HUSQVARNA 500AE AUTO

This bike knows more about riding than you do.

When Husqvarna introduced automatic motorcycles to dirt bike riders back in the late seventies, the question was raised whether or not this was the direction dirt bikes were headed. There was a *lot* said for and against the Husky autos but most people *figured* if the automatic gearbox idea could be a little further *refined*, Husqvarna would have a real winner on their hands.

By the look of it, the 1984 500 auto is the winner these people were talking about.

A BIT OF HISTORY

Husqvarna automatics started life when the factory took on the challenge of designing a bike to meet the requirements of the Swedish Army. One of those requirements was that the Army motorcycle should incorporate an automatic gearbox because the uniforms they give you in Sweden, just like every other Army in the world, are always about fifteen sizes too big, and it's so difficult trying to change gears with size 25 boots.

As it turned out, of the three different bikes vying for the dollars (Swedish Crowns actually) available from a contract to supply the military, only the Husqvarna looked like a realistic proposition.

Once they won the contract, the Husqvarna factory went full steam ahead with the development and production of Army automatics and they seemed to be working so well that they decided to produce a civilian competition version.

Everyone knows that automatic gearboxes work better in big V8 cars than little four cylinder models, and it's the same with bikes, it seems. The factory apparently figured if they could make the auto work with a 250 motor (Army specifications) then it would be even better with a large capacity motor.

First they gave us the 360, then a 390, and while it was classed as a motocross bike, much of its success was in enduros. Hans Appelgren turned up on one at an enduro several years ago and put an end to what was looking like an unstoppable winning streak by Rob Haskins, Phil Lovett got onto an auto with similar results, and as if to mock a reputation for unreliability the auto had achieved, an American cruised to a trouble-free gold medal at the German ISDE in 1979.

The icing on the cake came in 1982 when American ISDE rider Terry Cunningham slipped a 420 Husky auto into the US Enduro Champion spot left vacant by the retirement of Dick Burleson.

But that was enduros. The automatic gained far less acceptance on the motocross track despite some amazing rides by former Australian National champ Shane Kirkpatrick, who left some of the best riders in the country at the time wondering which way he went.

Still, the automatics were not without their problems and it was fair indication of the acceptance of the automatic dirt bike concept that the 420 auto which came on the market in 1981 was *no* longer made available in 1982. Ironically, this was the year Cunningham won the US title.

But the R&D boys at the Husky factory just knew the auto had potential and they couldn't let it rest.

They produced a 3-speed moto-

Continued over

HUSQVARNA 500AE AUTO

cross bike (all the autos we had seen had been 4 speeders) and tested it on (of all places) the Grand Prix motocross circuits of Europe. The results were very encouraging. Enough to convince the factory that they were ready to get back into producing automatic dirt bikes to sell to the public again.

THE 500AE

Our test bike, although it's an enduro machine, is a direct descendant of the automatic GP Husqvarnas. At least the gearbox is. The top end of the motor is the 488cc unit used in this year's 500WR manual enduro machine and the Cross-Country and Motocross 500 huskys of the last two years.

It's all in the frame and suspension package shared by all the new enduro Husqvarnas, and a pretty good package it is too. Steering head angle has come back to 28.5 degrees as part of what seems to be Husqvarna's plan to give buyers the tighter turning bikes they demand. The head-shaking behaviour which was unheard of with the earlier, ultra-stable Husqvarnas looks as if it's here to stay. It's not as bad as some, but it's not as good as others.

The suspension goes a long way towards making up for any complaints by long-time Husky riders. Our test bike wasn't the first of the '84 enduro Husqvarnas we have ridden, but the suspension impressed us a lot more for some reason. Now that the hopeless effort by the FIM to restrict suspension travel has well and truly been abandoned, Husqvarna is free again to put whatever length suspension they want on their enduro bikes.

On the rear it is right back up to 300 mm of travel. And it's the same system of the twin Husqvarna-designed Ohlins rear shock which was introduced last year under the ITC name, only this year damping has been updated to the latest specs.

Up front, suspension is still 270 mm, with the shorter travel being achieved not by the fitting of a travel-restricting spacer, but by sliding the forks up through the triple-clamps and using shortened sliders. The forks still feature the same overlap but the reduced travel enables the overhang below the front axle to be less. The factory must have figured keeping the length of this overhang to a minimum to be quite important on enduro bikes.

More important, we feel, is the fact that the self-destructing fork damping washers in last year's forks no longer self destruct and the transition from soft to hard damping halfway through the fork travel has been smoothed out.

The overall result is a suspension package that works so well you can't help but be impressed. Superb comfort combined with control that will see you safely through the rough stuff. It's quite noticeably different to the suspension of the motocrosser which can handle high speed whoops much more aggressively, but in typical enduro terrain the suspension on our test bike worked beautifully. We wouldn't change a thing.

The rest of the bike, in keeping with Husqvarna's policy of using as many common components as possible (you reap the benefit when you go to buy spare parts), looks much like the rest of the '84 range. The most obvious change is in the styling of the bikes with the switch to new tanks. Plastic tanks in fact.

