

Topic: trying to build a street 2L (1 of 40), Read 412 times

Conf: [2litre Pinto Engines](#)

From: [Emil Viskovich \(viskoe@hotmail.com\)](mailto:viskoe@hotmail.com)

Date: Monday, May 03, 2004 10:59 PM

Hi all,

I am going to start screwing together a pinto that I have had in the shed for a couple of years in pieces.

I am after some advice about the bits I am using - how will the combination perform, what changes should I make. This is going to be a street engine with good performance in my MK1. I got the bits un-assembled as part of a car purchase. Had I started from scratch I might have used different components.

Details

2L block, bored and honed 40 thou

rods lightened and shotpeened.

standard flywheel lightened.

repco clutch kit

Melling hi vol oil pump

acl pistons arp rod bolts

acl rings and bearings

head 2l with porting and polish similar to that of the vizard book, including filling of lower part of intake ports

kent rl 32 cam and long pad followers

grp1 ss valves

no hardened seats in head

2x 45 mm dcoes

high energy sump

will I need to machine pistons for this type of cam and lift??

Should I change the cam for something more streetable and keeping within the limits of the components I have.

Should I have another flywheel that hasn't been lightened, that I can trust.

What bits should I use and what should I chuck??

Rgds

Emil

Topic: trying to build a street 2L (2 of 40), Read 169 times

Conf: [2litre Pinto Engines](#)

From: [Mark Hermansen \(mark.hermansen@tpg.com.au\)](mailto:mark.hermansen@tpg.com.au)

Date: Monday, May 03, 2004 11:34 PM

Depends on how much you want to spend.....

I'd be happy to bolt all this together and spend leftover money on:

-->electronic ignition,

-->custom made extractors and exhaust,

-->correct setup of DCOE's,

-->adequate fuel supply @ correct pressure

You may want to make sure the head and block are flat (grind them) and the crank is machined and possibly balanced and you use correct big end and main bearings.

I'm using very light flywheel for street use no probs, heaps better than standard one.

Pistons should be fine as is, assemble the head and check valve lift to see if they protrude

past the head. I would go with the cam you have got for street use too....but that's just me...depends where you live and what kind of driving you do.....are you stuck in traffic for hours? or get some clear runs.

Hope you get it running well, as I've found out its not just putting the engine together, it's all the little tuning bits I listed above that will finish the job properly and make it a little goer.

Good Luck
Mark.

Topic: trying to build a street 2L (3 of 40), Read 153 times

Conf: [2litre Pinto Engines](#)

From: [Emil Viskovich \(viskoe@hotmail.com\)](mailto:viskoe@hotmail.com)

Date: Tuesday, May 04, 2004 04:59 PM

Mark,
Thanks for the input - FYI

>-->electronic ignition,
I also have a mallory twin point for a 2I I thought about getting a electronic ign module for it, I haven't weighed up the costs yet on that.

>-->custom made extractors and
>exhaust,
I am building a brake box and hoping the room in the engine bay will let me run some decent pipes with long primaries.

>-->correct setup of DCOE's,
I had the carbs serviced and some chokes and Emulsion tubes changed, I hope they are close enough to start with, I would have to check the paperwork as I have forgotten what parts are in them. Some previous wood duck painted them all up it was not a pretty site.

>-->adequate fuel supply &correct pressure
electric fuel pump and reg are getting sorted, but I want to build engine first

>You may want to make sure the
>head and block are flat (grind
>them) and the crank is
>machined and possibly balanced
>and you use correct big end
>and main bearings.

Yes your right, the components were machined, but I will need to get them remeasured and checked. They look ok at a glance.

>I'm using very light flywheel
>for street use no probs, heaps
>better than standard one.

does the weight of the pressure plate match that of the flywheel? should they be balanced as an assembly, I am quite attached to my feet and ankles at the moment!!

