



2012-2021 JEEP GRAND CHEROKEE & DODGE DURANGO 2200HP/2700HP FUEL MODULE





Important! Must Read First

Congratulations on the purchase of the KPM Fuel System for your [2012-2021 Jeep Grand Cherokee and Dodge Durango](#).

To ensure your fuel system is fitted correctly and operates perfectly and reliably we advise that this kit is to be fitted by a KPM Fuel Systems Dealer workshop.

If you are unable to access a KPM Fuel Systems dealer, we **strongly** recommend a professional experienced fully qualified technician to install your new fuel system.

Ask your qualified installer to contact KPM Fuel Systems on any aspect not clear in the instructions provided.

Email: support@kpmfuelsystems.com

As a wide variety of skills, procedures, special tools, and workshop equipment is needed to install this kit:

- KPM will take NO responsibility or give NO guarantees on the operation of this product for fitment not carried out by a KPM Fuel Systems dealer or experienced qualified technician.
- KPM will take NO responsibility or give NO guarantees on the operation of this product due to not fitting this kit exactly as per the instructions provided.
- Ensure correct workshop safety procedures are carried out in fitment of this kit.
- Please read **ALL** instructions before commencing fitment

Guarantee

On satisfaction that **ALL** instructions have been followed as per this document KPM will warrant this KPM Fuel System against any defects or faults for 12 months from the date of purchase.



Important

This fuel system is engineered to operate perfectly as a complete system, when used with all components as supplied only by KPM Fuel Systems.

Depending on the level of KPM Fuel System you have purchased, included in the kit will be the following;

- 1) KPM Fuel Module x1 – Primary (for increased flow and capacity)
 - 2) KPM Fuel Module x1 – Secondary (for ultimate flow and capacity)
 - 3) KPM High flow Fuel Hose kit
- KPM Fuel Systems will take NO responsibility for the operation of this fuelsystem if any of the components listed are not utilized *with this* package.
 - KPM Fuel Systems will take NO responsibility for the operation of this fuel system if any of the components listed are replaced with a non-KPM approved component.
 - KPM will take NO responsibility for the operation of this fuel system if used on a vehicle NOT fully retrofitted for E85 Ethanol or flex fuel.

Note: E85 Ethanol is highly corrosive on many components.

Please be aware that if your car is NOT built for E85 Ethanol from manufacturer, it may be possible that components NOT supplied by KPM Fuel Systems will also need to be replaced or suited for E85 Ethanol. Examples of some possible non-compatible components - are fuel injectors, fuel filters, fuel lines, rubber hoses, fittings etc.

All KPM Fuel System components are 100% Ethanol and Gasoline compatible.

Before Dismantling

- You will need to reduce residual fuel pressure in the fuel system to 0 kPa to enable disconnection of fuel lines.
- You can do this by removing the fuel pump fuse and running the engine until fuel pressure drops to 0 kPa.
- Disconnect the Battery.

Primary Fuel Module & Secondary Fuel Sender Module Removal

- 1) Drain the fuel tank.
- 2) The vehicles fuel tank needs to be removed to access the in-tank fuel modules.
 - a. Remove the fuel tank from your vehicle as per the manufacturer's instructions.
- 3) Remove the fuel lines from the **PRIMARY** fuel module (a quick disconnect tool is recommended for disconnecting fuel lines. Take extra care in not crimping/damaging the fuel line on removal).
- 4) Remove the electrical connectors from the module.
- 5) Remove the **PRIMARY** retaining ring holding the fuel module to the tank with the correct tool.



- 6) Lift the **PRIMARY** module from the tank until you can access and remove the crossover pipe fitting from the bottom of the canister.



- 7) Carefully lift the **PRIMARY** fuel module completely from the fuel tank.
- 8) Remove the electrical connector from the **SECONDARY** fuel sender module.
- 9) Remove the retaining ring holding the **SECONDARY** fuel sender module to the tank with the correct tool.
- 10) Lift the **SECONDARY** fuel sender unit from the tank until you can access the crossover pipe connection at the base of the sender unit.