This move sees the disappearance of the last metal fuel tank on serious dirt bikes, but the factory didn't go all the way and produce a safety-seat layout. Instead they allowed the rider to move a little further forward by lengthening the seat and shortening the tank. You still have a flat seat to slide forward on and fuel capacity has been maintained with a lowered section of tank similar to that seen on some factory motocross machinery. The side-panel/number-plate fits up against this section of tank to give an integral appearance to the whole side-on blaze of white plastic.

The frame is white, the seat is blue, the rims are polished-alloy silver, the motor is black, tyres are Trelleborgs and generally the bike is the same simple and efficient package you expect from the Swedish factory without any unnecessary changes. Minor undates have made life easier for owners of these latest model Huskys, but as we said the 500AE has a lot in common with the rest of the '84 range. The thing about this bike is the gearbox.

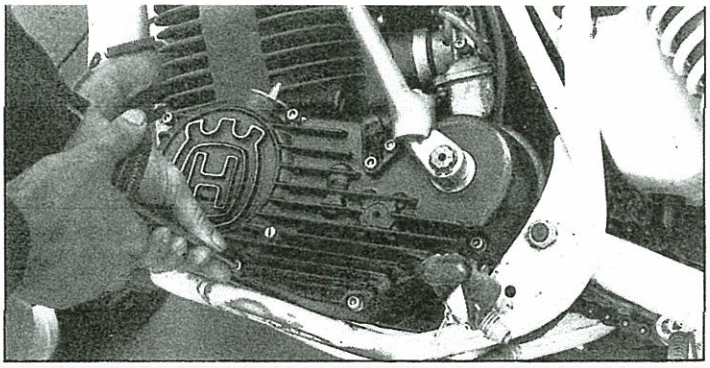
TRIMATIC

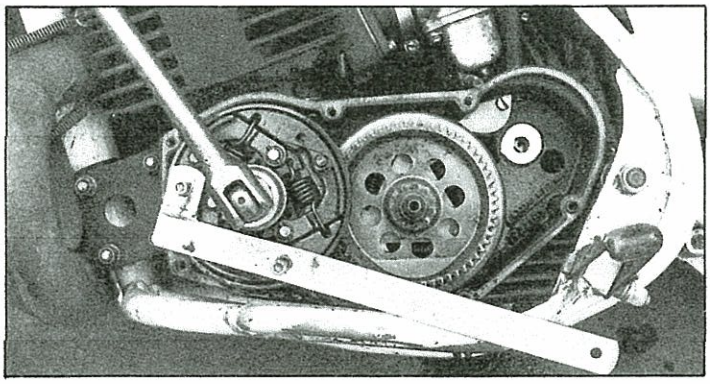
It's not really a Trimatic Holden gearbox, but Husqvarna have switched from four to three gears with their auto and, by the look of it, reliability (which was often regarded as the big failing of all the four-speeders) should be much more Holden-like.

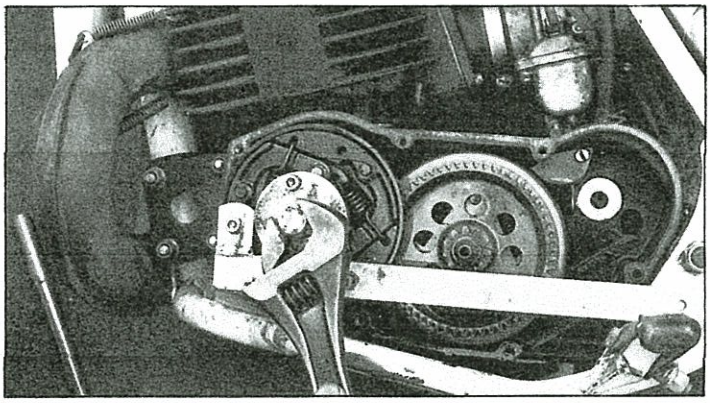
The basic system of the automatic gearbox remains the same as in the four-speeders but there have been a few major changes which make a lot of difference.

To begin with, starting often became a problem. A variety of one-way locking systems were used to engage the kickstart mechanism to the first gear clutch drum. Systems which would lock to spin the motor over but then spin freely once the motor was running. They had a tendency to self-destruct, which virtually left you without a bike. When you can't kickstart the auto you can't do anything.

Now the little one-way bearing has been replaced with three heavy-duty, spring-loaded fingers (one on each of the three first-gear clutch shoes) which lock positively into slots in the first-gear clutch drum. Once the motor fires up the counter-balanced fingers are thrown out of engagement by centrifugal force. It looks bullet-proof and even if you were able to somehow break two of the three springs on the engagement fingers, you'd still have kickstart engagement.





