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Racing Lines

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VERSATILE TT-01

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OCTOBER 2007

XT8 TRUGGY

XRAY NAIL IT!

The XB8 series of buggies from XRAY have been a great success, instantly scoring accolades and have been successful on the track across the world.

In the same time that the XRAY buggy has been doing so well the development of the Truggy class has been flourishing and is now a worldwide recognised class.

Truggies are, in essence, extended in all dimensions buggies—wider arms, longer wheel base and bigger wheels.

What they generally share are similar drive lines and

design principles as a buggy.

Most of the big buggy manufacturers have released truggies or truggy conversions based on their 1:8 buggies, however XRAY has waited and concentrated on getting the



formula right before putting their offering for the popular truggy class out amongst it. It raises the the big question: will it be leading or following the well established pack?

What you get

There are no mysteries to 'pro' level kits, it's assumed you know what you're doing so they come unassembled and as a rolling chassis only. You get a kit in parts, an unpainted body, excellent instructions including registration codes for the XRAY web site and decals. In a first for XRAY, in its larger scale kits, tires are included. This means you still need a fair bit of kit to finish the



XT8 as you can see in our accompanying sidebar.

Build time

Sometimes you look forward to building a kit, especially when the instructions are good and the parts are quality then you can really enjoy the build. XRAY are very competent at making this type of kit and, as you build it, the anticipation of the performance builds too. XRAY's CAD 3D instructions are very very good and the parts come bagged in step order, making the process easy to follow.

Like their XB8 and all other XRAY kits, we reckon any one who can read or even follow the pictures could build the XT8, it's not hard. We did struggle to find which pistons to use in which shocks, however the initial settings are there in the fine print.

For the record, use straight hole 1.4mm in the front and straight 1.5mm in the rear. Note also the important steps of filling the diffs and building the shocks, both these steps are particularly important in extracting performance later. As expected, there is no hand finishing of parts needed—XRAY is quality all the way, however we fully recommend the use of a set of allen drivers. We built the XT8 using a set of Hudy's Profi tools, they certainly save your hands!

