



## **MST** PROTOTYPE

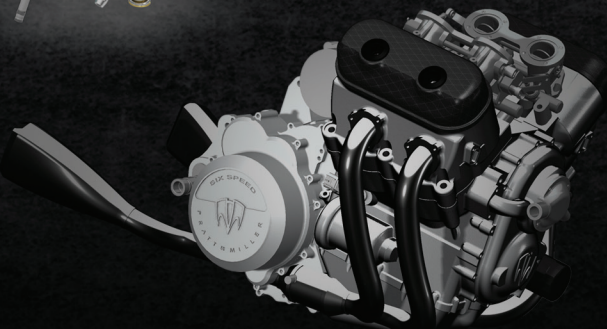
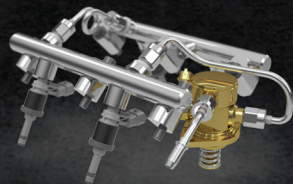
### **THE MOTUS MST. MOVEMENT REDEFINED.**

In Latin, "motus" refers to movement of the mind and soul. Today, the MOTUS MST is redefining our idea of movement. Powered by the mighty KMV4 "baby block" engine, the MST is 160 horsepower of determination and ingenuity ready to be unleashed. Designed to maximize performance, comfort and range with a lightweight, super strong chassis, a 6-speed precision gearbox and top shelf adjustable components - all for maximum feedback and responsiveness. A comfortable new sport bike built from the ground up - Detroit muscle and racing heritage in a direct injected V4 powered American motorcycle.

Experience movement unlike anything else on the road. Tell your favorite dealer you want to test ride a MOTUS MST. Learn more at [motusmotorcycles.com](http://motusmotorcycles.com)

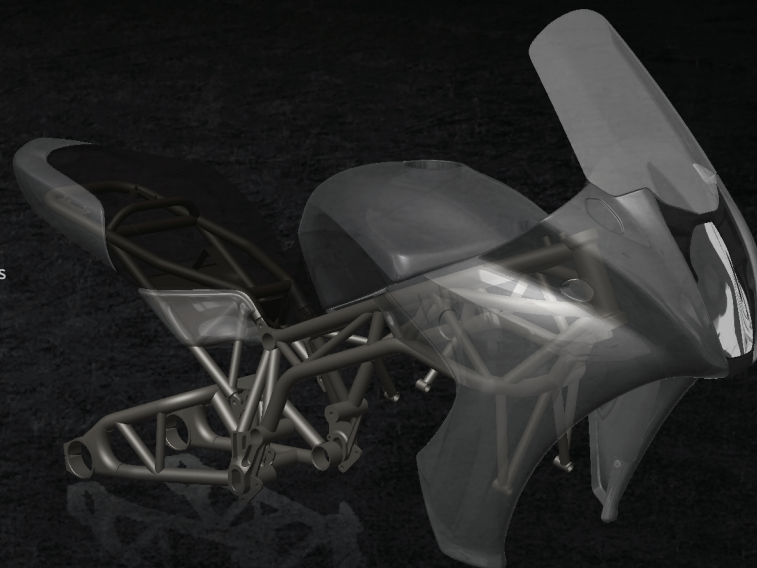
### **GDI -Gasoline Direct Injection**

GDI increases power and reduces emissions by digitally atomizing fuel as it is sprayed directly into the engine cylinders. Using our powerful engine management system, the air/fuel ratio is optimized hundreds of times per second, allowing instant adaptation to changing conditions. This dynamic adaptability, combined with ultra-precise low speed throttle control make GDI a perfect technology for a high performance, long distance touring motorcycle.



### **KMV4 Engine**

The ideal engine for a new American sport tourer did not exist until we built it. The heart and soul of the MOTUS MST is the KMV4 - the world's first direct injected 4 stroke motorcycle engine. Massive torque in a wide, smooth powerband, low maintenance and easy service - with an exhaust note that only existed in our imagination until now. After careful consideration of all the various engine configurations, valve-train options, fueling technologies, and bore/stroke combinations, the KMV4 was born.



### **Trellis Space Frame**

Inspired by legendary race cars and motorcycles, the MST frame is light and strong but not so stiff that it prevents the road from speaking to the rider. We use high carbon chromoly at strategic points to transmit dynamic road feel. The KMV4 engine is a stressed member of the chassis, making it rigid without bulk or added weight. The chassis and swing arm are matched and optimized for weight bias and balance.



[www.motusmotorcycles.com](http://www.motusmotorcycles.com)



# MST PROTOTYPE

- WHEELBASE 58 IN; SEAT HEIGHT 31 IN; WET WEIGHT 550 LB
- 6-SPEED PRECISION GEARBOX
- TRIPLE ADJUSTABLE SUSPENSION W/REMOTE PRE-LOAD ADJUSTER
- ADJUSTABLE WINDSCREEN
- FULLY ADJUSTABLE CONTROLS
- REMOVABLE HARD CASES TO FIT FULL FACE HELMETS
- 750 WATT ALTERNATOR & 2 POWER PORTS
- LIGHTWEIGHT ALUMINUM WHEELS
- MICHELIN PILOT POWER TIRES
- X-RING CHAIN FINAL DRIVE WITH ALUMINUM/STEEL HYBRID CARRIER

Engine type	1645cc (100ci) direct injection; liquid-cooled 90° V4; OHV pushrod; chain-driven single cam; hydraulic lifters		
Transmission	Motus 6-speed sequential gearbox; unit construction; wet multiplate clutch		
Bore x Stroke	86.5mm (3.41in) x 70mm (2.75in)	Compression	11.5:1
Valves	Intake Ø44.5mm (1.75in); Exhaust Ø36.8mm (1.45in); stainless steel		
Dimensions	610mm (24in) L x 492mm (19in) W x 508mm (20in) H		
Performance	Minimum 161bhp @7800 rpm; 165Nm (122 lb-ft) @4500 rpm; 8000 rpm redline		
Materials	356-T6 cast aluminum block and heads; forged steel crank, cam, rods; forged aluminum pistons; linerless Nikasil bore		
Firing order	1 - 4 - 3 - 2	Ignition Sequence	TDC - 345° - 435° - 630°
Crankpin Offset	75°	Minimum Octane	87

Motus Motorcycles

TITLE:

MST KMV4 1650

SHEET 1 OF 1

DWG. NO.

KMA-0001