Paul wanted an airplane to fly by the sun
He asked Bob of Astro, well could it be done?
Yes, Bob had the panels and motors and stuff
but as for the power it wasn’t enough.
Now Brian’s too heavy. Your idea’s not sound
we’ll need a small pilot to get off the ground.
My twelve year old Marshall he’s small and he’s light.
But don’t tell his mama, she might die of fright.
We’ll just finish Penguin, put panel on top.
Yeah she’ll fly and she’ll fly, she never will stop.

So off to old Simi, to Ray and his crew,
The men are assembled, there’s much work to do.
Ray Morgan the boss-man, a prince of a bloke
who mostly drank water but sometimes drank coke.
We all came to Ray with our cares and our woes.
He’d yell and he’d scream then he’d stomp on our toes.
Ray fashioned the spars from a Kevlar all brown.
Then whacked them and thumped them and pronounced them sound.
Ray covered the bones with a Mylar most thin.
Then he turned up the heat to tighten the skin.
The motor’s installed, the wires connected.
She’s ready to fly, or so we suspected.

With Marshall aboard and crew at the ready
it flew and it flew but not very steady.
When all of a sudden as quick as a flash
down came the Penguin in a terrible crash.
The structure was broken and lay in the dirt.
Young Marshall was crying but not really hurt.
So back to old Simi all night and all day
we all worked long hours for overtime pay.
The Penguin repaired now in Bakersfield town
had a new pilot, little Janice of Brown
Janice flew Penguin after Marshall’s demise
Scores of furlongs beneath gossamer skies.
Now that Penguin had earned its place in the sun.
The Challenger was next for tasks yet undone.
The Challenger was by committee conceived,
by Solar Apostles one cold winter’s eve.
But many Apostles have a strange little quirk.
They love to do preaching. They hate to do work.
So back to Ray Morgan and his Gossamer crew
the ball’s in his court, he’s got much work to do.
The loft lines were laid by chalk marks on the floor.
Till our muscles were strained, our tempers were raw.

The Challenger grew from the seeds that were sown.
It turned and it twisted with a mind of its own.
Peter the wizard of air and its movements
studied and studied so many improvements.
Lissaman fashioned an airfoil inverted
that worked very well but looked quite perverted.
Its top was all flat and its belly was bent
would it carry Ptacek from Pontoise to Kent?

Over at Astro, Bob’s crew had not rested
Thousands of solar cells all had been tested.
All wired together three gross to the string
then taken to Simi and glued to the wing.
The Motor was tested, it really put out.
Jim got excited and Bob started to shout.
This new Astro motor with power and balls
will fly Jan from Simi to Niagara Falls!

The plane was now ready, they called in the press.
But too many came, what a heck of a mess.
Along came Ronda, the queen of the focus
she’s long of the tongue and wide of the tokus.
She climbed up our ladder to lengthen her fall
through wing and through tail and finally through wall.
She bounced like a ball, her pride was unhurt
but the wall of our shop was now rubble and dirt.
The party was over, the plane put away,
then off to the desert to try the next day.
Way out in the desert at the first rays of light
the Challenger waited, was everything right?
Small drops of sweat formed on Dick Woodward’s brow
He was told it would fly, but he could not see how.
A short little run, then Jan started to climb
an illusion in motion and all quite sublime.
The Challenger looked like a dream in the air.
It soared and it sailed with a gossamer flair.

The motor fell silent. The plane has to land
out in the desert on a small patch of sand.
Oh No cried Ray Morgan in anguished despair
Bob told me it needed a small breath of air.
I have lied, I have lied said the electric man
while plowing through mesquite in the Condor van.
Way down in a sand patch the Challenger stopped.
Our stock with old DuPont had suddenly dropped.

We tried it again with a new cooling fan.
The motor just loved it, it ran and it ran.
We all went to Tucson to try a long flight
from Tucson to Phoenix if things went all right.
Jan took off for Phoenix, a tail wind a blowing
A cold winter wind with a promise of snowing.
What’s that screamed Comney in frantic despair,
while pieces of prop blade then flew through the air.
It’s nothing; it’s nothing Ray Morgan did yell.
With only one prop blade it still will fly swell.
But Jan was more prudent and did not show fright.
The Challenger wounded did safely alight.

Jan tried it again on the very next week
but the furthest she got was Pecacho Peak.
She landed in desert, she landed in dale.
She frightened coyote, she flattened out snail.
The sun in the winter it’s cold and it’s low.
The cells won’t deliver, the motor’s too slow.
We were waiting around for summer anew
while budget expired and bucks were but few.
Then summer finally arrived in a flash.
So off to old England went crew in a dash.
But England the country of silk and brocade
is also the country of maximum shade.

On most every morning from seven to nine
a service was held at Saint Hillary’s shrine.
We prayed for the weather, we prayed for the wind
we prayed for the day that the flight could begin.
Paul gave us the odds and snatched up our money.
T’was seven to three the day would be sunny.
More odds were given on the wind and its course.
We prayed and we argued until we were hoarse.
For thirty three days the whole crew had to wait
till brotherly love was now turning to hate.

At last Woodward’s folly was placed in its box
and carefully trundled by road to the docks.
A long drive through France where fortune awaited
where sunshine, pilot and plane would be mated.
Next morning was perfect, the sky it was clear
the wind had abated, the moment was here.
With Ptacek aboard and strapped in his place
just a hint of excitement shown in his face.
Ray wheeled her around, put her back to the sun.
The motor was started, the flight had begun.
Higher and higher in the sunny French sky
Ptacek and his Challenger away did fly.

While over in England four hours away
the ground crew was praying, let this be the day.
Two miles above France on that beautiful day
Ptacek and Challenger were having their say.
Yes quiet and clean and never polluting
America’s pride and well worth saluting.
That day is now history, but I still recall
that pride of achievement that’s shared by us all.
Cast of Characters
Dr. Paul MacCready President AeroVironment
Bob Boucher President Astro Flight
Brian Allen manned flight across the Channel
Marshall MacCready Penguin test pilot
Ray Morgan Manager AV Aircraft Division
Janice Brown Test pilot Penguin and Challenger
Dr. Peter Lissaman Head Aerodynamics AeroVironment
Jim Watkinson Shop Manager Astro Flight
Ronda Bishop DuPont Photographer
Don Monroe AeroVironment Photographer
Steve Ptacek Pilot Historic Chanel Crossing
Dick Woodward VP DuPont Sponsor
Jack Comney assistant to Dick Woodward

Locations
Simi, California, Marina Del Rey, California
Airport Bakersfield California, Airport El Mirage Dry Lake, California
Airport Tucson, Arizona, Manston RAF Base, Kent, England,
Airport Pointoise, France a Historic battle field
where Vercingetorix was defeated by Julius Caesar
Janice Brown test Pilot of both the Gossamer Penguin and Solar Challenger.
A Rhonda Bishop Photo
The Gossamer Penquin team. A Don Monroe photo

Bob Boucher, Jim Watkinson and Bobby Curtin attach Solar array. A Don Monroe photo
Paul, Janet, Ray and Bob with Solar Challenger in Bakersfield CA.
Don Monroe photo
Steve Ptacek Pilot on Historic cross channel flight of Solar Challenger
A Don Monroe photo