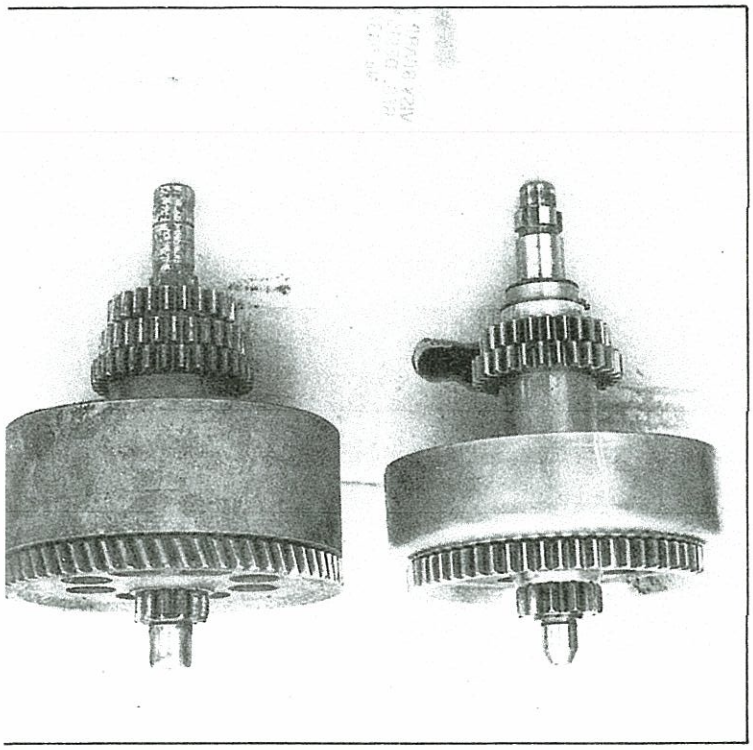


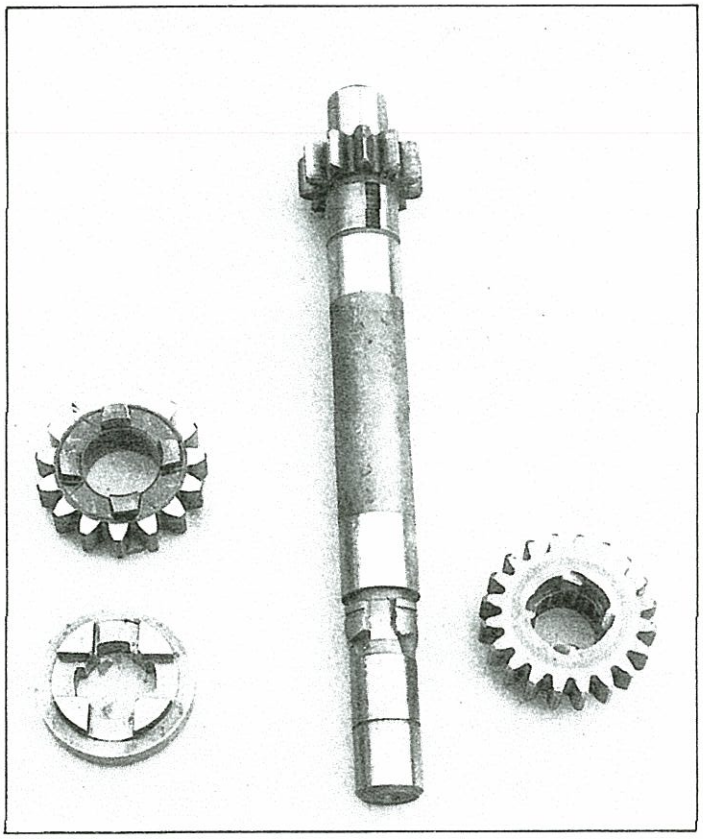
ABOVE
These shots show what is involved with stripping down the gearbox. You need an Allen key, two spanners, a holder and a Husqvarna flywheel puller. We saw the process reversed in very casual fashion in under four minutes. From disassembled (clutches intact) to ready to ride. That included an oil change. You should be able to do it in under three minutes easily with a bit of practice.

Still, in first gear we have what is probably the most significant change to the gearbox. The clutch shoes are steel instead of grooved brass and the initial take-up of drive when you open the throttle is much more positive. Kind of like dumping the clutch instead of easing it out. It works better riding-wise and it works a lot better as far as reliability goes. The old grooved brass clutch shoes tended to slip slightly as the drive took up (which is why the grooved brass shoes have been retained on the second and third gear clutches — to make the changes smoother) and, particularly on an enduro bike where the motor spends more time just on the point of engaging drive, the shoes slip and wear.

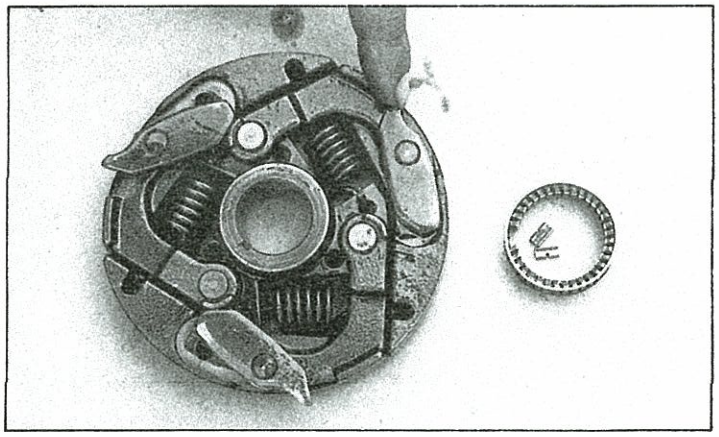
This of course creates heat, which accentuates the problem. If you got stuck on a hill, for example, you would soon have an overheated gearbox with a first gear clutch slipping more and more as it burred over the grooved brass clutch shoes. This then restricted oil flow through the grooves and further accentuated the problem. First gear clutch dogs have always needed a regular cleanout with a hacksaw blade but now the problem doesn't exist.

