



CERTIFIED • OEM QUALITY • RELIABILITY

SUCCESS IN FUEL DELIVERY SYSTEMS

PART 1



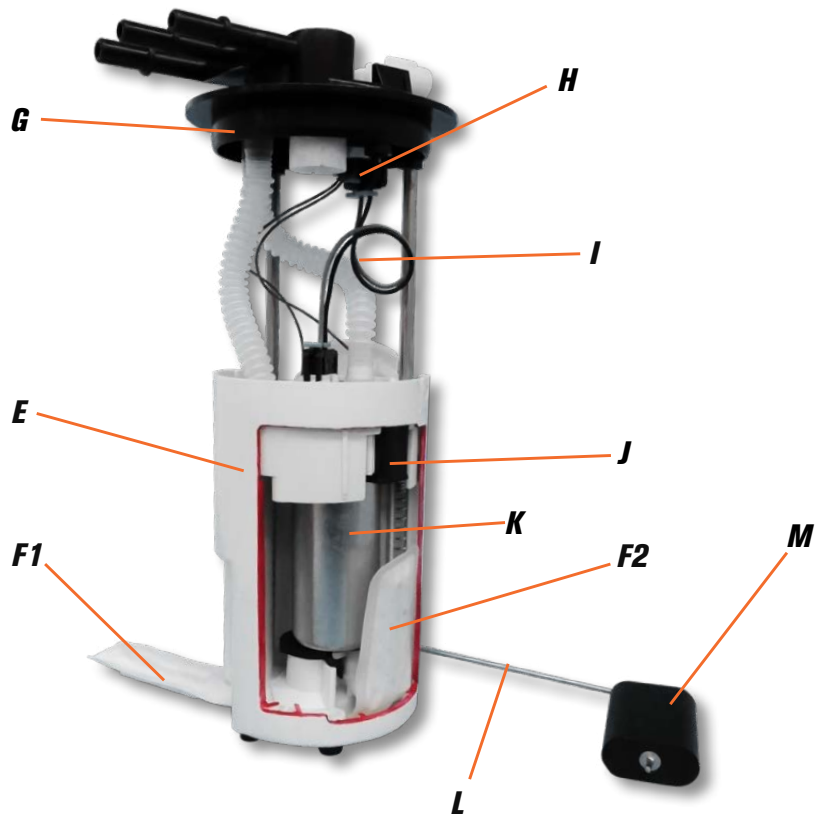
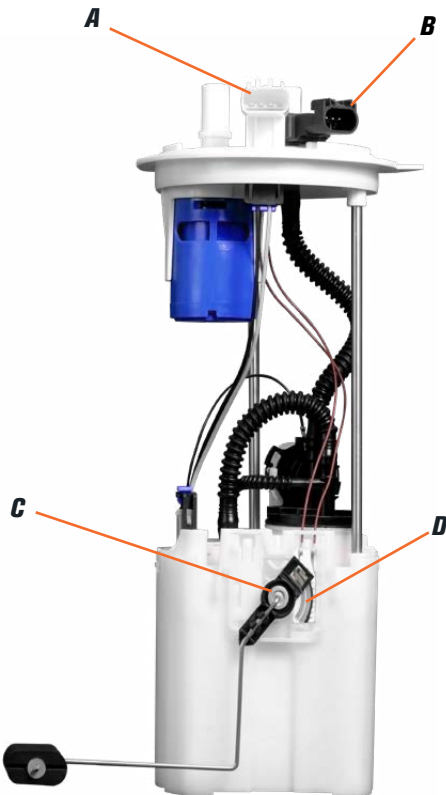


OE REPLACEMENT FUEL PUMP ASSEMBLIES

USMW Professional Series fuel pump modules are manufactured with NEW high quality components. All modules include a fuel pump inside a housing that has the fuel float sensor attached. General items found in a standard fuel pump assembly are shown in the diagrams.

