

TRIALS TEST

OSSA



We are believers in direct-inject two-strokes! Boothy does a little exploring on the Ossa. The power was instant without a hint of hesitation. Properly jetted two-strokes usually don't have any hesitation, but require constant jetting changes to meet changing environmental conditions. In the U.S., about 750 to 800 trials bikes are sold a year. That's not a huge number, but enough to continually develop the technology.

SA FUEL-INJECTS A TWO-STROKE

We don't need no stink'n' carburetor

A 29-year hiatus from the dirt bike and trials world is a long time, but Ossa has blasted back into the trials market with a big hammer: a direct-injected two-stroke. We had the pleasure of riding the TR 280i for an afternoon, hopping and wheeling our way over every rock we could find.

Just looking at the Ossa TR 280i causes most people's heads to tilt in a questioning manner. The cylinder is backwards and slanted toward the back of the bike with the throttle body in the position where most would expect the exhaust pipe to be. The gas tank isn't on top; it runs down the front from the head tube to the engine cradle, making up an important part of the frame structure. The radiator sits between the gas tank and the cylinder with an electric fan to keep the air circulating. With the gas tank down in front, it helps keep the weight low and also shields the engine and radiator from mud and debris, keeping the engine area very clean.



The Ossa is a super high-tech machine. When this technology finds its way onto full-size dirt bikes, performance will increase, especially for trail riding or off-road applications. They will have consistent air/fuel mixtures over a wider rpm range.

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OSSA TR 280i

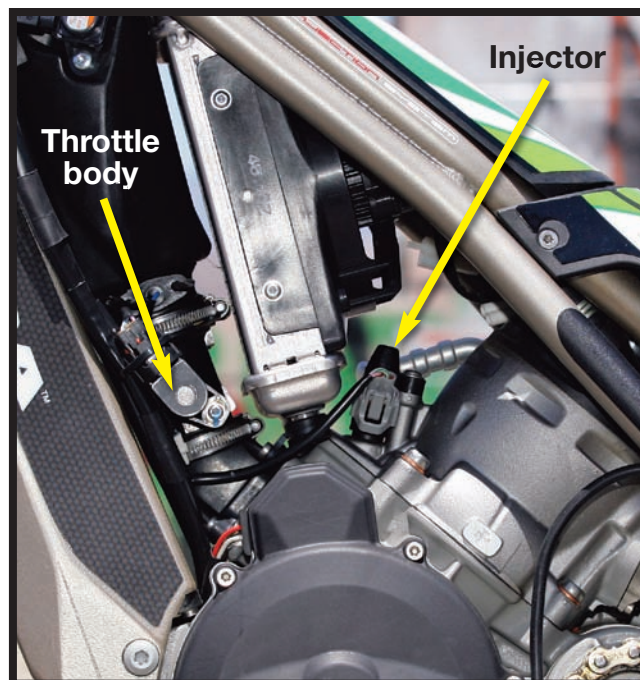
The injector is located in front of the cylinder and feeds fuel into the engine shooting fuel into the crankcase in the pressurized side of the system. The reed cage only feeds air into the engine. The direct injection uses an air-pressure sensor and a temperature sensor in an open-loop system to control the mixture and keep the engine running perfectly. The ignition is bigger to produce extra power for the fuel pump, and with the extra power, there is no need for a battery. The airbox is up high on the bike and feeds directly into the throttle body. The high position of the airbox also means it is away from the rear wheel and the dirt and dust that comes off a spinning tire. The location of the airbox also means deep water is not an issue. The reversed cylinder releases the exhaust and goes straight to the back of the bike without a head pipe wrapping around or exposing it to damage. The new engine design also allows the transmission to be removed with the engine still in the bike. It comes out through the side cases so you don't have to split cases should you need to work on the transmission for some reason.

NO CARBURETOR ON A TWO-STROKE?

This is the first direct-injected two-stroke we've ridden, and it does to a two-stroke what fuel injection has done for four-strokes—created instant and responsive power all the time. There isn't a choke or jetting to mess with, no matter the weather or altitude. The TR 280i will run the same, and it runs great! A properly jetted, traditional two-stroke runs just fine, but direct inject takes all the work out of tuning the bike. Gone are burbles or hesitations after hard landings. The TR 280i didn't start as easy as a carbureted bike, but once we got a feel for it, we had it starting down to one or two kicks on average.