- 11) Carefully lift the **SECONDARY** fuel sender unit and crossover pipe completely from the fuel tank.



Primary and Secondary Internal Crossover Pipe Fitment

The KPM 2200HP and 2700HP fuel systems are designed to correctly scavenge fuel from both sides of the Jeep/Dodge saddle style fuel tank as per the OE system.

KPM have designed an internal crossover system that links both the primary and secondary modules together, ensuring that the fuel modules are always full of fuel even when the fuel tank is near empty. This added insurance ensures the KPM fuel system can supply up to 2700HP of fuel safely, even with a near empty tank.

For correct operation it is important that the crossover pipes are installed correctly and carefully as per the instructions below.

- 1) Place the **secondary** fuel sender and crossover pipe on a work bench.
- 2) Using a heat gun, slowly and carefully heat the plastic crossover tube from the fuel sender assembly connection until it can be removed. **DO NOT DAMAGE** as this tube will require refitting with the new supplied pick-up filter sock.



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- 3) Push the supplied ear clamp and fuel pickup filter sock onto the OE internal crossover pipe and tighten the clamp securely.



- 4) Feed the new #KPMFHTH4 internal fuel hose quick release EFI fitting end, through the fuel tanks primary fuel pump opening, towards the secondary side of the fuel tank saddle.
- 5) You should now have the #KPMFHTH4 internal fuel hose sitting across the bottom of the fuel tank, with the quick release fitting on the secondary side and the fuel filter sock on the primary side of the saddle.
- 6) Feed the OE internal fuel hose quick release EFI fitting end through the fuel tank secondary fuel sender assembly opening towards the primary side of the fuel tank saddle.
- 7) You should now have the OE internal fuel hose sitting across the bottom of the fuel tank, with the quick release fitting on the primary side and the fuel filter sock on the secondary sides of the saddle.
- 8) The OE internal crossover pipe quick release fitting will connect to the **PRIMARY KPM** fuel module and the **#KPMFHTH4** internal crossover pipe quick release fitting will connect to the **SECONDARY KPM** fuel module.

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- 9) Pull both the internal hose ends out the primary side opening.



- 10) Using the supplied (#SM-TH1) hose separator connect the PRIMARY side connector fitting and fuel sock together on the separator as shown, securing with the cable ties supplied.



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11) Pull both the internal hose ends out the secondary side opening.



12) Using the supplied (#SM-TH2) hose separator, connect the **SECONDARY** side connector fitting and fuel sock together on the separator as shown, securing with the cable ties supplied.

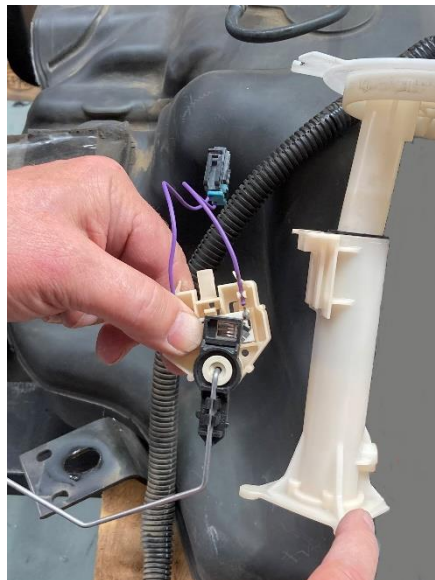


13) Check both the Primary and Secondary side crossover pipes and separator assemblies sit properly on the bottom of the fuel tank and are ready to be fitted to the respective fuel modules.

