

June/July 1997 Issue 2



Newsletter



Club Information

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Contacting NCRC

Any correspondence should be addressed to:

Northern California Rover Club
P.O. Box 14961
Berkeley, CA, 94712-5961

Members are strongly encourage to submit articles, notes or letters for publication.

Club Decals

Additional club decals are currently available for \$4 each. The decals are approximately 2 inches by 4 inches and bear the club logo as it appears on the newsletter cover. To obtain additional decals please forward a letter with a mailing address, number of decals desired and a check for the appropriate sum to the club address. Make checks payable to **Northern California Rover Club**.

Newsletter Back Issues

Newsletter back issues may be obtained on an as available basis for \$1.50 each. The \$1.50 includes postage.

Membership Application

A membership application form is located on the rear page of each newsletter. Please feel free to copy this form for anyone you may know who is interested in joining the Northern California Rover Club. Application for membership need not be made using the application form. Membership application should include: Name, Mailing Address (inc. zip code), Telephone Number, Type of Rover owned.

Officers

Current club officers are:

President: Bruce Bonar
Vice President: Eric Cope
Secretary: Jeremy Bartlett
Treasurer: Morgan Hannaford
Club Jester: Jim Russell

Next Meeting

The next meeting of the Northern California Rover Club will be held at

8:00 p.m. August 22
Comtech Wireless
3928 Point Eden Way, Hayward
tel. 1-800-745-9991 ext. 1103 (after 5:00 p.m.)

This should be a relatively quick meeting, mostly catching up on business we're behind in (incorporation, directory, etc.)

Directions:

From 880 take 92 toward the San Mateo Bridge. Take the Clawiter Road exit. (**WARNING: if you miss this exit you will end up on the bridge - its the last exit**). At the stop sign turn left, go over the freeway. At the next stop sign go straight. At the first street turn right. This should be Pt. Eden Way. Take the first driveway then left. There are no parking restrictions. Call the 1-800 number after 5 if you are lost.



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Cover Photo:

Morgan Hannaford on the Slick Rock trail

Club Meeting Minutes

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Minutes of June 27 Meeting

- Members introduced themselves and the club thanked Tim Manhart for the use of his Merry Maids office for the club meeting. There was discussion of issuance of the telephone directory for club use since the membership appears to be leveling off at this point at approximately 50 members. Membership forms have been left at RAB motors in San Rafael, Cole European in Walnut Creek and Roverland in San Francisco.
- The club currently has a net balance of approximately \$300 accounting for debts owed for sticker production and supplies purchases.
- The group discussed the bylaws and unanimously approved them by voice vote with a few modifications. The modifications included changing the membership criterion from a ownership of vehicles to an interest in them. The revised bylaws will be printed and sent out with the membership directory. Copies will be provided with the directory to all new members who join thereafter.
- The club discussed issuing notices of renewal dates for membership. This will be included in the mailing labels on the newsletters. At this point those present decided that there will be no special mailings to notify or renewals.
- The club discussed Jim Russell's move to Seattle. Jim is currently serving as the "club jester" and offered to resign this position. It was decided that he should continue to hold the position until elections are held next year.
- The club discussed production and sale of items bearing the club logo. It was decided that the logo will be available only for club members to use personally. Any sale of materials bearing the club logo will be coordinated through the club officers. Digital versions of the club logo are available from Mehdi Saghafi and Jeremy Bartlett.
- The issue of finding electronic club material was discussed. Tom Walsh and Mehdi Saghafi will look into archiving of club material on the internet.
- There was some general discussion of the possibility of adopting a trail as part of the adopt-a-trail program. Apparently there is currently an unadopted trail in the Mendocino National Forest. Bruce Bonar has been inquiring about this.
- There was discussion of the possibility that LROA may have some information on third party coverage for insurance.
- There was discussion that Mike Green might be running a competition and looking for participants or sponsors. It was decided that the club did not want to pursue that at this time given the commercial and general open nature of the activity.
- The next meeting was scheduled for August 15 in Hayward .. details to be supplied in the newsletter. (Note this date has been changed to August 22).





Technical Information



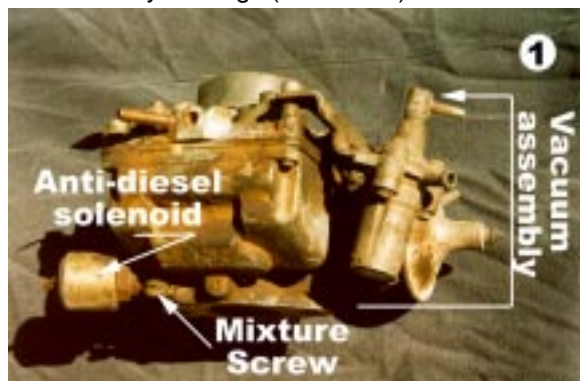
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The Zenith 36IV (The Nadir of Carburetors?)

By : Jeremy Bartlett

Background

The Zenith 36IV carburetor is a one barrel (1bbl) carburetor which replaced the Solex 40 PA10 on late '60s Series Land-Rovers. The introduction of the replacement followed the merger of the Solex and Zenith firms in 1968 (Anon., 1996; Allen, 1997). The Zenith 36IV offers slightly more airflow than the Solex (Allen, 1997) [Jim Allen has flow tested the Zenith 36IV (at 1.5 inches of mercury drop) and measured an airflow of 126.5 cubic feet per minute (cfm) [British Pacific (British Pacific web site) reports 127 cfm] vs. 115cfm for the Solex]. The Zenith is also reputedly a relatively robust design in terms of its ability to maintain fuel flow at a variety of angles; this is important in offroading where tilts and inclines of 25 to 30 degrees are not uncommon. A theoretical advantage of the Zenith 36IV over the Solex is it has many fewer gaskets and castings (Anon., 1996) which should make it less prone to leakage. Unfortunately this isn't necessarily so due to quality control problems in the body castings (see below).



the solenoid and it's plunger blocked the idle circuit. These units were reportedly installed to prevent running on ("die-seling") after shut off which was said to be a problem with "smog" formulated fuel (Anon., 1996). These carburetors were apparently designated as 36IVe (e reportedly stood for emissions) and are no longer available. Photograph 1 shows an example of a used 36IVe with the solenoid at the base of the idle circuit near the "mixture screw" (lower left). Also attached to this example is a vacuum linkage to the throttle plate known as the "carburetor throttle prop" (Haynes and Daniel, 1988) (right side). This vacuum solenoid apparently retarded the rate of engine deceleration when you took your foot off the gas and part of the early smog control equipment. Personally, I've never used or seen one used, but I'll bet they're rather irritating. The Haynes (Haynes and Daniel, 1988) manual in Chapter 13 contains details of the set up and adjustment of these smog versions.

