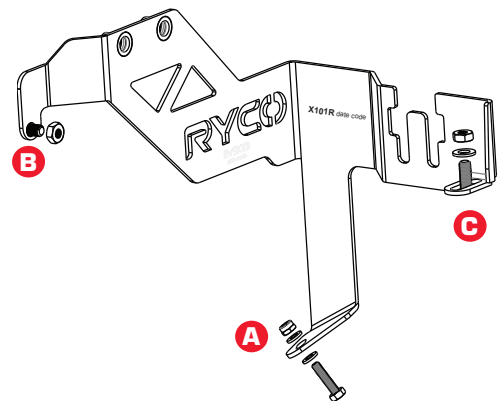
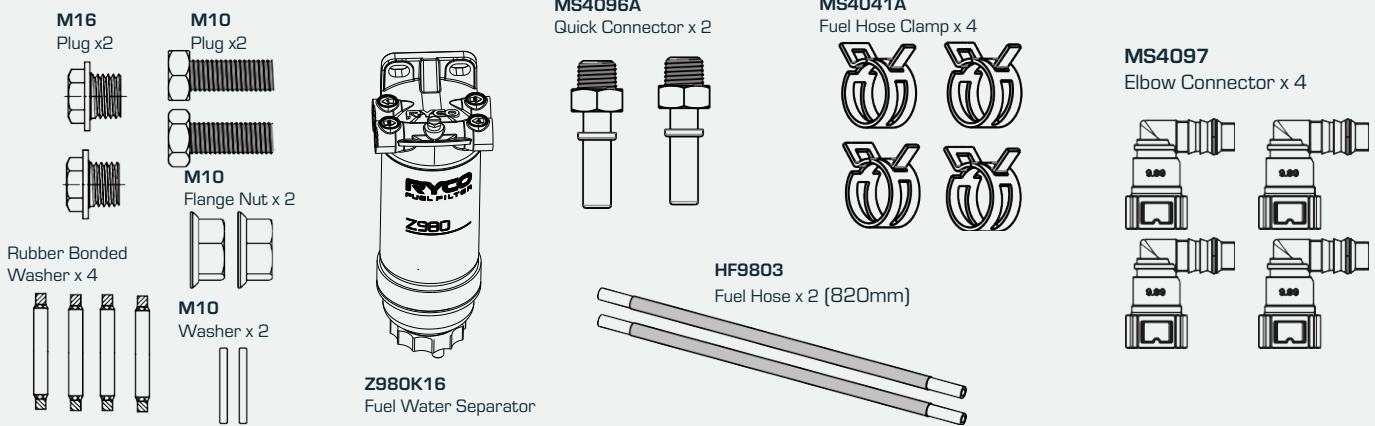


FIGURE 2
BRACKET INSTALLATION

SECTION 2 FUEL WATER SEPARATOR INSTALLATION

PARTS REQUIRED



TOOLS & PPE REQUIRED

- Ratchet Set
- Work Gloves
- Hose Clamp Pliers
- Rags

WORK PROCEDURE (1/4)

- 1 Install the Ryco fuel water separator head with metal quick connectors, blanking plugs and rubber bonded washers, as per Fig 3. Tighten blanking plugs (on Port 1 & 2) and quick connectors (on Port 3 & 4).
- 2 Install all four (4) supplied elbow connectors onto both supplied fuel hoses with supplied fuel hose clamps, as per Fig. 4. Do not tighten fuel hose clamps yet.