The third main problem area to be attended to was the replacement of six teflon bushes with four (one less gear means two less bearings) needle roller bearings. I don't know what the idea behind the teflon bushes was in the first place, or why the factory persevered with them for so long but the needle rollers are meant to be the deluxe set-up and it sure sounds like a smart move to us. The teflon





ABOVE
On the left is the clutch drum from the previous model 4-speed auto. On the right, with one less set of clutches, is the one from the new 3-speeder. It's as light (compared with the old version) as it looks.



ABOVE
The two gears on the left comprise the new drive engagement system using good, strong, conventional looking gearbox engagement dogs. On the right is the old slide-along-the-shaft arrangement which didn't like rough games.

LEFT
Human finger depresses one of the new spring-loaded, counterbalanced, kickstart fingers. Lying alongside is the old one-way bearing setup with a couple of teeth removed as a punishment for its unreliability.

bushes were just not up to the job.

The engagement of the gearbox (from neutral into drive) was another area to come in for major changes. Previously the engagement gear was slid along the main shaft until it slotted into position on what was virtually a coarse spline. Trying to engage drive at anything above a slow idle was a problem because not only was the gear reluctant to slip into position (the noise it made let you know just how reluctant), but it could cause serious damage and leave you stranded once again.

Quite a few riders ground to an expensive halt on some of the earlier autos when the handlebar mounted engagement lever caught on a branch, allowing the motor to slip momentarily into neutral. If you were on the gas at the time, the revs naturally rose and there was a good chance that the branch would slip off the engagement lever right at this time, slamming the gear back down the shaft in an attempt to re-engage. At high revs there was no chance.

This problem was side-stepped by switching to a small engagement lever on top of the engine cases behind the motor where it couldn't get bumped accidentally. The engagement lever is still in the same spot on the new 500AE but the engagement method is all new. Big, hefty engagement dogs like you find on a regular gearbox. Judging by the amount of abuse this tried and true system can put up with in virtually every manual motorcycle gearbox, buyers of the new Husqvarna auto should be able to look forward to ultra reliability in this department.

All this new equipment is wrapped up in an extra heavy looking, sand cast left-handed side-case which features cooling fins (despite the fact that heat is much less of a problem with the steel clutch dogs on first gear now) and an equally heavy looking right hand side-plate which is held in position with huge 8 mm bolts.

RIDING IT

The bike is everything an '84 model 500WR Husqvarna is. Exactly the same. The gearbox is the big feature and the missing clutch and gearlever serve to remind you time and time again when you first ride it.

Start it up and slip it into drive as soon as the revs drop back to an idle (it still makes a horrible noise if the revs are just a little high when you do), twist the throttle and away you go. It certainly does engage first gear quite crisply and you have to be gentle to get under way without wheelspin.

Play around a little to get used to it, then open it up down a decent length straight. It doesn't take long to find out this bike is super-fast, and, because you are getting maxi-

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HUSQVARNA 500AE

Test bike: Husky Motorcyle Imports
453 Coreen Ave, Penrith 2750
Phone: (047) 321655
Retail price: $3299

ENGINE

Engine	single cylinder, air cooled, reed valve two-stroke
Bore and stroke	86 x 84mm
Capacity	488cc
Compression ratio	*9.0:1*
Ignition	Motoplat CDI
Carburettor	40mm Mikuni
Lubrication	Premix

TRANSMISSION

Husqvarna 3-speed automatic

FRAME AND SUSPENSION

Frame	Chrome-moly, semi double cradle
Suspension:	
Front	Husqvarana leading axle, 270mm travel
Rear	Heat treated swingarm in needle bearings, twin Husqvarna shocks, 300mm travel
Tyres	*Trelleborg 3.00 x 21* Deep Grip and 5.00 x 18 Tenmasters

DIMENSIONS

Seat height	960mm
Wheelbase	1480mm
Ground clearance	320mm
Weight	113kgs
Fuel capacity	12.5 litres

HUSQVARNA 500AE AUTO

mum drive and lightening-fast gearchanges at just the right spot in the power delivery (the bike is constantly throwing a roost when you are on the gas), you get up speed very quickly.

Most riders don't accelerate an open class bike as efficiently as they could and the auto shows this up clearly. All you have to do is hold the throttle open and you accelerate with all the precision of an expert. No short-shifting or over-revving or bad gearchanges. Too much wheelspin and the bike changes up searching for traction. Too much traction and the bike changes down to keep the revs up where the motor makes most power. It does this constantly and almost imperceptibly. Better than any clutch slipping expert ever could. Like we said, the auto knows more about riding than you do.