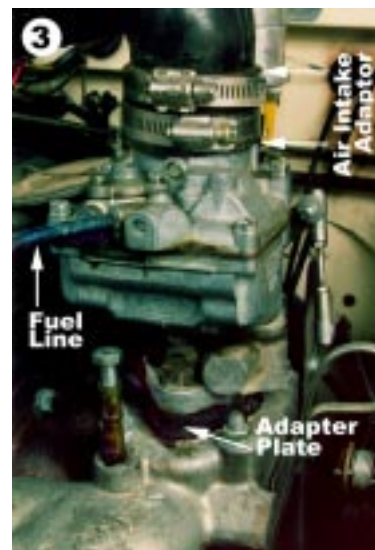
Installation

Installing the Zenith 36IV as a replacement on a 2.25l, will usually require changing the throttle/accelerator linkages because the Zenith linkage operates in reverse of the original Solex. New parts are available from most parts suppliers (for example: Rovers North and British Pacific). New parts are required for the entire linkage from the accelerator pedal shaft to the attachment point on the carburetor (bellcrank lever assembly, bellcrank springs and torsion washer, and carburetor relay lever). Photograph 2 shows the linkage assembly for a Zenith 36IV. Adapters are also required between the intake manifold and the base of the carburetor to provide proper carburetor orientation and between the air hose from the oil bath air cleaner and the

In the U.S., the Zenith 36IV is one of the common replacement carburetors for the 2.25l gasoline engine; others include versions of the Weber 1 bbl and used (no longer available new) Rochesters. New Zenith 36IVs are currently readily available from the UK often for prices on the order of \$150 or sometimes less. The firm of Greenways Carburettor Reconditioning in the UK (tel. 01749 860267) also reportedly offers good quality reconditioned Zenith 36IVs. Rebuild kits (including gaskets, diaphragms and springs) are available from most parts suppliers.

Smog Control Versions

Zenith 36IVs used in U.S. smog controlled vehicles (and in the UK?) had an "anti-dieseling" solenoid located to allow shut off of the idle circuit. Shutting off electrical power (ignition) killed



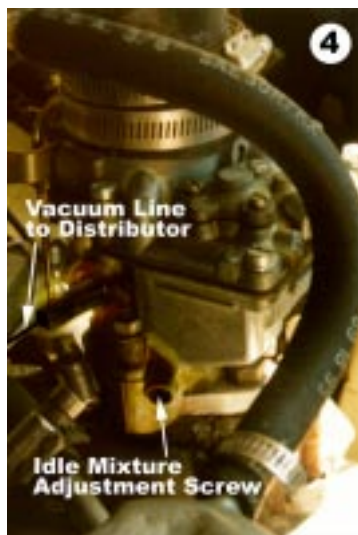


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carburetor intake). Photograph 3 shows a 361V (without anti-dieseling solenoid or vacuum linkage) installed on a standard 2.25l intake manifold complete with adapters. Photograph 4 shows the engine side detail of the carburetor including the mixture screw (with a black tube housing) and the connection for the vacuum line to the distributor. The idle mixture screw can be a bit tricky to reach in this position.



Standard Features of the Carburetor and Disassembly

A few highlights of the Zenith 361V are discussed here. These highlights are provided to clarify areas of ambiguity or obscurity that are not readily available or apparent in the standard manuals or books. There is a lot more information in the books, manuals and articles listed at the end of this article. These sources should be consulted for more routine details and operation of the carburetor.

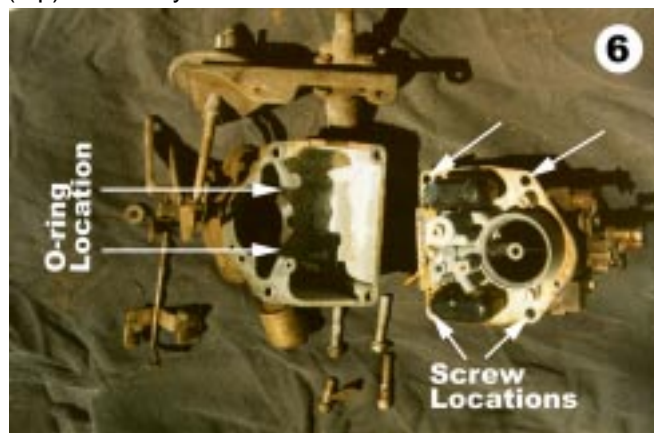
The Economy Device

Photograph 5 shows the economy device which contains a spring acting against a small diaphragm. The combination acts to open and close an air flow circuit that feeds additional air into the mixture under conditions of low vacuum (for example, idle) weakening ("economizing") the mixture. There is a small diaphragm and spring within this device which should be checked when the carburetor is rebuilt, especially on older units that tend to become brittle. Poorer fuel economy could be caused by failure of this diaphragm.



Internals and Jets

The top cover and "body" are separated by unscrewing the four screws at the corners of the top cover as shown in photograph 6. There is also a large O-ring around the "venturi" in the body which should be replaced on rebuilding. Its location is labeled in Photograph 6. Photograph 6 also shows the emulsion block attached to the top cover (top) The "body" is the lower half which contains the float



bowl. There is a gasket between the top cover and body which needs to be replaced when the carburetor is split open and/or rebuilt.