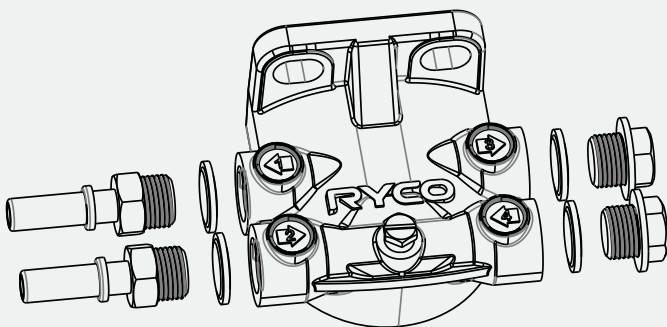


FIGURE 3
FUEL WATER SEPARATOR HEAD PREPARATION

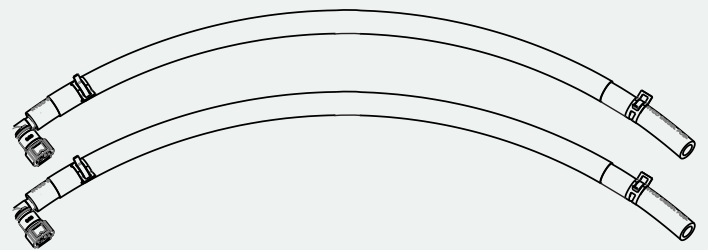


FIGURE 4
FUEL HOSE PREPARATION

SECTION 2 FUEL WATER SEPARATOR INSTALLATION

WORK PROCEDURE

- 3 Locate the factory fuel supply line by starting at the factory fuel filter. Locate the larger lower red elbow connector (see Fig. 5), squeeze the coloured tabs to remove. Have a rag ready to capture any diesel that may spill out of the fuel line and the fuel filter.
- 4 Trace the other end of the fuel supply line to the second factory quick connect fitting and remove it from the factory fuel supply pipe. Remove the factory fuel supply line from the vehicle and store for safe keeping.
- 5 Mount Z980K16 assembly onto metal bracket using the two (2) black M10 bolts supplied with the Z980K16.
- 6 Connect one of the supplied fuel hoses to the factory fuel supply pipe by pushing the elbow connector onto the fuel pipe until you hear a "click", and route as per Fig. 6 connecting to the inlet port of the Z980K16 (coloured blue in Fig. 6).
- 7 Connect the second hose to the outlet port of the Z980K16 (coloured green in Fig. 6) by pushing the elbow connector onto the metal quick connector until you hear a "click", and route the other end up through the factory fuel filter bracket. Do not connect to the factory fuel filter yet.
- 8 Tighten all hose clamps.
- 9 Find an assistant to help prime the fuel system. Place a container under the unconnected elbow connector: Prime the fuel system by turning the ignition key to "On / Run" position (do not start the engine) until fuel comes out from the elbow connector. Turn off the ignition and connect the elbow connector to the factory fuel filter. Start the engine and check for leaks in fuel lines and connectors.

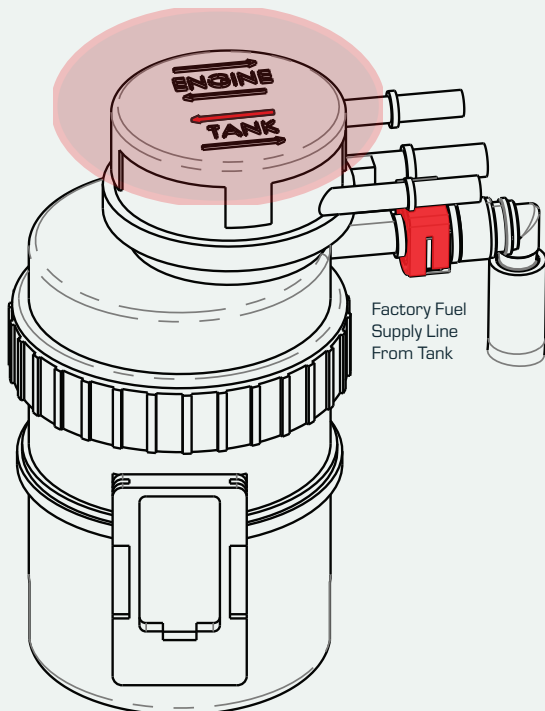


FIGURE 5
FACTORY HOSE IDENTIFICATION

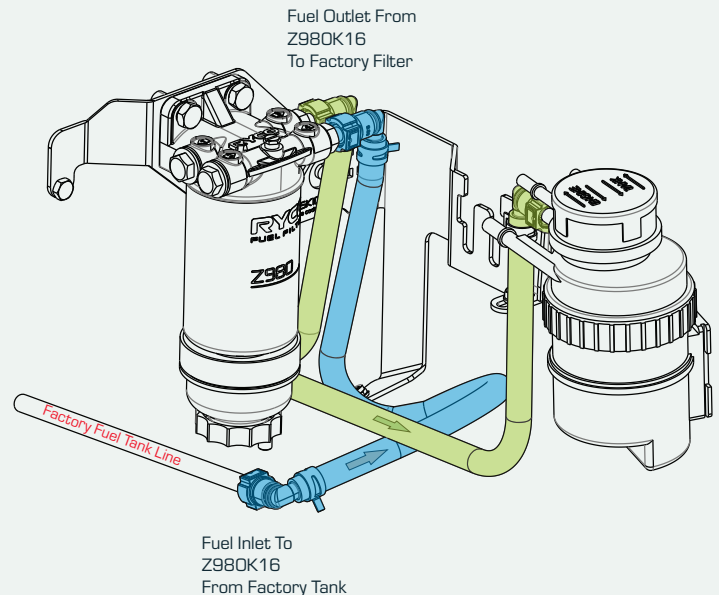
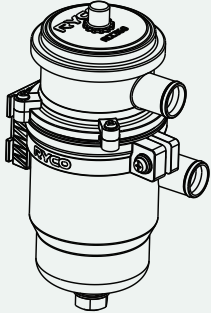