Topic: trying to build a street 2L (4 of 40), Read 163 times

Conf: [2litre Pinto Engines](#)

From: [Danny Mischok \(dmischok@bigpond.com.\)](mailto:dmisschok@bigpond.com)

Date: Tuesday, May 04, 2004 02:49 PM

On 5/3/04 10:59:55 PM, Emil Viskovich wrote:

- >Details
- >2L block, bored and honed 40
- >thou
- >rods lightened and shotpeened.
- >standard flywheel lightened.
- >repc clutch kit
- >Melling hi vol oil pump
- >acl pistons arp rod bolts
- >acl rings and bearings
- >head 2l with porting and
- >polish similar to that of the
- >vizard book, including filling
- >of lower part of intake ports

Pull the filler out as it creates more dramas and disturbs the flow at low lift especially

- >kent rl 32 cam and long pad
- >followers

Get a set of standard followers as the long pads aren't required if the geometries right and they are made from a piss poor material and the cams a baby and will be fine

Danny

Topic: trying to build a street 2L (5 of 40), Read 157 times

Conf: [2litre Pinto Engines](#)

From: [Emil Viskovich \(viskoe@hotmail.com\)](#)

Date: Tuesday, May 04, 2004 05:13 PM

Danny

Thanks for the response. Can you answer some more please.

- >Pull the filler out as it creates more
- >dramas and disturbs the flow at low lift

Should I ask my head machinist to take it out with a die grinder?? I think its devcon.

- >>kent rl 32 cam and long pad followers

I thought the RI32 was a serious cam that would spit and fart below 4000 rpm, is it suited to a streetable car?

Also what valve springs should I use and can I use the standard collets and other hardware? Where is the best source of standard followers?

Do I need to get the pistons machined, will the valves hit the pistons on this design, if so then what is the best cam to use without having to modify pistons.

- >>grp1 ss valves
 - >>no hardened seats in head
 - >get seats in the exhausts
- OK.

One last one.

I also seem to remember a fairly heated discussion on the merits of the Mellings pumps and

their quality. Are they worth using??

TIA
Emil

Topic: trying to build a street 2L (6 of 40), Read 158 times

Conf: [2litre Pinto Engines](#)

From: [Michael Green \(mgreen@iinet.net.au\)](#)

Date: Tuesday, May 04, 2004 09:39 PM

Emil,

I would try to change the RL32 for a FR32. It will produce more torque and be more driveable.

Nathan at Ron Bell Engine Reconditioning in Mandurah balanced my motor and it has seen 9200 on the dyno. He balance each component separately and then checked it as a unit - no changes needed.

I would use the Mellings but shim the relief to get a little more pressure if using more than 2 thou clearance. Mine now gives 40 psi very hot idle and about 70psi at 8000 rpm. No4 B/E used to let go b4 I changed this despite expert saying it wasn't necessary.

Good luck.

MG

Topic: trying to build a street 2L (7 of 40), Read 151 times

Conf: [2litre Pinto Engines](#)

From: [Nicholas Charrett \(ncharrett@casey.vic.gov.au\)](#)

Date: Wednesday, May 05, 2004 10:55 AM

From my experience steer well clear of the Mellings as I had 2 (yes 2!) dud ones where they stuffed up the hardness's of the rotor and the cover and it bored into itself then broke the hex keys that drive it....

My engine builder had 3 Mellings fail this way (may just have been a dud batch- but I do not trust them) and all was solved by reverting to standard new ford pumps.... Could be expensive if you do not keep a very close eye on the oil gauge...

Others seem to swear by Melling, but you have been warned....

Sounds like a good engine though from the sound of it....

Topic: trying to build a street 2L (8 of 40), Read 155 times

Conf: [2litre Pinto Engines](#)

From: [Danny Mischok \(dmischok@bigpond.com.\)](#)

Date: Wednesday, May 05, 2004 11:11 AM

It doesn't matter how hard they are as they are swimming in oil so there shouldn't be any faces touching, next you're going to be saying you need to run in engine bearings.

As far as pumps go there was a batch that had insufficient clearance and if your engine builder was any good he would have checked that, as all pumps should be stripped and checked and the reason you can get away with the standard Ford pumps without is that they have so much clearance it doesn't matter as much but then you can't really rev them as the housings walk around destroying the rotors and end plates as well as not having

enough volume to sustain any rev's

Danny

Topic: trying to build a street 2L (9 of 40), Read 151 times, 9 File Attachments

Conf: [2litre Pinto Engines](#)

From: [John Alderson \(jsa@powerup.com.au\)](#)

Date: Wednesday, May 05, 2004 08:05 PM

I'm with Nicholas on Mellings, be very careful and fit a big idiot light too dash that comes on when hex drive snaps.

