DOUBLE SHOOTOUT SPECIAL!
THINNING THE HERD

BELIEVE IT OR NOT!
WE RIDE THE SUPERCROSS
CHAMP’S TWO-STROKE

TUNER’S GUIDE
TO THE 2020
YAMAHA YZ450F

WHO MAKES THE
BEST 125 SMOKER?
ALL QUESTIONS ANSWERED

MIDSIZE MONSTERS OF MOTOCROSS:
KTM 350SXF vs. TM 300FI-MX vs. HUSKY FC350
The whole idea of doing a mid-size motocross shootout seems ludicrous. After all, there are only two readily available, midsize, four-stroke motocross bikes on American showroom floors (when midsize is defined as exactly midway between 250cc and 450cc). Simple math reveals that the midway point is 350cc. The two 350cc motocross bikes are generated from the same Mattighofen, Austria, factory—the KTM 350SXF and the Husqvarna FC350. But what if the MXA wrecking crew expanded the midsize definition from midway between 250cc and 450cc to readily available motocross bikes above 250cc and below 400cc? If we used those parameters, we could double our sample size. Both Sherco and TM produce bikes that fit in this category, but the Sherco 300SCF enduro bike is disqualified from this shootout because the Spanish-founded company does not make a motocross version of its 300SCF. That cuts the number of midsize four-stroke motocross bikes from four to three. They are the 2020 KTM 350SXF, Husqvarna FC350 and TM 300FI-MX.

The Husqvarna FC350 is the perfect Vet bike. It doesn’t pretend to be a Pro bike.

The TM 300FI-MX is perfect for a rider looking for something stronger than a 250.

The KTM 350SXF has a proven track record and great packaging.
HAIR below 12,000 rpm, the front end of the 350SXF power curve is very good. In fact, from 7000 rpm to 9500 rpm, the KTM gains 15 horsepower in less than a 2500 rpm range. Overall, the 350SXF is a high-rpm rocket ship that demands the rider be 100 percent committed to bleeding the revs dry.

(2) Weight. The 2020 KTM 350SXF weighs 224 pounds, and while that is only 1 pound less than the KTM 450SXF, it is 4 pounds less than a Yamaha YZ250FX and 5 pounds less than a Honda CRF250. As for its close proximity to the 450FX’s 225-pound weight, the lighter rotating mass of the 350SXF engine cranks, cams, piston and drive train make it feel much lighter than the 1-pound difference.

(3) Handling. After decades of a hinged-feeling chassis, KTM found the magic numbers 10 years ago. The combination of the 350SXFs progressive powerband, chromoly tubing, spot-on head angle and light weight produces awe-inspiring handling. It is as right as rain.

(4) Suspension. KTM stiffened the frame in 2019 to make the chassis more accurate, which pleased Pros, but since the Pros don’t race 350SXFs, who cares how pleased they are? Luckily, the adjustability of the AER air forks and its very-good WP rear shock enabled racers to find non-recommended settings that softened up the feel of the chassis. The best trait of air forks is that they are infinitely adjustable—for riders who take the time to learn how to live with them. They are not Yamaha SSS perfect, but don’t suffer from the soft/hard issues of the KX450, KX250, RM-Z250, CRF250 and CRF450.

(5) Clutch. You might—and we say that with skepticism—be able to make the clutch on a Japanese bike as durable, accurate, self-adjusting and foolproof as a KTM diaphragm clutch, but it would cost at least $1000.

(6) Ergos. Once considered a “European brand” in terms of layout, KTM has put that criticism behind it with sleek, slim and narrow ergonomics. KTM’s American-based test program has made the KTM 350SXF more Yankee than Austrian. Husqvarnas is barely six years old. But the current line of Austrian-built Husqvarnas shares no genes with any previous Husky motocross bikes, which date back to 1960. After buying Husky from BMW in 2013, it took KTM one model year to get some platform-shared Husky models on the showroom floors; however, the FC350 was delayed an additional year, making its USA debut as a 2015 model.

INTERESTING 2020 HUSQVARNA FC350 FACTS

(1) Suspension. After Mattighofen stiffened the KTM and Husqvarna frames in 2019 to make the chas- is more accurate, Husqvarna’s test engineers revolved for 2020. Feeling that KTM’s suspension setup was too stiff and seeking to appeal more
TM 300FI-MX

We have to wonder why TM built a 300 instead of a 350. The answer is interesting. TM is a very small motorcycle manufacturer. Total production is only 1200 units a year. So, when TM decided to build a midsize four-stroke to slot between the 250FI-MX and the 450FI-MX, there were two paths available. TM could build a 350cc four-stroke that would be a smaller version of its 450, or TM could build a 300cc four-stroke that would be a bigger version of its 250. Several factors entered into TM’s final decision. (1) If TM went the 360 route, it would be late to the party and have to face the KTM and Husqvarna 350s already on the showroom floors. (2) Given the success of its TM 30MX two-stroke, TM recognized that there was a ready-made chassis for a more powerful bike that maintained the traits of a traditional 250cc four-stroke. The 360 route, only gave TM a unique machine, but it would be the first and only brand catering to this market. Remember, TM’s goal was to build a more powerful 250, while Austria’s goal was to build a less powerful 450. (3) If you think the TM 300FI-MX is just a bored-out TM 250FI-MX, you could not be more wrong. While the TM 250FI-MX and 300FI-MX engines look identical, they don’t share pistons, rings, connecting rods, cranks, cylinders, heads, transmissions or bore-and-stroke. The only TM 250FI-MX part that crosses over to the TM 300FI-MX is the hydraulic clutch.