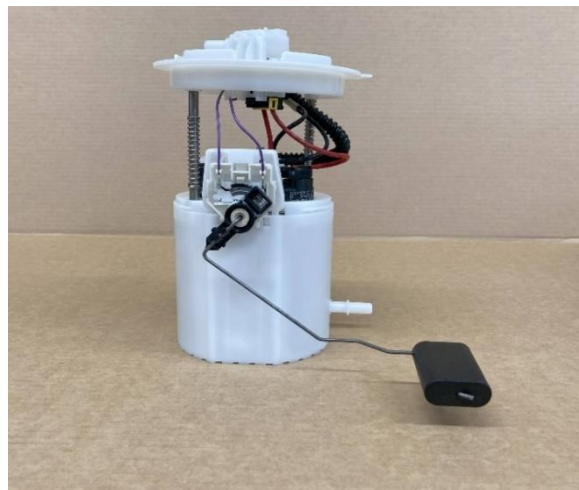
14) **IMPORTANT!** On final fitment ensure the **PRIMARY** side pickup sock faces down in the tank while the **SECONDARY** side pickup sock faces upwards in the tank.

KPM Secondary Fuel Module Fuel Sender & Float Adjustment

- 1) Remove the fuel sender unit from the standard secondary fuel sender unit module for electrical connection and height adjustment.



- 2) Fit the fuel sender and float assembly to the new KPM secondary fuel module. Do not plug the fuel sender wire to the connector under the module lid as yet.
- 3) Make sure the KPM Secondary Fuel Module is on a flat bench allowing the float to swing freely to its lowest position of travel.



- 4) You will find that fitted to the KPM fuel module; the float travel stops slightly high above the flat surface.

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- 5) Carefully remove the float arm from the sender unit circuit board.



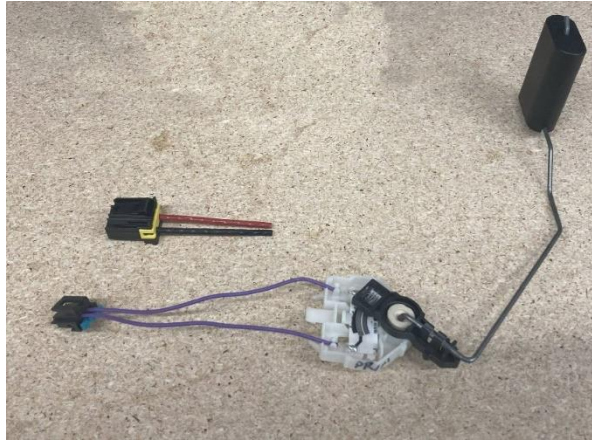
- 6) Bend the float arm in a vice by hand at the position shown.
- 7) Continue to re-check it on the KPM module until you set the float level with the bench as per the OE module.



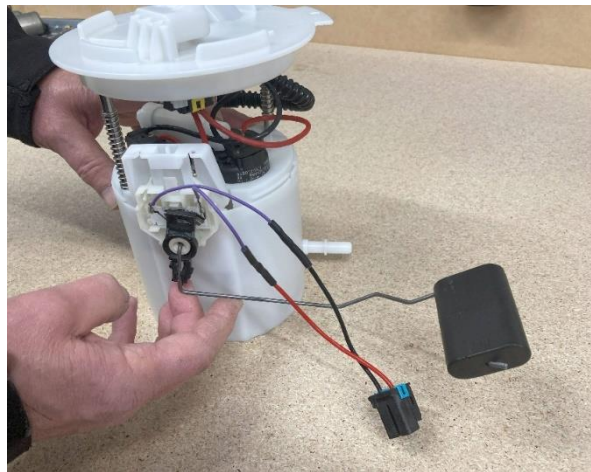
- 8) This position will allow your fuel sender to read from an empty tank and all the way up to a full tank perfectly when fitted with your KPM Fuel Module.
- 9) Remove the sender unit and float assembly from the KPM fuel module.

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- 10) You will need to change the sender unit electrical connector to fit to the new KPM Fuel module connection.
- 11) Using the new supplied connector and wire section as a template, cut the sender wire connector at the appropriate length.



- 12) Using the crimp connectors supplied, securely crimp the new wire section to the sender wires. It makes no difference on which purple OE sender wires you crimp the new section black or red wires to.



