

Indian

FOUR MOTORCYCLE NEWS



VOLUME 2

NO. 2

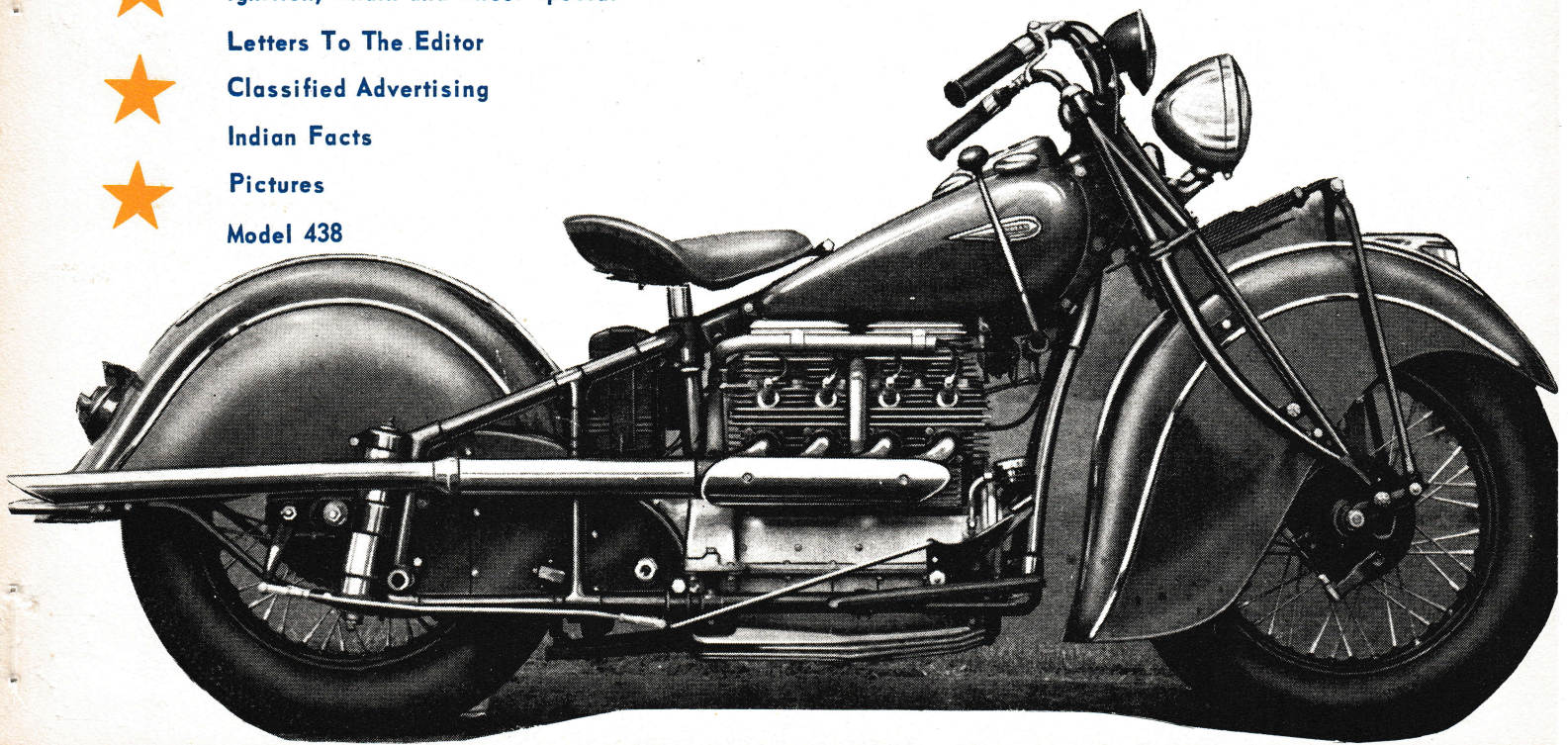
SUMMER ISSUE 1967



In This Issue

\$1.00

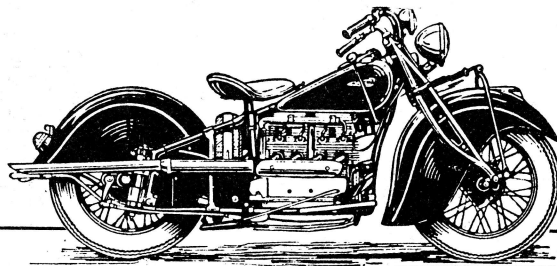
- ★ Fun and Games At The Meet By Jonny Midnight
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- ★ Restoring Your Indian Four Engine By Paul Murray
- ★ President's Report By John Wickham
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AMERICA'S MOST BEAUTIFUL MOTORCYCLES

PUBLISHED BY THE INDIAN FOUR MOTORCYCLE CLUB OF AMERICA, INC.

FOR ITS MEMBERS



THE INDIAN FOUR CLUB WAS FORMED:

....TO HELP ALL MEMBERS RESTORE THESE FAMOUS MACHINES.

....TO MAKE PARTS AVAILABLE TO KEEP THEM FROM BECOMING EXTINCT.

....TO PREVENT THIS CLUB FROM FALLING INTO THE HANDS OF AN INDIVIDUAL OR GROUP WHOSE SOLE PURPOSE IS PROFITEERING AND TO CAUSE HARDSHIPS FOR MEMBERS TO OWN FOURS AND TO SECURE PARTS TO MAINTAIN THEM.

....TO PROMOTE GOOD FELLOWSHIP AND TRUST AMONG MEMBERS.

....TO ENCOURAGE ALL MEMBERS TO TAKE AN ACTIVE PART IN HELPING THE CLUB GROW.

INDIAN FOUR CYLINDER CLUB OFFICERS

AUGUST 1966 TO AUGUST 1967

PRESIDENT.	John E. Wickham
VICE-PRESIDENT	Robert Corsmeir
SECRETARY.	Casper Barnes
TREASURER.	Carl Reichenbaugh
TRUSTEE FOR 3 YEARS.	Allen Bozung
TRUSTEE FOR 2 YEARS.	Robert Aldrich
TRUSTEE FOR 1 YEAR.	Jack Maurer
REFEREE.	Kent Moore
ASSISTANT REFEREE.	George Young
SGT. AT ARMS.	Robert Aldrich

INDIAN FOUR MOTORCYCLE NEWS

EDITOR AND PUBLISHER. Cecil F. Hasser

PLAN AHEAD

3

1967		AUGUST 1967																				
SUN		MON		TUE		WED		THU		SAT												
JULY 1967		SEPTEMBER 1967		1 Colorado admitted to the Union, 1876.		2 Pres. Warren G. Harding died, 1923.		3 Columbus began his first voyage, 1492.		5 Battle of Gettysburg, Pa.												
S	M	T	W									T	F	S	S	M	T	W	T	F	S	
2	3	4	5									6	7	8	1	2						
9	10	11	12									13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
6 Gestapo in Berlin swims		7 U.S.-Canada		8 MAKE PLANS NOW TO ATTEND THE WORLDS LARGEST, BEST, + MOST FUN INDIAN FOUR MEET EVER		9 College has first		10 President Hoover born		12 Hawaii annexed to U.S.												
13 Transfer of Manila to		14 World										16 ...nnington,		17 D		18 New Mexico passes						
20 Pres. Benjamin Harrison		21 Hawaii ad										23 ...ore Pe		24 U.S. and Germany								
27 Battle of Long Island,		28 St. Augustine Bay, Fla.,										30 First food inspection act		31 First oil well opened, at								
1776.		discovered, 1565.		born, 1809.		passed, 1890.		Titusville, Pa., 1859.		First Quarter 12th												

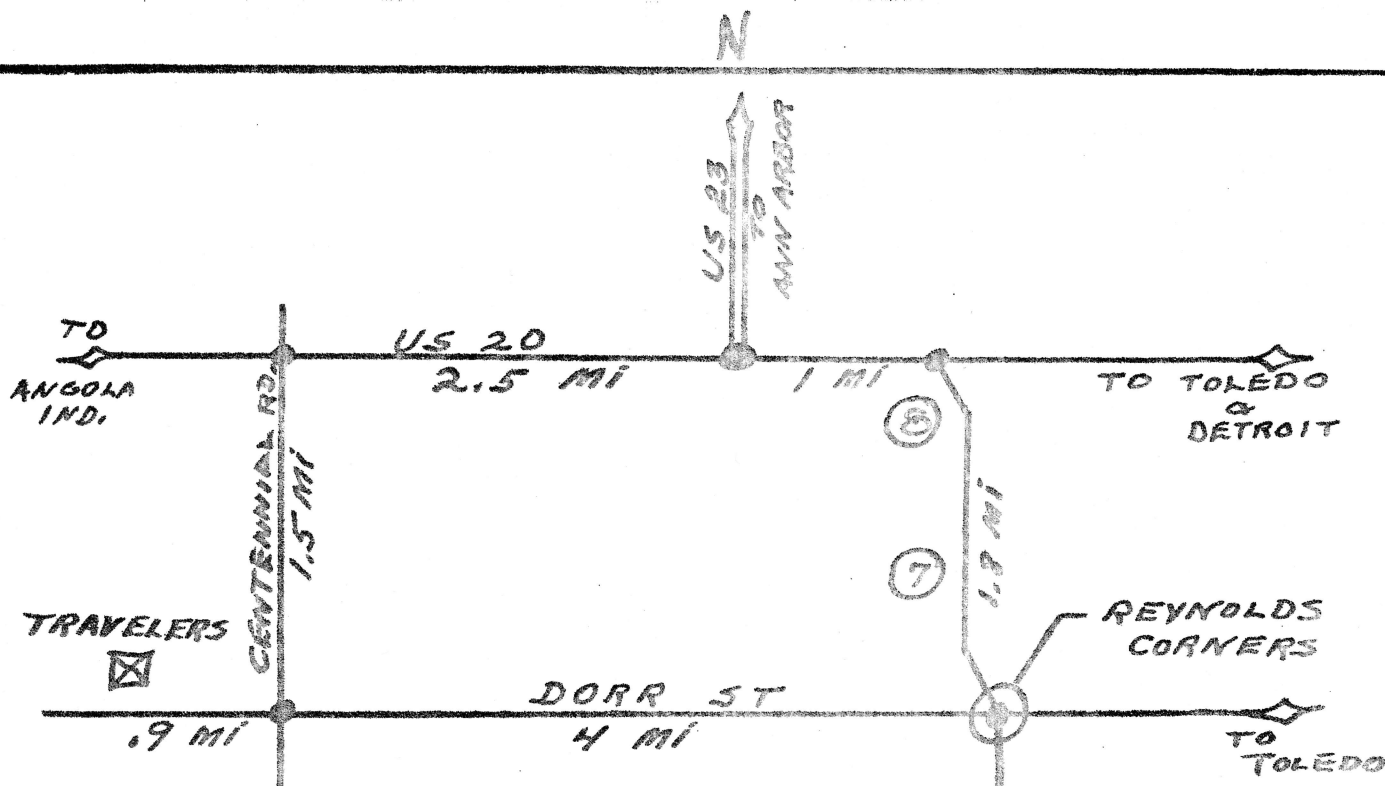
MAKE PLANS
 NOW
 TO ATTEND
 THE WORLDS
 LARGEST, BEST,
 + MOST FUN
 INDIAN FOUR
 MEET
 EVER

Remember...



BULLETIN

BULLETIN



- ① HOWARD JOHNSON 100 UNITS
9.00 - 16.50 PH 893-8791
- ② HOLIDAY INN 85 UNITS
10.00 - 21.00 PH 893-8765
- ③ TOLEDO TURNPIKE MOTEL 50 UNITS
10.00 - 18.00 PH 893-8701
- ④ WESTGATE MOTEL 25 UNITS
10.00 - 18.00 PH 382-5843
- ⑤ BEL AIR MOTEL 27 UNITS
10.00 - 16.00 DH 536-1249
- ⑥ LIGHTHOUSE MOTEL 10 UNITS
8.00 - 12.00 PH 536-8190
- ⑦ SAN REY MOTEL 42 UNITS
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- ⑧ RAMBLER MOTEL 12 UNITS
10.00 - 15.00 PH 536-3926
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TO CHICAGO OHIO TURNPIKE 80 & 90 TO CLEVELAND

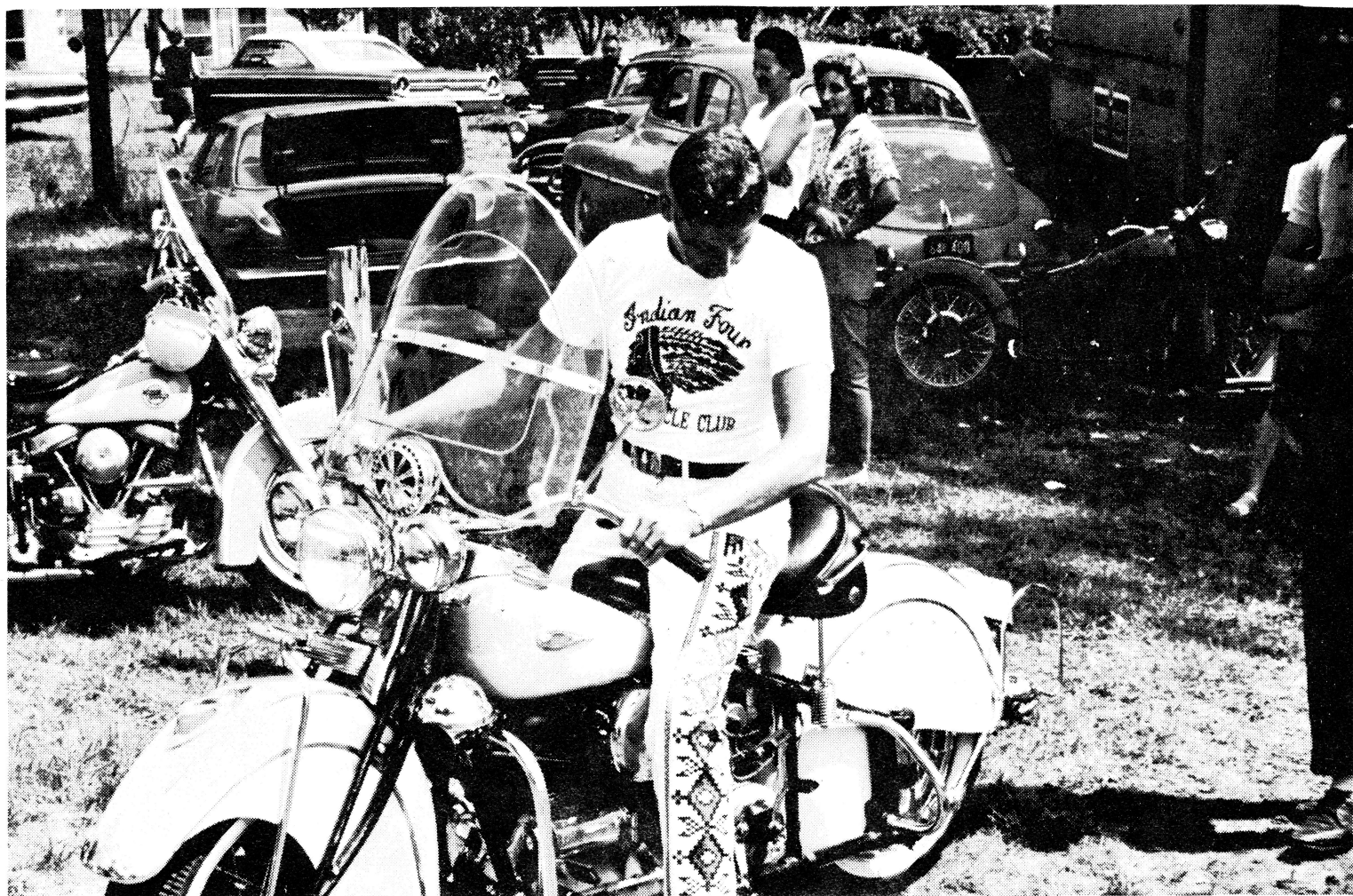
NOTE

LOWEST COST FOR 1 PERSON
HIGHEST " " 4 "

RESERVATIONS MUST BE MADE
2 WKS. PRIOR TO INSURE
ACCOMMODATIONS

EXIT-4

TO COLUMBUS



Editor Cecil Hasser At Toledo Meet

EDITORIAL July 1967

As I write this editorial, I can't help feeling proud of the response to our efforts in trying to bring together the many Indian Four owners and enthusiasts so far, with our magazine and the many new found friends we feel we have made by personally corresponding with them. We are looking forward to our big August Rally in Toledo, to meet with all new members and really get acquainted, as well as to renew old friendships.

It was with a great desire to bring together Indian owners and friends, and help them find information and fellowship and rekindle the spark of pride in ownership and fine riding that once was commonly associated with Indian, America's first and finest motorcycle; to help start up those neglected, powerful Fours once again, proof of how far ahead Indian was in quality and design when they were first produced, that I volunteered to tackle the job of publishing the Indian Four News, an endeavor for which I had no previous experience to draw from. Because of inquiries, I will elaborate further.

I have a very fine, understanding and helpful wife, four boys, the oldest just finished his freshman year at Miami University, Oxford, Ohio and a daughter, the youngest and still in grade school. I operate a modest appliance store, selling major appliances at this location since 1959. As most of you know, it is getting rougher all the time. I have the job of being sales crew,

service writer, parts order department and buyer of appliances, in charge of truck maintenance scheduling, uncrating and sometimes helper on home delivery and janitor, six days a week. I do believe that if someone was to offer me a challenging job that only requires five days a week and offered a two week vacation, I would not hesitate long in changing occupations.

It requires planning to put out the magazine, detail work on the articles page by page and with this done, my wife cuts stencils on her used electric typewriter and they are ready for me to run off our used mimeograph machine. It means a minimum of 500 turns of the crank by me for each page until they are all run off. It requires trips to the printers for covers and picture pages and with this completed, it is time to assemble the magazine. For this, I ask my wife (she did it once..period) and four of my children to help. I pay the children \$5.00 each, from club funds. After I close the store for the day, I set each pile of pages on the appliances in proper order in sort of a circle, and each one makes the rounds, picking up one page at a time until they have assembled one magazine, loose. As this is done, I cross-stack in piles of fifty each. This requires more than one evening, going as fast as possible, it requires about seven hours for loose assembly.

As soon as all of the magazines are loose assembled, I must proceed with stapling them together. This is a two man operation and I pay my serviceman out of my pocket to work the stapler while I square up the magazine and hold it in place so it gets stapled properly with the hand stapler. This requires about two hours for each of us to do the job right. Then, they are put into boxes to await mailing.

My wife has found the magazine and typing, correspondence, record keeping and typing envelopes, etc., almost a full time effort. We work almost every evening also.

I hope this information helps to enable everyone to have a better understanding of our desire to see the club grow and succeed in becoming the most outstanding motorcycle club in the country.

SPECIAL

Did you know things are beginning to "happen" in our terrific Indian Four Club? And things of importance don't just "happen" as some people seem to think. It takes people, baby, people! Real, dedicated people who are willing to give time and knowledge and wholehearted help to other Indian owners all over the world. Yes! All over the world! Most of the people who benefit from the time and effort of a very few, don't even know them personally and the people who give of their efforts are not the dollar grabbers, the "what's in it for me?" boys, not the guys who have all the suggestions for things others should do, not the guys who say they will help "someday" but now I'm too busy making those extra bucks while the demand is great. I believe there is not one member in our fine club, who cannot come-up with twenty-five reasons why they can't find time to do what they said they would or what they might do to help other members in whatever way they can.

Brother, if they exist, I have them!

So you say, "What's happening?" I'm happy to list some of them below.

1. Without fanfare, a non-member, Louis Wille, sent me his fine collection of past issues of Indian News to be reproduced for all Indian enthusiasts to enjoy and to benefit from the wealth of information they contain to keep our machines in top shape. Louis has since joined our fine club.

continued on page 25

Dear Fellow Members;

It is again a pleasure to greet you at this time and say "Howdy" to all of you. I only wish I could greet you each personally, but distance is a handicap, so I will take this opportunity to do it in another fine issue of our club magazine, so splendidly compiled and edited by our hard working member and Editor.

I sincerely hope that each and every one of you have read the last President's Page and have given it some consideration, as to the tremendous amount of work involved in assembling material for each issue and that each of you is doing his part, or will in the future, of sending your stories or material that you would like to pass along to others, on restoration (including photos), that will be of interest to others, into our Editor so that he won't have to hunt for material or skimp our magazine for lack of material.

If some material hasn't interested you, don't just criticize the effort, but do what you can, to contribute what you can, as the magazine is published for your benefit and it is to everybody's interest to see that plenty of material is available for publication. I don't want to bore you with these requests, but such things are necessary if our Editor is to continue to publish a splendid club magazine.

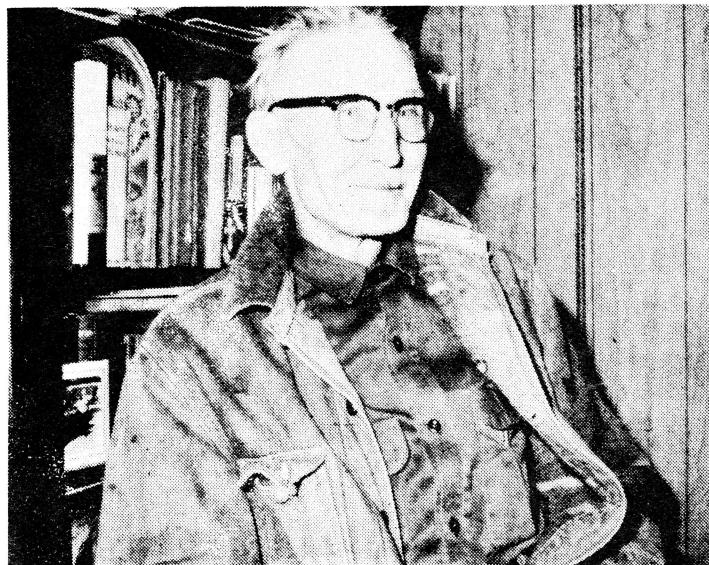
I have received many fine letters from members and it is a pleasure to receive them and to read the many fine comments that are made as to our progress and that these members feel our club is doing something worthwhile.

