

www.shocksetup.com

557 High Street
Lock Haven, PA
17745

May 4, 2009

Leon Peasley

leon@shocksetup.com

570-660-0139

Dear valued customer,

I sincerely hope your purchase of this basic manual greatly reduces your learning curve of building your twin tube racing shock. I made this economical instruction sheet in effort to help those like myself when I couldn't find reasonably priced help. I only wish I had this basic manual when I started. It would have taken months off my learning curve.

Thank you very much!

Leon Peasley

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EXECUTIVE SUMMARY

The purpose of this instruction manual is an attempt to fulfill the request of customers who have expressed a desire to get a basic understanding of their own “Twin Tube Racing Shock” or “Damper” as it is professionally referred to. I get repeated requests for an economical guide of the rebuilding process. This small manual is only intended to help the beginner to get started at their shock rebuilding endeavor. I do not claim that these are the best practices available or that they are better than any shock manufacture’s procedure. (I’m sure my way is NOT probably the best way.) Only that I am confident this is information that I would have valued very highly when I began my shock rebuilding for my racing programs.

I sincerely hope this expedites your learning curve as this is its intended purpose. As I learn better practices I will gladly share them with whoever is interested.

Any and all comments are welcome. (Including constructive criticisms.)

I can be reached day or night.

570-660-0139

leon@shocksetup.com

Sincerely,
Leon Peasley

INTRODUCTION

My intended audience is the average "Saturday Night Racer" like myself. I had found, over about 25 years of racing, that the racing damper or "shock" as most of us refer to seemed to be a hidden speed secret. Only teams with large budgets had the best shock programs. Until about 5 years ago I didn't even realize there was a potential benefit. When I put shocks on my drag car, dirt late-model, or even my 410 sprint car I just assumed it was the shock that the part number stated it was. Even though it may have been 5 or 10 years old; in some cases much older than that. Then Santa Clause brought my first economical shock dyno. Just a generic style pneumatic machine that cost about \$1900. The learning began. I found that about all the shocks I had for my dirt late-model at the time needed serious work. I quickly found that my identical part number shocks were not so identical. I needed to figure out how to fix them. So I dove right in. Problem was there was no information out there to help, unless I wanted to buy expensive gas shocks which I couldn't afford. I just wanted to fix what I had, probably 30 twin tubes throughout the shop and hauler. I began to research the internet and talk to tech guys from major manufacturers. I didn't get far very fast. The best I came up with were manuals for several hundred dollars. But I didn't want to even invest that much at the time. So I went on to learn the hard way, by trial and error. Over the course of several years I had learned a wealth of knowledge. We have come a long way with our race programs since then.

INTRODUCTION- cont.

I have been fortunate enough to be able to help countless other teams become very successful with their shock programs as well.

Skill wise there is not much required. Most racers have some mechanical ability anyway. All that is needed is a willingness to learn.

The benefits of learning shock systems is very useful as it will be an advantage over competing teams. Shocks that are fresh and checked on a regular basis will make better handling, faster lap times and a racecar more consistently fast, assuming all your other racecar prep is done as well.

I have not included any special tools in this instruction manual. You may have to visit your local tool store to find an appropriate tool to remove the shock cap. Or make one yourself like I did to get started.

Note: I do plan to offer a variety of shock tools in the near future. I am currently digitizing some common wrenches, etc.. They should be available midsummer of 2009.

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So lets get started!

Disassembly

- 1) Fully extend the shaft out of the shock body.



(Fig.1)

Disassembly

- 2) Clamp rod spherical bearing in soft jaw vise and loosen jam nut.



(Fig. 2)

Disassembly

- 6) Remove internals with slide hammer motion.



(Fig. 5)

Assembly

- 27) Again, stroke shaft in 1" increments holding the rod cap down with your free hand.



(Fig. 33)

Assembly

- 32) With the shaft again fully extended, remove cap.



(Fig. 40)

Assembly

34) Tighten cap.



(Fig. 42)

Test

Note: Compression and rebound should be consistent and smooth.



(Fig. 47)

CONCLUSION

Hopefully, by now you have a good understanding of the basic techniques of shock rebuilding.

Something I didn't mention was shock oil. There are tons of shock oil suppliers. I honestly don't know which one is best. I have been using Amsoil light (5 wt.) and medium (10 wt). It is synthetic and is easy to get. It is usually around \$13.00 dollars per quart. I generally use the light for lighter cars like micro-sprints, etc. and medium for the heavier cars such as full size sprints, late-models, and stock classes. Just as a note, the lighter oil tends to soften the rebound damping a bit.

Another issue that I didn't mention was to check the piston assembly attached to the shaft. Use a 1- 1/8" wrench to check it for tightness. Quite often these are loose when we disassemble shocks for repair or rebuild.

Last thing. If you can afford a name brand crank dyno and want to step up your racing program, buy it. If you can't come up with that amount of money at least try to buy the more economical pneumatic dyno like we build and sell. I'm not saying you need to buy my dyno, I'm saying try to acquire one any way you can. Flea markets, e-bay, or whatever. This handy tool can really increase your understanding of shocks. It is really nice to be able to test your shocks from time to time to be sure nothing is wrong.