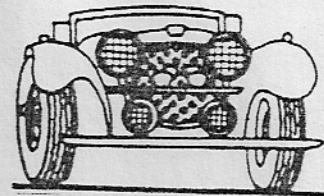


CLBCOM 31
January 1993



SQUIRE SS-100 REGISTRY

That time of the year has arrived when I am required to perform the only thing that I dislike about this self-appointed Editors job - asking for money. The really good news is that we wound up with a little surplus last year. (See attached balance sheet) I'll use that up with an extra recruiting type auto magazine ad. The new Registry members coming in have had the effect of increasing our income so I think it's safe to lower the contribution to twenty dollars. I have enclosed a return, stamped envelope for your convenience. Make your check payable to Arthur Stahl.

Member Lee Craft (Maryland) submitted an article copy from the December, 1990 issue of Autoweek about the original Squire produced by Adrian Squire in England in the 30's and a copy is included as a supplement to another article about the original Squires in CLBCOM 13 (July '91). Member Michael Lindgren (New York) has been toying with the idea of submitting an article about our Squires to Autoweek. That's great because I'm convinced that with every nationally published article the value of our Squires moves up a little.

Bill Lieske (Phoenix) has had his slide rule out again and has figured out everything you will ever need to know about the gear ratio on our Squires. His conclusion: If you plan any serious road travel in your Squire, consider a change in your rear end gear cluster from 3.545:1 to 2.9:1. I believe that will also necessitate a change in the plastic speedometer gear drive located on the side of both the automatic and manual transmission case. Bill is planning to contact a supply outfit in California that stock these clusters for the 9" rear end and see what an actual exchange price will be. We'll keep you informed.

Speaking of Bill Lieske, he and I are seriously considering the purchase of a pair of luggage trailers, like the ones in the attached sales brochure, to pull behind our Squires. I have retired from full employment and Bill is close to it and when his car is completed we plan to make a few trips together. First target trip is to the Caverns at Carlsbad, New Mexico where we hope to meet up with our pal John Fulton if that individual can ever regain the courage to go beyond the Dallas city limits again!

I have been punching the last few issues with holes for a three ring binder and shipping the lot to new members in a cheap cover. I think these letters will add the the resale value of the cars. If you are missing any from #1 thru #30 or can't find a cover let me know and I'll ship you one. Also enclosed is a current roster.

Arthur Stahl

1992

NAME	INCOME	MANAGEMENT → ADVISE
DAVIS / LUNDEN STARK	30 00	HERMAN 145 → 6 00
TOTAL FULTON	30 00	11 → 34ms-18 00
LEE COOPER	30 00	DEALS-WHEELS → 20 50
TH STARK	30 00	CURRICULAR → 29 95
REAR FORMER	30 00	
ED SPENCER	30 00	
JOHN MISONGER	30 00	
BILL DORRIS - MARCH ?	30 00	
BOB PORTER - MARCH	30 00	
JOHN TAYLOR - MARCH	30 00	
JOE HESKE - JUNE	30 00	
ALICE HINDGREEN - JUNE	30 00	
AND ALKHOVA - SEPT.	15 00	
	375 00	

POSTAGE < USE >	ITEM →	MISC.
29 00 ← STARKS	N.L. GIBBIE →	225
238 ← LTR 19	" "	3 60
321 ← ALKHOVA	" "	225
290 ← FAX		8 10
885 ← LTR 21		
1050 ← LTR 22		
2900 ← STARKS		
1050 ← LTR 24		
5.10 ← HINDGREEN		
13.28 ← LTR 25		
896 ← LTR 26		
510 ← KRAMER		
158 ← FULTON		
2900 ← STARKS		
1328 ← LTR 28		
510 ← PETERSON		
986 ← LTR 29		
319 ← FULTON		
531 ← SPARKS		
1642 ← LTR 30		
21240		

1934-36 Squire

Only 10 were produced, but they made their marque

By Michael Worthington-Williams

It has been said that Adrian Morgan Squire was a perfectionist in an imperfect age. While in financial terms, the company which he founded at Remenham Hill, Henley-on-Thames, Oxfordshire, was a failure, the same can hardly be said of the handful of cars he produced there between 1934 and 1936. The international reputation which Squire cars currently enjoy is based on a production run of just seven, supplemented by another three built up from spare parts and chassis between 1937 and the outbreak of World War II.

In order to understand this apparent paradox, it is necessary to understand something of Adrian Squire's personality and single-mindedness. When still a schoolboy, he had announced his ambition to become an automobile manufacturer and designer. At the age of 16 he produced a six-page catalog of the 1.5-liter Squire two-seater. The vehicle existed only in his own fertile imagination, but the seeds were sown, and following an apprenticeship with Bentley and a spell with M.G. at Abingdon, he formed Squire Motors Ltd, in 1931.