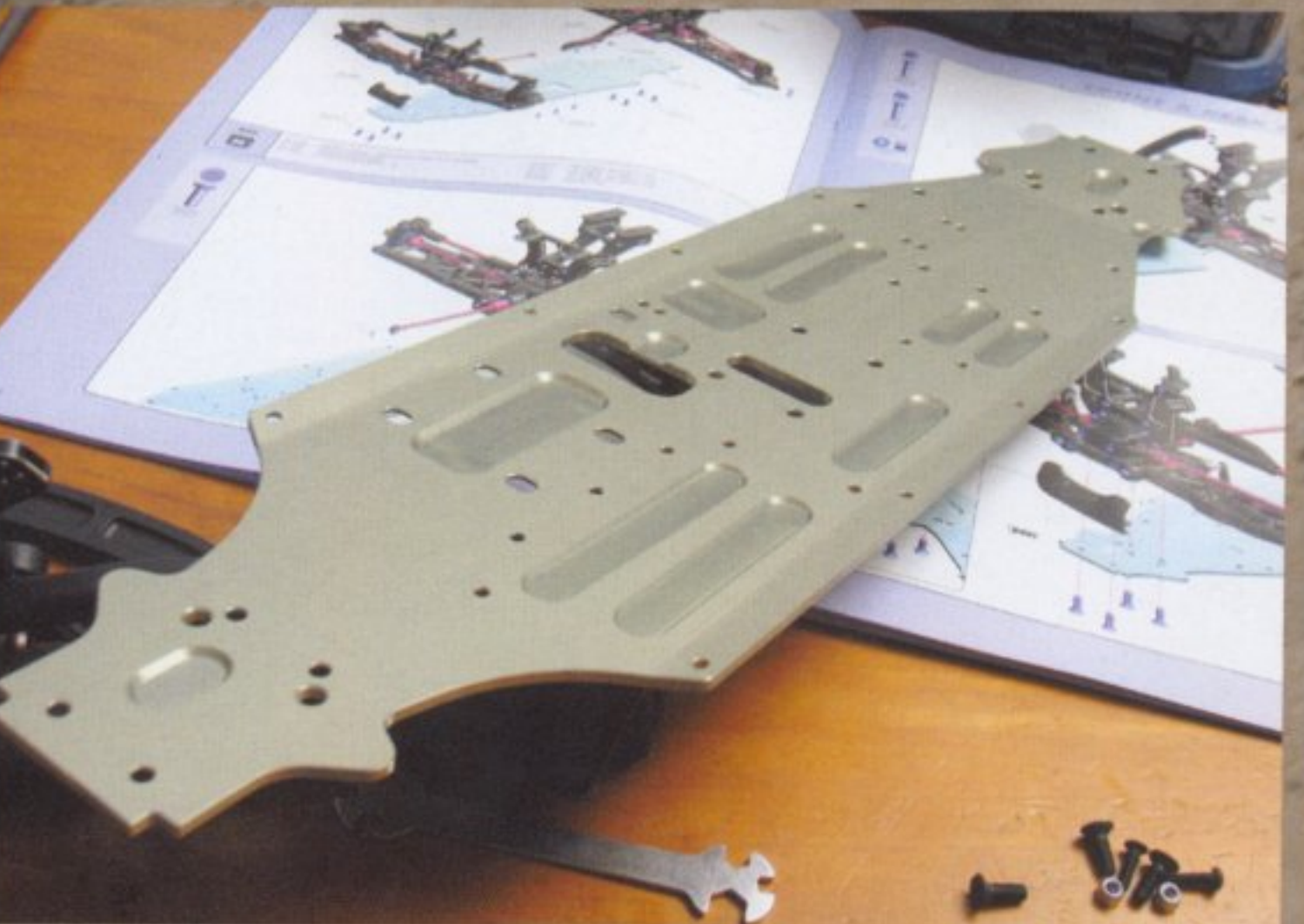
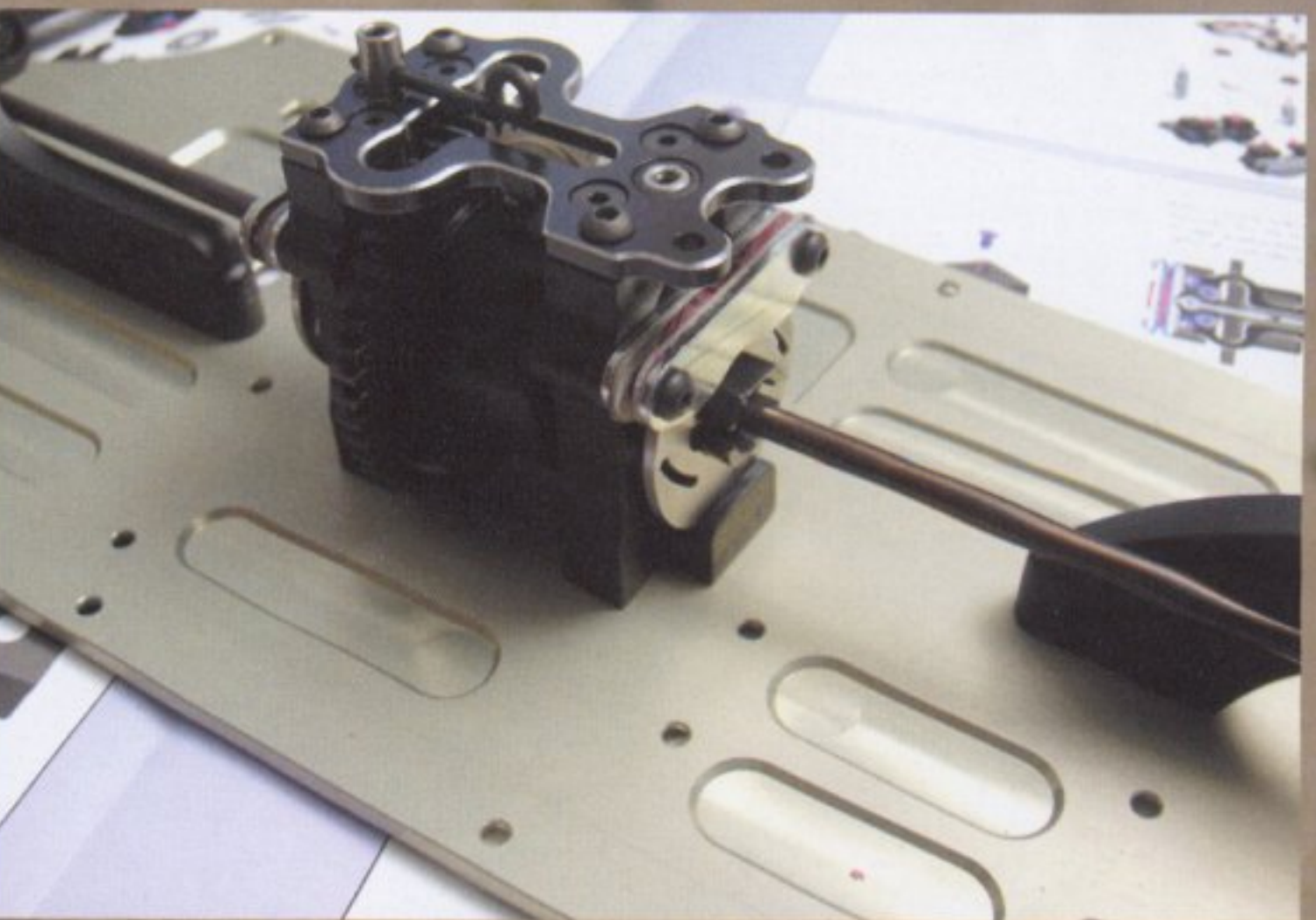
Truggy