Another solutions for better oiling is too make the oiling systems more efficient.

Fit a more efficient pump like the Cosworht 4wd version.

Increase pipe and gallery dimensions for decreased pressure losses.

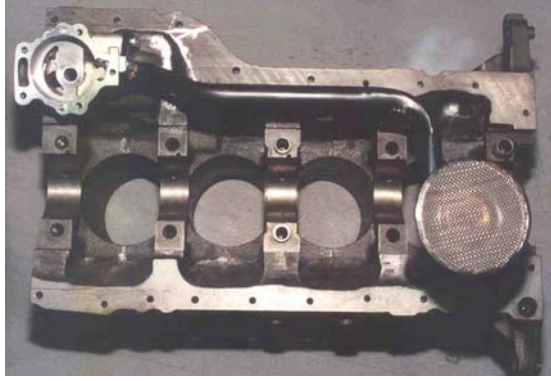
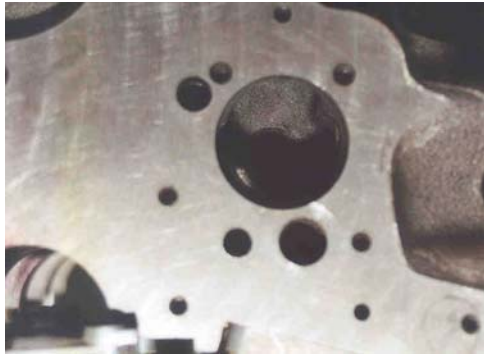
In the pics below-

- * Galleries in and out of the filter have been enlarged and radiused
- * Pump pickup pipe increased to 16mm ID
- * 4wd cossy pump fitted and flow area increased
- * Pump exit and block entry increased and radiused
- * Longitudinal gallery from pump to filter increased to more than 14.5mm and fitted with 16mm gallery plug
- * Longitudinal gallery from front to back of block increased to 7/16", fitted with 12mm gallery plug at the front and BSPT threaded fitting at the rear.