Initially a garage and filling station were established at Squire's cottage. An old school friend, G.F.A. "Jock" Manby-Colegrave, and Reginald Slay, a free-lance car salesman, became co-directors. Squire was just 21, the other two 20 and 26 respectively—it was a young firm! By mid-1933 the prototype Squire was well under way, and in January 1934, the Squire Car Manufacturing Company was set up at the same address with a capital of just £6,000.

Based on the twin-overhead-camshaft RI Anzani engine, the 1496 cc Squire unit developed 70 hp at 5000 rpm, and when allied to a David Brown Roots-type supercharger this figure was boosted to 110 hp. An ENV Wilson-type preselector gearbox transmitted the drive, and two wheelbases—102 inches and 123 inches—were offered. The low lines of the car were enhanced by its steeply raked and heavily slatted radia-

tor, and although the first three built were overslung at the rear, all subsequent Squires had their chassis underslung.

The really outstanding features of the Squire were, however, its ability to accelerate from 0-70 mph in just 15 seconds (top speed was a little over 100 mph) and its road-

holding and cornering qualities. Writing of their contemporary road test in the works demonstrator, *Motor Sport* waxed eulogistic, saying "... fast corners can be taken at 70 mph as steadily as if the chassis were held by some invisible radius rod, and yet there is no tendency for the car to get into those treacherous slides sometimes experienced with low-built cars being cornered at the limit of adhesion. In a word, one can corner the Squire as rapidly and easily as any normal driver would care to attempt ..."

All this, however, could not be bought cheaply. The short-wheelbase Squire cost a thumping £1,220 with two-seat Vanden Plas bodywork, while the longer car was £25 more. It was one of the most expensive British sports cars of the period. Nevertheless, its specifications and performance attracted a handful of rich young enthusiasts.

The Squire's racing debut in the British Empire Trophy Race at Brooklands on July 6, 1935, was, unfortunately, inauspicious. It was withdrawn after nine laps, ostensibly after bottom-end failure. In fact, the crank-

shaft had broken. Two months later, it was the chassis which failed during the B.R.D.C.'s 500-mile race at the same venue, ironically at a time when Fontes was leading in the 1.5-liter class after 54 laps. The balance was somewhat redressed in the October Second Mountain Handicap, however, when Fontes placed third at a 70.8 mph average.

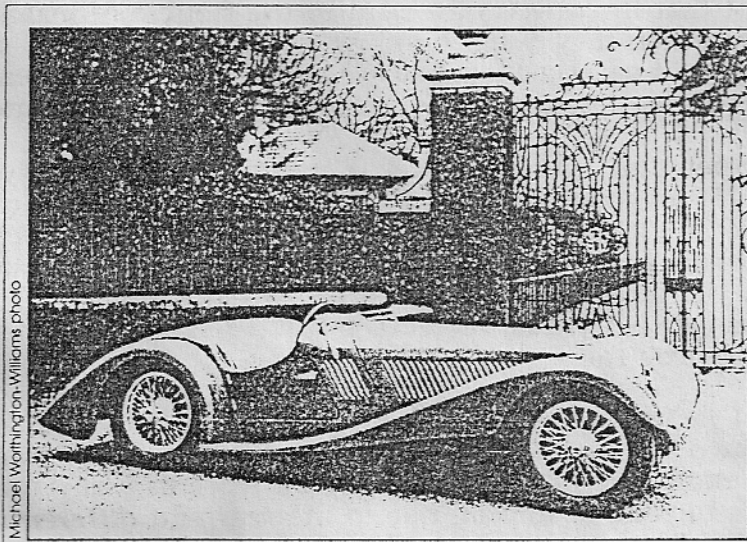
By September 1935, the price of a Squire with short-wheelbase chassis and a utility body by Markham had been reduced to £995, and these were known in the works as "Skimpies," but more luxurious coachwork by Ranaiah was also offered. As a sales incentive, buyers were offered the free services of a Squire mechanic once every three months, to ensure that the car was in optimum running order, but history records none injured in the rush to take advantage of this offer.

The autumn of 1935 also saw the first long-chassis car sold. The buyer was Val Zethrin of Chislehurst in Kent, who figures largely in the Squire story later on. Delivered in January 1936, this was fitted with a striking body of Zethrin's own design, but executed by Ranaiah. Although one other long-chassis car, bodied by Vanden Plas, was sold to Sir James Walker, the sands were running out.