- A.** Upgraded “Flat-4” connectors on all GM modules for increased reliability and longevity. Mating pigtail harness included with all upgraded connectors
- B.** Hybrid circuit pressure sensor for increased reliability in harsh conditions
- C.** Bifurcated (split) contacts used on fuel level sensor wiper for low friction and increased lifespan
- D.** Palladium silver alloy used on fuel level sensors for increased reliability in ethanol and ethanol blend fuels
- E.** Rubber vibration dampers to decrease noise
- F1 - F2.** Dual strainers for superior filtration. Internal and externally mounted
- G.** POM plastic used for strength and durability
- H.** Increased thickness connector pins used for increased reliability
- I.** Teflon insulated wires for superior chemical resistance
- J.** Nitrile or Viton used for all rubber components for long life and fuel resistance
- K.** Robust 2 stage turbine or roller vane internal pump (depending on application)
- L.** Stainless steel used for all metal components
- M.** Foam fuel float for increased reliability over molded type

USMW fuel pump kits and modules include a strainer, and all modular units with an integrated primary filter include a new filter assembly.



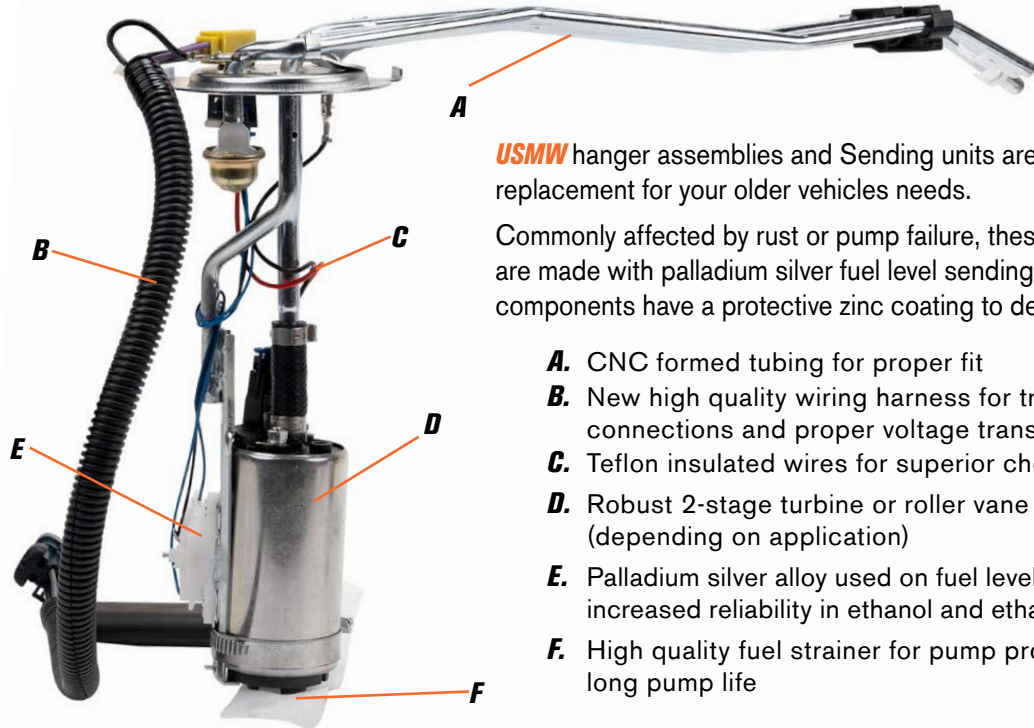
OE Style Internal Fuel Pumps

USMW uses OE style fuel pumps rather than less expensive turbine units (where applicable). This ensures quality and performance that meets or exceeds OE standards.



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HANGER FUEL ASSEMBLIES

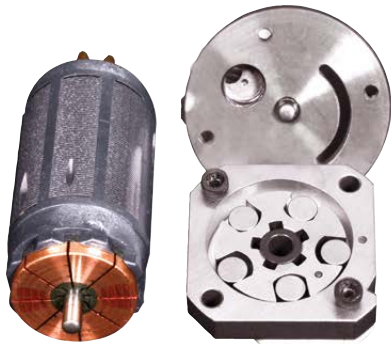


USMW hanger assemblies and Sending units are an OE style replacement for your older vehicles needs.