Do or die attacks on turns have a much better chance of success too. Especially the never-seen-it-before turns of an enduro. First of all you don't stall the engine as you slide in with everything locked up, then when you lay it over and get on the gas everything is ready to go. The bike almost insists you ride better by taking care of all the little problems and encouraging you get on with the job of riding. At first, the bike seems to keep reminding you of all the mistakes you would be making if you were on a manual gearbox bike, but then it goes and sorts the problems out anyway.

And if you are wondering about the spread of gears in a three speed gearbox, worry no more. First gear is fractionally lower than first gear on the six-speed 500WR and can handle any enduro situation with ease. Three speed (and the older four speed) automatic Husqvarnas have proved they can get off the line and accelerate with the best open class motocrossers, and top gear, being identical to that on the WR and XC500s should give you a top speed of over 160 kph. We reached that figure after a standard 500XC wheelied past the timing lights at the Castlereagh Drag Strip at just over 170 kph to be the fastest dirt bike they have ever timed out there. 170 kph in 400 metres. We didn't actually time our test auto but we know it's plenty fast enough for any enduro we've seen.

We took our test bike on a very tight enduro loop that we hadn't ridden before and it was magic. Full power, traction-packed bursts of acceleration between every turn, no matter what the surface (in our case everything from smooth rock to deep river-bed sand), locked up brakes deep into one blind turn after another with the rear wheel all ready to blast a roost high into the air whenever you gave the signal. All this without lifting a finger (or toe) of your left hand (or foot). You tend to get carried away and start hurling the bike around with reckless abandon in a way you have always been afraid to on an open class bike. Getting on the power is the greatest lifesaver in most dirt bike dramas and the fact that the auto is always ready and waiting to deliver a full-on burst at the flick of the wrist is a real confidence booster.

You have probably figured out by know that we loved riding the automatic but we better give you some of the bad news before you race off to your local Husky dealer.

First, the bike doesn't possess one ounce of engine braking. You've probably heard four-stroke riders saying the same thing about two-strokes. How they would never ride a two-stroke because it has no engine braking. Well if you think a normal two-stroke doesn't have any engine braking you should try riding the automatic.

When you shut off it's as if you have pulled the clutch in. You are well and truly coasting until you get on the brakes. Theoretically it should be no problem. If you are riding fast you should be hard on the brakes right up until you get on the gas. One short ride on this bike will show you just how much time you waste in every corner. There always seems to be a huge gap of nothing between getting off the brakes and on the gas that is disguised on a manual bike. The fact that this time wasting is so obvious is enough to make you sharpen up your cornering act.

What seems like another problem is the fraction of a second delay when you finally do get on the gas, but it is something you tend to compensate for as you get used to the bike.

Then, of course, there are the situations where the lack of engine braking can't be overcome. Long downhills for example. Experienced auto riders tells us that they can be a real bitch. Especially muddy, slippery ones with a bit of off-camber turning involved. When the brakes are locking up with seemingly no effect other than sliding the bike around off line, then the reassurance of a little engine braking starts to look real attractive.

We would imagine sweeping off-camber turns would also be a problem because we've never been able to brake hard into one then get straight on the gas. We guess a big session of coasting through the turn would be involved there too.

Another potential problem is the bike stalling when you shut off the throttle and the motor returns to idle. If it is not running cleanly the motor can stop. On a long downhill where you are constantly on the brakes for example, the motor is called upon to keep idling away happily the whole time. On a manual bike you blip the throttle occasionally (with the clutch disengaged) to keep the motor running cleanly so it doesn't become a problem. Blipping the throttle on the auto means a lurch forward. The last thing you want on the sort of downhills we're talking about here.

And if you figure these situations where it is difficult to use the brakes sound bad imagine a few enduro situations with no brakes at all. As great as the new Husqvarna brakes are in the waterproofing department, a complete submerging will have you with next to nothing for at least the next turn if you don't squeeze the water out of them.

Still on the subject of brakes. A common trait of auto riders is to overcome the lack of engine braking by constantly riding the rear brake. This will cook any drum brake in existence, of course, and leave you with no rear brake at all by about halfway through a day's riding. When you find you need them most you'll find you have no rear brakes at all. It's not an easy habit to break either. Phil Lovett eventually fitted a disc to the rear of his auto to overcome the problem of the disappearing rear brakes.

Still, you can't have everything. The annoyance created by a no engine-braking situation will be forgotten when you come panic-braking into a blind, zero speed cross-country special test turn, only to find an arrow pointing straight up the side of a three metre, near vertical bank. Just point the bike, twist the throttle and you're up. The biggest problem would be avoiding all the other stalled bikes, bogged and wheelspinning bikes, and flipped-over-backwards bikes.

The only other problems are not actually *riding* problems. You can't push-start the auto if the worst comes to the worst. It takes a second longer to get underway once you have started it (engaging drive). And once you are underway, be careful about trying to pull good balance point wheelies (the front end comes up smoothly and effortlessly) because just as you are getting it right, the bike will change into a higher gear and lurch you off the back. You've been warned.