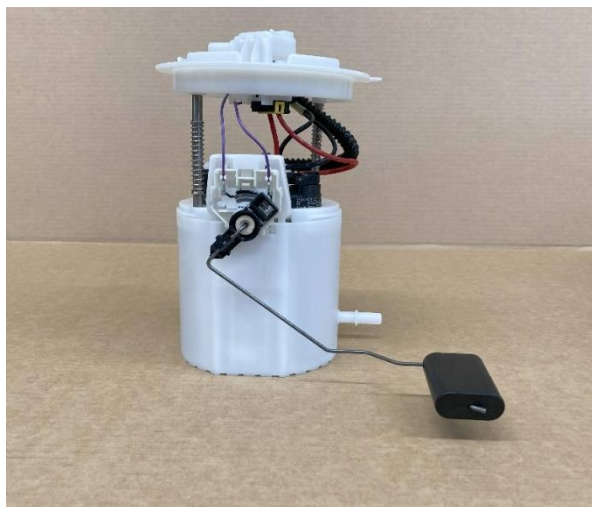
- 13) Do not fit your sender unit to the KPM fuel module as yet.

KPM Primary Fuel Module Fuel Sender & Float Adjustment.

- 1) Place the OE factory fuel module on a bench allowing the float to swing freely. You will find the float travel should stop level with the bench.



- 2) Remove the fuel sender unit from the standard fuel module.
- 3) Fit the fuel sender and float assembly to the new KPM fuel module. Do not plug the fuel sender wire to the connector under the module lid yet.
- 4) Make sure the KPM Fuel module is on a flat bench allowing the float to swing freely to its lowest position of travel.



- 5) You will find that fitted to the KPM Fuel Module; the float travel stops slightly high above the flat surface.

- 6) Carefully remove the float arm from the sender unit circuit board



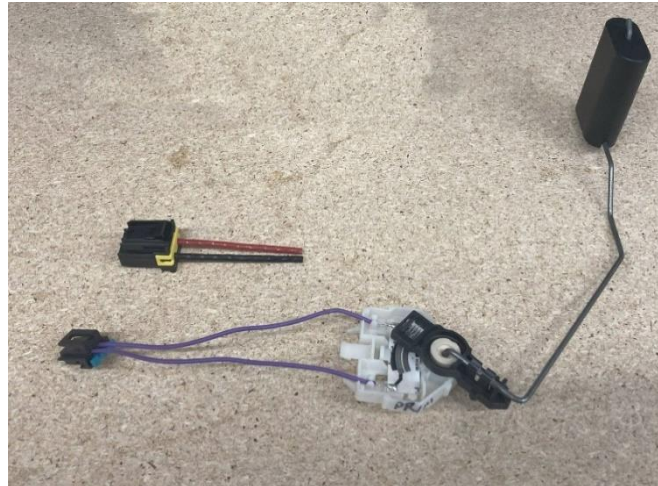
- 7) Bend the float arm in a vice by hand at the position shown.
- 8) Continue to re-check on the KPM module until you set the float level with the bench as per the OE module.



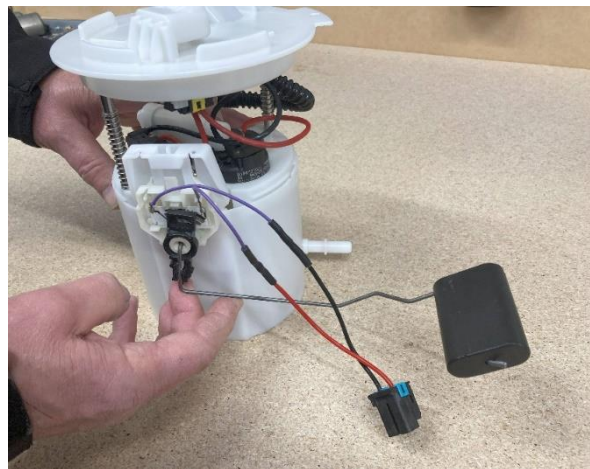
- 9) This position will allow your fuel sender to read from an empty tank, all the way up to a full tank perfectly when fitted with your KPM Fuel Module.
- 10) Remove the sender unit and float assembly from the KPM fuel module.
- 11) You will need to change the sender unit electrical connector to fit to the new KPM Fuel module connection.