All the jets in the carburetor are located in the emulsion block; these are the pump jet and valve, the idle jet, the main jet, and the enrichment jet. Blockage of any jet can cause problems and all jets should be cleaned when the carburetor is rebuilt. The emulsion block is screwed onto the underside of the top cover. The main jet and enrichment jet are on the underside of the emulsion block. Photograph 7 shows the underside of the emulsion block with attached floats, the main and enrichment jets



are labeled. To separate the emulsion block from the top cover first tap out the float spindle, remove the float and unscrew the float needle retainer [the float needle retainer helps hold the block to the cover). Then unscrew the two screws to either side of the throat ("venturi"). The pump valve and idle jet are located at the top of the emulsion block between it and the top cover. Photograph 8 shows the top of the emulsion block after it has been separated



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from the top cover; the jets are labeled; also shown is the base of the pump piston. Photograph 9 shows the pump jet projecting into the venturi; it is removed using a screwdriver as shown.

Warping Diagnosis and Cures

The weakness of the Zenith 36IV is that it is known to suffer from a warping of body parts. All THREE body parts [the top cover, the emulsion block attached to the front cover, and the "body" (lower unit with float bowl)] are subject to this warping. The warping is brought on by exposure to engine heat. It apparently is due to Zenith failing to heat treat ("relax") of the body of the carburetor after casting. This lack of heat treatment means that stresses present in the metal of the body do not resolve themselves until the body is heated by being placed next to the engine. The problems caused by warping of the body can be confusing because the warping can produce symptoms of



either rich or lean running (Anon., 1996).

Rich running due to warped body parts is caused by the intake of fuel from the float bowl into the vacuum circuit; this is the circuit that is part of the economy device described above. The circuit is exposed by warping of the body parts at the junction which exposes the circuit hole to the bowl (British Pacific, web site). Photograph 10 shows the hole in question; of the two to the upper left it is the hole to the furthest left. It goes both up and down right below the throttle butterfly. One cure for this aspect of the problem is to plug the indicated hole with a piece of O-ring. A 1/8" ring should be adequate. Cut the ring, insert one end into the hole as far as possible, then trim the rim flush with the body of the carburetor. According to British Pacific (British Pacific, web site), this plugged port is redundant, and plugging it should not make the truck run worse, except that it would lean out an otherwise rich mixture. When you have the top cover removed, the redundancy of the system can be seen by examining the bulges in the



top cover where the vacuum circuit tubes run through the casting.

Lean/weak running of the engine caused by warped body parts is due to warping that allows air to be drawn into the fuel circuit at the top cover/body junction. This leans the mixture out excessively. The carburetor body may show signs of fuel leakage under these conditions; the signs are brownish stains near the junction. The cure for this is to disassemble the carburetor, check the body halves with a straight edge for warpage and then "sand" the halves flat using emery paper laid on glass or an equivalent true flat surface (Anon, 1996). (Always replace the gasket and main O-ring when performing this overhaul). Be sure to clean the parts thoroughly (dirt in the jets will cause problems), and ideally blow clean and dry with compressed air. You should clean all the ports and jets while the carburetor is open (use carburetor cleaner and compressed air. If you're really concerned about lodged dirt use a plastic bristle to clean it. Be very careful not to use hard wire cleaning tools that would enlarge or otherwise damage the jets. Small scratches or other mars can significantly alter fuel flow characteristics. There is a potential problem with this cure for warpage induced "leaning" of the mixture in that it





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subtly changes the dimensions of the body parts. If the changes become large enough then sealing pressure on the O-ring which seals the venturi from the float chamber will be changed (British Pacific, web site). This in turn could lead to leakage into the venturi which would then lead to rich running conditions.

Warpage of the emulsion block from the top cover would expose the idle and accelerator jets. Apart from the rich or weak running symptoms caused by such warpage the 36IVs most problems are those typical of carburetors (worn float needle, faulty float, dirty jets, faulty accelerator pump...etc.). The throttle plate and shaft are subject to wear. A loose throttle shaft (side to side) can admit more air at idle than the throttle position should allow (around the spindle), which is just like having the throttle open more, causing it to run on. (Steve Hedke, British Pacific, pers. comm.; Anon., 1996).

Adjustments/"Tuning" the Carburetor

Adjustments to the carburetor are limited and primarily consist of idle tuning. The adjustment procedures are well described in the Haynes manual (Haynes and Daniel, 1988). The shop manual (Land Rover, ?) is more limited in its description of adjustments. To the best of my knowledge there are not many different jets currently available for the Zenith 36IV. British Pacific reports the availability of smaller jets for higher altitude (British Pacific web site) and alternate jets were reportedly originally supplied with Series vehicles when sold.

For tuning the carburetor operation, there are two screws that can be adjusted, 1) the throttle stop screw [also confusingly known as the slow running and/or idle screw (for example the Haynes manual)] and 2) the mixture screw [sometimes referred to as the idle screw - which helps to confuse it with the "slow running idle screw" Anon., 1996)]. Photograph 7 shows the locations of these two screws. The mixture screw sometimes has a tamper proof cover on it, depending on the version and who's worked on it.

The mixture screw is adjusted clockwise (in) to weaken (lean) and anti-clockwise (out) to enrich (Anon., 1996). The idle screw controls flow through the idle circuit which runs through the main body of the carburetor (Anon., 1996).

Steve at British Pacific makes the following adjustment recommendations: "The idle screw really only affects operation with the throttle closed (or mostly closed), and doesn't significantly affect higher power settings because of the small size of the orifice. When the truck is running rich, you can completely close the idle screw and it will still run. If the carb is right, it will stall before the screw is completely in. If it's too lean, unscrewing it until it almost falls out wont adversely affect idle: if the carb is right, the

idle speed will start to slow down as the screw is unwound, eventually to stall. The ideal setting is somewhere between 'stall' lean, and 'stall' rich, generally go rich until idle slows, then lean until idle speed goes back to maximum rpm. If you can't make it run too lean or too rich, try partially obstructing the air intake with your hand; if the idle goes up, it's too lean: if it slows, it's too rich."

The throttle stop screw is relatively limited in its function. It serves only to limit the degree to which the throttle plate closes and hence control idle "speed".

Conclusion

The Zenith carburetor is a readily available and moderately priced unit for fitting to the 2.25l engine. It gives adequate fuel flow and is relatively simple to work on. When fitting this carburetor though you must be aware of and anticipate at some point having to diagnosis and attempt to repair the effects of the body casting "relaxation".

