



Leak Checker

The KLRC leak checker is the most accurate leak checker available with laboratory grade gauges and regulator. The unit is calibrated to the world standard of 80 @ 80. The leak percentage gauge reads in percentage of leak. We selected the **best** components available because you need your leak checker to be as accurate as possible. If you were checking your bearing clearances you would use a micrometer not a tape measure. The components are available separately if you want to assemble your own tool.

The quick disconnects are all high flow so as to not distort the leak checker readings. There are other leak checkers on the market that are better looking but none more accurate than this one. As you can see in the photo if you were to skimp on quality and make a cheaper unit the only place you could do that is by using cheaper regulators or gauges. If you do that then you are compromising accuracy and if that is OK with you then purchase the cheaper units. Just don't complain when you do not get the results you need.



Leak checker Assembly includes calibrated (80% @ .080) leak checker with regulator, supply gauge, percentage of leak gauge, quick disconnects, and connector hose with quick disconnects from leak checker to accessory and calibration tool which can be used to flow check Enderle main jets. See below for accessories.

89164-10000 Leak checker assembly \$ 895.00+

Accessories for the 89164-10000 KLRC Leak Checker

Quick disconnect connection to **-3 adapter** (for flowing nozzles)
Part Number 89164-10011 List \$ 75.00+ RDD \$ 65.00+

Quick disconnect connection to **-6 adapter** (for leak checking small barrel valves and air popping -6 fuel system poppet cans.
Part Number 89164-10012 List \$ 75.00+ RDD \$ 65.00+

Quick disconnect connection to **-8 adapter** (for leaking large barrel valves and air popping -8 fuel system poppet cans. Part Number 89164-10014 RDD List \$ 79.00 RDD \$ 69.00+

Quick disconnect connection to **-10 adapter** (for leaking large barrel valves and air popping -8 fuel system poppet cans. Part Number 89164-10015 List \$ 89.00+ RDD \$ 79.00+

Quick disconnect connection to **Calibration Tool and Jet Checker** Part Number 89164-10050
List \$ 79.00+ RDD \$ 69.00+ (included with leak checker assembly PN 89164-10000)



Select the correct cylinder leak check tool by selecting the type of spark plug your engine takes



Racer Decal Discount (RDD) prices apply to any racer who will run our sticker on their race car, that is all we ask to get for our discount in price. This is our way of sponsoring you and helping the racers get to the start line.

To leak check your engine - use one of the following: Spark plug adapters – short direct connection

- Quick disconnect to spark plug adapter "A" Part number 89164-10021 \$ 68.00+
- Quick disconnect to spark plug adapter "B" Part number 89164-10022 \$ 68.00+
- Quick disconnect to spark plug adapter "C" Part number 89164-10023 \$ 68.00+
- Quick disconnect to spark plug adapter "D" Part number 89164-10024 \$ 68.00+

Spark plug adapters – flex hose connection 250mm long

Flexible hose connection allows easy access through the headers in some applications and provides the length needed for Hemi applications. Recommended

Select spark plug adapter to suit the threaded section of your spark plugs like pictured above.

- Quick disconnect to spark plug adapter "A" Part number 89164-10031 \$ 125.00+
 - Quick disconnect to spark plug adapter "B" Part number 89164-10032 \$ 125.00+
 - Quick disconnect to spark plug adapter "C" Part number 89164-10033 \$ 125.00+
 - Quick disconnect to spark plug adapter "D" Part number 89164-10034 \$ 125.00+
- Special spark plug adapters available – please ask and we can make almost anything for you.

JET HOLDER / Calibration Tool - Quick disconnect to Enderle jet thread. Allow the flowing of main jets to check the flow rate of the jet. Install a .080 jet and it becomes a calibration checking tool for the standard of .080 jet must flow 80% leak as a standard. Part Number 89164-10050 \$ 69.00+ (included with leak checker assembly PN 89164-10000)

Hose – Leak Checker Connection Male and Female High Flow Quick Release Fittings and 2 meters of hose
 PN 89164-10006 List Price \$69.00+ RDD \$ 60.00+ (included with leak checker assembly PN 89164-10000)

Leak checker components – sold separately if you want to build your own leak checker.

- 89164-10003 Regulator (laboratory quality instrument regulator) 1/4" \$ 435.80+
- 89164-10004 Gauge - inlet pressure \$ 95.00+
- 89164-10005 Gauge - master gauge (laboratory quality) \$ 350.00+
- 89164-10006 Hose – Leak Checker Connection Male and Female High Flow Quick Release Fittings and 2 meters of hose
 List Price \$69.00+ RDD \$ 60.00+

Leak testers A leak tester, or leak checker, is a way of measuring the size of a hole or an orifice, regardless of the shape of the hole. As long as the size of the hole is within the operating parameters of the leak checker tool, the hole could be any shape, and a calibrated leak checker device would measure the amount of air that it can flow. Then this flowed information can be compared with a percentage of leak, of a know diameter or another hole.

With the calibrated leak checker you measure the amount of flow the hole has, not just the size. Some holes of the same size, will flow different amounts of air, or liquid, based on the inlet and outlet shape or the internal finish of the hole.