FIGURE 6
FUEL WATER SEPARATOR & FUEL HOSE INSTALLATION

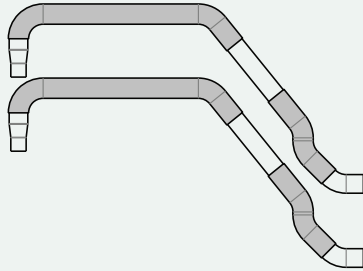
SECTION 3 CATCH CAN INSTALLATION

PARTS REQUIRED

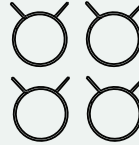


RCC360
Catch Can

MH1000
PCV Hose x 2



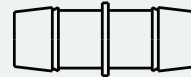
MS4094
PCV Hose Clamp x 4



MS4091
PCV Hose Clamp x 2



MS4100
PCV Hose Joiner



TOOLS & PPE REQUIRED

- Ratchet Set
- Work Gloves
- Hose Clamp Pliers

WORK PROCEDURE

- 1 Remove the engine cover where applicable.
- 2 Mount the Catch Can onto the bracket by sliding the RCC360 nylon bracket onto the Catch Can mounting position on FB9803, rotate it so it is facing directly toward the engine and tighten the plastic bracket retaining screw
- 3 Locate the PCV valve on the driver side of the engine, as per Fig. 7 below.

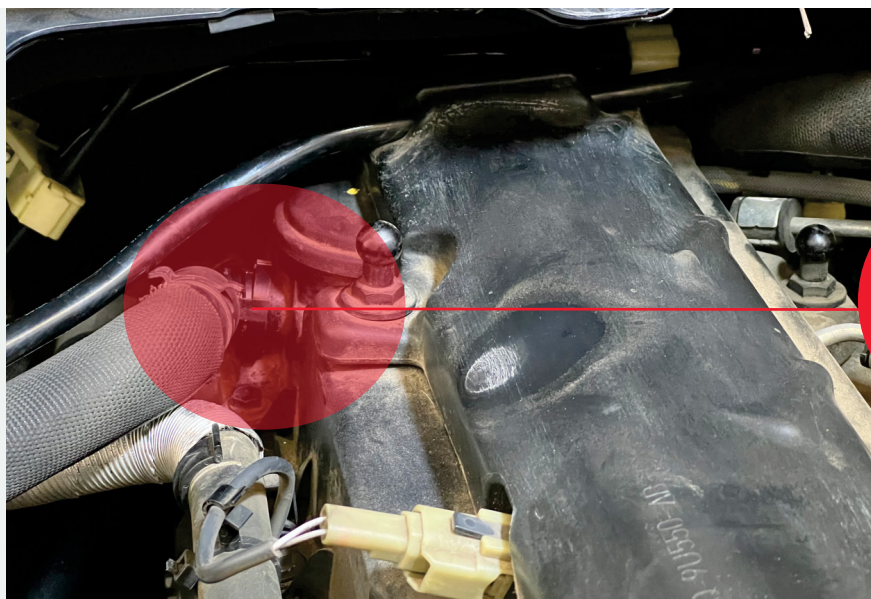
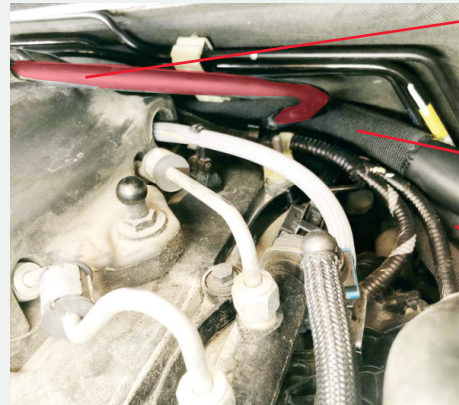


