

COMPARISON | 300-400CC FOUR-STROKE ENDUROS

With the number of mid-capacity four strokes on the rise, Enduro Editor **Jake Stapleton** figures out which one's the easiest to live with

WORDS // JAKE STAPLETON PHOTOGRAPHY // JEFF CROW

# Middle Child

**SYNDROME**



## THE RIDERS



### CAM DONALD

DOB: 29/9/1977

Lives: **MELBOURNE, VIC**

Current Bike: Honda CRF250R (rec reg),

Suzuki RM125, Gas Gas TXT 250

Pace: Expert

Occupation: Professional road racer

Test Experience: I've ridden most Japanese models and a few Europeans.



### CON THERMOS

DOB: 9/10/1972

Lives: **MELBOURNE, VIC**

Current bike: KTM 350 EXC-F, 300 EXC, 690 Enduro, Sherco trials bike

Pace: Expert

Occupation: Trail tour operator

Test experience: I've ridden most modern enduro bikes from 250cc plus.



### JAKE STAPLETON

DOB: 18/02/1985 **PRO**

Lives: **DUBBO, NSW**

Current bike: Yamaha WR250F, Suzuki RM250

Pace: Pro

Occupation: Paramedic

Test experience: Every enduro and motocross bike in the last two years!



### MITCH LEES

DOB: 13/06/1986

Lives: **MELBOURNE, VIC**

Current bike: Sherco SEF-R 300

Pace: Clubman

Test experience: I've ridden almost every bike across all capacities in the last five years from 125cc to 1200cc.



Hopping ruts was easy on the agile Sherco

With many manufacturers competing for sales, and a vast range of machines on the market, enduro fanatics are truly spoiled for choice. Gone are the days of having to live with a high-revving 250cc or taming a 450cc or 500cc powerhouse. We now have a mid-capacity class that can give us the best of both worlds.

Most European manufacturers have come up with their own distinctive contenders for this booming category which leaves us with the Sherco SEF-R 300, Beta's RR350 and two Austrian/Italian/Swedish cousins: the KTM 350EXC and Husqvarna FE350. Beta also has a second option in the RR390.

Although this band of renegades has its own category, the different capacities mean that a direct shootout would not really do each machine justice. Instead, we decided to simply highlight the positives and negatives of each bike and focus on what type of riding each bike is best suited to.

## TESTING GROUNDS

After a late arrival into Melbourne airport, an evening trip down the Great Ocean Road and minimal sleep, I found myself in the beautiful Victorian bush and the designated enduro riding area in the Angahook-Lorne State Park. The terrain on offer was mixed singletrack of hard-pack and sand, and also some fast and very whooped out sand sections.

Riders on hand were Con Thermos, who is an experienced trail tour operator and has had seat time on almost every enduro bike available, Cam Donald who is a professional road racer with a passion for dirt bikes who spends a heap of time cross training on either enduro or trials bikes, ADB Editor Mitch Lees, who has ridden everything from a 250cc through to a 1200cc, and myself, ADB's Enduro Editor and ex-pro enduro racer.

I have been lucky enough to ride practically every enduro bike on the market over the last few years. With a great riding spot and a group of riders with varied abilities and interests, we had all the elements needed to get a good idea of exactly how each bike goes about its business. Here's what we found:

KTM 350EXC

BETA RR350

SHERCO SEF-R 300

BETA RR390

HUSQVARNA FE350





Flies like a bird

# HUSQVARNA FE350

## FAST FACTS

Using a 350cc engine gives the FE350 the power of a 450 with the agility of a 250  
The engine weighs just 28.5kg (claimed) and can rev to 12,000rpm  
Electric starting is standard with the option of fitting a kickstarter  
The double-cradle chrome-moly frame and composite polyamide subframe is designed to offer flex when needed  
The CNC-machined triple-clamps allow the handlebar to be set in four different positions

- 1. **CHASSIS** Dip in the seat means getting over the front can be hard work
- 2. **ENGINE** Kickstarter doesn't come standard on the Husqvarna, just on the Kato
- 3. **BRAKES** Hard to argue with Brembos
- 4. **TYRES** Michelin rubber is a nice touch

## THIS ENGINE WOULD, WITHOUT A DOUBT, BE A REAL STANDOUT FOR TRAIL RIDERS

"I found the FE350 really hard to pull up coming into corners compared with the Sherco. Probably because the Sherco's a more nimble, smaller package," he said.  
Oddly enough, the power delivery on the Husky felt different to the KTM.