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- 12) Using the new supplied connector and wire section as a template, cut the sender wire connector at the appropriate length.



- 13) Using the crimp connectors supplied, securely crimp the new wire section to the sender wires. It makes no difference on which purple OE sender wires you crimp the new section black or red wires to.



- 14) Do not fit your sender unit to the KPM fuel module as yet.

KPM Secondary Fuel Module Fitment

- 1) Pull the internal crossover hose **SECONDARY** side connector fitting and fuel sock together out from the tank far enough to connect to the bottom of the KPM Secondary Fuel Module canister.
 - a. Ensure the fitting clicks on firmly.



- 2) Lower the **secondary** fuel module into the tank, without the fuel sender and float assembly fitted. Sit the module on the bottom of the tank.

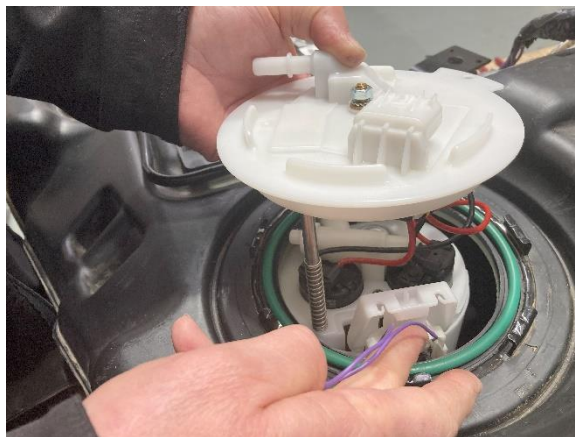


- 3) Lower the secondary fuel sender and float assembly down the side of the KPM fuel module while it is sitting in the tank.

- 4) Ensure that the fuel sender and float unit is lowered on the side of the fuel module which accepts the sender unit to be clipped into.



- 5) Using the fuel sender electrical wires to align it, pull the sender unit upwards until it lines up into the fuel module clip.
- 6) At this point you should be able to reach in and pull the sender up firmly with your fingers. Ensure it has clipped in securely.
- 7) Lift the KPM secondary fuel module as far out of the hole as possible, to plug the fuel sender wire to the connector under the module lid.



- 8) Carefully lower the fuel module into the tank slowly, working the float arm, hosing assembly and wiring down into the correct resting position.

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- 9) Ensure that the crossover separator assembly is sitting correctly at the base of the fuel tank and facing the correct direction. The fuel pickup filter should be facing **upwards** as pictured.



- 10) You will find the numbers 1 to 7 molded into the fuel tank next to the corresponding retaining ring tab.

- 11) Sit the fuel module locating tab fully into the tank between locating tabs **1 and 2** as pictured below.



- 12) Proceed to fit the o ring new seal and re-tension the lock ring to the secondary module lid.
- Ensure module is sitting square and flush on the seal prior to tensioning.

KPM Primary Fuel Module Fitment

- 1) Fit the supplied 3/8" - 1/2" adaptor to the crossover pipe outlet at the bottom of the new KPM fuel module canister.



- 2) Pull the crossover hose separator assembly out of the tank far enough to fit to the new KPM primary module.
- 3) Place the fuel module as close as possible to the separator assembly and securely connect the (#KPMFHTH4) hose connector fitting onto the connector at the base of the fuel module.
- 4) Ensure the crossover pipe connector clicks fully onto the fuel pump module canister.



- 5) Carefully lower the new primary fuel module into the tank taking care not to damage the fuel sender and float mechanism while doing so.

- 6) Ensure that the crossover separator assembly is sitting correctly at the base of the fuel tank and facing the correct direction. The fuel pick-up filter should be facing **downwards** as pictured.



- 7) Fit the new O-ring seal and retention the retaining ring to secure the fuel module into the tank with the correct tool.
 - a. Ensure module is sitting square and flush on the seal prior to tensioning.