SUMMARY

The big advantage the 500AE has over previous automatic Husqvarnas is the promise of excellent reliability. If that is enough to make you consider getting onto an auto, then all you have to do is weigh up the lack of engine braking verses convenience. The convenience of riding a bike which doesn't punish the all too regular panic-stricken mistakes we all make when we ride enduros.

Experts like Gall, Leisk and Vandenberg may be able to get a little extra out of a motorcycle with a conventional gearbox but riders like you and I would be better off on the auto nine times out of ten.

Philip Eldridge has been riding automatic Husqvarnas ever since they first came on the market and he knows them better than anyone. After giving us a list of criticisms a mile long of all four old models he has owned, he turned around and said " . . . but I still think anyone who rides a manual bike in enduros is crazy."

AUTO HUSKY UPDATE

Get that auto tranny working right.

Auto Husqvarnas are great. Great in theory; and great in practice too when everything is operating properly. But despite efforts to live down a reputation of unreliability firmly established with the old 360 and 390 models, it seems that the 500 Auto has still been giving some owners a few headaches.

When the new 500 3-speed Auto was introduced last year, it seemed the factory had attended to the problem areas (they weren't difficult to recognise) and the new Automatic looked like having all the advantages of automatic gear selection without the previously associated hassles. It certainly looked good to us. In fact in our test of that bike we said "The big advantage the 500AE has over previous Automatic Husqvarnas is the promise of excellent reliability."

Well it seems we weren't 100% corect, and we're the first to admit it. The 500 Auto has proved to be something of an "enthusiasts machine" and a kick-'er-in-the-guts-and-go approach to maintainence will almost certainly result in problems.

On the other hand, a little well-directed care and maintainence can turn the Auto into a trustworthy mount which should see you through every race and trailride of the season. So, prompted by a guilty conscience about what we'd said in our previous test, we set out to find a few details of this "well-directed care and maintainence" for those few poor unfortunates who traded in their old XL Hondas only to discover the bike oftheir dreams needed a little more tender loving care than they were used to giving.

We spoke to a number of riders about their Autos, with reports on reliability ranging from atrocious to excellent, but the obvious person to talk to to get the complete picture was Paul Rooney, a Husqvarna dealer whose wealth of experience has earned him a widespread reputation as THE Auto expert. His expertise has attracted a relatively large number of Husqvarna Auto riders around the Lismore (NSW) area and he obviously gets a better picture of the bikes' strengths and weaknesses.

The one big problem with the Auto that everyone admits to is overheating. It is a problem inherent with the design of the gearbox but it has a number of contributing factors which can be attended to in order to help reduce the problem. The switch to steel-to-steel engagement of first gear (pre 500s were brass to steel) helped reduce slippage and the associated heat buildup but it seems this initial engagement is still the major cause of overheating.

To start with, Paul claims much of the slippage during the engagement point in first gear can be eliminated by altering your riding style. In fact, a racing approach — hard on the brakes or hard on the gas — reduces slippage a great deal. Playing with the throttle at low revs — as you would when riding a manual bike on a tight, twisty trail for example — means a lot of slippage at the initial engagement point, and a lot of heat. The ideal approach, and one which the Auto takes to like a duck to water in this sort of terrain, is to lock the rear wheel (the motor won't stall), slide into the turn, then get on the gas HARD. Don't worry about too much wheelspin and any associated problems because the gearbox simply changes up a gear when this happens. Rolling the throttle on just a little to get you to the next turn a few yards away means slipping and overheating.

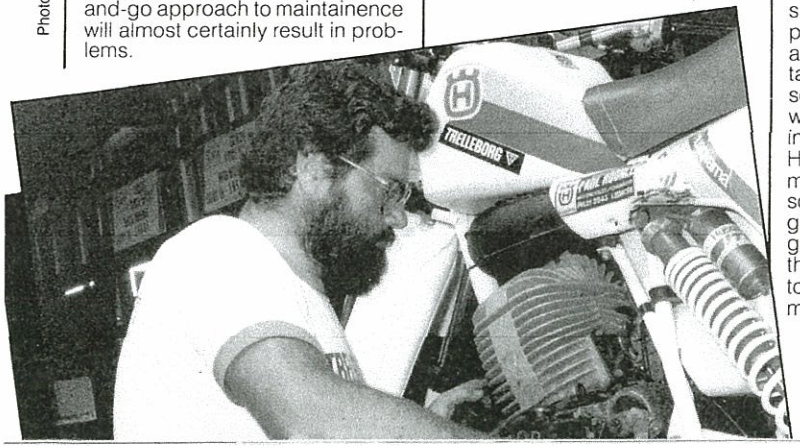
One rider we spoke to claims he cut his overheating problems in half by adopting a fresh approach to his riding, and as Paul pointed out, it is mainly the new Auto riders having reliability problems. Most (not all) riders with previous experience with Automatics are having relatively trouble-free runs.