FIGURE 7
ENGINE PCV VALVE

SECTION 3 CATCH CAN INSTALLATION

WORK PROCEDURE

- 4 Disconnect the quick connector on the factory PCV ventilation hose to the engine PCV valve by squeezing the outer ring. Remove the PCV quick connector from the factory hose and connect it to the smaller end (19mm) of a Ryco moulded hose using one of the smaller PCV hose clamps.
 - 5 Feed the hose behind the engine, the PCV hoses run behind the engine and under the factory brake pipes. Push the hoses down past the factory pipes so they sit in the space between the cylinder head and firewall. (Fig.8)
- Make sure the Ryco PCV hoses are routed behind the AC pipe. Ensure that the hoses are not squashed and there are no kinks. Connect the larger end (25mm) of the Ryco moulded hose to the lower port of the RCC360 with one of the large PCV hose clamps.
- 6 With the 2nd Ryco moulded hose, connect a straight hose joiner to the smaller end and secure with a small PCV hose clamp. Feed it along the top of the first hose ensuring it also runs under the factory pipes including the AC pipe. Connect the larger end (25mm) to the upper port of the RCC360, securing with a large PCV hose clamp. Connect the factory PCV hose to the straight hose joiner at the small end and secure with a small PCV hose clamp (Fig. 9).
 - 7 Check both PCV hoses are not jammed or kinked by the surrounding engine parts (Fig 9).

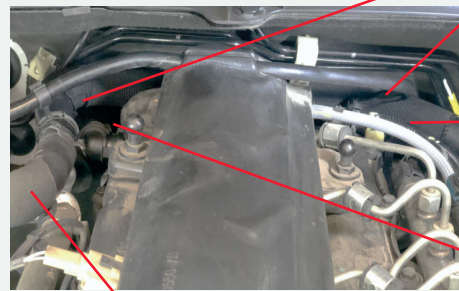


Locate RCC360 PCV hoses behind the factory brake nylon hose

RCC360 Outlet To Factory PCV Hose

Engine To RCC360 Inlet PCV Hose

FIGURE 8A
CATCH CAN INSTALLATION PCV HOSES LOCATIONS



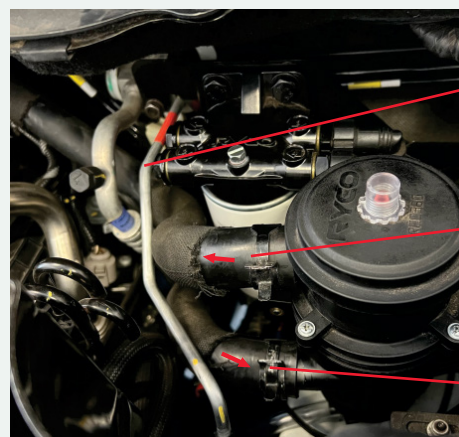
Push PCV Hose To Seat At The Back Of The Engine