Piloting the Ossa was high on the fun scale. It has a very light feeling and is very rider friendly for beginners and more advanced riders. The suspension was responsive and springy, making hopping up objects easy. It worked well on big drops, hitting the stops occasionally but not brutally. We did leave a few rear-tire marks on the muffler from some not-so-smooth landings. The bike's light weight made it easy to unload the suspension and change direction in the toughest and tightest terrain. The engine had a very torquey feel while still having the ability to quickly rev up when needed. A quick stab of the clutch launched the bike up and over anything we were willing to point at it. With the direct injection, we noticed we could ride around right off idle without the motor ever loading up or needing to be revved to clean out like a carbureted two-stroke. The hydraulic clutch pull was easy and smooth, and the clutch uses a diaphragm spring design. The brake rotors on trials bikes are small, but they work. The Ossa had nose wheelies on lock down with only the use of one finger, and the overall feel was strong but not grabby.

Flat ground provides endless opportunities on a trials bike. The Ossa feels like a heavy mountain bike, not a motorcycle.

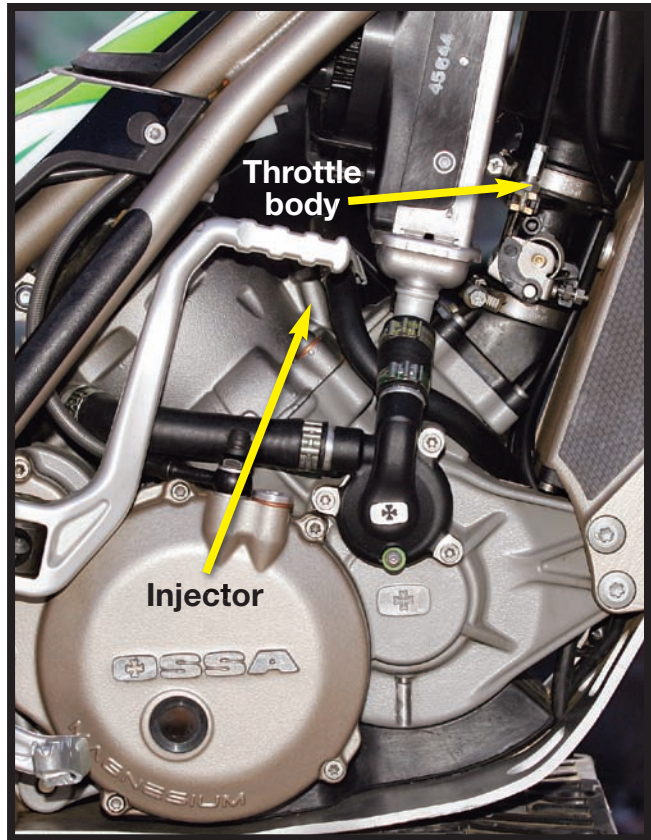


Direct injection is when air and fuel enter the engine through separate entries, and throttle body injection is when the fuel and air mix before traveling through the intake. The throttle body runs behind the gas tank, in front of the radiator, and feeds directly into the reeds and into the crankcase. Only air passes through the reeds while fuel is fed through the injector, behind the radiator, and in front of the cylinder into the cases.

BIG-DOLLAR HOLLA

We are in no way expert trials riders here at *Dirt Bike*, but we do spend a few hours a week riding the older beat-up ones we personally own, so a day on a high-tech machine like the TR 280i really opens our eyes to the advancements trials bikes have made over the past 10 years. On average, the trials industry finds a way to shave about a pound off the bikes every year, meaning our 1999 Gas Gas is a city bus compared to the Ossa, and it makes a big difference when riding.

Ossa, in their first year in the trials world, has established their bikes as top-level machines, and the TR 280i has shown great reliability in world trials events—indoors and outdoors. Ossa has done a really good job with the TR 280i and proved they did their research on direct injecting a two-stroke. We are looking forward to seeing this technology on dirt bikes. We understand everyone doesn't have \$8495 lying around and burning a hole in their pockets, but, if you do, purchasing the Ossa TR 280i is one very cool way to spend it. □



Another view of the direct-inject two-stroke engine. Through sensors, just like an EFI four-stroke, the air fuel mixture is continually monitored and adjusted for perfect "jetting." Making a two-stroke fuel-injected motor is not any more complicated than for a four-stroke.



◀ The exhaust is a piece of art.



Every aspect of the OSSA is ultra trick.

OSSA TR 280i

Engine type	Two-stroke reed intake into crankcase
Displacement	272cc
Bore x stroke	76mm x 60mm
Fuel delivery	EFI Kokusan
Transmission	6-speed
Final drive	chain
Fuel tank capacity	0.8 gal. (3l)
Lighting coil	No
Spark arrester	No
EPA legal	No
Running weight	147.7 lb. (67 kg)
Wheelbase	52"
Ground clearance	13.6"
Seat height	25.8"
Tire size and type:	
Front	2.75x21
Rear	4.00x18 tubeless
Suspension	
Front	Marzocchi 40mm adj. reb./comp.
Rear	Ohlins TTX shock adj. prld. comp., reb
Country of origin	Spain
Suggested retail price	\$8495
Manufacturer	Ossa World/Ossa
	www.ossamotorcycles.com.au