We mentioned the steel-to-steel first gear engagement being a lot more positive, but you can improve things a little further by cutting diagonal grooves in the first gear clutch shoes in much the same way as you would cut water grooves into brake shoes. (Photo #1)

It is important that you keep an eye on the clearance between the shoes and drum on the first gear clutch. At an idle with the gearbox in "drive", the bike should just be feeling like it wants to move. You shouldn't need a handful of revs to get underway. Clearance can be adjusted by removing the springs, fitting a pair of large screwdrivers between the coils and twisting to stretch the spring to the desired length (Photo #2). These springs can be stretched a maximum of 2mm.

Excessive drum/shoe clearance means the motor is revving faster during initial engagement. The problem is compounded by the fact that the motor/clutch will spend more time in this engagement area at these higher revs, so more heat is produced more often, even to the point of causing serious damage to the the first gear drum and shoes. A new two-piece drum/gear kit means at least you now don't have to shell out for the complete unit.

Another very successful change Paul has recommended (and is standard on the '85 Autos) is the switch from a 40 to a 38mm



Photography: Judith Hibberd

Photography by Geoff Eldridge

Special thanks to the Internationally famous (he actually does get work from overseas customers!) Paul Rooney for his help and co-operation with this article.

Anyone wishing to take advantage of Paul's motorcycling expertise can contact him at his shop in Lismore, NSW, on (066) 280 431.

carburettor. It means easier starting, smoother running and the opportunity to run a lower idle speed. This offers the opportunity to set up the engagement point at lower revs (less drum/shoe clearance), again resulting in less slippage and heat.

Paul also recommends that you don't go for the biggest tyre you can lay your hands on. Based on his experience with Trelleborg's Ten Masters tyre, he says a 5.00-18 is as big as you should go. Not only will heat buildup be reduced (the rear wheel tends to spin more instead of the gearbox slipping), but the bike will work better and be easier to rider generally.

With all this heat we keep talking about, it's obvious that lubrication is going to be crucially important. The oil to use is Esso's Univis J26. A high quality ($4.75 a litre) aircraft hydraulic oil. It is important to use the recommended quantity of 1000cc and not to add a little extra to allow for the fact that automatics USE a little gearbox oil (!!?). Change the oil after every enduro or decent ride (or halfway through the Four Day).

A starting system for the Auto is obviously a headache for Husqvarna, and changes over the years have never been outstandingly successful. The current system is prone to problems if you don't take the time to follow the starting procedure carefully. Depress the kickstart lever until it engages, then without lifting the tension off completely, bring the lever back up to give you a full swing. A sudden jab at the lever will possibly only half engage the mechanism or not engage at all. Either way it damages and rounds off the engagagement fingers, eventually worsening the temperamental system or even rendering it ineffective. No kickstart on an auto means no start at all.

Adding to your troubles in this area is the likelihood of the engagement finger springs losing their tension from the unavoidable overheatings they are subject to. You can keep an eye on how well these fingers are engaging however by removing the oil filler cap which allows you a close-up view of the mechanism and how well it is operating (photo #3) by simply pushing the kickstart lever with your hand. Paul recommends these springs (photo #4) are replaced halfway through the year.

As far as clutch spring breakages go, Paul suggests you round the holes where the springs fit through the shoes and hub (both ends — all three springs) (photos #5 and #6), and grind away any excess metal where the springs may rub (photo #7). This eliminates sharp edges and rubbing which may contribute to breakages. A mistake some riders make is to replace all three springs when one breaks. Paul suggests an unbroken spring indicates that it is a good quality spring. Factory riders using Automatics use clutch springs that have been subjected to constant abuse on a test machine non-stop for three days. The springs that survive are used in the works machines with an excellent reliability record.

So those are the areas you need to keep an eye on if you own or plan to own an Automatic Husqvarna. Obviously they require more attention than your average dirt bike, but on the other hand, the riders we spoke to about their Autos can't praise them enough. Without exception, these riders described the automatic SYSTEM as the greatest innovation ever. Even riders who fumed about the problems they had encountered with their machines, swear nothing compares to an Auto when it is working properly. One rider in particular echoed the words of Auto owners since the machines were introduced years ago — "It's the greatest thing ever. They just need to perfect it."

Ninety percent of this endless need to "perfect it" involves somehow eliminating the chronic overheating problem (a problem which effects the motor and power output as well as the gearbox). If that can be done, then Husqvarna really will have on their hands the winner we claimed our '84 model AE500 to be.

In the meantime, riders who just can't live without automatic gear selection will have to spend a little more time in the workshop.