As we said, a truggy is basically an oversized buggy with a bit of monster truck thrown in for good measure, so that means you will find a plate alloy chassis, three diffs and four wheel drive. XRAY have followed this formula.

The 2.5mm thick Swiss 7075 alloy chassis has been milled to reduce weight and keep components low as possible, it has been anodised to match the chassis colour of the XB8 EC buggy, a sort of kaki colour. The long chassis has flex kept in check by substantial composite braces.

The alloy radio tray and centre diff bulkhead also plays a role in stiffening as well. While the engine and pipe are not included in the XT8 package, an alloy clutch has been.

The lightweight 1.71g
— Continued page 85





A long time coming

JURAJ HUDY ON THE DEVELOPMENT OF THE XT8 TRUGGY

With the shipping of our brand new NT1 and the new version of the XB8, this afforded us the time to finally concentrate all of our resources and energy to finish the very last project on our schedule, the new XT8 truggy.

This project took much longer time than I had thought and had to be delayed so many times that I started to get a bad feeling that there was some weird karma at work.

Having the first prototypes



already done almost two years ago, I thought it would be super easy and fast to build the whole truggy and to produce it quickly.

It wasn't to be, however, from small issues big concerns developed and the headaches from this project became a bigger and bigger as time went on.

At the end of the project, however, the happiness from a perfectly well done job was even greater and I am very pleased with this new car and very confident of its success.

Two years ago, when we started to work on this project, I was confident (or "optimistic" in hindsight) that it would almost make itself, since there were not many new moulds required and we could easily use most of the parts from the XB8.

The first idea I was playing with was to go with the market trend of the time—to use regular off-road arms and just to make longer wheel adapters.

Preparing the first prototype and seeing the outcome, I was sure that with short arms and such long wheel hubs there was no chance that the truggy would handle easily.

After a few short tests my suspicions were confirmed: the car was simply terrible and I was more than sure that the problem was in the arms.

For such large and wide wheels/tires as used on the truggy and with the required steering angles we could find only one solution—purpose designed truggy suspension arms and special offset truggy wheels.

With recent experience on suspension arm flex, I had a clear idea of how the arms should look and also the required flex.

You know what is coming now... to make the new arms required a completely new mould, so the whole project had to be delayed.

After several months of testing the XT8 with the new arms on the test track, the difference was unbelievable (in a VERY good way)!

The truggy was handling very comfortably and it was super easy to drive.

Testing with the XB8 drive train I was still not 100% happy and confident in the maximum drive train efficiency.

To keep all the parts as low as possible and centralised

I have decided to change the whole drive train ratio completely, which allowed us to make super low center diff gear which of course resulted in the change of the pinion gears and front/rear diff crown gear.

This allowed us to achieve a completely different ratio and with the super low center diff gear comparing to all other standard truggy diff gears and all parts in center, this has improved the acceleration and handling of the car dramatically.

Despite having to make new tooling for all these parts, I am still very satisfied with the performance improvement.

With the new balance of the car we have at the end played around with the position of the engine and the influence on the handling in both bumpy condition and on the large jumps.

With the final solution on both drive train efficiency and balance/handling of the car we have just finished several last tests with different shocks configurations and the different shocks position both on arms and shock towers.

Several more months of development and testing made me very comfortable with the truggy and the short tests by few factory team drivers in different racing conditions confirmed that the XT8 project was ready to go into production.

And so the fun began in a different sense.

Preparing to go into production, we realised that producing the extra long

truggy drive shafts from super tough Hudy Spring Steel™ was simply not economically feasible given current production technologies.

Additionally, the required production time would be so long that the drive shafts of one car alone would be worth their weight in gold.

The only feasible solution was either to (a) increase the price of the kit (which would make XRAY customers very unhappy) or (b) delay the project and wait for the new CNC technologies which were scheduled to be installed in the new XRAY Millennium Factory in summer 2006.