RCC360 Outlet To Factory PCV Hose

Engine To RCC360 Inlet PCV Hose

Factory PCV Hose

FIGURE 8B
CATCH CAN INSTALLATION PCV HOSES LOCATIONS



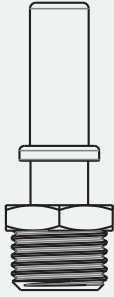
Factory AC Pipe

RCC360 Outlet To Factory PCV Hose

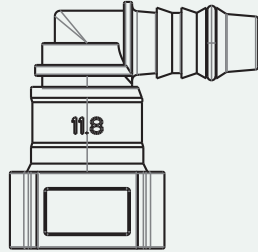
Engine To RCC360 Inlet PCV Hose

FIGURE 9
CATCH CAN INSTALLATION

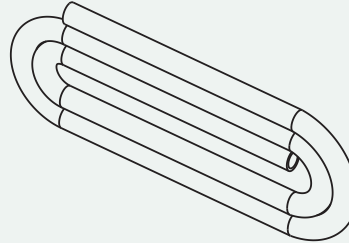
INCLUDED DRAIN HOSE COMPONENTS



MS4118
QUICK CONNECTOR x 1



MS4108
ELBOW QUICK CONNECTOR x 1



MS4117
PVC HOSE x 1M



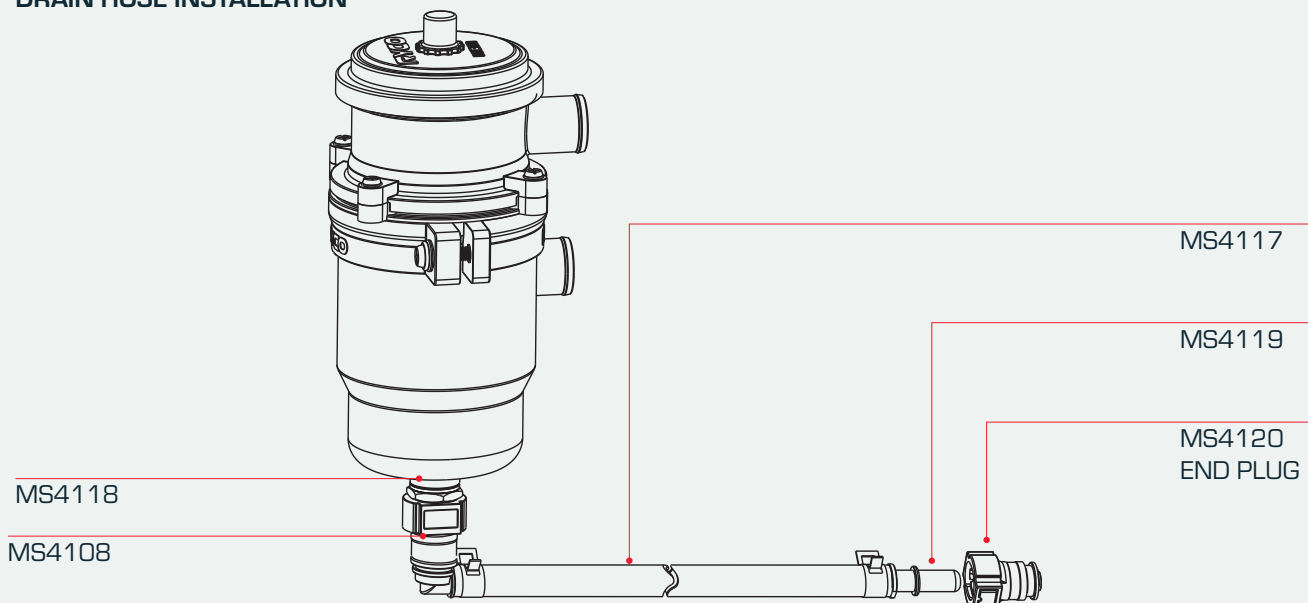
MS4119 + MS4120
HOSE END PLUG x 1 SET

DRAIN HOSE INSTALLATION PROCEDURE

TO INSTALL THE DRAIN HOSE

- 1 Remove the blanking plug from the base of the catch can.
- 2 Remove the rubber washer from the blanking plug.
- 3 Fit rubber washer to the MS4118 Male Quick Connector.
- 4 Install MS4118 with rubber washer to the base of catch can.
- 5 Connect the MS4108 elbow female quick connector to the MS4118 male quick connector on the base of the catch can by pushing on until you hear a "click".
- 6 Insert the drain hose onto the barb end of MS4108 and secure with the supplied spring clamp.
- 7 Insert the MS4119 onto the other end of the hose and secure with the supplied spring clamp.
- 8 Use the zip ties to secure the hose.

DRAIN HOSE INSTALLATION



HOW TO DRAIN THE CATCH CAN

Note: Check the catch can sump level every month or 5000km, whichever comes first and drain as required. Sump level checks are recommended daily when four-wheel driving or towing.

IF THE DRAIN HOSE IS FITTED

- 1 Push both buttons on the MS4120 end plug and pull to separate from the MS4119.
- 2 Allow all oil to drain out.
- 3 Push MS4120 plug back on to MS4119 until you hear a "click".

IF FITTED WITHOUT DRAIN HOSE

- 1 Slide the catch can out of the bracket. You may need to remove inlet and outlet hoses by loosening the hose clamps.
- 2 Remove the blanking plug from the base of the catch can.
- 3 Allow all oil to drain.
- 4 Refit the blanking plug to the base of the catch can ensure the rubber seal is in place.

WHEN SHOULD YOU SERVICE THE CATCH CAN

CHECK SERVICE INDICATOR

If red service indicator is not raised, the catch can does not currently require a service. Check again in a month or 5000 km. Sump level checks are recommended daily when four-wheel driving or towing. If the red service indicator is raised, unscrew the clear service indicator housing and compress the red service indicator. Run the engine and if the red service indicator raises again, it is time to service your catch can.

NO SERVICE REQUIRED



SERVICE REQUIRED



HOW TO DRAIN THE CATCH CAN

- 1 Draining catch can before service is recommended.
- 2 Undo the four bolts the on the catch can head, take note of outlet position. Remove hoses and clamps, if required.
- 3 Separate the head from the rest of the catch can.
- 4 Lift out old filter.
- 5 Use a rag to clean inside catch can sump.
- 6 Refit new filter (RCC160F), and replace the main housing o-ring.
- 7 Reinstall the filter head noting the position of the outlet port from earlier.
- 8 Tighten the four bolts and reinstall hoses and hose clamps if removed.

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