There are a lot of poor quality leak testers in nice shiny boxes in use today, because most are a commercial product made to suit a price range. They are not made for optimum data resolution, which is something a good racer needs. The first place many manufactures scrimp is on the most expensive component, the regulator. With a regulator you get what you pay for. Inexpensive general application regulators cannot supply the accuracy needed. Cheap regulators are just fine for your spray paint gun, or similar application, but not for use in a high quality leak checker. Also, many packaged leak checkers has poor calibration, or worse, no calibration. Most of the best leak checkers are "homemade" as the builder understands what he wants, and is not willing to compromise accuracy for a shiny box. This how we got started and as more people saw what we were doing more started asking for one of ours, now you can have one as well. Racers who just buy a "name branded" tool with a shiny box, usually don't really understand how importance of a high quality regulator.

There is two ways to check the accuracy of a leak checker.

One way is to check the calibration (80% leak @ .080 orifice). This will read 20% with a .080 orifice on the end of the leak checker hose.

The second way to check the accuracy of a leak checker is by looking for the dead band. With the leak checker connected to an adequate air supply, zero the gauge on the leak checker, and then move the knob on the regulator. **ANY** movement of the knob **MUST** result in movement on the gauge needle. If the knob can be moved **any** amount, then this is a "dead band" in the leak checker indicating the leak checker has a cheap regulator which will result in inaccurate percentage readings even if it is calibrated to (80@ 80). The larger the dead band the less accurate the leak checker is. Any movement of the adjustment knob without a response on the gauge is not good. The larger the dead band the less accurate the tool is. Our leak checker has no dead band.

In racing, in order to go quicker or be more consistent in our performance, we continually look at smaller and smaller bits of data and time and more detail. It is *imperative* to have accurate information on what we are doing. If you check the clearances inside the engine you do so with a micrometer not a tape measure. You do this so you have very accurate information, why you not do this for your "tune up" as well. Cheap regulators and gauges are not accurate and as such they give you information that is not accurate. Just because you paid a heap of money for a branded tool does not insure accuracy.

Ask yourself how much inaccuracy you are willing to live with. Again, do you check the clearances in the engine with a tape measure or a micrometer? Manufacturers who make leak checkers for commercial resale are trying to make a product at a price and as such don't usually use the highest quality components. Simply purchasing a name brand and expensive leak checker is no guarantee of accuracy, your purchasing a high quality regulator and gauges will give you this guarantee. The "brains" of a leak tester is the regulator the gauge and the calibration. Cheap gauges and regulator will not give you good, quality repeatable information.

Our leak checkers have the highest quality components available. We use an instrument quality gauge with a easy to read five inch dial, and an laboratory grade instrument quality regulator. Then after assembly we calibrate the leak checker to the industry standard of eighty at eighty, and of course our leak checkers have no dead band.

We do provide alternative calibrations where applicable.

Once you have a calibrated leak checker, you will find a lot of uses for the device.

It is a good idea to "leak" your jets and nozzles when you change them if you are making small changes because a lot of the time you will find a bigger (or smaller) jet will not flow more (or less) fuel giving you a result you did not anticipate, or in some cases, desire. For orifices smaller than .090 your 80@80 calibrated leak checker will work very well, for orifices larger you will need a leak checker with a different calibration (See info at end of this document). Another application for a standard calibration leak checker is checking the condition of the cylinders on the engine to evaluate the ring and valve seal.

Once you have a leak checker it can be used to analyze the condition of the piston rings. It can be used to compare nozzles and jets to ensure that the .075 nozzle or jet is larger than the .074 that is in the fuel system.... (they aren't always !) You can use them to set the barrel valve spool rotation position to measure how much fuel the engine is getting at idle and at prelaunch position.

As far as the hoses and quick disconnects go, use of commonly available hardware is preferable, so interchangeability with other racers is good. Make sure the quick disconnects are reasonably high flow so they do not interfere with the leak readings at high flow situations. I do recommend using a pressure gauge, even a cheap one, on the inlet side just to ensure that you have a minimum of 120 psi on the inlet. If the pressure drops below 120 psi the accuracy of the leak checker drops off and if the pressure drops below 100 psi on the inlet then you have lost your zero calibration and will get even more inaccurate leak percentages. Personally, I adjust the air pressure switch on my air compressors to kick off at 145 psi, and kick back on at 125 psi, insuring the pressure never drops below 125 psi. Then I use a pressure regulator between the leak checker and the air compressor set to 120 psi, to insure a constant air supply of 120 psi to my leak checker, at all times. This provides the most accurate supply of air and the most accurate information for you.

For my personal leak checker I purchased a complete range of every type of air quick connect available and made adapters to connect to my air connections so I can hook up to anyone's air line to do a leak check.

		<p>All we need to ship your order is your credit card details and a shipping address. We accept MasterCard and Visa. There is a printed number on the back of your credit card on the signature line. Would you give us the last three digits of that number. Please include your phone number as well. Prices are in AUD (Australian Dollars) + GST (if applicable) Price does not include shipping. All prices are subject to change without notice. Prices must be verified at time of purchase only.</p> 
<p>Supply pressure minimum of 120 psi Set gauge at the zero band</p>	<p>Leak check gauge unit calibrated at 80% leak with .080 jet (80 @ 80)</p>	

Alternative Calibration Parameters

The 80 @ 80 leak checkers are the standard of the industry and when someone asks what your barrel valve leaks he expects to hear a number from a 80 @ 80 leak checker. This calibration can be used to leak check nozzles and jets up to about .085 or so much above that it runs out of range. I have made some special calibration leak checkers for checking main jets up to .145 but that takes a leak checker calibrated to 50 @ 100 and it works well but it does use a lot of air and requires an air compressor that can keep up with it (at least 3HP) but it is a terrific way of checking to insure a .124 main jet is actually smaller than a .126 as many times, it is not.