INTERESTING 2020 TM 300FI-MX FACTS

(1) Gearbox. TM offers both five- and six-speed gearboxes for the 300FI-MX, but the American importer only brings in the six-speeder. Why? Because the five-speed and six-speed gearboxes share the same first, second, third, fourth and fifth gears (the sixth gear is tucked on for more top speed). For motocross use, you would never even know the TM 300FI-MX had a sixth gear, but it’s there if you want to go trail riding.

(2) Powertrain. TM makes its own fuel-injection throttle body and mounts it behind the head at a 45-degree down-draft angle that maximizes fuel misting and air velocity. The fuel is held low in the chassis, where the airbox would normally be, and the airbox is where the gas tank should be. The swap makes sense, because the lightweight Twin Air filter is high on the chassis, while the 10 pounds of gas is centralized below the seat. The air filter can be accessed by removing one screw, while the gas cap is mounted on the right side of the bike. (1) Gearbox. TM offers both five- and six-speed gearboxes for the

(3) Suspension. TM uses Kayaba SSS forks, and unlike the other brands that have jumped on the Kayaba bandwagon as of late, the TM’s KYB units actually feel as good as the Yamaha forks. The TM-built rear shock setup wasn’t designed for lightweight; it worked well for riders above 175 pounds. We couldn’t get enough racy sag for riders below that. It would need a spring change for lighter riders.

(4) Electric starting. The 2020 TM 300FI-MX comes with both an electric starter and a kick starter. Unfortunately, this combo adds about 5 pounds that the TM could ill-afford compared to the 350XF and FC350. But, the Italians went with the better-than-sorry theory.

(5) Miscellaneous. TM’s front brake is a thing of beauty, with its 170mm front rotor and Brembo power; however, the rear brake is very touchy. The blue rims make the TM look like a Yamaha (TM went blue years before Yamaha got the idea). We love the Formula 1 gas cap location, but it is hard to get off and even harder to get back on without crossing threading it. TM’s front-mounted airbox is much better than the Yamaha’s plus TM didn’t turn the cylinder around back-wards to do it.

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TO its base of Vet racers. Husky had WP soften the compression shim stack, eliminate free bleed in the mid-valve, raise the oil height by 20cc and up the recommended air pressure by 3 psi (from 152 psi to 155 psi). With these mods, Husqvarna succeeded in lessening midsize stroke harshness, smoothing out the action of the fork, delivering a much more responsive feel, improving front tire contact and increasing overall comfort.

(2) Powerband. From a mechanical perspective, the 2020 Husky FC250 has almost identical numbers to the 2020 KTM 350SXF engine; however, from an intangible perspective, the 2020 FC250 has a more pleasant power delivery. It feels a little more hooked up, because the throttle response is muted. You might ask, “If the two engines are identical, how can the Husky engine feel different from the KTM engine?” Obviously, the restrictive plastic airbox mutes the power delivery, while a restrictive ice-cream-cone-style baffle in the muffler kills throttle response at low rpm (you can’t see the baffle because it is down in the middle of the muffler’s perf core).

(3) Weight. The 2020 FC250 is 1 pound heavier than the KTM 350SXF, thanks to the airbox, thicker brake rotors, new plastic and baffled muffler.

(4) Handling. Even though the Austrian engineers stiffened the pro-subframe for 2020, the more usable powerband, perfectly spec’ed forks, phaser ProTaper handlebars and lighter 42 N/mm shock spring (compared to the KTM 350SXF’s 45 N/mm spring) make the 2020 Husqvarna FC250 into a test rider favorite in 350cc balloting.

The Husky FC250 was the most plush of the three midsize racers.
2020 KTM 350SXF vs. HUSKY FC350 vs. TM 300FI-MX

The MXA wrecking crew lived, raced, adjusted and fiddled with the three machines in "MXA's 2020 Midsize Shootout" until we felt we knew them inside and out. It wasn't an easy shootout, given that two of the bikes have engine volumes of only 300cc, while the third one was the counterpart to the first two. Only one of them could win, was it the KTM, Husqvarna or TM?

Q: WHICH MAKES THE MOST HORSEPOWER, THE TM, HUSKY OR TM?
A: This was not a category that the TM 300FI-MX had a ghost of a chance of winning. At 291.3cc, the TM is in a class of its own. In fact, 100cc is producing 44.42 horsepower at 11,600 rpm. That is 10 horsepower off the pace of the KTM 350SXF and Husqvarna. The TM 300FI-MX doesn't have as much horsepower as the 350cc opponents. But, why is it? It has less displacement. TMX test riders reported that the TM powerband had a torquey, metered power delivery on the bottom and into the midrange. When you first ride it, it feels slow and sluggish down low, but then it turns into a runaway meteor. The TM 300FI-MX is for riders who are willing to rev the bike to the moon and only use the loam-based power for the technical sections. Given that it has a 250-style powerband, with up to 6 more horsepower across the meat of the power curve, it feels slower down low than it really is.