We agreed that the Husky was smoother through the bottom-end to mid-range but slightly down on top-end grunt.  
The likely cause: a different airbox from the KTM resulting from the composite subframe. But the extremely smooth power curve, paired with the amazing

clutch feel, makes nasty hillclimbs and slippery sections easy. This engine would, without a doubt, be a real standout for trail riders.  
At 183cm (6ft) I have issues with the Husky's cramped riding position. There's a big dip in the middle of the seat that leaves the footpegs and seat too close together.  
A flat, aftermarket seat would be my first purchase for this bike.  
Con also said he didn't like the ergos as much as some of the others.  
"I found you tended to sit down into the bike rather than on top and also thought the tank felt wide in comparison to the KTM," he said.



HUSQVARNA FE350	
ENGINE	
Type	Single-cylinder, DOHC
Displacement	349.7cc
Bore x stroke	88mm x 57.5mm
Cooling	Liquid
Compression ratio	N/A
Fuel metering	Keihin EFI
Fuel tank capacity	9L
Transmission	Six-speed
Clutch	Wet, multi-plate hydraulic
DIMENSIONS	
Wheelbase	1482mm
Seat height	970mm
Ground clearance	345mm
Dry weight (claimed)	109.2kg
SUSPENSION	
Fork	WP 4CS 48mm USD
Shock	WP monoshock
BRAKES	
Front	Brembo 260mm disc
Rear	Brembo 220mm disc
RUNNING GEAR	
Handlebar	Neken
Front	Michelin Enduro Competition
Rear	Michelin Enduro Competition
PRICE & CONTACTS	
RRP	\$13,995
Distrib.	husqvarna-motorcycles.com.au
Phone number	1800 644 771
Warranty	Six months parts and labour



## BEST ALL-ROUND HANDLING

Although I found the Husky to be a little unsettled through high-speed, rough terrain, it was the bike that maintained good handling for a wide variety of terrain and for different riding abilities





Turns on a dime

# SHERCO SEF-R 300

## FAST FACTS

- The WP 48mm fork, with matching WP shock at the rear, is quality standard kit
- Extra punch from the 303cc over its 250cc rivals without extra weight
- European build quality with attention to detail and Brembo brakes front and rear
- The Synerject fuel injection system has been specially developed for the Sherco engine
- The four-valve dual overhead cam engine features a compact block

- 1. ENGINE** Bore is up 8mm from the SEF-R 250, meaning more revs and more power
- 2. REAR BRAKE** Italian discs on this one too
- 3. HANDLING** The Sherco can be skittish at speed



SHERCO SEF-R 300	
ENGINE	
Type	Single-cylinder, DOHC
Displacement	303.68cc
Bore x stroke	84mm x 54.8
Cooling	Liquid
Compression ratio	N/A
Fuel metering	Synerject EFI
Tank capacity	8.5L
Transmission	Six-speed
Clutch	Wet, multi-plate hydraulic
DIMENSIONS	
Wheelbase	1480mm
Seat height	950mm
Ground clearance	355mm
Dry weight	102kg
SUSPENSION	
Fork	WP 48mm USD
Shock	WP monoshock
BRAKES	
Front	Brembo 260mm disc
Rear	Brembo 220mm disc
RUNNING GEAR	
Handlebar	Sherco
Front	Michelin Enduro Competition
Rear	Michelin Enduro Competition
PRICE & CONTACTS	
RRP	\$12,690
Distributor	sherco.com.au
Phone number	(03) 58363 1600
Warranty	Six months parts and labour



## BEST HANDLING IN THE TIGHT

Both the Sherco and Beta were in a close fight for this one. Both bikes felt incredibly nimble but the Sherco just got the edge due to its predictable handling in these tight sections

The Sherco is in a class of its own in terms of the riding style required to make it work. At first I found the Sherco down on power and with nervous handling capabilities. After putting in a little more seat time, I realised the reason I'd judged it so harshly was that I thought it should feel and handle like a 350cc.

The 300cc Sherco feels much more like a beefed up 250cc than a 350cc and the style required to make the bike work is in tune with this characteristic. Once I started riding with more aggression and begun revving the

engine higher, the 300 really started to perform. I soon realised that my corner speed had increased and that I was able to take a different, and often tighter, line than on any other machine.

