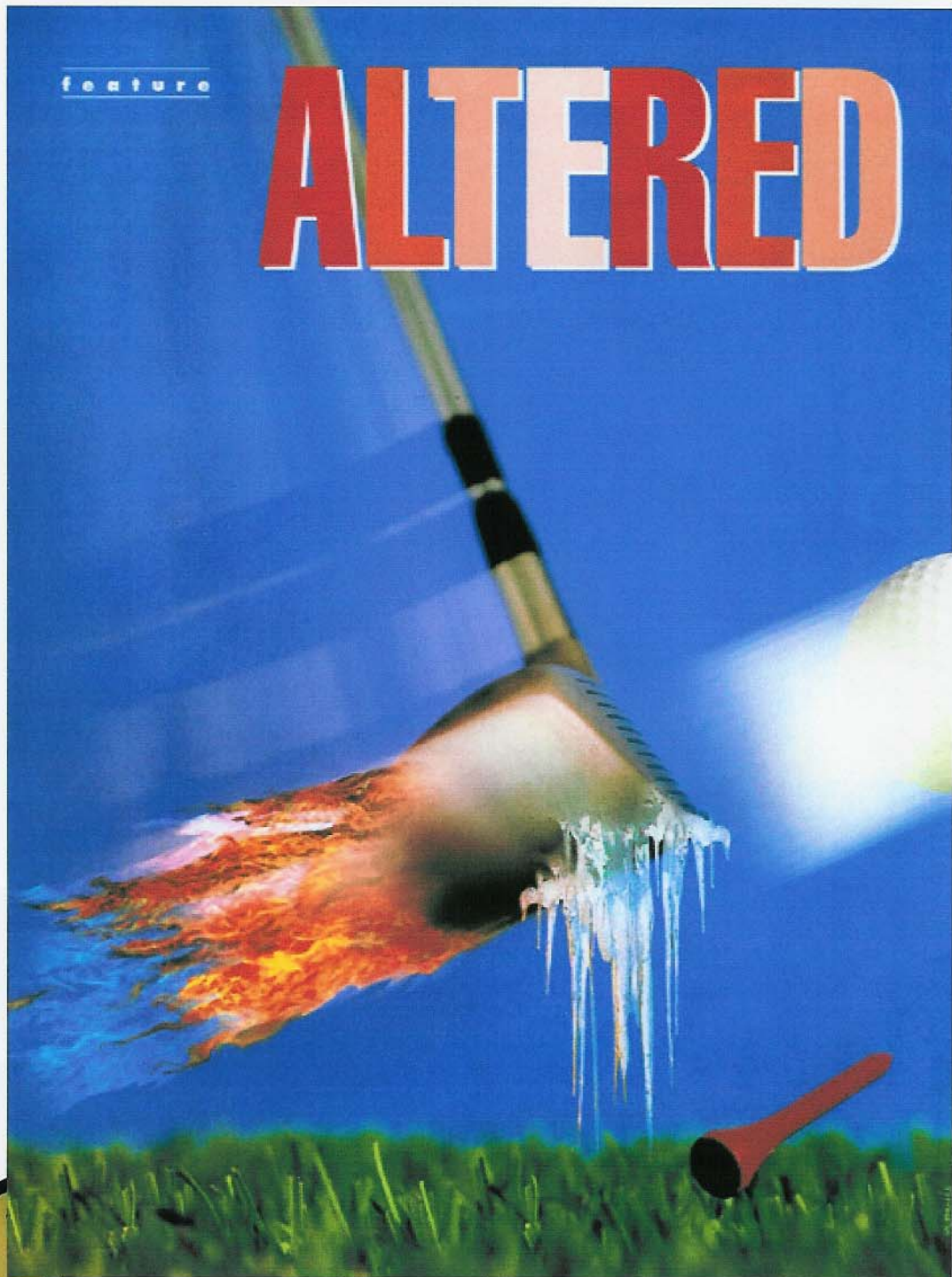


feature

ALTERED



STATES

Science may have provided the ultimate game booster, reports ROD MORRI.

It sounds like science fiction: A former NASA engineer who has never played golf accidentally stumbles upon a legal way to make golf clubs propel the ball further and straighter.

Within a couple of years Tiger Woods has his clubs treated with the technology and wins multiple tournaments thanks to the prodigious length and remarkable accuracy he achieves with his shots.

Then Aaron Baddeley stuns the golf world by outplaying Colin Montgomerie and Greg Norman to win the Australian Open with a set of clubs that have been through the process.

It might sound far-fetched but that's just how COLDFire has evolved.

COLDFire is a metallurgical process developed for use in the space and air industries that is now being widely used elsewhere, including golf.

Engineer Frank Masyada was the man who created the technology, that makes metals stronger without making them harder.

The process involves subjecting materials to extreme cold followed by extreme heat, which affects the molecular structure and causes the metal to bond much more tightly.

The benefits for the aviation and space industries are obvious but how did COLDFire technology make the quantum leap to golf?

Quite simply, by accident.

While working in the laboratory where COLDFire was being developed, one of Masyada's staff members asked what would happen if he put his golf club through the process.

For fun, they did. The next day the worker came back and said he couldn't believe the difference in his play. The feel was better, the shots flew further

and he hit the ball straighter with the club than before.

They tried another club. The results were the same.

"About then they realised there might be something in this for the golf market," COLDFire's Australian CEO Jim Harrison says.

"It was never meant to be anything to do with golf but there was no way to ignore it. The results were too good."

Since then more than 15,000 clubs have received the "thermal cycling" treatment in America and, according to Harrison, there is yet to be a negative response.

So how does freezing and heating the metal help you hit the ball further and straighter?

"What the extreme temperatures do is force the molecules in the metal to bond more tightly together," Harrison says. "This makes the metal stronger and in turn eliminates vibration in the clubhead at impact. Vibration is basically a waste of energy and when you take it out of the shot, that energy is transferred to the ball instead which equals more distance."

And straighter?

"It's a similar effect," Harrison says. "The metal is stronger and there is less twisting of the clubhead at impact. When you hit the ball with the clubface opening or closing, that effect is not as exaggerated. It won't hit the ball dead straight but it does lessen the effect of hooks and slices."

COLDFire has been operating in Australia for several months but until February was predominantly working on clubs for Touring professionals.

Now, however, they are open for business and, despite no major advertising campaign, are turning over a

healthy business.

It costs \$49.95 to have a driver or fairway wood COLDFired and \$29.95 per iron (or \$250 for the set of irons). Woods are always done separately.

The process itself takes 14 hours but expect to be without your clubs for a full week if you plan to have the procedure done.

"We have a professional clubmaker take the clubs apart before we put them in the machine because the epoxy used in them isn't stable at extreme temperatures," said Harrison. "Then he puts them back together at the other end."

"We only put the clubheads through so there is no need for the shafts to be treated. Because of that the process takes a week to turn around."

Interested? Phone 1 800 429 468.

How COLDFire works

How does COLDFire work? The clubs are disassembled and the clubheads placed in a machine where, using nitrogen, the temperature is slowly dropped to as low as -200°C .

The temperature is then varied between -200°C and -75°C over a few hours to effect the molecules of the metal in the desired fashion.

Once the cold treatment has been completed, the temperature is then increased to a maximum of 200°C .

The combination of the cold and heat treatment eliminates impurities in the metal and bonds molecules more tightly.

The result is a clubhead that is stronger – without being harder – and has no vibration at impact, resulting in extra distance. There are no visible signs of change to the club.