References

Allen, Jim, Summer 1997, "Power Feed" in Land Rover Owner International., Vol. 11, No. 1, (an article with flow testing of assorted carburetors, manifolds and filters used on 2.25l engines)

Anonymous, February 1996, "The Zenith 36IV" in Land Rover Owner International Vol. 9, No. 8 (an informative article with excellent photographs of disassembly and internal carburetor parts.)

British Pacific, web site: <http://britpac.frazmtn.com> (a description of the plugging procedure).

Haynes, J.H. and Daniels, M.S., 1988, Land Rover Series II, IIA & III Owners Workshop Manual, Haynes Publishing Group, UK. - "The Haynes Manual".

Land Rover, ?, Series II & IIA Repair Operation Manual, Part 2. - the shop manual.



NCRC Trip, August 16. Slick Rock and Blue Lakes

An opportunity to do some moderate boulder crawling and trail running in the high Sierra followed by a stream side camp and potluck BBQ in the evening. On Saturday morning meet at approximately 10:30 to 11:00 A.M. at the Slick Rock trailhead off highway 4 to run the Slick Rock trail. To reach the trailhead take Highway 4 to about a mile past Hell's Kitchen and turn right on road 7N01 toward Utica reservoir. At 7N75 (6 to 8 miles in?) turn left toward the reservoir and approximately 1/2 mile later turn left again. (The site is marked on the Stanislaus National Forest map). Alternatively meet at the Hermit Valley Camp site off Highway 4 at approximately 2:00-3:00 P.M. to run north on the Blue Lakes trail. Or if you want to join the trip at the end take the Blue Lakes trail south from highway 88 to the stream side camp sight in the late afternoon or evening. Travel time from the Bay Area is approximately 4 hours. There are no facilities at the campsite. Be prepared to treat the water if you're going to use it. Bring the Stanislaus and El Dorado National Forest maps and/or the DeLorme Atlas (p.90 for Blue Lakes). Contact Jeremy Bartlett 510.540.8630 or bartlett@slip.net for more information and details. (A separate flyer will announce details and provide a photocopied map). Be prepared for a possible safety inspection and signing a waiver.

NCRC Trip, Oct. 18 - 19. Eagle Lakes and Celina Ridge.

An opportunity to explore a beautiful & often bypassed part of the Sierra, with pretty mountain lakes, great views, and lots of carnivorous plants. On Saturday, we'll visit Eagle Lakes & Grouse Ridge lookout. We'll camp on Celina Ridge and drive out Sunday through the canyon of the Middle Yuba. There'll be some rocky trails on Saturday, but suitable for all Rovers. Nothing technical. Pinstriping, however, is a real possibility. We'll drive out on graded FS roads, some of which are very steep & very narrow. Meet 9:45 am Saturday at the Cisco Grove exit off I-80. We will gather at the Chevron station on the south side of the highway. We plan to leave at 10 am, so be fueled up and aired down to 20-25 psi by then. Allow 2-3 hours driving time from the Bay Area. Monitor CB channel 7. There are no facilities at our intended campsite, so bring water, etc. Elevation is 5,000-6,000 ft so be prepared for cold. Snow cancels the trip. Maps: Tahoe National Forest; USGS Topos Cisco Grove, Blue Canyon, Graniteville, Alleghany. Contact Bruce Bonar if you need more info. 415.459.5458 or brbonar@wenet.net. Be prepared for a possible safety inspection and signing a waiver.

All British Field Meet, Portland, Oregon, August 29-31, 1997

Portland International Speedway, Portland Oregon. August 29,30, &31. Pre registrations must be received by Aug 9. Registration information message line 503.312.0559. It is also possible to pay at the gate to the raceway which is located at the north end of Portland just off I-5 before the Columbia river crossing. Camping is available at the site.

Palo Alto British Car Meet, September 7, 1997

The British Car Meet across from the Stanford Shopping Center in Palo Alto, CA is Sunday, September 7th, 1997. El Camino Park is on the El Camino, one block north of University Ave., just opposite the main entrance to the Stanford Shopping Center. Contact: Rick Feibush (310) 392-6605 or e-mail rfeibush@aol.com The event flyer says: "Sunday, Sept 7th - Be part of the biggest one-day British show in America. Over 700 cars are expected to fill El Camino Park. Daily drivers & works-in-progress are as welcome as Concours quality cars. Great food, big band music and more fun than you'll be able to stand! All participants will receive a comparative event cap. Fields entry will be 9:00 AM. There is no pre-registration. Fee is \$20 per car at the gate; Spectators attend free."

Trip Report

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Blue Lakes and Slick Rock Trail

By: Morgan Hannaford

Editors note: The trails described in this section of our newsletter are challenging. We recommend that you never do these alone. Always bring suitable recovery gear (e.g., a tow strap and jack etc.), enough food to stay overnight if a break down occurs, and warm clothes and camping gear to keep the chill off. Slick Rock trail may be reached by travelling along Highway 4 and turning right just after Hell's Kitchen on 7N01. The trailhead is several miles in, but the actual trail is a 2 mile loop. Follow the road to Utica reservoir turning left on 7N05 then left after 1/2 mile. The trail is marked on the Stanislaus National Forest map). The southern start of the Blue Lakes trail is further east along Highway 4. The southern Blue Lakes trailhead starts at the Hermit Valley campground and heads north to join up with Highway 88. (See the map insert). NOTE: This is the area of the next club run; come along and experience the trail for yourself and bring something to BBQ on Saturday August 16th (additional information is in a flyer and the calendar).



Some Land Rover owners we are always searching for ways to test their and their vehicles' capabilities.... searching for that more aggressive



trail, or situation, just to show that their vehicle can do it. Few driving situations are more aggressive than rocky trails, sometimes called boulder crawling in the 4-wheel drive magazines. California has some of the most spectacular boulder crawling trails anywhere, most notably the famous Rubicon Trail that runs from Lake Tahoe to the Placerville area. The Rubicon has a reputation for turning cherry show-trucks into junk-yard-exhibits; although I have met folks who say this trail with boulders the size of compact cars is overrated and can be done in a stock Range Rover without incident. Well, with such conflicting stories many are reluctant to go see for themselves in case their daily driver gets stranded with a broken chassis where the roadside assistance would need to be a large helicopter. Fortunately there are many trails that offer the difficult boulder crawling experience in a more chewable size. The Slick Rock and Blue Lake trails are such trails.