Commonly affected by rust or pump failure, these new **USMW** units are made with palladium silver fuel level sending units and all steel components have a protective zinc coating to defend against rust.

- A.** CNC formed tubing for proper fit
- B.** New high quality wiring harness for trouble free connections and proper voltage transfer
- C.** Teflon insulated wires for superior chemical resistance
- D.** Robust 2-stage turbine or roller vane internal pump (depending on application)
- E.** Palladium silver alloy used on fuel level sensors for increased reliability in ethanol and ethanol blend fuels
- F.** High quality fuel strainer for pump protection ensuring long pump life

INTERNAL PUMP TYPES



Roller Vane

This pump uses a steel rotating disk with sliding rollers that move outward and suck fluid through the pump. Roller vane pumps can tolerate fuel contamination much better than other pumps but create more noise.



Gerotor

This pump has a steel gear type pumping mechanism. Gerotor is quieter than roller vane but cannot tolerate fuel contamination.



Turbine (single and double stage)

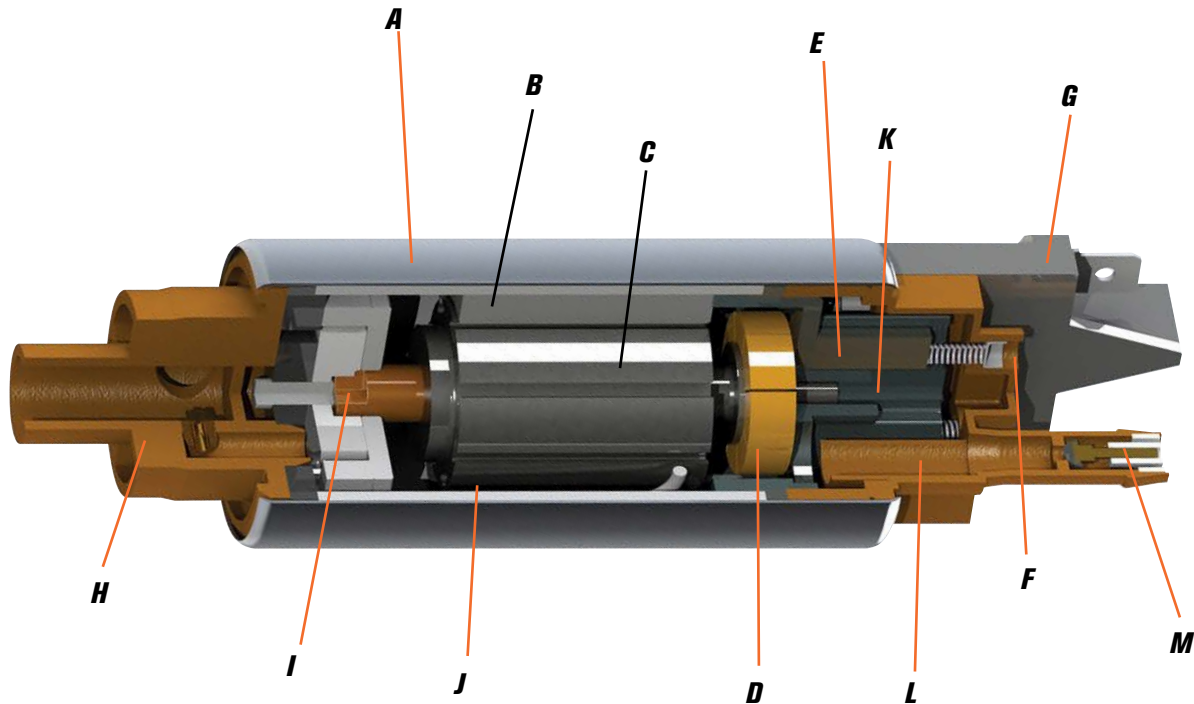
The spinning of the turbine causes fluid to flow through the fins moving the fuel through this pump. The turbine turns at a higher speed than the other pump types and requires tighter tolerances to operate. Because of the tight tolerances required on turbine pumps, they are very susceptible to debris and fuel contamination.