We have also gained many new members since the magazine made its appearance. Some of our members who live far from Toledo, have written that they plan to attend the August Rally and are looking forward to meeting and visiting with, all other members at this time. They are also eager to see the grand display of our Fours and to see what kind of a Meet we have.

I sincerely hope, that we who are available, will get in there and pitch this year at the August Rally, (12 & 13), as it appears at this time, that this will be the biggest Meet ever held by the Indian Four Clylinder Club, Inc. If any member, new or old, has any suggestions for events or improvement for our Rally, please write to me or our secretary, Casper Barnes. We also hope we will have many volunteers, to do their part in the few necessary chores. There will be appointments of Directors for the August Rally at our June Meet and I am expecting cooperation from all, to support our future Meets.

When our club was formed, we did our best to have in our by-laws, high standards for all members. These by-laws also pertain to those of us who sell parts or services, no matter how big or small the operation. It is important to have a mutual understanding between seller and buyer and prompt shipment of parts sold or services rendered, as I am sure that each and every one who depends on and writes to members for help and service, also sight unseen, are as earnest and sincere in their efforts as (we in parts and service), are to them. With the cooperation of all members, we will be able to keep an honest organization and strengthen our membership and thereby keep these fine machines on the road and far from becoming extinct, as long as our club exists.

We plan new things and improved Meets as we go along and we hope that



John E. Wickham, President of The Indian Four Club

with the help and volunteers among us, that the Meets and everything concerning the club, can be promoted to the best interests of everyone.

If you are planning a vacation this year, why not plan your itinerary so that you can attend the August Rally? This Rally is the most important club function of the year as it is not only the best attended, best planned where we award our most meaningful trophies, but it is also at this Meet where we elect our officers for the coming year. This year we must have another volunteer step forward and assume the publication of Indian Four News if this publication is to continue.

This year on Sunday, August thirteen (13) from 10 AM to 4 PM only, we will have on display, a Zundap motorcycle that was owned and used by General Rommell in World War 2. This famous machine is owned by my old friend, Lou Zock. Lou and his charming wife, will be on hand to meet you and to answer any questions you might have. This machine has been displayed world-wide and has received high acclaim where ever it was shown. You won't want to miss this.

Our posters are in the process of being printed and will be mailed to all members and it is hoped that each member will pass them out or put them on display at points of advantage. The Rally is open to the public and admission will be charged to get into the club grounds. We will have a "Fle-Market" (members swap or sell extra parts) as always and hope that if any member has extra parts, that they are brought along for this popular exchange.

Before closing, I wish to thank all members and friends for their fine letters of appreciation and help and I hope we can continue this fine relationship. My history of motorcycling can be found beneath this editorial and I hope that many more of you will write a similar one for future publication. Thanks a million everyone.

Your President,

John E. Wickham

HOW THE MOTORCYCLE BUG BITES YOU

By John E. Wickham

I began by riding a bicycle a lot and as a newsboy at the age of 14, I bought a new bicycle for delivery and pleasure and fell in company with an avid motorcycle rider, a young fellow who was employed as a motorcycle mail delivery boy by a company in Findlay.

He used to take the motorcycle home with him at night, then he would come get me and we would go riding in the evenings. This motorcycle was a 1911, single Excelsior, belt drive. The only brakes on it were by pushing backwards on the pedals same as a bicycle, and too, he would raise the valve with the handlebar control and we would use the engine to help brake it.

Well, one Sunday, he said, "I'm going to teach you to run this so you will know how and then you can get one." So, we proceeded to take the ole Ex' on one of our side streets and he got me in the driver's seat and said, "Here is the belt tightener, here is the throttle and here is the compression and spark control." He says, "Pull the belt tightener, raise the valve and I will push til it starts." So I did, and he pushed. I dropped the valve and it started, but he didn't say that he was going to hop on the luggage carrier rigged as an extra seat. Anyway, we started off on my first ride as double, not solo, but I did fine, not a wobble or a flop. We rode approximately a mile and a half and then stopped. I was a confirmed rider. After that, I had it down pat.

Continued on page 24



Letters

Dear Cecil;

I just wanted to report to you about my Indian Four search. I haven't been fortunate enough to purchase one but I managed to get one closer to me. Here's the story.

There has been a lot of industrial expansion going on in Lake Charles recently. Consequently, we have a lot of out-of-state construction men in town.

Recently, on a local job, I met a man from Oklahoma who was riding a motorcycle to work occasionally. We became friends and I asked him if he knew where I could buy an Indian 4. He said he had heard of a four cylinder job in or near a place called Palestine, Texas. He didn't know whether it was a Henderson, Cleveland or Indian or what its age or condition was. He said he would find out for me the next time he saw the man who told him about it originally. I told him I might buy it if it was fairly intact. A few weeks later, I moved to another job in town and figured I wouldn't hear anything further on the matter.

Well, this afternoon, I was very surprised to receive a 'phone call from him. He said he went to look at the bike and was so fascinated, he bought it for himself (for \$50.00). He had just arrived back in Lake Charles with the bike in the back of his station wagon. I went over to his house a couple hours ago to see what he had. It was a 1937 Indian 4, motor number DCG 307 B and almost intact; externally anyway. The headlight, air cleaner and kick starter return spring were missing. (I really don't know if a kick starter spring was used but the kick starter was held in the upright position by a heavy rubber band!) I was thinking in terms of a flat, coil spring similar to the type on my old Harley.

All I can do now is bide my time. I told him if he wanted to sell it, I'd buy it from him. (I hope he doesn't tear something up!)

He asked me how long I thought it would take to get it running. I told him it would be weeks or even months, possibly, before he could fire it up because it would take time to get any parts he might need. He said he didn't have much patience and wanted to fire it up as soon as possible. (From this, I figure he might be selling it to me pretty soon?) His wife is already jawing at him for buying it. (I hope he decides to sell - he knows I'll take it off his hands -- providing he doesn't ruin something).

At least I know there's an Indian 4 in my town. Will keep you posted on all this. Sincerely,

W.N. Venner
Lake Charles, Louisiana

P.S. I told him he ought to join our club if he keeps the bike.

(That's the way it goes W.N. You win some and lose some!) editor

Dear Cecil;

Your letter of April 28, in answer to my letter, was received with much joy. At long last I have found a motorcycle club, to which, I would be proud to be a member. My wife and I have been on constant lookout for a motorcycle club whose members cherish their motorcycles and enjoy each others companionship; rather than a club devoted to "Hot Rodding" and speed events. The good fortune of locating a fine club, which is devoted to preserving Indian Fours, is almost too good to be true.

As you imagined, I was surprised to receive a copy of your magazine, without previously having sent payment. Enclosed is \$4.48 in payment for my subscription.

Also enclosed is a \$10.00 donation for the Indian Four Motorcycle News. Perhaps with this and other donations, the club will purchase a new typewriter for your use, as you have well earned it through your devoted efforts in publishing a very good magazine.

In relation to my qualifications for membership in your club; I do not own an Indian motorcycle at present, having recently traded my '47 Indian Chief for a new Harley Davidson.

It may be interesting to note, that, my Indian covered over 100,000 miles during its lifetime and was retired because I could no longer find necessary replacement parts.

Although I have never owned an Indian Four, and have ridden one only briefly, I shall never forget its smooth running engine and beautiful lines. I hope, through your club magazine or one of the club members, I can find an Indian Four to enjoy again.

My wife also owns a motorcycle, a Honda Dream, on which she often rides to our small town of Milan, Ohio. This is much to the amazement of the town's women, who, for the most part, have never ridden a motorcycle.

My wife and I are 22 years of age. I hope being "youngsters" will not hamper our chances of joining your club.

I have enclosed \$5.00 for club membership fees. Will you pass this along to Mr. Reichenbaugh, the club treasurer?

In closing, I would like to thank you for your kind attention to my letter.

Sincerely yours, John O. Elber, RR, Milan, Ohio

(Welcome into the club John and thanks for the donation of \$10.00. If any of our members has a nice bike, I printed your entire address so they can let you know. I am sure that you will soon have a Four to be proud of. ed)

Dear Mr. Hasser;

As soon as I acquired my four cylinder motorcycle, I sent out about a dozen letters to various parts dealers and motorcycle magazines. Your speedy reply was the first in my mailbox and so far the only one. I wish to thank you for your promptness and courtesy.

I am honored by your invitation to join the club and am happy to accept. I heard about the club some time ago, most likely through mention in a motorcycle magazine. Even then, I knew what type of people would form such a club, people that really know what riding a motorcycle is all about. People that have experienced the feeling of starting their favorite mount at sunrise and riding through the fragrant country-side filling their lungs with fresh air. Friendly people who still practise hospitality. Indeed, as you mentioned in the magazine, the brotherhood of cycling is not dead and will live

as long as large cycles will remain on the road.

Now a few lines about myself. I was born in Riga, Latvia but had to emigrate to Germany during the war before the Russians took over my homeland. I remained there for several years before coming to this continent. My family first lived in Canada for a few years before they finally settled in North Adams, Massachusetts. My brothers and my parents are now U.S. citizens but because of lengthy studies in Canada, I have not yet been privileged to take the citizenship oath which I shall do as soon as I can.

Besides my love for large motorcycles, I thoroughly enjoy hunting, fishing, camping and general loafing around in the woods. The summer before last, I explored a good part of Maine on a '49 Harley, subsequently stolen. Maine is full of picturesque roads through woods and mountains. Also, the people there are friendly and hospitable. One of my projects this summer, is to take a trip to Lake Mistassini in Quebec. It's a fifty-mile-long lake located three hundred miles north of Quebec City. To reach it, one has to ride on 200 miles of dirt road through thick forest with hardly a sign of civilization besides some lumberjacks, miners and Indians (living).

I hope to use my 4 cylinder side-car outfit if I can bring it into good running condition by then. I am presently finishing a doctor's degree in physics before returning to the U.S..

As everyone has pointed out in their letters, you have done a magnificent job on the magazine. I can well imagine the effort you and your wife had to furnish and you have my heart-felt gratitude. I believe that it would be a good idea to insist in each issue, that owner's of cycles try to get as much detail in their photos as possible. Diagrams such as the one on page 35, as well as the tuning and rebuilding tips, will always be appreciated.

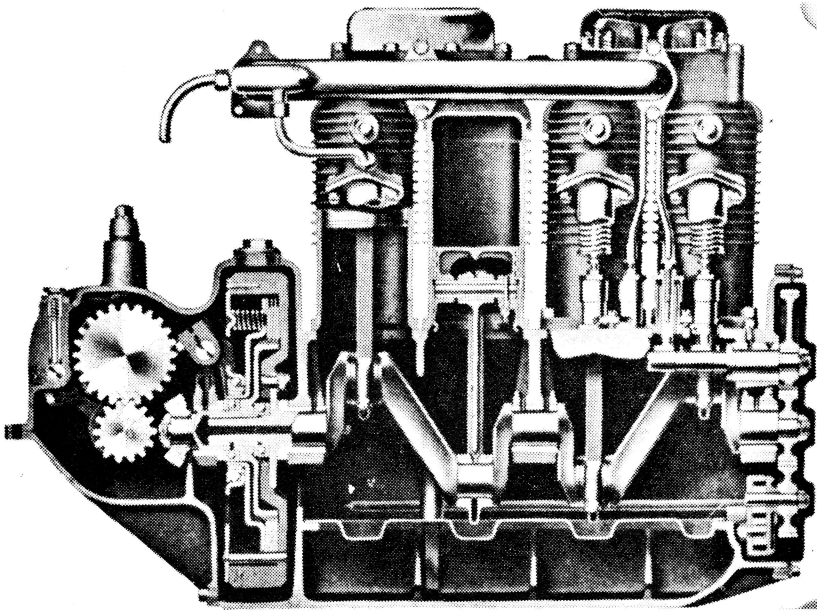
Concerning my cycle, I haven't as yet identified its year and make. I am enclosing some I took of it recently. Their quality is not very good but all I could swing at the time was a Polaroid Swinger, but they'll do for identification purposes. The engine serial number is CA 147. The gentleman from whom I purchased it told me it was a 1938 Indian he purchased new in 1939. He rode it ever since and kept it up rather well. It started up on the first kick after winter storage. However, in my opinion, it is ten years older. There is no front brake and on the rear there is a pair of old style contracting band brakes. Also, none of the photos in the magazine showed the kind of shifting and clutch mechanism it possessed. The gasoline cap is on the left side. My best guess would be a 1927 ACE. I hope you can clear this up for me.

I would greatly appreciate if you or some other member, could furnish me with some tuning tips. When I got the cycle, it was running so-so on three cylinders. The reason was a frozen exhaust valve and I managed to free it. There was some 30° play in the coupling shaft and I also managed to fix that. I then replaced the carburetor float, which seemed gasoline-logged, by a suitably carved up Harley float. It ran quite badly and I decided to time the ignition. The only way I found to change the timing, was to turn one of the gears in the gear-box. I timed it so that the points would open in the retard position when the piston is at top dead center. The motor runs but has no power above 20 MPH and overheats badly. All the signs of over-advanced timing seem to be present. I would greatly appreciate if one of the members could help me. Also, any and all information will be welcome. Is someone is able to loan me a work shop manual, I would have it photo-statted and then return it promptly.

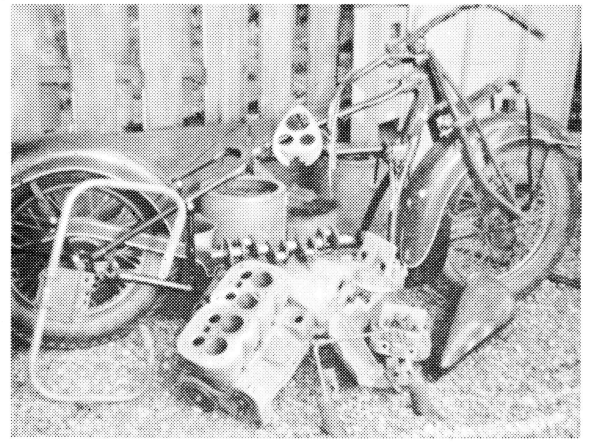
I would also appreciate a copy of the first issue of the club magazine as well as a list of all members. I am enclosing \$15.00. Please consider the surplus as a donation to your fine club. Yours truly,

Andre Fedotowsky

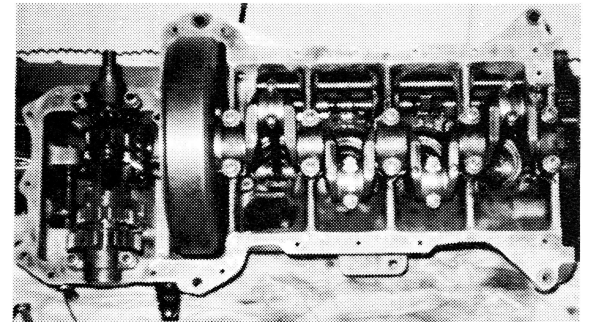
(OK fellow members, find Andre's address in the new members listing and send him some help. ed)



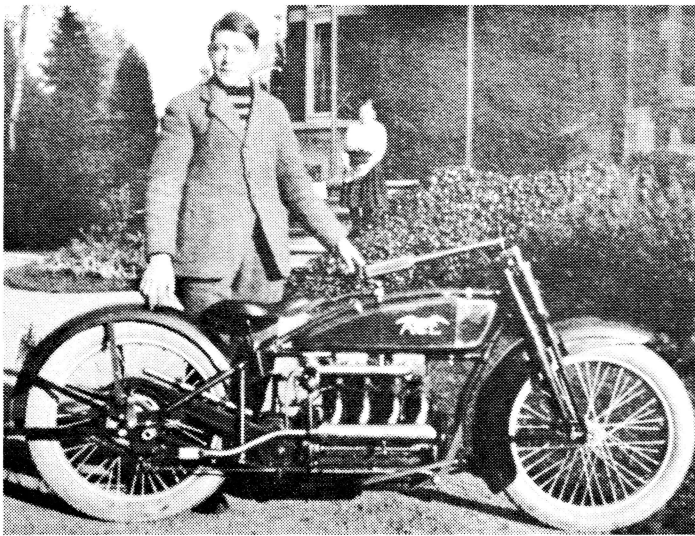
Ace Engine — 1920 Catalogue — From G. H. Armstrong



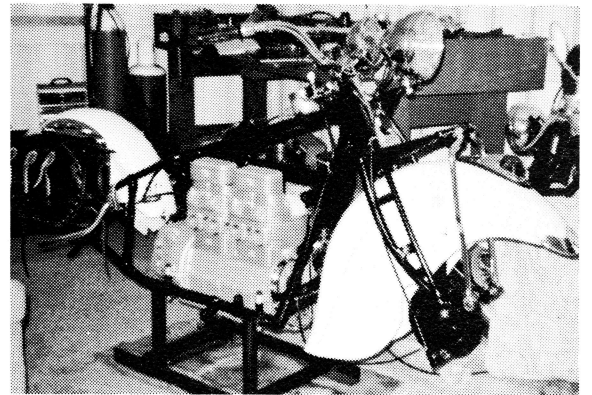
First You Buy It



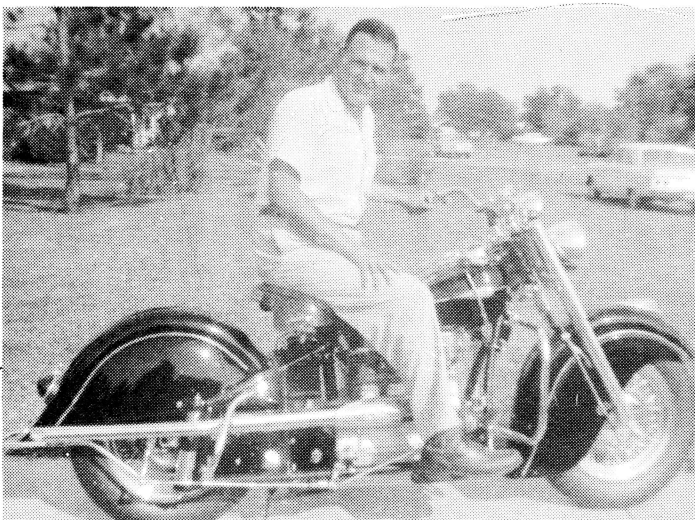
Then Rebuild The Motor



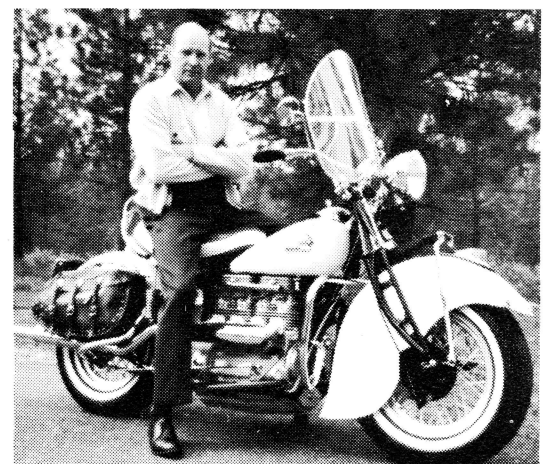
Autumn 1920 — G. H. Armstrong — England
With His Fine Standard Ace



Then The Frame



Verne Smith & Shiny Four



Then You're Ready To Go —
Says Proud Owner C. A. Moore

Dear Cecil;

You may place this Note in our next magazine, (next issue) if you will please.

First I must complement the splendid job you and your wife are doing. Making the Indian Four magazine so interesting. I relish it!

But the most credit must go to our good Ole friend John E. Wickham, President of our Fine Club. He's tops in the eyes of me, and think other members think so too. Without him I don't think our Club would have materialized, to what it is today. He made it possible to bring a bunch of good guys together, that like Indian Motorcycles, especially Fours. God bless all of you. Keep up the good work.

Will send Pictures in later, of my Two Indians, (1936 and my 1940). I hope you will have room to have all of this printed. Respectfully, as ever,

Bob Speck, Valparaiso, Indiana

Dear Cecil;

I wish to thank you for your welcome letter, also the issue of Indian Four News. I've read it several times and missed my supper the first night I got it. (Almost). It's a fine magazine and hope some how to find the first issue if anyone has a spare. If they have only one they won't part with it I know.

I have sent my application form, dues, etc., to Mr. John Wickham and also a couple of snaps. I asked the price of shoulder patches and club T-shirt. That's a smart looking shirt you have on in the picture in Indian Four News. How do I obtain one?

Well Cecil, I'm a mechanic, not a writer, (will leave that up to you), but will try and give you a run down on how I obtained my Four, etc..

I had been looking for one to restore for some years, advertised in several local papers but to no avail. However, being a construction worker in charge of several mechanics, I had all of these fellows looking and asking for me. One day we got a new mechanic and of course the story went out. He found me one. The motor was in a basket, the fenders, frame and tanks, etc., had started to be restored some twelve years ago. Many small parts were missing. The fellow knew I wanted it real bad and I paid his price, as was.