Since we had already learned from previous experiences of this nature, this time we had not announced to the public that XRAY would be pursuing such a new project and as such, we were not forced to make unsound decisions based on market pressure.

We chose to take the sounder, economical route which would not affect the wallet of the customer and to use the extra time to bullet-proof all the remaining parts to ensure the final product would be the best truggy on the market.

After the new machines were installed we opted for another delay as the new XB8EC was already scheduled for production and since most of the parts are identical we could save plenty of production time by joining both projects into one production lot.

After several delays we were finally ready to introduce and present the XT8 at the Nurnberg show.

We had great attention and success with the XT8 introduction, both at the show and at the several races where the XT8 was showing its fantastic performance.

Market demand and pre-orders exceeded our expectations and production plan, so we had to act quickly to adjust the production runs and prepare the second batch.

Having most of the parts finished and ready for the release for spring, we were hit



with some very annoying bad news—the market standard for the truggy class had developed significantly within the last year, including the requirements for a 150cc fuel tank.

Again we were faced with another difficult decision: either release the XT8 with the planned buggy fuel tank (120cc capacity) which would cause some negative feedback, or delay the project again and make a completely new mould for a larger fuel tank.

Faced with this very difficult decision, I was just not sure which way to go when we got a race report from UK where the XT8 was on a winning pace at a major race but failed to win due to the need for extra pit stops.

Suddenly my decision became somewhat easier—we

would design and produce the larger capacity fuel tank at the cost of another delay.

We realised that postponing the project would disappoint XRAY customers.

We knew, however, this would be outweighed by the happiness those same XRAY customers would feel when they got their new truggy and would not need to purchase the extra fuel tank—plus they would get the best XRAY product with the finest specs.

Please know that this was not an easy decision.

I knew whatever decision I made would give rise to some disappointment, however when it comes to quality, I am not willing to cut corners or sacrifice and since the truggy is a serious racing high competition race car, then my

decision is doubly valid.

So after a long journey, we were finally ready and we packaged all the parts to let the XT8 hit the streets within a very short time.

At this point, with so many delays, I am still very confident that the decisions we made were correct and in the best interest of everyone, most importantly XRAY's customers.

I am very much looking forward to the response from the public.

As usual with any new project, I am a bit nervous but this time a little bit less, as from our long-term tests I have nothing but the most positive feedback.



It's fast. Very fast.

This is the proof of the pudding, or so the saying goes: the XT8 builds great, looks fantastic, has a spec sheet with all the important stuff on it, so how does it all come together?

Initially we were a little disturbed that the maximum

droop available was restricted by shock length but everything else looked the goods so off to the track.

We had a bit of juggle with tuned pipes, for whatever reason the big LRP Z28 Spec.3 did not arrive with a pipe, so we shot the studio shots with a GTI pipe.

This pipe, however, is not 'approved' for racing so we later changed to a Thunder Tiger 2035.

This may seem a bit confusing but the LRP was happy with the Thunder Tiger pipe and the racing authorities like the fact that it's approved!

With the big LRP not fully

run in and hence not performing to its optimum (it arrived too close to deadline to get it fully run in for this test), we have nothing but praise for this combination.

Acceleration: awesome!

When the tires have grip, pulling the trigger is like firing a bullet—kapow!

Low down, the big LRP has plenty of torque to get the correctly geared XT8 moving and then the top end kicks in and whoosh!

The tires dinner plate and well, you get the picture.

It's quick, very quick!

Quick is good but on a track, the real home of the XT8, you have to stop, go around corners and from time to time jump so here are the other things on the scorecard.

Stopping is handled by twin disc brakes, the bias can be adjusted on the brake linkage but the setup is identical to that found on the XB8 buggy.

Given the similarity to the buggy, you might have thought the brakes would be overpowered by the extra power and weight but not so.

We did not have any cause for concern with fade or performance.

We did not, however, test for longer than twenty minutes at a time so over an hour final there maybe some fall off in brake performance.

There is a fair scope for this to occur before anyone will start to worry, however.

On our test surface the supplied XRAY Thrax tires couldn't help but grip and this



CONCLUSION

If you're looking for a competition 1:8 truggy, look for the XRAY XT8.

It has what is needed to put it on the podium for sure.

With the big LRP Z28 Truggy Spec.3 engine bolted in, it's fast off the line, out of corners and has a startling top speed.

The great thing is the ability of the chassis to handle the big horsepower.



showed that the big truck has excellent turn in and held a line perfectly, even under heavy throttle application.

When it did step out, the quick reacting Nomadio/Ace servo combination caught the Truggy before it spun around.