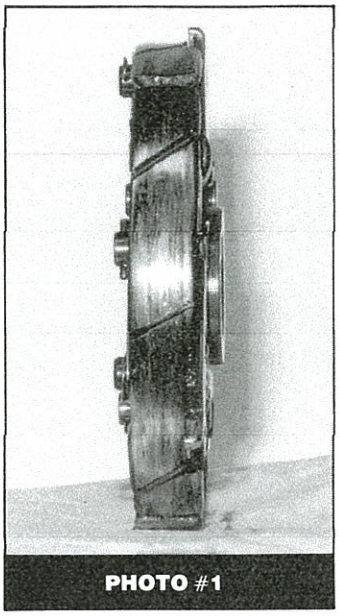


PHOTO #1

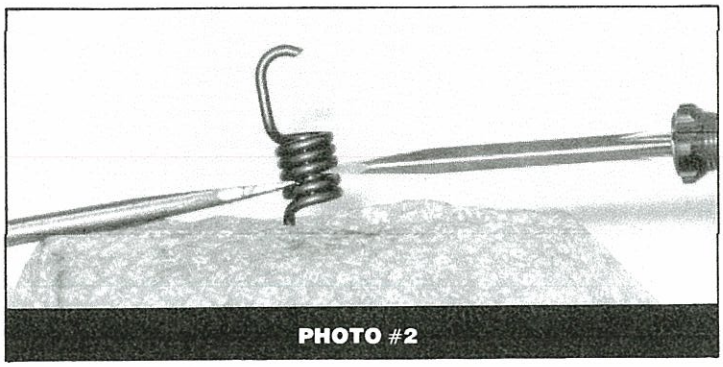


PHOTO #2

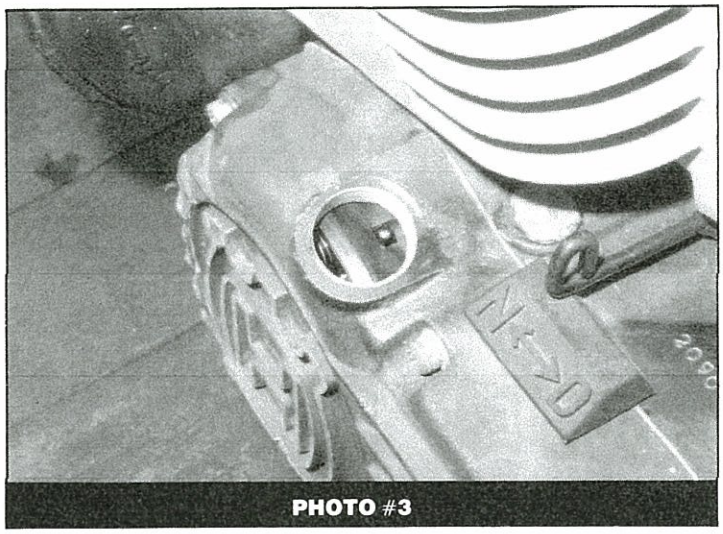


PHOTO #3

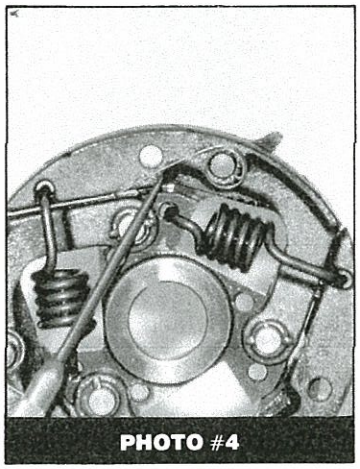


PHOTO #4

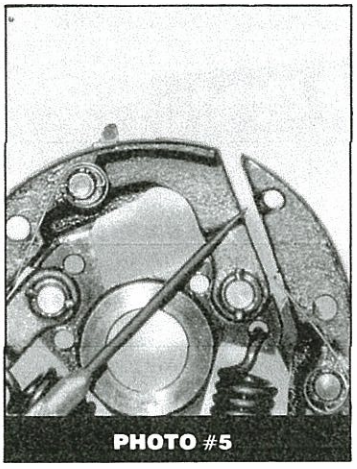


PHOTO #5

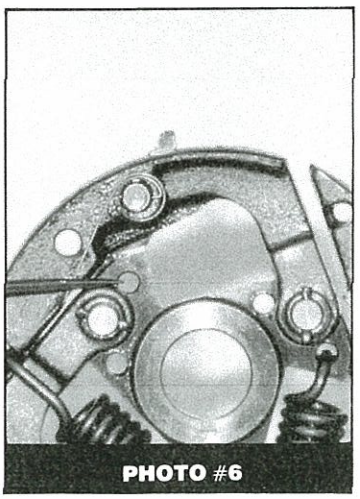


PHOTO #6

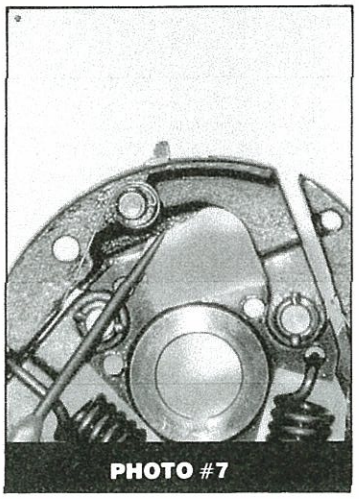


PHOTO #7

RECOMMENDED JETTING

	38mm carb.	40mm carb.
Slide	2.5 – 3.0	2.5
Pilot jet	50 – 55	55 – 65
Needle jet	R2	AAO
Needle	6DH3	7DH3
Main jet	400	370 – 380
Float level	17 – 19mm	19mm

Paul also recommends setting the timing at 2.2 (Std 2.8).