The plan was to meet up in Angels Camp at the end of June to run the Slick Rock Trail and the Blue Lakes Trail in one day. All of us left late Friday night for the 2 hour drive from the East Bay Area. Michelle and I arrived in my '69 Series IIA-88 at 1:30 am. everyone else was dead asleep at the time. In the morning we woke up to greet Jeremy Bartlett in his D90 soft top "Samson", Tom Walsh in his beefed up Discovery "The Light Brigade" and Jim Holmes, who would ride along with Tom. Jim had recently bought a Series II-88, however it needed a little work before such a maiden voyage. After we made it out to the driveway we found Ben Smith had arrived and slept in his Series III-88 "Dora"; for a guy that is about 6' 4" that is a feat! Our camp-host, Eric Cope had pushed for a 9:30am departure. Eric's better half, Brigid, and his father Hal were going to come along too in Eric's Big Rover. Hal

had spent much of his life in Africa driving ancient (Heritage :)) Land Rovers around the eldt. He was admittedly skeptical of a Rover's ability to tackle such the harsh intervals of terrain in the Sierra. Of course just as we were getting our Rovers fired up, Bruce Bonar in his D90 "Spot" drove up. We promptly left Angels Camp at 10:00am for the 1.5 hour drive to the first trailhead.

The original plan centered around driving the Blue Lakes Trail (aka Dear Vally), which links Hwy 4, at Hermit Meadows, to Hwy 88 near Carson Pass. Jim knew of a short detour called "Slick Rock" that was a popular 4x4 trail. Slick Rock trail is a 2 mile loop that features granite bedrock trail sections, it looks similar to some of the rock areas of Maob. Overall this was a very fun loop with a couple of creek crossings, and some narrow rock "steps" to go up and down. One part of interest was a downhill stair step section that really tested axle articulation of each vehicle (*Ed. Note: Rover owners treat articulation like muscle car owners treat horsepower.*) We all got out and snapped pictures, and took

N o r t h e r n C a l i f o r n i a R o v e r C l u b

T r i p R e p o r t

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Blue Lakes and Slick Rock Trail

turns spotting each other through the section. The section looked worse than it really was, and all the vehicles made it through without trouble. After an interval of relatively straight forward driving through some beautiful granite terrain, the next interesting part challenge was a long hill climb up a smooth granite face. There was a bypass that looked easier, but not surprisingly none of us opted for that. Spot chugged up in the lead followed by the Eric in the Big Rover. When Dora went for it she lost some traction and then momentum. Momentum was needed to get over a step in the path. We used traction ramps to help give her a foothold over the step. Samson and Light Brigade followed. On my run, I went too far to the left and almost ran into a bumper-high boulder that I couldn't see; luckily Jim was spotting for me and gave warning.

Near the end of the trail on the way out Dora began to have some engine trouble. She started to stall and sputter. We suspected vapor lock. It looked like a great place for lunch anyway. After blowing the fuel lines clear we still couldn't get Dora to go. We then suspected a failing fuel pump. When cranking the engine over gas didn't "spurt" as much as we predicted. After some debate about rebuilding the pump in the field (like any serious Series owner Ben carries the funniest spares) we decided to just top off the tank so the fuel pump wouldn't have to draw as much up. It worked, at least for the moment, and Dora was trail ready again. We made it back out onto the main road and then back to Hwy 4 towards Hermit Valley.

At Hermit Valley we all fueled up, Rovers seem to get thirsty when headed up into the mountains and gas stations are few and far between in the area. Just down the road we pulled into the Hermit Valley camp parking lot for the start of the Blue Lakes Trail. One nice thing about this trail for the novice 4x4 adventurer is that it gets serious right away. If you make it through this point, the rest of the trail should be passable. Within the first few hundred yards there is a nasty, rocky uphill section. Spot and the Big Rover made it up fine, although both of them used axle lockers along the way. Samson made it through on a couple of tries "lockerless". Dora made it up most of the way unaided, but finally got stuck between two boulders in the front and rear. We pulled out our very helpful traction-ramps, placed them in front of the boulders and Dora drove right up and over.

Since I also drive an 88" we left the ramps in place and my truck just cruised right up. Tom wanted to try without the ramps and he promptly got stuck in the same place as Dora. Once wedged in, the air lockers didn't seem to do the trick to get the Light Brigade out. Short wheel base and clearance were really a benefit here. We finally used the traction-ramps to extract the Light Brigade. This first section is probably the most difficult part of the whole 7 mile trail so if you can make it comfortably here the rest is a nice drive with interesting sections. The Blue Lakes Trail winds through the trees and stays nicely shaded. The mosquitoes are another thing.

About halfway through are a few sections that we knew would give us some trouble. In September of 1995 a small group of us did this trail. On one rocky section that looked easy, I landed on a boulder and got hung up on my gas tank.



Failing to find "The Bridge to the 21st Century" members of NCRC cross the river anyway.

Trip Report

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Blue Lakes and Slick Rock Trail