This really comes down to its incredibly agile handling. Even though it's a similar model of suspension, the WP kit has a completely different action to that of the Husqvarna. The shock sits very high in the stroke, which accounts for its ability to hold tight lines and really knife the front wheel through turns. The fact that the Sherco turns on a

dime means it inevitably feels a little skittish at speed.

When we consider the ergos, the elephant in the Sherco closet is that this bike feels so small. Not necessarily in height but most definitely in length.

The wheelbase feels shorter than anything else out there. When trail riding through tight and technical sections the bike has an almost mountain bike like feel, which is a great attribute in tight terrain.

The rest of the time it felt like the front wheel was almost below the engine. Besides the sharp

handling and nervous feel at speed, this also gives the cockpit a very crowded and cramped feel. The adjustable handlebar clamps came in handy here and the furthest position forward made things a little roomier.

The top-end of the Sherco was impressive and gave a feel similar to that of a tricked-up 250 motocrosser. I really had to remind myself to stay in a lower gear and just let the thing have its legs with a southern twist of the throttle.

Mitch also liked the top-end but found he struggled on

## ONCE I STARTED RIDING WITH MORE AGGRESSION AND BEGAN REVVING THE ENGINE HIGHER, THE 300 REALLY STARTED TO PERFORM

hillclimbs due to a lack of bottom-end power.

"I just found that I wasn't getting up the steep hills as well as I could because it just doesn't quite have that lugging capability," he said.

Of course this is where the

50cc less in the pot really comes into play. I think a slight change in approach to hillclimbs is required on this bike but when you consider the added benefit of a lighter and precise feel it all pretty much evens out.

The dual map ignition is an

amazing feature that allows you to tone things down or leave it in fast mode.

Cam said: "I found the map switch made a big difference in the power delivery and this would be a real positive for both trail riders and racers."





The 350EXC was king of the whoops

FAST FACTS

- The Maxxis tyres fitted to the 350EXC were developed for KTM
- High-spec Brembo brakes standard
- The Damped Diaphragm Steel clutch is machined from solid high-tensile steel in one piece with the primary drive gear, helping to narrow the engine
- The Brembo hydraulic clutch is super light
- The electric starter is behind the cylinder to reduce the chance of damage

- 1. **ENGINE** Ready to race right here
- 2. **REAR BRAKE** Brembo produces no surprises
- 3. **FORK** The WP 48mm set-up sits high and doesn't blow through on big hits

KTM 350EXC

Team Orange has done a sterling job on the updates to this model. If you wanted to take a bike out of the crate and go racing, then the KTM is your machine.

The KTM handled race pace through rough sections incredibly well and made you feel as though you had everything under control.

This was the only bike that I felt truly confident on through the deep sand whoops. I could enter the straight and loft the front through the deep holes without too much concern about where it was going to land. This confidence-inspiring front-end

THIS WAS THE ONLY BIKE THAT I FELT TRULY CONFIDENT ON THROUGH THE DEEP SAND WHOOPS

came down to its positioning.

The front-end sat high in the stroke and didn't blow through on hard hits, much like the Betas. This great fork was backed up by a solid shock that would track well in tricky sections but, most importantly, had the low-speed compression needed to stand up

to the big hits without bottoming or rebounding out of control.

Cam said: "I thought the KTM was the most versatile and forgiving bike."

Mitch said: "When I rode the KTM through the whoops I thought, 'I've finally got this section nailed'. This really just

came down to the fact that I was confident that this bike would not unexpectedly get all swapped up and spit me off."

This really enables you to tackle obstacles or rough sections with aggression and confidence. Suspension settings are always a give-and-take thing and the down

side to this race-pace setup is only that it doesn't track quite as well across rocky tree-root sections.

The KTM seemed to have a broader powerband that gave the option of either short shifting or bouncing off the rev limiter. The throttle has a more snappy, race-like feel than the other bikes.

Everything is in the perfect position on the KTM. I really feel like I'm able to maintain a textbook riding style on the Kato and that really just comes down to how everything is positioned. The handlebar, seat and footpeg position are ideal.