Cheers

John

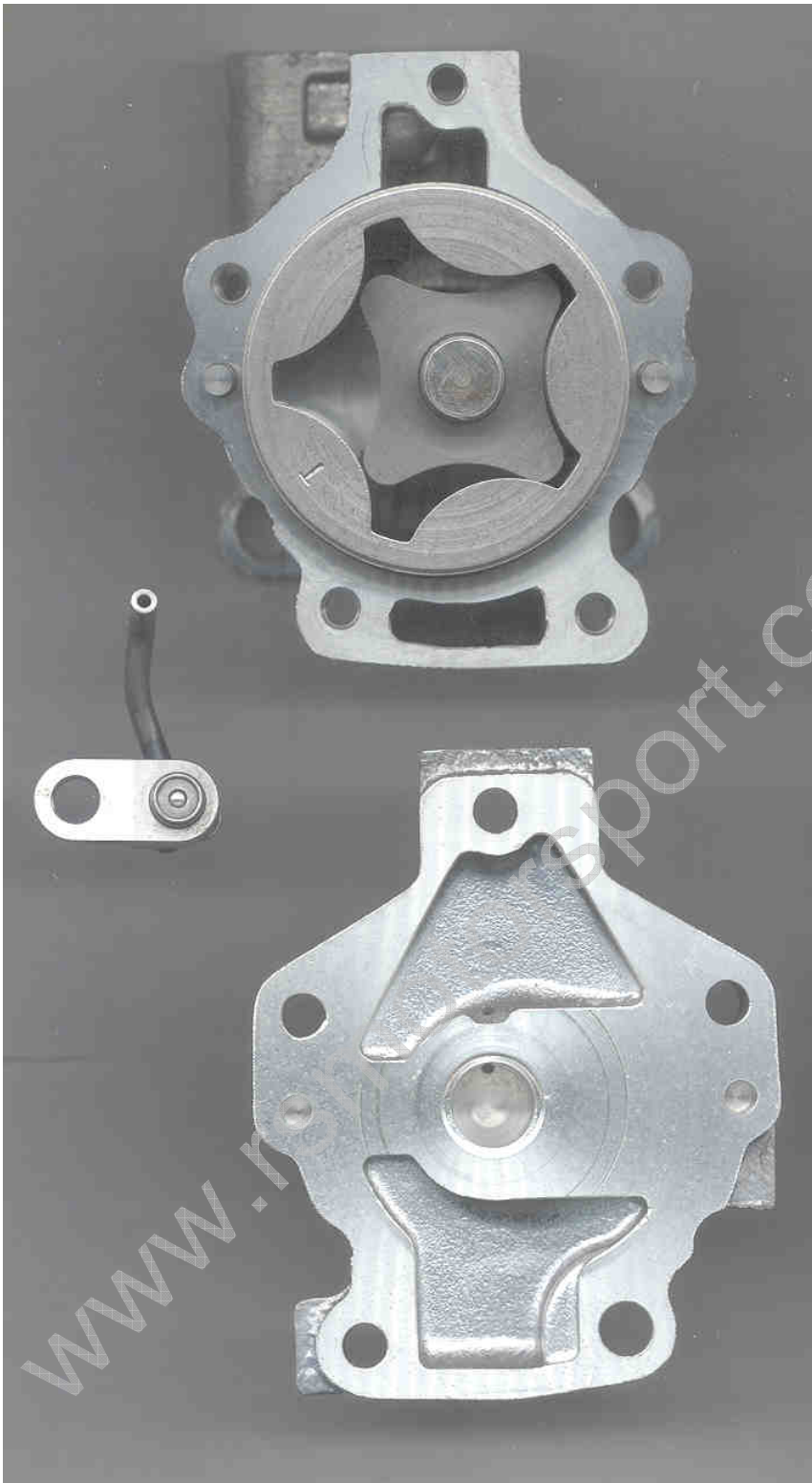


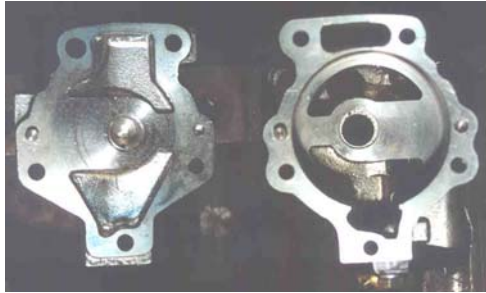
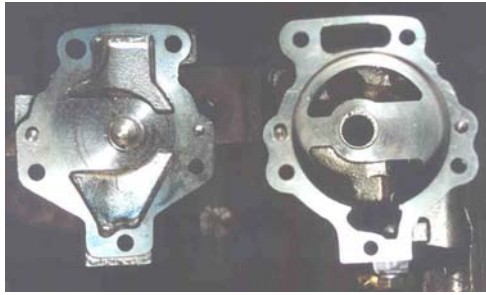


www.motorsport.com.au



www.motorsport.com.au





Topic: trying to build a street 2L (10 of 40), Read 149 times

Conf: [2litre Pinto Engines](#)

From: [Danny Mischok \(dmischok@bigpond.com.\)](#)

Date: Thursday, May 06, 2004 08:41 AM

John go back and read the previous post regarding clearance as you idea still doesn't fix the problem of the alloy housing and the volume isn't enough to supply the increased requirements of the pinto over the YB as I ran an RS500 pump early on and it wouldn't maintain pressure for extended periods and didn't like the rpm as the housing flexed destroying the rotors and end plate. This was fixed by using a Mellings that I checked for clearance and had the relief spring shimmed up and stayed in the engine until I sold it a couple of years ago, and funny enough it still hasn't broken a pump drive and I used to run it on Pennzoil GT Racing 50 (straight single weight oil) which wouldn't rev when the oil was under 50 degrees and if it did it blew the bladder in the oil gauge when it went over 100psi as the engine ran 75-80psi hot

So all I can think of is you guys must have stuffed up when you used as there are a lot of pumps out there getting used and they're not having problems

Danny

Topic: trying to build a street 2L (11 of 40), Read 150 times

Conf: [2litre Pinto Engines](#)

From: [John Alderson \(jsa@powerup.com.au\)](#)

Date: Thursday, May 06, 2004 09:48 AM

Danny.....