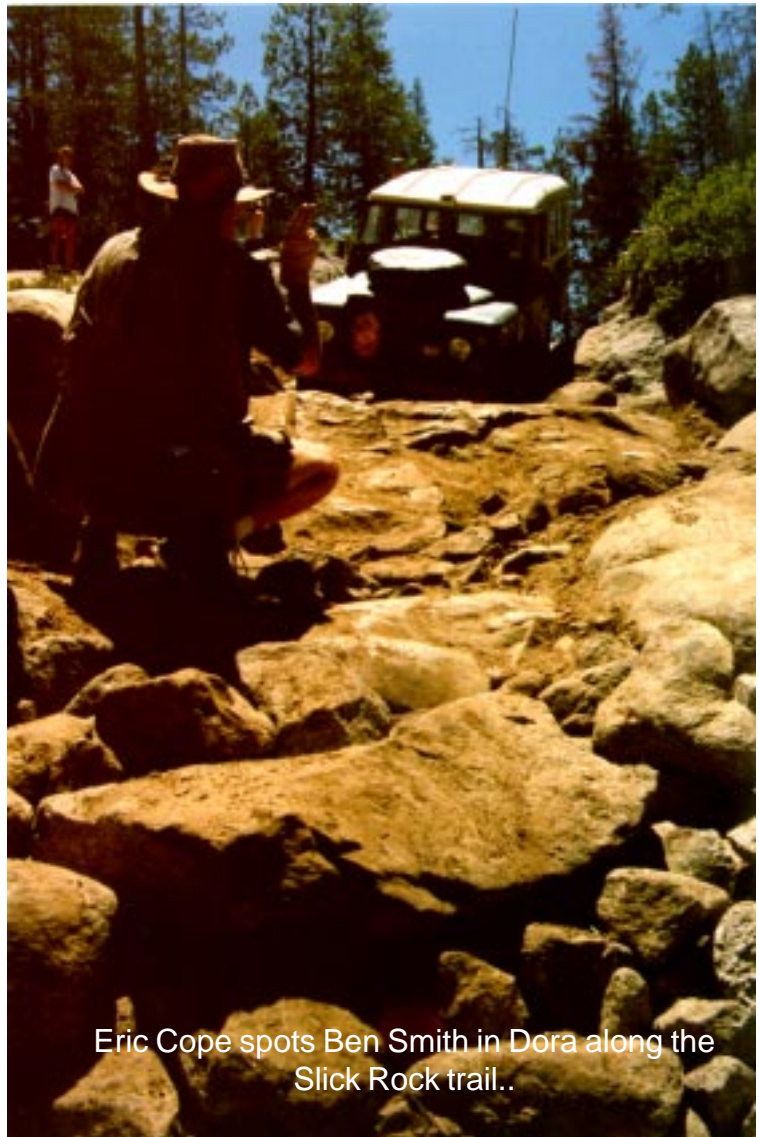
Not wanting to do further damage we spent a lot of time building up rocks and ended up winching my truck off the rock. Well, this time it wasn't going to happen again. I was looking out for the rock that dented my tank and ego last time. I came around a tight turn and negotiated around a group of boulders, recognizing these as the culprits. I told my passenger Michelle that this time I would try not to get stuck. Just then I got stuck. Again, I came down off a boulder with my right tire and the gas tank hit. I was able to reverse back up and try again, but each time the same thing would happen and the trail was too narrow to go around. Finally I hugged way to the left, almost scraping a tree, and made it around. I warned Ben about the boulder over the CB, but too late. He was already hung up on his gas tank. Because the D90s and the Disco have their fuel tanks in the back they didn't have any problems at this site. Next up was the "Spot trap", a place where Eric's 109 "Tipper" and my 88 made it through no problem but Bruce's D90 got very hung up. This time the boulders had obviously been moved and all D90s, including Spot made it through without issue.

After winding along ridges, we crossed a creek and entered the Blue Lakes campground area. From this point on the rest of the trail is a beautiful twisty forest track. Unfortunately at about this point, I started to hear a banging noise coming from the rear end of my truck. It would only happen when going over a boulder or some other twisty section. After the second creek crossing (about bumper deep) I pulled into a clearing and checked my truck. It seemed to pop

in the rear axle when turning, and not when going straight. I jacked up one rear tire and turned the wheel; it would catch at bind every rotation. [Later, returning to the Bay Area and removing the rear differential, it turns out that the spider gears had broken teeth off causing the binding to occur on turns. I was lucky that the broken teeth didn't ruin the ring and pinion gears or punch through the diff. pumpkin like happens on many Rovers with similar such failures.] While I was investigating my differential woes at the camp area, Dora had apparently run aground on a submerged log and needed to get pulled off backwards. We all finally made it through the stream. The Cope's had to leave for home and the rest of us camped about a mile down the road by the rushing stream.

The Blue Lakes Trail and Slick Rock Trail are definitely fun, challenging routes. This type of 4-wheel driving is not for everyone or every Rover. This trail has been negotiated by almost every type of Land Rover vehicle without damage. It has also been done by Land Rovers that exited with body and frame dents. Lockers were not necessary but helped to get through some rough parts. Most of our vehicles had winches but a come-along or high-lift jack would do the same service. The trail requires a very well maintained vehicle, a skilled driver that trusts a good spotter, and patience, but it provides an enjoyable day of off-roading.

END



Eric Cope spots Ben Smith in Dora along the Slick Rock trail..

T r i p R e p o r t

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Northern California Teams Participate in the Pacific Northwest Team Trophy

By: **Jeremy Bartlett**

Many Rover owners have heard of the Camel Trophy due to the prominent role of Land Rovers in that event. Fewer have yet heard of the relatively local Pacific Northwest Team Trophy (PNWTT). The PNWTT has been put on now for three years by the Pacific Northwest Four Wheel Drive Association, an organization analogous to Cal4WD which is more familiar to most of us Californians. Unlike the high profile and longer running Camel Trophy, the PNWTT is basically open to all comers given who have a recognition of the risks, a safe vehicle, and the ability to get an application in before the 30 to 40 team cutoff.

The competition is organized by Doug Shipman of the Pacific Coast Rover club and members of the PNW4DA. It is run in the Tillamook State Forest in Oregon located west of Portland. The event usually runs over a weekend in mid May and is based on a teams of two vehicles with four team mates (two drivers and two navigators).

The first day of the event usually consists of following navigational instructions ranging from "tulip diagrams" to general written directions. Of course it's these aren't not your usual road trip. The instructions take the teams through a contorted maze of forest roads and off-road trails which are guaranteed to include features such as the occasional cable rigged log bridge, rock climb, and winch hills. Along the way there are a few catches. As the navigator endeavors to maintain a sense of direction and location, instructing the driver where to go, and as the driver endeavors to conquer the assorted "road" obstacles, the teams must also be on the watch for assorted markers to collect to prove they've traveled the course. Needless to say, these markers are not in the most obvious locations. It's a little like orienteering on 4 wheels (and yes there are bits of actual orienteering thrown in, where navigators on foot and drivers must coordinate to meet at set locations). In between the hunt for the markers and the struggle to follow directions there are a series of special tasks administered by the volunteer marshals from the PNW4DA clubs who set up the course. These special tasks frequently test the ability to function as a team as well as pressing the team's abilities with their vehicles (and sometimes the risks they're willing to take with them). The tasks often include a challenging (for Land Rover owners at least) mechanical task (just think of prop-shafts and alternators as removable play things).