KTM 350EXC	
ENGINE	
Type	Single-cylinder, DOHC
Displacement	349.7cc
Bore x stroke	88mm x 57.5mm
Cooling	Liquid
Compression ratio	N/A
Fuel metering	Keihin EFI
Tank capacity	9L
Transmission	Six-speed
Clutch	Wet, multi-plate hydraulic
DIMENSIONS	
Wheelbase	1482mm
Seat height	970mm
Ground clearance	345mm
Dry weight	107.2kg
SUSPENSION	
Fork	48mm WP USD fork
Shock	WP PDS
BRAKES	
Front	Brembo 260mm disc
Rear	Brembo 220mm disc
RUNNING GEAR	
Handlebar	Neken alloy
Front	Maxxis 80/10x21
Rear	Maxxis 120/80x18
PRICE & CONTACTS	
RRP	\$13,495
Distributor	ktm.com.au
Phone number	1800 644 711
Warranty	Six months parts and labour



BEST RACE BIKE

At race pace the KTM is night and day ahead of its competition due to superior handling and a broad powerful engine





Cam tries the racebike Beta

# BETA RR350

## FAST FACTS

The relatively long, 57.4mm stroke provides the 349cc engine with plenty of torque  
Engine updates have resulted in it being 1kg lighter  
The Synerject fuel-injection incorporates a stepper motor, which allows the rider to dial in more engine braking  
Its low centre of gravity makes the 350 a superb handler in the tight stuff  
The lower reciprocating mass of the updated engine makes it feel lightweight and agile

- 1. **ENGINE** Synerject EFI has made the 350's response crisp and precise
- 2. **REAR BRAKE** Nissin 240mm wave disc could use more power
- 3. **SHOCK** Sachs' appeal has been improved by increasing low-speed compression damping



BETA RR350	
ENGINE	
Type	Single-cylinder, DOHC
Displacement	349cc
Bore x stroke	88mm x 57.4mm
Cooling	Liquid
Compression ratio	13:1
Fuel metering	Synerject EFI
Fuel tank capacity	8L
Transmission	Six-speed
Clutch	Wet, multi-plate hydraulic
DIMENSIONS	
Wheelbase	1490mm
Seat height	940mm
Ground clearance	320mm
Dry weight (claimed)	111.5kg
SUSPENSION	
Fork	Marzocchi 48mm USD
Shock	Sachs monoshock
BRAKES	
Front	260mm Nissin wave disc
Rear	240mm Nissin wave disc
RUNNING GEAR	
Handlebar	Beta
Front	Michelin Enduro Competition
Rear	Michelin Enduro Competition
PRICE & CONTACTS	
RRP	\$12,090
Distributor	betamotor.com.au
Phone number	(03) 5439 6333
Warranty	Six months parts and labour



## MOST IMPROVED

With some significant updates for 2015, Beta has taken a huge step forward and this bike is now a capable race machine or a lively trailbike

The main focus for Beta's 2015 four-stroke range, was to shed weight from the engine and improve handling. A reduction in material through the crankcase lead to nearly 2kg coming off the RR350 engine.  
An increase in low-speed compression damping to both the Marzocchi fork and Sachs shock have been made with the aim of achieving a better balance front and rear.  
The drop in weight and suspension modifications have made a huge improvement to the overall handling. It feels most at

home in tight and technical terrain due to its agility.  
This was most noticeable when riding singletrack sections with endless switch backs.  
The 350 Beta really allows you to keep a constant and smooth flow through these sections and avoid riding with an unsettling, stop and start pattern. Although the fork held up strong and high through the rough sections, the shock blew through the stroke on the hard hits. This could be easily overcome with stiffer spring rates, valving and sag settings.

The other big change for the 350 was the switch to electronic fuel injection. Fed by a 42mm Synerject throttle body, the Beta now has a crisp response that makes it more precise.  
At 105kg with gear, Mitch noticed this the most, "It's [Beta] a massive difference between the 350 and the 390. It feels responsive wherever you are in the rev range".  
The Beta and the KTM engines felt the fastest of the 350s, "The engine I really liked. It had good power. It was nearly as fast as the KTM!" Con said.

Pair this accurate fuel delivery, with the light Brembo hydraulic clutch and you have the perfect ingredients to make technical climbs a breeze. Riders with a trials background will love this aspect of the Beta. It enables you to make a plan of action and execute it the way you intended.  
The ergos offer a different feel to the other machines. With a low, flat seat, you can get your weight forward, over the front.  
The low seat brought up some differing views from our testers. Mitch and I found the seat too low, making for a cramped riding

## THE DROP IN WEIGHT AND SUSPENSION MODIFICATIONS HAVE MADE A HUGE IMPROVEMENT TO THE OVERALL HANDLING

position. However, both Cam and Con said they really liked the seat for low-speed, technical terrain and thought that a lot of trail riders who spend much of their rides in paddle mode would also find this to be a positive aspect of the Beta's ergos.