It had 18" wheels, 450 X 18 Good Year original tires in very good shape. I hunted around several old Indian dealers in California and found 16" wheels to fit, and also purchased a new front and rear Chief fenders which I cut to fit. I made or had made, small parts and also had many accessories chromed. I had the crankcase ground 020 undersize, all main bearings re-babbited and line bored. I also had the rods re-babbited by an automotive shop in San Francisco. Pistons and rings I obtained from an old Indian dealer. Some of these hard to find items, I would be glad to give the name of the place where I obtained these parts. They have a large stock. Anyone wishing, can write to me.

I have the original 1938 tires and wheels, fenders, chain guard for trade or sale if anyone wishes same. My '38 Indian Four is a real eye catcher and runs like a Cadillac. The 1947 Indian 74 is for sale. Any information about 4 cylinder Indians I can give to anyone, I will be only too glad to do so.

Sorry Cecil, I have no black and white snaps of the rebuilding, but do what you can with the colored. I don't need them back. I also might mention that I had a 1965 Harley Electro Glide. I sold it and put all proceeds plus into my Four and am not a bit sorry. The Four is a fine riding machine.

next page please

Inclosed is my check for \$12.48. \$2.48 for the remainder of my subscription and \$10.00 to help keep this fine magazine going. I will be looking forward to the next issue. Sincerely,

Charles A. Moore

Rte 1, Box 573

Grass Valley, California 95945

(A real fine story and fine selection of pictures to go along with it. See page 12 for a real neat lay-out. What I call a first class job of helpful and interesting information..Thanks for\$\$ ed)

JUST PLAIN LUCKY

By Don McGillivroy

When I was a boy, I once saw the most beautiful cycle that I thought possible to own. I had gone with my dad to town on an errand and while waiting for the repair job to be finished, a lounge-about said, "Hey kid! Do you want to take a ride on a real fast machine?" Foolish question! He gave me a ride on this blue motorcycle that had its wheels covered over with big fenders, a kind of funny leaf spring sticking out in front of the fork, and an odd engine. Oh my, what an engine! It had four cylinders setting all in a line. The sound of the exhaust was smooth and deep, like nothing I'd heard before. That was my first ride on a "real" motorcycle and a cycle that I never forgot.

The years passed and I had cycles of my own. Big, awkward Harley Davidsons and fast, light-weight foreign machines. I had lots of different kinds in different sizes and in various stages of disrepair.

One Saturday a few years ago, my brother-in-law phoned me. He said that he had bought a real cycle, one that was different. When I looked it over, was I surprised. A 1938 Indian Four was certainly different. The sight of this machine and the sound of its powerful engine brought back a memory of many years ago of when I was a boy and had my first ride on an Indian Four.

I started doing some inquiring among my friends and co-workers at my job and finally a friend told me he knew a fellow that had an old India with a funny leaf spring in front. I told him to set up a time when I could look at the machine.

Meanwhile, my brother-in-law came over and told me that there were some extra parts for his 1938 Indian Four that I could have. Without waiting, I picked up the parts and there was almost enough stuff for a complete 1939 Indian Four.

The day for the appointment that my friend had set up came. We went over to look at the Indian and it turned out to be a 1940 Indian Four. The man who owned it had purchased it new and it now had only 16,000 miles on it. The price he asked was reasonable, so I bought it and rode home.

A co-worker gave me a lead on an Indian that turned out to be a 1938 Indian Four. I bought this for spare parts as the clutch didn't work. After getting it home, cleaned up and started, I found the engine good except for the clutch. Upon dis-assembling the engine, I found that the parts that my brother-in-law had given me, would complete the job. Now instead of a 1940 Indian Four and a 1938 for spare parts, I had two Fours that ran quite well.

During the winter I did the restoration job on the 1940, (That is a story in its' self!) and did a paint job on the 1938 along with finding a sidecar for it.

Now I'm really living! I've got a 1940 Indian Four like the one I had my first ride on and a 1938 sidecar rig to give my children rides in. There are many other stories like when I traded an old living room set to a minister for a 1929 Indian Four and when I got my 1922 ACE Four from a farmer that wouldn't sell anything to anybody. Sometime soon, I will write another story

next page please

of my adventures with Indian Fours but now I have to get back to work on my 1929 Indian Four, the first model of "Americas Most Beautiful Motorcycle".

Dear Cecil;

I received the Spring issue of Indian Four News and am looking forward to the Summer edition in June or July. Also I received your letter of April 28th and by now I am sure you have received my second letter and check for \$3.48 to pay my subscription in full.

I am also enclosing a check for \$5.00 today for membership in the Indian Four Motorcycle Club and made the check out to Mr. Wickham as you suggested in your letter.

It is surprising that there are as many as 200 Indian Four owners today. I am rebuilding a 1937 Indian Four engine, distributor ignition. My 1940 cycle is a magneto ignition. As to my exhaust whistle, it was used on a Sheriff's auto in the early 1920's, I bought it when they went over to electric sirens and used it on my Henderson Four in the late twenties and thirties, and still use it on my Indian Four and it is as shrill and loud as it was 45 years ago. However I am careful not to use it if a State police car is close by. It is quite an attraction when I blow it at the Cycle Rally and Races. Everywhere I go, I inquire for an Indian Four. I want to find another engine (1940 model) in case I ever need any parts. Mine is in excellent condition and I surely take care of it, but a 27 year old cycle might need a part any time. I surely enjoyed your letter and hope to see you sometime at a cycle meet.

From a Happy Indian Four Rider,

(Wheeeeeeeeeee! Many, many more than
200 Fours still in use Bill..ed)

Wm. W. Wharton
Memphis, Tennessee

CUT OUT & MAIL TO:

Indian Four Club, Inc.
John E. Wickham, Pres.
751 Dayton Avenue
Findlay, Ohio 45840

I am enclosing \$5.00 for one years membership fee. Please send me a membership application.

Name _____ AMA No. _____

Street _____

City _____ State _____ Zip _____

A friendly reminder from member George Pespas in New York who sent quite an assortment of material covering legislation concerning motorcycles in his area, is that you had best keep informed on laws governing motorcycle attire such as helmet, boots, leather jackets, etc.. Particularly if you are travelling out of your state. Some states are getting pretty rough for our good.

(editor's note: The following letter arrived barely in time for this issue. I felt that rules adopted by clubs during WW2 should be applied to our club members serving in danger zones in this war. Therefore, a magazine has been sent free and will continue as long as this member is in this zone. Below the letter is the full address so any friends can drop "Tom" a line if desired

Dear Cecil,

Nha Trang, RVN

I'm sorry it has taken me so long to answer the letter of 15 December. Actually it went to Montana, then to New Hampshire while I was flying out of Thailand. It was sent to me there but I was on my way back to Montana and then to New Hampshire for my family, back to Montana and then I was sent to Washington. Then came orders for Vietnam but first back to New Hampshire again. Duty in the Phillipines and at last settled down here at Nha Trang. Anyhow, I ended up with the letter.

I appreciate very much, the effort which you are putting out for the Indian collectors.

I have been interested in motorcycles since 1951, when I bought my first, a 1937 Chief. Having started off with Indians, I just stuck with them through out the years. At the time I bought my Chief, in New Jersey, I was the only person in town with any kind of a motor. This in a town of 50,000! How times have changed! There were no dealers in town, but the BSA headquarters was located just a few miles away, in Nutley, New Jersey. A few miles beyond that there was an Indian dealer in Belville. Of course I spent a lot of time down there, being a student I had lots of spare time. We spent a lot of that time talking pro-Indian and anti-"Hot Dog", which was all that I ever heard H-D's called. Whenever I went over to Patterson to see the HD dealer, he always said, "Here comes that Indian driver, they spend more time working on their machines than they do riding them!" (You know, he was right.) At that time the HD dealers were on a kick of "BUY AMERICAN". I get a kick out of their made in Italy products of today. Next I up-graded my '37 Chief for a '40, what a machine! Those skirts were really something! By the way, the Indian dealer spent a very great deal of time bad mouthing (local expression) the AMA. That has always stuck with me, after all the pumping on it that I got.

When my Indian Four and Antique Motorcycle Club Memberships ran out, I was on my way over here, and decided to give up that hobby for a while. But, I always did object to having to be a member of the AMA anyhow. Maybe I am on the wrong track?

To jump back again, I went into the Air Force in 1954, and sold the Chief. It wasn't until 1957 that I was able to buy another. At the time I purchased a 500cc Royal Enfield built by Indian, in Phoenix, Arizona. Being transferred to Labrador, that was sold. A tour in California followed, and I became interested in 1938 Buicks. (That was the first car that I ever owned, in 1950). I bought one, and another one after I was transferred to Montana.

I started looking for an Indian in Montana also. We lived in Great Falls, the largest city in 5 states in that area. But there sure aren't very many old cycles around. Then, through John Wickham, I located one in Billings. It was all restored, a '37 Sport Four. We went down and brought it back to Great Falls in a trailer. Ever since then I have never been able to get it running right, though the motor was rebuilt. What I really need is for someone like John Wickham to take a look at it. It's in New Hampshire now, and I hope that my next assignment is somewhere close to "civilization" so that I can get some help with it.

My wife is somewhat interested in the old cars and cycles, but we never lived in an area where there was any active clubs, etc.. Even our California tour was in an isolated section of the state. My chief hobby is going out to

junkyards on Saturday mornings and collecting pre-war parts. I started off just collecting '37-'38 Buick parts. When I had cleaned out the Montana yards I started on other years of pre-war Buick, as I was having so much fun at it. Then those parts gave out, and now I collect just about anything.

Well, that's just about it. I have 6 months left to do here, and am hoping for a good stateside assignment. Till then, I'm a "Huey" helicopter pilot, with an Air Commando unit, the only Air Force unit in South East Asia equipped with Hueys, most of that type belonging to the Army.

Best Wishes, G.T. "Tom" Garcia

P.S. Enclosed is something that I hope will be of interest to you. It's from the Jan-Feb issue of the "Bull Horn", the publication of the VMCC. I have been carrying it around the world with me to send to you, when I finally got the chance to write.

(Happy Landings Tom, the article on the NIMBUS FOUR proves you are still club oriented. OK fellow members, the complete address is; Major George T. Garcia; FV 3057012; 20 HELI SQ "E"; APO San Francisco 96205

Dear Friend Mr. Hasser,

PLEASURE

"Indian in a tribe" was top article in CYCLE WORLD for me. I own and ride a '36 Indian 4, have had it several years and would not want to part with it. I am so glad there are people like you that want to preserve the past. When I was a boy, (now 58), I owned an ACE Sport job which had the same size tires as I have on my present Indian. Well, the engine broke up after very much use. I could not get another, so I fitted a Harley 74 motor and transmission and drove it many a mile after that.

I jumped aboard my cycle And started up the hill. With the breezes whistling 'round me, Gave me quite a thrill. The motor was really humming Passed everything in sight! People were waving gaily, From the left and from the right. I really felt quite happy Couldn't ask for more; Just whizzing down the highway On my "classic" Indian Four.

Irene Moore

I know of other Four's near-by. AL-so a Sunbeam 4 which is in fine shape.

A man man in his late 60's rides a '32 Henderson which has 200,000 miles on it and more.

My machine is built to my order. Some changes are the engine cylinders have been honed to 020, the camshaft was replaced with an older one so I use the first intake system which I like better than the exhaust at the top. All I need is a cluster gear as mine is noisy.

B. Van Hole, New York

(Club membership is still open to you. ed)

We have received many fine letters and some enjoyable stories from some of our readers. Much as I would like to put each and every one of them in this issue, there just isn't the space available. I hope to be able to publish every single written piece of material that has been sent just as soon as it is possible for me to do so. I would like to say that time has forced me to pull at random the letters published and I am sure there are equally good ones I might have published.

June 1, 1967 Addition to Membership List.....Indian Four Club, Inc.

The club wishes to extend a hearty welcome to the following NEW MEMBERS.

Adams, Giles
48 Brodley Road
N. Weymouth, Massachusetts 021919
Owns; 1922 Ace Four
1932 Indian Four

Althoff, Bill
Bill's Harley Sales & Service
Riders Always Welcome
1365 West First Street
Springfield, Ohio 45504
Owns; 1942 Harley Davidson XA 42 XA
Looking for a Four

Boyachek, S.
87 Waterford Street
Union City, Pennsylvania 16438
Owns;

Brewster, R.M.
77 Los Cerritos Drive
Vallejo, California 94590
Owns; 1936 Indian Four DCG 173 B
1941 Indian Four DDA 560 B

Burge, Robert
CENTENNIAL TERRACE
Centennial Road
Sylvania, Ohio 43560
Owns;

Cleveland, Bill
2522 Norfolk Road
Cleveland Heights, Ohio 44106
Owns; 1941 Indian Four SF 531 OPA
1930 Indian Four EA 1234

Davis, James, Jr.
659 San Miguel Avenue
Santa Clara, California 95151
Owns; 1940 Indian 4 DDO 351 M

Davis, James, Sr.
P.O. Box 2121
Arcata, California 95521
Owns; 1947 Indian Chief
1948 Indian Chief

Dixon, Darrel
7435 SW, 4th Avenue
Portland, Oregon 97219
Owns; 1960 Harley Davidson 60 FL 4946
1947 Indian CDF 1064

Dohnal, John, Jr.
3622 Blanchon Avenue
Brookfield, Illinois 60513
Owns:

Donaldson, Delmer
2460 Del Sur, S.W.
Albuquerque, New Mexico 87105
Owns; 1930 Indian Four EA 1312

Elber, John O.
P.O. Box 347
Milan, Ohio 44846
Owns; Harley Davidson

Fedotowsky, Andre
420 42^e Rue Est Apt 7
Quebec, Canada
Owns; 1958 Matchless 650cc
1927 ACE CA 147 on later frame

Ferreris, Tulio, (1st Lt.)
C.A.P. U.S. Air Force Aux.
Box 291
Mayaguez, Porto Rico 00709

Freeman, Paul
14 Pelton Avenue
Staten Island, New York 10310
Owns;

Gansinger, Nick
503 Carter Street
Libertyville, Illinois
Owns;

Gearhart, Myron F.
Route 1
Chillicothe, Ohio 45601
Owns; 1940 Indian 4 DDA 816

Goodwin, Vern
840 No. 56
Lincoln, Nebraska
Owns; 1912 Indian 61" V Twin
1942 Indian 841

Germley, John
2005 Capital Avenue
Sacramento, California 95814

Hart, Stacy R.
500 E. 14th ; P.O. Box 766
Littlefield, Texas 79339
Looking for a Four

Hasselbrinck, William R.
RR 2
Princeton, Indiana 47570
Looking for a Four

Hurt, Louis
Route 2, Box 51
Chelsea, Iowa 52215
Looking for a Four

Johnson, Derrell
Route 2, Box 44
Shelley, Idaho 83274
Owns; 1942 Indian Scout
1938 Indian Four DCH 324
1963 Velcoette 500 cc
1950 Whizzer motorbike

Levitan, Bill
5405 Trail Lake Drive
Fort Worth, Texas
Owns;

Lozemz, Karl
8212 Maple Avenue
Garrettsville, Ohio 44231
Owns; 1936 Indian 4
X6 Suzuki
1965 Harley Electo-Glide

McCumber, Earl F.
4708 Frieda Drive
Los Angeles, California 90065
Owns;

McGillivroy, Don
1708 Stanbridge Avenue
Roseville, Minnesota 55113
Owns; 1940 Indian Four DDO 577
1938 Indian DCH 304 W/sidecar
1929 Indian EA 1065
1926 ACE SE 1113
1915 Indian 72 G 711
1937 Indian Jr. Scout
1937 Indian 45 Hillclimber
1932 Harley 74

Markham, Yorke
P.O. Box 12014
Albuquerque, New Mexico 87105
Owns; 1948 Indian Chief CDH 3136

Schoenfeld, Donald E.
1352 Miller Drive
W. Hollywood, California 90069
Owns; 1926 Indian Chief CH 2886
1929 Indian Four A 129
1938 Indian Four (no motor 438119
frame #; see ad)

Stoner, Edger A.
R.D. # 1
Etters, Pennsylvania 1731
Owns;

Scott, Donald
R.F.D. 3
Oberlin, Kansas 67749
Owns; 1938 Indian Four DCH 481
1948 Indian Chief CDH 188 B

Strom, John J.
307 Browning Road
Bensaken, New Jersey 08109
Owns; 1937 Indian Chief
1941 Sport Scout F.D.A. 108
1938 Indian Four W/sidecar
1948 Indian Chief CDH 4947
1952 Indian "80"
Military Scout CFJ 1129

Shepherd, L.G. (Shorty)
Jerome Avenue
Cairo, New York 12413
Owns: 1937 Indian Four, 2 carb model,
DCG 458
1949 Indian Vertical Twin Scout
1940 Indian Four

Taylor, Richard L.
25100 Euclid Avenue
Euclid Avenue
Euclid, Ohio 44117
Owns;

Shermer, Glenn
Piedmont Publishing Company
Winston - Salem, North Carolina
Owns; 1965 Harley Davidson
Looking for a Four

Tillstrom, Mike
Florence Station, R R # 6
Omaha, Nebraska 68112
Owns;

Smith, Earl S.
Georgia Tech, Box 36739
Atlanta, Georgia 30332
Owns; 1940 Indian Four

Venner, W.N.
1601 Meadow Drive
Lake Charles, Louisiana 70601
Owns; Looking for a Four.

Sparks, Leland
P.O. Box 13082
Ft. Worth, Texas 76118
Owns; 1940 Indian Four

Waddell, Kent
Kents Harley Davidson Sales
834 Walnut
Abilene, Texas
Owns; 1941 Indian Four

Standley, Dayl
360 Ventura Avenue
Vetura, California

Walters, Dr. Claude M.
416 Hospital Drive
Camden, Arkansas 71701
Owns; 1940 Indian Four DDO 38 B

Mathieu, Roger
Steorage Rock Road
Brimfield, Massachusetts 01010
Owns; Several twins
Looking for a Four

Mehl, Milton A.
2641 Andrew Avenue
Hamilton, Ohio 45015
Owns;

Moeller, Leonard
2124 Grove Street
Baldwin, New York 11510
Owns;

Moore, Charles A.
Route 1, Box 573
Grass Valley, California 95945
Owns; 1938 Indian Four DCH 486 B
1947 Indian Chief (74) CDG 5332 B

Norman, H.J.
Norman Motorcycle Sales
P.O. Box 568
Weatherford, Texas 76086
Owns; 1906 Indian 3336
1948 Indian
(3) 1941 841 Shaft Drive
(2) 1940 Indian Scouts
(2) 1949 Indian Arrows
1940 Indian Four
1909 Excelseior Single

Norman, James
P.O.Box 568
Weatherford, Texas 76086
Owns;

Puckett, Clarence
4378 Catalina Avenue
Dayton, Ohio 45416
Owns; 1939 Indian Four 439544

Parker, Lysle W.
9630 Adoree Avenue
Downey, California 90242
Owns; 1923 Indian Chief
1926 Indian Chief
1929 Indian Four
1934 Indian Four
1941 Indian Four
1912 & '15 Thor; 1913 Reading Std.;
1915 Indian Twin; 1916 Harley Davidson
Twin; 1929 & '30 101 Scouts; 1918 Ind-
ian Twin; 1941 Bonneville Scout; 1948
Chief; original 1948 Chief W/sidecar;
1950 Indian VT; 1953 '80: Chief origi-
nal Police paint; 841 Indian Shaft-
Drive; 1932 Douglas.

Reeves, James G.
7732 Hazelton
Dearborn Heights, Michigan 48127
Owns; 1947 Harley Davidson 47 E 3308
1941 Harley Davidson 41 QUA 4305
1947 Harley Davidson 47 FL 4101
1937 Harley Davidson 37 EL 2405

Remstrom, E.P., Jr.
RR #1, Box 18A
Chicago, Illinois 60417
Owns; 1940 Indian Four running
1940 Indian Four, not running

Romas, Edward
145 N. 75th Street
Milwaukee, Wisconsin 53213

Saar, Robert
310 - 23rd Street
Fort Madison, Iowa 52627
Owns; 1938 Indian Four DCH 656 B

Sattlem, Dude
Box 700, Idleyld Route
Roseburg, Oregon 97470
Owns; 1940 Indian Four 440779
1941 Indian Four 441225
1939 Indian Four DCI 405
1956 Ariel Square Four ML - 348

Wharton, William W.
1046 Stonewall Street
Memphis, Tennessee 38107
Owns; 1940 Indian Four with Henderson handle bars and tandem seat.
Also sports a four barrel exhaust whistle from an old police bike.

Whirley, Ronald
34820 Stellwagon
Wayne, Michigan 145907
Owns;

Wilson, Bruce
20506 Mesa
Southfield, Michigan
Owns;

Wilson, Gerald
3521 Riverland Road
Fort Lauderdale, Florida
Owns;

Wood, Morton L.
811 Morris Avenue
Lutherville, Maryland 21093
Owns; 1929 Indian Four EA 1322
1920 Harley Davidson Flat Twin

Young, Ken E.
1051 Hoffman Avenue
Long Beach, California 90813
Owns;

The following members have made donations to the club magazine. These members receive a special thanks.

James Davis, Sr.	\$2.04	Bill Althoff	\$5.52
Clayton Derstler	5.52	Andre Fedotowsky	6.52
John Elber	10.00	Don Knapko	1.00
Maynard Whetstone	15.00	Charles Moore	10.00

REQUIREMENTS FOR JOINING THE INDIAN FOUR CYLINDER MOTORCYCLE CLUB, INC.

To qualify for membership in this club you must own an American made four cylinder motorcycle, be restoring same or looking for one to restore.

Membership dues are \$5.00 per year (club magazine is extra), payable to the club treasurer, Carl Reichenbaugh; 1421 Bernard Ave.; Findlay, Ohio 45840, or to the club president, John Wickham; 751 Dayton Ave.; Findlay, Ohio 45840.