Q: WHICH ONE HAS THE MOST TORQUE?
A: The easy answer is that KTM and Husqvarna are in a gnat's hair of 29.44 pounds-feet to 29.43 pounds-feet for the KTM and Husqvarna respectively. The TM makes a very respectable 23.25 pounds-feet, especially when compared to the KTM 250SX's 29.94 pounds-feet.

Q: WHICH ONE HAS THE BEST FORKS?
A: The TM 300FI-MX's Kayaba SSX forks are the most surprising fork of the trio. The fork spring rate was good for Vet riders and we found great clicker settings for riders of all sizes. Only one of the bigger guys would feel the need to go stiffer. For all intents and purposes, these forks feel like a brand new KTM, Husqvarna or TM.

Q: WHICH MAKES THE MOST POWERBAND LIKE?
A: All three of these bikes are "don't shift" machines. They do their best work if revved to 13,000 rpm. The KTM and Husqvarna have linear-style powerbands that progressively make more and more power as you rev them. However, if you shift, you would feel the need to go stiffer. For all intents and purposes, these forks feel like a brand new KTM, Husqvarna or TM.

Q: WHAT ARE THE POWERBANDS LIKE?
A: For example, if you shift a KTM or Husqvarna at 10,000 rpm instead of revving it to 12,000 rpm, you will be giving up almost 5 horsepower. There are a lot of dugs, bugs or surges of energy in the Husqvarna and KTM powerbands. They produce a crescendo of power that comes to an end when the rev limiter kicks in. And, you can make the Husqvarna regain the rev limiter response it gave up by drilling holes in the airbox and installing a non-aftermarket muffler (sans the ice-cream cone baffle).

By comparison, the TM 300FI-MX doesn't have as much horsepower as the 350cc opponents. But, why is it? It has less displacement. TMX test riders reported that the TM powerband had a torquey, metered power delivery on the bottom and into the midrange. When you first ride it, it feels slow and sluggish down low, but then it turns into a runaway meteor. The TM 300FI-MX is for riders who are willing to rev the bike to the moon and only use the loam-based power for the technical sections. Given that it has a 250-style powerband, with up to 6 more horsepower across the meat of the power curve, it feels slower down low than it really is.

Q: WHAT ABOUT THE GEARING?
A: We used to complain about the gearing on all three of these midsize bikes. For 2020, the TM had a gear ratio change for the last year, they have geared them down by at least one tooth on the rear.

Q: WHAT DO THEY COST?
A: The TM 300FI-MX has a retail price of $10,995. The Husqvarna price tag is a bit higher, so you back $9999. While the KTM 300SX has an MSRP of $9799. It is certainly within reason to question why the TM 300FI-MX costs so much more than the other two midsize motocross bikes. The answer is that the TM costs more because of the economy of scale. TM only makes 1200 bikes a year; KTM makes 220,000. When you order in large quantities, you get volume price breaks on tires, rims, spokes, forks, thottle bodies, KCVs, wiring harnesses, shocks and shock. Additionally, the TM 300FI-MX is also as close to a limited-edition motocross bike as a consumer can get. TM, Husky and Honda make approximately 400 special Factory, Rockstar or Works Editions each year, but the total production of the 2020 TM 300FI-MX is 50 units—not 50 units for America, that is 50 TM 300FI-MX worldwide for 2020.

All that said, every MXA test rider gave his first-place votes to the 2020 Husqvarna FC350. It is a combination of the standard TM geometry with a dose of suppleness fed into the chassis by the Husky's plush suspension. If you fit its profile, the Husky handles the best.

Q: WHICH ONE HANDS THE BEST BRAKES?
A: The TM 300FI-MX's front brake was very impressive, and why wouldn't it be. It is basically the same stopper that's on the KTM and Husqvarna but with a larger 270mm rotor. But, TM's rear brake was grabby, touchy and over powered. It is hard to modulate and Clip-on. Not a single test rider liked the feel of the TM rear brake.

Q: WHO WINS, KTM, HUSQVARNA OR TM?
A: Broken down to its basics, the KTM 300SXF is the best all-around midsize motocross bike of 2020. It has a responsive powerband, race-ready suspension and a taut frame that allows the rider to push harder. As for the TM 300FI-MX, it is a special machine and requires a special rider. If you are racing one of only 50 TM 300FI-MXs made in the world in 2020, you will never run into anyone else at your track on one. That isn't a basic big-bore 250. It has its own bore-and-stroke and special parts. It is much stronger than the best 250s, from the bottom all the way to the top. Given its high price tag and unique powerband, it is built for unique individuals—50 of them to be exact. ─

Yellow boxes highlight the best in that rpm category, red boxes are the worst.