Cam said: "At Low speed it had very sharp steering but at high speed it felt a bit vague."  
Everyone agreed that the Nissin brakes were substantial and did a fine job, but they were a little behind the eight ball compared to the progressive and

predictable Brembos.  
Compared directly to the other 350s, the Beta needed to be revved hard and ridden aggressively. The engine was linear and strong throughout the range but had a stand out, top-end power delivery.





See the difference having a carburettor makes to doing big skids

FAST FACTS

- Dropping the capacity from 400cc to 390cc and re-profiling the cam has resulted in the engine being 1kg lighter, without sacrificing output
- The 40cc boost over the Beta RR350 is all about adding lashings of torque
- The smaller engine and chassis combination makes it more agile than a 450, without giving away too much power
- The new seat softer padding to improve comfort
- New silencer allows the engine to breathe more freely

BETA RR390

The obvious question here is “does 40cc really make all that much difference?” The answer is that, in this case, it does. Mitch said: “I thought there was a massive difference between the 350 and 390. The 350 is a race bike, whereas the 390 is a fantastic trailbike.” The RR390 is a bike that you can ride comfortably on those long-day trail rides. The power delivery is all torque at first, giving this machine unreal climbing ability. In all honesty, none of us could really pick that this bike did not

I WAS SURPRISED THAT THE 390 WASN'T INJECTED BECAUSE IT HAD THE SMOOTHEST THROTTLE RESPONSE

have the EFI of its smaller capacity sibling. In fact, Cam said: “I was surprised that the 390 wasn't injected because it had the smoothest throttle response. I thought the great bottom-end and excellent throttle response makes this the ideal climbing weapon.” The mid-range is still strong

with plenty of snap to get you instantly up and over obstacles. One of the main reasons the 390 is more suited to trail riding than racing is its slight lack of top-end. The 390 doesn't rev out like the 350 but it also doesn't have the legs of a 450. The engine characteristics and Beta's slow speed trials-like

handling made it a great hill climbing machine. Like the 350, the RR390 is very agile and most at home in tighter sections of trail. You can take a slightly different approach to these tight sections on the 390 and allow the bottom-end to chug along while short shifting. The ergos again took some time

to adjust to, with an extremely low seat but tall front-end. After spending more time on the Betas we all became reasonably comfortable with the feel and this simply required a little more effort to get your riding position and technique right when compared to the other bikes. Overall the 390 has a slim and nimble feel that I would easily gel with after making some personal tweaks such as a different handlebar, higher seat and stiffer shock valving and spring.



BETA RR390	
ENGINE	
Type	Single-cylinder, DOHC
Displacement	385.6cc
Bore x stroke	88mm x 63.4
Cooling	Liquid
Compression ratio	12.48:1
Fuel metering	Carburettor
Tank capacity	8L
Transmission	Six-speed
Clutch	Wet, multi-plate hydraulic
DIMENSIONS	
Wheelbase	1490mm
Seat height	940mm
Ground clearance	320mm
Dry weight	111.5kg
SUSPENSION	
Fork	Marzocchi 48mm USD
Shock	Sachs monoshock
BRAKES	
Front	260mm Nissin wave disc
Rear	240mm Nissin wave disc
RUNNING GEAR	
Handlebar	Beta
Front	Michelin Enduro Competition
Rear	Michelin Enduro Competition
PRICE & CONTACTS	
RRP	\$12,190
Distributor	betamotor.com.au
Phone number	(03) 5439 6333
Warranty	Six months parts and labour



BEST ALL-ROUND TRAIL BIKE

The 390 really stands out as a great trailbike because of its ability to lug you up hills with ease, like a big bore, but still has the handling characteristics of a smaller-capacity machine





## THAT'S A WRAP

When we consider the highlights of these mid-sized bikes over their smaller and bigger rivals, the standout point is their versatility, particularly as trailbikes. As a group we decided it was hard to shy away from the KTM as the “do-it-all machine”, but the truth is each bike stood head and shoulders above the rest in its own area of expertise.

Whether you're a smooth operator or ride with aggression, a mid-capacity machine

makes life easy. The fact that none of these machines fits the usual racing classes does not mean they aren't capable of being good race bikes either. With the right rider, each of them is capable of winning races, no matter what they're up against.

- 1. DUST STORM** The Kato will need a filter clean
- 2. FLIGHT DECK** The Sherco gets the bars moved
- 3. PHOTO CALL** The boys discuss options
- 4. LUNCH** The Gingerbread House is here somewhere