Application forms will be sent on request. Roberts rules of order govern all meetings. By-laws are sent to all members requesting same.

We hold one big rally each year that is open to the public. We hope to always be able to hold this particular rally on the second Sunday of August so that members will be able to keep this date open. At the August Rally, we hold our annual election of club officers.

All inquiries should be directed to the club president, John Wickham, at the above address.

We welcome new members.

The price for a Commercial Ad is \$10.00. Please send payment to the Editor. The following ads are Commercial Ads. We cannot urge you enough to patronize these fellow members who have acquired parts and knowledge to help keep our motors in good running order as well as helping in the restoration of other motors. Tell them you saw their "Ad" in Indian Four Motorcycle News.

S. Price Cycle Sales

"INDIAN"

Phone 439 - 2979

New and used cycle parts. You name it; we got it. Prompt shipment.
319 E. Main Street; Milan, Michigan.

INDIAN FOUR OWNERS! Announcing the NON - DRAG CLUTCH. Perfect release under all conditions. Non-slipping. Contains 144 inserts. Proven in actual service by thirty owners in five years time. Pleasure to operate, increased shifting ease, non-squawking tires, no creeping at stop lights. PRODUCTION: Design refined by mechanical engineer and is being produced by Earl Chalfant and Bower Industries. Unit includes; 2 driving clutch plates, (1 to be attached to the flywheel, 1 to pressure plate), 1 drive plate which fits on clutch hub. 144 inserts installed in driving plates and instruction sheet with detailed instructions for installation. COST: Per complete clutch ready for installation is \$75.00 postpaid in the U.S.A. or Canada. TERMS: Cash with order. These units fit 1941-42 flywheels and pressure plate. Earlier flywheels can be machined to 41-42 model specifications. For prices on flywheel exchange, write to; Earl Chalfant; 103 Jefferson Street; Brookville, Pennsylvania 15825.

CRANK SHAFT AND BEARING ASSEMBLIES

Blasted, ground and hard chromed crank shaft..Outright, \$75.00; Exchange \$65.00.
Aluminum alloy main bearing, set of five (5), prefit.....\$45.00.
Connecting rods, blasted, bored, honed inserts installed and fit..... 60.00
Same as above only with wrist pin hole bored and bushed to Std..... 70.00

We have a limited supply of these units in stock for exchange or if you wish, we will process your own crank shaft. Pistons, rings, valves and guides, also available. All kinds of general machine work and any part made to order. Send all inquiries to: PAUL MURRAY RESTORATIONS; 9010 Jackman Road; Temperance Michigan 48182.....Phone (Area Code 313) 847 - 5265.

HURRY! Write to Charles Metenhanich; Box 1482; Ann Arbor, Michigan 48106. Indian Head Decals for your helmet, saddle bags, windshields, etc.. Made of tough Vinyl Plastic that really stick and look SHARP! The genuine Indian Look, in multi-color. You won't want to be without this tribe decal. Only \$3.00 per pair. Order now. Same as tank decals but smaller, in helmet size (6½ X 2½). Real beauties.

Well, I rode buddy-seat a lot with another fellow, Lee Elston, a veteran motorcyclist who owned a 1912-15, Yale twin and we went everywhere together. Sometimes he would get a little tipsy as he liked his schnapps pretty well, and we did some fancy riding and slid some on mud roads, but it was fun for me.

Lee Elston and his father were veterans on motorcycles and motors and engines, and they are credited with the first motorcycle in Findlay, Ohio. They made their own patterns and castings and built an engine and put it in a frame and thus had the first motorcycle.

I'll never forget Lee's old Yale twin and the old Wicker-Chair Sidecar. Many have never seen or heard of these chairs, but there it was. Lee's mother would never let me ride in it as that was "hers".

In another year, when I started to work in a glove factory, I bought my first motorcycle. Yes, you guessed it, a 1911 single Excelsior about a year old. It ran good and I rode it a lot with my pal on the Yale or the other pal on the other single Excelsior.

We did a lot of crazy things and had big ideas on motorcycling for some '15 year olds! We used to take our old Exes' to our city park and push them up some steps to a second floor of a dance pavillion. It had a walkway all around it and we would fire up and ride around that walkway chasing each other. When tired of that, we would ride down those steps, all the way down; bumpety-bump, bumpety-bump.

I had several spills due to the mud roads we had then and my belt used to slip so I would gather a handful of mud and smear it on the belt to get traction to pull on home. That old Ex' had a real hot coil on it and was fired by three dry cell batteries and really had a wallop. One day I rode in the rain and was soaked through. When I got home I left the motor running and put it on the rear stand and then went into the house. My folks told me as I came in the door, to get a loaf of bread from the store for supper. So, I went out and went to push the bike off the stand and got my wet pants against the coil wire and I mean to say, it really bit me and so surprised me, that I gave one grand push and I must have shoved that ole bike at least fifty feet out in the street. So much for that.

I next picked up a 1912 or '15 four cylinder Henderson for \$35.00. (Meanwhile I had sold the Ex.), and this Hendy was hand-cranked instead of a kick starter, but had teeth off the idler gear, a bronze gear and a couple of rods were out. Working in a garage at that time, I had access to tools and such, so I fixed this up but I had an awful time in timing this machine. I finally did get it timed but I forgot to put in the cotter pin that held the gear on, so when I fired it up, the gear went flying away. Well, I picked it up and worked for some time to get it timed again and was sure to put the pin in this time!

Everytime I rode this Hendy, a rod went out, so I traded it off even for a 1912 single Indian and it was a dandy! I loved the way it handled. It wasn't long before a fellow offered to trade me a twin, three speed Thor for the Indian. This Thor had the three speed affair in the rear wheel and at my age, it took about three of us to lift the rear wheel with all of that gearing in it. I rode the Thor some and finally traded it for a 1917 Saxon roadster, four cylinder and drew \$10.00 to boot.

I sold the Saxon to my cousin for \$50.00. This ended my motorcycling in Findlay, as I was working for the Grant Motor Works who built the old Grant Automobiles. They moved to Cleveland, Ohio around 1916 and a friend of mine wanted me to go along. Well, about a month later, I went to Cleveland to live and got a good rooming place. I lived there for awhile but later got another place in a private home. These people were interested in motorcycles so I ended up getting a 1913 twin Ex to ride to work the thirteen miles to my job at the Cleveland Automatic Machine Company instead of riding streetcars
to be continued next issue

2. (Mrs.) Louise Scherbyn, a non-member and a fine, gracious lady who is dedicated to Indians also, has offered her collection of Indian News for reproduction for others' benefits too. Louise is the founder of Women's International Motorcycle Association. In case any of you girls would like to join this fine club, write to; Mrs. Louise Scherbyn; 360 East Main Street; Waterloo, New York 13165.
3. We all know that Paul Murray has been with us from the beginning, sharing his knowledge and experience of restoration with us in his article, "Restoring your Indian Four" that is included in each issue. Now Paul has agreed to give still more of his time by serving as Indian Four News' Technical Editor and he is willing to try and solve all of our problems with Fours.
4. Professor Earl Chalfant wrote and asked for the address of one of our non-members whose letter was published in the Spring Issue. Now that's the way to put more Indians back into service! Earl has also sent along (but too late for this issue) information for all member's benefit, on how to rebuild your Four's clutch using his method. I have one of Earl's clutches in my Four and can testify that it is a good one.
5. Paul George, away out there in Iowa, has sent printed material for reproduction but more important, he sent he his treasured triple-gear and shifter gear for the Indian Fours. These two gears are much needed by many Four owners now, but they are long gone.
6. Yorke Markham, one of the new members in New Mexico, had offered in an early letter, to be of service in manufacturing parts that might be needed and made of steel. I sent Yorke the gears that Paul George had sent me and asked Yorke to draw blueprints of these gears and to send prices for lots of 10 and 50. Yorke says I soon will be receiving these prices. I have received from Yorke, the fine blueprints of the shifter gear and he tells me the blueprints for the triple gears will soon follow and then it will only be a question of time before we can tell our fellow members what the price to them will be.
7. New member Dude Sattlem from out Oregon way, sent me his factory sales brochure of 1938 models. The inside back cover is an enlarged photo from Dude's brochure and on the next to last page, you will find the spec sheets for this model. Think that's a small thing? I don't. I've had many requests for such a picture.
8. Glen Dyer, one of our older members who lives in Toledo, Ohio, responded to my request for a map of the area where the Travelers Motorcycle Club is located. I thought that the good city of Toledo would have such a map available. Glen hand-drew a beautiful map custom-tailored to our needs not only of the Toledo area but also showing where near-by motels are, prices for accommodations, telephone numbers and also found out that there are plenty of good restaurants either as part of the motels or close by. I am sure that each of you will bless Glen for the time and effort he has spent to make your trip to the August Rally as comfortable and as easy as possible for you.
9. New member, Leland Sparks out Texas way, wrote offering to help do some typing and how we wish we could take him up on it!
10. James Davis, Sr., who lives in California has been busy as a little bee, doing research on microfilming because he is worried that the literature donated to the club library will soon be worn out or become lost and Jim hopes the club will be able to have the library microfilmed and also other material will be loaned for the purpose of including one of a kind that a member doesn't want to part with put through the process too and become a part of the library and thereby have all written material eventually recorded by this process and stored in a safe place for member's use for years to come.

10. No, I won't go on but I'll add to this list later. All of the rest of you fine Indian Four Members that have so graciously offered your services and carried through on your promises so wonderfully in different ways, like George Young who is always agreeable to helping referee at our Meets, Richard Vogus who presented his clutch display in the Spring Issue and the many, many fine letters that have been written for publication, it all adds up. Each and every one of you who has sent stories and articles that have not yet been published, well you know who you are and soon so will everyone else.

11. I want to call your attention the fine write-up our club and magazine received in a recent American Motorcycling Magazine.

12. Also, I wish to point out that we received two fine write-ups by that fine Editor and enthusiast, Mr. Joe Parkhurst of Cycle World in that magazine's Round-Up column. I wish that each of you who found our club from his write-up, would at least take a little time to write Mr. Parkhurst and thank him for helping our magazine to become known through the Cycle World publication.

John Wickham, Casper Barnes and Carl Reichenbaugh and our other officers can't do it all and neither can I. Will you help? To keep our out-looks in the proper perspective, I'm reprinting below, a little article that was previously published in a small Indiana newspaper.

"The population of the country is 160 million, but there are 62 million over 60 years of age, leaving 98 million to do the work. People under 21 total 54 million which leaves 44 million to do the work. Then there are 21 million who are employed by the government and that leaves 23 million to do the work. Ten million are in the armed forces, leaving 13 million to do the work. Deduct 12,800,000, the number in the State and City offices and that leaves 200,000 to do the work. There are 126 thousand in hospitals, insane asylums, etc., and that leaves 64 thousand to do the work.

But 52 thousand of those are bums or others who will not work, so that leaves 12,000 to do the work. Now it may interest you to know that there are 11,998 people in jail so that leaves just two people to do all the work. And that's you and me, brother, and I'm getting tired of doing everything by myself."

Happy riding, Editor

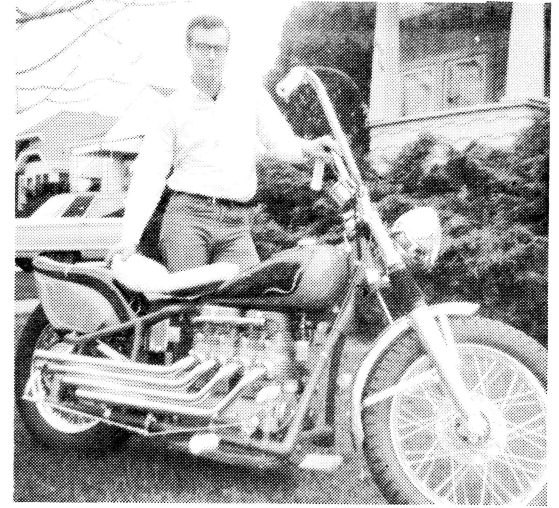
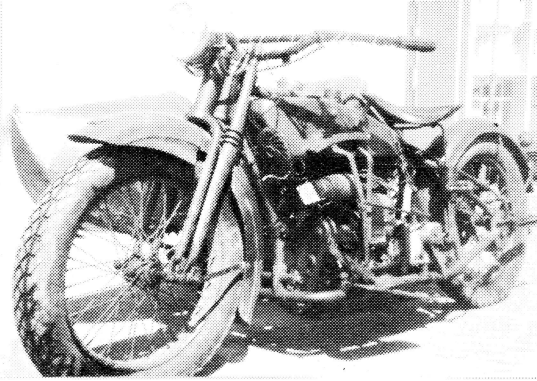
Some people in sending payment of their subscription for Indian Four News have sent more than \$4.48. Some sent checks for \$4.50 and \$5.00. We assumed that the extra was contributions to the club. However, quite a few who paid for the Spring Issue later sent the full subscription for one year that would pay through Spring, 1968. The job of doing the magazine is complicated enough without having to handle several hundred individual accounts, so I am asking that anyone who wants a refund of the money they over-paid, to drop me a postal card before the end of June, with the amount they sent and the approximate date and I will check our posting book and then forward the card with my OK, to the club treasurer and he will send a check from the club for the proper refund.

What I hope to do is have a subscription period from Spring through Winter and include a new subscription form with the Winter Issue for re-newal for the first issue (Spring) every year. We do not want paid orders into 1968.

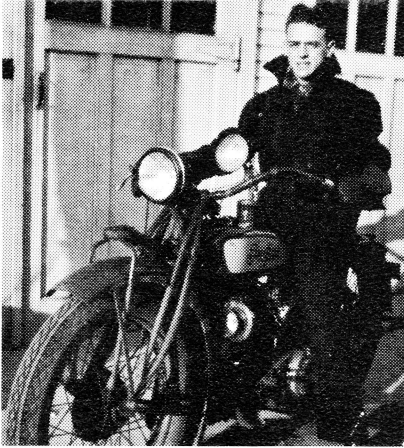
There are still subscribers who have not paid their postage and this ^{48¢} amounts to several dollars. This should be sent to Carl promptly. If any member is under the impression that the magazine is included with the \$5.00 membership, we suggest he realize that ours is a small club with a large magazine and each issue contains several dollars worth of Indian Facts alone. If a member wants the magazine, he is going to have to pay for it.



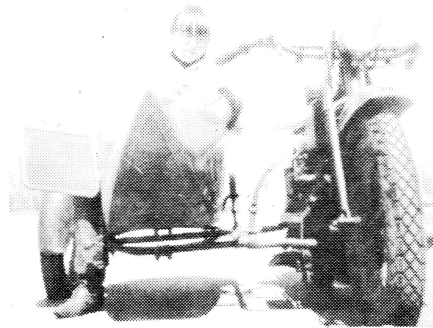
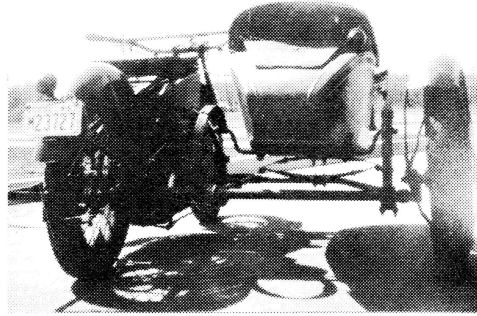
Lt. Tulio Ferreris



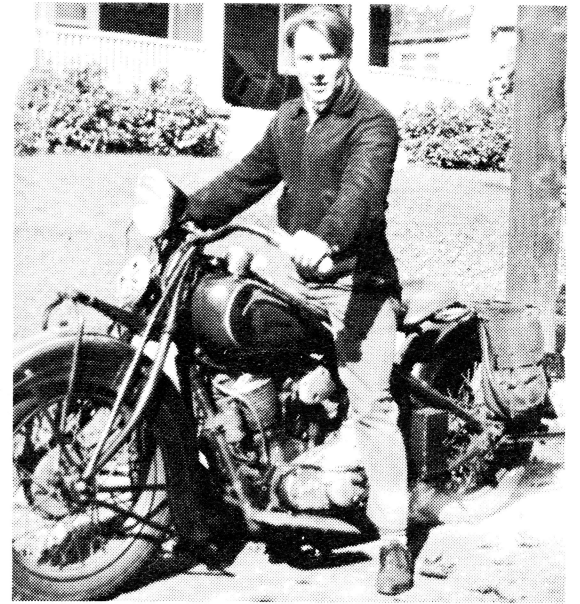
Jack Schroeder & Show Four



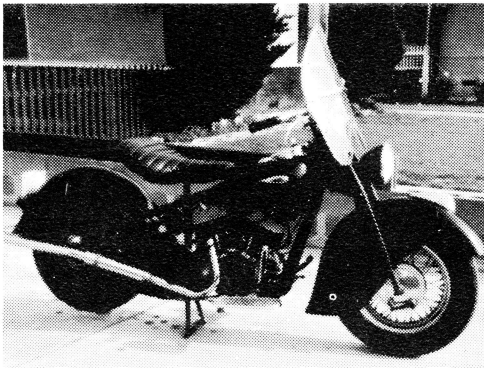
Ready Ed Romas on 1927 Chief, Taken in 1931



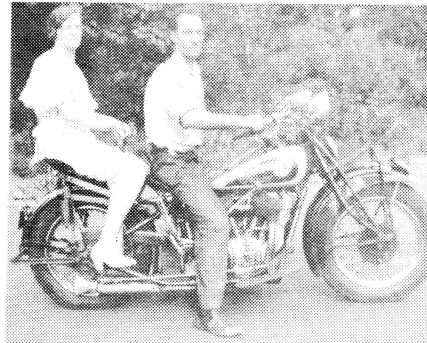
An All Around View of Ace #CA-147 Owned by Andre Fedotowsky of Canada



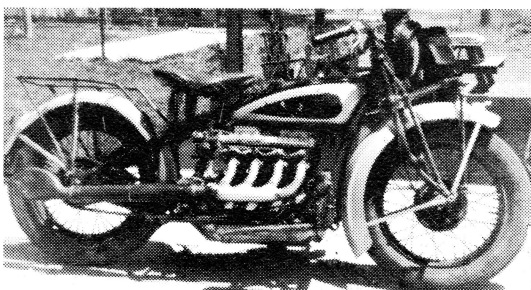
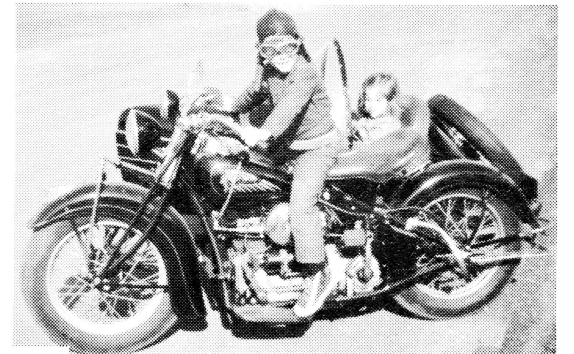
Stephen Sturm & 1935 Chief



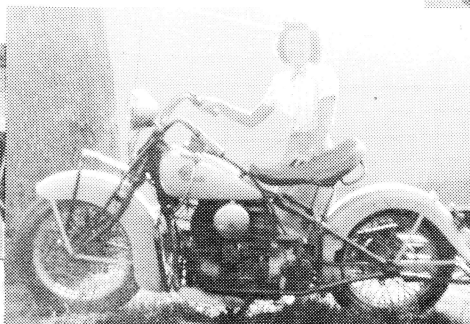
Jerry Miller Owns This Nice Chief



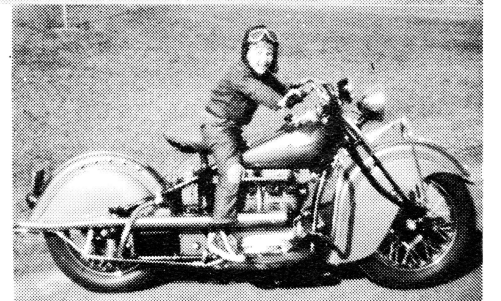
Roger Mathieu & Friend On 1932 Chief



Delmer Donaldson Owns This 1930 Indian Four



Mrs. Jack Lange and 37 Four



6-year-old Bobby & Friend Try Out 2 of Dad's Four's. Dad is Don McGillroy - He's Pretty Proud

RESTORING YOUR INDIAN 4 ENGINE (PART 3)

By Paul Murray

In my last article I touched upon the subject of over boring cylinders to use 2 7/8" diameter pistons and it has raised the question, "How safe is this?" I should have been more specific and explained that a standard cylinder from 1938 - 1942, has a wall thickness of 9/32" and after boring the 1/8" from the diameter of 1 1/16" on a side, you still have 7/32" wall thickness left. Plus the fact these cylinders are made of a close grained iron nickel alloy and Ace furnace blast. This means they are plenty tough. We do not recommend over boring the earlier cylinders (1928 - 1937) because the wall thickness is much less than the later cylinders.

Many of you have undoubtedly ran into the problem of cam shaft and cam follower wear and if this not properly taken care of, the end result is a noisy valve train. The cam followers can be refaced and it is very important the radius to be copied as original and all alike, if it is changed it will change the valve timing and either make the engine idle badly or cause it to lose power. The cam opening and closing was specifically designed for a .9375 radius on the follower to obtain the best idle and power for the engine. Here again, any good automotive machine shop can do this for you. In my shop, I have the very latest and best Kwik-Way Valve Refacing Machine and had to make a fixture to do this job. At the same time you have the cam followers refaced it is advisable to have the exhaust tappet screws refaced square with the follower and the tappet end of the rocker arms refaced following their original radius. All of this will insure a silent, smooth valve action. It is a rule of thumb in most shops, to butt grind valve stems at the same time the valves are refaced. To take the sharp corners off the cam lobes, we use a fine India stone and carefully work the lobes into shape. This takes a little time but is well worth the effort. If you have a camshaft that is sadly pitted or chipped on the toe of the lobes, you have two ways out; either another one or have the cam lobes reground to the original timing; then reheat treated to a case hardness of 1/24" deep and 62 to 65 points on a Rockwell "C" scale tester. After the cam shaft has been heat treated, it must be checked for straightness and trued accordingly.