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FUEL PUMPS

A fuel pump consists of up to 200 individual components that have to work correctly in order for proper function. This diagram shows the critical components inside a fuel pump.



A. Can

High quality conversion coating for superior resistance to corrosion

B. Permanent Magnet

Alnico, neodymium, or tombarthite permanent magnets for the best performance & resistance to temperature

C. Armature

Pure copper windings and soldered connections for the best performance

D. Commutator

Pure copper commutator for gasoline applications and carbon commutator for ethanol applications

E. Brushes

High quality carbon brushes for long life and optimum performance

F. Brush Springs

High silicon steel coil springs specifically wound to prevent binding

G. RF Suppressor

OE style RF suppression prevents radio noise and sensor interference

H. Inlet Housing

Durable precision molded plastic with brass jet port

I. Pump Mechanism

Powerful OE style for maximum performance and life. Roller vane gerotor, turbine, and peripheral styles available

J. Flux Ring

Internal steel flux ring concentrates the magnetic field from permanent magnets

K. Brush Holder

Made from high temperature plastic for perfect brush alignment.

L. Outlet Manifold

Precision molded with polarity markings for proper wiring identification

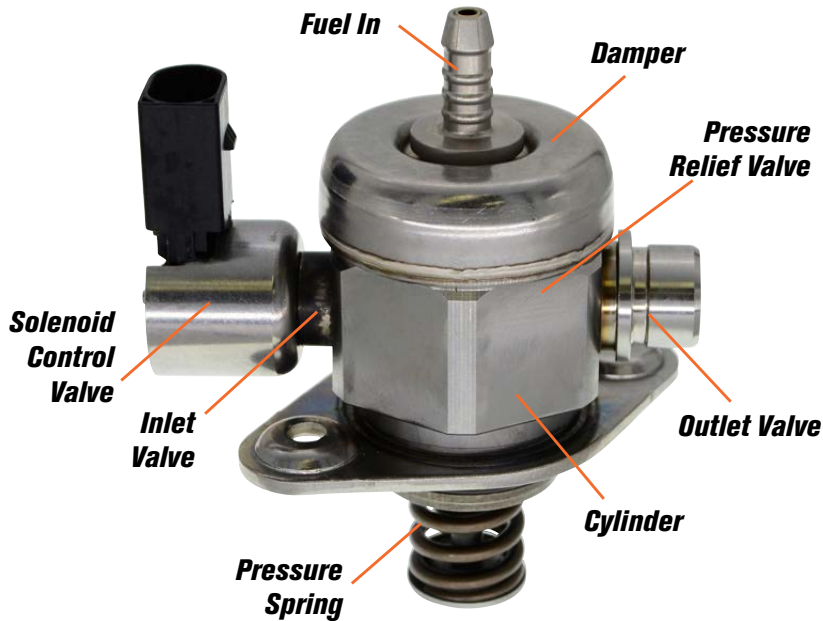
M. Check Valve

Prevents fuel system back draining



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GDI - (HIGH-PRESSURE GASOLINE DIRECT INJECTION)



USMW offers a wide range of Gasoline Direct Injection (GDI) fuel pumps for import and domestic applications

- High Precision Castings
- Reinforced Diaphragms
- Built to Meet or Exceed OE Quality and Function

MECHANICAL FUEL PUMPS



USMW offers a wide range of mechanical fuel pumps for import and domestic applications

- High Precision Castings
- Reinforced Diaphragms
- Compatible with New Fuel Blends
- All Gaskets and Hardware Included for Proper Installation