Fuel Tank Fuel Hose & Wiring Reconnection

- 1) Fit the new #KPMFHTH1 nylon fuel line to the new KPM **secondary** fuel module as per the routing pictured below.
- 2) Fit the new #KPMFHTH6 nylon fuel line on the KPM **primary** fuel module as per the routing pictured below.



Note - It is very important that the fuel lines are routed exactly as shown on the tank, firmly clicked together and securely held in the position shown with the provided adhesive tape.

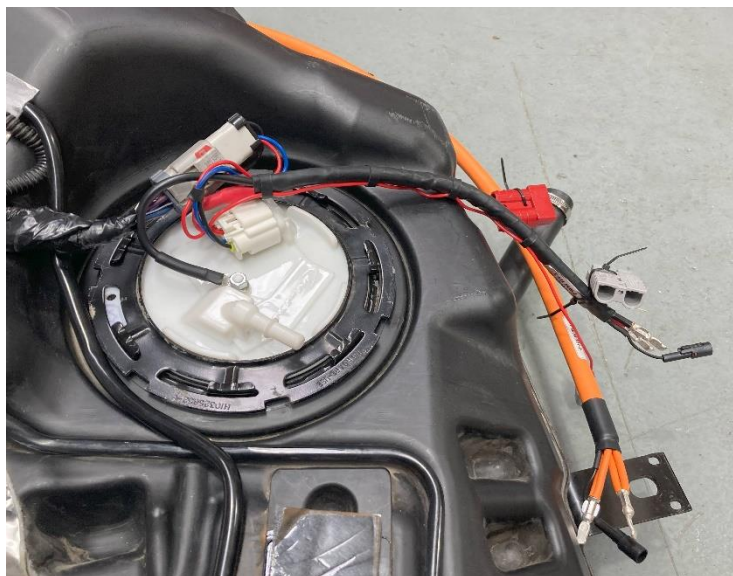
- 3) Please clean the tank surface with suitable prep solution before adhering the adhesive.

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- 4) Fit the standard wiring loom sections to the tank as shown in the picture below.
- 5) Fit the KPM section wiring loom #Th6 to the KPM **secondary** fuel module. Be sure to connect the earth wire eyelet to the new KPM fuel module earth stud by securing the supplied nut and washer.