On July 3, 1936, a creditor's meeting decreed that the Squire Car Manufacturing Company should be

shut down, although the retail business of Squire Motors continued at Remenham in the hands of Reginald Slay until he disposed of the property in 1954. Adrian Squire left Remenham, subsequently rejoining W.O. Bentley at Lagonda, but remained there for a short time only before moving to the Bristol Aeroplane Company. He was killed in a German air raid on September 20, 1940.

Meanwhile, Val Zethrin took over the remains of the car-building side of the business, and by modifying the Anzani engine was able to make the last three Squires considerably more reliable than their predecessors. Sadly, plans to resume production after WWII were frustrated when it was found that the patterns for the cylinder heads and blocks had been lost. Even then production might have restarted had it not been for the death of Zethrin's partner, Robert Arbuthnot. Today, the Squire is remembered for its looks, handling and performance, and despite what many consider to be its fragility, no less than nine of the 10 cars built have survived. ■



Squire's looks, handling made more of an impression than number built

REGARDING.....

SQUIRE SS-100 GAS MILEAGE CONSIDERATIONS.

Several Squire SS-100 owners have expressed concern over relatively poor gas mileage, reporting from 13 to perhaps 18 miles per gallon on road trips. Whether equipped with an automatic or manual four speed transmission, this would seem to be rather low, considering that the car weighs in at around 2,400 pounds, curb weight. Correct carburetor adjustment, engine spark timing and automatic spark advance considerations, according to the grade and octane rating of the gasoline used will result in the best mileage. The owner's driving habits and nature of trips will also have influence. One other possibility is to consider is the rear-end drive shaft to axle ratio.

I seriously doubt that Intermeccanica went to the trouble of matching the rear end ratios to whether they were building a car with manual or automatic transmission. I would suspect that they are all the same 9" rear end types with the same gearing ratio. I became curious about this and looked into it.

If your tachometer and speedometer calibrations are correct you will find very close to 2,750 engine RPM's at 60 MPH. With an effective compressed⁽¹⁾ tire diameter of 26", the rolling circumference is 81.682 inches, or 6.8068 ft., with 75,695 wheel revolutions per mile. At 60 MPH there are 46,541.69 axle turns per hour. If the engine turns 2,750 RPM it must rotate 165,000 times during an hour at 60 MPH. Thus, $165,000 / 46,541.7 = 3.545:1$ which is the engine crankshaft to rear axle ratio.

To verify this, I jacked up one rear wheel of my Squire, put the tranny in neutral and rotated the shaft, counting its turns for one exact wheel rotation. With one wheel static, the other wheel will turn twice as many times as with both wheels turning in unison, due to the rear end *differential* effect. In turning the driveshaft 10 revolutions, the free rear wheel turned 7 full revolutions plus 32° into the 8th revolution. This calculates to a ratio of 3.545:1!

I thought that I could come up with some meaningful comparisons with my 1990 Jeep Cherokee which has a 4.0 liter six engine, roughly equivalent to the Ford 250 six in displacement. At 60 MPH the Jeep tach reads 2,100. It gets 24-26 MPG on the road, and weighs 3,750 lbs. Somewhere in all of this could be a comparison, leading to an optimum rear end ratio for these 2,400 lb Squire cars.

Working this out for the Jeep, with its 24.5" compressed diameter wheels works out to 2.8384:1. But, the Jeep owner's manual lists the rear end ratio at 3.357:1. Something doesn't click here..... Aha! The Jeep has a *four speed* automatic transmission. In 4th gear, the ratio is 1.182×3 rd gear, or direct, shaft to drive line coupling. Now, the 4 Liter Jeep engine is an efficient throttle body injected type. It has plenty of spunk at literally any speed range. The trick, here, is the *overdrive* 4th gear. In 3rd, the effective crankshaft to wheel ratio figures out to 3.3569:1 which appears to agree quite favorably.

So, I tried something: Going along at 60 in 4th with cruise control engaged I dropped the thing down to 3rd. The cruise held right on 60 and the revs jumped from 2,100 to just about 2,900.. Working all of this backwards comes up

with a ratio of 3.56:1; pretty close. So, the effective lower gear ratio in 4th gear must have *some* part to do with the Jeep's better mileage performance. The rest of it must come from improved engine aspiration, computer managed air to fuel ratios and the other things that are now done to modern engines that weren't done back in the 70's when the Ford 250 CID engines were made and gas was still in the forty to forty-five cents per gallon range!