>John go back and read the previous post
>regarding clearance

YOU must be doing something wrong, I have never had pump clearance problems with original ford alloy pieces. Like any other part check the clearance adjust as necessary or return for correct tolerance piece.

as you idea still

>doesn't fix the problem of the alloy
>housing

YOU must be doing something wrong as I never had problems with the old alloy housings and the YB4wd pump has more bolts holding the lid on so it can only be better.

- > and the volume isn't enough to
- >supply the increased requirements of the
- >pinto over the YB

YOU must be doing something wrong, as you will find the YB needs more oil than a pinto, as the YB has piston squirter, larger bearing clearances, hydraulic lifters, twice as many cam lobes to lube, thrice as many cam bearings to lube, and a turbo to feed.

- >as I ran an RS500 pump
- >early on and it wouldn't maintain
- >pressure for extended periods

YOU must be doing something wrong as I have always maintained oil pressure for long periods. The pumps I've used always delivered the required pressure no matter what.

The RS500 is different to the 4wd pump.

- > and didn't
- >like the rpm as the housing flexed
- >destroying the rotors and end plate.

YOU must be doing something wrong.

- >So all I can think of is you guys must
- >have stuffed up when you used as there
- >are a lot of pumps out there getting
- >used and they're not having problems

So all I can think is YOU stuffed up when using ford pumps as there are heaps getting used without problems.

You know I'm a bit slow Danny, could please explain to me again why an oil pump supplier would pay to rebuild an engine where we installed the oil pump wrong ?

Cheers

John

PS: Of course I apologise if this and my prior post cuts into sales of Mellings pumps.

Topic: trying to build a street 2L (12 of 40), Read 153 times

Conf: [2litre Pinto Engines](#)

From: [Michael Green \(mgreen@iinet.net.au\)](#)

Date: Thursday, May 06, 2004 11:15 AM

John,

For Emil's application I think a Mellings is the most cost effective solution. It only needs the end plate clearance checked and the relief valve shimmed about 2mm for good volume and pressure at reasonable cost.

All the other exotica may be needed on an all out race motor but I don't think that is what Emil is trying to do.

MG

Topic: trying to build a street 2L (13 of 40), Read 142 times

Conf: [2litre Pinto Engines](#)

From: [John Alderson \(jsa@powerup.com.au\)](#)

Date: Thursday, May 06, 2004 02:22 PM

Michael,

I agree, exotica such as dry sump pumps fitted to race motors is not needed for a roady.

Why risk a Mellings failure when a standard pump tickled up can do the job ?

I'd sooner make the std system more efficient as it can maintain ample pressure with minor tidying up.

Why fit a high volume thing that consumes horses pumping oil past the relief valve.

Cheers

John

Topic: trying to build a street 2L (14 of 40), Read 143 times

Conf: [2litre Pinto Engines](#)

From: [Michael Green \(mgreen@inet.net.au\)](#)

Date: Thursday, May 06, 2004 02:47 PM

Well if the std pump can be made to do the job without machining and will keep the pressure when hot then ok, but mine couldn't.

I have had no problems with the Mellings and it regularly runs to 8500. I did check (and adjust slightly) the end plate clearance. The drive shaft shows no signs of twist after 2800 km. I consider it money well spent but of course everybody is entitled to their own stupid opinion. tic!

MG

Topic: trying to build a street 2L (15 of 40), Read 142 times

Conf: [2litre Pinto Engines](#)

From: [Emil Viskovich \(viskoe@hotmail.com\)](#)

Date: Thursday, May 06, 2004 04:01 PM

Thanks guys,

I had no idea that the word Mellings would cause such a stir!

Anyhow the choice has been made for me as I don't have a standard pump, so I will probably use the Mellings, but I will make sure its good first.

Michael, the guy you used for your 2L is he good, were you happy? I seem to remember you had all sorts of problems with engines and builders some time back. I might need to get someone to measure everything up to check it's all good, possibly even do some assembly.