Truggies are generally great jumpers and the XT8 is right up there, it's brilliant in the air.

It flies well naturally balanced, however if you do need to do some correction in the air, the XT8 responds well to throttle or brake application.

All up an impressive truggy to drive, the LRP Z28 Spec.3 has heaps of grunt and the chassis can handle it.

This is a great pro chassis with no real flaws on the track and thus is one to check out for sure!

shoes and a machined flywheel are included with a Hudy 13 tooth steel clutch bell.

A pair of laser cut ventilated steel disc brakes clamped by steel shoes with Ferodo brake pads.

Clearly there are some differences between the XRAY truggy and buggies.

Most notably in the driveline are the extra long drive shafts.

Hudy spring steel has been used for all the components of CVD driveshafts.

The internal ratio of the gear diffs has been lowered to cater for the big truggy tires so the centre diff and clutch bell can remain the same as found in a buggy and nice and low as a result.

The driveline runs in rubber sealed bearings that we have to commend as we have never had one of them fail—even without any maintenance and plenty of wet weather running.

A warning here—we treat our bearings shabbily to see just how long they will last yet still perform.

We suggest you carry out regular maintenance, especially after some wet weather running—your wallet will like you.

It's when you get to the suspension that the really major changes between a truggy and buggy are really clear.

The XT8 has very long suspension arms.

These long lower arms have plenty of cross bracing and have an amount of built in flex to help resist fracture.

The upper links are Hudy spring steel turnbuckles and things don't get much better than Hudy spring steel.

XRAY have incorporated their (now widely copied) ISS and ISC suspension design.

This gives a huge range of potential adjustments, however it would appear that XRAY have cut a few corners.

The toe blocks are composite as on the XB8R and the lower hinge pins are retained by 'E' clips, again like the XB8R.

This is perhaps more of a shock than a genuine gripe (as we have found the 'E' clips on the XB8R have performed faultlessly) but when the XB8 was first released, a big claim to fame was no 'E' clips.

No issues with the shock towers, solid milled and anodised alloy with a myriad of shock positions front and rear. The shock towers have been reinforced to resist flex and breakage.

The shocks are new big bore items and, with the felt wiper and small rubber boot, are very smooth.

XRAY supply their dark blue or hard springs with the XT8.

Radio gear mounts in the XT8 in a radio tray basically the same as the XB8, the big exception being the steering linkage is probably half as long again.

Originally the fuel tank was going to be 120ml in size with an optional 150ml tank, however we are very pleased to report that the XT8 has been

WHAT WE USED

Engine
LRP Z28

Pipe
GTI

Transmitter
Nomadio React

Receiver
Nomadio V2

Servos
Ace digital DS1213 steer and DS1211 on throttle

Receiver battery
Intelect 1400mAh

Fuel
Hot Stuff 25%

Starting gear
Thunder Tiger Starter box, Team Magic AA glow warmer

Paint
Racepaint custom paint (how good does it look!)

shipped with a truggy standard 150ml tank.

Finishing the kit is a dual stage XRAY air filter.

You will have to oil it with either the supplied or your favourite oil.

Our second disappointment (after the 'E' clips) was the amount of fuel line supplied.

Previously XRAY supplied more than enough line to do the job on the XB8 but they appear to have halved the amount of line.

This is a small thing really but perhaps demonstrates the tightness of the RC market place.

XRAY supply a clear truggy body that looks very similar to a Pro-Line Crowd Pleazer 2.

We found that the marked holes on the body don't quite match the body posts so watch for that.

We were ecstatic with the paint job from Racepaint so cut back on the number of stickers we applied, although XRAY do provide a good sheet for the job.

Yes, you have to build the kit and yes, you have to supply a lot of gear to get up and running but that's how it is with any full on racer and that's exactly what the XT8 is—a full on race truggy.

Although it would make an sensational 'thrasher' with a big pull start engine!

Nothing fazes this truggy and it's easy to recommend.

That's not to say it's perfect, we really think XRAY should have included the

full XB8 spec suspension (that means alloy toe blocks) and it's time to lose the 'E' clips altogether, however we still can't report any loss of performance because of these design choices.

Our thanks

Our thanks to XRAY and their Australian agents, Custom Model Cars, for the review XT8.

Additional thanks to LRP and their Australian

agents, Hobbies Australia, for the fearsome Z28 Truggy Spec.3 engine (you'll read a full review of this beast in an upcoming issue) and also to Ace Hobby Distributors, the Australian Nomadio agents, for the React system and Ace digital servos.

All of these products and more are available through your local hobby shop or if not, ask them to contact the respective agent/s for more information.