So, lets play with some ideas. Discounting just a few minor(!) things such as vehicle weight, transfer case drag in the Jeep, derived torque to displacement engine performance, wind resistance factors, relative torque converter slippage and the like, we should be able to make some guesstimates based on the vehicle rear-end ratios alone.

Since engine displacement is about equal in the two vehicles, a comparison of gas mileage related to crankshaft to axle turns ratio might have some meaning. Assuming 18 MPG at road cruise speed average of 60 MPH with a Squire, a 22% reduction in rear end ratio to, say, 2.9:1 should improve mileage to 23 MPG or better. To get into this any deeper, a lot of high class information would be needed such as the things that I discounted earlier and the fuel consumption vs: power curve of the Ford 250 CID engine versus the Jeep 4.0 liter engine. This would be a dynamometer exercise.

This would suggest that a rear-end ratio for the Squire in the area of 2.9:1 would yield a better cruise power to weight ratio. The tranny would shift down on hills more often, but this difference should not make a great dent in "off the line" acceleration. I'll wager that this would add 6 MPG or more to cruising performance! If so, this might be worth it all, considering that our tax and spend experts in Washington will have us paying \$1.75 per gallon (or more) within 16 months from now, and it will never go back down again. At 18 MPG the gas cost is 9.72 cents per mile. At 24 MPG this comes down to 7.29 cents per mile.. Suppose that it costs \$200.00, exchange, for a lower ratio rear-end gear cluster. The 2.43 cents per mile saving would pay for the cost in about 8,230 miles; less if gas goes higher. If you drive your Squire 5,000 miles each year, is it worth all of the messing around for \$165.00 yearly savings? From the pure standpoint of saving money, it could be an attractive idea.

Perhaps the most appealing benefit would be not having to stop as often for gas. With these little 14 gallon tanks this is about 75 miles, or 65 miles if you don't like to run the risk of coming in on fumes!

Bill Lieske.

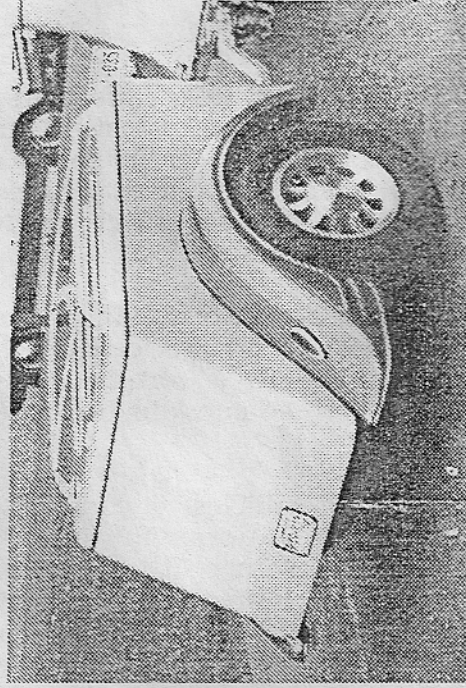
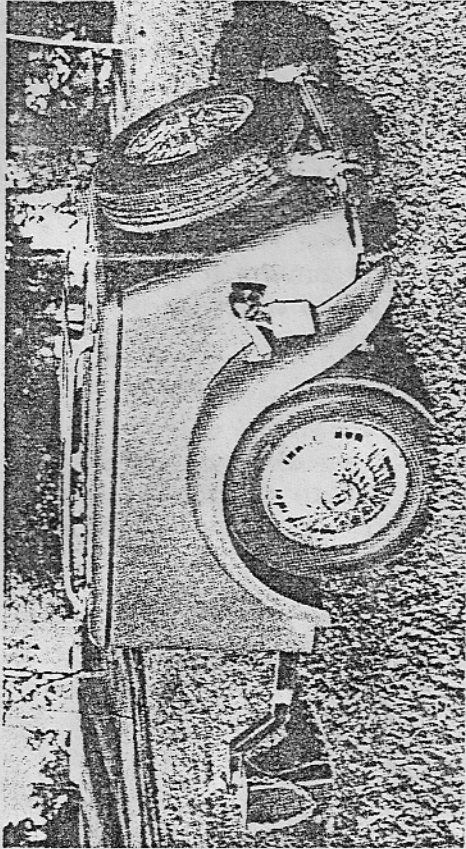
(1) The *compressed* tire diameter is the effective distance between the axle center and the pavement, multiplied by 6.2922 to derive the *rolling circumference*. This accounts for the "flattening" of the tire due to vehicle weight, particularly if you have radial type tires.

As an after-thought, I am now musing as to what kind of mileage and performance a Squire would have with one of the Jeep 4 Liter engines. *Egads!*

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