Can somebody tell me how I can work out if any machining of the piston crowns are required? If so this would be the first. Also should I dowel the flywheel?

Rgds

Emil

Topic: trying to build a street 2L (16 of 40), Read 137 times

Conf: [2litre Pinto Engines](#)

From: [Michael Green \(mgreen@iinet.net.au\)](#)

Date: Thursday, May 06, 2004 05:20 PM

Emil,

I cannot fault Nathan at Ron Bell Engine Reconditioning. Everything he did was perfect, including dowelling the flywheel. They did the entire bottom end - bore, deck, mains, crank, rods, sizing, balance, dowel and assemble.

Nathan machined my first block and we subsequently found a split in No4 bore that only showed itself when very hot. I do not blame him for that as we do push the limits a bit and I didn't get it tested like I do now.

I did guide him on clearances as these were at upper end of standard specs but that is all. He picked up faults in a matter of seconds that the other builder was guilty of.

He was picky enough for me to have to get 4 sets of pistons b4 he was happy too put them in.

I guess his prices are standard, not cheap, not overly expensive. But in this case I reckon you get everything you pay for.

MG

Topic: trying to build a street 2L (17 of 40), Read 126 times

Conf: [2litre Pinto Engines](#)

From: [Roger Miller \(rellimr@ozemail.com.au\)](#)

Date: Thursday, May 06, 2004 10:24 PM

Emil, hows it going?

A key factor in making a pinto a "goodun" or just another 2 liter, would be compression.

KENT CAMS

With two decades of experience in the high performance in Europe. The most popular vehicle applications are head and/or pistons may be required when fitting mi

Application	Power Band:	V/Lift In/Ex(mm)	Duration In/Ex:	Camshaft Part No	Price:
FORD OHV X/FLOW 1300/1600					
Torque Sport	1K - 6.5K	10.6/10.6	270/270	224	£65.96
Fast Road	2K - 6.5K	9.7/9.6	290/290	BCF2	£65.96
Sports Road/Rally	2.5 - 7K	10.5/10.5	284/284	BCF3	£65.96
Road/Rally	2K - 7.2K	10.7/10.7	280/280	234	£65.96
Rally	3K - 8K	11.3/11.3	290/290	244	£80.85
Race/Hot Rod	4K - 8.5K	11.9/11.9	300/300	254	£80.85
Hot Rod/Race	4.5 - 8.75K	12.2/12.2	308/308	262	£80.85
Full Race	5K - 9K	12.5/12.5	310/310	264	£80.85
Ultimate Race	5 - 9.3K	12.8/12.8	314/314	272	£80.85
FORD SOHC 2.0 'PINTO'					
High Torque	1K - 6K	11.9/11.7	260/260	FR30	£84.26
Mild Road	2 - 6.5K	10.7/10.8	260/269	FR31	£84.26
Fast Road	2.5K - 7K	11.2/10.9	285/280	FR32	£84.26
F/Road,Injection	1K - 6.25K	12.6/12.3	263/263	FR34	£84.26
Fast Road/Rally	3 - 7.5K	11.7/11.3	300/297	FR33	£84.26
Road/Rally	2.7K - 7.5K	12.7/12.4	304/297	RL31	£89.36
Lightening Rods	2.5 - 7K	12.8/12.3	304/292	RL30	£89.36
Rally	3K - 7.75K	13.1/12.6	322/322	RL32	£89.36
Motorsport series:					
2ltr Hot Rods	4 - 8K	13.2/12.9	300/300	GT55	£89.36
F2 Superstock	4 - 8K	13.7/13.4	296/296	GTS6	£89.36
Supersports R	3 - 8K	12.6/12.1	314/308	HT1	£89.36
Ultimate Race	4K - 8.5K	14.0/13.5	323/336	RC31	£89.36
Ultimate Loose Surface	3.25 - 8K	13.2/12.9	312/312	GTS3	£89.36
*Ultimate Tarmac Rally	3.75 - 8.25K	13.7/13.4	312/312	GTS4	£89.36

To make the RL32 work, u would need 12-1 compression, maybe more.

For street work a 280-290 degree cam would be better. However I would like to hear from others as to what compression to use and hoping u are going to use PULP at 98 octane.??