The second day of the competition is a more or less classical time/distance rally broken up into stages with each



stage set for an ideal speed; penalties are assigned for early and late times. The goal is to be on time and on speed - its not a race.

Last year (before the start of the Northern California club) a group of us decided to head up and see what all the rumors were about. Suffice to say that we had a blast, and with a large dose of beginners' luck managed to fake our way into a second place finish. It was so much fun that we started to spread the word in the California Land Rover community and encourage others to participate. So, this year, just after the club formed, two teams (four vehicles) wound their way up Highway 5 to Portland on May 15 to join in the fun. Team 1 consisted of Bruce Bonar and Morgan Hannaford in Spot (D90) and Jeremy Bartlett and Eric Cope in Samson (D90). Team 2 consisted of Tom Walsh and Ben Smith in The Light Brigade (Discovery) and Jim Holmes and Lyn Kot in Anon. (D90). We convoyed up Thursday evening camping at roadside spots along the way and arrived midday Friday at the PNWTT campsite at Lees Camp west of Portland.

To fully summarize the entire event in a few pages is impossible, but to give you a flavor of what you could expect should you decide to take your Rover through it, here are the highlights of this year's event from the perspective of Team1.

Starting Off on the Wrong Foot

We went through a safety inspections early Friday evening, and 8 am Saturday the competition started with the distribution of trip books (instruction) and the timed release of the teams to the course.

In traditional form, Team 1 started off with a wrong turn before we even reached the start of the course itself. For-

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Unfortunately we recognized our error ("oops") and recovered quickly. After recovering from this pre-course gaff we managed to run the first half of the course in a relatively stable manner, bearing in mind that stable means having to stay



alert and attentive while driving both challenging and beautiful terrain. We even recognized a few locations from last year, including what we call the 0.05 hill (— ask us some time :) One stretch in particular is a series of switchbacks climbing a forested hill / mountain side up to ridge road (steep drops to either side) with occasional glimpse of fantastic views through an amazing stand of trees and wildflowers. However, as the day went on, we began to get a little more disoriented and as the directions and the directions to the special tasks pushed us to our limits.

Push Me Pull You

An example of the types of special tasks thrown at the participants (we prefer to view ourselves as participants rather than competitors - its more fun) is one called the "No Power Up". This special task consisted of a timed dual vehicle climb up a steep bouldery section of trail. But not just an ordinary climb. The rules went something like this: There were three lines spaced at about 15 to 20 feet intervals up the bouldery climb trail. The first vehicle could proceed under power to the third line and stopped there. The second vehicle was not allowed to proceed past the first line under power. The objective was to get the second vehicle up the trail to the second line in as short a time as possible without turning on the engine of the second vehicle. This was a real exercise in team planning and coordination

under time constraints. We elected for a relatively brute force approach with the first vehicle winching both itself and the second while the second vehicle also winched off its battery to double the speed. We were assisted in this tactic by our secret weapon - a pair of three feet long steel box section ramps with expanded aluminum tracking wrapped around them - "the ramps". We pulled these out to the great interest of the spectators and proceeded to haul ourselves up boulders that snagged and delayed other teams. Total time... approximately 1 minute 20 odd seconds! We were rather proud of ourselves on that one but at the end of the course were even more amazed that the top time was approximately 55 seconds! I dread to think of the punishment received by the vehicles of the team that put in that winning time! Team 2 had the interesting experience at this location of having a shackle tying them off to the top winch point break!

Lost and Found/Local Intelligence

About half way through the first day of instructions things got a bit more interesting. As we completed a pass through a number of turns and came to an intersection with instructions to proceed "ahead". We went on.. 0.3 miles...0.35... "get ready for a left in zero point five"... 0.4. "uhmm"... 0.45 .. "any time now"... 0.5...0.6... "we must have blown it ("oops").. ". After a CB consultation we agreed to retrace our steps and figure out where we went wrong. We drove back down to the intersection and took a conceivable (although admittedly imaginative) alternate route and rapidly realized there was no 0.4 mile left turn there either. Damn ("oops").. back to the intersection and back down the way we'd come to retrace our



Trip Report

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Northern California Teams Participate in the Pacific Northwest Team Trophy

steps from “known” locations. The route still didn’t make sense. We reached the consensus that now is a good time for a lunch break while we thought it over and came to the conclusion that the original course was probably correct. As we pulled out our sandwiches, the roar of additional vehicles was heard coming up an adjoining hill. The vehicles weren’t those of fellow competitors (identified by painted numbers on the windshields) but a couple of locals. They asked us where we were headed. We calmly indicated we were headed for a steep down hill with muddy section. “Oh cool! The cable hill and the mud pit!” Uhm. We exchanged looks and inquired if they’ve run it before. “Yup ... you may not make it through though; it’s pretty deep and there’s a bridge at the bottom”. Hmmm... more looks of recognition as the instructions describe a stream crossing. We asked one more question... “So where exactly is it?” “Down that road to the left”.. “Ahh... the original direction we took through the intersection.” We looked at each other and wished them fun on their outing. Packing up the remnants of our lunch we high tailed it down the road again for 0.7 miles and there was the left turn ... an interesting typo in the directions! The less fortunate Team 2 lacked our sophistication in intelligence gathering (:) !) and had to expend an hour and a half at this location until they too found the right trail.

Muddy Bridges

Two thirds of the way down the trail that our “intelligence gathering” had led us to, we came upon the mother of all mud pits. [Ed. or at least the daughter; it might not be quite as long or deep as the infamous Hollister pit when it’s topped off]. We negotiated our way through and partly around it, and soon found ourselves at the bottom of the hill where around a forested corner we came across a bridge



Bruce having an intimate moment with his D-90 “Spot” “O.K. - Now now turn the wheel left”

consisting of cabled logs. A queue had developed here as the crossing required a bit of maneuvering, particularly at the exit which needed some careful spotting to get past an array of boulders and an embankment right after the end of the bridge. One unfortunate fellow in a Series vehicle ahead of us gunned his truck through the obstacles but couldn’t stop in time before he hit a rather large tree square between his headlights with a resounding BANG! He was lucky there was no damage, and we were provided with some entertainment other than ourselves for once. When our turns came we took advantage of our craftily prepared ramps to ease our passage and made it through relatively quickly and cleanly... not forgetting to notice the marker punch hung up in a tree a bit off the trail away from the bridge.