We have recently completed our crank shaft and bearing assemblies. Also the necessary tooling to bore rods for our aluminum alloy insert bearings. (See our ad in this issue).

For those of you who wish to be original as far as plating of all engine bolts, nuts, washers, crank case vent, starter pedal arm, starter bushing, clutch arm, shifter arm, oil pressure body; these were all cadmium plated. I am referring to 1938 - 1942 models. The early models (preceding 1938), were white nickel plated. The timing gear cover was painted black as well as oil pressure gauge and mounting bracket. The cylinders were copper plated under white nickel. Since this process is nearly extinct and for technical reasons we do not like to have the cylinders stripped and replated, it simply does not do the metal any good. Normally, before anything is done, clean your cylinders thoroughly and you might be surprised that the original plating may be presentable. If not, the cylinders can be glass blasted and most of the plating removed, then the color of your choice in a good Hi-Temperature engine paint, sprayed on.

We have had many inquiries about further explanation of the alloy bearing material we use, so for the benefit of those who would like, I will go into the subject further. I was lucky enough to have talked to the engineering department and received the chief engineers report for the company that produces magnesium, nickel, titanium, tin and aluminum and the typical values are

as follows; 25,000 PSI Tensile Ultimate, 32,000 PSI Tensile Ultimate and 20,000 Compressive Yield. What does all this mean? It means the material is stronger, less galling (even on a soft shaft), will hold its shape better, is non-corrosive, and has much better thermal qualities than any other bearing material known to man, except possibly, silver.

We buy this material in tubular form, finish machine the outer dimensions, rough bore, cut oil grooves, then finally, finish hone the clearance with a 400 finish on our latest Sunnen Honing Machine. All bores are dial-gauged, to insure accuracy.

Crankshaft grinding provided a problem, since there is very little shaft left when the gear is removed to chuck to and the fact that the shaft had to be indicated on the normally out of round front main bearing journal, we found out that this method left enough run-out in the crank gear to produce an annoying amount of gear noise. Thanks to club member Al Bozung, (now don't blush Al), who does a fine job on these engines, pointed this out to me, so we got busy and made an adapter that screws on the gear end of the crank shaft with ample room to indicate from, thusly insuring us of absolutely no gear run-out after grinding.

In our next article, we will discuss the restoration of cylinder heads and cylinder blocks and other items of interest. Until then, work hard and have fun!

INDIAN 4 CLUB LIBRARY

At present time we have the following Indian 4 information as listed below.

ITEM	DONATED BY
1940 Indian Motorcycle Catalog.....	R.W. Paulette
Parts List, Indian 4 Series 401.....	R.W. Paulette
Oiling Diagram, Indian 4 Series 401.....	Cecil Hasser
1936 to 1942 Parts List.....	Paul Murray
Indian 4 Overhaul Manual.....	Al Bozung
Sales Brochure, "Until Victory" (shows Army Models).....	Al Bozung
Sales Brochure, 40th Anniversary Indian Motorcycles.....	Al Bozung
The Indian News, November 1940 Issue.....	Al Bozung
Reprint, 1941 Indian Motorcycles.....	Al Bozung

I am very happy to report we have loaned some of these valuable items and they have been returned to me without request. On the other hand, we have not received any new additions to our library. So come on fellows, take the time and sort through your reading matter and send along what you can. You might be able to help a fellow club member who has a problem and needs a view to look at. Send all information to:

Paul Murray
9010 Jackman Road
Temperance, Michigan 48182

Members in good standing are allowed to borrow material from the club library for a two week period but are asked to pay postage both ways. Members who live out of this country are given an extension period to allow for delivery time. Write to Paul for any information concerning borrowing or donating printed matter for or from the club library. (ED)

Are YOU doing your part in bringing in new members? Without club funds, this magazine would not be possible. We would have no club funds without paid dues or donations. Every member's effort counts!

Indian facts

Motor and Serial Numbers of the Various Seasonal Models from 1933 to Date

	45 Cu. In. Scout	74 Cu. In. Chief	78 Cu. In. Four	30.50 Cu. In. Junior Scout	45 Cu. In. Sport Scout
1933 Motor No.	BCC-101-up	CCC101-up	DCC101-up	ECC101-up	FCC101-up
1933 Serial No.	233-101-up	333-101-up	433-101-up	533-101-up	633-101-up
1934 Motor No.	BCD101-up	CCD101-up	DCD101-up	ECD101-up	FCD101-up
1934 Serial No.	234-101-up	334-101-up	434-101-up	534-101-up	634-101-up
1935 Motor No.	BCE101-up	CCE101-up	DCE101-up	ECE101-up	FCE101-up
1935 Serial No.	235-101-up	335-101-up	435-101-up	535-101-up	635-101-up
1936 Motor No.	BCF101-up	CCF101-up	DCF101-up	ECF101-up	FCF101-up
1936 Serial No.	236-101-up	336-101-up	436-101-up	536-101-up	636-101-up
1937 Motor No.	BCG101-up	CCG101-up	DCG101-up	ECG101-up	FCG101-up
1937 Serial No.	237-101-up	337-101-up	437-101-up	537-101-up	637-101-up
1938 Motor No.		CCH101-up	DCH101-up	ECH101-up	FCH101-up
1938 Serial No.		338-101-up	438-101-up	538-101-up	638-101-up
1939 Motor No.		CCI-101-up	DCI-101-up	ECI-101-up	FCI-101-up
1939 Serial No.		339-101-up	439-101-up	539-101-up	639-101-up
1940 Motor No.		CDO-101-up	DDO-101-up	EDO-101-up	FDO-101-up
1940 Serial No.		340-101-up	440-101-up	540-101-up	640-101-up
1941 Motor No.		CDA-101-up	DDA-101-up	EDA-101-up	FDA-101-up
1941 Serial No.		341-101-up	441-101-up	541-101-up	641-101-up
1942 Motor No.		CDB101-up			FDB101-up
1942 Serial No.		342-101-up			642-101-up

No Civilian Production During the Year 1943

1944 Motor No.		CDD-101-up			
1944 Serial No.		344-101-up			
1945 Motor No.		CDE-101-up			
1945 Serial No.		345-101-up			
1946 Motor No.		CDF-101-up			
1946 Serial No.		346-101-up			
1947 Motor No.		CDG-101-up			
1947 Serial No.		347-101-up			
1948 Motor No.		CDH-101-up			
1948 Serial No.		348-101-up			

Motor and Serial Numbers of Indian Military Models

	45 Cu. In. Scout	74 Cu. In. Chief	30.50 Cu. In. Lightweight	45 Cu. In. Shaft Drive
Motor No.	FDO-101-up	CDO-101-up	GDA-101-up	HDA-101-up
Serial No.	640-101-up	340-101-up	741-101-up	841-101-up

CLEARANCES ON LATEST INDIAN MODELS

	— MODEL OF MOTORCYCLE —			
	Thirty-Fifty	Forty-Five	Seventy-Four	Indian 4
Intake valve tappet clearance.....	.004	.004	.004	.002
Exhaust valve tappet clearance.....	.006	.006	.006	.006
Piston clearances:				
Top land.....	.020	.022	.025	.026
Other lands.....	.015	.017	.021	.022
Skirt — Standard.....	.006	.002	.003	.006
Skirt — Bonneville.....	.....	.004	.005	.....
Piston ring end clearance.....	.010 — .020	.010 — .020	.010 — .020	.010 — .020
Spark Advance — Standard.....	$\frac{1}{4}$ " — 40°	$\frac{3}{8}$ " — 37 $\frac{1}{2}$ °	$\frac{1}{2}$ " — 36°	$\frac{3}{8}$ " — 45°
Spark Advance — Bonneville.....	.....	$\frac{3}{8}$ " — 45°	$\frac{1}{2}$ " — 40°	.....
Valve seat degree.....	35°	35°	35°	45°
Valve lift end play.....	.010	.010	.010	.....
Cam shaft end play.....	.006	.006	.006	.002
Crankshaft end play.....	.....	.....	.....	.003
Connecting rod side play.....	.015 — .020	.015 — .020	.015 — .020	.001 — .002
Flywheel end play — drive sprocket off.....	.017 — .019	.017 — .019	.017 — .019	.....
Flywheel end play — drive sprocket on.....	.010 — .012	.010 — .012	.010 — .012	.....
Transmission end play.....	.003 — .005	.003 — .005	.003 — .005	.014 — .018
Transmission countershaft gear end play.....	.010	.010	.010	.002
Bevel gear back lash.....	.....	.....	.....	.005 — .006
Camshaft bushing clearance.....	.001 — .0015	.001 — .0015	.001 — .0015	.0015 — .002
Piston pin clearance in rod — Standard.....	.0025 — .003	.0025 — .003	.0025 — .003	.0015 — .002

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MAIL TO: INDIAN 4 NEWS

Cecil F. Hassler, Editor
525 Fairfield Pike
Yellow Springs, Ohio 45387

MOTOR REGISTRATION DATA from 1926 to DATE

Model Name	Motor Model Letters	Number of Cylinders	Bore	Stroke	Piston Displacement	Rated Horsepower
Prince	AL-BL-CL	1	2 $\frac{3}{4}$	3 $\frac{1}{4}$	21.25	3.02
Junior Scout or 30.50	ECC-ECC-ECD ECE-ECF-ECG ECH-ECI-EDO EDA	2	2 $\frac{1}{2}$	3 $\frac{1}{8}$	30.07	5.0
Indian Military 30.50	GDA	2	2 $\frac{1}{2}$	3 $\frac{1}{8}$	30.07	5.0
37" Scout	AG-BG CG-DG-EG	2	2 $\frac{3}{4}$	3 $\frac{1}{8}$	36.38	6.05
45" Scout, Motoplane and Sport Scout	BCC-BCD-BCE BCF-BCG-BGP CGP-DGP-EGP FCD-FCE-FCF FCG-FCH-FCI FDO-FDA-FDB	2	2 $\frac{7}{8}$	3 $\frac{1}{2}$	45.44	6.61
45" Military Shaft Drive	HDA	2	2 $\frac{7}{8}$	3 $\frac{1}{2}$	45.44	6.61
61" Chief	AZ-BZ-CZ	2	3 $\frac{1}{8}$	3 $\frac{1}{2}$	60.88	7.81
74" Chief	AH-BH-CH-EH COC-CCC-CCD CCE-CCF-CCG CCH-CCI-CDO CDA to CDH	2	3 $\frac{1}{4}$	4 $\frac{1}{8}$	73.62	8.45
Indian 4	VF-CA-DA-EA DOC-DCG-DDC DCE-DCF-DCG DCH-DCI-DDO DDA-BDB	4	2 $\frac{3}{4}$	3 $\frac{1}{4}$	77.21	12.1

Yearly Models Prior to 1926 were Indicated by a Letter in Middle of the Motor Number (Example 50R001)

1909—A	1913—E	1917—J	1921—S	1925—Y
1910—B	1914—F	1918—K	1922—T	
1911—C	1915—G	1919—M	1923—V	
1912—D	1916—H	1920—R	1924—X	

TROUBLE SAVING TIPS

Don't race the motor on the stand. This abuse has ruined more motors than thousands of miles of road use.

Don't use inferior oils; use the grade of Indian oil recommended for the temperature. It keeps the motor in good shape.

Don't neglect to lubricate all parts as per lubrication chart.

Don't use counterfeit Indian parts. They are cheap material, wear out quickly and void the guarantee. Genuine Indian parts are better and cheaper in the long run. They are obtainable from authorized Indian dealers only.

Don't fail to keep tires properly inflated at all times.

Don't spin the rear wheel when starting. Let the clutch in easily. Each time the wheel spins, rubber is torn from the tire, making it easier to puncture and reducing its mileage.

Don't open and close the throttle suddenly. It injures the motor and creates ill-feeling against motorcyclists.

Try all nuts and bolts at least once a week. Any loose parts will be detected by regular inspection of this kind and will prevent trouble on the road.

SOURCES OF MOTOR TROUBLE AND REMEDIES

1—Motor Will Not Start

- (a) Gasoline supply exhausted, carburetor pipe shut off or clogged by dirt or water.
- (b) Cylinder flooded by too much priming; pump out excess gas by kicking motor over just a few times with the throttle closed.
- (c) Mixture too lean. Adjust by directions on page 21.
- (d) Oil congealed in motor; kick motor over a number of times before trying to start.
- (e) Clutch slips, so that starter fails to turn motor fast enough. Tighten clutch.
- (f) Distributor — Magneto points dirty, pitted, worn out, or set too closely or too far apart.
- (g) Compression very weak.

2—Motor Stops Continually After Starting

- (a) Gasoline pipe clogged; motor will start on kicking but gets no more fuel. Disconnect pipe and clean.

3—Motor Stopped Suddenly

- (a) Gasoline tank empty, filler cap air vent plugged or gasoline pipe or carburetor clogged by dirt or water.
- (b) Loose, broken or fouled spark plug or its cable unfastened.
- (c) Oil supply in tank or engine exhausted; do not run until motor turns freely again; as severe damage to cylinder, piston or bearings will result; refill with oil and turn motor over slowly till chance of injury is removed. Get your dealer to investigate and advise you.
- (d) Fuse burned out.

4—Motor Knocks

- (a) You are operating throttle too fast, or failing to retard the spark, when accelerating or in extremely hard pulling. Open throttle more slowly.
- (b) Improper gas mixture, usually too lean. See correct adjustments on page 21. The correct mixture is a little hard to get; be patient and thorough; the result will greatly increase the motor's power and flexibility, and enable to pull hard hills without knocking, etc.

- (c) Heavy carbon deposits; shows up on quick acceleration and when pulling hard hills; shows only when motor is hot.
- (d) Overheated motor, due to low oil supply, or oil of poor quality. Sometimes due to running too fast in second or low gear.
- (e) Distributor — Magneto points set too far apart, making too early breaking of contact.

5—Motor Shows Lack of Power

- (a) Overheated, due to heavy carbon deposit and other reasons mentioned in paragraph under "Overheating."
- (b) Faulty carburetor adjustment, usually too lean.
- (c) Spark lever does not advance fully.
- (d) Poor compression.
- (e) Sump valve not working properly; clean screen and valve disc.

6—Motor Overheats

- (a) Using poor grade of oil.
- (b) Not using enough oil.
- (c) Sump valve not working properly; clean screen and valve disc.
- (d) Excessive carbon deposit.
- (e) Weak valve springs; replace them.
- (f) Running with retarded spark.
- (g) Poorly adjusted carburetor.
- (h) Slipping clutch or dragging brake.
- (i) Running motor too fast in second or low gears.
- (j) Poor compression.

7—Motor Misfires

- (a) Poor carburetor adjustment; usually too rich.
- (b) Magneto or Distributor faulty.
- (c) Exhaust valve not seating properly; set too close.
- (d) Spark plug points set wrong or in need of cleaning.
- (e) Weak or broken valve springs; replace them.
- (f) Sticking valve stems; usually exhaust, from poor oil, pour kerosene down valve stem till free.

8—Motor Hard to Start

- (a) Too much or too heavy oil in motor.
- (b) Too much choking; clear motor of its excess gas.
- (c) Weak kicking of the starter; give a sharp, powerful kick; it often takes a few days' practice to acquire the knack of this.
- (d) Poor carburetor adjustment; usually too lean.
- (e) Spark plug points dirty or too far apart. (See Care of Spark Plugs on page 33).
- (f) Distributor — Magneto points pitted, dirty, or too far apart, or too close.

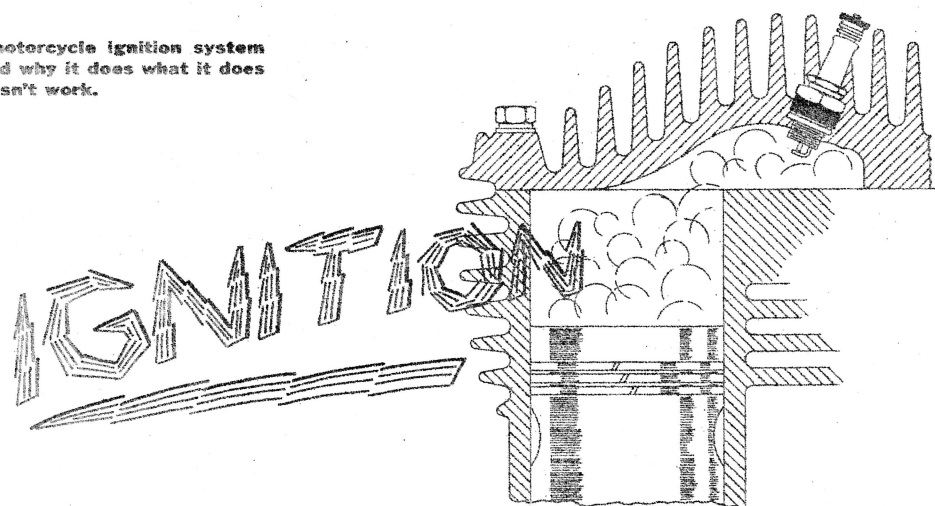
9—Motor Races When Idle

- (a) Throttle does not close.
- (b) Throttle cable not properly adjusted, or dry and needs oil poured down inside of cable casing.
- (c) Worn throttle stem; have your dealer replace it.

SPECIAL ATTENTION MUST BE GIVEN TO THE FOLLOWING:

1. Break the motor in PROPERLY.
2. Shift gears CORRECTLY at all times.
3. Use the CORRECT SPARK PLUGS.
4. Watch your tappet adjustment.
5. Use the correct fuel. And above all, use THE PROPER GRADE OF INDIAN OIL.

How your motorcycle ignition system works — and why it does what it does when it doesn't work.



In all internal combustion engines the fuel charge within the cylinders must be ignited by some means. To accomplish this, two methods, compression or electric spark are used.

The electrical spark method of ignition is most widely used in automobile and motorcycle engines because it is effective with different grades of fuels, readily and accurately controlled, and the electric spark ignites the fuel charge almost instantaneously.

A spark ignition system is composed of the following fundamental units: (1) A source of electrical energy, either a battery or magneto. (2) A transforming device to increase the electrical pressure or voltage, the coil. (3) An interrupting device to determine the proper timing of the spark, the breaker contacts points. (4) A distributor to direct the spark to the cylinders in the proper order. (5) A spark gap for each cylinder, the spark plugs. (6) Proper wiring to bring all these units together.

For a source of current both battery and magneto systems are used. In the battery system, current is obtained from a storage battery which is maintained by a generator. In the magneto system current is obtained by the relative movement between a coil and the poles of a permanent magnet. Magneto systems are generally dependable and require less care, but in as much as a battery is required for lights, the battery system which handles both ignition and lighting is more extensively used.

We can make a simple circuit and produce a spark by jumping a piece of wire across the terminals of any battery but such a spark will not fire the fuel charge in an internal combustion engine. The internal compression in the average motorcycle engine will run from 85 to 100 pounds per square inch and our spark of low voltage, which is simply the electrical term for pressure, amounts to very little under such conditions. A voltage of from 6,000 volts up is required for a strong spark under such compression and the voltage must be increased in proportion to any increases in compression. In our high tension ignition system the low voltage of our current supply is transformed into high voltage so that the current will be able to jump across the spark plug gap in the cylinder under compression.

Simple tests prove that electrical current in a coil can produce magnetism, and that changing magnetism in a coil generates a voltage. These principles are applied in our ignition coil, which is nothing more than a case containing a soft iron core, and two coils of wire insulated from each other. The core is made longer than the coils so that practically all the lines of force going out at the north pole circle the windings. Outside the primary windings a yoke of laminated iron is usually used, which serves as a conductor for the magnetic field.

The secondary winding is made up of thousands of turns of small copper wire insulated with enamel or silk. These

turns are wound around the core in many layers, each layer running the entire length of the winding and the layers insulated from each other by paraffin waxed paper.

The primary winding is insulated from and wound outside the secondary winding and consists of comparatively fewer layers of cotton covered or enameled copper wire larger than that used for the secondary winding.

Our primary circuit runs from the current source, through the ammeter and switch, through the primary winding in the coil and down across our breaker points where it is grounded and so completes the circuit back to the battery. The secondary circuit includes the secondary winding of the coil, the distributor, and the spark plugs.

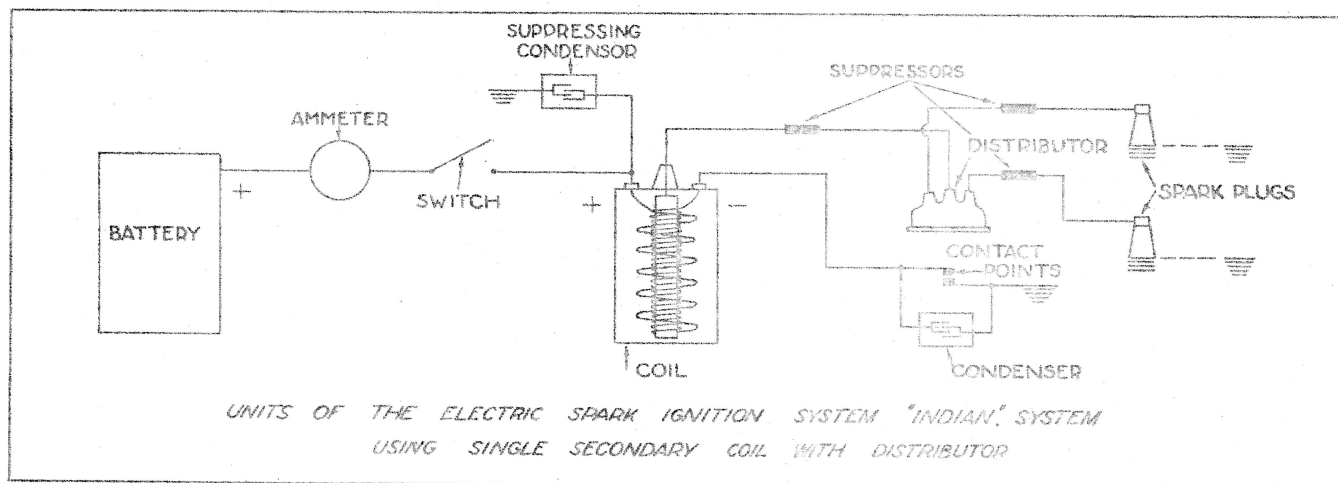
When the ignition circuit is turned on, current flows through the primary circuit and builds up a magnetic field in the coil, producing a voltage in the coil windings. This voltage opposes the action producing it, preventing the instantaneous magnetism of our core. In the same way when the breaker points interrupt the primary circuit this same force or self-inductance tends to maintain the magnetism in the core, and the current instead of dying out immediately, drops off slowly with the result that we have arcing at the contacts and a lazy spark at the plugs. Our current build-up though very rapid is not instantaneous.

Right here our ignition idea is saved by an electrical device known as a condenser. A condenser is composed of layers of conducting material, usually tinfoil, rolled up between layers of insulating material of either waxed or oiled paper.

One group of layers of conducting material is grounded, while the other is connected to the secondary circuit at the breaker points. There is no connection between the groups of layers of tinfoil in the condenser.

In our magnetic circuit, the current has the effect of inertia when it is flowing making it difficult for the open contact points to stop the current instantaneously and without flashing. The action of the condenser can be likened to the stretching and snapping back of a rubber band. When the breaker points open, the inertia or flow of current is diverted to the condenser. The condenser is temporarily strained taking the charge, but relieves the arcing tendency at the points and when the points again close, the condenser discharges sending a flow of current back thru the primary winding.

This sudden stoppage of the primary circuit and the reversal of its current gives us the instantaneous change in magnetism required to produce a high secondary voltage spark at the plugs. With the aid of the condenser, the coil is demagnetized much quicker than it is magnetized, and the voltage induced in the secondary winding is much higher when the primary circuit is broken than when it is closed, so the spark is set to fire in the cylinders at this time.



When the flow of current is reversed so quickly, the magnetic lines of force which are circling out from the core of the coil collapse towards the core, cutting through the secondary windings, and creating a voltage. As there are many turns of wire in the secondary winding, and they are all in series, the voltage is increased in relation to the number of turns of wire. Thus a high voltage shoots from the secondary terminal in the coil to the distributor, which directs this voltage to the proper spark plug and fires the cylinder.

A proper functioning coil will give a good snappy blue spark at the distributor end of the coil high tension wire with the battery in a properly charged condition and no wires shorted. A defective coil will usually start acting up first at high speed, causing a skip and will gradually grow worse. Defective coils are not practical to repair and have to be replaced.

As there is no connection across the layers of metal foil in the condenser, positive insulation is necessary since the condenser is subjected to a voltage of from 150 to 250 volts every time the primary circuit is interrupted. A leaking condenser will result in a poorly running motor and is usually indicated by a flashy spark at the breaker points, or by points that appear blue in color or show signs of excessive

heat. Should the condenser become shorted the motor will not run.

If the condenser becomes open circuited, that is, if the foil should become torn or separated from a terminal, it will not accept the charge and the plugs will not fire properly even though the motor may run.

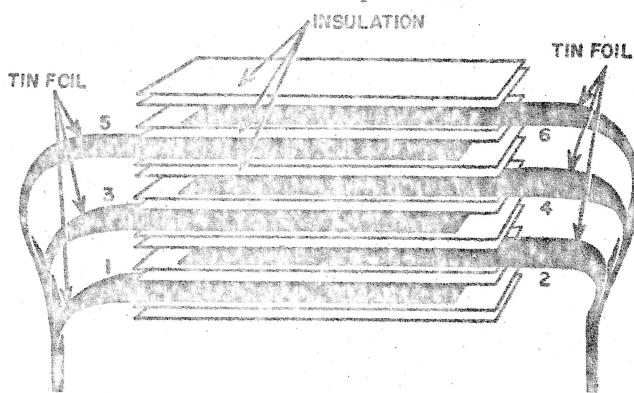
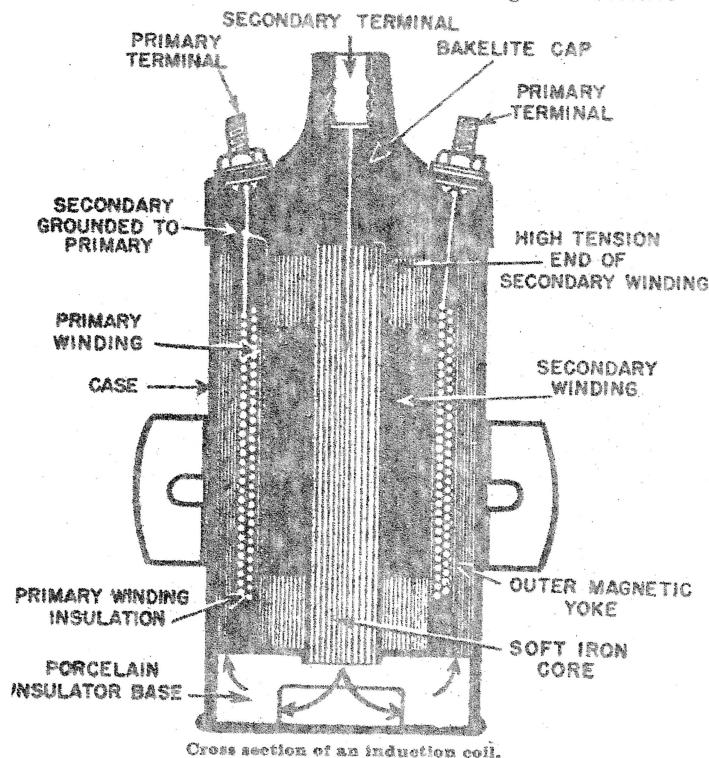
The condenser is mounted as near the breaker contacts as possible in order to be most effective. It must be protected against damage and moisture. Moisture around or inside the condenser will allow the condenser to leak or short.

Proper condensers eliminate arcing across the points preventing them from pitting and burning and enable the coil to increase the secondary voltage about 25 times over the primary circuit.

Using more than one condenser is not an advantage as only a certain capacity is required in the ignition system and the condenser supplied by your motorcycle manufacturer is quite adequate.

Should a condenser show signs of being faulty, check by using another condenser of known condition, noting any improvement in motor performance, as the best test of a condenser is in operation when the effects of heat and the circuit windings are actual.

Good wiring is essential in order to carry the built-up voltage to the spark plugs. Wiring being exposed to weather and in a position where it is subject to heat will dry out and crack over a period of a couple of years causing considerable leaking and shorting particularly when wet. Wiring which appears cracked and brittle should be replaced to prevent trouble in damp weather.



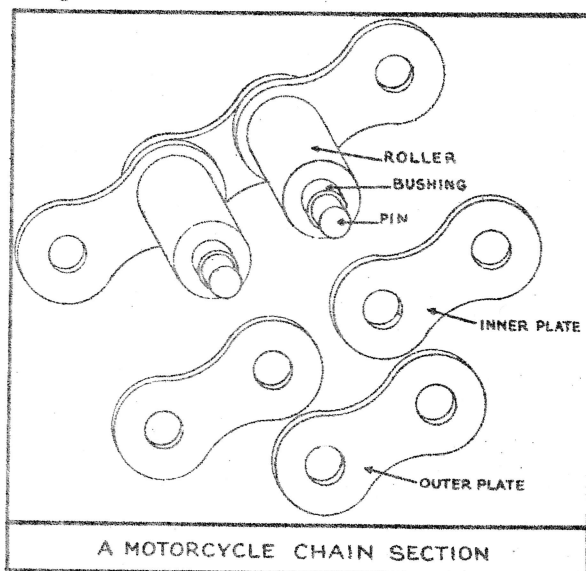
Where radio suppression is used in an electric circuit, .5 mfd condensers are cut in at the coil positive terminal and also at the generator positive terminal. Suppressors are cut into each high tension wire and rain shields are used at the distributor cap and at the spark plugs.

Proper suppression depends on clean tight connections well grounded, freedom from dirt and moisture at plugs and distributor, and an electrical system in good order. Worn or dirty generator brushes or arcing points cause electrical disturbances that will not be suppressed.

MOTORCYCLE DRIVE CHAINS

The long life of the motorcycle chain is strictly a matter of proper lubrication and adjustment. The surprising fact is that two out of three chains in service operate for the greater part of their life without proper lubrication.

Too often, a chain is thought of as a unit rather than the hundreds of tiny sections it actually is. Every surface, no matter how finely finished, appears under close observation covered with tiny openings or pores. Rub two of these surfaces together and you have friction and wear, the scoring of one surface with another. Multiply this by the number of friction surfaces in a motorcycle chain and you will begin to realize the amount of wear that can occur without adequate lubrication.



Running the chain dry not only causes wear, but the drag of the chain also cuts down on the actual power delivered to the rear wheel.

In trying to discover why this phase of care is so often neglected, it is the opinion of the writer that it is, first, a matter of misunderstanding of the chain operation, and then perhaps, a lack of the simple equipment to quickly and properly lubricate the chain.

It is recommended by chain manufacturers that the chain be given a periodic treatment in grease which has been heated until it assumes the consistency of light cylinder oil. Automobile water pump grease is best and bearing grease such as Marfax 3 next. This method is absolutely the best procedure and when facilities are available, should be followed. The heated grease will work in between the link pin, bushing, and roller, will harden as it cools, and will remain there for a considerably longer time than fluid lubricants. However, attempts to heat grease on the kitchen stove often result in smoking out the inhabitants or in arousing the ire of the housewife, and unless outside facilities are available will likely have to be passed up.

This by no means condemns our drive chain to a dry existence. The chain can be lubricated properly with more frequent applications of light oil.

In operation, always keep the chain clean and free from grit. Dirt which works between the chain surfaces causes extreme wear. As often as the chain becomes "gritty" or at least every 250 miles, the chain should be cleaned and oiled.

With the machine on the center or rear stand, wipe the chain surface clean with a brush or piece of cloth. After wiping the chain surface dry, revolve the chain and wash it with kerosene preferably, with a spout can. If a spout can is not available, use a piece of waste saturated with kerosene. Start the motor and with the transmission in low gear, allow the chain to revolve slowly until the kerosene is dispelled. Now apply a light oil to the chain, working the oil down in between the bushing and pin surfaces. Again start the motor and revolve the chain slowly, at the same time pouring oil on the chain to further work the oil into the chain bearings. When the chain is well lubricated, wipe all outside surfaces dry to prevent the excess oil from picking up road grit.

This method of lubrication does the job about as well as possible without removing the chain from the machine and takes only a few minutes. It accomplishes both factors of chain care; the removal of grit which causes excessive chain wear, and the lubrication of the inner chain bearing surfaces. Simply applying non fluid grease on the surface of the chain is a doubtful method in that it does not penetrate to the inner surfaces and simply collects road dirt on the chain.

At intervals of about 1000 miles or oftener depending upon operating conditions, the chain should be removed from the motorcycle, washed in kerosene and lubricated either in a hot grease bath as previously stated or as an alternative in motor oil. The equipment to perform this operation is simply a flat pan at least two inches deep, a screen of the same size as the pan to keep the chain up from the pan bottom, kerosene and fresh oil.

Modern motorcycles have a complete guard around the motor drive sprocket. Oil thrown off by the chain onto the guard collects dirt and sand which is thrown up by the rear wheel. The guard should be removed and cleaned to prevent the chain from "wiping" in this dirt and to prevent the dirt from dropping onto the chain and so working into the chain rollers. With the guard off, the job of replacing the chain is also simplified. Should the guard not require cleaning, an old chain can be used to feed the chain back on the sprockets. In this case, open the connecting link of your service chain and attach the old chain using the connecting link. Grasp the chain on the slack side and pull it through, feeding the old chain onto the rear sprocket and letting it follow through and around the motor drive sprocket. With the service chain off the sprockets, disconnect the link, and the chain is free for cleaning. Place a screwdriver or stick through the spokes to prevent the wheel from turning and thus causing the old chain to run off the motor drive sprocket. Remove any dirt from the sides of the sprockets.

Wipe the surface dirt from the chain and place it on the screen in the pan. Pour kerosene over the

chain and soak thoroughly. Slop the kerosene around to wash all dirt from the chain and then remove from pan. If necessary, take fresh kerosene and rinse again until the chain is clean and all joints are free from grit. Wipe pan clean and pour enough oil into pan to cover chain. Immerse chain in oil and let soak. The chain may be moved in the oil to speed the penetration. Remove the chain from the oil, allow the chain to drain, wipe the outer chain plates dry, and install back onto the motorcycle.

Most riders clean and lubricate their chain at the same time they clean and lubricate the motorcycle. Remove the chain first, clean and immerse in oil. By the time the motorcycle has been cleaned and lubricated, the oil will have penetrated into the chain rollers and the chain will be ready for re-installation. The actual working time for the entire operation is not more than fifteen minutes.

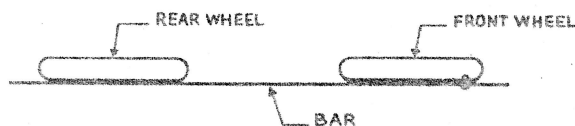
Clip the chain to the old chain already on the sprockets and pull through. Replace connecting link and link clip. The chain should be replaced to run in the same direction as before to preserve chain pitch and so reduce noise and wear. Examine the connecting link. Should the pins become loose or bent it must be replaced. The connecting link spring clip should be replaced with the open end in the direction opposite to chain travel, and should seat snugly. If bent or twisted, replace.

This method of chain service will do a good job of removing all abrasive grit from the chain and will positively lubricate all bearing surfaces.

Chains should be kept adjusted so they will have one inch up and down play at the center. This is important. Tight chains heat and set up a drag. They waste power. Loose chains hit on parts of the machine setting up strains and vibrations which shorten the chain life. In striking the machine, the chain plates are often damaged causing them to bind on the sprockets. Chains which have worn and stretched or stiffened due to damaged plates do not ride around the sprocket easily. They climb up on

the sprocket putting the entire pull on the first few links, straining the chain and causing the sprocket teeth to become hooked. This changes the pitch, or distance between teeth, on the sprocket and should a new chain be put on, the chain would mesh only on a few teeth instead of all around the sprocket resulting in premature wear to the new chain.

Be sure the rear wheel lines up so that the sprocket teeth run straight in the center of the chain rollers. Misalignment of sprockets causes friction and heat and wears the teeth narrower on the sprocket. Also



SHOWING WHEELS IN PROPER ALIGNMENT

this out-of-line action spreads the inner side plates, forcing them hard up against the outer plates and preventing lubricants getting into the bushings where it is most needed.

To properly line up the rear wheel, a metal bar or similar "straight-edge" is required. With a hook made from a piece of stiff wire hung on one of the forward spokes, hold one end of the bar up against the leading edge of the front wheel. Straighten up the front wheel. Now bring the bar back under the frame and up against the rear wheel. Both the front and rear edge of the rear tire should be flush with the straight edge to be properly lined. Unless the wheels "track", the machine will not handle properly in addition to causing wear thru improperly lined chains and sprockets.

A bent frame should never be counteracted by pulling the rear wheel around, as this forces the sprocket out of line. It will be cheaper to have the frame straightened right in the first place than to keep replacing chains and sprockets due to excess wear from the misaligned sprocket.

In competition, give your chain the same care you do your motor. There is not much sense in tuning up your motor to get peak performance and then losing some of your power due to a faulty chain. Clean and oil it before every event. When riding on a sandy or dusty course, keep the outer surfaces of the chain dry to prevent the chain from picking up grit from the track.

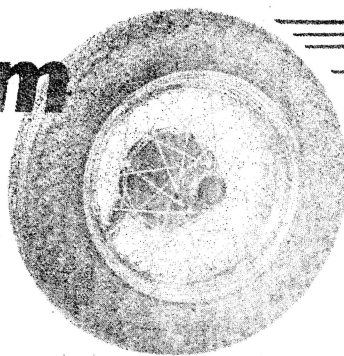
Chains will become scarce just as other motorcycle parts. It will do you little good to conserve your tires and then not have a usable chain. Keep your chain clean and lubricated and you will easily triple its life.



— Oh sure, an' I suppos' you're goin' t' use rope an' rubber bands for replacements — !

Keep 'em

A Few Thoughts
On Wheels



Rolling

One particular rider had complained about poor gas mileage from a neat "45" that should have been getting right down to the last mile out of every gallon. He couldn't seem to figure just what was doing it till one night as we were coming home from a spin that little job sputtered and died. No gas! Well, it was only a couple of miles to home so we rigged up a tow, each holding an end of an old blanket.

As I slipped in the clutch, I was nearly pulled off the seat by what seemed like a dead weight. By the time we swung into his drive, my right arm was so numb I could hardly let go. There was the answer to the low gas mileage. With such a drag thru the wheels, considerable horsepower was being wasted—used up to overcome wheel drag. Naturally, the less power lost through friction along the drive line, the more speed and better mileage we will get from our machine. Right then it was decided that we should go over the wheels pretty well and get that job delivering the mileage it should. So, we set a date and a few nights later both beat it out to his garage.

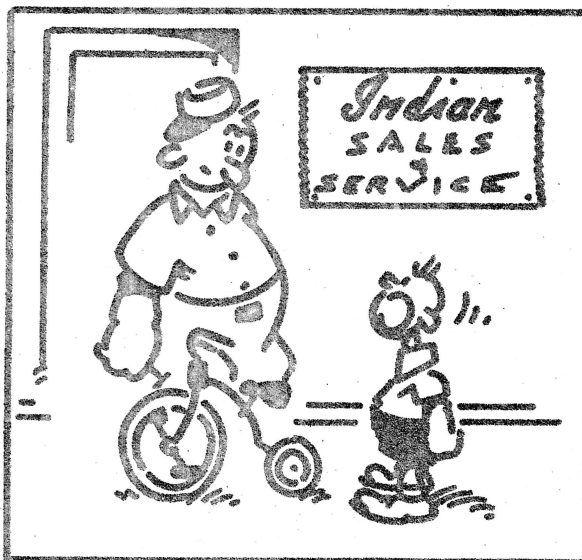
Well, we started with the brakes. The pedal was pretty high so we decided to pull the rear wheel off and take a look at the linings. Fortunately they were not bad but if the dragging condition had been allowed to go on, the linings could have easily become burnt and glazed. Burnt and glazed linings give a harsh and noisy brake action and would then have to be replaced. For proper brake action there should be $\frac{1}{2}$ " of foot pedal travel before the rear brake starts to take hold and likewise $\frac{1}{2}$ " of hand lever travel before the front wheel brake starts to take effect. Quite a number of riders fail to keep their front brake up to the proper adjustment, relying more or less on the rear brake for stopping. Both brakes should be brought into action together to make for most effective stopping, particularly so on the models not having a sprung rear frame. Rigid frames have a great deal more rear end "hop" when brakes are applied hard, particularly on rough roads; and the proper coordination of the front brake will stop you much more quickly and with less scuffing of the rear tire.

The Indian front brake is designed with a dragging action rather than a locking action but any brake will lock when applied on loose surfaced roads where the friction of the wheel to the ground is not great enough to keep the brake from locking. Never apply the front brake fully on hard surfaced roads that have been sanded as the front wheel may lock and cause the machine to skid. Due to the leverage possible through the rear brake foot pedal, the rear brake can easily lock when the pedal is pressed com-

pletely down. Smoother brake action and usually quicker stopping can be secured by pressing the pedal down only far enough to drag the rear wheel to a stop rather than to slide and possibly skid it. Here is a Safety Council table of stopping distances at the different speeds with efficient brakes and tires, which although not actual motorcycle figures show the great increase in stopping distance required when traveling at the higher speeds. Of course, Spring Frame motorcycles cut down the stopping distance considerably, although no figures are available. The average reaction time for the rider to apply the brakes is $\frac{3}{4}$ of a second according to Safety Council figures.

STOPPING DISTANCES

M.P.H.	Feet per second	Stopping distances
10	14.67	5
20	29.34	21
40	58.7	82
60	88	185
80	117.2	328
100	146.66	514



YOU HEARD ME, ALIGN AND LUBRICATE THE WHEELS—THE BRAKES WHICH IS ME IS OK!!!

With the wheel off, we went right ahead and checked the bearings for wear and lubrication. Most wheel bearings have Alemite fittings that require regular lubrication with high temperature grease at least every 2,000 miles. However, only a small amount of lubricant should be used as any excess will likely work into the brake drums and linings and make the brakes inefficient.

As far as the rider goes, he is really up in the air if he relies entirely on fitting lubrication to keep grease on the wheel bearings as many riders do. The hollow hub will hold considerable grease and the rider cannot be sure just how much is getting to the bearing, if any. Seasonal packing, as recommended, with a good fibre grease is much better and assures correct lubrication. In fact, the rider would be better off to omit the fitting lubrication providing he would remove the wheels and properly repack the bearing seasonally and at intervals of not over 10,000 miles. No additional lubrication would be needed in between packings and the bearings would be positively lubricated.

However, to do the job right, the bearings should be packed with a bearing packer. A bearing packer forces the grease throughout the bearing and all around the rollers as is not possible with hand packing. Should a bearing packer not be available, dip the bearing in hot melted Marfax.

Correctly lubricated bearings should last the life of the motorcycle if kept properly adjusted, but the bearings in our "45" were quite dry and slightly scored so were replaced. When repacking wheel bearings, with the wheel off, remove the bearing nuts and brake drum bearing support nuts and felt washers. Remove the bearings and wash them clean in kerosene. Examine for wear. Worn, burnt or scored bearings or worn races should be replaced.

In reassembly, always use new felt retainers when possible. In any case be sure to work grease thoroughly into the felt retainers as this will keep water out of the bearing — one of the big causes of damage to bearings.

We tightened the bearing adjusting nut until the wheel bound, then backed off slightly so that a very slight play was felt. Some bearings have no adjusting nut and use spacers to compensate for slight wear, or are of a type that requires no adjustment. Then we snugged up on the lock nut, replaced the spacer, and the wheel was lined up on the machine. The same procedure was followed with the front wheel. The results showed up immediately, in that the machine rolled much more freely.

At the same time, it is a good idea to check the wheel spokes for tightness and to make sure the rim is running true.

Particularly now, when our tires must last us some time, it is advisable that wheel balance be looked into. Wheels out of balance will cause excessive tire wear and vibration, and will make the motorcycle hard to handle at high speed. Lead solder can be used or prepared weights are obtainable for counterweights. In balancing wheels statically, it is desirable to use two smaller weights spaced around the rim rather than a single heavier weight at the light spot.



**LET THE
WANT
ADS
SCOUT
FOR YOU!**



40 Years of Progress with the Indian Motorcycle Company

- 1901 Oscar Hedstrom and George Hendee begin production on America's pioneer motorcycle — INDIAN.
- 1903 Pioneer Police Motorcycle sold to New York City.
- 1904 Indian introduces patented double twist grip control. Highest gold medal award at St. Louis, Louisiana Purchase Exposition.
- 1905 First twin cylinder motorcycle.
- 1906 First three-wheeled delivery van.
- 1907 Magneto ignition introduced.
- 1910 Footboards (a typical Indian development giving pleasure and comfort to thousands of riders. Imagine trying to ride today without footboards.)
Two-speed gear.
Leaf spring fork.
- 1912 Introduction of kick starter.
Double brake action.
- 1913 Indian introduces cradle spring frame.
- 1915 Highest award at the Panama-Pacific Exposition
Department of Transportation Gold Medal.
Vanadium steel construction.
- 1916 Three-speed gear.
- 1917 60,000 Indians Built for A. E. F.
- 1920 Indian Scout introduced.
Indian sets 28 new straightaway records at Daytona Beach, Florida.
- 1923 Highest award medal at the Brazilian International Centennial Exposition, Rio De Janeiro.
- 1928 Introduction of the Indian Four cylinder model.
Indian wins every National Championship.
First front and rear wheel brakes offered.
- 1929 Indian sets world non-stop record — 20 days, 17 hours and 33 minutes without stopping either motor or wheels. Six drivers rode in relays at Nazareth, Pa.
- 1930 Indian introduces safety guards.
- 1932 Longer, larger, easier riding frame construction on Indian 4, 74 and 45.
- 1934 Cam ground T-slot pistons introduced.
Patented dry sump lubrication.
New Indian Sport Scout.
- 1935 Distributor ignition (replaced ancient battery type).
- 1938 Cylinders cast in pairs on Indian Four.
Dual oil pumps.
- 1940 Spring Frame.
Streamlined fenders, tanks, over-all design, "fill-rite" battery.
Airtex rubber saddle cushions.
New center and jiffy stand.
- 1941 Double-action Spring Frame.
Sealed Beam headlamps.
Slim, palm fitting hand grips.
Lighter weight pistons.
Positive clutch on Indian Four.

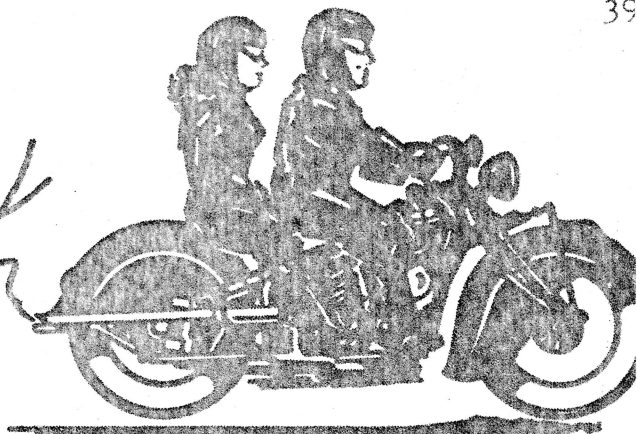
FUN + GAMES

AT THE INDIAN FOUR MEET

WITH

Jonny Midnight

Fiction



Sounds of soft laughter penetrated my tent as I awoke and I could make out snatches of conversation nearby. I flipped open my tent flap and was greeted by knifing rays of bright sunshine passing through the trees from a clear sky above.

The early risers had their fires going and were cooking breakfast. I took a deep breath and inhaled the odors of fried bacon and eggs, pancakes and fresh brewed coffee that was floating through the camp area. I decided then and there, it was time to fix breakfast.

Camped next to me and just finishing their breakfast, were Richard Adams, L.H. Anderman, Richard Aldrich and Andy Anderson, who offered me the use of their fire to fix mine on. It was a fine gesture and I quickly took them up on it.

I was shortly joined by Fran Backer, Casper and Larry Barnes and John Bell and soon we were all discussing the fine activities of the evening before, as well as the restful nights sleep to be had camping here. Of course, I asked Larry how it was that Casper could handle that hi-powered stuff and they all laughed. Later, as we were enjoying a second cup of coffee, we were joined by Walter Benjamin, John Blouch, Jerry Boyd and Allen Bozung. Walter and John warned us to watch out for Jerry and Allen as they had something up their sleeves for tomorrow's doings. 'course they weren't talking. Soon we were all talking about the days planned activities that we so looked forward to.

It seemed no time at all 'til the grounds were a beehive of activity. I could see that some distance from the road on the lane into the grounds, that R.M. Brewster, Alden Brookens, Glen Brutus and George Burnham, all volunteers on the Welcoming Committee, had the booth set up with a big banner that said, "REGISTER HERE" for all to see as they entered the club grounds. (Of course I couldn't understand why the fellows seemed to be using beer bottles as hammers or where they may have found them?)

We all agreed that it was a good idea to have a registration book handy for each member to sign his name, the distance he had come and also if it was his first time to attend the August Rally, as well as to pay the entrance fee, receive the program of events and also a shirt patch for easy identification, all at one stop. This would give the club an accurate record of who and how many members attended.

I was surprised as I watched Odus Burggraf, Earl Chalfant, Jesse Clapsaddle and Dr. Bill Cleveland, stringing up a sharp, white banner with bright, red lettering that proclaimed "INDIAN FOUR MEET WELCOME" across the two large poles at the entrance near the road so it could be seen by all. Odus and Jesse was having one heck of a time, trying

trying to talk Bill Cleveland and Earl down from the top of those poles. They acted like genuine Flagpole Sitters. You just can't tell what an Indian man will do!

And as I approached the clubhouse, Frank Coffee, Frank Commins, Robert Corsmeir and Jesse Cox volunteered to hang a white sheet and also a dark, dyed sheet so that they were each stretched tight and they promised to have them ready for the first event of the day. It was planned to have each member line up single file on his motorcycle, and one at a time pull up in front of the sheet(s) for picture taking. Which sheet was used depended on the best contrast for picture taking for an individual bike. There was some confusion as Frank Commins tried to hang the white sheet over Frank Coffee and the tinted sheet and Bob Corsmeir and Jesse were all tangled up too and for a while it looked like we would have two sheets and four members nailed up, but they got it all straightened out.

The picture taking of course, was open to all, but James Davis, Sr. and his son, Jim, Clayton Derstler and Gordon Deye, offered to take turns manning the official cameras. They planned to take one black and white picture of each member for use in Indian Four News and one in color to fill the empty pages in the club's album.

Darrell Dixon, Delmar Donaldson, Maynard Doxie and Glen Dyer came riding up, single-file on their hi-polished Fours to head-up the procession in front of the cameras. Before long, there seemed to be no end to the line up and everybody was all smiles.

After some time spent making the rounds, I noticed E.R. Eisele, Ralph Embler, Charles Faas and William Fillingin, out on the parade grounds, setting up the P.A. system in preparation of the first riding events. Activity was picking up all over the grounds.

From the far side of the field came A.S. Fisher and Paul Freeman, carrying a 29 foot long 2X6 and right behind them was Nick Gansinger and Captain George Garcia, carrying a 2X4, the same length, out to a spot on the track that was previously marked by Cedric Gearing.

After a few feed-backs that split our ears, a call finally came from the PA to start the "ride the Plank" contest. Paul George came purring up on his sharp four, closely followed by Bill Gewand, John Giorno and Vern Goodwin and the line seemed to have no end. This game requires each rider to ride the length of the 2X6 by using the throttle and balance. As riders slipped from the plank from losing their balance or put a foot down to steady their machine, the crowd cheered and helped our referee with his elimination task.

After a lot of fun and some fancy shenanigans, the field was narrowed down to about 15 riders. Heading the line was John Gormley, Loren Gouldsberry, Rocky Gravelle and John Groves to start the second phase of "Ride the Plank". Charles Harper and Max Harry removed the 2X6 and Jean Hecht and Norman Heimbecker replaced it with the 2X4. This really took balance and skill and one by one, riders were eliminated until the PA announced the winner and he was awarded his trophy amid loud approval from the enthusiastic crowd while G.S. Herbison took his picture for later use in the club magazine and album. It was too bad that the camera was not set up before this game was started to show for posterity what some of our members will do. The referee had to make Paul take off his skis and Bill had to remove the roller skates. John and Vern were deprived of their pillows they had tied on their feet before the game could begin. Really fellows!

R.J. Hickethier and Charles Hoke volunteered to take charge of the next contest, the "Balloon Breaking" event and they were already putting out inflated balloons on the track for the first rider. One rider at a time, was to ride down the course and back and who ever broke the most balloons with his

front wheel wins. After a while, this narrowed down to a hot contest between George Hopps, William Howell, Victor Hugenin and Clifford Hurst. It seems the referee had to call "time" to check boys because a rumor had circulated that George and Bill had glued nails to their front tires and Vic and Cliff had to remove the Cactus from theirs. After the trophy was awarded and the picture taking was finished, it was the end of activities for the morning and everyone answered the call to dinner in the clubhouse or their camp.

A filling and a leisurely dinner was enjoyed by many who partook from the menu of home cooked food that was offered by the ladies from the kitchen of the Traveler's kitchen in their new clubhouse. Dinner hour was soon gone and everyone that had brought spare parts and other items, began setting up their wares for the Flea-Market. This is always a popular time for all members. (Everyone is invited to bring parts they have that are extra as it is a service to other members, and part of our pledge agreed to on joining). Louis Hurt and Merle Izer volunteered to see to the opening at 1 PM and the closing at 2PM, of the Flea Market operation. They had fine cooperation and everything was conducted in a smooth manner.

After enjoying a fine dinner, Joe James, Sr., Gerald Jenny, Darrell Johnson and L.S. Juillerat, took over the registration booth at the entrance, in relief of the fellows who were manning it in the A.M..

At the crack of 2PM, I heard Louis Kamaski on the PA calling for contestants to join up for the "Slow Race", on the oval track. This is one race where it pays to poke along as slow as possible without putting your foot down. First to line up were Jerry Karwac, Steve Kertesz, D.B. Kiel and Bill Kimball, and they were soon joined by many other riders. Boy, as I looked over the speedy group, I just knew it would be a ball! The whistle blew and they were off in a cloud of ?, well, you have to see it to believe it! Jerry and Bill were hooked on to a pile of cement blocks and D.B. and Bill had ship anchor tied to their hot Fours. Anyway, the ref straightened it all out and the event went on.

Soon the pack was narrowed down to about a dozen riders and heading this line up, I could see Don Knapko, Jack Lange, Enos Leass and Claude Lewis, Sr. getting ready for the final test of skill. Jack and Claude complained that Enos had tied his Four to the starting pole. After some discussion, Enos cut the rope. When the dust settled, the trophy was awarded to the smiling winner to have his picture taken while the crowd voiced its approval.

I had noticed a car parked on the edge of the grounds with no one ever around it and had wondered about it. I soon found out why it was there. The PA announcer pointed out that A.C. Lietzow and Carl Lindee had arranged with Traveler Members, to put it there for two reasons; to help any rider or member to relieve their frustrations that the cycle riders had accumulated over the years from encounters with cars and also for a money making scheme. You see, for 50¢, donated to our club "kitty", a person could step up, take their choice of large or small sledge hammers and smash away to their hearts content.

Otto Link was the first one ready to attack and he picked the hood. Earl Luedeke began to smash away at the top, Don McGillivroy had the side fender, James McGuire started on the trunk and tail lights. Boy! You talk about getting down to business! Soon fellows were all over it, flailing away with sledges amid the roar of the onlookers. Why, they were so busy they didn't notice the arrival of Detroit's top TV mobile unit from station WKIX, who were busy filming this fast bit of action as well as the other events to be included in Sunday's newscast. You could really say they made their own brand of compact car and it was a lot of fun. Everyone enjoyed helping build up the "kitty" a little, in this smash and dent way.

The PA announcer called everyone to the track area to line up contest-

ants for the "Barrel Roll". This was officiated by Lester McQuade and Al Roberts. They had acquired a metal beer barrel (empty), and each rider was to roll it with his front wheel to see who could roll it the longest distance without going off the track.

Among the first for this contest of fun and skill, were Homer Mahle, James Mann, Yorke Markham and Don Matter, on their purring cycles. I want to tell you, that was one barrel that really got a rolling before the final whistle blew and the winner received his well deserved trophy as his picture was snapped and the crowd applauded. The only question that was unresolved, was where did they find a beer barrel?

Once more the PA announced the next event that had been set-up by the following volunteers; Harry and Lew Maule, Jack Maurer and Milton Mehle. Yep, you guessed it. They had set-up the "Pie Easting" contest. Tables were covered with cream and fruit pies. It was late in the afternoon and appetites were greatly sharpened, so those riders who had signed up, were all ready to go to it.

First to get down to business, was Charles Metenhanich, Dimitar Miteoff, Leonard Moeller and C.E. Monott. At the second table was Charles Moore, Kent Moore, "Motorcycle Bill" and Charles Mullen. With the starting whistle, those pies sure did disappear fast and the crowd of boosters cheered loudly with each vanishing pie. After much expert pie eating, the champ, with pie on his face, received his trophy as the cameras clicked.

The PA announced the last event for the day. This was the "Pair Hook-up". Two riders, each on his own machine, line up beside each other and a string is tied to the inside handle grip on each machine. Then the riders go around the track without breaking the string. The string is shortened until at last a winner is declared. As the strings are made shorter and shorter, it becomes more difficult to ride without breaking the string and it takes good riding skill to win this trophy of a team effort.

James Munn, Paul Murray, James Nebrasky and H.J. Norman, Sr., volunteered to set this event up and lining up in double file were James Norman, Melvin Painter, John Palmer and R.C. Pasek along with many eager riders. The first riders took off with the starting whistle. They were followed by the next pair and then another and another. Around and around they went. Shorter and shorter grew the strings. The crowd cheered and hollered their encouragement louder with each complete circle until finally, only the winning pair remained. They rightly claimed their trophies and had pictures taken and the PA announcer called an end to the days riding activities.

Volunteers to clear away the PA equipment for the night were R.W. Paulette Carl Payton, Andy Pelc and George Pespas.

As the sun set, it was time for chow supplied by the clubhouse kitchen, the campfire or at a resteraunt close to a motel that was being called home-base for the duration of the Rally. It was a rider's choice.

Joseph Poinsette, Sylvester Price, Fred Provin and Clarence Puckett were the first to get their campfire going. These guys act like real Indians at chow time. I don't believe it even if that guy ran by and said that Joe and Sylvester had poured on Ethyl gas and Fred and Clarence used diamond safety matches.

Charles Reach and Cec Hasser decided to team up to start a fire to share. Charles furnished the matches and lighter fluid. Carl Reichenbaugh came by and told everyone that after the 8 PM business meeting or about 9:30, the Travelers Club, was going to have another of their famous corn roasts for all to enjoy. At that time of the evening, around the open fire, the corn really tastes good with plenty of butter and salt and pepper. This year they really had a pile of roasting ears piled high. Mmmmmmm good!

After a filling evening meal cooked over the open fire, it was time to rest and relax. We were joined by John Rogers, Dean Rodgers, Ed Romas and Arthur Rumpel and soon were laughing and reflecting on all of the days activities. By now the stars were shining brightly in the clear sky above and the leaves were rustling slightly in the soft night breeze.

Mervin Ryan came by and said that Robert Saar, Bryan and Leslie Salisbury and Dude Sattlem were getting ready to show movie films in front of the club house. Color films of past meets and events. With this pleasant news, Jack Schroeder, L.G. Shepherd and Glenn Shermer led the way to the clubhouse and the rest of us followed to take in the show. Somehow, these guys had run across popcorn and I never did find out where they got it!

As we approached the clubhouse, we found Ralph Simpkins, George Simpson, and Dave Sloan setting up benches and chairs for everyone; a service appreciated by all. In no time, the movies were under way.

After the movies we had the business meeting for members only. Jim Smalles announced that the corn roast behind the clubhouse was in progress and suggested that we take part. Earl Smith and Vernon Smith volunteered to keep the fire going under the tub and Leland Sparks and Bob Speck offered to serve the roasting ears with the long tongs. Kenneth Stanaback took charge of the butter and Lee Standly handled the salt and pepper.

Gari Stroh volunteered to handle the refreshments. (Gari sure knows his business). Newal Taylor voiced his surprise at the delicious flavor of the roasting ears to R.Y. Teeter and Clarence Thyberg who was standing close by. But Frank Toles, Roy Turner and Richard Ulreich were too busy cleaning ears to voice anything at all.

After the feast was finished, some guys and gals went to the clubhouse to play cards and other games and some went back to the camp area to rest and visit. Meanwhile, in the camp area, Henry Varner, W.N. Venner, Robert and Richard Vogus had set up a large campfire to the approval of John Wickham and Kent Waddell and Percy Wallace were joined by Curtis Weigold and Martin Weisendanger in setting up benches around the glowing fire.

Maynard Whetstone and Ronald Whirley were tuning up their guitars, Claude Wilcox had the six string banjo and was limbering up. Now, coming up to join the group was Louis K. Wille with his bass fiddle. Then from nowhere, appeared the "Harmony Group" of W.D. Willis, Bruce Wilson, Ed Wolski and Fred Wood. Unable to hold back any longer as the music started, Merval Wood came up to join the group with his harmonica.

What a fine evening it was for music and songs around the blazine fire. Everyone was soon helping out by adding their voices to the swelling sound of music.

Charlie Woodhouse and George Young, along with adding their voices, were keeping the fellows playing, supplied with liquid refreshment, much to their approval. You must believe that Charlie and George really put their hearts into this effort. Stacy Hart and Steve Sturm added more firewood to the fire and everyone took turns calling out their favorite tunes to play.

Sunday was another fine, sunshiny day with clear skies. The day began with all riders dressed in their riding best, taking part in the Grand Parade, lined up four abreast and row after row, on the oval track. At the signal from the Parade Master, the parade made several rounds while on-lookers took pictures. After the parade, the cycles were lined up for judging and to await the awarding of the many trophies to the many proud winners.

Time seemed to fly by and it was soon time to say farewell 'til next year, so 'til then, safe riding!

WANTED: Any literature for my 1915 Indian Twin. Need a 1915 Indian front fender section, primary chain cover and handle bar grips. Will trade Indian Four literature and cash. Don McGillivroy; 1708 Roseville, Minnesota 55113.

WANTED: For 1940 Indian Four; muffler and pipe, front fender side trim strips. Also trim strips for top of front and rear fenders, brake pedal mounting bracket (mine is broken off at the frame), battery hold down bracket and a good set of 16" inter-changeable wheels. John Palmer; 5968 - 319th Street; Toledo, Ohio 43611.

WHEN SENDING IN CLASSIFIED ADS, PLEASE LIST THE INFORMATION ON A SEPERATE SHEET OF PAPER ALONG WITH YOUR NAME AND ADDRESS. WE WILL RUN ADS ONE TIME ONLY UNLESS WE RECEIVE AN ADDITIONAL WRITTEN REQUEST TO RUN IT AGAIN IN THE NEXT ISSUE.

LETTER FROM A MEMBER'S SON

Dear John;

As you know my father is a member of your club. I have ordered an Indian Four News from Cecil even though my dad already has one. I just glanced through it and I was really impressed. I'm only 21 years old but there is something about those Indian 4's that fascinates me. I guess my dad had something to do with it. He used to take me for rides on his Four when I was a little kid.

I had an Ariel Square Four about a year. I did some work on it and rode only two days. I was in a hit and run accident and that just about took my foot off. I just got out of my sixth cast but I haven't given up yet. I fixed up my Ariel while I was in my cast and rode it a while after I got my cast off. I decided to sell it and stay off the road, so I bought a small scrambler for enduros. Now that I have my cast off, I have to set it up for the road. Every time I look at my pictures of my Ariel 4 I get sick thinking about all the work I put into it. I hope to get another Four someday, no doubt an Indian.

I am really impressed with your club and I hope someday I can become a member. Keep up the fine work.

Sincerely, William Eisele

P.S.

My future plans are to rework an Indian twin my dad bought for parts. I realize how much work and time you are putting into this club. I am treasurer of the Northern Lights M.C. out of Aurora. We have mostly older members who are married and have children. It's not a "black jacket gang". These days it's not too easy to spread good will with a motorcycle club but we are trying. I hope some day the black leather gangs can be taken care of. They are ruining everything. • Many races will not be run this year because of them.

Well, I guess I'd better close now. I congratulate you on your interest in a truly worthy cause.

William Eisele

(When John received your letter, he asked if I would put it in the club magazine. He thought it was the nicest letter he ever received and you know, I think it probably is too. If your dad didn't pop all his buttons about 21 years ago, he sure has cause to do it now. Ed.)

QUESTION AND ANSWER PAGE

TECHNICAL EDITOR.....Paul Murray
9010 Jackman Road; Temperance, Michigan 48182; Phone (AC 313)-847 - 5265

I am very pleased to announce that Paul Murray has agreed to serve as INDIAN FOUR NEWS' Technical Editor for 1967. Please direct all questions to Paul at the above address. Paul asks that only questions pertaining to four cylinder motorcycles be directed to him. He will try to help solve problems of MEMBERS' twins, if he has time but he refuses to have a hand in "deliberately destroying a perfectly good Scout by chopping it or increasing the cubic inch of the motor". Glad to have you with me Paul..Ed..

QUESTION

"I read with much interest your article on "Restoring Your Indian 4 Engine" in the Indian Four News. I was particularly interested in the con-rod and main bearing shells of aluminum alloy. Can you tell me what the designation of the alloy is? I've babitted three engines to date and have a 1941 on hand which needs new bearings. When I got this cycle it had bronze inserts in lieu of babbit and they severely scored the crankshaft. The crankshaft had to be reground, so I'm a little leery of anything other than babbit".

Sincerely, R.M. Brewster; Vallejo, Calif.

ANSWER

Re aluminum tin alloy we use as bearing materials, I shall only outline its qualities briefly from the engineering specs. I have from the manufacturer. Its contents are as follows:

		Typical Values
Copper	2.3%	
Iron	.7	
Silicon	.4	25,000 P.S.I. Tensile Yield
Manganese	.1	32,000 P.S.I. Tensile ultimate
Magnesium	.9	20,000 P.S.I. Comprehensive yield
Nickel	1.5	
Titanium	7.0	2% effort
Bal. Aluminum		

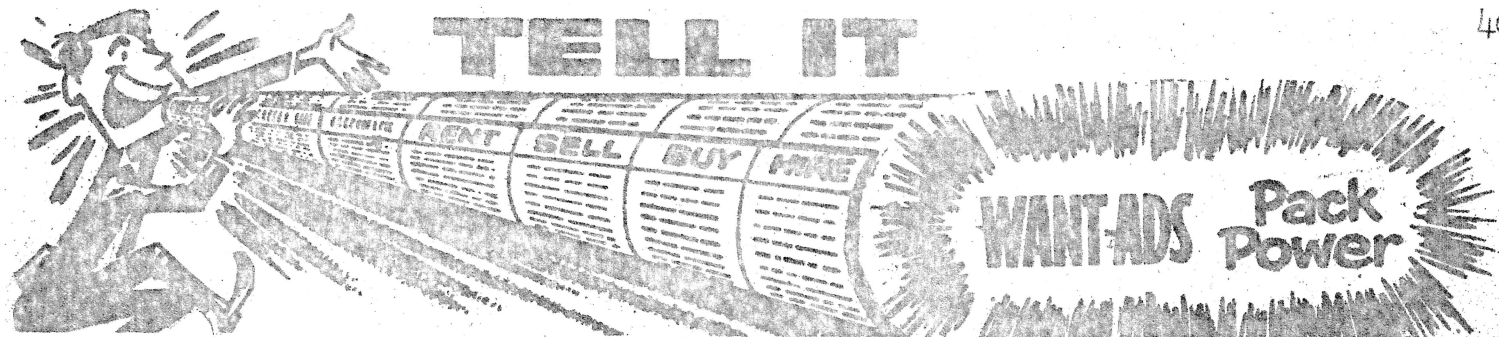
It's thermal qualities are better than any other bearing materials except silver, high resistance to corrosion, conformability and imbedability, is much better than any other bearing material. Resistance to scoring and galling, is better than babbit or bronze and as you can see by the typical values, it is strong.

It is currently being used by automobile manufacturers and many truck engines also, who cast them in a permanent mold and we machine them to suit our needs.

In some parts, geographically, this material has been little known and bearing dealers did not stock it. It is produced by ALCOA and sold by Bunting dealers.

It is very machinable and the bores can be honed without fear of imbedability. The engineering specs I've just acquired from my file are dated October 1, 1958, so you can see it is not new. I've used it since before this date and I believe the results are absolutely the ultimate.

P.M.



WANTED: 1940, 41, or 42 Indian Four and XA Harley Davidson shaft drive.
FOR TRADE: 1912 Indian Single, 841 Indian shaft drive and several Scouts. WANTED: Wheel mount for spare for Indian sidecar.
 H.J. Norman; P.O. Box 568; Weatherford, Texas 76086.

FOR SALE: Double axle trailer, 7½' wide and 13½' long; 2 new tires, other tires fair + spare, wood bed, wired for stop, tail and clearance lights. Has electric brakes. Excellent for hauling motorcycles. Larry G. Barnes; 520½ East Front St.; Pemberville, Ohio 43450.

FOR SALE: 1939 Indian Four complete with sidecar. Engine is standard bore, has 19,800 miles on speedometer. Completely restored, new paint, etc.. Almost 100 pieces of new chrome, new Bates saddle, new battery, engine overhauled (rings, valves, etc.), new sidecar windshield and apron, upholstery and radio. New Indian script footboards. Paint is Diller Maroon Sun-Gleem with metal flake. Many sets of tank decals, a clutch and enough spare parts to fill the sidecar; all included in the price of \$1,000.00. Would consider a trade plus cash for older 30:50 twin preferably. Jerry Karwac; Box 283; Yorktown, Va. 23490

WANTED: Back fender for 1941 Indian Four. Condition not too important. Jack E. Schroeder; 510 Willis St.; Elgin, Illinois 60120.

WANTED: Indian Four, like new. 1st. Lt. Tulio Ferreris; C.A.P. United States Air Force Aux.; Box 291; Mayaguez, Puerto Rico 00709.

FOR SALE: Some parts for 45s and 74s. Allen Bozung; 24800 Lahser St.; Southfield, Michigan 48076.

WANTED: March 1929, American Motorcyclist & Bicyclist. Eclipse clutch from any 1910 - 14 single speed motorcycle. Want a DELUXE single cylinder engine manufactured by the F.W. SPACKE CO., condition not important. FOR SALE: 1948 Indian Chief, miscellaneous Indian Four parts, some new. SSAE please. Earl Chalfant; 103 Jefferson Street; Brookville, Pennsylvania 15825.

FOR SALE: 1934 Indian 4 in running condition, \$400.00. 1927 Indian Princess, \$200.00. WANTED: Pre 1930 four cylinder motorcycle. Also K.L. model Henderson 4. Bill Cleveland; 2522 Norfolk Road; Cleveland Heights, Ohio 44106.

WANTED: 1930, 31, or 32 Indian Four suitable for restoring. Must have all major parts. Running condition preferred. State year and price. INFORMATION: Correct finish of factory original on 1940 Four and 1947 and 48 74s. Cylinder finish - dull nickle or cadum? Screws and bolts on engine and frame, spokes, rims, hubs, gear shifter, brake & clutch peddels, connecting linkage and rods. Color combinations for the 1940 Four. (If possible, a DuPont or other number) James E. Davis P.O. Box 2121; Arcata, California 95521.

FOR SALE: Beautifully restored 1940 Indian Four plus a nearly new spare engine, not assembled but all there. Will send photos upon request. Paul Murray had a hand in restoring this machine and says no expense was spared to make this as near perfect as is possible. Ridden 1000 miles since restored. Only, \$1,500.00. Gari Stroh, Jr.; 909 E. Elizabeth Street; Detroit 26, Mich. 48226

WANTED: Pair of 1929 Indian 4 cylinder fenders complete. Cluster gear and sliding gear for same. Footboards for 1926 Indian Chief. Complete engine for 1938 Indian 4 cylinder. Rear crash bars for 1938 Indian 4 cylinder. Mechanics manual for the Indians above. Donald E. Schoenfeld; 1352 Miller Dr.; W. Hollywood, California 90069.

WANTED: Horn for Indian Chief, model 1928 - 30. Bob Corsmeir; 277 E Amity Road; Cincinnati, Ohio 45237.

WANTED: Dimmer switch for my "80", the kind that goes into the left foot-board. Charles Metenkanich; Box 1482; Ann Arbor, Michigan 48106.

FOR SALE: 1953 Indian "80" and 1946 Indian Chief "74". Some parts. Walter Benjamin; 7174 Gale Road; Morrice, Michigan 48857.

WANTED: For 1930 Indian Four. Headlight and brackets, complete tail lite assembly and license plate holder, dash panel, switch and amp gauge, speedometer and housing and muffler. Delmer E. Donaldson; 2460 Del Sur, SW; Albuquerque, New Mexico 87105.

FOR SALE: 1939 Indian Four, all original including paint (slightly dull). Never been dropped. Motor has been overhauled, runs like a top. New tires and battery. Sell for \$750.00 or trade for a late model Bonneville Chief in excellent condition. FOR SALE: 1956 Ariel Square Four, immaculate condition. 14,000 original miles, \$1,200.00. (Wife says I have to get rid of something) Dude Sattlem; 538 W. Maple; Roseburg, Oregon 97470.

WANTED: 1 spring seat post (like on magazine cover); 1 instrument panel complete; 1 speedometer housing and cable, all for 1937 Indian Four. L.G. Shepherd; Jerome Avenue; Cairo, New York 12413.

WANTED: Indian Four....Stacy Hart; Box 766; Littlefield, Texas 79339.

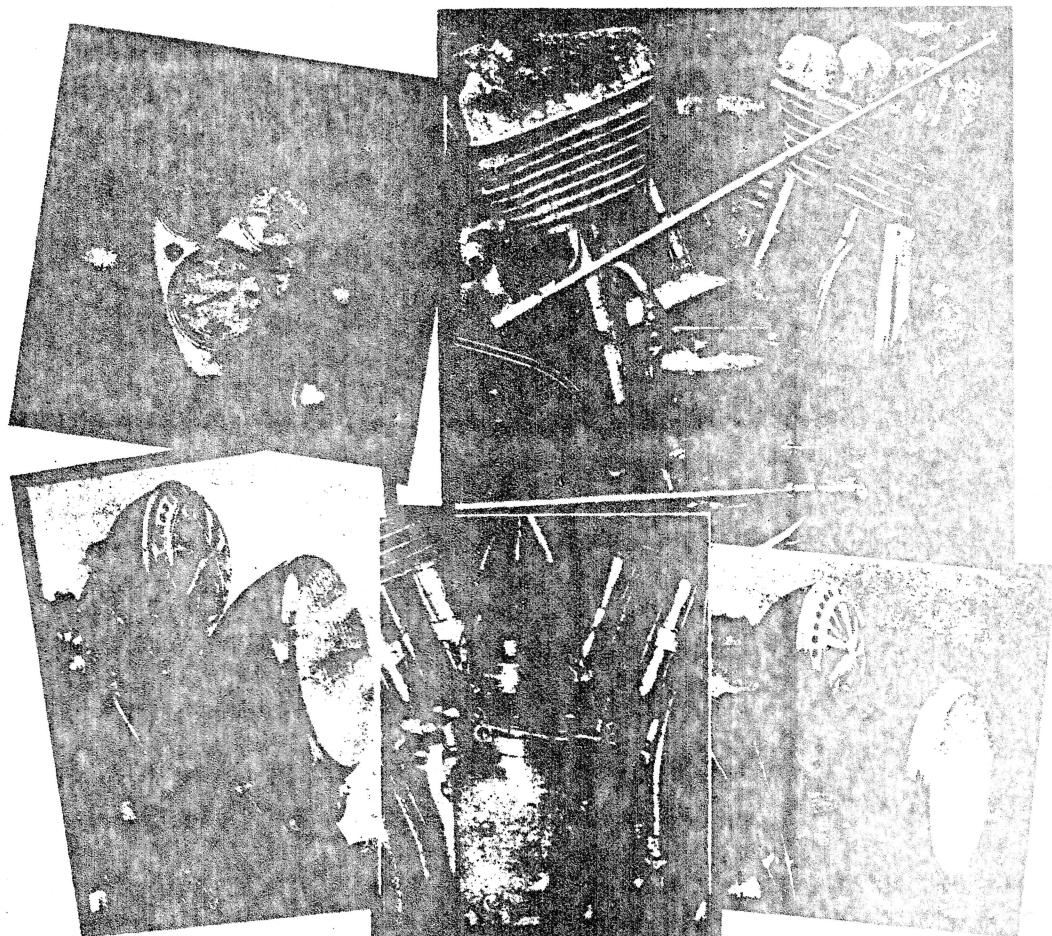
WANTED: Indian Four, any year considered if in good condition. Need not be restored. Wm. Hasselbrinck; RR 2; Princeton, Indiana 47570.

WANTED: 1941 Indian 4 in original condition with title. No ornaments or extras except safety bars; no cracked or re-welded crank shaft wanted. Louis Kamaski; RR 3; Box 410; Chesterton, Indiana 46304.

WANTED: 4 speed transmission for 1937 Indian Chief. Steve Sturm ; 5307 Brown-ing Road; Pensaken, New Jersey 08109.

38 NEW FEATURES FOR 1938

120 Mile Lighted "Corbin" Speedometer in Panel
 Polished Instrument Panel
 Waterproof Switch and Ammeter
 High Capacity Oil Pump
 Gear Return Oil Pump
 Combined Pump and Ignition Drive Unit
 Smooth Cam Case Covers
 Concealed Breather Valves
 New Fins on Cylinders
 Concealed Valve Guides
 Pistons with Narrow Rings
 Angle Fin Cylinder Heads
 Greater Gas Economy
 Stronger Crankcases
 Increased Bearing Capacities
 Cooler Running Engines
 Improved Clutches
 Larger Exhaust Pipes
 Separable Mufflers
 Fork Protector Shields
 Low Headlight Position
 Revised Horn Mountings
 Larger Horn Shields
 Stronger Fork Stem
 Improved Wheel Bearings
 Softer Spring Seat Post
 Greater Battery Capacity
 Improved Stop Light Switch
 Concealed Wiring and Controls
 Wiring Terminal Block
 Smaller Light Switch on Bars
 Larger Saddle Top
 Revised Saddle Supports
 Semi-Sport Handlebars
 Revised Gasoline Tanks
 Stenciled Tank Transfers
 Gray Handlebar Grips
 Threaded Gear Shift Knob

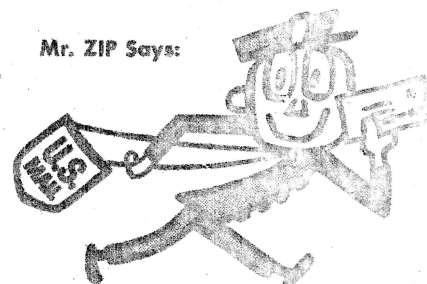


Indian 4

MODEL 438 . . . DISTRIBUTOR IGNITION ONLY

Brakes	Internal expanding, front and rear wheel.
Clutch	Multiple disc, operating in oil.
Drive	Primary drive, helical gears. Final drive, $\frac{5}{8}$ " pitch, $\frac{3}{8}$ " wide roller chain.
Electric and Ignition System	Auto-Lite generator, Willard 6 volt, 29 ampere hour battery. Distributor ignition. Twin filament headlight with beam control on handlebar. Stop light standard.
Finish	duPont Dulux, Indian Red standard. Other colors optional. Special colors at extra cost. Generous use of chrome plate.
Fork	Indian triple stem. Leaf spring type.
Frame	Indian double tube cradle type.
Instruments	Corbin 120 mile, lighted speedometer, ammeter and new switch set in instrument panel standard. Max hand speedometer at extra cost.
Lubrication	Pressure feed oil pump with visible oil gauge. All oil in motor base. Capacity 3 quarts. Hydraulic chassis lubrication fittings.
Motor	New four cylinder air cooled. Bore $2\frac{3}{4}$ ", stroke $3\frac{1}{4}$ ", 77.21 cubic inch displacement. Overhead intake, side exhaust. Cylinders cast in pairs. Removable aluminum heads. Cam ground, T-slot, pistons. All tappets and rocker arms fully enclosed and operating in oil bath. Automatically heated intake manifold for greater gasoline economy.
Saddle	Side spring type. New large rubber cushioned leather top.
Tank	Main and reserve tanks. Capacity 4.2 gallons.
Transmission	Three speed.
Wheel Base	61"
Wheels & Tires	Interchangeable wire wheels. 18" Drop center rims. 18" x 4.00" Goodyear or Firestone tires optional.
Weight	532 Lbs.

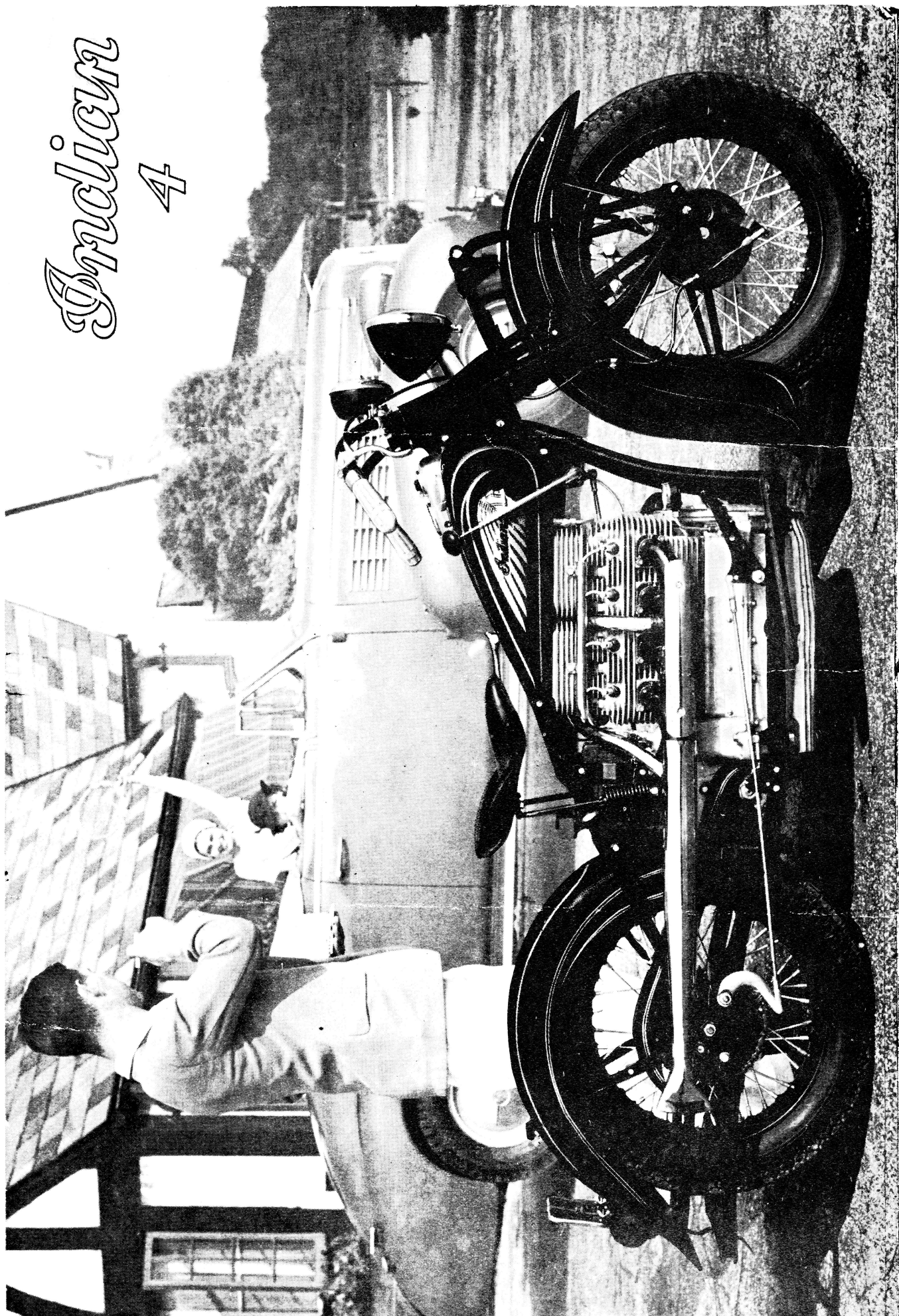
Mr. ZIP Says:

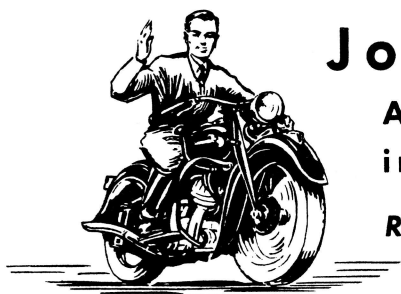


USE ZIP CODE ON ALL YOUR MAIL

When you send your change of address, be sure to send your P.O. Box number if you have one. Also your Zip Code.

Indian 4





Join the fun —

**Attend the next motorcycle activity
in your locality**

RIDE AN *Indian* MOTORCYCLE