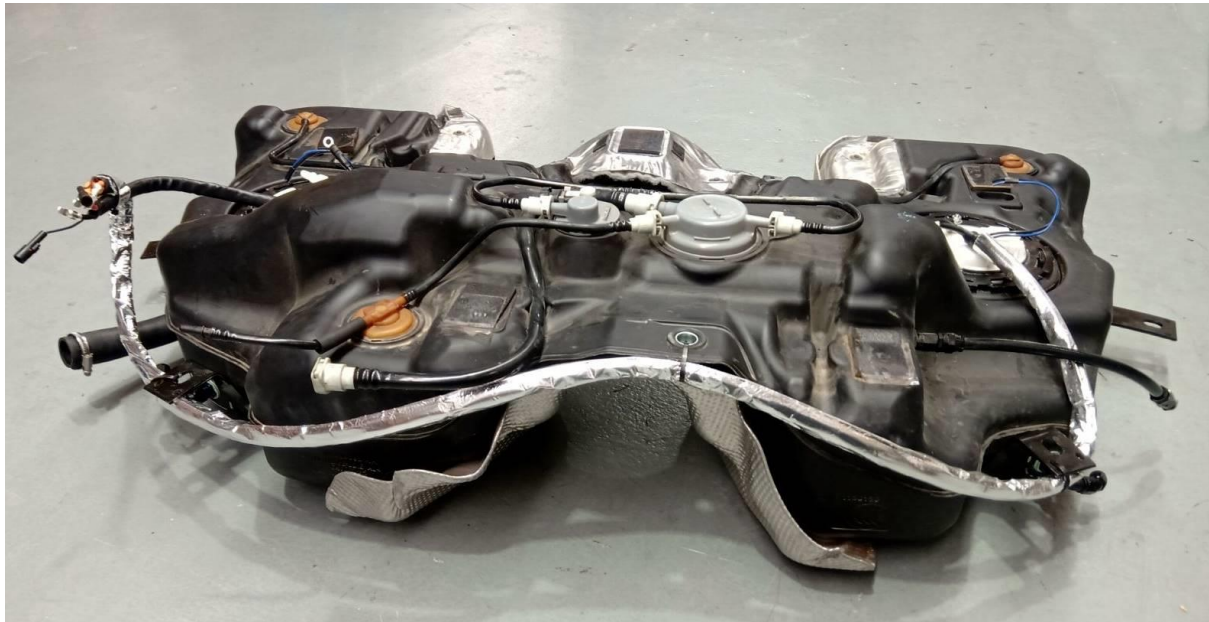


- 6) Fit the KPM section wiring looms #Jd3 to the **primary** fuel module. Be sure to connect the earth wire eyelet to the new fuel module earth studs by securing the supplied nut and washer.



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- 7) Fit the protective heat shielding supplied and cut to length. Route the Th6 wiring loom along the back of the fuel tank as pictured.



- 8) Remove the rear seat from the vehicle cabin.
- 9) On the LH rear seat floor area, locate the large rubber grommet and OE wiring loom.



- 10) This will allow provision to feed the new KPM primary and secondary fuel pump wiring looms through into the cabin.



- 11) Proceed to refit the fuel tank as per manufacturer's instructions.

- 12) After fitment of fuel tank, be sure to secure the #Th6 wiring loom section under the car in the position shown with the cable P clamp supplied.





KPM High Flow Fuel Hose Kit Fitment

The KPM high flow fuel hose kit is made of high-grade stainless steel, mandrel bent to perfectly fit your [2012-2021 Jeep Grand Cherokee and Dodge Durango](#).

The pipe inside diameter is 13.5mm and designed to support well over 3000hp of fuel supply. KPM also supplies aluminum heatshield sheathing that you can cut to size along the full length of the pipe.

- 1) Disconnect the flexible fuel supply to your engine fuel rail at the LH side of your engine.
- 2) Moving undercar, disconnect, unclip, remove and discard the OE steel fuel supply piping that runs from the rear tank section all the way to your engine bay.
- 3) Fit the new fuel hose section #KPMFHTH3 steel pipe from undercar up into the engine bay area. Temporarily use cable ties to hold it in an approximate position.

***Note- Depending on the exhaust system fitted to your vehicle, some aftermarket systems will require the LH exhaust manifold or header to be removed to give room for routing the #KPMFHTH3 up into the engine bay area.**

- 4) Check the piping is in correct positions in all areas and when satisfied, test fit and mark out the positions for the final fitment of the fuel pipe clamps supplied.
 - a. You will find supplied 4 x 5/8" base clamps.
- 5) With all the fuel pipes and fitting clamps mapped out, you can now measure and cut your heat shielding to be fitted for a final fitment. Be especially sure to run the heat shielding on any section of fuel line running close to a heat source e.g., headers, exhaust, cats etc.
- 6) Securely fit all the flexible fuel line quick connectors to the steel pipe EFI connection at the LH front of the fuel tank. Ensure they all click on securely.
- 7) You will find the KPM high flow steel fuel pipe ends at the LH side of the engine at the OE outlet position.
- 8) Due to the many combinations of manifolds, fuel rails, flex fuel systems, superchargers, turbo etc. positions, the end user is required to manufacture their own last piece of fuel supply line to fuel rail entry. KPM have supplied a quick release 8AN fitting to help you complete and adapt your fuel system using common fittings.
- 9) When you have fully finished fitment of your fuel supply system, **YOU MUST CHECK FOR ANY LEAKS BEFORE START UP**. Prime fuel lines while checking for leaks. If all ok, start the vehicle and perform a thorough check under vehicle and at all fitting points. Run vehicle until everything has been warmed and then re-check all fittings.



Congratulations! You are ready to go.

Further Instructions

Please see your specific vehicle year/model [PWM and Wiring Fitting Instructions](#) to complete you KPM Fuel System installation.