Lights, Action... Cut

As we returned to camp at the end of the first day we were faced with the mechanical task which, this year, turned out to be the timed re-

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removal of an alternator and belt. Not too difficult until you realize that the removal of the alternator belt on the D90 first requires removal of the fan belt which requires... well you get the picture. And if you've got a Discovery with a serpentine belt ... well you don't even want to seriously think about that one (Team 2 opted not to). Halfway through the timed operation we came to the quick solution of merely cutting the belt off. That gained us a few minutes but was a bit of a problem when we realized my spare was not the right one (after all our team motto is "oops"!). A late evening run out to Tillamook failed to yield an appropriate belt, but at the end of the day (or more accurately into the night) when Team 2 arrived Jim and Lynn, fortunately, and very graciously, had an appropriate spare that they provided to us to run the next day's event.



Just in Time

The second day's time distance rally was less eventful for us this year than last although we clearly didn't perform as well. The course was laid out differently with some counter directional traffic flow so safety was in the forefront and a few competitors had some interesting around the corner experiences in the "brown trouser zone". This year a high speed section was included along a stretch that was isolated with only one team at a time allowed in. I think the average speed on that section was something like 20 mph. Not much you think until you realize that at least half of it seemed to be on relatively rough steep sections which demanded some real "wellie" on the dirt roads. We actually did rather well on that strip coming very close to the ideal time.

At the end of the second day Team 1 had managed to move from seventh to fifth place, so this year we didn't quite place in the trophy range. However, we took pride on being the top ranked 'Rover team. Unable to pose with a trophy this year we selected the appropriate beer bottle and posed for a Team photo to round off the event.

How about You?

We highly recommend participating in this event because regardless of the competition its fun and extremely well run. It's a chance to get up north and meet some of the 'Rover owners up there (ever seen a Land Rover with a Cadillac engine?) and have a great time off roading in a new setting. Moreover, Doug promises rain and mud next year!

If you're interested why not join in? Find a team mate and fill out the copy of the application that we've included in the newsletter. Hope to see you there next year. The event is probably even more fun the first time you try it and its worth every penny of it.

END



Mechanics & Parts & Service

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The following list contains parts suppliers and mechanics who support and work on Land Rover and Range Rover vehicles. **This is not an endorsements list.** Before using particular vendors or mechanics we suggest you talk to fellow Land Rover and Range Rover owners regarding their experience and recommendations. Please contact us with any businesses or updates you would like to see added to this list.



P	Parts
S	Service
D	Dealer
NV	Newer Vehicle
OV	Older Vehicle
AA	After-market Accessory
ABA	After-market Body Armor

Atlantic British [P, OV]

Box110. Rover Ridge Drive
Mechanicville, N Y 12118
tel. 800-533-2210

Badger Interior Coachworks [soft tops and interiors for Series and Defender]

Christopher Laws
259 Great Western Road
South Dennis, MA 02660
tel. 501-364-2680, fax 508-760-2281

British Motor Car Distributors [D, S, P]

901 Van Ness Ave.
San Francisco, CA
tel. 415-776-7700
dealer, service and parts for newer
vehicles

Britalia [S, P]

2210 San Pablo Avenue
Berkeley, CA
tel. 510-548-0240
service and parts

British Northwest Land Rover Co. [S, P, OV]

1043 Kaiser Rd. S.W.
Olympia, WA
tel. 206-866 2254

British Pacific [P]

3317 Burbank Ave.
Burbank, CA
tel. 800-554-4133

Cole European [D, S, P]

2103 N. Main St.
Walnut Creek, CA
tel. 510-935-2653

DAP Enterprises, Inc.

86 Clinton St.
Springfield, VT, 05156
tel. 802-885-6660

Euro Parts, Ltd [P]

1910 Prospect Ave.
East Meadow, NY 11554
tel. 800-274-4830

Great Basin Rovers [P, AA]

342 West 1700 South
Salt Lake City, UT
tel. 801-486-5049

RAB Motors [D, S, P]

540 Francisco Boulevard West
San Rafael, CA
tel. 415-454-0582

Roverland [S, P]

San Francisco, CA
tel. 415-648-0885
service and parts for newer vehicles

Roverland Parts [P, NV]

2038 Village Point Way
Salt Lake City, UT 840093
tel. 801-942 7533

Rovers North [P]

1319 VT Rt. 128
Westford, VT
tel. 802-879-0032

Safari Gard [ABA, NV]

41095 Fig St.
Murrieta, CA 92562
tel. 909-698-6114

San Jose British Motors [D, S, P]

4040 Stevens Creek Boulevard
San Jose, CA
tel. 408-246-7600

Scotty's [S, OV]

(Chevy conversions)
tel. 510-686-2255

Shamrock Services [S, NV, OV]

Robert Davison
15195 Arnold Drive
Glen Ellen, CA 95442
tel. 707 935-3605

West Coast British [S]

190 Airway Blvd.
Livermore, CA 94550
tel. 510-606-8301

Northern California Rover Club



Membership Application Form

The Northern California Rover Club is a new club dedicated to providing communication between owners of Land Rover and Range Rover vehicles. We aim to provide a venue for the enjoyment of the vehicles including off road activities and their maintenance by focussing on providing a means of connecting fellow owners. The Club will be holding meetings on alternating months and aiming at producing a news-letter covering issues of interest and providing a forum for communication.

If you are interested in becoming a member of the Northern California Rover Club send this form and a check for \$20 made out to Northern California Rover Club to the following address:

**Northern California Rover Club
P.O. Box 14961
Berkeley, CA 94712-5961**

The \$20 covers membership dues for one year with all the rights of membership outlined in the club bylaws; members will receive an initial membership card and club decal, all newsletters mailed in that period, and an annual directory of club members.

Please provide the following information and indicate if any of it should not be included in the club directory which will be distributed only to other members. The NCRC will assume that all information provided is to be distributed unless indicated otherwise. Please note that members must be over 18 years of age and have a valid driver's licence.

Name:

Street Address:

City, State and ZIP:

Tel. number (day):

Tel. number (eve):

Types of Land Rover/Range Rover owned:

Rover related interests: